Appendix A
OEA, Applicant, and Agency Correspondence

SURFACE TRANSPORTATION BOARD
Washington, DC 20423

Office of Environmental Analysis

December 10, 2021

Mr. Misael Cabrera
Director
Arizona Department of Environmental Quality
1110 West Washington Street
Phoenix, AZ 85007

Re: Docket No. FD 36501, Union Pacific Railroad Company – Construction and Operation Exemption – in Maricopa County, AZ; Preliminary Environmental Consultation

Dear Mr. Cabrera:

I am writing to inform you about a forthcoming proposal from the Union Pacific Railroad Company (UP) to construct and operate approximately six miles of new rail line in Maricopa County, Arizona. UP intends to seek authority from the Surface Transportation Board (Board) to construct and operate the proposed rail line. Before making its decision on whether to grant such authority, the Board must consider the potential environmental impacts of UP's proposal, pursuant to the National Environmental Policy Act (NEPA), Section 106 of the National Historic Preservation Act (NHPA), the Board's environmental rules at 49 C.F.R. Part 1105, and related environmental laws.

The Board's Office of Environmental Analysis (OEA) intends to begin the process of preparing environmental documentation that will analyze the potential environmental and historic impacts of the proposed rail line. OEA will conduct the environmental review in consultation with appropriate federal, tribal, state, and local agencies; other interested stakeholders; and the public. The purpose of this letter is to advise you of the proposed rail line project, request information from your agency on the resources under your jurisdiction that could be affected by the proposed rail line, identify permits and approvals that could be required of UP, and identify any other information that would inform OEA's development of the range of alternatives to be considered during the environmental review. The information you provide will also help us determine what type of NEPA document should be prepared.

Project Background

UP intends to request Board authority to construct and operate new industrial lead railroad track that would connect UP's Phoenix Sub main line track in Maricopa County, Arizona, to industrial properties southeast of the Phoenix-Mesa Gateway Airport (Figures 1 and 2). This project is referred to as the Pecos Industrial Rail Access and Train Extension

(PIRATE) project. According to UP, the proposed track would serve the transportation and logistics needs of existing manufacturing and industrial businesses, as well as prospective businesses looking to relocate to the area. Maps of the proposed project area are attached.

Environmental Review Process

This letter begins the process by which OEA will assess the potential environmental impacts of constructing and operating the proposed rail line. The process will include the preparation of a draft and final environmental document, which for rail construction proposals is normally an environmental impact statement (EIS), as specified in the Board's environmental rules at 49 C.F.R. § 1105.6(a). Your response to this inquiry will assist OEA in determining if an EIS is appropriate in this case or if, alternatively, an environmental assessment (EA) could be prepared.

Pursuant to the Council on Environmental Quality's regulations implementing NEPA (40 C.F.R. §§ 1500–1508) and the Board's environmental rules at 49 C.F.R. § 1105, OEA will be the lead federal agency in the preparation of the environmental document that will evaluate the potential environmental effects of UP's proposal, including reasonable and feasible alternatives and the no-action alternative. The draft environmental document will be distributed to agencies and the public for review and comment pursuant to the requirements of NEPA and the Board's environmental rules. The NEPA document will set forth the Board's independent environmental review of the build alternatives and the no-build or no-action alternative. The alternatives to be considered in the environmental document may include new alternatives developed by OEA. Our agency's process will conclude with the Board's decision on whether to authorize the proposed rail line. In reaching its decision, the Board will consider the entire environmental record, including all public comments, the draft and final environmental documents, and OEA's final recommended environmental mitigation. Jacobs Engineering Group Inc., the third-party contractor for this project, will assist OEA in conducting the environmental review.

Request for Input

We would appreciate your assistance in preliminarily identifying whether any resources of concern to your agency may be affected by the proposed rail line, particularly if any permits or approvals are required of UP, and welcome any additional issues or concerns that you consider appropriate. You may submit comments electronically through the Board's website at www.stb.gov by clicking on the "E-Filing" link on the left side of the home page and then selecting "Environmental Comments." Brief comments may be typed within the comment field provided or you may attach comments as a separate file. You may also send your written comments to Adam Assenza, OEA's Project Manager for this environmental review, by email at Adam.Assenza@stb.gov. Comments received will be made available to the public on the Board's web site. We respectfully request your response by **January 10, 2022**.

If you have any questions or would like to arrange a virtual meeting or conference call with OEA, please feel free to contact Adam Assenza by phone at (202) 245-0301 or by email. We greatly appreciate your assistance and look forward to your participation in the Board's environmental review process for this project.

Sincerely,

Danielle Gosselin
Acting Director
Office of Environmental Analysis

Enclosures:
Figure 1 – Project Vicinity Map
Figure 2 – Project Location Map

cc:
Wayne Miller, Remedial Project Manager

Figure 1. Project Vicinity Map

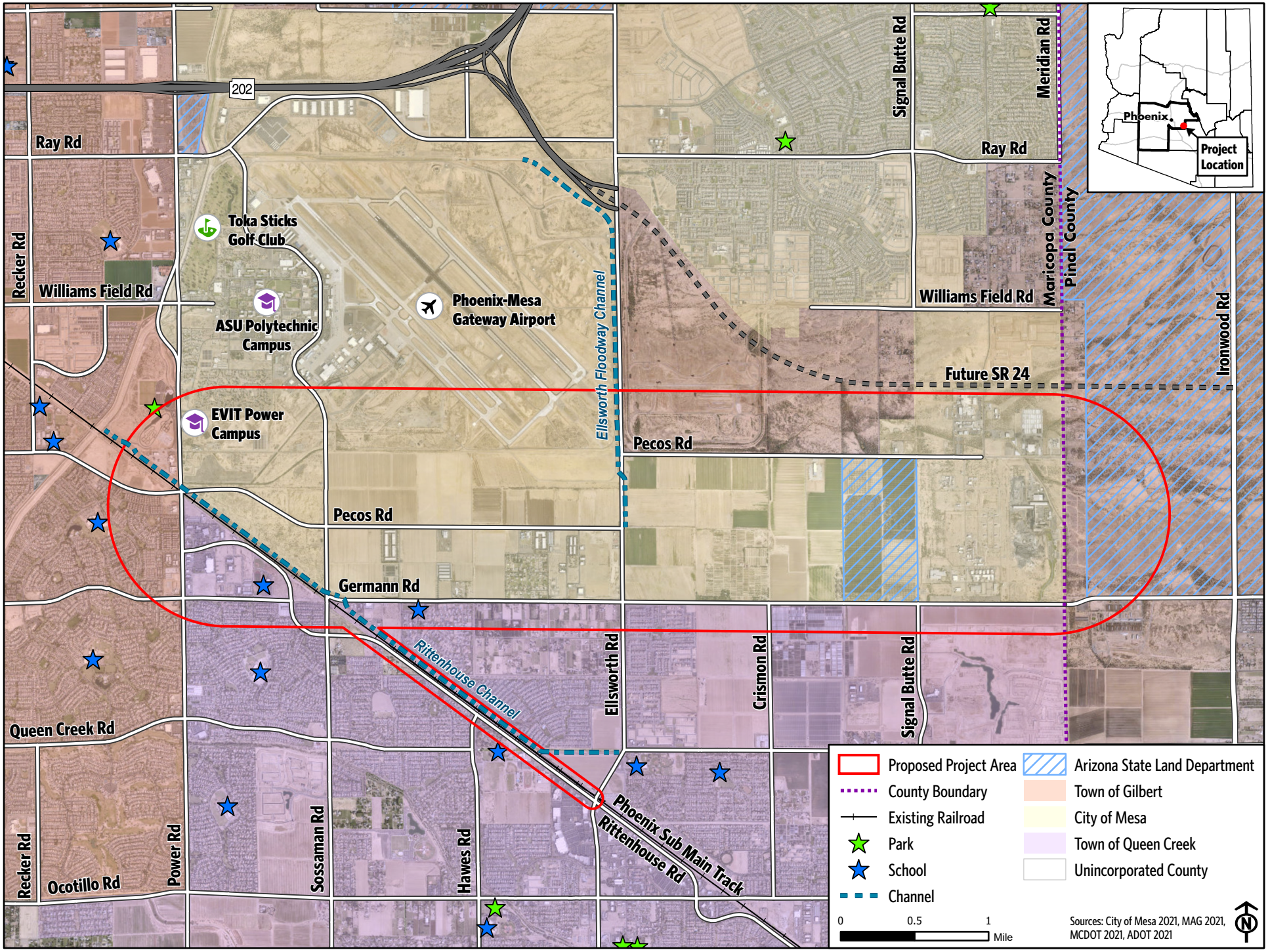
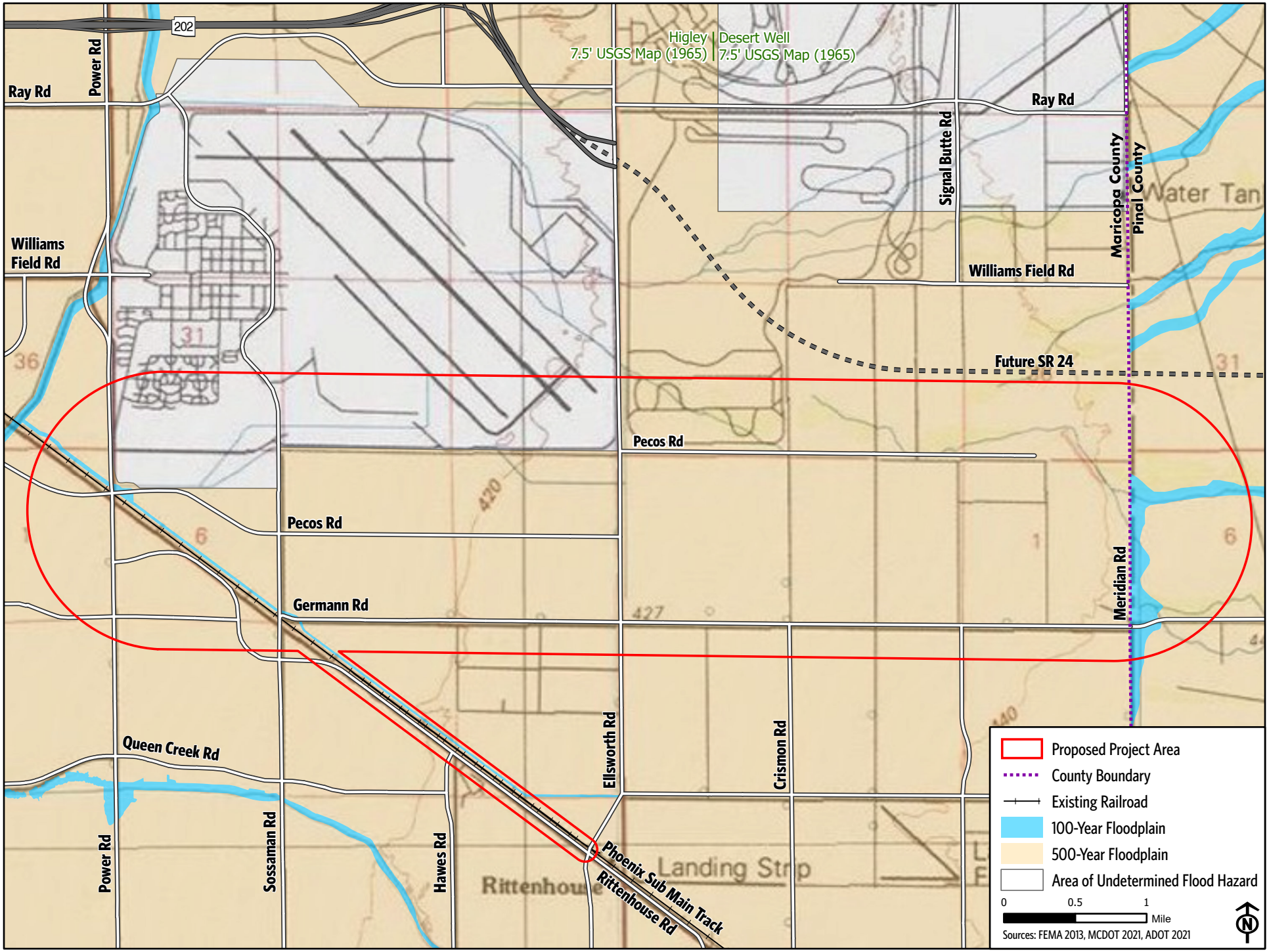


Figure 2. Project Location Map



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS
LOS ANGELES DISTRICT
3636 N CENTAL AVENUE, SUITE 900
PHOENIX, ARIZONA 85012-1939

December 13, 2021

SUBJECT: Permit Application Request

Adam Assenza
Surface Transportation Board
395 E Street SW
Washington, District of Columbia 20423

Dear Mr. Assenza:

It has come to my attention that you plan to construct a new industrial lead railroad track that would connect Union Pacific's Phoenix Sub main line track in Maricopa County, Arizona, to industrial properties southeast of the Phoenix-Mesa Gateway Airport, also located within Maricopa County, Arizona.

This activity may require a Department of Army (DA) permit from the U.S. Army Corps of Engineers. A DA permit is required for the discharge of dredged or fill material into, including any redeposit of dredged material other than incidental fallback within, "waters of the U.S.", including wetlands and adjacent wetlands pursuant to Section 404 of the Clean Water Act of 1972. Examples include, but are not limited to the following activities:

a. creating fills for residential or commercial development, placing bank protection, temporary or permanent stockpiling of excavated material, building road crossings, backfilling for utility line crossings and constructing outfall structures, dams, levees, groins, weirs, or other structures;
b. mechanized land clearing and grading which involve filling low areas or land leveling, ditching, channelizing and other excavation activities that would have the effect of destroying or degrading waters of the U.S.;
c. allowing runoff or overflow from a contained land or water disposal area to re-enter a water of the U.S.; and
d. placing pilings when such placement has or would have the effect of a discharge of fill material.

An application for a DA permit is available on our website: http://www.spl.usace.army.mil/Missions/Regulatory/PermitProcess.aspx. If you have any questions, please contact Lisa Robinson at (602) 230-6958 or via email at Lisa.E.Robinson@usace.army.mil. Please refer to this letter and SPL-2021-00653 in your reply. Please help me to evaluate and improve the regulatory experience for others by completing the customer survey form at https://regulatory.ops.usace.army.mil/customer-service-survey/.

Sincerely,

for Sallie Diebolt
Chief, Arizona Branch
Regulatory Division

Enclosure(s)

White Mountain Apache Tribe

Office of Historic Preservation
PO Box 1032
Fort Apache, AZ 85926
Ph: (928) 338-3033 Fax: (928) 338-6055

To: Danielle Gosselin, Acting Director Office of Environmental Analysis

Date: December 30, 2021

Re: *Docket No. FD 36501, Union Pacific Railroad Company Construction/Operation Exemption*

……

The White Mountain Apache Tribe Historic Preservation Office appreciates receiving information on the project dated; December 10, 2021. In regards to this, please attend to the following statement below.

Thank you for allowing the White Mountain Apache tribe the opportunity to review and respond to the above proposed construction and operation of approximately six miles of new rail line that would connect UP's Phoenix Sub main line track in Maricopa County, to industrial properties southeast of Phoenix-Mesa Gateway, Phoenix, Arizona.

Please be advised, we reviewed the consultation letter and the information provided, and we've determined the project plans will have ***"No Adverse Effected"*** to the tribe's cultural heritage resources and/or traditional cultural properties, and concur with the recommendations.

Thank you for your continued collaborations in protecting and preserving places of cultural and historical importance.

Sincerely,

Mark T. Altaha

White Mountain Apache Tribe – THPO
Historic Preservation Office

Figure 1. Project Vicinity Map

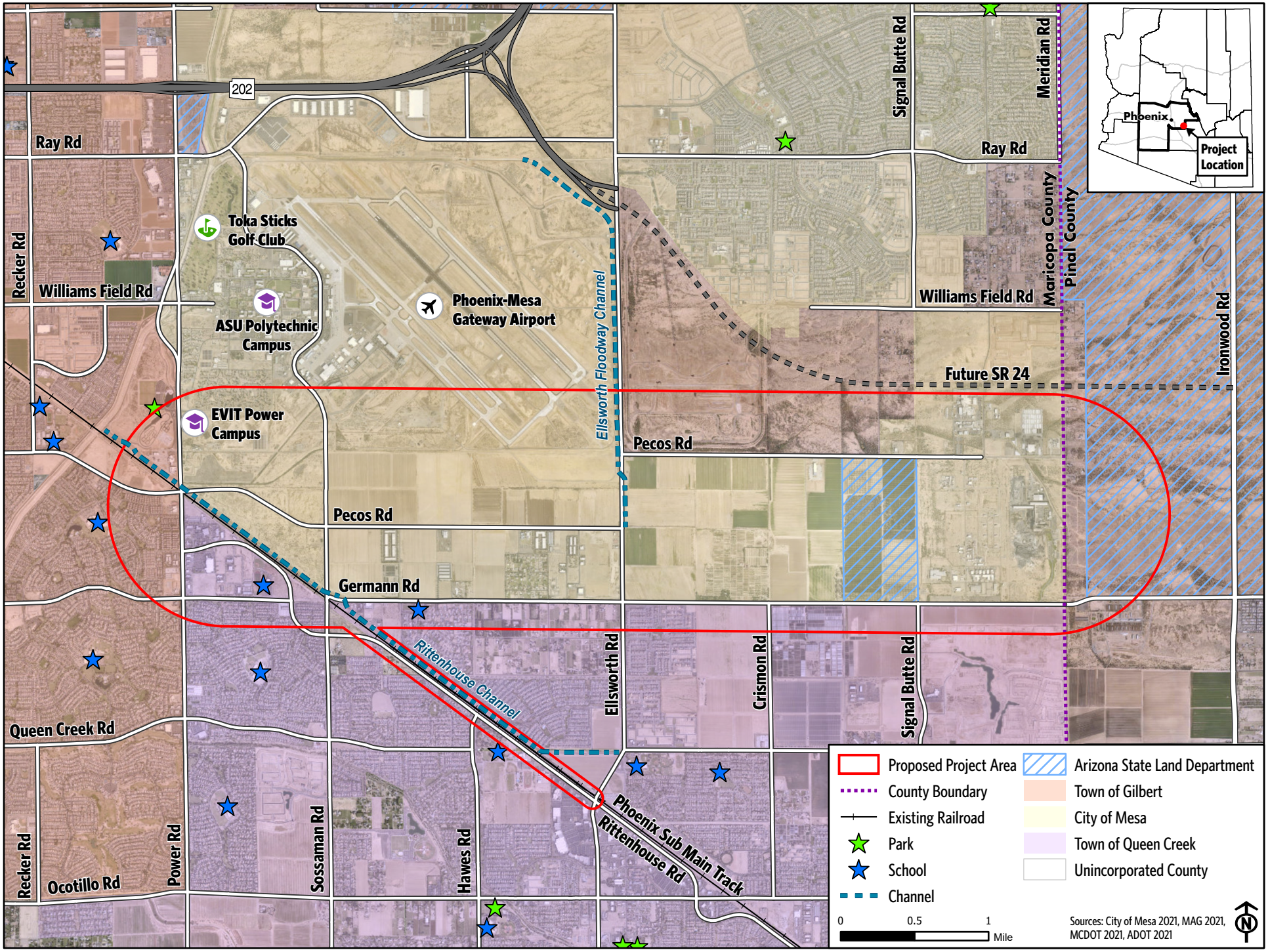
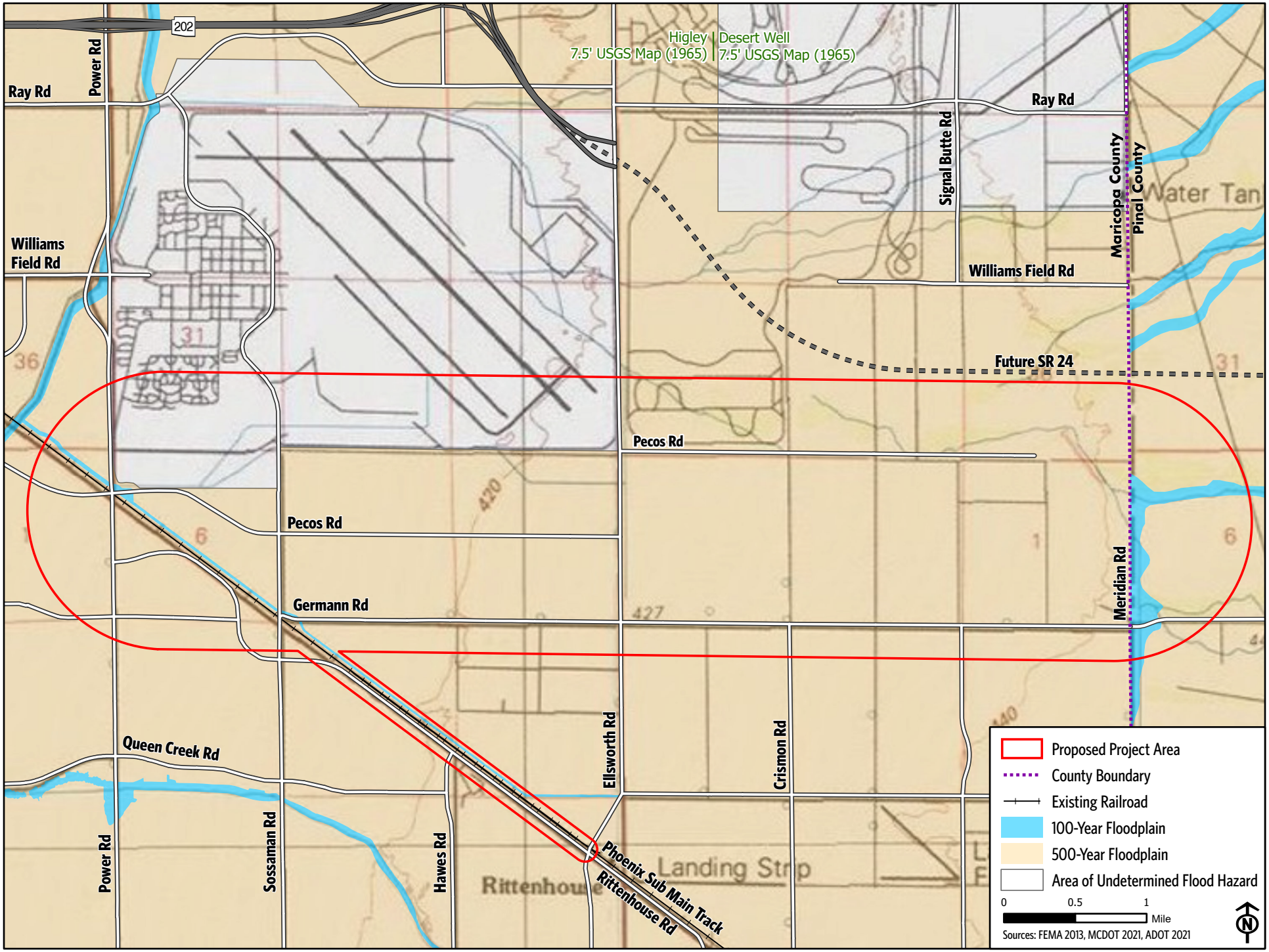


Figure 2. Project Location Map



THE UNIVERSITY OF ARIZONA
ARIZONA STATE MUSEUM

Arizona State Museum
PO Box 210026
Tucson AZ 85721-0026
(520) 621-6281
www.statemuseum.arizona.edu

6 January 2022

Adam Assenza
Surface Transportation Board
Washington, DC 20423

RE: Docket No. FD 36501, Union Pacific Railroad Company – Construction and Operation Exemption – In Maricopa County, AZ; Preliminary Environmental Consultation

Dear Mr. Assenza,

Thank you for the opportunity to participate in consultation regarding the above-listed project. As depicted on maps included in your letter to Dr. Patrick Lyons, dated 10 December 2021, the proposed project area is located near the Phoenix-Mesa Gateway Airport, within Maricopa and Pinal Counties, Arizona. The proposed project area crosses multiple jurisdictions, including Arizona State Land Department, the Town of Gilbert, the City of Mesa, and Town of Queen Creek, and Unincorporated Maricopa and Pinal County. a County. At least nine archaeological sites are present within the project area, several of which are listed, or are eligible for listing, on the National Register of Historic Places.

Arizona State Museum (ASM) is responsible for administering the Arizona Antiquities Act (AAA; A.R.S. §41-841 *et seq*.) and which protects cultural resources and human remains on city, county, and state owned lands in Arizona. ASM also administers A.R.S. §41-865, which protects human remains and funerary objects on private lands in Arizona.

In order to comply with the AAA, a professional archaeologist must be consulted to identify any archaeological sites that are located on city, county, state, or private land within the project area. If present, potential adverse effects to these sites must be mitigated by an ASM-approved plan. You can find a list of archaeological consultants currently permitted to work on city, county, or state lands in Arizona here: https://statemuseum.arizona.edu/crm/document/aaa-qualified-consultants

Please don't hesitate to contact me if you have any questions or concerns at splummer@arizona.edu. / 520-621-4795

Sincerely,

Shannon Plummer, M.A., R.P.A.
Arizona State Museum
Arizona Antiquities Act Administrator

TOWN OF QUEEN CREEK ARIZONA

January 6, 2022

Ms. Danielle Gosselin
Acting Director
Office of Environmental Analysis
Surface Transportation Board
395 E. Street SW
Washington, D.C. 20423

Re: Docket No. FD 36501, Union Pacific Railroad Company - Construction and Operation Exemption - in Maricopa County, AZ; Preliminary Environmental Consultation

Dear Ms. Gosselin:

Thank you for the opportunity to provide commentary on issues for consideration for the forthcoming environmental review associated with Union Pacific Railroad Company's (UPRR) PIRATE application to construct and operate six miles of new rail line in northeast Mesa, where the Town of Queen Creek (Town) shares a northern border. The Town has jurisdiction from Power Road on the western border, along Germann Road as the northern border extending south and east into Pinal County. It is also important to note that in August of 2019, in coordination with the Arizona State Land Department, the Town annexed 4,150 acres of land held in trust by the State of Arizona into the Town which is located immediately adjacent to the end of the proposed rail line at Meridian Road (State Trust Land). The State Trust Land is anticipated to be developed by large industrial employers and the land has been or is in process of being rezoned for employment purposes.

The Town respectfully requests to be treated as a significant stakeholder throughout the review process initiated by the Surface Transportation Board and offers the following questions and potential issues for consideration during the ongoing review:

Additional information needed relative to the proposed operations of the UPRR PIRATE extension

In order to properly access the impacts of the proposed rail line, the Town of Queen Creek requests additional information from Union Pacific Railroad with respect to its operations plan. The Town is seeking the following:

- The number of trains to utilize the proposed rail line on a daily basis and their anticipated length;
- The frequency in which trains would utilize the proposed rail line;
- The time(s) of day in which the rail line would be actively utilized and crossing major arterials;
- Union Pacific's proposal for the crossing of major north-south arterial connections with access to the new State Route 24 freeway (*i.e.* at-grade or over/under passes);
- If crossings are proposed at-grade, the safety measures which would be utilized to protect motorists;
- The proposed time it would take for the train to pass through all major arterial roadways blocking motorists from crossing;
- If UPRR plans to eliminate any other at-grade crossings as a result of the additional new potential at-grade arterial crossings;
- UPRR's plans to improve the Sossaman/Germann intersection associated with this project;

- What other traffic mitigation plans are included in the proposal to mitigate the significant traffic issues which will be created;
- What development, construction, other activities and/ or improvements within the Town boundaries are anticipated; and
- Examples of similar existing rail lines with similar anticipated environmental factors located in Arizona.

Significant Traffic Arterial Considerations at Major North-South Arterials including Sossaman, Ellsworth, Signal Butte and Meridian Roads

The Town of Queen Creek's current population is over 66,000 residents with another 100,000+ residents located in the unincorporated area immediately to the south known as San Tan Valley located in Pinal County. The Town's growth rate is significant at approximately 7% annually. Additionally, State Route 24 is the closest potential freeway (interim to be open in August 2022) that provides access for these residents often traveling west for employment. This means the Town's north-south arterial network is critical to ensure the continued movement of people and goods. In an effort to provide more access points for residents, in January of 2019, the Town of Queen Creek entered into an agreement with the City of Mesa in which the Town advanced $12 million in funds in order for Mesa to build the needed capacity along Signal Butte Road to alleviate congestion.

The proposed rail line would require major arterial crossings located at Sossaman, Ellsworth, Signal Butte, and potentially Meridian roads. From a practical standpoint, Ellsworth, Signal Butte and Meridian (Signal Butte and Meridian scheduled to open in August 2022) are the Town's primary north south routes out of the community to the metropolitan Phoenix freeway system. A small area transportation study is required to fully investigate the traffic impacts due to the proposed rail line. Additionally, grade-separated crossings should be considered to avoid traffic conflicts and protect motorists. Germann Road, a road of regional significance located south of Pecos, will have increased traffic congestion and will need improvements sooner as a result of the proposed rail line (attached is a 2013 study of this roadway conducted by the Arizona Department of Transportation).

Impacts associated with the building of the PIRATE rail line to the UPRR main track including the Sossaman/Germann intersection

Multiple agencies hold jurisdiction at the Sossaman/Germann intersection that include the City of Mesa, Town of Queen Creek, Union Pacific Railroad and the Maricopa County Flood Control District. The City of Mesa, Town of Queen Creek and Maricopa County are currently collaborating on the re-design of this intersection to accommodate significant increased and planned usage associated with the location of a new charter school (full capacity enrollment planned for 2,400 students, opening in August 2022). This intersection will need an interim solution which is currently under discussion with all the parties. Any improvements in which Union Pacific Railroad intends to conduct at this intersection should not impede the goals or timing of either the interim or the permanent construction of this critical intersection to ultimately make it safer and more efficient.

Neighborhood Considerations for Residential Properties located immediately south of the proposed PIRATE rail line

With the rail line being located just east of Rittenhouse Road, the extended rail line is within close proximity to significant residential development along the length. This presents significant concerns when hearing from a number of the Town's residents as it relates to current railroad noise. Within one-mile of the Town's jurisdictional boundary, there is a total of approximately 10,150 residential units that are constructed or planned for development that may

now be exposed to ongoing rail noise. Quiet Zones may need to be constructed as a result of the approval of the proposed line in these locations.

Land Use Considerations for the State Trust Land
located within the Town's jurisdiction adjacent to the proposed PIRATE rail line

Based on the provided exhibits, it is the Town's understanding that the rail line will run eastward to CMC Steel, or approximately Meridian Road. As you may be aware, the Arizona State Land Department (ASLD) has significant land holdings east of Meridian Road, both within the Town's jurisdiction as well as the City of Apache Junction. As noted above, the Town of Queen Creek recently annexed 4,150 acres. Within the ASLD site, approximately 1,000 acres directly east of Meridian Road has been rezoned for employment uses and has seen a significant amount of interest from advanced manufacturing users (see attached zoning map). Please note that some of the advanced manufacturing users have expressed significant apprehension about being located within close proximity to a rail line due to potential vibrations impacting their operations. Furthermore, the remainder of the ASLD site has the potential for an additional 10,000+ residential units that would be impacted if the rail line were to extend east to Meridian Road.

In order to understand more about this project and properly and fully respond to your request for input on the impacts of the proposed rail line, the Town of Queen Creek is formally requesting a stakeholder meeting be conducted by the Federal Surface Transportation Board to include at a minimum, Union Pacific Railroad, City of Mesa, Phoenix-Mesa Gateway Airport, Pinal County and the Town of Queen Creek. This will assist the Town in better providing additional comments to the Surface Transportation Board during its environmental review of the proposed project, alternatives, and effective mitigation efforts. Additionally, the Town would request that no conditional or final approval to construct the proposed rail line be given to Union Pacific Railroad until the entire environmental analysis is complete, the issues identified by the stakeholders in their responses and through the evaluation process are substantively addressed, and State Trust Land users are better known.

Thank you for your consideration of these issues. Should you need any additional information, please contact Mohamed Youssef (480-358-3144, mohamed.youssef@queencreekaz.gov) or Heather Wilkey (480-358-3913, heather.wilkey@queencreekaz.gov).

Sincerely,

John Kross, ICMA-CM
Town Manager

cc: Adam Assenza, Environmental Protection Specialist, Surface Transportation Board
Maggie Buckley, Jacobs Engineering Group
Betsi Phoebus, Jacobs Engineering Group
Mohamed Youssef, Interim Public Works Director, Town of Queen Creek
Heather Wilkey, Intergovernmental Relations Manager, Town of Queen Creek

Attachments: Arizona Department of Transportation Study, Germann Road Corridor
Zoning Map of the Arizona State Trust Lands

SHPO-2021-1360(161938)
Rec'd 12/10/21

SURFACE TRANSPORTATION BOARD
Washington, DC 20423

Office of Environmental Analysis

December 10, 2021

Ms. Kathryn Leonard
State Historic Preservation Officer
Arizona State Parks, State Historic Preservation Office
1110 West Washington Street, Suite 100
Phoenix, AZ 85007

Re: Docket No. FD 36501, Union Pacific Railroad Company – Construction and Operation Exemption – in Maricopa County, AZ; Preliminary Environmental Consultation

Dear Ms. Leonard:

I am writing to inform you about a forthcoming proposal from the Union Pacific Railroad Company (UP) to construct and operate approximately six miles of new rail line in Maricopa County, Arizona. UP intends to seek authority from the Surface Transportation Board (Board) to construct and operate the proposed rail line. Before making its decision on whether to grant such authority, the Board must consider the potential environmental impacts of UP's proposal, pursuant to the National Environmental Policy Act (NEPA), Section 106 of the National Historic Preservation Act (NHPA), the Board's environmental rules at 49 C.F.R. Part 1105, and related environmental laws.

The Board's Office of Environmental Analysis (OEA) intends to begin the process of preparing environmental documentation that will analyze the potential environmental and historic impacts of the proposed rail line. OEA will conduct the environmental review in consultation with appropriate federal, tribal, state, and local agencies; other interested stakeholders; and the public. The purpose of this letter is to advise you of the proposed rail line project, request information from your agency on the resources under your jurisdiction that could be affected by the proposed rail line, identify permits and approvals that could be required of UP, and identify any other information that would inform OEA's development of the range of alternatives to be considered during the environmental review. The information you provide will also help us determine what type of NEPA document should be prepared.

Project Background

UP intends to request Board authority to construct and operate new industrial lead railroad track that would connect UP's Phoenix Sub main line track in Maricopa County, Arizona, to industrial properties southeast of the Phoenix-Mesa Gateway Airport (Figures 1 and 2). This project is referred to as the Pecos Industrial Rail Access and Train Extension

(PIRATE) project. According to UP, the proposed track would serve the transportation and logistics needs of existing manufacturing and industrial businesses, as well as prospective businesses looking to relocate to the area. Maps of the proposed project area are attached.

Environmental Review Process

This letter begins the process by which OEA will assess the potential environmental impacts of constructing and operating the proposed rail line. The process will include the preparation of a draft and final environmental document, which for rail construction proposals is normally an environmental impact statement (EIS), as specified in the Board's environmental rules at 49 C.F.R. § 1105.6(a). Your response to this inquiry will assist OEA in determining if an EIS is appropriate in this case or if, alternatively, an environmental assessment (EA) could be prepared.

Pursuant to the Council on Environmental Quality's regulations implementing NEPA (40 C.F.R. §§ 1500–1508) and the Board's environmental rules at 49 C.F.R. § 1105, OEA will be the lead federal agency in the preparation of the environmental document that will evaluate the potential environmental effects of UP's proposal, including reasonable and feasible alternatives and the no-action alternative. The draft environmental document will be distributed to agencies and the public for review and comment pursuant to the requirements of NEPA and the Board's environmental rules. The NEPA document will set forth the Board's independent environmental review of the build alternatives and the no-build or no-action alternative. The alternatives to be considered in the environmental document may include new alternatives developed by OEA. Our agency's process will conclude with the Board's decision on whether to authorize the proposed rail line. In reaching its decision, the Board will consider the entire environmental record, including all public comments, the draft and final environmental documents, and OEA's final recommended environmental mitigation. Jacobs Engineering Group Inc., the third-party contractor for this project, will assist OEA in conducting the environmental review.

Request for Input

We would appreciate your assistance in preliminarily identifying whether any resources of concern to your agency may be affected by the proposed rail line, particularly if any permits or approvals are required of UP, and welcome any additional issues or concerns that you consider appropriate. You may submit comments electronically through the Board's website at www.stb.gov by clicking on the "E-Filing" link on the left side of the home page and then selecting "Environmental Comments." Brief comments may be typed within the comment field provided or you may attach comments as a separate file. You may also send your written comments to Adam Assenza, OEA's Project Manager for this environmental review, by email at Adam.Assenza@stb.gov. Comments received will be made available to the public on the Board's web site. We respectfully request your response by **January 10, 2022**.

If you have any questions or would like to arrange a virtual meeting or conference call with OEA, please feel free to contact Adam Assenza by phone at (202) 245-0301 or by email. We greatly appreciate your assistance and look forward to your participation in the Board's environmental review process for this project.

Sincerely,

Danielle Gosselin
Acting Director
Office of Environmental Analysis

Enclosures:
Figure 1 – Project Vicinity Map
Figure 2 – Project Location Map

Thank you for consulting with our office regarding the above-referenced project. After reviewing your letter and attachments, we recommend that you complete a Class I literature review and potentially a Class III cultural resources survey of the project area in order to identify historic properties. For more information, please refer to the Arizona State Museum's website: https://statemuseum.arizona.edu/crm. I have also attached a list of archaeological consultants who can assist you in this matter.

Please continue to consult with our office as this project progresses.

Sincerely,

Caroline Klebacha
State Historic Preservation Office
January 7, 2022

January 10th, 2021

Adam Assenza
Surface Transportation Board
Environmental Analysis Project Manager
Office of Environmental Analysis

Subject: Docket No. FD 36501, Union Pacific Railroad Company – Construction and Operation Exemption – in Maricopa County, AZ; Preliminary Environmental Consultation

Dear Adam Assenza:

Thank you for your notification of the forthcoming proposal from the Union Pacific Railroad Company(UP) to construct and operate approximately six miles of new rail line in Maricopa County, Arizona. ADOT would like further coordination as information on the location of the new rail line is available.

Specifically, if entering ADOT Right of Way, there would need to be a review for compliance with ADOT's National Pollution Discharge Elimination System (NPDES) and the Arizona Antiquities Act in order to issue an Encroachment permit.

For further information on potential environmental impacts, please refer to ADOT's Environmental Assessment for the SR 24, Ellsworth Road to Ironwood Road, Phase II Interim project. The "Final Environmental Assessment for State Route SR 802, Williams Gateway freeway" (2011 Final EA) and the "Reevaluation of the final Environmental Assessment" (January 2018), is available on ADOT's website: (https://azdot.gov/projects/central-district-projects/sr-24-interim-phase-ii-ellsworth-rd-ironwood-dr/documents-sr-24).

We appreciate receiving the notice, and the opportunity to review and comment. I am happy to assist with any other questions or concerns.

Sincerely,

Alexis Zaring
Central District Environmental Coordinator
Arizona Department of Transportation, Central District

Enclosures (1): Environmental Assessment Project Area and Summary

DocuSign Envelope ID: 23E800FE-E60F-4B4F-91A8-5C12DE6EDC81

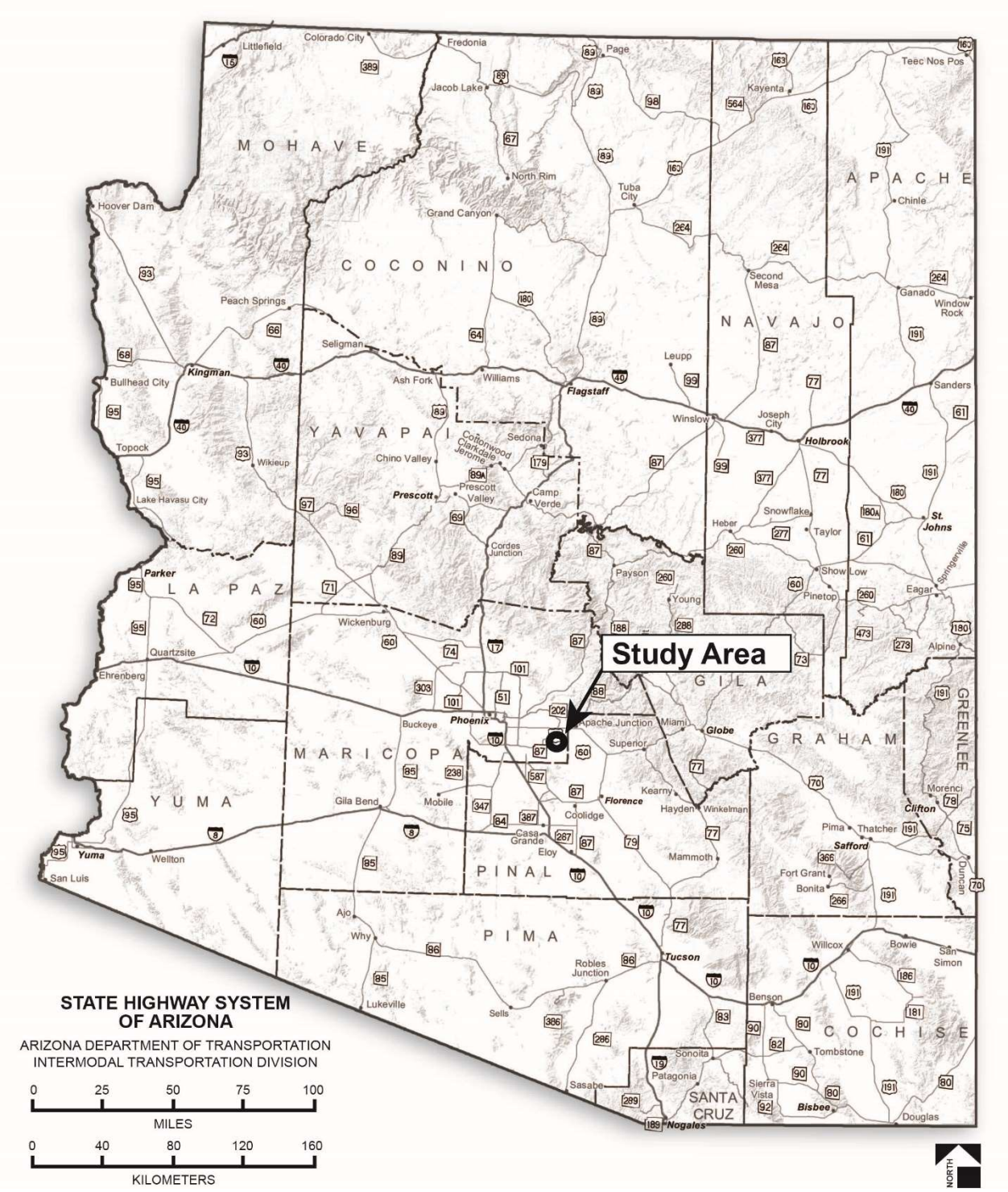


Figure 1. State location map

DocuSign Envelope ID: 23E800FE-E60F-4B4F-91A8-5C12DE6EDC81

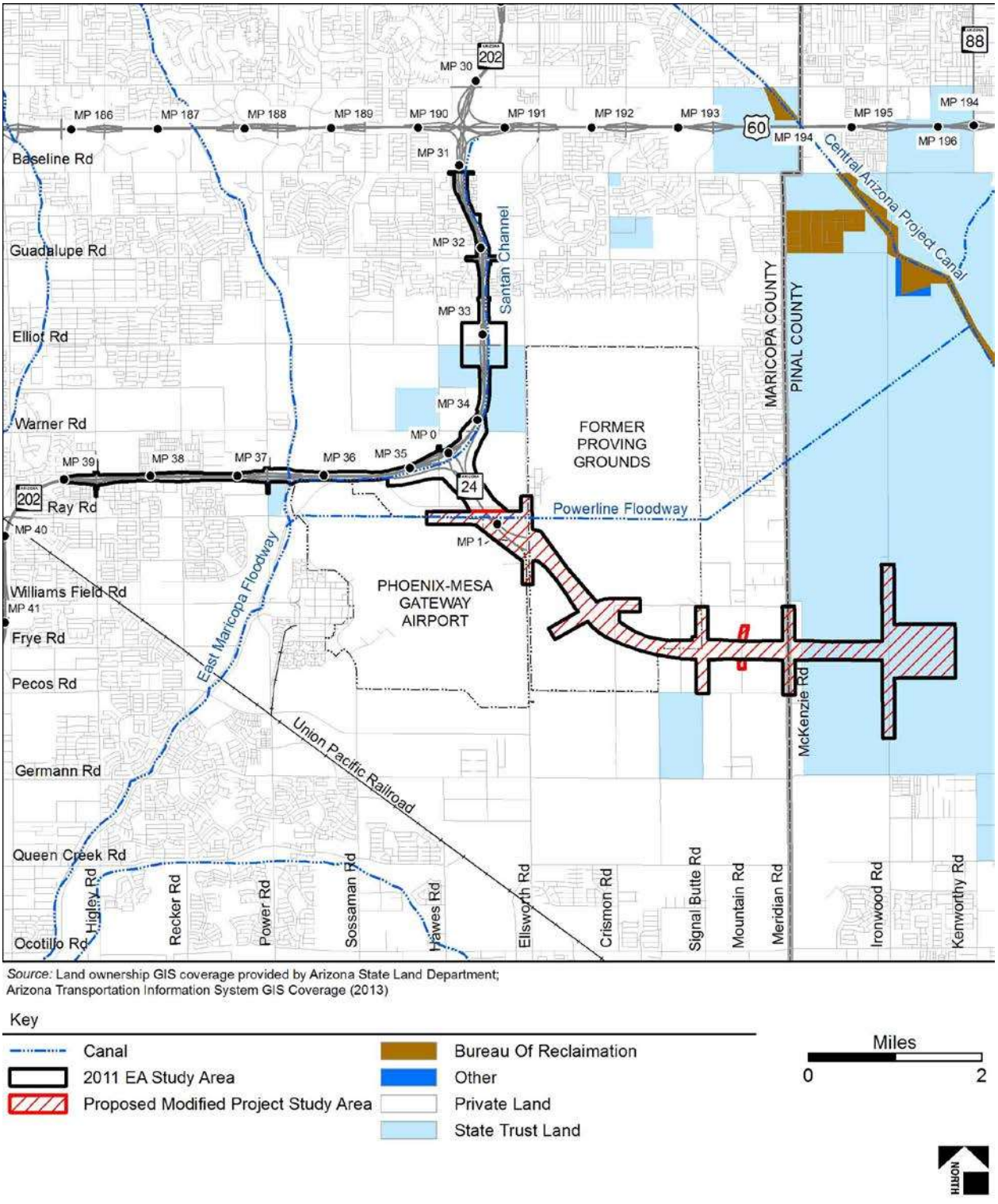


Figure 2. Project vicinity map

DocuSign Envelope ID: 23E800FE-E60F-4B4F-91A8-5C12DE6EDC81

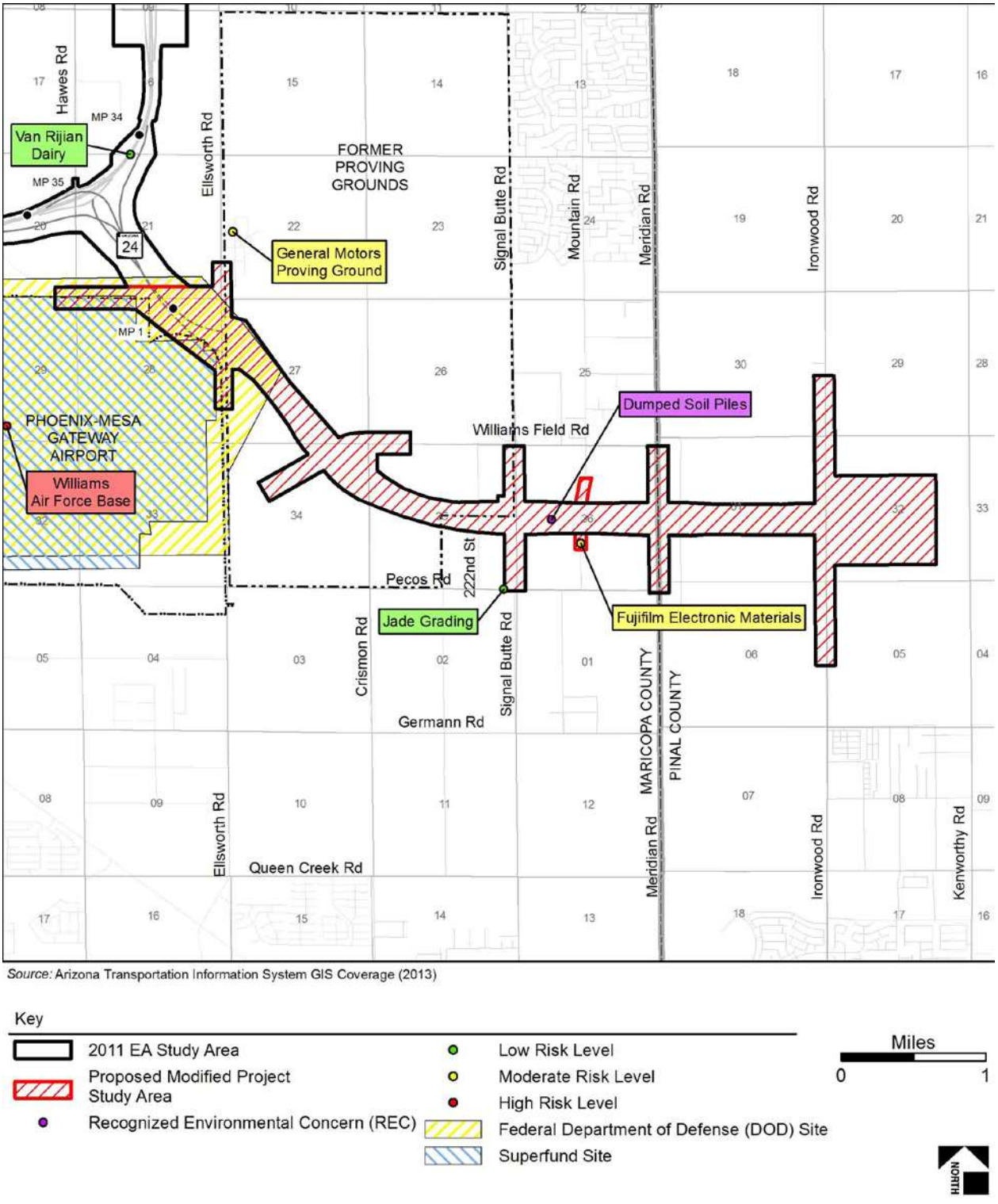


Figure 8. Hazardous Materials map

DocuSign Envelope ID: 23E800FE-E60F-4B4F-91A8-5C12DE6EDC81

TABLE 4. SUMMARY OF ENVIRONMENTAL IMPACTS

Resource	2011 Final EA Finding for the Selected Alternative	Finding for the Proposed Modified Project
Land Ownership, Jurisdiction, and Land Use (including Prime and Unique Farmland)	Would conform to local and regional planning documents; therefore, would cause minimal change to existing and future land uses.	Same
Socioeconomic Conditions (Social Environment, Environmental Justice, and Economic Conditions)	Would require the relocation of approximately four households along the SR 24 alignment; there are no protected populations within the study area; therefore, would not impact these populations; no neighborhoods would be bisected by the Preferred Alternative, and access to local services and facilities would be enhanced due to reduced traffic congestion of surface streets	Would require the relocation of approximately four households along the SR 24 alignment. Protected populations are present within the study area; however, no neighborhoods would be bisected by the Preferred Alternative, and access to local services and facilities would be enhanced due to reduced traffic congestion of surface streets
Cultural Resources	Would impact historic properties and require the preparation of documents for treating and mitigating cultural resources (PA and treatment plan)	Same
Section 4(f)	Would result in direct impact to one planned recreational trail; impacts could be mitigated by design measures	Would result in direct impact to two planned recreational trails (City of Mesa planned shared-use pathway and Pinal County planned trail); impacts would be mitigated by design measures
Air Quality	Would reduce regional impacts of air quality; potential short-term exceedances of CO and PM10 during construction	Same
Noise	Would not result in impacts to receivers that warrant mitigation per ADOT NAP; some receivers would be temporarily affected by construction noise	Same
Utilities	Would require several utility relocations	Same
Visual Resources	Would be a noticeable feature in the landscape; however, impacts are anticipated to be low due to low scenic value throughout the study area and presence of few sensitive viewers	Same

DocuSign Envelope ID: 23E800FE-E60F-4B4F-91A8-5C12DE6EDC81

Resource	2011 Final EA Finding for the Selected Alternative	Finding for the Proposed Modified Project
Drainage and Floodplains	Would traverse two floodplains in the project construction limits—the EMF and a designated 100-year floodplain near the proposed SR 24/Meridian Road TI; potential impacts to the 100-year floodplains would be addressed during the final design; coordination with the floodplain managers would occur during the final design	Same
Clean Water Act Sections 404/401 and Section 402	Would cause temporary and permanent impacts to waters of the US, and the project would require a Section 404 permit; would generate greater than 1 acre of ground disturbance and an AZPDES permit with a SWPPP and Storm Water Monitoring Plan would be required	Would not cause additional impacts on jurisdictional Waters; would require an AZPDES permit with a SWPPP
Biological Resources	Would impact general vegetation and wildlife; would not impact currently listed Threatened or Endangered Species; would impact one candidate species and species protected under the Migratory Bird Treaty Act	Same
Hazardous Materials	Would impact four sites of potential moderate- or high-risk concern	Same, with the addition of impacts to the REC found during the Phase I ESA investigations.
Secondary Impacts	Would tend to create permanent, substantially negative impacts that would fragment habitat, increase the potential for road related mortalities of wildlife, facilitate further destruction of approximately 545 acres of natural desert, threaten cultural resources, and cause additional loss of the natural drainage system	Same
Cumulative Impacts	Would tend to create permanent, substantially negative impacts that would fragment habitat, increase the potential for road related mortalities of wildlife, facilitate further destruction of natural desert, threaten cultural resources, and cause additional loss of the natural drainage system	Same

THE HOPI TRIBE

Timothy L. Nuvangyaoma
CHAIRMAN

Craig Andrews
VICE-CHAIRMAN

FEB 07 2022

January 10, 2022

Danielle Gosselin, Acting Director
Attention: Adam Assenza
Surface Transportation Board, Office of Environmental Analysis
Washington, DC 20423

Subject: Docket No. FD 36501 – Union Pacific Railroad Company –
Construction and Operation Exemption – In Maricopa County, Arizona

Dear Director Gosselin,

This letter is in response to your correspondence dated December 10, 2021, regarding Docket No. FD 36501, the Union Pacific Railroad Company proposed Pecos industrial Rail Access and Train Extension Project, to construct and operate approximately six miles of new rail line in Maricopa County, Arizona. The Hopi Cultural Preservation Office appreciates the Surface Transportation Board's solicitation of our input and your efforts to address our concerns.

The Hopi Tribe claims cultural affiliation to the earlier identifiable cultural groups in Arizona. The Hopi Cultural Preservation Office supports the identification and avoidance of our ancestral sites, and we consider the prehistoric archaeological sites of our ancestors to be Traditional Cultural Properties. We request consultation on any proposal that has the potential to adversely affect prehistoric cultural resources in Arizona.

So if the cultural resources survey of the area of potential effect identifies prehistoric sites that cannot be avoided by project activities, we request continuing consultation on this proposal including being provided with copies of the draft environmental assessment and any proposed treatment plans for review and comment.

In addition, we support project design features that if any cultural features or deposits are encountered during project activities, these activities will be discontinued in the immediate area of the remains, and the State Historic Preservation Office will be consulted to evaluate their nature and significance, and if any Native American human remains or funerary objects are discovered during construction they shall be immediately reported as required by law. Thank you for your consideration.

Respectfully,

Stewart B. Koyiyumptewa, Project Manager/THPO
Hopi Cultural Preservation Office

xc: Arizona State Historic Preservation Office

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

January 12, 2022

Adam Assesza
OEA Project Manager
Surface Transportation Board

Submitted through online portal:
https://www.stb.gov/proceedings-actions/e-filing/environmental_comments/

Subject: EPA Comments to Surface Transportation Board Regarding Docket No. FD 36501, Union Pacific Railroad Company – Construction and Operation Exemption – in Maricopa County, AZ; Preliminary Environmental Consultation

Dear Adam Assesza:

The U.S. Environmental Protection Agency has reviewed the December 10, 2021 letter requesting EPA input related to the potential environmental impacts associated with Union Pacific Railroad Company (UP) request to construct and operate the Pecos Industrial Rail Access and Train Extension (PIRATE) project consisting of approximately six miles of new rail line in Maricopa County, Arizona.

The letter stated that UP intends to seek authority from the Surface Transportation Board (Board) to construct and operate the proposed rail line, and that, before making its decision on whether to grant such authority, the Board must consider the potential environmental impacts of UP's proposal, pursuant to the National Environmental Policy Act (NEPA), Section 106 of the National Historic Preservation Act (NHPA), the Board's environmental rules at 49 C.F.R. Part 1105, and related environmental laws.

Our feedback is provided pursuant to the National Environmental Policy Act, Council on Environmental Quality regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act. We provide the following information for Surface Transportation Board to consider when determining the level of NEPA compliance to pursue for the proposed project. Should STB determine that an Environmental Assessment and Finding of No Significant Impacts is warranted, EPA recommends that each of the items identified below be presented with rationale and supporting information justifying a determination that no potential impacts are anticipated to be significant. In addition, please include the EPA in future noticing regarding initiation of an EA or EIS scoping period.

National Priorities List

We note that the project area is adjacent to and includes portions of the Former Williams Air Force Base, a Federal National Priorities List site. This former base is 95% transferred to the Phoenix Mesa

Gateway Airport Authority and Arizona State University, and other entities. While most of the soil cleanup remedies, including institutional controls (ICs) have been implemented, Air Force (AF) continues to address contaminated groundwater at the ST12 Fuels Spill Site and LF004 Landfill located within the proposed project boundary and is munitions clearance for the Parcel N Debris area, also within the study area, is not yet complete. EPA recommends that STB confirm that no land disturbance related to project construction or operation will impact contaminated groundwater or soil cleanup actions.

The Air Force should be consulted for potentially significant impacts to Superfund Cleanup efforts and infrastructure. STB and UP must insure that any future rail and potential connected actions will not negatively affect the ongoing remedy. Please coordinate with the Phoenix-Mesa Gateway airport Authority and Arizona State University who operate on the former Williams Air Force Base Property. Information about the Superfund cleanup can be found at the Williams AFB Superfund webpage at: https://cumulis.epa.gov/supercpad/cursites/csitinfo.cfm?id=0900890

Tribal Coordination

EPA recommends that STB and UP coordinate with US Bureau of Indian Affairs and potentially impacted tribes, including the Gila River Tribe, to determine if the proposed project would have any impacts to cultural resources, traditional cultural properties, traditional plant collecting properties, or other sensitive tribal resources. EPA understands that the landfill and parcel N debris area within the proposed project area are slated to go to BIA in trust for the Gila River Tribe.

Aquatic Resources and Groundwater Impacts

EPA recommends that STB consider if the project or connected actions associated with the project will impact current hydrological flows or wetland, jurisdictional waters, or other desert washes or aquatic resources. Also, there are several water storage projects in the vicinity of Williams Air Force Base which have resulted in an over 60- foot change in the regional water table since the base closed in 1993. Rapid development growth in the area has prompted the City of Mesa to install several large capacity public supply extraction wells in the area to meet the growing demand for water. Clarify if the proposed project will further exacerbate groundwater challenges in the project area. Disclose the source of water for project construction and operation, as well as for any connected actions associated with the ultimate rail project.

Air, Traffic, Noise, and Visual Impacts

EPA recommends that STB consider potential air, noise, health and traffic impacts of future warehouses, industry, manufacturing, good movement operations and storage facilities that this project may contribute to when determining level of significance of the proposed project. Warehouse and distribution center activity, as well as the transport of industrial and/or potentially hazardous materials, may impact public health. Particulate pollution will result from diesel-emitting trains that the project will accommodate. Without commitments for use of the most efficient engine technology and electrification where possible for locomotives and ground servicing equipment, impacts to adjacent residential and commercial districts may be significant. Consider providing air filtration (filters, improved windows) to nearby residents, schools, and businesses.

Construction of a new rail segment provides the opportunity for installing sustainability features along with the rail development. For example, consider installing linear solar arrays along the new corridor

may offset electricity needs of adjacent manufacturing. At warehouses and manufacturing plants that will be using the proposed rail network, consider commitments to reduce air quality impacts, such as providing air filters to capture particulates and providing advanced technologies to improve worker health.

EPA recommends that STB consider the potential for significant noise impacts from 24-hour operations along the future rail and adjacent warehouse and industry locations and consider if restricted hours of operation are needed near adjacent residences and businesses. When considering the potential rail route, include alternatives that can accommodate planting vegetation along the rail facility in order to reduce noise and visual impacts, and provide vegetative cover that can help reduce particulate emissions. Consider alternative routes that can accommodate sound barriers and measures to reduce light pollution.

Hazardous Materials Management and Safety

We note that the area is undergoing rapid residential and mixed use development that could be impacted significantly by rail transport of chemicals or hazardous materials, warranting contingency planning to address potential spills, as well as compliance with any transport/storage regulations related to hazardous materials management. STB should identify if the project will require UP Toxic release inventory disclosure requirements and what community safety planning will be prepared and completed prior to project completion.

Federal Immigrations and Customs Enforcement

The project area appears to be near a Federal Immigrations and Customs Enforcement facility. EPA recommends that STB and UP coordinate closely with ICE regarding potential impacts.

Environmental Justice and Climate Change

Executive Order 14008 on Tackling the Climate Crisis at Home and Abroad (Jan. 27, 2021) recognizes the climate crisis is profound and directs the federal government to drive assessment, disclosure, and mitigation of climate pollution and climate-related risks. The EO also directs federal agencies to achieve environmental justice as a part of their missions by developing programs, policies, and activities to address the disproportionately high and adverse impacts on human health, environmental, climate-related and other cumulative impacts on these communities, as well as the accompanying economic challenges of such impacts.

Additionally, Executive Order 13990 on Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crises (Jan. 20, 2021), declares that it is essential that agencies capture the full costs of greenhouse gas emissions as accurately as possible, including taking global damages into account. EPA recommends that STB identify all design, construction, and operations commitments to reduce greenhouse gas emissions and address potential climate change impacts through adaptation planning. Consider using EJSCREEN to assist in the identification of potential communities with environmental justice concerns and associated impacts.

The EPA appreciates the opportunity to provide feedback for consideration by STB as the agency determines what level of NEPA to pursue. When the EA or NOI/DEIS are released for public review,

please notify Connell Dunning, NEPA Transportation Team Lead, at 415-947-4161 or dunning.connell@epa.gov.

Sincerely,

Connell Dunning
Environmental Review Branch

January 27, 2022

Adam Assenza
Surface Transportation Board
Office of Environmental Analysis
395 E Street SW
Washington, DC 20423

Electronically submitted to: Adam.Assenza@stb.gov

Re: Union Pacific Railroad Company Pecos Industrial Rail Access and Train Extension project

Dear Mr. Assenza:

The Arizona Game and Fish Department (Department) reviewed your Project Evaluation Request dated December 10, 2021, regarding the Union Pacific Railroad Company's (UP's) Pecos Industrial Rail Access and Train Extension (PIRATE) project. This new six mile industrial lead railroad track would connect UP's Phoenix Sub main line track in Maricopa County, Arizona, to industrial properties southeast of the Phoenix-Mesa Gateway Airport. The Department's Online Environmental Tool report created for you (HGIS-15398) on January 27, 2022, indicates western burrowing owls (*Athene cunicularia hypugaea*) have been reported within a three mile radius of your proposed project.

Based on the information provided, the Department offers the following general recommendations:

- The western burrowing owl, a special status species that is regulated under the Migratory Bird Treaty Act (MBTA), has been recorded in the vicinity of your project. The agricultural crop lands in the vicinity of your project may provide suitable habitat for this species, therefore, the Department recommends conducting an occupancy survey for western burrowing owl to determine if this species occurs within your project footprint. Guidelines for conducting this survey are found in *Burrowing Owl Project Clearance Guidance for Landowners*[1] which can be accessed on-line through the Department's website. Please note that the survey should be conducted by a surveyor that is certified by the Department. If an active burrowing owl burrow is detected, please contact the Department and the U.S. Fish and Wildlife Service for direction, in accordance with the *Burrowing Owl Project Clearance Guidance for Landowners*.

[1] https://www.azgfd.com/wildlife/speciesofgreatestconservneed/raptor-management/burrowing-owl-mangement/

GOVERNOR: DOUGLAS A. DUCEY COMMISSIONERS: CHAIRMAN LELAND S. "BILL" BRAKE, ELGIN | JAMES E. GOUGHNOUR, PAYSON
TODD G. GEILER, PRESCOTT | CLAY HERNANDEZ, TUCSON | KURT R. DAVIS, PHOENIX DIRECTOR: TY E. GRAY DEPUTY DIRECTOR: TOM P. FINLEY

The Department appreciates the opportunity to provide an evaluation of impacts to wildlife or wildlife habitats associated with the Union Pacific Railroad Company Pecos Industrial Rail Access and Train Extension project. If you have any questions regarding this letter, please contact me at (623) 236-7615, and visit our website[2] for additional guidelines.

Sincerely,

Cheri Bouchér

Cheri Bouchér
Project Evaluation Program Specialist, Habitat Branch
Arizona Game and Fish Department

AZGFD# M21-12222432

[2] https://www.azgfd.com/wildlife/planning/wildlifeguidelines/

Arizona Environmental Online Review Tool Report

Arizona Game and Fish Department Mission
To conserve Arizona's diverse wildlife resources and manage for safe, compatible outdoor recreation opportunities for current and future generations.

Project Name:

Pecos Industrial Rail Access and Train Extension (PIRATE)

Project Description:

a forthcoming proposal from the Union Pacific Railroad Company (UP) to construct and operate approximately six miles of new rail line in Maricopa County, Ari zona. UP intends to request Board authority to construct and operate new industrial lead railroad track that would connect UP's Phoenix Sub main line track in Maricopa County, Arizona, to industrial properties southeast of the Phoenix-Mesa Gateway Airport (Figures I and 2). This project is referred to as the Pecos Industrial Rail Access and Train Extension (PIRI\ TE) project. According to UP, the proposed track would serve the transportation and logistics needs of existing manufacturing and industrial businesses, as well as prospective businesses looking to relocate to the area. Maps of the proposed project area are attached.

Project Type:

Transportation & Infrastructure, Railroads (Freight and Passenger), New tracks, bridges, roadway crossing for freight or passenger lines,

Contact Person:

Cheri Boucher

Organization:

Arizona Game and Fish Department

On Behalf Of:

OTHER_FED

Project ID:

HGIS-15398

Please review the entire report for project type and/or species recommendations for the location information entered. Please retain a copy for future reference.

Disclaimer:

1. This Environmental Review is based on the project study area that was entered. The report must be updated if the project study area, location, or the type of project changes.
2. This is a preliminary environmental screening tool. It is not a substitute for the potential knowledge gained by having a biologist conduct a field survey of the project area. This review is also not intended to replace environmental consultation (including federal consultation under the Endangered Species Act), land use permitting, or the Departments review of site-specific projects.
3. The Departments Heritage Data Management System (HDMS) data is not intended to include potential distribution of special status species. Arizona is large and diverse with plants, animals, and environmental conditions that are ever changing. Consequently, many areas may contain species that biologists do not know about or species previously noted in a particular area may no longer occur there. HDMS data contains information about species occurrences that have actually been reported to the Department. Not all of Arizona has been surveyed for special status species, and surveys that have been conducted have varied greatly in scope and intensity. Such surveys may reveal previously undocumented population of species of special concern.
4. HabiMap Arizona data, specifically Species of Greatest Conservation Need (SGCN) under our State Wildlife Action Plan (SWAP) and Species of Economic and Recreational Importance (SERI), represent potential species distribution models for the State of Arizona which are subject to ongoing change, modification and refinement. The status of a wildlife resource can change quickly, and the availability of new data will necessitate a refined assessment.

Locations Accuracy Disclaimer:
Project locations are assumed to be both precise and accurate for the purposes of environmental review. The creator/owner of the Project Review Report is solely responsible for the project location and thus the correctness of the Project Review Report content.

Recommendations Disclaimer:

1. The Department is interested in the conservation of all fish and wildlife resources, including those species listed in this report and those that may have not been documented within the project vicinity as well as other game and nongame wildlife.
2. Recommendations have been made by the Department, under authority of Arizona Revised Statutes Title 5 (Amusements and Sports), 17 (Game and Fish), and 28 (Transportation).
3. Potential impacts to fish and wildlife resources may be minimized or avoided by the recommendations generated from information submitted for your proposed project. These recommendations are preliminary in scope, designed to provide early considerations on all species of wildlife.
4. Making this information directly available does not substitute for the Department's review of project proposals, and should not decrease our opportunity to review and evaluate additional project information and/or new project proposals.
5. Further coordination with the Department requires the submittal of this Environmental Review Report with a cover letter and project plans or documentation that includes project narrative, acreage to be impacted, how construction or project activity(s) are to be accomplished, and project locality information (including site map). Once AGFD had received the information, please allow 30 days for completion of project reviews. Send requests to:
   Project Evaluation Program, Habitat Branch
   Arizona Game and Fish Department
   5000 West Carefree Highway
   Phoenix, Arizona 85086-5000
   Phone Number: (623) 236-7600
   Fax Number: (623) 236-7366
   Or
   PEP@azgfd.gov
6. Coordination may also be necessary under the National Environmental Policy Act (NEPA) and/or Endangered Species Act (ESA). Site specific recommendations may be proposed during further NEPA/ESA analysis or through coordination with affected agencies

Pecos Industrial Rail Access and Train Extension (PIRATE)

USA Topo Basemap With Locator Map



Project Boundary

Buffered Project Boundary

Project Size (acres): 45.68

Lat/Long (DD): 33.2848 / -111.6347

County(s): Maricopa

AGFD Region(s): Mesa

Township/Range(s): T2S, R7E

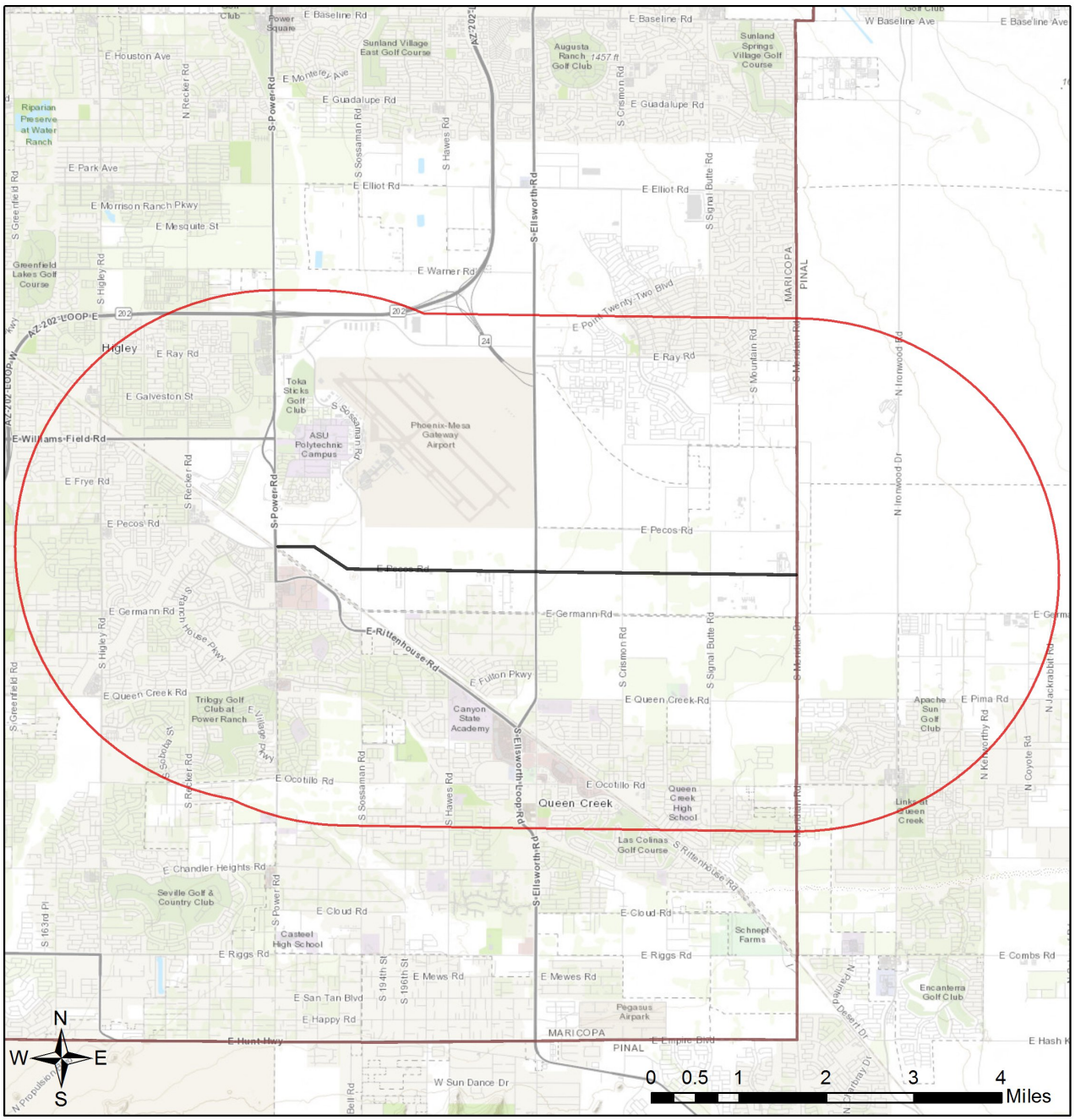
USGS Quad(s): DESERT WELL; HIGLEY



Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap

Pecos Industrial Rail Access and Train Extension (PIRATE)

Web Map As Submitted By User



- Project Boundary
- Buffered Project Boundary
- Counties

Project Size (acres): 45.68

Lat/Long (DD): 33.2848 / -111.6347

County(s): Maricopa

AGFD Region(s): Mesa

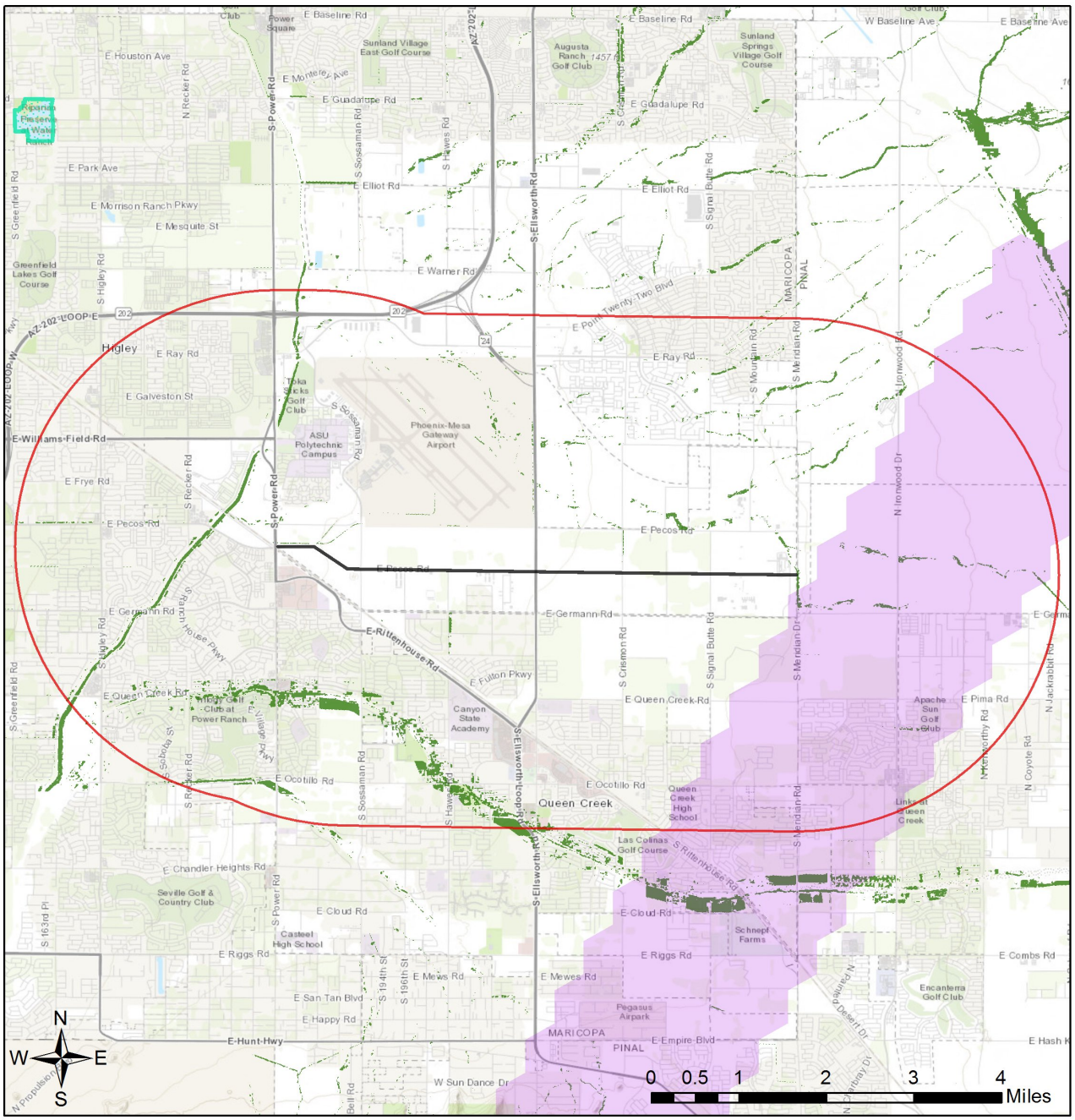
Township/Range(s): T2S, R7E

USGS Quad(s): DESERT WELL; HIGLEY

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

Pecos Industrial Rail Access and Train Extension (PIRATE)

Important Areas



- Project Boundary
- Buffered Project Boundary
- Wildlife Connectivity
- Important Connectivity Zones
- Pinal County Riparian
- Critical Habitat
- Important Bird Areas

Project Size (acres): 45.68

Lat/Long (DD): 33.2848 / -111.6347

County(s): Maricopa

AGFD Region(s): Mesa

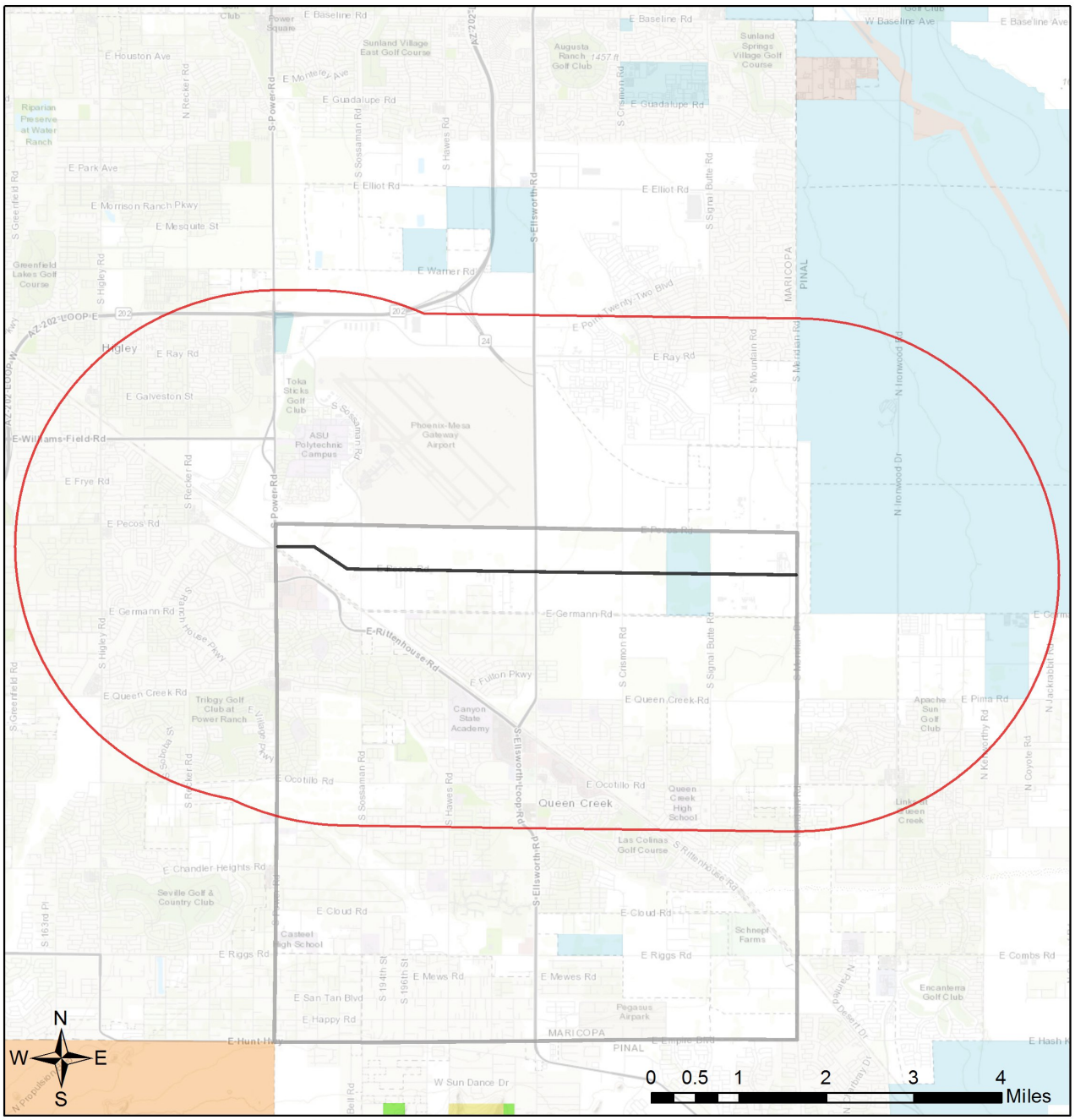
Township/Range(s): T2S, R7E

USGS Quad(s): DESERT WELL; HIGLEY

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

Pecos Industrial Rail Access and Train Extension (PIRATE)

Township/Ranges and Land Ownership



- Project Boundary
- Buffered Project Boundary
- Township/Ranges

Land Ownership

- AZ Game & Fish Dept.
- BLM
- BOR
- Indian Res.
- Military
- Mixed/Other
- National Park/Mon.
- Private
- State & Regional Parks
- State Trust
- US Forest Service
- Wildlife Area/Refuge

Project Size (acres): 45.68

Lat/Long (DD): 33.2848 / -111.6347

County(s): Maricopa

AGFD Region(s): Mesa

Township/Range(s): T2S, R7E

USGS Quad(s): DESERT WELL; HIGLEY

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

Special Status Species Documented within 3 Miles of Project Vicinity

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Athene cunicularia hypugaea	Western Burrowing Owl	SC	S	S		1B
Danaus plexippus	Monarch	C		S		
Lepus alleni	Antelope Jackrabbit					1B

Note: Status code definitions can be found at https://www.azgfd.com/wildlife/planning/wildlifeguidelines/statusdefinitions/
.

Special Areas Documented that Intersect with Project Footprint as Drawn

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Riparian Area	Riparian Area					

Note: Status code definitions can be found at https://www.azgfd.com/wildlife/planning/wildlifeguidelines/statusdefinitions/
.

Species of Greatest Conservation Need Predicted that Intersect with Project Footprint as Drawn, based on Predicted Range Models

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Aix sponsa	Wood Duck					1B
Ammospermophilus harrisii	Harris' Antelope Squirrel					1B
Athene cunicularia hypugaea	Western Burrowing Owl	SC	S	S		1B
Botaurus lentiginosus	American Bittern					1B
Buteo regalis	Ferruginous Hawk	SC		S		1B
Calypte costae	Costa's Hummingbird					1C
Chilomeniscus stramineus	Variable Sandsnake					1B
Chionactis annulata	Resplendent Shovel-nosed Snake	SC				1C
Cistothorus palustris	Marsh Wren					1C
Colaptes chrysoides	Gilded Flicker			S		1B
Coluber bilineatus	Sonoran Whipsnake					1B
Corynorhinus townsendii pallescens	Pale Townsend's Big-eared Bat	SC	S	S		1B
Crotalus tigris	Tiger Rattlesnake					1B
Empidonax wrightii	Gray Flycatcher					1C
Euderma maculatum	Spotted Bat	SC	S	S		1B
Eumops perotis californicus	Greater Western Bonneted Bat	SC		S		1B
Falco peregrinus anatum	American Peregrine Falcon	SC	S	S		1A
Gopherus morafkai	Sonoran Desert Tortoise	C	S	S		1A
Haliaeetus leucocephalus	Bald Eagle	SC, BGA	S	S		1A
Heloderma suspectum	Gila Monster					1A
Incilius alvarius	Sonoran Desert Toad					1B
Kinosternon sonoriense sonoriense	Desert Mud Turtle			S		1B
Lasiurus blossevillii	Western Red Bat		S			1B

Species of Greatest Conservation Need Predicted that Intersect with Project Footprint as Drawn, based on Predicted Range Models

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Lasiurus xanthinus	Western Yellow Bat		S			1B
Leopardus pardalis	Ocelot	LE				1A
Leptonycteris yerbabuenae	Lesser Long-nosed Bat	SC				1A
Lepus alleni	Antelope Jackrabbit					1B
Macrotus californicus	California Leaf-nosed Bat	SC		S		1B
Melanerpes uropygialis	Gila Woodpecker					1B
Melospiza lincolnii	Lincoln's Sparrow					1B
Melozone aberti	Abert's Towhee		S			1B
Micrathene whitneyi	Elf Owl					1C
Micruroides euryxanthus	Sonoran Coralsnake					1B
Myiarchus tyrannulus	Brown-crested Flycatcher					1C
Myotis occultus	Arizona Myotis	SC		S		1B
Myotis velifer	Cave Myotis	SC		S		1B
Myotis yumanensis	Yuma Myotis	SC				1B
Nyctinomops femorosaccus	Pocketed Free-tailed Bat					1B
Oreoscoptes montanus	Sage Thrasher					1C
Oreothlypis luciae	Lucy's Warbler					1C
Panthera onca	Jaguar	LE				1A
Passerculus sandwichensis	Savannah Sparrow					1B
Phrynosoma goodei	Goode's Horned Lizard					1B
Phrynosoma solare	Regal Horned Lizard					1B
Phyllorhynchus browni	Saddled Leaf-nosed Snake					1B
Setophaga petechia	Yellow Warbler					1B
Sphyrapicus nuchalis	Red-naped Sapsucker					1C
Spizella breweri	Brewer's Sparrow					1C
Tadarida brasiliensis	Brazilian Free-tailed Bat					1B
Toxostoma lecontei	LeConte's Thrasher			S		1B
Troglodytes pacificus	Pacific Wren					1B
Vireo bellii arizonae	Arizona Bell's Vireo					1B
Vulpes macrotis	Kit Fox	No Status				1B

Species of Economic and Recreation Importance Predicted that Intersect with Project Footprint as Drawn

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Callipepla gambelii	Gambel's Quail					
Zenaida asiatica	White-winged Dove					
Zenaida macroura	Mourning Dove					

Project Type: Transportation & Infrastructure, Railroads (Freight and Passenger), New tracks, bridges, roadway crossing for freight or passenger lines,

Project Type Recommendations:

Bridge Maintenance/Construction

Identify whether wildlife species use the structure for roosting or nesting during anticipated maintenance/construction period. Plan the timing of maintenance/construction to minimize impacts to wildlife species. In addition to the species list generated by the Arizona's On-line Environmental Review Tool, the Department recommends that surveys be conducted at the bridge and in the vicinity of the bridge to identify additional or currently undocumented bat, bird, or aquatic species in the project area. To minimize impacts to birds and bats, as well as aquatic species, consider conducting maintenance and construction activities outside the breeding/maternity season (breeding seasons for birds and bats usually occur spring - summer). Examining the crevices for the presence of bats prior to pouring new paving materials or that the top of those crevices be sealed to prevent material from dripping or falling through the cracks and potentially onto bats. If bats are present, maintenance and construction (including paving and milling) activities should be conducted during nighttime hours, if possible, when the fewest number of bats will be roosting. Minimize impacts to the vegetation community. Unavoidable impacts to vegetation should be mitigated on-site whenever possible. A revegetation plan should be developed to replace impacted communities.

Consider design structures and construction plans that minimize impacts to channel geometry (i.e., width/depth ratio, sinuosity, allow overflow channels), to avoid alteration of hydrological function. Consider incorporating roosting sites for bats into bridge designs. During construction, erosion control structures and drainage features should be used to prevent introduction of sediment laden runoff into the waterway. Minimize instream construction activity. If culverts are planned, use wildlife friendly designs to mitigate impacts to wildlife and fish movement. Guidelines for bridge designs to facilitate wildlife passage can be found on our Wildlife Friendly Guidelines web page under the Widilfe Planning button, at https://www.azgfd.com/wildlife/planning/wildlifeguidelines/.

Fence recommendations will be dependant upon the goals of the fence project and the wildlife species expected to be impacted by the project. General guidelines for ensuring wildlife-friendly fences include: barbless wire on the top and bottom with the maximum fence height 42", minimum height for bottom 16". Modifications to this design may be considered for fencing anticipated to be routinely encountered by elk, bighorn sheep or pronghorn (e.g., Pronghorn fencing would require 18" minimum height on the bottom). Please refer to the Department's Fencing Guidelines located on Wildlife Friendly Guidelines page, which is part of the WIldlife Planning button at https://www.azgfd.com/wildlife/planning/wildlifeguidelines/.

During the planning stages of your project, please consider the local or regional needs of wildlife in regards to movement, connectivity, and access to habitat needs. Loss of this permeability prevents wildlife from accessing resources, finding mates, reduces gene flow, prevents wildlife from re-colonizing areas where local extirpations may have occurred, and ultimately prevents wildlife from contributing to ecosystem functions, such as pollination, seed dispersal, control of prey numbers, and resistance to invasive species. In many cases, streams and washes provide natural movement corridors for wildlife and should be maintained in their natural state. Uplands also support a large diversity of species, and should be contained within important wildlife movement corridors. In addition, maintaining biodiversity and ecosystem functions can be facilitated through improving designs of structures, fences, roadways, and culverts to promote passage for a variety of wildlife. Guidelines for many of these can be found at: https://www.azgfd.com/wildlife/planning/wildlifeguidelines/.

Consider impacts of outdoor lighting on wildlife and develop measures or alternatives that can be taken to increase human safety while minimizing potential impacts to wildlife. Conduct wildlife surveys to determine species within project area, and evaluate proposed activities based on species biology and natural history to determine if artificial lighting may disrupt behavior patterns or habitat use. Use only the minimum amount of light needed for safety. Narrow spectrum bulbs should be used as often as possible to lower the range of species affected by lighting. All lighting should be shielded, canted, or cut to ensure that light reaches only areas needing illumination.

Minimize the potential introduction or spread of exotic invasive species, including aquatic and terrestrial plants, animals, insects and pathogens. Precautions should be taken to wash and/or decontaminate all equipment utilized in the project activities before entering and leaving the site. See the Arizona Department of Agriculture website for a list of prohibited and restricted noxious weeds at https://www.invasivespeciesinfo.gov/unitedstates/az.shtml and the Arizona Native Plant Society https://aznps.com/invas for recommendations on how to control. To view a list of documented invasive species or to report invasive species in or near your project area visit iMapInvasives - a national cloud-based application for tracking and managing invasive species at https://imap.natureserve.org/imap/services/page/map.html.

- To build a list: zoom to your area of interest, use the identify/measure tool to draw a polygon around your area of interest, and select “See What’s Here” for a list of reported species. To export the list, you must have an account and be logged in. You can then use the export tool to draw a boundary and export the records in a csv file.

Follow manufacturer's recommended application guidelines for all chemical treatments. The U.S. Fish and Wildlife Service, Region 2, Environmental Contaminants Program has a reference document that serves as their regional pesticide recommendations for protecting wildlife and fisheries resources, titled "Recommended Protection Measures for Pesticide Applications in Region 2 of the USFWS", http://www.fws.gov/southwest/es/arizona/Documents/ECReports/RPMPA_2007.pdf. The Department recommends that direct or indirect impacts to sensitive species and their forage base from the application of chemical pesticides or herbicides be considered carefully.

Minimization and mitigation of impacts to wildlife and fish species due to changes in water quality, quantity, chemistry, temperature, and alteration to flow regimes (timing, magnitude, duration, and frequency of floods) should be evaluated. Minimize impacts to springs, in-stream flow, and consider irrigation improvements to decrease water use. If dredging is a project component, consider timing of the project in order to minimize impacts to spawning fish and other aquatic species (include spawning seasons), and to reduce spread of exotic invasive species. We recommend early direct coordination with Project Evaluation Program for projects that could impact water resources, wetlands, streams, springs, and/or riparian habitats.

The Department recommends that wildlife surveys are conducted to determine if noise-sensitive species occur within the project area. Avoidance or minimization measures could include conducting project activities outside of breeding seasons.

Based on the project type entered, coordination with State Historic Preservation Office may be required (http://azstateparks.com/SHPO/index.html).

Design culverts to minimize impacts to channel geometry, or design channel geometry (low flow, overbank, floodplains) and substrates to carry expected discharge using local drainages of appropriate size as templates. Reduce/minimize barriers to allow movement of amphibians or fish (e.g., eliminate falls). Also for terrestrial wildlife, washes and stream corridors often provide important corridors for movement. Overall culvert width, height, and length should be optimized for movement of the greatest number and diversity of species expected to utilize the passage. Culvert designs should consider moisture, light, and noise, while providing clear views at both ends to maximize utilization. For many species, fencing is an important design feature that can be utilized with culverts to funnel wildlife into these areas and minimize the potential for roadway collisions. Guidelines for culvert designs to facilitate wildlife passage can be found on the home page of this application at https://www.azgfd.com/wildlife/planning/wildlifeguidelines/.

Based on the project type entered, coordination with Arizona Department of Environmental Quality may be required (http://www.azdeq.gov/).

Based on the project type entered, coordination with U.S. Army Corps of Engineers may be required (http://www.usace.army.mil/)

Based on the project type entered, coordination with County Flood Control district(s) may be required.

The Department requests further coordination to provide project/species specific recommendations, please contact Project Evaluation Program directly at PEP@azgfd.gov.

Project Location and/or Species Recommendations:
This review has identified **riparian areas** within the vicinity of your project. During the planning stage of your project, avoid, minimize, or mitigate any potential impacts to riparian areas identified in this report. Riparian areas play an important role in maintaining the functional integrity of the landscape, primarily by acting as natural drainages that convey water through an area, thereby reducing flood events. In addition, riparian areas provide important movement corridors and habitat for fish and wildlife. Riparian areas are channels that contain water year-round or at least part of the year. Riparian areas also include those channels which are dry most of the year, but may contain or convey water following rain events. All types of riparian areas offer vital habitats, resources, and movement corridors for wildlife. The Pinal County Comprehensive Plan (i.e. policies *6.1.2.1* and *7.1.2.4*), Open Space and Trails Master Plan, Drainage Ordinance, and Drainage Design Manual all identify riparian area considerations, guidance, and policies. Guidelines to avoid, minimize, or mitigate impacts to riparian habitat can be found at https://www.azgfd.com/wildlife/planning/wildlifeguidelines/. Based on the project type entered, further consultation with the Arizona Game and Fish Department and Pinal County may be warranted.

HDMS records indicate that **Western Burrowing Owls** have been documented within the vicinity of your project area. Please review the western burrowing owl resource page at: https://www.azgfd.com/wildlife/speciesofgreatestconservneed/burrowingowlmanagement/.

January 31, 2022

Adam Assenza
Surface Transportation Board
Office of Environmental Analysis
395 E Street SW
Washington, DC 20423

Electronically submitted to: Adam.Assenza@stb.gov

Re: Union Pacific Railroad Company Pecos Industrial Rail Access and Train Extension project

Dear Mr. Assenza:

The Arizona Game and Fish Department (Department) reviewed your Project Evaluation Request dated December 10, 2021, regarding the Union Pacific Railroad Company's (UP's) Pecos Industrial Rail Access and Train Extension (PIRATE) project. This new six mile industrial lead railroad track would connect UP's Phoenix Sub main line track in Maricopa County, Arizona, to industrial properties southeast of the Phoenix-Mesa Gateway Airport. The Department's Online Environmental Tool report created for you (HGIS-15398) on January 27, 2022, indicates western burrowing owls (*Athene cunicularia hypugaea*) have been reported within a three mile radius of your proposed project.

Based on the information provided, the Department offers the following general recommendations:

- The western burrowing owl, a special status species that is regulated under the Migratory Bird Treaty Act (MBTA), has been recorded in the vicinity of your project. The agricultural crop lands and adjacent native desert scrub in the vicinity of your project may provide suitable habitat for this species, therefore, the Department recommends conducting an occupancy survey for western burrowing owl to determine if this species occurs within your project footprint. Guidelines for conducting this survey are found in *Burrowing Owl Project Clearance Guidance for Landowners*[1] which can be accessed on-line through the Department's website. Please note that the survey should be conducted by a surveyor that is certified by the Department. If an active burrowing owl burrow is detected, please contact the Department and the U.S. Fish and Wildlife Service for direction, in accordance with the *Burrowing Owl Project Clearance Guidance for Landowners*.

[1] https://www.azgfd.com/wildlife/speciesofgreatestconservneed/raptor-management/burrowing-owl-mangement/

It is noted that your project is adjacent to undeveloped native desert habitat within Pinal County. Should your proposed project extend into this native desert vegetation, the the Department offers the following additional general recommendations:

- Minimize impacts to vegetation during project construction. Staging areas should be located in previously disturbed sites, and kept as small as possible. Implement erosion and drainage control measures during the project to prevent the introduction of sediment-laden runoff into adjacent surface waters, and to prevent impacts to surface water quality. Stabilize exposed soils, particularly on slopes, with native vegetation as soon as possible to prevent excess erosion.
- If proposed ground disturbance (both temporary and permanent) will meet or exceed 0.25 acre in areas with native vegetation, please ensure the project complies with Arizona Native Plant Law regulations[2]. A Native Plant Inventory may need to be conducted to identify, record, and coordinate plant salvage efforts for species that are Protected under the Arizona Native Plant Law. In addition, the applicable land management agencies should be consulted regarding guidelines for revegetation efforts.
- Minimize the potential introduction or spread of exotic invasive species, including aquatic and terrestrial plants, animals, insects and pathogens. Precautions should be taken to wash and/or decontaminate all equipment utilized in the project activities before entering and leaving the site. Please review the Arizona Department of Agriculture's website for a list of prohibited and restricted noxious weeds[3] and the Arizona Native Plant Society[4] for recommendations on control methods. To view a list of documented invasive species or to report invasive species in or near your project area visit iMapInvasives[5] - a national cloud-based application for tracking and managing invasive species.

The Department appreciates the opportunity to provide an evaluation of impacts to wildlife or wildlife habitats associated with the Union Pacific Railroad Company Pecos Industrial Rail Access and Train Extension project. If you have any questions regarding this letter, please contact me at (623) 236-7615, and visit our website[6] for additional guidelines.

Sincerely,

Cheri Bouchér

Cheri Bouchér
Project Evaluation Program Specialist, Habitat Branch
Arizona Game and Fish Department

AZGFD# M21-12222432

[2] https://agriculture.az.gov/plantsproduce/native-plants
[3] https://agriculture.az.gov/pestspest-control/agriculture-pests/noxious-weeds
[4] https://aznps.com/invas
[5] https://imap.natureserve.org/imap/services/page/map.html
[6] https://www.azgfd.com/wildlife/planning/wildlifeguidelines/

Arizona Environmental Online Review Tool Report

Arizona Game and Fish Department Mission
To conserve Arizona's diverse wildlife resources and manage for safe, compatible outdoor recreation opportunities for current and future generations.

Project Name:

Pecos Industrial Rail Access and Train Extension (PIRATE)

Project Description:

a forthcoming proposal from the Union Pacific Railroad Company (UP) to construct and operate approximately six miles of new rail line in Maricopa County, Ari zona. UP intends to request Board authority to construct and operate new industrial lead railroad track that would connect UP's Phoenix Sub main line track in Maricopa County, Arizona, to industrial properties southeast of the Phoenix-Mesa Gateway Airport (Figures I and 2). This project is referred to as the Pecos Industrial Rail Access and Train Extension (PIRI\ TE) project. According to UP, the proposed track would serve the transportation and logistics needs of existing manufacturing and industrial businesses, as well as prospective businesses looking to relocate to the area. Maps of the proposed project area are attached.

Project Type:

Transportation & Infrastructure, Railroads (Freight and Passenger), New tracks, bridges, roadway crossing for freight or passenger lines,

Contact Person:

Cheri Boucher

Organization:

Arizona Game and Fish Department

On Behalf Of:

OTHER_FED

Project ID:

HGIS-15398

Please review the entire report for project type and/or species recommendations for the location information entered. Please retain a copy for future reference.

Disclaimer:

1. This Environmental Review is based on the project study area that was entered. The report must be updated if the project study area, location, or the type of project changes.
2. This is a preliminary environmental screening tool. It is not a substitute for the potential knowledge gained by having a biologist conduct a field survey of the project area. This review is also not intended to replace environmental consultation (including federal consultation under the Endangered Species Act), land use permitting, or the Departments review of site-specific projects.
3. The Departments Heritage Data Management System (HDMS) data is not intended to include potential distribution of special status species. Arizona is large and diverse with plants, animals, and environmental conditions that are ever changing. Consequently, many areas may contain species that biologists do not know about or species previously noted in a particular area may no longer occur there. HDMS data contains information about species occurrences that have actually been reported to the Department. Not all of Arizona has been surveyed for special status species, and surveys that have been conducted have varied greatly in scope and intensity. Such surveys may reveal previously undocumented population of species of special concern.
4. HabiMap Arizona data, specifically Species of Greatest Conservation Need (SGCN) under our State Wildlife Action Plan (SWAP) and Species of Economic and Recreational Importance (SERI), represent potential species distribution models for the State of Arizona which are subject to ongoing change, modification and refinement. The status of a wildlife resource can change quickly, and the availability of new data will necessitate a refined assessment.

Locations Accuracy Disclaimer:
Project locations are assumed to be both precise and accurate for the purposes of environmental review. The creator/owner of the Project Review Report is solely responsible for the project location and thus the correctness of the Project Review Report content.

Recommendations Disclaimer:

1. The Department is interested in the conservation of all fish and wildlife resources, including those species listed in this report and those that may have not been documented within the project vicinity as well as other game and nongame wildlife.
2. Recommendations have been made by the Department, under authority of Arizona Revised Statutes Title 5 (Amusements and Sports), 17 (Game and Fish), and 28 (Transportation).
3. Potential impacts to fish and wildlife resources may be minimized or avoided by the recommendations generated from information submitted for your proposed project. These recommendations are preliminary in scope, designed to provide early considerations on all species of wildlife.
4. Making this information directly available does not substitute for the Department's review of project proposals, and should not decrease our opportunity to review and evaluate additional project information and/or new project proposals.
5. Further coordination with the Department requires the submittal of this Environmental Review Report with a cover letter and project plans or documentation that includes project narrative, acreage to be impacted, how construction or project activity(s) are to be accomplished, and project locality information (including site map). Once AGFD had received the information, please allow 30 days for completion of project reviews. Send requests to:
   Project Evaluation Program, Habitat Branch
   Arizona Game and Fish Department
   5000 West Carefree Highway
   Phoenix, Arizona 85086-5000
   Phone Number: (623) 236-7600
   Fax Number: (623) 236-7366
   Or
   PEP@azgfd.gov
6. Coordination may also be necessary under the National Environmental Policy Act (NEPA) and/or Endangered Species Act (ESA). Site specific recommendations may be proposed during further NEPA/ESA analysis or through coordination with affected agencies

Pecos Industrial Rail Access and Train Extension (PIRATE)

USA Topo Basemap With Locator Map



Project Boundary

Buffered Project Boundary

Project Size (acres): 45.68

Lat/Long (DD): 33.2848 / -111.6347

County(s): Maricopa

AGFD Region(s): Mesa

Township/Range(s): T2S, R7E

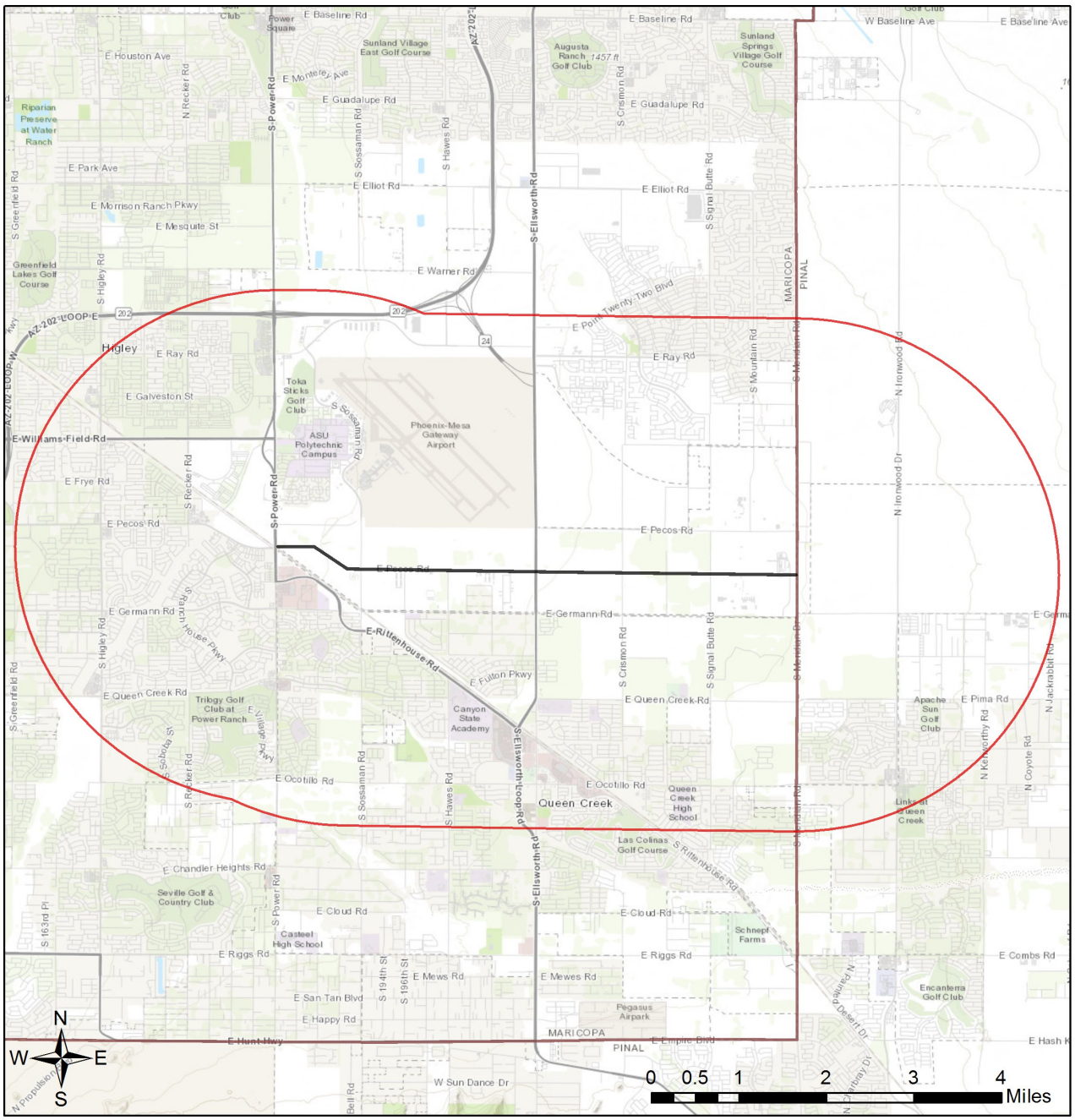
USGS Quad(s): DESERT WELL; HIGLEY



Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap

Pecos Industrial Rail Access and Train Extension (PIRATE)

Web Map As Submitted By User



- Project Boundary
- Buffered Project Boundary
- Counties

Project Size (acres): 45.68

Lat/Long (DD): 33.2848 / -111.6347

County(s): Maricopa

AGFD Region(s): Mesa

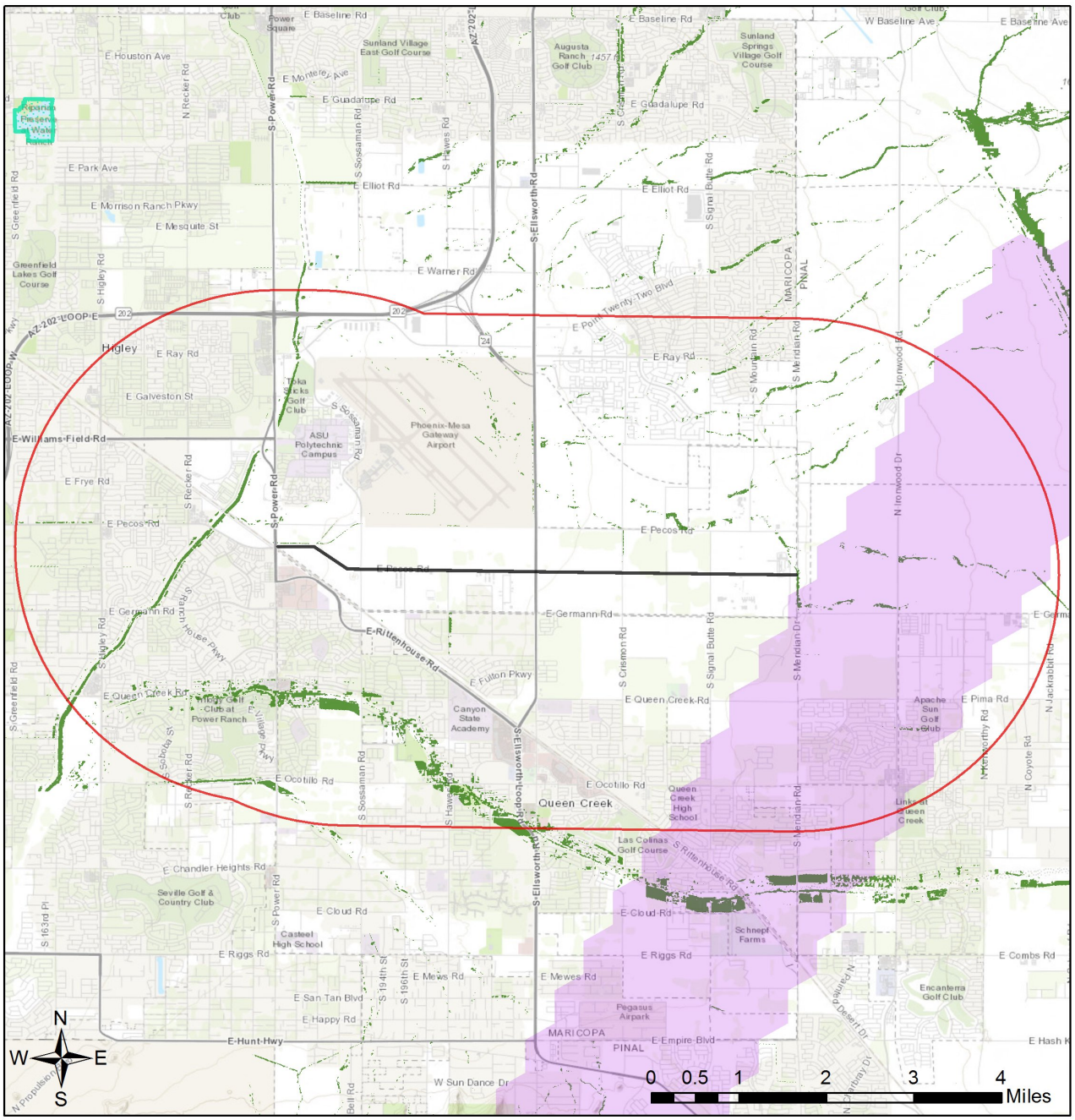
Township/Range(s): T2S, R7E

USGS Quad(s): DESERT WELL; HIGLEY

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

Pecos Industrial Rail Access and Train Extension (PIRATE)

Important Areas



- Project Boundary
- Buffered Project Boundary
- Wildlife Connectivity
- Important Connectivity Zones
- Pinal County Riparian
- Critical Habitat
- Important Bird Areas

Project Size (acres): 45.68

Lat/Long (DD): 33.2848 / -111.6347

County(s): Maricopa

AGFD Region(s): Mesa

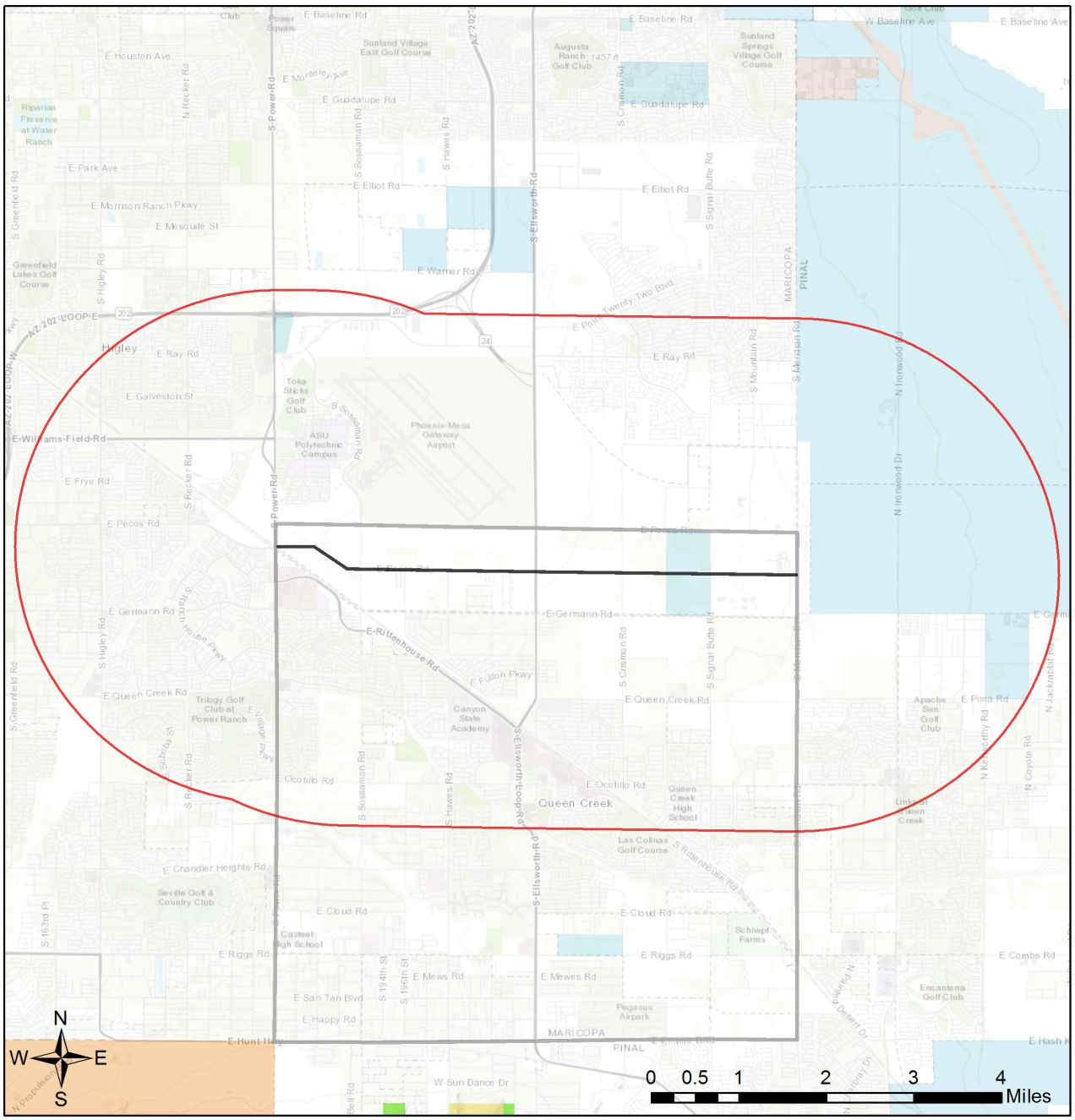
Township/Range(s): T2S, R7E

USGS Quad(s): DESERT WELL; HIGLEY

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

Pecos Industrial Rail Access and Train Extension (PIRATE)

Township/Ranges and Land Ownership



- Project Boundary
- Buffered Project Boundary
- Township/Ranges

Land Ownership

- AZ Game & Fish Dept.
- BLM
- BOR
- Indian Res.
- Military
- Mixed/Other
- National Park/Mon.
- Private
- State & Regional Parks
- State Trust
- US Forest Service
- Wildlife Area/Refuge

Project Size (acres): 45.68

Lat/Long (DD): 33.2848 / -111.6347

County(s): Maricopa

AGFD Region(s): Mesa

Township/Range(s): T2S, R7E

USGS Quad(s): DESERT WELL; HIGLEY

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

Special Status Species Documented within 3 Miles of Project Vicinity

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Athene cunicularia hypugaea	Western Burrowing Owl	SC	S	S		1B
Danaus plexippus	Monarch	C		S		
Lepus alleni	Antelope Jackrabbit					1B

Note: Status code definitions can be found at https://www.azgfd.com/wildlife/planning/wildlifeguidelines/statusdefinitions/
.

Special Areas Documented that Intersect with Project Footprint as Drawn

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Riparian Area	Riparian Area					

Note: Status code definitions can be found at https://www.azgfd.com/wildlife/planning/wildlifeguidelines/statusdefinitions/
.

Species of Greatest Conservation Need Predicted that Intersect with Project Footprint as Drawn, based on Predicted Range Models

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Aix sponsa	Wood Duck					1B
Ammospermophilus harrisii	Harris' Antelope Squirrel					1B
Athene cunicularia hypugaea	Western Burrowing Owl	SC	S	S		1B
Botaurus lentiginosus	American Bittern					1B
Buteo regalis	Ferruginous Hawk	SC		S		1B
Calypte costae	Costa's Hummingbird					1C
Chilomeniscus stramineus	Variable Sandsnake					1B
Chionactis annulata	Resplendent Shovel-nosed Snake	SC				1C
Cistothorus palustris	Marsh Wren					1C
Colaptes chrysoides	Gilded Flicker			S		1B
Coluber bilineatus	Sonoran Whipsnake					1B
Corynorhinus townsendii pallescens	Pale Townsend's Big-eared Bat	SC	S	S		1B
Crotalus tigris	Tiger Rattlesnake					1B
Empidonax wrightii	Gray Flycatcher					1C
Euderma maculatum	Spotted Bat	SC	S	S		1B
Eumops perotis californicus	Greater Western Bonneted Bat	SC		S		1B
Falco peregrinus anatum	American Peregrine Falcon	SC	S	S		1A
Gopherus morafkai	Sonoran Desert Tortoise	C	S	S		1A
Haliaeetus leucocephalus	Bald Eagle	SC, BGA	S	S		1A
Heloderma suspectum	Gila Monster					1A
Incilius alvarius	Sonoran Desert Toad					1B
Kinosternon sonoriense sonoriense	Desert Mud Turtle			S		1B
Lasiurus blossevillii	Western Red Bat		S			1B

Species of Greatest Conservation Need Predicted that Intersect with Project Footprint as Drawn, based on Predicted Range Models

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Lasiurus xanthinus	Western Yellow Bat		S			1B
Leopardus pardalis	Ocelot	LE				1A
Leptonycteris yerbabuenae	Lesser Long-nosed Bat	SC				1A
Lepus alleni	Antelope Jackrabbit					1B
Macrotus californicus	California Leaf-nosed Bat	SC		S		1B
Melanerpes uropygialis	Gila Woodpecker					1B
Melospiza lincolnii	Lincoln's Sparrow					1B
Melozone aberti	Abert's Towhee		S			1B
Micrathene whitneyi	Elf Owl					1C
Micruroides euryxanthus	Sonoran Coralsnake					1B
Myiarchus tyrannulus	Brown-crested Flycatcher					1C
Myotis occultus	Arizona Myotis	SC		S		1B
Myotis velifer	Cave Myotis	SC		S		1B
Myotis yumanensis	Yuma Myotis	SC				1B
Nyctinomops femorosaccus	Pocketed Free-tailed Bat					1B
Oreoscoptes montanus	Sage Thrasher					1C
Oreothlypis luciae	Lucy's Warbler					1C
Panthera onca	Jaguar	LE				1A
Passerculus sandwichensis	Savannah Sparrow					1B
Phrynosoma goodei	Goode's Horned Lizard					1B
Phrynosoma solare	Regal Horned Lizard					1B
Phyllorhynchus browni	Saddled Leaf-nosed Snake					1B
Setophaga petechia	Yellow Warbler					1B
Sphyrapicus nuchalis	Red-naped Sapsucker					1C
Spizella breweri	Brewer's Sparrow					1C
Tadarida brasiliensis	Brazilian Free-tailed Bat					1B
Toxostoma lecontei	LeConte's Thrasher			S		1B
Troglodytes pacificus	Pacific Wren					1B
Vireo bellii arizonae	Arizona Bell's Vireo					1B
Vulpes macrotis	Kit Fox	No Status				1B

Species of Economic and Recreation Importance Predicted that Intersect with Project Footprint as Drawn

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Callipepla gambelii	Gambel's Quail					
Zenaida asiatica	White-winged Dove					
Zenaida macroura	Mourning Dove					

Project Type: Transportation & Infrastructure, Railroads (Freight and Passenger), New tracks, bridges, roadway crossing for freight or passenger lines,

Project Type Recommendations:

Bridge Maintenance/Construction

Identify whether wildlife species use the structure for roosting or nesting during anticipated maintenance/construction period. Plan the timing of maintenance/construction to minimize impacts to wildlife species. In addition to the species list generated by the Arizona's On-line Environmental Review Tool, the Department recommends that surveys be conducted at the bridge and in the vicinity of the bridge to identify additional or currently undocumented bat, bird, or aquatic species in the project area. To minimize impacts to birds and bats, as well as aquatic species, consider conducting maintenance and construction activities outside the breeding/maternity season (breeding seasons for birds and bats usually occur spring - summer). Examining the crevices for the presence of bats prior to pouring new paving materials or that the top of those crevices be sealed to prevent material from dripping or falling through the cracks and potentially onto bats. If bats are present, maintenance and construction (including paving and milling) activities should be conducted during nighttime hours, if possible, when the fewest number of bats will be roosting. Minimize impacts to the vegetation community. Unavoidable impacts to vegetation should be mitigated on-site whenever possible. A revegetation plan should be developed to replace impacted communities.

Consider design structures and construction plans that minimize impacts to channel geometry (i.e., width/depth ratio, sinuosity, allow overflow channels), to avoid alteration of hydrological function. Consider incorporating roosting sites for bats into bridge designs. During construction, erosion control structures and drainage features should be used to prevent introduction of sediment laden runoff into the waterway. Minimize instream construction activity. If culverts are planned, use wildlife friendly designs to mitigate impacts to wildlife and fish movement. Guidelines for bridge designs to facilitate wildlife passage can be found on our Wildlife Friendly Guidelines web page under the Widilfe Planning button, at https://www.azgfd.com/wildlife/planning/wildlifeguidelines/.

Fence recommendations will be dependant upon the goals of the fence project and the wildlife species expected to be impacted by the project. General guidelines for ensuring wildlife-friendly fences include: barbless wire on the top and bottom with the maximum fence height 42", minimum height for bottom 16". Modifications to this design may be considered for fencing anticipated to be routinely encountered by elk, bighorn sheep or pronghorn (e.g., Pronghorn fencing would require 18" minimum height on the bottom). Please refer to the Department's Fencing Guidelines located on Wildlife Friendly Guidelines page, which is part of the WIldlife Planning button at https://www.azgfd.com/wildlife/planning/wildlifeguidelines/.

During the planning stages of your project, please consider the local or regional needs of wildlife in regards to movement, connectivity, and access to habitat needs. Loss of this permeability prevents wildlife from accessing resources, finding mates, reduces gene flow, prevents wildlife from re-colonizing areas where local extirpations may have occurred, and ultimately prevents wildlife from contributing to ecosystem functions, such as pollination, seed dispersal, control of prey numbers, and resistance to invasive species. In many cases, streams and washes provide natural movement corridors for wildlife and should be maintained in their natural state. Uplands also support a large diversity of species, and should be contained within important wildlife movement corridors. In addition, maintaining biodiversity and ecosystem functions can be facilitated through improving designs of structures, fences, roadways, and culverts to promote passage for a variety of wildlife. Guidelines for many of these can be found at: https://www.azgfd.com/wildlife/planning/wildlifeguidelines/.

Consider impacts of outdoor lighting on wildlife and develop measures or alternatives that can be taken to increase human safety while minimizing potential impacts to wildlife. Conduct wildlife surveys to determine species within project area, and evaluate proposed activities based on species biology and natural history to determine if artificial lighting may disrupt behavior patterns or habitat use. Use only the minimum amount of light needed for safety. Narrow spectrum bulbs should be used as often as possible to lower the range of species affected by lighting. All lighting should be shielded, canted, or cut to ensure that light reaches only areas needing illumination.

Minimize the potential introduction or spread of exotic invasive species, including aquatic and terrestrial plants, animals, insects and pathogens. Precautions should be taken to wash and/or decontaminate all equipment utilized in the project activities before entering and leaving the site. See the Arizona Department of Agriculture website for a list of prohibited and restricted noxious weeds at https://www.invasivespeciesinfo.gov/unitedstates/az.shtml and the Arizona Native Plant Society https://aznps.com/invas for recommendations on how to control. To view a list of documented invasive species or to report invasive species in or near your project area visit iMapInvasives - a national cloud-based application for tracking and managing invasive species at https://imap.natureserve.org/imap/services/page/map.html.

- To build a list: zoom to your area of interest, use the identify/measure tool to draw a polygon around your area of interest, and select “See What’s Here” for a list of reported species. To export the list, you must have an account and be logged in. You can then use the export tool to draw a boundary and export the records in a csv file.

Follow manufacturer's recommended application guidelines for all chemical treatments. The U.S. Fish and Wildlife Service, Region 2, Environmental Contaminants Program has a reference document that serves as their regional pesticide recommendations for protecting wildlife and fisheries resources, titled "Recommended Protection Measures for Pesticide Applications in Region 2 of the USFWS", http://www.fws.gov/southwest/es/arizona/Documents/ECReports/RPMPA_2007.pdf. The Department recommends that direct or indirect impacts to sensitive species and their forage base from the application of chemical pesticides or herbicides be considered carefully.

Minimization and mitigation of impacts to wildlife and fish species due to changes in water quality, quantity, chemistry, temperature, and alteration to flow regimes (timing, magnitude, duration, and frequency of floods) should be evaluated. Minimize impacts to springs, in-stream flow, and consider irrigation improvements to decrease water use. If dredging is a project component, consider timing of the project in order to minimize impacts to spawning fish and other aquatic species (include spawning seasons), and to reduce spread of exotic invasive species. We recommend early direct coordination with Project Evaluation Program for projects that could impact water resources, wetlands, streams, springs, and/or riparian habitats.

The Department recommends that wildlife surveys are conducted to determine if noise-sensitive species occur within the project area. Avoidance or minimization measures could include conducting project activities outside of breeding seasons.

Based on the project type entered, coordination with State Historic Preservation Office may be required (http://azstateparks.com/SHPO/index.html).

Design culverts to minimize impacts to channel geometry, or design channel geometry (low flow, overbank, floodplains) and substrates to carry expected discharge using local drainages of appropriate size as templates. Reduce/minimize barriers to allow movement of amphibians or fish (e.g., eliminate falls). Also for terrestrial wildlife, washes and stream corridors often provide important corridors for movement. Overall culvert width, height, and length should be optimized for movement of the greatest number and diversity of species expected to utilize the passage. Culvert designs should consider moisture, light, and noise, while providing clear views at both ends to maximize utilization. For many species, fencing is an important design feature that can be utilized with culverts to funnel wildlife into these areas and minimize the potential for roadway collisions. Guidelines for culvert designs to facilitate wildlife passage can be found on the home page of this application at https://www.azgfd.com/wildlife/planning/wildlifeguidelines/.

Based on the project type entered, coordination with Arizona Department of Environmental Quality may be required (http://www.azdeq.gov/).

Based on the project type entered, coordination with U.S. Army Corps of Engineers may be required (http://www.usace.army.mil/)

Based on the project type entered, coordination with County Flood Control district(s) may be required.

The Department requests further coordination to provide project/species specific recommendations, please contact Project Evaluation Program directly at PEP@azgfd.gov.

Project Location and/or Species Recommendations:
This review has identified **riparian areas** within the vicinity of your project. During the planning stage of your project, avoid, minimize, or mitigate any potential impacts to riparian areas identified in this report. Riparian areas play an important role in maintaining the functional integrity of the landscape, primarily by acting as natural drainages that convey water through an area, thereby reducing flood events. In addition, riparian areas provide important movement corridors and habitat for fish and wildlife. Riparian areas are channels that contain water year-round or at least part of the year. Riparian areas also include those channels which are dry most of the year, but may contain or convey water following rain events. All types of riparian areas offer vital habitats, resources, and movement corridors for wildlife. The Pinal County Comprehensive Plan (i.e. policies *6.1.2.1* and *7.1.2.4*), Open Space and Trails Master Plan, Drainage Ordinance, and Drainage Design Manual all identify riparian area considerations, guidance, and policies. Guidelines to avoid, minimize, or mitigate impacts to riparian habitat can be found at https://www.azgfd.com/wildlife/planning/wildlifeguidelines/. Based on the project type entered, further consultation with the Arizona Game and Fish Department and Pinal County may be warranted.

HDMS records indicate that **Western Burrowing Owls** have been documented within the vicinity of your project area. Please review the western burrowing owl resource page at: https://www.azgfd.com/wildlife/speciesofgreatestconservneed/burrowingowlmanagement/.

To: Buckley, Maggie
Subject: RE: UPRR Pecos Industrial Rail Access and Train Extension (PIRATE) Preliminary Environmental Consultation

---

From: Patrick Panetta <Patrick.Panetta@asu.edu>
Sent: Thursday, February 24, 2022 7:31 AM
To: Buckley, Maggie <Maggie.Buckley@jacobs.com>
Cc: Adam.Assenza@stb.gov; Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>; Jay Donnelly <Jay.Donnelly@asu.edu>
Subject: [EXTERNAL] RE: UPRR Pecos Industrial Rail Access and Train Extension (PIRATE) Preliminary Environmental Consultation

Hi Maggie,
Thanks for the feedback. Attached is the Proposed Master Plan for ASU's future Polytechnic Research Park (or RP2). You can see the general boundaries identified by the black dashed line, located immediately south of and adjacent to the existing ASU Polytechnic Campus, extending south to Old Pecos Road. Within the master plan are approximately six "superblocks" of proposed development. Without specific users identified at this point, it is difficult to know exactly what kind of research might occur, but it is assumed that it could be both noise and vibration sensitive, hence our interest in not only the proposed spur extension itself, but in the proposed development uses that might occur along that spur. Thank you for the review's consideration of ASU's proposed project, as well as keeping us looped in to the surrounding development and the review process as it progresses.
Sincerely,
Patrick

Patrick Panetta, FAIA
Director, Project Management
University Real Estate Development
Arizona State University
480.965.0900

From: Buckley, Maggie <Maggie.Buckley@jacobs.com>
Sent: Monday, February 21, 2022 2:04 PM
To: Patrick Panetta <Patrick.Panetta@asu.edu>
Cc: Adam.Assenza@stb.gov; Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>; Jay Donnelly <Jay.Donnelly@asu.edu>
Subject: RE: UPRR Pecos Industrial Rail Access and Train Extension (PIRATE) Preliminary Environmental Consultation

Hello Patrick,

It's my turn to apologize for the delayed reply. Thank you for taking the time to review the consultation and provide some initial feedback. Is it possible for you to share the specific location and boundaries of your proposed research district? Will any portion of the new facility be considered noise- or vibration-sensitive? This information will be very useful for our team as we begin the environmental review process.

And please rest assured that our team is aware of the archaeological sensitivity of this area, and we'll be addressing this issue through compliance with Section 106 of the National Historic Preservation Act.

Thank you,

Maggie Buckley
O: 425.233.3117
M: 206.949.5955

From: Patrick Panetta <Patrick.Panetta@asu.edu>
Sent: Thursday, January 13, 2022 3:02 PM
To: Buckley, Maggie <Maggie.Buckley@jacobs.com>
Cc: Adam.Assenza@stb.gov; Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>; Jay Donnelly <Jay.Donnelly@asu.edu>
Subject: [EXTERNAL] RE: UPRR Pecos Industrial Rail Access and Train Extension (PIRATE) Preliminary Environmental Consultation

Hello Maggie,
Apologies for the delayed reply. The University has reviewed the consultation letter and has the following feedback. The proposed addition of the six miles of new rail is presumably being driven by proposed land uses adjacent to the new rail that would be served by such new infrastructure. The University would be interested in knowing what kinds of uses those might be and would be concerned if they potentially included heavy industrial or other such uses that might be incompatible with the ASU Polytechnic campus research and education mission. The University is planning a new research district on the south side of campus in proximity to where the new spur would originate from, as well existing research uses such as bee, lizard and other animal research habitats that could potentially be affected. The study area is also nearby to archaeologically sensitive areas that should also be taken into consideration. In short, while not specifically opposed to the proposed rail at this time, the University would like to better understand the proposed project and any potentially conflicting impacts to the adjacent neighborhood/community.
Thank you for the opportunity,
Patrick

Patrick Panetta, FAIA
Director, Project Management
University Real Estate Development
Arizona State University
480.965.0900

From: Buckley, Maggie <Maggie.Buckley@jacobs.com>
Sent: Friday, December 10, 2021 3:47 PM
To: Patrick Panetta <Patrick.Panetta@asu.edu>
Cc: Adam.Assenza@stb.gov; Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>
Subject: UPRR Pecos Industrial Rail Access and Train Extension (PIRATE) Preliminary Environmental Consultation

Hello Mr. Panetta,

The Union Pacific Railroad Company intends to seek authority from the Surface Transportation Board (Board) to construct and operate six miles of new rail line in Maricopa County, Arizona. An initial agency consultation letter is attached that provides additional information about the project and requests your agency's input regarding the proposed rail line by January 10, 2022. This letter was also mailed to your office on December 9, 2021. Please let us know if you prefer to receive future correspondence by mail or electronically and the preferred point of contact for your agency.

If you have any questions, please contact Adam Assenza, the Board's Office of Environmental Analysis Project Manager, at (202) 245-0301 or Adam.Assenza@stb.gov. We greatly appreciate your assistance and look forward to your participation in the Board's environmental review process for this project.

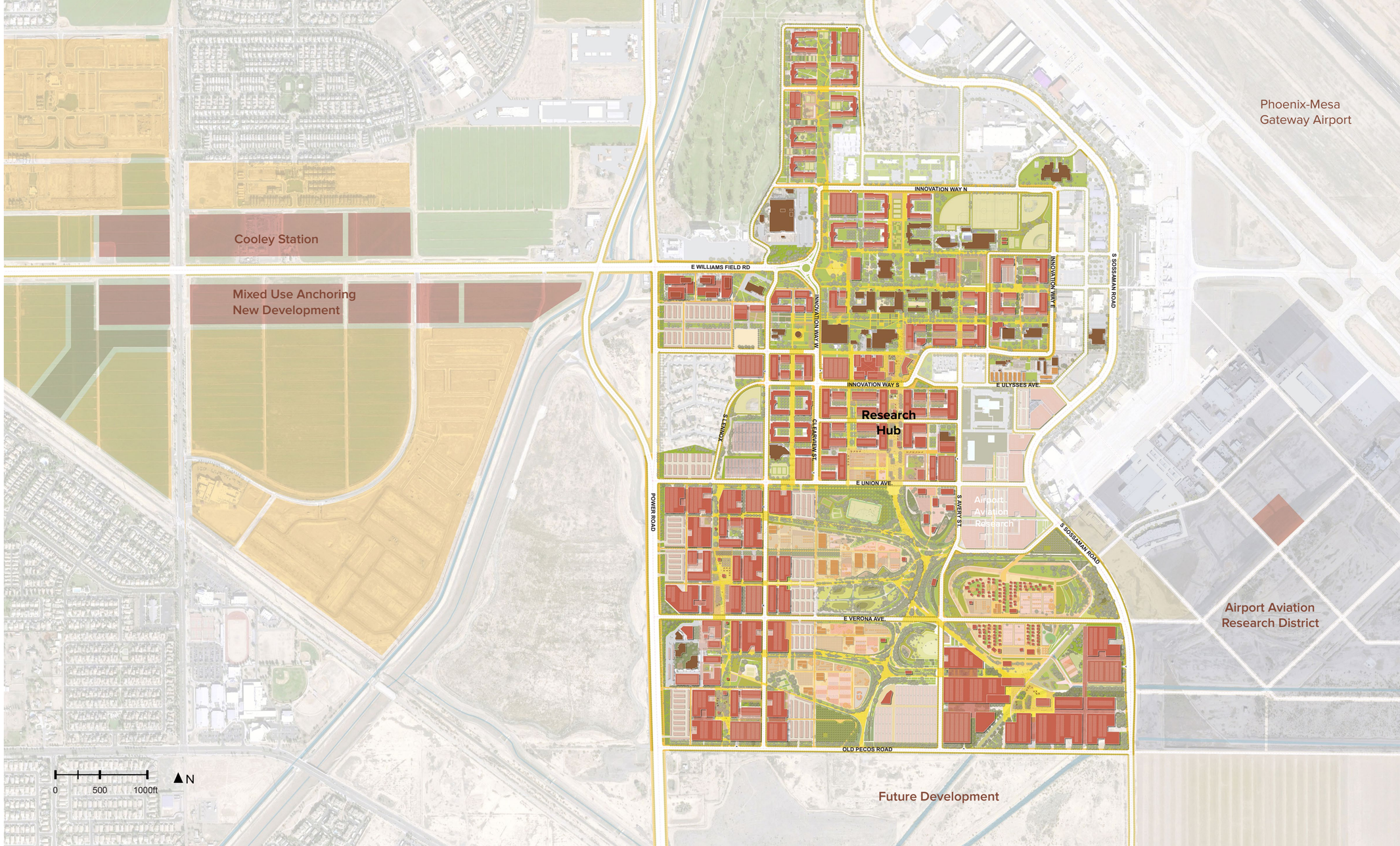
Thank you,

Maggie Buckley | Jacobs | Environmental Project Manager (she/her)
O: 425.233.3117 | M: 206.949.5955 | maggie.buckley@jacobs.com
999 W Riverside Avenue, Suite 500 | Spokane, WA 99201 | USA

NOTICE - This communication may contain confidential and privileged information that is for the sole use of the intended recipient. Any viewing, copying or distribution of, or reliance on this message by unintended recipients is strictly prohibited. If you have received this message in error, please notify us immediately by replying to the message and deleting it from your computer.

NOTICE - This communication may contain confidential and privileged information that is for the sole use of the intended recipient. Any viewing, copying or distribution of, or reliance on this message by unintended recipients is strictly prohibited. If you have received this message in error, please notify us immediately by replying to the message and deleting it from your computer.

PROPOSED MASTER PLAN



- Proposed Buildings
- Solar Panel \ Shade Structure
- Existing Buildings
- Proposed Garages
- Test Beds

To: Phoebus, Elizabeth (Betsi)
Subject: RE: FW: [EXTERNAL] Fwd: UPRR Pecos Industrial Rail Access and Train Extension (PIRATE) Preliminary Environmental Consultation

From: Jared Taylor <jtaylor@heritageacademyaz.com>
Sent: Tuesday, March 1, 2022 8:37 AM
To: Assenza, Adam <Adam.Assenza@stb.gov>
Cc: Kathleen Lopez <klopez@heritageacademyaz.com>; Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>; Buckley, Maggie <Maggie.Buckley@jacobs.com>
Subject: Re: FW: [EXTERNAL] Fwd: UPRR Pecos Industrial Rail Access and Train Extension (PIRATE) Preliminary Environmental Consultation

Hi Adam,

Here's a copy of the traffic study around our area. Not sure how helpful it is, but perhaps there are some insights that would be useful.

Thanks,

Jared

P.S. As a side note, there are a few K-12 schools in the area. Speaking only for Heritage, we are big supporters of the rail system and look forward to learning more about your project. In the planning should UP have any interest in supporting schools, a thought would be to add some educational elements to the proposed development that East Valley students might benefit from. I'm not thinking of a full-blown visitor center--although that would be great--but something more passive with educational content. For example, perhaps there is a simple marker or image set placed in a location for a group of 4th graders to safely visit and learn about the rail system and how it benefits their daily lives. Just a thought. Happy to discuss more if this is of any interest.

On Wed, Feb 23, 2022 at 8:58 AM Assenza, Adam <Adam.Assenza@stb.gov> wrote:

> Hello Jared,
>
> In our last correspondence you offered to provide recent traffic studies that may assist in our review of the proposed project area. We don't appear to have received those. Could you please confirm if you sent them to us? We want to make sure we didn't miss anything.
>
> Thanks,
>
> ADAM ASSENZA
>
> Environmental Protection Specialist (he/him)

Office of Environmental Analysis
Surface Transportation Board
P: 202-245-0301
E: Adam.Assenza@STB.gov

From: Assenza, Adam
Sent: Friday, January 7, 2022 9:56 AM
To: Jared Taylor <jtaylor@heritageacademyaz.com>
Cc: Kathleen Lopez <klopez@heritageacademyaz.com>; Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>; Buckley, Maggie <Maggie.Buckley@jacobs.com>
Subject: RE: FW: [EXTERNAL] Fwd: UPRR Pecos Industrial Rail Access and Train Extension (PIRATE) Preliminary Environmental Consultation

Hi Jared,

Sorry I forgot to add to my previous reply, please do share the recent traffic studies that you have, as they would be helpful in our analysis.

Thanks,

Adam

From: Assenza, Adam
Sent: Tuesday, January 4, 2022 9:51 AM
To: Jared Taylor <jtaylor@heritageacademyaz.com>
Cc: Kathleen Lopez <klopez@heritageacademyaz.com>; Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>; Buckley, Maggie <Maggie.Buckley@jacobs.com>
Subject: RE: FW: [EXTERNAL] Fwd: UPRR Pecos Industrial Rail Access and Train Extension (PIRATE) Preliminary Environmental Consultation

Hello Jared and Kathleen,

Thank you for the additional information. After we've had the chance to process inbound commentary from our initial outreach, we will develop virtual meetings schedules as several different state and local entities have already begun requesting these.

Adam

From: Jared Taylor <jtaylor@heritageacademyaz.com>
Sent: Monday, January 3, 2022 7:49 PM
To: Assenza, Adam <Adam.Assenza@stb.gov>
Cc: Kathleen Lopez <klopez@heritageacademyaz.com>
Subject: Re: FW: [EXTERNAL] Fwd: UPRR Pecos Industrial Rail Access and Train Extension (PIRATE) Preliminary Environmental Consultation

Hi Adam,

Thank you for this follow up email and additional information. We operate a high school on the corner of Germann and 196th in Queen Creek. Currently we are building a school for grades P-8 and a school for autistic children across the street in Mesa on the corner of Germann and 80th street (same as 196th, just on the Mesa side) The new schools will be operational in the Fall of 2022.

I appreciate your sensitivity to the impact on schools and the surrounding area. We are currently far enough away from the existing UP line that rail sounds do not impact our operations. A new line on Pecos may have more sound, but I don't think it will have a prohibitive effect on our operations provided there are not constant train whistles or loud noises made from activities such as connections, repair/overhaul, loading/unloading, etc. The further North any new rail line could be positioned would benefit not only our schools, but the three other schools which are South of Pecos, but within 2 miles of this area.

While we don't have a bus system our parents arrive from over 30 different zip codes in the region. This means that our traffic is heaviest between 7:30 - 8:00am and 3-4pm Mon-Thursday. I know you probably can't bind future UP schedules, but having excess at-grade crossings and trains blocking traffic at these times would increase our tardy rates. Carefully locating these crossings or requiring UP to install bypass systems will help not only the surrounding school systems, but also the public safety in the area.

I have a background in municipal planning/governance and would be more than happy to join any future meetings to discuss optimal ways to ensure traffic flow during key hours for our schools and other schools in the area. I would also be willing to share our most recent traffic study if that would be helpful in your planning process.

I hope this information is useful. Please let me know if I can be of any future use. I'll CC my Principal on this email and ask her to add anything that may be helpful.

Regards,

Jared

On Mon, Jan 3, 2022 at 5:21 PM Assenza, Adam <Adam.Assenza@stb.gov> wrote:

> Hello Jared,
>
> Happy New Year, and apologies for just not getting back to you. I was only made aware of your response today.
>
> I am the project manager at the Office of Environmental Analysis within the Surface Transportation Board in charge of this environmental review. At this early stage, we are evaluating constraints within the project area that could affect the development of alternatives to be carried forward through the review. The way these projects typically work, a railroad applicant will approach the Board with the intent to construct a rail line connecting an area without rail service to an existing rail line. The applicant, in this case UP, often submits its initial preferred alignment, along with a rationale as to why they've selected that route, but it is on us, the lead federal agency, based on current environmental laws, to devise and evaluate practicable alternatives that would meet the railroad's stated purpose and need.
>
> At present, the railroad's preferred alternative aligns closer to the north end of the project area that we sent you in our initial letter, sticking close to the southern edge of Phoenix-Mesa Gateway Airport, closer to E. Pecos Road and running between agricultural lots. No alternatives have yet been developed that approach Germann Road at 88th St., but we are still in the early stages of alternative development.
>
> What would be particularly helpful to us would be any information about bus routes or sensitive receptors that could be affected by different alignments in the project area. I don't think it would be in any community's best interest to see a new rail line running so close to a school that noise would disrupt education, which is why we do this early outreach to a wide range of local, state, and federal offices with jurisdiction or local facilities in the project area.
>
> If you have any other questions or would like to discuss any aspect of the project, please reach out to me directly at adam.assenza@stb.gov or by phone at 202-245-0301.
>
> Thank you for your interest and cooperation.
>
> ADAM ASSENZA
>
> Environmental Protection Specialist (he/him)
>
> Office of Environmental Analysis
> Surface Transportation Board
> P: 202-245-0301
> E: Adam.Assenza@STB.gov

From: Buckley, Maggie <Maggie.Buckley@jacobs.com>
Sent: Monday, January 3, 2022 1:08 PM
To: Assenza, Adam <Adam.Assenza@stb.gov>
Cc: Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>
Subject: FW: [EXTERNAL] Fwd: UPRR Pecos Industrial Rail Access and Train Extension (PIRATE) Preliminary Environmental Consultation

---

From: Jared Taylor <jtaylor@heritageacademyaz.com>
Sent: Friday, December 10, 2021 6:32 PM
To: Buckley, Maggie <Maggie.Buckley@jacobs.com>
Cc: Kathleen Lopez <klopez@heritageacademyaz.com>; Wade Melchin <wmelchin@heritageacademyaz.com>
Subject: [EXTERNAL] Fwd: UPRR Pecos Industrial Rail Access and Train Extension (PIRATE) Preliminary Environmental Consultation

Hi Maggie,

Thank you for this notice. I operate a school in this area. In order to provide meaningful feedback, we would need more information on what is proposed that would be near 80th and Germann where our schools are located.

Please provide more information and we'd be happy to share our thoughts on any impact.

Regards,

Jared

---------- Forwarded message ---------
From: **Kathleen Lopez** <klopez@heritageacademyaz.com>
Date: Fri, Dec 10, 2021 at 3:58 PM
Subject: Fwd: UPRR Pecos Industrial Rail Access and Train Extension (PIRATE) Preliminary Environmental Consultation
To: Jared Taylor <jtaylor@heritageacademyaz.com>, Shalisa Arnold <shalisa.arnold@heritageacademyaz.com>

FYI

---------- Forwarded message ---------
From: **Buckley, Maggie** <Maggie.Buckley@jacobs.com>
Date: Fri, Dec 10, 2021 at 3:46 PM
Subject: UPRR Pecos Industrial Rail Access and Train Extension (PIRATE) Preliminary Environmental Consultation
To: klopez@heritageacademyaz.com <klopez@heritageacademyaz.com>
CC: Adam.Assenza@stb.gov <Adam.Assenza@stb.gov>, Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>

Hello Ms. Lopez,

The Union Pacific Railroad Company intends to seek authority from the Surface Transportation Board (Board) to construct and operate six miles of new rail line in Maricopa County, Arizona. An initial agency consultation letter is attached that provides additional information about the project and requests your agency's input regarding the proposed rail line by January 10, 2022. This letter was also mailed to your office on December 9, 2021. Please let us know if you prefer to receive future correspondence by mail or electronically and the preferred point of contact for your agency.

If you have any questions, please contact Adam Assenza, the Board's Office of Environmental Analysis Project Manager, at (202) 245-0301 or Adam.Assenza@stb.gov. We greatly appreciate your assistance and look forward to your participation in the Board's environmental review process for this project.

Thank you,

Maggie Buckley | Jacobs | Environmental Project Manager (she/her)

O: 425.233.3117 | M: 206.949.5955 | maggie.buckley@jacobs.com
999 W Riverside Avenue, Suite 500 | Spokane, WA 99201 | USA

NOTICE - This communication may contain confidential and privileged information that is for the sole use of the intended recipient. Any viewing, copying or distribution of, or reliance on this message by unintended recipients is strictly prohibited. If you have received this message in error, please notify us immediately by replying to the message and deleting it from your computer.

--

Sincerely,

Kathleen Lopez

Kathleen Lopez

Principal

Mathematics Teacher

klopez@heritageacademyaz.com

480-461-4400 * hagateway.com

"Educate and inform the whole mass of the people... They are the only sure reliance for the preservation of our liberty." - Thomas Jefferson

Heritage Academy Gateway
"Building America's Heroes"

From: Buckley, Maggie
Sent: Monday, May 2, 2022 10:04 AM
To: Geoffrey McCormick; Safety-Railroad-Web
Cc: Assenza, Adam; Phoebus, Elizabeth (Betsi)
Subject: RE: UP Pecos Industrial Rail Access and Train Extension (PIRATE) Alternatives - Input Requested

Mr. McCormick,

Thank you very much for your input, it is very helpful and we appreciate the prompt reply. We will reach out to you and Mr. Pike if we have further questions as we move through our environmental review.

Thank you,

Maggie Buckley
O: 425.233.3117
M: 206.949.5955

From: Geoffrey McCormick <GMccormick@azcc.gov>
Sent: Thursday, April 28, 2022 4:44 PM
To: Buckley, Maggie <Maggie.Buckley@jacobs.com>; Safety-Railroad-Web <railroad@azcc.gov>
Cc: Assenza, Adam <adam.assenza@stb.gov>; Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>
Subject: [EXTERNAL] RE: UP Pecos Industrial Rail Access and Train Extension (PIRATE) Alternatives - Input Requested

Good afternoon,

There are some regulatory requirements that should be considered while this project is in the planning stages.

1. The Arizona Corporation Commission requires a filing, a hearing, and then renders a formal decision regarding establishment or modification any public rail/road crossing, including at grade or grade separated.
2. The timeline for such a hearing and decision is conservatively estimated at 90 to 180 days. Beyond getting all parties in alignment regarding the safety aspects of the project, another constraint to be mindful of is getting the docketed item on the hearing schedule. Hearings are scheduled up to 180 days out.

We have some additional concerns, mainly related to what appears to be an increasing frequency grade crossings blocked for an excessively long period of time due to changing operating philosophy on the part of the Union Pacific. Blocking grade crossings for excessive periods of time can post safety risks for local citizens including delayed emergency response etc.

I'm copying our Grade Crossing Sr Inspector, Jason Pike. He is the primary contact for grade crossing inspection, modification, and establishment. He has already established contact with most of the parties involved in this project. I will also be involved with any operating issues.

Thank you for bringing this to our attention. We look forward to helping bring a productive and safe project to fruition.

Geoffrey D. McCormick
Railroad Safety Section Supervisor

Senior Railroad Safety Inspector – Hazardous Materials
Arizona Corporation Commission
1300 W. Washington St., Ste 220
Phoenix, AZ 85007
602-262-5601 desk
602-999-1467 cell
gmccormick@azcc.gov
www.azcc.gov

"Safety through Continuous Improvement"

From: Buckley, Maggie <Maggie.Buckley@jacobs.com>
Sent: Thursday, April 28, 2022 2:54 PM
To: Safety-Railroad-Web <railroad@azcc.gov>
Cc: Assenza, Adam <adam.assenza@stb.gov>; Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>
Subject: UP Pecos Industrial Rail Access and Train Extension (PIRATE) Alternatives - Input Requested

Hello Mr. McCormick,

The Surface Transportation Board's Office of Environmental Analysis has begun the process of preparing environmental documentation to support the analysis of potential environmental impacts of the proposed rail line. Since our last correspondence, the purpose and need for the rail line has been developed (attached) along with the range of alternatives to be considered during the environmental review. As shown in the attached Alternatives Constraints Map, the environmental document will evaluate two alternative alignments, which are shown as Alternatives 1 and 2. Both alternatives would provide approximately six miles of new industrial lead track from Union Pacific's main line track to the eastern portions of the Pecos Advanced Manufacturing Zone in the City of Mesa. Additional project elements include seven new at-grade roadway crossings, drainage improvements, and utility relocations.

The Office of Environmental Analysis requests feedback from your agency on the proposed alternatives as well as confirmation of any permits or approvals that are needed from your agency in order to construct the project. If a permit or approval is required, we request clarification regarding the regulatory trigger for your agency's involvement as well as application requirements and typical timeline for completing the process.

If you have any questions regarding this request, please contact Adam Assenza, the Board's Office of Environmental Analysis's Project Manager for this project, at (202) 245-0301 or Adam.Assenza@stb.gov. We greatly appreciate your assistance as we move forward with our environmental review.

Thank you,

Maggie Buckley
O: 425.233.3117
M: 206.949.5955

From: Geoffrey McCormick <GMccormick@azcc.gov>
Sent: Friday, December 10, 2021 2:21 PM
To: Buckley, Maggie <Maggie.Buckley@jacobs.com>
Cc: Adam.Assenza@stb.gov; Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>; Safety-Railroad-Web <railroad@azcc.gov>
Subject: [EXTERNAL] RE: UPRR Pecos Industrial Rail Access and Train Extension (PIRATE) Preliminary Environmental Consultation

Good afternoon,

Email is fine. In the future, please send to the following address: railroad@azcc.gov. This will include our Director, Grade Crossing, and admin personnel.

Thank you,

Geoffrey D. McCormick
Railroad Safety Section Supervisor
Senior Railroad Safety Inspector – Hazardous Materials
Arizona Corporation Commission
1300 W. Washington St., Ste 220
Phoenix, AZ 85007
602-262-5601 desk
602-999-1467 cell
gmccormick@azcc.gov
www.azcc.gov



"Safety through Continuous Improvement"

From: Buckley, Maggie <Maggie.Buckley@jacobs.com>
Sent: Friday, December 10, 2021 2:59 PM
To: Geoffrey McCormick <GMccormick@azcc.gov>
Cc: Adam.Assenza@stb.gov; Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>
Subject: UPRR Pecos Industrial Rail Access and Train Extension (PIRATE) Preliminary Environmental Consultation

Hello Mr. McCormick,

The Union Pacific Railroad Company intends to seek authority from the Surface Transportation Board (Board) to construct and operate six miles of new rail line in Maricopa County, Arizona. An initial agency consultation letter is attached that provides additional information about the project and requests your agency's input regarding the proposed rail line by January 10, 2022. This letter was also mailed to your office on December 9, 2021. Please let us know if you prefer to receive future correspondence by mail or electronically and the preferred point of contact for your agency.

If you have any questions, please contact Adam Assenza, the Board's Office of Environmental Analysis Project Manager, at (202) 245-0301 or Adam.Assenza@stb.gov. We greatly appreciate your assistance and look forward to your participation in the Board's environmental review process for this project.

Thank you,

Maggie Buckley | Jacobs | Environmental Project Manager (she/her)
O: 425.233.3117 | M: 206.949.5955 | maggie.buckley@jacobs.com
999 W Riverside Avenue, Suite 500 | Spokane, WA 99201 | USA

NOTICE - This communication may contain confidential and privileged information that is for the sole use of the intended recipient. Any viewing, copying or distribution of, or reliance on this message by unintended recipients is strictly prohibited. If you have received this message in error, please notify us immediately by replying to the message and deleting it from your computer.

NOTICE - This communication may contain confidential and privileged information that is for the sole use of the intended recipient. Any viewing, copying or distribution of, or reliance on this message by unintended recipients is strictly prohibited. If you have received this message in error, please notify us immediately by replying to the message and deleting it from your computer.

USDA
United States Department of Agriculture

06/22/2022

Nancy Shelton
Senior Environmental Planner

Dear Ms. Shelton:

The Natural Resources Conservation Service (NRCS) has reviewed information about a Pecos Industrial Rail and Train Extension (PIRATE) project in Maricopa County, AZ, and acknowledge a request to determine whether the project has potential for environmental impacts that affect farmland as defined in Sec. (658.2 a) of the Code of Federal Regulations (CFR) dealing with the Farmland Protection Policy Act (FPPA).

The NRCS acts as the national Farmland Protection Policy Act (FPPA) steward in reviewing and documenting conversion of farmland (i.e., Prime, Statewide Importance, and /or Local Importance) to non-agricultural use when the project utilizes federal funds.

After reviewing the project proposal, the PIRATE project, the following is noted:

The land is subject to FPPA, and the land evaluation (LE) point score on the NRCS-CPA-106 form has a ranking score of 4.61 determined on a statewide basis. Please complete Parts 3, 6, & 7 of form CPA-106 and return for our records.

If you have any questions, please contact me contact me at 602-280-8789 or via email at scott.woodall@usda.gov.

Sincerely,

Scott Woodall
State Resource Conservationist
USDA-NRCS
Phoenix Arizona

Natural Resources Conservation Service
230 N. First Avenue, Suite 509, Phoenix, Arizona 85003-1733
Tel. (602) 280-8801 • Fax (855) 844-9178

An Equal Opportunity Provider, Employer and Lender

From: Tony Bianchi <TBianchi@gatewayairport.com>
Sent: Thursday, September 22, 2022 7:15 PM
To: Buckley, Maggie; Assenza, Adam; Phoebus, Elizabeth (Betsi); Bushey, Sabra
Cc: Bob Draper
Subject: [EXTERNAL] RE: PIRATE Rail Mtg Follow-Up- Gateway Airport

Hi Maggie:

It is covered broadly in CFR Title 14 Part 77 as a Federal requirement in not creating a hazard to air navigation near an airport, which lighting has the possibility to do. Part 77 primary covers the height of objects, but FAA is concerned with multiple measures of compatible land use since they can tie it to Federal grant assurances. Arizona State Statute (ARS) 28-8462 has similar broad language in not creating a hazard to air navigation.
We try to provide clarity to applicants and communities in our Airport Land Use Compatibility Plan Update, which adjacent communities have adopted flight safety considerations into their zoning ordinances. Lighting needs to be controlled for height, but also any design or uses that could interfere with the vision of pilots and air traffic controllers. For the rail uses you are studying it should not be a large concern, but more of a planning/design consideration.
With the length of the proposed rail alignment located at the end of our three runways at the Airport's southern boundary we wouldn't want any lighting that could be directed upward toward approach paths or any lighting that could be confused for airport navigational lighting, such as flashing red lights found at railroad crossings and lift gates.
Arizona Revised Statute 49-1102 addresses the shielding of outdoor light fixtures and states outdoor lighting shall be fully or partially shielded. There are a few exceptions.

I hope that provides some additional information that you can use or cite.
Please let me know if you have additional questions.

Thanks,
Tony Bianchi, A.A.E., AICP, GISP
Planning Manager
Phoenix-Mesa Gateway Airport Authority
5835 S Sossaman Rd
Mesa, AZ 85212-6014
Office: 480-988-7649
tbianchi@gatewayairport.com
www.gatewayairport.com



Please be advised that our office hours are Monday - Thursday 7 a.m. to 6 p.m. We are closed Fridays.

From: Buckley, Maggie <Maggie.Buckley@jacobs.com>
Sent: Tuesday, September 20, 2022 2:11 PM
To: Tony Bianchi <TBianchi@gatewayairport.com>; Assenza, Adam <adam.assenza@stb.gov>; Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>; Bushey, Sabra <Sabra.Bushey@jacobs.com>
Cc: Bob Draper <BDraper@gatewayairport.com>
Subject: RE: PIRATE Rail Mtg Follow-Up- Gateway Airport

Good afternoon Mr. Bianchi,

I am following up on an item that was discussed during our March 29th meeting, where the statement was made that all lighting along the new rail line should be directed downward to avoid glare due to the potential safety issues for planes landing at Phoenix-Mesa Gateway Airport. We did not explicitly see a requirement about downward-facing lighting in the information you provided below. Can you please clarify whether that is an FAA requirement and/or is it something that Phoenix-Mesa Gateway Airport would require? We'd like to make sure that we're accurately capturing the requirement in the Draft Environmental Assessment.

Thank you for your help,

Maggie Buckley
O: 425.233.3117
M: 206.949.5955

From: Tony Bianchi <TBianchi@gatewayairport.com>
Sent: Tuesday, April 5, 2022 8:53 AM
To: Buckley, Maggie <Maggie.Buckley@jacobs.com>; Assenza, Adam <adam.assenza@stb.gov>; Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>; Bushey, Sabra <Sabra.Bushey@jacobs.com>
Cc: Bob Draper <BDraper@gatewayairport.com>
Subject: [EXTERNAL] PIRATE Rail Mtg Follow-Up- Gateway Airport

Greetings:

Thank you again for last week's well-organized and well-run PIRATE rail meeting.
A few action items for me to provide to you included:

- Gateway's most recent noise contours
- Gateway Airport Master Plan Concept
- Gateway Airport Layout Plan
- Gateway Airport Passenger Enplanement and Operations Forecast

I have enclosed those in the attached .zip file.
The noise contours are from 2017 and are our planning scenario noise contours, so they will not be changed for some time.
Those are attached as a projected GIS shapefile.
The others are PDF documents. I'm hoping that meets your intended needs. A GIS Tech could georeference the PDF images in to overlay on any maps you might want to include them on as they are a combination of GIS and CAD data layers.

The forecast is from the FAA's Terminal Area Forecast, which is updated annually. Adjustments were made after 2020 to account for the pandemic and recovery. I would focus on the 'Enplanements' 'Total' and you can double that number to estimate the total passengers served as it is close to a 50/50 split. For operations (takeoffs and landings) you can use the 'Total Ops' column.

Also, below are a few links to information on the FAA's Part 77 and 7460 evaluation process.
New railways in proximity to airports do meet the criteria to file an evaluation and they will typically set the elevation of the railcars above the track at 23' unless another height is known. New users may need to set up a quick profile with the FAA with the link below when filing any cases. As mentioned, if there are other structures that may be needed, such as light poles or crossing lift gates, we can model some heights in software here to see if an airspace penetration would be expected.
Obstruction Evaluation / Airport Airspace Analysis (OE/AAA) (faa.gov)
https://www.faa.gov/documentLibrary/media/Form/FAA_Form_7460-1_022020.pdf

I would appreciate if you could provide the proposed alignments and the environmental sites you included on the presentation maps in GIS format (.shp or .gdb) and I could overlay those in our GIS. Let me know if you encounter any issues with the attached files.
Please take a look at the data and contact me if you have any questions or additional requests.

Thanks,
Tony Bianchi, A.A.E., AICP, GISP
Planning Manager
Phoenix-Mesa Gateway Airport Authority
5835 S Sossaman Rd
Mesa, AZ 85212-6014
Office: 480-988-7649
tbianchi@gatewayairport.com
www.gatewayairport.com



Please be advised that our office hours are Monday - Thursday 7 a.m. to 6 p.m. We are closed Fridays.

NOTICE - This communication may contain confidential and privileged information that is for the sole use of the intended recipient. Any viewing, copying or distribution of, or reliance on this message by unintended recipients is strictly prohibited. If you have received this message in error, please notify us immediately by replying to the message and deleting it from your computer.

To:	Buckley, Maggie
Cc:	Phoebus, Elizabeth (Betsi)
Subject:	RE: [Non-DoD Source] Former Williams AFB well location question (LF01-W34*, 35*, 36*)

From: Assenza, Adam
Sent: Wednesday, August 14, 2024 9:50 AM
To: REYNA, JOSE III CIV USAF AFMC AFCEC/CIBW <jose.reyna.4@us.af.mil>
Cc: Tabachnick, Alan <Alan.Tabachnick@STB.GOV>; thomas.mcmanus@cherokee-federal.com
Subject: RE: [Non-DoD Source] Former Williams AFB well location question (LF01-W34*, 35*, 36*)

Joe,

Thank you for the quick turn-around confirmation. That's exactly what we needed to know.

Regards,

Adam Assenza
Environmental Protection Specialist (he/him)
Office of Environmental Analysis
Surface Transportation Board
395 E Street SW
Washington, DC 20423
P: 202-245-0301

From: REYNA, JOSE III CIV USAF AFMC AFCEC/CIBW <jose.reyna.4@us.af.mil>
Sent: Tuesday, August 13, 2024 6:46 PM
To: Assenza, Adam <Adam.Assenza@stb.gov>
Cc: Tabachnick, Alan <alan.tabachnick@stb.gov>; thomas.mcmanus@cherokee-federal.com
Subject: FW: [Non-DoD Source] Former Williams AFB well location question (LF01-W34*, 35*, 36*)

You don't often get email from jose.reyna.4@us.af.mil. Learn why this is important

Mr. Assenza,

Please see attached LF04 Well Network figure. On the attached figure the nested well networks W35 and W36 are highlighted for reference, these wells are currently part of the sampling regime for LF04 at Williams. In doing a quick legacy search, we didn't see that W34 wells every completed.

Also, here are the coordinates that we have for W35 and W36.

Well ID	Top of Casing Elevation (ft AMSL)	Northing	Easting
LF01-W35D	1341.93	832488.791	773039.944
LF01-W35M	1341.76	832493.84	773031.316
LF01-W35S	1341.82	832498.263	773022.207
LF01-W36M	1346.87	831805.615	774149.851
LF01-W36S	1346.72	831811.475	774141.426

Hope this helps. Please let me know if you need further information.

V/R

Joe Reyna, Branch Chief
BRAC Western Region Branch
AFCEC/CIBW
Comm (210) 383-9825
Jose.reyna.4@us.af.mil

From: Assenza, Adam <Adam.Assenza@stb.gov>
Sent: Monday, August 12, 2024 12:35 PM
To: REYNA, JOSE III CIV USAF AFMC AFCEC/CIBW <jose.reyna.4@us.af.mil>
Cc: Tabachnick, Alan <alan.tabachnick@stb.gov>
Subject: [Non-DoD Source] Former Williams AFB well location question (LF01-W34*, 35*, 36*)

> You don't often get email from adam.assenza@stb.gov. Learn why this is important

Hello Mr. Reyna,

As part of our field work relating to a proposed rail construction in Arizona, we are trying to avoid any potential damage to existing wells, some of which are controlled by USAF. We have not observed any of these as present in the project area, but wanted to seek additional confirmation about their location and status. Can you please confirm which of the following seven wells associated with monitoring Williams AFB are still active/present?

LF01-W35S, LF01-W35M, LF01-W35D

LF01-W36S, LF01-W36M

LF01-W34S, LF01-W34M

We previously received the attached LF004 well data file from Cathy Jerrard, and the last two do not appear with coordinates. In Admin Record file 1502 (attached), they appear to have been planned for construction

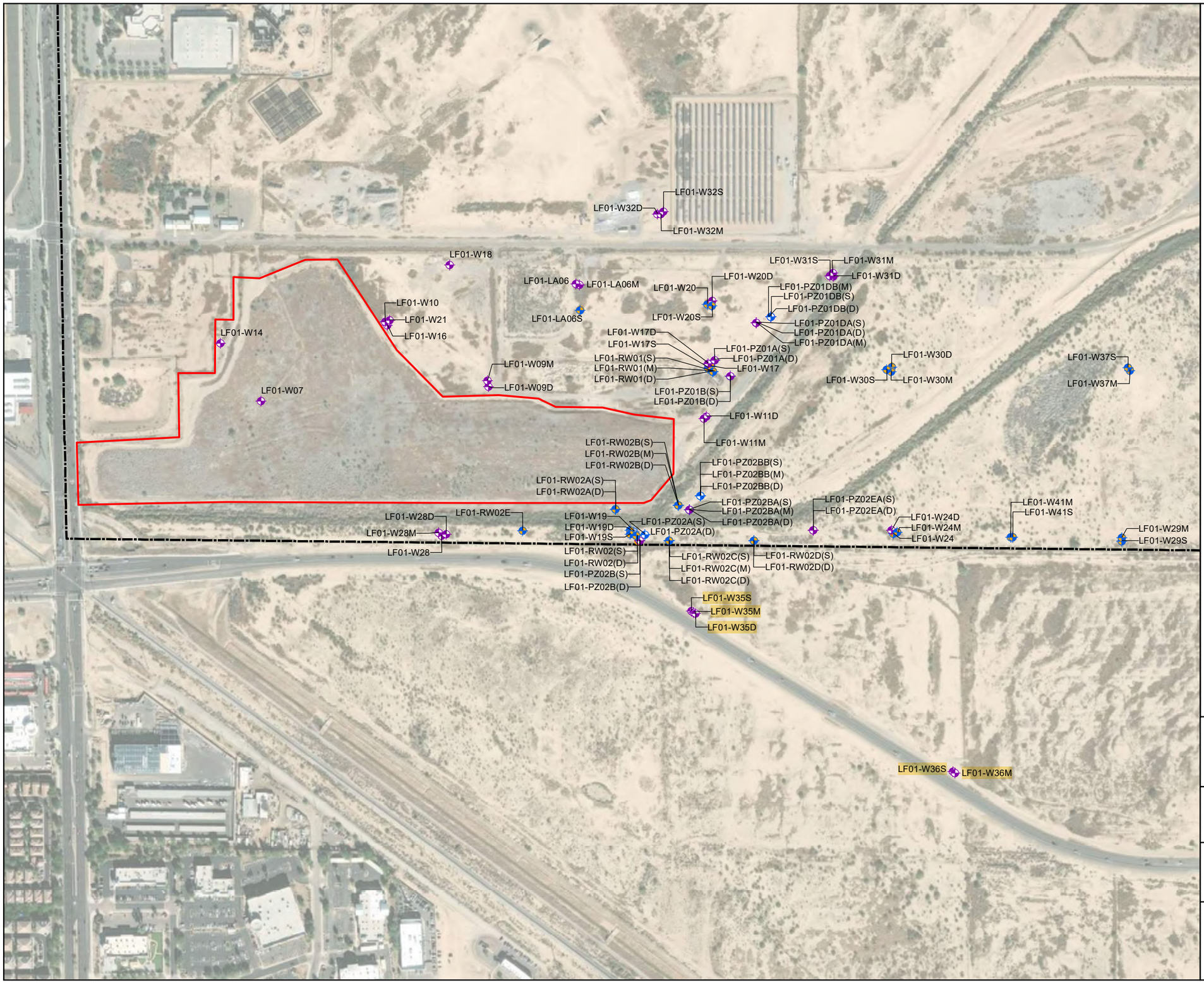
after 2011. But based on the provided excel sheet and final report on December 2023 sampling, (Admin Record file 637300, attached) LF01-W34S and LF01-W34M appear to either be inactive/unused or were never constructed as planned.

Any information that you can provide would be helpful.

Thanks in advance,

Adam Assenza

Environmental Protection Specialist (he/him)
Office of Environmental Analysis
Surface Transportation Board
395 E Street SW
Washington, DC 20423
P: 202-245-0301





Legend

- Performance Monitoring Well
- Performance/PDB Monitoring Well
- Annual Monitoring Well
- LF004 Site Boundary
- Former Williams AFB Boundary

Note:
Background image from ESRI® and Partners, 2021.

400 0 400
Feet

Former Williams Air Force Base
Maricopa County, Arizona

Site LF004
Analytical Data Submittal
December 2023 Sampling Event

LF004 Groundwater Monitoring Well Locations

Figure 1

G:\ArcGIS\AirForce\BECOS\Williams\PROJECTS\LF004\2023_DS\mxd\Fig_01LF004WellLocs_2023.mxd 5/15/2024

To:	Buckley, Maggie
Cc:	Phoebus, Elizabeth (Betsi)
Subject:	RE: Requesting meeting with SRP re: projects near proposed UP rail construction (PIRATE)

From: Assenza, Adam <Adam.Assenza@stb.gov>
Sent: Tuesday, September 3, 2024 10:56 AM
To: Dan M Garcia <Dan.Garcia@srpnet.com>
Cc: Buckley, Maggie <Maggie.Buckley@jacobs.com>; Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>; Luhnow, Glennda <Glennda.Luhnow@jacobs.com>; Tabachnick, Alan <alan.tabachnick@stb.gov>
Subject: [EXTERNAL] RE: Requesting meeting with SRP re: projects near proposed UP rail construction (PIRATE)

Hi Dan,

Happy to clarify. While SRP isn't involved in UPRR development plans or subject to STB oversight, SRP (as well as utility companies nearby) do sometimes have easements allowing for installation and maintenance in or near UPRR property currently undergoing environmental review associated with a proposed federal action before the STB. Part of that review has led to additional cultural resource surveying work and ground disturbance restrictions/conditions to respect and protect Tribal interests in the area. While a lot of local development in the area is not subject to this added layer of cultural resource consideration, due to the regulatory hooks involved by the existence of a proposed action before a federal agency, parcels that are part of that action are. We want to make sure we aren't missing any upcoming SRP work that may require the presence of cultural resource monitors or additional scheduling coordination on our end to comply with these additional regulatory requirements.

If you have any additional questions or want any information gathered/presented on the call, please let me know and I'll be happy to prepare accordingly.

Thanks,

Adam Assenza
Environmental Protection Specialist (he/him)
Office of Environmental Analysis
Surface Transportation Board
395 E Street SW
Washington, DC 20423
O: 202-245-0301
C: 202-235-4658

From: Dan M Garcia <Dan.Garcia@srpnet.com>
Sent: Friday, August 30, 2024 11:30 AM
To: Assenza, Adam <Adam.Assenza@stb.gov>
Cc: Buckley, Maggie <Maggie.Buckley@jacobs.com>; Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>; Luhnow,

Glennda <Glennda.Luhnow@jacobs.com>; Tabachnick, Alan <alan.tabachnick@stb.gov>
Subject: RE: Requesting meeting with SRP re: projects near proposed UP rail construction (PIRATE)

Hello Mr. Assenza,

Acknowledging receipt of your email and request for a meeting with SRP management. I have passed along your request but have had no responses yet. Since SRP has nothing to do with UPRR's development plans and SRP is not subject to STB oversight, can you please tell me what specifically you wish to discuss with or request of SRP management?

Dan Garcia
Archaeologist - Senior Cultural Resource Management Specialist
SRP | Biological and Cultural Resource Services | PAB359
P.O. Box 52025, Phoenix, AZ 85072-2025
P: (602) 236-2336 | **M**: (480) 213-1177

From: Assenza, Adam <Adam.Assenza@stb.gov>
Sent: Friday, August 23, 2024 10:33 AM
To: Dan M Garcia <Dan.Garcia@srpnet.com>
Cc: Buckley, Maggie <Maggie.Buckley@jacobs.com>; Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>; Luhnow, Glennda <Glennda.Luhnow@jacobs.com>; Tabachnick, Alan <alan.tabachnick@stb.gov>
Subject: Requesting meeting with SRP re: projects near proposed UP rail construction (PIRATE)

CAUTION: This email originated from outside the organization
Beware of suspicious links, files, or requests. When in doubt report as phishing.

Mr. Garcia,

As referenced in previous consulting party correspondence related to the proposed Pecos Industrial Rail Access and Train Extension (PIRATE) rail line, the Surface Transportation Board's (Board) Office of Environmental Analysis (OEA) is conducting an invasive archaeological damage assessment of unauthorized excavation in UP's right-of-way.

During the consulting party meeting held on October 4, 2023 (see the meeting minutes attached), you indicated that SRP has several infrastructure projects with the PIRATE Area of Potential Effects (APE): kmz and shapefiles of the APE are attached. OEA would like to request a brief 30-minute meeting with SRP in the coming weeks to discuss the status of SRP infrastructure projects near the PIRATE APE. Can you please provide some dates and times in the next 30 days that work for the SRP team, including those SRP representatives involved in the Southeast Power Link Project? We would appreciate the opportunity to share updates on both projects.

Thank you,

Adam Assenza
Environmental Protection Specialist (he/him)
Office of Environmental Analysis
Surface Transportation Board
395 E Street SW
Washington, DC 20423
P: 202-245-0301

To: Buckley, Maggie
Subject: RE: PIRATE - Kinder Morgan Zinc Line Installation

From: White, Deborah A (Deb) (Contractor)
Sent: Friday, September 27, 2024 2:43 PM
To: Rebecca Hoffman
Cc: Gosselin, Danielle ; Blythe, Amy M (Amy) ; Tabachnick, Alan ; Assenza, Adam ; Buckley, Maggie ; Mark Mentele ; Amoroso, Nick ; Tanya Spratt ; Tonya Conley ; Stanger, Lori M
Subject: [EXTERNAL] RE: PIRATE - Kinder Morgan Zinc Line Installation

Ms. Hoffman,

As discussed in our phone call yesterday, El Paso Natural Gas has received approval for the alternative design submitted to its engineering consultant - this design will avoid installation of the proposed mitigation facilities on the UPRR property.

EPNG appreciates everyone's cooperation in providing information on the APE boundary and the proposed UPRR track layouts – this was very beneficial in assisting with the adjustment decision.

Please note, however, that EPNG will be using its easement to traverse the property with vehicle/equipment in order to continue access along the project corridor.

If any questions remain, please reach out directly.

Regards,

Deborah White, SR/WA-NAC
Independent Property Rights Specialist
Deborah_White@kindermorgan.com
Cell: (918) 891-0384

From: Rebecca Hoffman <RHOFFMAN@UP.COM>
Sent: Thursday, September 26, 2024 7:16 PM
To: White, Deborah A (Deb) (Contractor) <Deborah_White@kindermorgan.com>
Cc: Gosselin, Danielle <Danielle.Gosselin@stb.gov>; Blythe, Amy M (Amy) <Amy_Blythe@kindermorgan.com>; Tabachnick, Alan <alan.tabachnick@stb.gov>; Assenza, Adam <Adam.Assenza@stb.gov>; Buckley, Maggie <Maggie.Buckley@jacobs.com>; Mark Mentele <mrmentel@up.com>; Amoroso, Nick <Nick_Amoroso@kindermorgan.com>; Tanya Spratt <TSPRATT@UP.COM>; Tonya Conley <TWCONLEY@UP.COM>
Subject: PIRATE - Kinder Morgan Zinc Line Installation

Ms. White,

Thank you for the follow up discussion today regarding Kinder Morgan/EPNG's proposed project and sharing the update that an alternative design plan has been submitted to your engineering consultant for review to see if it would be acceptable to Kinder Morgan/EPNG. UP looks forward to learning more about that alternative plan and you including those copied here in your response. UP appreciates that Kinder Morgan/EPNG has advised that they will not proceed with work on the property until such time that all the parties have coordinated the proposed activities. I look forward to your reply.

Regards,

Rebecca Hoffman
Director – Real Estate, Land Acquisitions & Utility Coordination

Phone: 402-544-8614
Fax: 402-233-3336
Email: rhoffman@up.com

1400 Douglas Street, Stop 1690
Omaha, NE 68179



BUILDING AMERICA®

From: White, Deborah A (Deb) (Contractor) <Deborah_White@kindermorgan.com>
Sent: Tuesday, September 24, 2024 4:35 PM
To: Gosselin, Danielle <Danielle.Gosselin@stb.gov>; Tanya Spratt <TSPRATT@UP.COM>
Cc: Amoroso, Nick <Nick_Amoroso@kindermorgan.com>; Blythe, Amy M (Amy) <Amy_Blythe@kindermorgan.com>; Tabachnick, Alan <alan.tabachnick@stb.gov>; Assenza, Adam <Adam.Assenza@stb.gov>; Buckley, Maggie <Maggie.Buckley@jacobs.com>; Mark Mentele <mrmentel@up.com>
Subject: RE: PIRATE - Kinder Morgan Zinc Line Installation

You don't often get email from deborah_white@kindermorgan.com. Learn why this is important

*** PROCEED WITH CAUTION - This email was sent from outside the company. ***

Ms. Gosselin,
Ms. Spratt,

Currently El Paso Natural Gas (a Kinder Morgan company) is reviewing the site information provided by Ms. Buckley and UPRR.

Once review is completed, EPNG will provide the necessary information for UPRR/Jones/STB.

Regards,

Deborah White, SR/WA-NAC
Independent Property Rights Specialist
providing Property Rights Services to
the Kinder Morgan Companies:
El Paso Natural Gas, LLC and SFPP, LP
Deborah_White@kindermorgan.com
Cell: (918) 891-0384

From: Gosselin, Danielle <Danielle.Gosselin@stb.gov>
Sent: Tuesday, September 24, 2024 4:13 PM
To: Tanya Spratt <TSPRATT@UP.COM>
Cc: Amoroso, Nick <Nick_Amoroso@kindermorgan.com>; Blythe, Amy M (Amy) <Amy_Blythe@kindermorgan.com>; White, Deborah A (Deb) (Contractor) <Deborah_White@kindermorgan.com>; Tabachnick, Alan <alan.tabachnick@stb.gov>; Assenza, Adam <Adam.Assenza@stb.gov>; Buckley, Maggie <Maggie.Buckley@jacobs.com>
Subject: PIRATE - Kinder Morgan Zinc Line Installation

Hi Tanya,

OEA understands that Kinder Morgan plans to install a zinc line between Sossaman Road and Pecos Road in the next three to five days. Due to the cultural sensitivity of the area and the potential archeological implications under the National Historic Preservation Act of any work performed within the Area of Potential Effects (APE) for the PIRATE project, OEA needs additional information about the work Kinder Morgan intends to undertake before work begins – including location and limits of work (horizontal and vertical), type of work planned, and anticipated start date and duration. Please provide this information as soon as possible.

Thanks,
Danielle

Danielle Gosselin
Director
Office of Environmental Analysis
Surface Transportation Board
(202) 245-0300

This email and any attachments may contain information that is confidential and/or privileged for the sole use of the intended recipient. Any use, review, disclosure, copying, distribution or reliance by others, and any forwarding of this email or its contents, without the express permission of the sender is strictly prohibited by law. If you are not the intended recipient, please contact the sender immediately, delete the email, and destroy all copies.

To: McNeish, Sabra
Subject: RE: [EXTERNAL] Queen Creek School Bus Schedule

From: Jewett, Alexander <ajewett@qcusd.org>
Sent: Monday, September 29, 2025 11:45 AM
To: Homan, Bailey <Bailey.Homan@jacobs.com>
Subject: [EXTERNAL] Queen Creek School Bus Schedule

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Good afternoon,

I will give you a generalized schedule of when the school buses will drive on Ellsworth Rd between Germann and Pecos. If you require an exact time schedule for each route, that would be something I would have to discuss with my supervisor.

We have several routes (more than 10) that go through there each morning and afternoon.

In the morning they cross N Ellsworth at Germann from about 6:15 am to 6:45 am. There are about 10 buses at this time.

In the afternoon they cross N Ellsworth at Germann from about 1:20 pm to 1:50 pm. There are about 20 buses at this time.

Those are the two main times where there will be a large amount of traffic at one time. There are also various other routes that trickle through, but it will never be more than 2-3 buses bunched up at a time.

Proper procedure for crossing a railroad track is as follows:
1. Engage hazard warning lights.
2. Slow to a complete stop 15-50 feet before the tracks.
3. Open student door and driver's side window.
4. Stop, look, and listen for trains.
5. Close door and continue on.

This causes a slight disruption to traffic with a single bus as this procedure can take up to 30 seconds depending on the driver. With multiple buses it can cause several minutes of traffic.

That was the basic rundown of our traffic on Ellsworth Rd. If you need any more details let me know and I can do my best to help!

--

Alex Jewett

Dispatcher

Queen Creek Unified School District

(480) 987-5982

ajewett@qcusd.org

"Excellence Through Leadership: Engage, Empower, Excel"

CONFIDENTIALITY NOTICE: This e-mail message, including any attachments, is for the sole use of the intended recipient and may contain confidential and privileged information. Any unauthorized review, copy, use, disclosure, or distribution is prohibited. If you are not the intended recipient, please contact the sender by reply e-mail and destroy all copies of the original message. To ensure compliance with the Open Meeting Law, recipients of this message should not forward it to any Board members. Board members may reply to this message but they should not send a copy of their reply to other Board members.

To: Homan, Bailey
Subject: RE: MAG Model Request

From: Lavanya Vallabhaneni <LVallabhaneni@azmag.gov>
Sent: Thursday, October 23, 2025 11:33 AM
To: Ambadipudi, Ravi <Ravi.Ambadipudi@jacobs.com>; Mudigonda, Anil P. <Anil.Mudigonda@jacobs.com>; Homan, Bailey <Bailey.Homan@jacobs.com>; Jesse Ayers <JAyers@azmag.gov>
Subject: [EXTERNAL] RE: MAG Model Request

This Message Is From an External Sender
This message came from outside your organization.

Ravi,
I just shared the file using MAG sharepoint. Let me know if you have not received the email with the link to download.

Thank you,

Lavanya Vallabhaneni
Modeling Request Manager
O: 602-452-5030
302 N. First Ave., Suite 200
Phoenix, AZ 85003
azmag.gov

From: Ambadipudi, Ravi <Ravi.Ambadipudi@jacobs.com>
Sent: Wednesday, October 22, 2025 2:26 PM
To: Lavanya Vallabhaneni <LVallabhaneni@azmag.gov>; Mudigonda, Anil P. <Anil.Mudigonda@jacobs.com>; Homan, Bailey <Bailey.Homan@jacobs.com>; Jesse Ayers <JAyers@azmag.gov>
Subject: Re: MAG Model Request

CAUTION: This is an external email! Please take care when clicking links or opening attachments. When in doubt, contact the IT Department.

Lavanya/Jesse:

Can you please share the TAZ shape file and accompanying SED data sets for the region for the year 2050? We will be using the data in our report/graphics in the report for the PIRATE project. This is not a new request but additional data needed for an ongoing project. We will not be requesting any updates to the data or new model runs.

Thank you,
Ravi Ambadipudi, PE

From: Assenza, Adam <Adam.Assenza@stb.gov>
Sent: Friday, September 5, 2025 11:00 AM
To: Ambadipudi, Ravi <Ravi.Ambadipudi@jacobs.com>; Lavanya Vallabhaneni <LVallabhaneni@azmag.gov>; Mudigonda, Anil P. <Anil.Mudigonda@jacobs.com>
Cc: Buckley, Maggie <Maggie.Buckley@jacobs.com>
Subject: [EXTERNAL] Re: MAG Model Request

Hello Lavanya,

This request for traffic data is associated with the US Surface Transportation Board's environmental review of a proposed Union Pacific rail line construction. STB is a federal agency conducting its review of a pending federal action under the National Environmental Policy Act (NEPA) and related laws, not a MAG member agency. I'm the project manager in STB's Office of Environmental Analysis. I believe a similar request was granted several years ago when we first developed a Draft Environmental Assessment for the proposed project and analyzed its potential to affect local traffic patterns. The proceeding is designated with an STB Docket Number of FD 36501 and more information can be found at www.stb.gov.

Please let me know if you need any additional information from me to facilitate data transfer.

Thanks in advance for your assistance,

Adam Assenza
Environmental Protection Specialist
Office of Environmental Analysis
Surface Transportation Board
395 E Street SW
Washington, DC 20423
O: 202-245-0301
C: 202-235-4658

From: Ambadipudi, Ravi <Ravi.Ambadipudi@jacobs.com>
Sent: Friday, September 5, 2025 11:51 AM
To: Lavanya Vallabhaneni <LVallabhaneni@azmag.gov>; Mudigonda, Anil P. <Anil.Mudigonda@jacobs.com>
Cc: Buckley, Maggie <Maggie.Buckley@jacobs.com>; Assenza, Adam <Adam.Assenza@stb.gov>
Subject: Re: MAG Model Request

Good morning, Lavanya:

Thanks for taking my call yesterday. The licensing document is signed and attached. For this project, we do not need new model runs. We need the existing and conformity loaded models for the year 2050.

Adam Assenza (copied) is our client PM. Adam, can you please respond to this email and confirm this request for the regional models for use on the PIRATE project?

Thank you,
Ravi Ambadipudi, PE
480.399.0025

From: Lavanya Vallabhaneni <LVallabhaneni@azmag.gov>
Sent: Tuesday, August 26, 2025 11:09 AM
To: Ambadipudi, Ravi <Ravi.Ambadipudi@jacobs.com>
Subject: [EXTERNAL] RE: MAG Model Request

Sure Ravi, please sign the attached license agreement and please ask the MAG member agency PM to send a confirmation email.

Thank you,

MARICOPA ASSOCIATION of GOVERNMENTS

Lavanya Vallabhaneni

Modeling Request Manager

O: 602-452-5030

302 N. First Ave., Suite 200

Phoenix, AZ 85003

azmag.gov

From: Ambadipudi, Ravi <Ravi.Ambadipudi@jacobs.com>
Sent: Tuesday, August 26, 2025 8:31 AM
To: Lavanya Vallabhaneni <LVallabhaneni@azmag.gov>
Subject: MAG Model Request

CAUTION: This is an external email! Please take care when clicking links or opening attachments. When in doubt, contact the IT Department.

Lavanya,

Jacobs is working on a project with the Surface Transportation Board. This project is for UPRR extension in the Mesa/ Queen creek area. We need the following information:

1. 2025 regional model - TransCad. Loaded network
2. 2050 conformity loaded network

Thanks,

Ravi

Get Outlook for iOS

NOTICE - This communication may contain confidential and privileged information that is for the sole use of the intended recipient. Any viewing, copying or distribution of, or reliance on this message by unintended recipients is strictly prohibited. If you have received this message in error, please notify us immediately by replying to the message and deleting it from your computer.

NOTICE - This communication may contain confidential and privileged information that is for the sole use of the intended recipient. Any viewing, copying or distribution of, or reliance on this message by unintended recipients is strictly prohibited. If you have received this message in error, please notify us immediately by replying to the message and deleting it from your computer.

NOTICE - This communication may contain confidential and privileged information that is for the sole use of the intended recipient. Any viewing, copying or distribution of, or reliance on this message by unintended recipients is strictly prohibited. If you have received this message in error, please notify us immediately by replying to the message and deleting it from your computer.

PHOENIX-MESA GATEWAY AIRPORT AUTHORITY
5835 SOUTH SOSSAMAN ROAD
MESA, ARIZONA 85212-6014

PHONE (480) 988 7600
FAX (480) 988 2315

November 5, 2025

Aeronautical Study No.
2025-AWP-14353-OE

Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Mesa Gateway Airport has reviewed the proposed Union Pacific Railroad 7460 submittal. The proposed alignment includes two locations (2025-AWP-14352-OE and 2025-AWP-14353-OE) that exceed the obstruction standards under 14 CFR Part 77 as applied to the approach of Runway 30C. These locations are situated approximately 0.62 to 0.67 nautical miles southeast of the Runway 30C threshold and fall within the terminal obstacle clearance area for the RNAV (RNP) Z RWY 30C procedure. FAA analysis indicates that the first exceedance (2025-AWP-14352-OE) would increase the RNP 0.21 decision altitude from 1637 to 1645 feet, with a new effective height (NEH) of 1389 feet AMSL. The second exceedance (2025-AWP-14353-OE) would increase the RNP 0.21 decision altitude from 1637 to 1646 feet, with an NEH of 1406 feet AMSL.

While the remaining study points do not penetrate protected surfaces, the FAA has noted that final determinations will not be issued until all project-related issues are resolved. Based on the current information, the Airport is not opposed to the proposed project, provided that it does not result in any operational changes or safety concerns to existing or planned airport operations, airspace, or instrument procedures.

It is also noted that the submitted analysis includes only the 38 track points and does not account for the height of the movable arm or related equipment. Any additional points representing the arm height or other elevated components should also be submitted and evaluated to ensure continued compliance with applicable airspace and obstruction standards.

We appreciate the opportunity to review this proposal and request to be notified if any changes occur that may alter the project's height and/or location as these could warrant additional evaluation. Should you have any questions please contact myself or Ksenia Kerentseva, Airport Planner, at (480)988-7649.

Sincerely,

Scott Brenlee Deputy Director for JB O'Neill

J. Brian O'Neill, A.A.E.
Executive Director/CEO

From:	McNeish, Sabra
Sent:	Wednesday, November 19, 2025 10:05 AM
To:	'McCoy, Jamilah - FPAC-NRCS, AZ'
Cc:	'Robert.Thomas2@usda.gov'; Buckley, Maggie; Phoebus, Elizabeth (Betsi); 'Assenza, Adam'
Subject:	RE: [External Email]PIRATE Project Farmland Conversion Form
Attachments:	CPA_106 PIRATE_221101_Final.pdf

Hi Jamilah,

I am following up on the message I sent you below earlier this fall regarding the PIRATE project. We would like to confirm whether NRCS requires a new CPA-106 form to reflect current conditions, or if the existing form from 2022 remains sufficient for this project.

If it's easier to discuss by phone, please feel free to give me a call at my phone number in my signature block below. We appreciate any guidance you can provide and are happy to provide any additional information needed. If someone else is better suited to address this question, please let me know and we will reach out to them.

Thank you,

Sabra McNeish (she/her) | Jacobs | Environmental Planner
(410) 596-7790 | Sabra.McNeish@jacobs.com
1501 W Fountainhead Pkwy, Suite 401 | Tempe, Arizona 85282
Typical Working Hours | Mon-Thurs 8am to 5pm, Fri 8am to 12pm MST

Upcoming PTO:
Afternoon of Wednesday, November 26th – Friday, November 28th

---

From: McNeish, Sabra
Sent: Thursday, September 25, 2025 3:52 PM
To: McCoy, Jamilah - FPAC-NRCS, AZ <jamilah.mccoy@usda.gov>
Cc: 'Robert.Thomas2@usda.gov' <Robert.Thomas2@usda.gov>; Buckley, Maggie <Maggie.Buckley@jacobs.com>; Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>; Assenza, Adam <adam.assenza@stb.gov>
Subject: RE: [External Email]PIRATE Project Farmland Conversion Form

Hi Jamilah,

We previously were working with Emily Yulga in 2022 on the NRCS-CPA-106 form for the Pecos Industrial Rail Access and Train Extension (PIRATE) project (attached). I understand that Emily is no longer with NRCS, and it appears you may now be the appropriate point of contact.

This project has been on hold for some time following publication of the Draft Environmental Assessment (EA) due to unauthorized ground disturbance and archaeological site damage during preparation of the Final EA. In the time since, there has been considerable development in the surrounding area, which we believe has reduced both the existing acreage of farmland and the acreage that would be converted by the project. We would like to confirm whether NRCS requires a new CPA-106 form to reflect current conditions, or if the existing form from 2022 remains sufficient for the project.

If it's easier to discuss by phone, please feel free to give me a call at my phone number in my signature block below. We appreciate any guidance you can provide and are happy to provide any additional information needed. If someone else is better suited to address this question, please let me know and I will reach out to them.

Thank you for your time and assistance,

Sabra McNeish (she/her) | Jacobs | Environmental Planner
(410) 596-7790 | Sabra.McNeish@jacobs.com
1501 W Fountainhead Pkwy, Suite 401 | Tempe, Arizona 85282
Typical Working Hours | Mon-Thurs 8am to 5pm, Fri 8am to 12pm MST

Upcoming PTO:
Monday, October 13th - Tuesday, October 14th

From: Shelton, Nancy
Sent: Friday, November 4, 2022 1:22 PM
To: 'Yulga, Emily - FPAC-NRCS, Phoenix, AZ' <Emily.Yulga@usda.gov>
Cc: Woodall, Scott - NRCS, Phoenix, AZ <scott.woodall@usda.gov>; Assenza, Adam <Adam.Assenza@stb.gov>; Buckley, Maggie <Maggie.Buckley@jacobs.com>
Subject: RE: [External Email]PIRATE Project Farmland Conversion Form

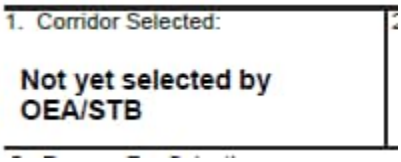
Hi Emily,
STB has identified Alternative A as the Preferred Alternative for PIRATE. The updated CPA 106 is attached for your records. Thank you for your assistance in this process.

Thanks,
Nancy Shelton
C: 602.686.3237

From: Yulga, Emily - FPAC-NRCS, Phoenix, AZ <Emily.Yulga@usda.gov>
Sent: Tuesday, October 11, 2022 9:16 AM
To: Shelton, Nancy <Nancy.Shelton@jacobs.com>
Cc: Woodall, Scott - NRCS, Phoenix, AZ <scott.woodall@usda.gov>; Assenza, Adam <Adam.Assenza@stb.gov>
Subject: [EXTERNAL] RE: [External Email]PIRATE Project Farmland Conversion Form

Hi Nancy,

Once we receive a completed form back the process is 'complete,' per say, but can still be updated with project progress.
In your case, I see that no alternative was selected at the time you submitted the form, so if you have a selected alternative now or before November 15th 2022, we can update the file (just update your form & re-send). If no final project decision has been selected yet, that is alright, we will just carry on with this completed form.



Thank you for reaching out about the process!

Emily Yulga
Resource Soil Scientist

USDA – Natural Resource Conservation Service – AZ
Cell: (602) 478 7507

From: Shelton, Nancy <Nancy.Shelton@jacobs.com>
Sent: Sunday, October 9, 2022 10:28 AM
To: Yulga, Emily - FPAC-NRCS, Phoenix, AZ <Emily.Yulga@usda.gov>; Buckley, Maggie <Maggie.Buckley@jacobs.com>
Cc: Woodall, Scott - NRCS, Phoenix, AZ <scott.woodall@usda.gov>; Assenza, Adam <adam.assenza@stb.gov>
Subject: RE: [External Email]PIRATE Project Farmland Conversion Form

Hi Emily,
Thanks for acknowledging receipt. Is this process complete now?

Thanks,
Nancy Shelton
C: 602.686.3237

From: Yulga, Emily - FPAC-NRCS, Phoenix, AZ <Emily.Yulga@usda.gov>
Sent: Thursday, September 15, 2022 1:32 PM
To: Buckley, Maggie <Maggie.Buckley@jacobs.com>; Shelton, Nancy <Nancy.Shelton@jacobs.com>
Cc: Woodall, Scott - NRCS, Phoenix, AZ <scott.woodall@usda.gov>; Assenza, Adam <adam.assenza@stb.gov>
Subject: [EXTERNAL] RE: [External Email]PIRATE Project Farmland Conversion Form

Hi Maggie,

Thank you for returning the competed form.

Best,

Emily Yulga
Resource Soil Scientist
USDA – Natural Resource Conservation Service – AZ
Cell: (602) 478 7507

From: Buckley, Maggie <Maggie.Buckley@jacobs.com>
Sent: Thursday, September 15, 2022 11:37 AM
To: Yulga, Emily - FPAC-NRCS, Phoenix, AZ <Emily.Yulga@usda.gov>; Shelton, Nancy <Nancy.Shelton@jacobs.com>
Cc: Woodall, Scott - NRCS, Phoenix, AZ <scott.woodall@usda.gov>; Assenza, Adam <adam.assenza@stb.gov>
Subject: [External Email]PIRATE Project Farmland Conversion Form

[External Email]
If this message comes from an unexpected sender or references a vague/unexpected topic;
Use caution before clicking links or opening attachments.
Please send any concerns or suspicious messages to: Spam.Abuse@usda.gov

Hi Emily,

Thank you again for your time on the phone this morning and follow-up regarding completion of CPA-106. The signed form for the Pecos Industrial Rail Access and Train Extension (PIRATE) project is attached for your review. Please don't hesitate to reach out if you have any questions regarding the assumptions and calculations used to complete the form.

Thank you,

Maggie Buckley
O: 425.233.3117
M: 206.949.5955

From: Yulga, Emily - FPAC-NRCS, Phoenix, AZ <Emily.Yulga@usda.gov>
Sent: Friday, June 24, 2022 11:41 AM
To: Shelton, Nancy <Nancy.Shelton@jacobs.com>
Cc: Woodall, Scott - NRCS, Phoenix, AZ <scott.woodall@usda.gov>; Buckley, Maggie <Maggie.Buckley@jacobs.com>; Assenza, Adam <adam.assenza@stb.gov>; Jones, Jessica <Jessica.Jones@jacobs.com>
Subject: [EXTERNAL] RE: [External Email]Farmland conversion form

Hi Nancy,

NRCS does not complete Part 6 of the form, so I am not as familiar with these conditions, but I would refer you to the Code of Federal Regulation on FPPA (7CFR658) for guidance. This defines that "'Farmland' does not include land already in or committed to urban development or water storage." You can refer to the linked CFR for more specifics on official sources for this definition.

Also, the FPPA Manual provides more helpful, detailed guidance on filling out Part 6 regarding non-urban areas:

Factor 1. How much land is in non-urban use within a radius of 1.0 mile from where the project is intended?

For the purpose of this factor, examples of non-urban and urban land are listed below.

Non-Urban Land	Urban Land
Agricultural land (crops, fruit trees, nuts, oilseed)	Houses (other than farmhouses)
Rangeland	Apartment buildings
Forest land	Commercial buildings
Golf Courses	Industrial buildings
Non-paved parks and recreational areas	Paved recreational areas (i.e., tennis courts)
Mining sites (Surface Mining Control and Reclamation Act of 1977 [Public Law 95-87] exempted from FPPA)	Streets in areas with 30 structures per 40 acres
Farm storage	Gas stations
Lakes, ponds, and other water bodies	Equipment and supply stores
Rural roads and through roads without houses or buildings	Off-farm storage
Open space	Processing plants
Wetlands	Shopping malls
Fish production	Utilities/services
Pasture or hayland	Medical buildings

In rating this factor, an area 1 mile from the outer edge of the proposed site should be outlined on a current photo and the areas that are urban should be outlined. For rural houses and other buildings with unknown sizes, use 1 and 1/3 acres per structure. For roads with houses on only one side, use one half of the road for urban land and one half for non-urban land.

The purpose of this rating process is to ensure that the most valuable and viable farmlands are protected from development projects sponsored by the Federal government. For this goal, the more agricultural lands surrounding the parcel boundary in question, the more protection from development this site should receive. Assign points for this factor using the table below.

Percentage of Non-Urban Land Within 1 Mile	Points
90 percent or greater	15
85 to 89 percent	14
80 to 84 percent	13
75 to 79 percent	12
70 to 74 percent	11
65 to 69 percent	10
60 to 64 percent	9
55 to 59 percent	8
50 to 54 percent	7
45 to 49 percent	6
40 to 44 percent	5
35 to 39 percent	4
30 to 34 percent	3
25 to 29 percent	2
21 to 24 percent	1
20 percent or less	0

You can refer to the linked FPPA Manual for detailed information on the other factors you will also have to score in Part 6 of the form (begins on page 21 of the FPPA Manual).

I hope this helped answer the question for you!

Emily Yulga
Resource Soil Scientist
AZ USDA-NRCS
Cell: (602) 478 7507

From: Shelton, Nancy <Nancy.Shelton@jacobs.com>
Sent: Friday, June 24, 2022 10:25 AM
To: Woodall, Scott - NRCS, Phoenix, AZ <scott.woodall@usda.gov>
Cc: Yulga, Emily - FPAC-NRCS, Phoenix, AZ <Emily.Yulga@usda.gov>; Buckley, Maggie <Maggie.Buckley@jacobs.com>; Assenza, Adam <Adam.Assenza@stb.gov>; Jones, Jessica <Jessica.Jones@jacobs.com>
Subject: RE: [External Email]Farmland conversion form

Scott/Emily,
I have a follow-on questions for preparing this conversion form. There are areas adjacent to or through which the project crosses that are owned by the Flood Control District for the purposes of water management and others where there are plans for development as provided by the City. In these cases, are these parcels considered “nonurban”?

Thanks,
Nancy Shelton
C: 602.686.3237

From: Woodall, Scott - NRCS, Phoenix, AZ <scott.woodall@usda.gov>
Sent: Wednesday, June 22, 2022 4:07 PM
To: Shelton, Nancy <Nancy.Shelton@jacobs.com>
Cc: Yulga, Emily - FPAC-NRCS, Phoenix, AZ <Emily.Yulga@usda.gov>
Subject: [EXTERNAL] RE: [External Email]Farmland conversion form

Hello Nancy,

Here is the FPPA response from our staff. Please note that you will need to complete Parts 3, 6, & 7 and return for our records.

Thank you,

Scott

R. Scott Woodall
State Resource Conservationist
Arizona USDA-NRCS
Phone: 602-280-8789
Scott.woodall@usda.gov

From: Shelton, Nancy <Nancy.Shelton@jacobs.com>
Sent: Wednesday, June 15, 2022 9:52 AM
To: Woodall, Scott - NRCS, Phoenix, AZ <scott.woodall@usda.gov>; Yulga, Emily - FPAC-NRCS, Phoenix, AZ <Emily.Yulga@usda.gov>
Cc: Wilson, Robert - NRCS, Phoenix, AZ <robert.wilson2@usda.gov>
Subject: RE: [External Email]Farmland conversion form

Hi Scott,
Thank you! I appreciate the connection. Emily, I will get you a shapefile.

Thanks,
Nancy Shelton
C: 602.686.3237

From: Woodall, Scott - NRCS, Phoenix, AZ <scott.woodall@usda.gov>
Sent: Wednesday, June 15, 2022 8:50 AM
To: Shelton, Nancy <Nancy.Shelton@jacobs.com>; Yulga, Emily - FPAC-NRCS, Phoenix, AZ <Emily.Yulga@usda.gov>
Cc: Wilson, Robert - NRCS, Phoenix, AZ <robert.wilson2@usda.gov>
Subject: [EXTERNAL] FW: [External Email]Farmland conversion form

Hi Nancy,

Yes, I believe that both of us will need to fill out our sections of the AD-1006. I will forward you to Emily Yulga who handles our FPPA and can answer any questions. I believe she will need a shapefile to help her with the determination.

Thank you,

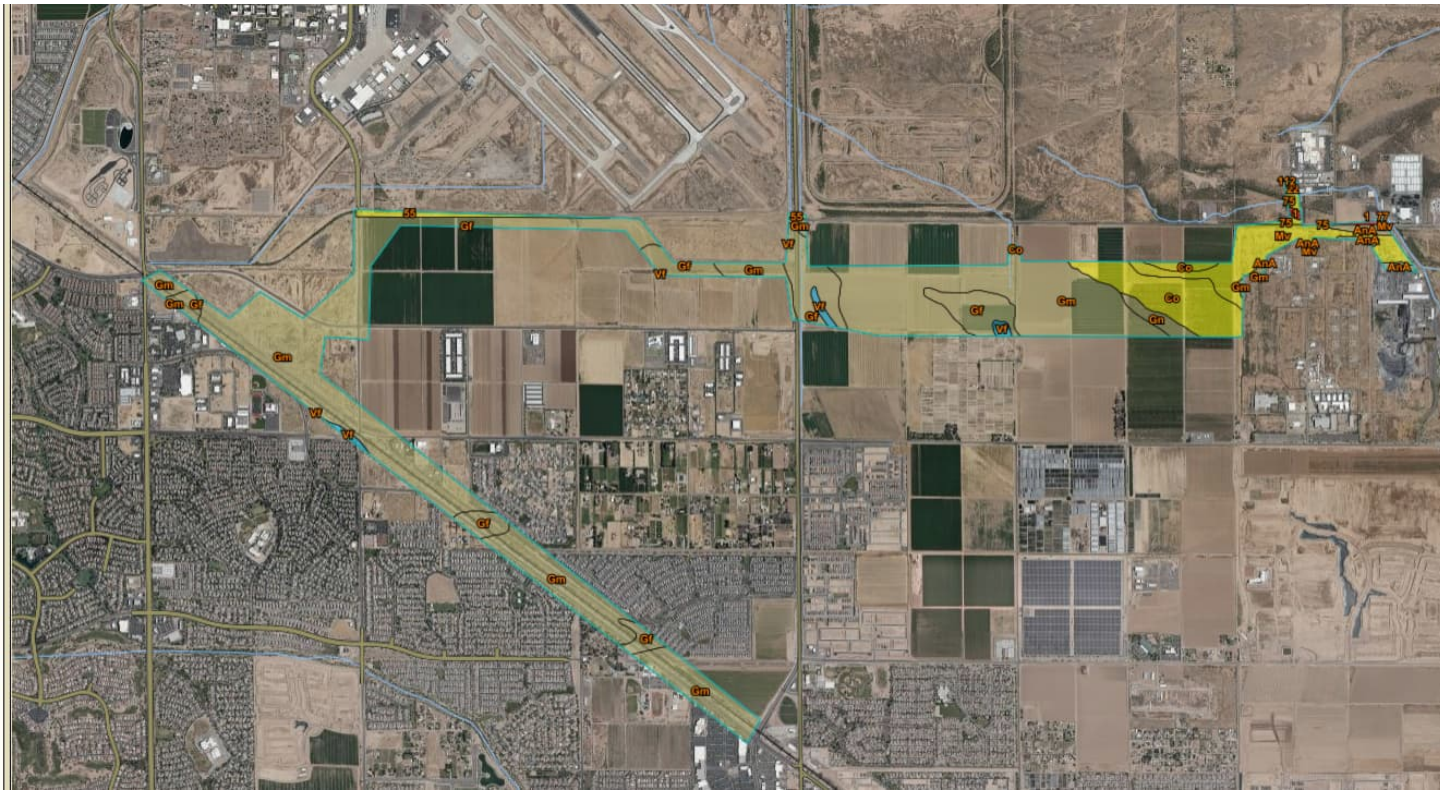
Scott

R. Scott Woodall
State Resource Conservationist
Arizona USDA-NRCS
Phone: 602-280-8789
Scott.woodall@usda.gov

From: Shelton, Nancy <Nancy.Shelton@jacobs.com>
Sent: Tuesday, June 14, 2022 5:22 PM
To: Woodall, Scott - NRCS, Phoenix, AZ <scott.woodall@usda.gov>
Subject: [External Email]Farmland conversion form

[External Email]
If this message comes from an unexpected sender or references a vague/unexpected topic;
Use caution before clicking links or opening attachments.
Please send any concerns or suspicious messages to: Spam.Abuse@usda.gov

Hi Mr. Woodall,
I am not sure if you are the right point of contact; if not, can you please direct me? I am working on a project that would involve converting some farmland from agricultural use to transportation. The subject area is located outside the urban boundary as defined by the Census. There are fields in active production. Per the Web Soil Survey, farmland designations for the area include Prime, Prime if Irrigated, Prime if Irrigated and protected from floods, and farmland of unique importance. See below. Dark yellow is Prime if Irrigated, blue is farmland of unique importance, and prime if irrigated and protected from floods.



According to the City of Mesa, the majority of the land immediately around the Project area is either developed already or planned for development. The exception is Sunbelt which comprises the middle portion of the project, and some State Land acres that are in production towards the eastern end of the project. A portion of Sunbelt's acres (229) is located within the City's Employment Opportunity Floating Zone. The entire area is designated by the City as the Pecos Advanced Manufacturing Zone.

With development around the remaining agriculture, and the level of planned development, does a farmland conversion worksheet need to be prepared? If so, is the corridor worksheet the correct version? Thank you for any assistance you can provide.
Thanks,

Nancy Shelton
Jacobs | Senior Environmental Planner | C: 602.686.3237 |

I will be out of the office for work/travel from June 28-July 1.

NOTICE - This communication may contain confidential and privileged information that is for the sole use of the intended recipient. Any viewing, copying or distribution of, or reliance on this message by unintended recipients is strictly prohibited. If you have received this message in error, please notify us immediately by replying to the message and deleting it from your computer.

This electronic message contains information generated by the USDA solely for the intended recipients. Any unauthorized interception of this message or the use or disclosure of the information it contains may violate the law and subject the violator to civil or criminal penalties. If you believe you have received this message in error, please notify the sender and delete the email immediately.

To: Homan, Bailey
Subject: RE: Chandler Unified School District School Bus Routing Request - UPRR PIRATE Extension

---

From: CUSD Routing <routing@cusd80.com>
Sent: Tuesday, December 2, 2025 6:45 AM
To: Homan, Bailey <Bailey.Homan@jacobs.com>
Subject: [EXTERNAL] Re: Chandler Unified School District School Bus Routing Request - UPRR PIRATE Extension

This Message Is From an External Sender
This message came from outside your organization.

CUSD does not have any buses along those paths.

Thank you,
CUSD Routing

From: Homan, Bailey <Bailey.Homan@jacobs.com>
Sent: Monday, December 1, 2025 4:45 PM
To: CUSD Routing <routing@cusd80.com>
Cc: Assenza, Adam <adam.assenza@stb.gov>; Mudigonda, Anil P. <Anil.Mudigonda@jacobs.com>; Eadavalli, Vinod <Vinod.Eadavalli@jacobs.com>; Buckley, Maggie <Maggie.Buckley@jacobs.com>; Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>
Subject: Chandler Unified School District School Bus Routing Request - UPRR PIRATE Extension

[CAUTION]: This email originated from outside our domain CUSD80.COM

Good afternoon,

My name is Bailey Homan and I work for Jacobs Engineering Group Inc. Jacobs is currently working on the Environmental Assessment (EA) for the UPRR's PIRATE extension project in Mesa, AZ between the Power and Pecos intersection to Signal Butte and Pecos intersection. Our client Project Manager, Adam Assenza, with Surface Transportation Board is included on this email for your reference.

As part of the EA, Jacobs is conducting an extensive traffic analysis along several arterial corridors that are along/crossing the PIRATE track alignment. As part of the traffic analysis, we would like to inquire about any school buses routed along roads within the study area during the morning pick up and afternoon drop off routes. The times of these routes and number of buses along each route is helpful to our analysis. Please see the attached PDF with the study area locations including:

- Pecos Road South between Power Road and Ellsworth Road
- Pecos Road North between Ellsworth Road and Meridian Road
- Germann Road between Sossaman Road and Meridian Road
- Sossaman Road between Pecos Road North and Germann Road
- Ellsworth Road between Pecos Road North and Germann Road

- Crismon Road between Pecos Road North and Germann Road
- Signal Butte Road between Pecos Road North and Germann Road

Please let me know if you are the point of contact or if I should send this request to someone else at the school district. I would greatly appreciate it if you could please send us these details at your earliest possible time or let me know if you need any additional information to process this request.

Thank you,
Bailey

Bailey Homan, EIT
Junior Traffic Engineer
Phone: 602-516-5546
Jacobs

NOTICE - This communication may contain confidential and privileged information that is for the sole use of the intended recipient. Any viewing, copying or distribution of, or reliance on this message by unintended recipients is strictly prohibited. If you have received this message in error, please notify us immediately by replying to the message and deleting it from your computer.

CONFIDENTIALITY NOTICE: This electronic transmission and any attachment are the confidential property of Chandler Unified School District #80. The information in this e-mail links or attachments thereto is intended for the attention and use of the addressee only. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution or copy of this communication is strictly prohibited. If you have received this communication in error, please notify the sender in reply and delete or discard this message immediately.

To: Homan, Bailey
Subject: RE: Higley Unified School District School Bus Routing Request - UPRR PIRATE Extension

From: Crosby, Josh <Josh.Crosby@husd.org>
Sent: Wednesday, December 3, 2025 10:33 AM
To: Homan, Bailey <Bailey.Homan@jacobs.com>
Cc: Mudigonda, Anil P. <Anil.Mudigonda@jacobs.com>; Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>; Buckley, Maggie <Maggie.Buckley@jacobs.com>; Eadavalli, Vinod <Vinod.Eadavalli@jacobs.com>; Assenza, Adam <adam.assenza@stb.gov>; Gaebler, Carolyn <Carolyn.Gaebler@husd.org>
Subject: [EXTERNAL] RE: Higley Unified School District School Bus Routing Request - UPRR PIRATE Extension

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Sorry about that Bailey. See attached. It should already be sorted by time. This is activity through those intersections on December 2nd, 2025.

Josh Crosby
Director of Transportation
480.279.7026 | www.HUSD.org

HIGLEY UNIFIED SCHOOL DISTRICT #60
2935 S. Recker Road, Gilbert, AZ 85295

"Preparing Learners for Limitless Opportunities"

From: Homan, Bailey <Bailey.Homan@jacobs.com>
Sent: Wednesday, December 3, 2025 9:25 AM
To: Crosby, Josh <Josh.Crosby@husd.org>
Cc: Mudigonda, Anil P. <Anil.Mudigonda@jacobs.com>; Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>; Buckley, Maggie <Maggie.Buckley@jacobs.com>; Eadavalli, Vinod <Vinod.Eadavalli@jacobs.com>; Assenza, Adam <adam.assenza@stb.gov>; Gaebler, Carolyn <Carolyn.Gaebler@husd.org>
Subject: Re: Higley Unified School District School Bus Routing Request - UPRR PIRATE Extension

Thank you for the information, Josh.

Do you have the approximate time when the buses are crossing these locations?

Thanks,
Bailey

Bailey Homan, EIT

Junior Traffic Engineer

Phone: 602-516-5546

Jacobs

From: Crosby, Josh <Josh.Crosby@husd.org>
Sent: Wednesday, December 3, 2025 8:57 AM
To: Homan, Bailey <Bailey.Homan@jacobs.com>
Cc: Mudigonda, Anil P. <Anil.Mudigonda@jacobs.com>; Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>; Buckley, Maggie <Maggie.Buckley@jacobs.com>; Eadavalli, Vinod <Vinod.Eadavalli@jacobs.com>; Assenza, Adam <adam.assenza@stb.gov>; Gaebler, Carolyn <Carolyn.Gaebler@husd.org>
Subject: [EXTERNAL] RE: Higley Unified School District School Bus Routing Request - UPRR PIRATE Extension

Hi Bailey,

Thank you for reaching out regarding the upcoming project. Your project is on the border of our district boundaries, so the impact is minimal.

It appears we only have two intersections in your work zone.

- Sossaman and Rittenhouse (although we utilize the new Rittenhouse alignment which is further south that your map indicates. I have 5 buses a day through there (2 in the AM, 1 on midday, 2 in the PM)
- Power and Pecos, we have a quite a few buses through there, but none of them are routed east of Power on Pecos. I have 55 buses crossing through there throughout the day.

In summary, I don't think any of our routes will be impacted by this project. Please let me know if you have additional questions.

Josh Crosby
Director of Transportation
480.279.7026 | www.HUSD.org

HIGLEY UNIFIED SCHOOL DISTRICT #60
2935 S. Recker Road, Gilbert, AZ 85295

"Preparing Learners for Limitless Opportunities"

From: Homan, Bailey <Bailey.Homan@jacobs.com>
Sent: Monday, December 1, 2025 4:45 PM
To: Gaebler, Carolyn <Carolyn.Gaebler@husd.org>
Cc: Mudigonda, Anil P. <Anil.Mudigonda@jacobs.com>; Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>; Buckley, Maggie <Maggie.Buckley@jacobs.com>; Eadavalli, Vinod <Vinod.Eadavalli@jacobs.com>; Assenza, Adam

<adam.assenza@stb.gov>
Subject: Higley Unified School District School Bus Routing Request - UPRR PIRATE Extension

You don't often get email from bailey.homan@jacobs.com. Learn why this is important

Mimecast Attachment Protection has deemed this file to be safe, but always exercise caution when opening files.

Good afternoon Carolyn,

My name is Bailey Homan and I work for Jacobs Engineering Group Inc. Jacobs is currently working on the Environmental Assessment (EA) for the UPRR's PIRATE extension project in Mesa, AZ between the Power and Pecos intersection to Signal Butte and Pecos intersection. Our client Project Manager, Adam Assenza, with Surface Transportation Board is included on this email for your reference.

As part of the EA, Jacobs is conducting an extensive traffic analysis along several arterial corridors that are along/crossing the PIRATE track alignment. As part of the traffic analysis, we would like to inquire about any school buses routed along roads within the study area during the morning pick up and afternoon drop off routes. The times of these routes and number of buses along each route is helpful to our analysis. Please see the attached PDF with the study area locations including:

- Pecos Road South between Power Road and Ellsworth Road
- Pecos Road North between Ellsworth Road and Meridian Road
- Germann Road between Sossaman Road and Meridian Road
- Sossaman Road between Pecos Road North and Germann Road
- Ellsworth Road between Pecos Road North and Germann Road
- Crismon Road between Pecos Road North and Germann Road
- Signal Butte Road between Pecos Road North and Germann Road

Please let me know if you are the point of contact or if I should send this request to someone else at the school district. I would greatly appreciate it if you could please send us these details at your earliest possible time or let me know if you need any additional information to process this request.

Thank you,
Bailey

Bailey Homan, EIT
Junior Traffic Engineer
Phone: 602-516-5546
Jacobs

NOTICE - This communication may contain confidential and privileged information that is for the sole use of the intended recipient. Any viewing, copying or distribution of, or reliance on this message by unintended recipients is strictly prohibited. If you have received this message in error, please notify us immediately by replying to the message and deleting it from your computer.

CONFIDENTIALITY NOTICE:

This e-mail message, including any attachments, is for the sole use of the intended recipient and may contain confidential and privileged information. Any unauthorized review, copy, use, disclosure, or distribution is prohibited. If you are not the intended recipient, please contact the sender by reply e-mail and destroy all copies of the original message.

This email has been scanned for viruses and malware, and may have been automatically archived by Mimecast Ltd, an innovator in

	Vehicle	Primary Group	Route	Employee	Time	Event	Speed	Heading	Location	Distance	Activities	Latitude	Longitude	#Satellites	RSSI	Signal Strength	Carrier	Date Stored	Deviation
1	71 CAMEL	Higley USD School Bus Fleet	71 CAMEL/AM	JOHN COKER	12/02/2025 07:24:26 AM	GPS Update	9	SE	19170 South Sossaman Road , Queen Creek, AZ	12.33		33.2744231	-111.6694591	10	-61	Excellent	480	12/2/2025 7:24	0
2	112 CAT	Higley USD School Bus Fleet	112 CAT/MID	BRITTANEY KIEFER	12/02/2025 11:18:24 AM	GPS Update	0	-	19170 South Sossaman Road , Queen Creek, AZ	39.32		33.274395	-111.6694326	9	-53	Excellent	480	12/2/2025 11:18	0
4	71 CAMEL	Higley USD School Bus Fleet	71 CAMEL/PM	JOHN COKER	12/02/2025 03:18:27 PM	GPS Update	13	N	19242 South Sossaman Road , Queen Creek, AZ	43.39		33.274111	-111.6694298	10	-52	Excellent	480	12/2/2025 15:18	0
10	71 CAMEL	Higley USD School Bus Fleet	71 CAMEL/PM	JOHN COKER	12/02/2025 04:26:25 PM	GPS Update	0	-	19242 South Sossaman Road , Queen Creek, AZ	53.92		33.2740613	-111.6694795	12	-56	Excellent	480	12/2/2025 16:26	0

	Vehicle	Primary Group	Route	Employee	Time	Event	Speed	Heading	Location	Distance	Activities	Latitude	Longitude	#Satellites	RSSI	Signal Strength	Carrier	Date Stored	Deviation
7	92 WHALE	Higley USD School Bus Fleet	92 WHALE/AM	PEGGY WRIGHT	12/02/2025 06:49:30 AM	Hazards On	29	W	East Pecos Road , Gilbert, AZ	5.52		33.2887393	-111.6872596	10	-59	Excellent	480	12/2/2025 6:49	0
8	53 HORSE	Higley USD School Bus Fleet	53 HORSE/AM	RAZMIK BOGHOUSSIAN	12/02/2025 06:59:33 AM	GPS Update	6	N	17635 South Power Road , Queen Creek, AZ	9.32		33.2880411	-111.6863758	10	-54	Excellent	480	12/2/2025 6:59	0
11	49 UNICORN	Higley USD School Bus Fleet	49 UNICORN/AM	Donna Koehler	12/02/2025 07:00:44 AM	GPS Update	11	N	17635 South Power Road , Queen Creek, AZ	8.25		33.2880308	-111.6863936	11	-61	Excellent	480	12/2/2025 7:00	0
12	53 HORSE	Higley USD School Bus Fleet	53 HORSE/AM	RAZMIK BOGHOUSSIAN	12/02/2025 07:00:44 AM	GPS Update	14	N	17611 South Power Road , Queen Creek, AZ	9.34		33.2882953	-111.6863785	11	-55	Excellent	480	12/2/2025 7:00	0
17	98 OCTOPUS	Higley USD School Bus Fleet	98 OCTOPUS/AM	Kari Hanson	12/02/2025 07:02:48 AM	GPS Update	17	W	East Pecos Road , Gilbert, AZ	11.85		33.2887261	-111.6867296	12	-55	Excellent	480	12/2/2025 7:02	0
18	104 RACCOON	Higley USD School Bus Fleet	104 RACCOON/AM	GINA MATHES	12/02/2025 07:05:28 AM	GPS Update	4	N	17643 South Power Road , Queen Creek, AZ	8.04		33.2879678	-111.686393	11	-66	Excellent	480	12/2/2025 7:05	0
22	83 LADYBUG	Higley USD School Bus Fleet	83 LADYBUG/AM	GARRETT FISHER	12/02/2025 07:09:19 AM	GPS Update	0	-	17615 South Power Road , Queen Creek, AZ	13.29		33.2882565	-111.6864098	12	-53	Excellent	480	12/2/2025 7:09	0
23	101 GOAT	Higley USD School Bus Fleet	101 GOAT/AM	VANHOOK ERIC	12/02/2025 07:09:30 AM	GPS Update	0	-	Ramp , Gilbert, AZ	5.33		33.2884883	-111.6867848	12	-54	Excellent	480	12/2/2025 7:09	1
25	83 LADYBUG	Higley USD School Bus Fleet	83 LADYBUG/AM	GARRETT FISHER	12/02/2025 07:10:34 AM	GPS Update	17	N	17605 South Power Road , Queen Creek, AZ	13.3		33.288507	-111.6864075	11	-50	Excellent	480	12/2/2025 7:10	0
26	98 OCTOPUS	Higley USD School Bus Fleet	98 OCTOPUS/AM	Kari Hanson	12/02/2025 07:21:40 AM	GPS Update	39	E	East Pecos Road , Gilbert, AZ	14.53		33.288463	-111.6879775	11	-65	Excellent	480	12/2/2025 7:21	0
27	102 MONKEY	Higley USD School Bus Fleet	102 MONKEY/AM	Amy Link	12/02/2025 07:28:12 AM	Hazards On	33	S	6860 South Power Road , Gilbert, AZ	13.38		33.2900616	-111.6865755	10	-61	Excellent	480	12/2/2025 7:28	0
34	115 RAM	Higley USD School Bus Fleet	115 RAM/AM	TOBY WILLIAMS	12/02/2025 07:32:19 AM	Hazards On	41	S	6860 South Power Road , Gilbert, AZ	10.83		33.2901491	-111.6865643	13	-67	Excellent	480	12/2/2025 7:32	0
42	100 GIRAFFE	Higley USD School Bus Fleet	100 GIRAFFE/AM	LAURA RODDICK	12/02/2025 07:34:38 AM	GPS Update	0	-	6860 South Power Road , Gilbert, AZ	13.06		33.2895718	-111.6865771	11	-64	Excellent	480	12/2/2025 7:34	0
52	83 LADYBUG	Higley USD School Bus Fleet	83 LADYBUG/AM	GARRETT FISHER	12/02/2025 07:49:09 AM	GPS Update	34	E	East Pecos Road , Gilbert, AZ	19.28		33.2884585	-111.6876756	10	-63	Excellent	480	12/2/2025 7:49	0
54	118 SNAKE	Higley USD School Bus Fleet	118 SNAKE/AM	PETER VANDERSTOEP	12/02/2025 07:49:49 AM	GPS Update	18	S	6860 South Power Road , Gilbert, AZ	12.16		33.289429	-111.6865821	12	-51	Excellent	480	12/2/2025 7:49	0
55	83 LADYBUG	Higley USD School Bus Fleet	83 LADYBUG/AM	GARRETT FISHER	12/02/2025 07:49:51 AM	GPS Update	20	S	South Power Road , Queen Creek, AZ	19.35		33.2882998	-111.68653	12	-56	Excellent	480	12/2/2025 7:49	0
56	118 SNAKE	Higley USD School Bus Fleet	118 SNAKE/AM	PETER VANDERSTOEP	12/02/2025 07:49:59 AM	GPS Update	0	-	6860 South Power Road , Gilbert, AZ	12.18		33.2891656	-111.6865485	11	-59	Excellent	480	12/2/2025 7:49	0
58	112 CAT	Higley USD School Bus Fleet	112 CAT/AM	BRITTANEY KIEFER	12/02/2025 07:56:23 AM	GPS Update	15	E	East Pecos Road , Gilbert, AZ	15.5		33.2885	-111.6868435	11	-65	Excellent	480	12/2/2025 7:56	1
60	49 UNICORN	Higley USD School Bus Fleet	49 UNICORN/AM	Donna Koehler	12/02/2025 08:14:58 AM	GPS Update	0	-	6860 South Power Road , Gilbert, AZ	16.66		33.2893366	-111.6865723	11	-60	Excellent	480	12/2/2025 8:14	0
63	114 PIG	Higley USD School Bus Fleet	114 PIG/AM	DENNIS BEEBE	12/02/2025 08:19:36 AM	GPS Update	7	N	17655 South Power Road , Queen Creek, AZ	17.73		33.287847	-111.6862776	11	-60	Excellent	480	12/2/2025 8:19	0
75	95 DOG	Higley USD School Bus Fleet	95 DOG/AM	DANIELLE FIGUEROA	12/02/2025 08:27:36 AM	GPS Update	0	-	Ramp , Gilbert, AZ	16.54		33.2884726	-111.6868611	10	-52	Excellent	480	12/2/2025 8:27	0
78	116 OSTRICH	Higley USD School Bus Fleet	116 OSTRICH/AM	EDDIE HERNANDEZ	12/02/2025 08:29:50 AM	GPS Update	0	-	East Pecos Road , Gilbert, AZ	26.91		33.2885095	-111.6871305	9	-60	Excellent	480	12/2/2025 8:29	0
80	66	Higley USD School Bus Fleet	113 LOBSTER/AM	SCOTT SAVERY	12/02/2025 08:39:41 AM	GPS Update	29	E	East Pecos Road , Gilbert, AZ	17.26		33.288466	-111.6873866	11	-60	Excellent	480	12/2/2025 8:39	0
83	98 OCTOPUS	Higley USD School Bus Fleet	98 OCTOPUS/AM	Kari Hanson	12/02/2025 08:49:24 AM	GPS Update	9	N	17611 South Power Road , Queen Creek, AZ	31.87		33.2883086	-111.6863903	11	-51	Excellent	480	12/2/2025 8:49	0
86	65 BEE	Higley USD School Bus Fleet	65 BEE/AM	CHARLES BISCHOF	12/02/2025 08:51:08 AM	GPS Update	0	-	17605 South Power Road , Queen Creek, AZ	29.67		33.2883876	-111.6864083	10	-56	Excellent	480	12/2/2025 8:51	0
88	71 CAMEL	Higley USD School Bus Fleet	71 CAMEL/AM	JOHN COKER	12/02/2025 08:55:22 AM	GPS Update	0	-	17613 South Power Road , Queen Creek, AZ	27.93		33.2882886	-111.686403	10	-53	Excellent	480	12/2/2025 8:55	0
92	97	Higley USD School Bus Fleet	96 TURKEY/MID	JUNIOR DESRIVIERES	12/02/2025 10:42:30 AM	Hazards On	31	S	6860 South Power Road , Gilbert, AZ	33.1		33.2902723	-111.6865821	9	-66	Excellent	480	12/2/2025 10:42	0
108	49 UNICORN	Higley USD School Bus Fleet	49 UNICORN/MID	Donna Koehler	12/02/2025 10:45:05 AM	GPS Update	0	-	Ramp , Gilbert, AZ	34.33		33.2884636	-111.6870093	10	-58	Excellent	480	12/2/2025 10:45	0
111	100 GIRAFFE	Higley USD School Bus Fleet	100 GIRAFFE/MID	LAURA RODDICK, MELISSA SASS	12/02/2025 10:55:58 AM	Hazards On	35	S	6860 South Power Road , Gilbert, AZ	36.72		33.2897606	-111.6865706	10	-63	Excellent	480	12/2/2025 10:55	0
115	49 UNICORN	Higley USD School Bus Fleet	49 UNICORN/MID	Donna Koehler	12/02/2025 11:36:54 AM	GPS Update	5	N	17617 South Power Road , Queen Creek, AZ	39.09		33.2882335	-111.6864076	10	-50	Excellent	480	12/2/2025 11:36	0
119	110 ALT	Higley USD School Bus Fleet		AYMAN ALZUBAIDI	12/02/2025 12:58:50 PM	GPS Update	0	-	6860 South Power Road , Gilbert, AZ	101.58		33.2893861	-111.6865805	13	-64	Excellent	480	12/2/2025 12:58	1
127	101 GOAT	Higley USD School Bus Fleet	101 GOAT/PM	VANHOOK ERIC	12/02/2025 01:41:57 PM	GPS Update	0	-	17605 South Power Road , Queen Creek, AZ	46.66		33.2883893	-111.6864063	16	-63	Excellent	480	12/2/2025 13:41	1
129	85 PANDA	Higley USD School Bus Fleet	85 PANDA/PM	Raymond Pitterson	12/02/2025 01:45:09 PM	GPS Update	0	-	6860 South Power Road , Gilbert, AZ	32.06		33.289947	-111.6865676	13	-54	Excellent	480	12/2/2025 13:45	0
141	87	Higley USD School Bus Fleet	89 GATOR/PM	PATRICK HARDGROVE	12/02/2025 02:01:58 PM	GPS Update	0	-	6860 South Power Road , Gilbert, AZ	31.5		33.289393	-111.6865836	13	-65	Excellent	480	12/2/2025 14:01	1
149	83 LADYBUG	Higley USD School Bus Fleet	83 LADYBUG/PM	GARRETT FISHER	12/02/2025 02:24:32 PM	GPS Update	0	-	Ramp , Gilbert, AZ	43.27		33.2884838	-111.6869936	12	-54	Excellent	480	12/2/2025 14:24	0
152	53 HORSE	Higley USD School Bus Fleet	53 HORSE/PM	RAZMIK BOGHOUSSIAN	12/02/2025 02:33:11 PM	Hazards On	22	S	6860 South Power Road , Gilbert, AZ	39.34		33.2900111	-111.6866036	14	-53	Excellent	480	12/2/2025 14:33	0
154	98 OCTOPUS	Higley USD School Bus Fleet	98 OCTOPUS/PM	Kari Hanson	12/02/2025 02:33:39 PM	GPS Update	0	-	6860 South Power Road , Gilbert, AZ	42.17		33.289864	-111.6865773	13	-60	Excellent	480	12/2/2025 14:33	0
155	87	Higley USD School Bus Fleet	89 GATOR/PM	PATRICK HARDGROVE	12/02/2025 02:34:19 PM	GPS Update	0	-	6860 South Power Road , Gilbert, AZ	35.54		33.290346	-111.6866078	14	-63	Excellent	480	12/2/2025 14:34	0
162	87	Higley USD School Bus Fleet	89 GATOR/PM	PATRICK HARDGROVE	12/02/2025 02:34:49 PM	GPS Update	12	S	6860 South Power Road , Gilbert, AZ	35.55		33.2901641	-111.6866251	14	-65	Excellent	480	12/2/2025 14:34	0

163	98 OCTOPUS	Higley USD School Bus Fleet	98 OCTOPUS/PM	Kari Hanson	12/02/2025 02:35:03 PM	RR Check Start	0	-	6860 South Power Road , Gilbert, AZ	42.23		33.2889515	-111.6865373	13	-60	Excellent	480	12/2/2025 14:35	0
168	49 UNICORN	Higley USD School Bus Fleet	49 UNICORN/PM	Donna Koehler	12/02/2025 02:35:38 PM	GPS Update	5	S	6860 South Power Road , Gilbert, AZ	49.84		33.2902765	-111.6866488	12	-51	Excellent	480	12/2/2025 14:35	0
191	101 GOAT	Higley USD School Bus Fleet	101 GOAT/PM	VANHOOK ERIC	12/02/2025 02:41:30 PM	GPS Update	5	S	6860 South Power Road , Gilbert, AZ	55.2		33.2895995	-111.6865683	14	-65	Excellent	480	12/2/2025 14:41	1
201	69 FROG	Higley USD School Bus Fleet	69 FROG/PM	MELISSA SASS	12/02/2025 02:47:04 PM	Hazards On	18	S	6860 South Power Road , Gilbert, AZ	20.11		33.2896966	-111.686566	13	-64	Excellent	480	12/2/2025 14:47	0
209	71 CAMEL	Higley USD School Bus Fleet	71 CAMEL/PM	JOHN COKER	12/02/2025 02:51:39 PM	GPS Update	0	-	6860 South Power Road , Gilbert, AZ	39.91		33.2894445	-111.6865871	12	-62	Excellent	480	12/2/2025 14:51	0
216	49 UNICORN	Higley USD School Bus Fleet	49 UNICORN/PM	Donna Koehler	12/02/2025 02:57:09 PM	RR Check Start	0	-	17605 South Power Road , Queen Creek, AZ	54.82		33.2884251	-111.6862475	12	-49	Excellent	480	12/2/2025 14:57	0
223	92 WHALE	Higley USD School Bus Fleet	92 WHALE/PM	PEGGY WRIGHT	12/02/2025 03:02:12 PM	GPS Update	2	S	6860 South Power Road , Gilbert, AZ	52.32		33.2894895	-111.6866603	14	-62	Excellent	480	12/2/2025 15:02	0
231	110 ALT	Higley USD School Bus Fleet		AYMAN ALZUBAIDI	12/02/2025 03:12:16 PM	GPS Update	0	-	6860 South Power Road , Gilbert, AZ	121.84		33.2896648	-111.6865831	12	-66	Excellent	480	12/2/2025 15:12	0
238	83 LADYBUG	Higley USD School Bus Fleet	83 LADYBUG/PM	GARRETT FISHER	12/02/2025 03:22:27 PM	GPS Update	0	-	17623 South Power Road , Queen Creek, AZ	53.03		33.2881858	-111.68642	11	-54	Excellent	480	12/2/2025 15:22	0
241	49 UNICORN	Higley USD School Bus Fleet	49 UNICORN/PM	Donna Koehler	12/02/2025 03:33:07 PM	RR Check Start	0	-	6860 South Power Road , Gilbert, AZ	62.42		33.2889176	-111.6865903	12	-59	Excellent	480	12/2/2025 15:33	1
248	112 CAT	Higley USD School Bus Fleet	112 CAT/PM	BRITTANEY KIEFER	12/02/2025 03:35:55 PM	GPS Update	19	E	East Pecos Road , Gilbert, AZ	65.41		33.2884943	-111.686937	10	-57	Excellent	480	12/2/2025 15:35	0
250	121 ALT	Higley USD School Bus Fleet		JOHN TREVILLIAN	12/02/2025 03:55:19 PM	GPS Update	0	-	East Pecos Road , Gilbert, AZ	6.13		33.2884516	-111.6880701	12	-68	Excellent	480	12/2/2025 15:55	0
254	49 UNICORN	Higley USD School Bus Fleet	49 UNICORN/PM	Donna Koehler	12/02/2025 04:22:04 PM	GPS Update	17	NW	17585 South Power Road , Queen Creek, AZ	71.66		33.2886408	-111.6864146	13	-51	Excellent	480	12/2/2025 16:22	0
255	121 ALT	Higley USD School Bus Fleet		JOHN TREVILLIAN	12/02/2025 05:52:42 PM	GPS Update	0	-	17607 South Power Road , Queen Creek, AZ	15.72		33.2883511	-111.6865563	13	-58	Excellent	480	12/2/2025 17:52	0
258	110 ALT	Higley USD School Bus Fleet		AYMAN ALZUBAIDI	12/02/2025 06:12:42 PM	Entrance Door Open	13	N	17609 South Power Road , Queen Creek, AZ	151.23		33.2883393	-111.6862698	11	-58	Excellent	480	12/2/2025 18:12	0

To: Homan, Bailey
Subject: RE: [EXTERNAL] Fwd: Benjamin Franklin High School Bus Routing Request - UPRR PIRATE Extension

---

From: David Craig <dcraig@bfcsaz.com>
Sent: Thursday, December 4, 2025 1:26 PM
To: Homan, Bailey <Bailey.Homan@jacobs.com>
Subject: Re: [EXTERNAL] Fwd: Benjamin Franklin High School Bus Routing Request - UPRR PIRATE Extension

This Message Is From an Untrusted Sender
You have not previously corresponded with this sender.

Same buses 2 buses, 1 trip during the morning and the return trip in the afternoon.

On Thu, Dec 4, 2025 at 1:15 PM Homan, Bailey <Bailey.Homan@jacobs.com> wrote:

> Thanks for the quick response, David.
>
> Does this mean 2 buses are headed along Powers Road at 7:30 am and the same 2 buses are headed along Powers Road at 3:05 pm? Or 1 trip during the morning and the return trip in the afternoon?
>
> Bailey Homan, EIT
>
> Junior Traffic Engineer
>
> Phone: 602-516-5546
>
> Jacobs

From: David Craig <dcraig@bfcsaz.com>
Sent: Thursday, December 4, 2025 12:45 PM
To: Homan, Bailey <Bailey.Homan@jacobs.com>
Subject: Re: [EXTERNAL] Fwd: Benjamin Franklin High School Bus Routing Request - UPRR PIRATE Extension

Hi Bailey,

Yes, We have 2 buses that travel through the Power and Pecos intersection between the times of 7:30 am and 3:05 pm.

Please let me know if you have any questions.

Thanks

On Thu, Dec 4, 2025 at 10:24 AM Homan, Bailey <Bailey.Homan@jacobs.com> wrote:

> Good morning David,
>
> I am following up on this bus routing and schedule request, looks like I had a different email copied. Please see the request below and the attached study area graphic. Please let me know if any buses are traveling through this area and the times when any buses are traveling through the area.
>
> Thank you,
> Bailey
>
> Bailey Homan, EIT
>
> Junior Traffic Engineer
>
> Phone: 602-516-5546
>
> Jacobs

From: Bianca Lombard <blombard@bfcsaz.com>
Sent: Tuesday, December 2, 2025 6:26 AM
To: David Craig <craigcougill@gmail.com>; Homan, Bailey <Bailey.Homan@jacobs.com>
Subject: [EXTERNAL] Fwd: Benjamin Franklin High School Bus Routing Request - UPRR PIRATE Extension

Good morning Bailey,

I am including our Transportation Coordinator, David Craig.

Thank you
Bianca

---------- Forwarded message ---------
From: **Homan, Bailey** <Bailey.Homan@jacobs.com>
Date: Mon, Dec 1, 2025 at 4:45 PM
Subject: Benjamin Franklin High School Bus Routing Request - UPRR PIRATE Extension
To: blombard@bfcsaz.com <blombard@bfcsaz.com>
Cc: Mudigonda, Anil P. <Anil.Mudigonda@jacobs.com>, Eadavalli, Vinod <Vinod.Eadavalli@jacobs.com>, Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>, Buckley, Maggie <Maggie.Buckley@jacobs.com>, Assenza, Adam <adam.assenza@stb.gov>

Good afternoon Bianca,

My name is Bailey Homan and I work for Jacobs Engineering Group Inc. Jacobs is currently working on the Environmental Assessment (EA) for the UPRR's PIRATE extension project in Mesa, AZ between the Power and Pecos intersection to Signal Butte and Pecos intersection. Our client Project Manager, Adam Assenza, with Surface Transportation Board is included on this email for your reference.

As part of the EA, Jacobs is conducting an extensive traffic analysis along several arterial corridors that are along/crossing the PIRATE track alignment. As part of the traffic analysis, we would like to inquire about any school buses routed along roads within the study area during the morning pick up and afternoon drop off routes. The times of these routes and number of buses along each route is helpful to our analysis. Please see the attached PDF with the study area locations including:

- Pecos Road South between Power Road and Ellsworth Road
- Pecos Road North between Ellsworth Road and Meridian Road
- Germann Road between Sossaman Road and Meridian Road
- Sossaman Road between Pecos Road North and Germann Road
- Ellsworth Road between Pecos Road North and Germann Road
- Crismon Road between Pecos Road North and Germann Road
- Signal Butte Road between Pecos Road North and Germann Road

Please let me know if you are the point of contact or if I should send this request to someone else at the school. I would greatly appreciate it if you could please send us these details at your earliest possible time or let me know if you need any additional information to process this request.

Thank you,
Bailey

Bailey Homan, EIT

Junior Traffic Engineer

Phone: 602-516-5546

Jacobs

NOTICE - This communication may contain confidential and privileged information that is for the sole use of the intended recipient. Any viewing, copying or distribution of, or reliance on this message by unintended recipients is strictly prohibited. If you have received this message in error, please notify us immediately by replying to the message and deleting it from your computer.

--

Bianca Lombard
Office Manager
Benjamin Franklin High School
18864 E. Germann Road | Queen Creek, AZ 85142
(480) 558-1197 | hs.bfcsaz.com



Did you know...?

***#1 HIGH SCHOOL IN QUEEN CREEK, AZ**

***AWARD-WINNING FINE ARTS PROGRAM & CHAMPIONSHIP ATHLETICS (A.I.A. and C.A.A. SCHOOL)**

***HIGHLY-RESPECTED CLASSICAL PROGRAM WITH EMPHASIS ON INTEGRITY AND CHARACTER**

****CONFIDENTIALITY NOTICE: This e-mail message, including any attachments, is for the sole use of the intended recipient(s) and may contain confidential and privileged information. Any unauthorized review, copy, use, disclosure, or distribution is prohibited. If you are not the intended recipient, please contact the sender by reply e-mail and destroy all copies of the original message.***

NOTICE - This communication may contain confidential and privileged information that is for the sole use of the intended recipient. Any viewing, copying or distribution of, or reliance on this message by unintended recipients is strictly prohibited. If you have received this message in error, please notify us immediately by replying to the message and deleting it from your computer.

--

David Craig
Transportation Supervisor
Benjamin Franklin Charter School - Crismon Campus
22120 E. Queen Creek Road | Queen Creek, AZ 85142
(480) 987-0722 | cc.bfcaz.com
Follow us on Facebook | Instagram | Youtube | LinkedIn



From: Ksenia Kerentseva <kkerentseva@gatewayairport.com>
Sent: Tuesday, December 16, 2025 7:27 PM
To: Assenza, Adam <Adam.Assenza@stb.gov>
Subject: Union Pacific Railroad (2025-AWP-14353 & 2025-AWP-14342)

Hi Adam,

It was great speaking with you earlier today. Attached are the two documents we received from the FAA: the initial circling public notice and the determination letter. You can also search these cases at the following link: https://oeaaa.faa.gov/oeaaa/oe3a/main/#/home

As mentioned, the proposed project did not result in any operational impacts and did not affect the tower; therefore, we did not object to the project or the increase to our procedure. Should any changes be identified that could impact daily operations, those changes would require additional review and potential mitigation.

If you have any additional questions, please let me know.

Thanks!

Ksenia Kerentseva
Airport Planner
Engineering & Facilities
Mesa Gateway Airport Authority
5835 S Sossaman Rd
Mesa, AZ 85212-6014
Office: (480) 988-7649
kkerentseva@gatewayairport.com
www.gatewayairport.com



Please be advised that our office hours are Monday - Thursday 7 a.m. to 6 p.m. We are closed Fridays.

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2025-AWP-14352-OE

Issued Date: 09/29/2025

UNION PACIFIC RAILROAD
KEVIN RICE
1400 Douglas Street
STOP 0910
Omaha, NE 68179

**** PUBLIC NOTICE ****

The Federal Aviation Administration is conducting an aeronautical study concerning the following:

Structure: Railroad Pirate LT 7
County, State: Maricopa, Arizona

Collected Point(s):

Label	Latitude	Longitude	SE	AGL	AMSL
pt-1	33-17-21.39N	111-38-07.21W	1389 Ft	4 Ft	1393 Ft

The structure above exceeds obstruction standards. To determine its effect upon the safe and efficient use of navigable airspace by aircraft and on the operation of air navigation facilities, the FAA is conducting an aeronautical study under the provisions of 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77.

** SEE REVERSE SIDE FOR ADDITIONAL INFORMATION **

In the study, consideration will be given to all facts relevant to the effect of the structure on existing and planned airspace use, air navigation facilities, airports, aircraft operations, procedures and minimum flight altitudes, and the air traffic control system.

Interested persons are invited to participate in the aeronautical study by submitting comments to the above FAA address or through the electronic notification system. To be eligible for consideration, comments must be relevant to the effect the structure would have on aviation, must provide sufficient detail to permit a clear understanding, must contain the aeronautical study number printed in the upper right hand corner of this notice, and must be received on or before 11/05/2025.

This notice may be reproduced and circulated by any interested person. Airport managers are encouraged to post this notice.

If we can be of further assistance, please contact our office at 1-817-222-4559, or luke.w.wray@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2025-AWP-14352-OE.

luke.w.wray@faa.gov
Specialist

Attachment(s)
Part 77
Additional Information
Map(s)

Proposal: To construct and/or operate a(n) Railroad to a height of 4 feet above ground level, 1416 feet above mean sea level.

Location: The structure will be located 1.5 nautical miles southeast of IWA Airport reference point.

Part 77 Obstruction Standard(s) Exceeded:

Additional information for ASN 2025-AWP-14352-OE

Part 77 - Title 14 CFR Part 77, Safe, Efficient Use and Preservation of the Navigable Airspace

The proposed railroad line consists of 38 points, of which two studies exceed obstruction standards represented by ASNs 2025-AWP-14352-OE and 2025-ACE-14353-OE. The two railroad filings that exceed obstruction standards were submitted at a height of 4 feet AGL, as well as consideration for up to and including 23 feet box cart traverse way, and are located approximately 0.62 NM spanning to 0.67 NM southeast of the approach end of RWY 30C at Mesa Gateway Airport (IWA), Phoenix, AZ.

The railroad studies listed below exceed the obstruction standards of 14 CFR Part 77 as follows as applied to IWA:

77.17 (a)(3) A height within a terminal obstacle clearance area, including an initial approach segment, a departure area, and a circling approach area, which would result in the vertical distance between any point on the object and an established minimum instrument flight altitude within that area or segment to be less than the required obstacle clearance.

2025-AWP-14352-OE

RNAV (RNP) Z RWY 30C, ORIG-B, increase RNP 0.21 DA from 1637 to 1645, NEH 1389 AMSL.

2025-AWP-14353-OE

RNAV (RNP) Z RWY 30C, ORIG-B, increase RNP 0.21 DA from 1637 to 1646, NEH 1406 AMSL.

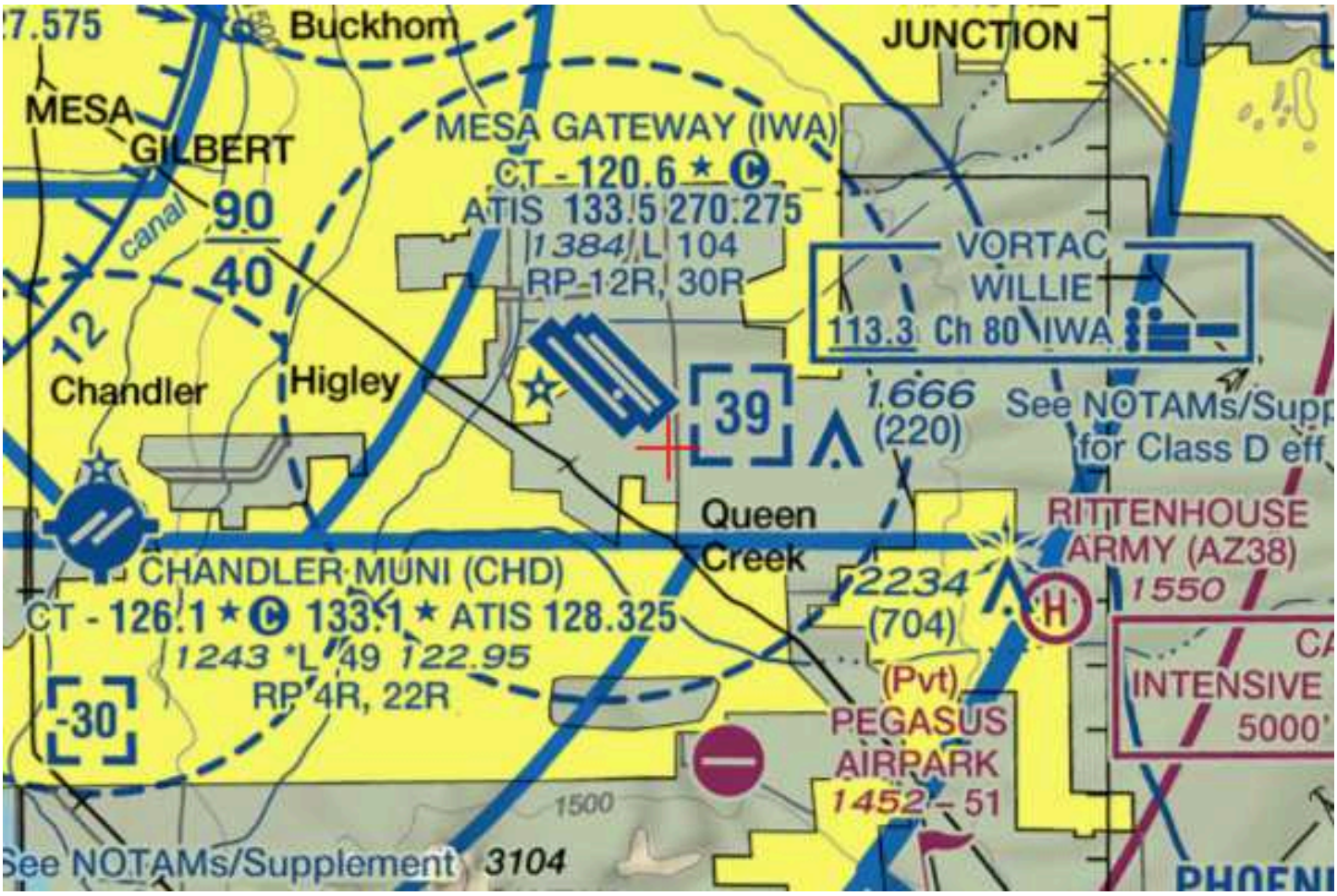
The following aeronautical studies for this project did not penetrate any protected surfaces. However, it is OEG policy not to provide favorable determinations until all issues associated with the project have been resolved.

2025-AWP-14337 thru 14351-OE
2025-AWP-14354 thru 14374-OE

Map for ASN 2025-AWP-14352-OE



Map for ASN 2025-AWP-14352-OE



Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2025-AWP-14352-OE

Issued Date: 11/18/2025

UNION PACIFIC RAILROAD
KEVIN RICE
1400 Douglas Street
STOP 0910
Omaha, NE 68179

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Railroad Pirate LT 7
County, State: Maricopa, Arizona

Collected Point(s):

Label	Latitude	Longitude	SE	DET AGL	AMSL
pt-1	33-17-21.39N	111-38-07.21W	1389 Ft	4 Ft	1393 Ft

This aeronautical study revealed that the structure would have no substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on the operation of air navigation facilities. Therefore, pursuant to the authority delegated to me, it is hereby determined that the structure would not be a hazard to air navigation provided the following condition(s) is(are) met:

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

__X__ At least 10 days prior to start of construction (7460-2, Part 1)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 M Change 1.

This aeronautical study included evaluation of a structure with an above ground level height that would at times be increased by the presence of mobile objects. For the purpose of this aeronautical study, the above ground level height was adjusted upward in accordance with 14 CFR 77.9(c) and the proposal was studied as a traverseway.

This determination expires on 05/18/2027 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is subject to review if an interested party files a petition that is received by the FAA on or before December 18, 2025. In the event an interested party files a petition for review, it must contain a full statement of the basis upon which the petition is made. Petitions can be submitted to the Manager, Rules and Regulations Group via email at OEPetitions@faa.gov, or via mail to Federal Aviation Administration, Air Traffic Organization, Rules and Regulations Group, 5th floor, 600 Independence Ave, SW., Washington, DC 20597. FAA encourages the use of email to ensure timely processing.

This determination becomes final on December 28, 2025 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. Any questions regarding your petition, contact Rules and Regulations Group via telephone (202) 267-8783.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, will void this determination. Any future construction or alteration, including increase to heights, power or the addition of other transmitters, requires separate notice to the FAA. This determination includes all previously filed frequencies and power for this structure.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

This aeronautical study considered and analyzed the impact on existing and proposed arrival, departure, and en route procedures for aircraft operating under both visual flight rules and instrument flight rules; the impact

on all existing and planned public-use airports, military airports and aeronautical facilities; and the cumulative impact resulting from the studied structure when combined with the impact of other existing or proposed structures. The study disclosed that the described structure would have no substantial adverse effect on air navigation.

An account of the study findings, aeronautical objections received by the FAA during the study (if any), and the basis for the FAA's decision in this matter can be found on the following page(s).

If we can be of further assistance, please contact luke.w.wray@faa.gov, at 1-817-222-4559, or luke.w.wray@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2025-AWP-14352-OE.

Signature Control No: 676719620-684261895 (DNH)
Julie A. Morgan
Manager, Obstruction Evaluation Group

Attachment(s)
Additional Information
Map(s)

Part 77 - Title 14 CFR Part 77, Safe, Efficient Use and Preservation of the Navigable Airspace

LOCATION OF OBSTRUCTION

The proposed railroad line consists of 38 points, of which two studies exceed obstruction standards represented by ASNs 2025-AWP-14352-OE and 2025-ACE-14353-OE. The railroad filings that exceed obstruction standards were all submitted at heights spanning 3 feet to 5 feet AGL, as well as consideration for up to and including 23 feet box cart traverse way, and are located approximately 0.56 NM spanning to 0.94 NM southeast of the approach end of RWY 30L at Mesa Gateway Airport (IWA), Phoenix, AZ.

OBSTRUCTION STANDARDS EXCEEDED

The railroad studies listed below exceed the obstruction standards of 14 CFR Part 77 as follows as applied to IWA:

77.17 (a)(3) A height within a terminal obstacle clearance area, including an initial approach segment, a departure area, and a circling approach area, which would result in the vertical distance between any point on the object and an established minimum instrument flight altitude within that area or segment to be less than the required obstacle clearance.

2025-AWP-14352-OE

RNAV (RNP) Z RWY 30C, ORIG-B, increase RNP 0.21 DA from 1637 to 1699, NEH 1362 AMSL, W/1A, 1637 to 1645, NEH 1389 AMSL.

2025-AWP-14353-OE

RNAV (RNP) Z RWY 30C, ORIG-B, increase RNP 0.21 DA from 1637 to 1700, NEH 1362 AMSL, W/1A, 1637 to 1646, NEH 1406 AMSL.

CIRCULARIZATION AND NEGOTIATIONS

The Notice of Preliminary Findings letter issued on September 25th, 2025, stated that the railway with traverse way consideration, as filed, could result in a substantial adverse effect and would warrant a Determination of Hazard to Air Navigation.

To facilitate the public comment process, this aeronautical study was circularized on September 29th, 2025 to all known aviation interests and to non-aeronautical interests that may be affected by the proposal. No letters of objection were received.

BASIS FOR DECISION

The studies identified two IFR arrival impacts that ATC deemed as acceptable for increase to published minimums. There were no departure, or en route effects. There would be no effects on any existing or proposed en route VFR operations. There are no physical or electromagnetic effects on the operation of air navigation and communications facilities. The study did not disclose any effects on any airspace and routes

used by the military. It would not impact IWA airport or any other existing or planned public-use or military airports would be impacted.

DETERMINATION - NO HAZARD TO AIR NAVIGATION

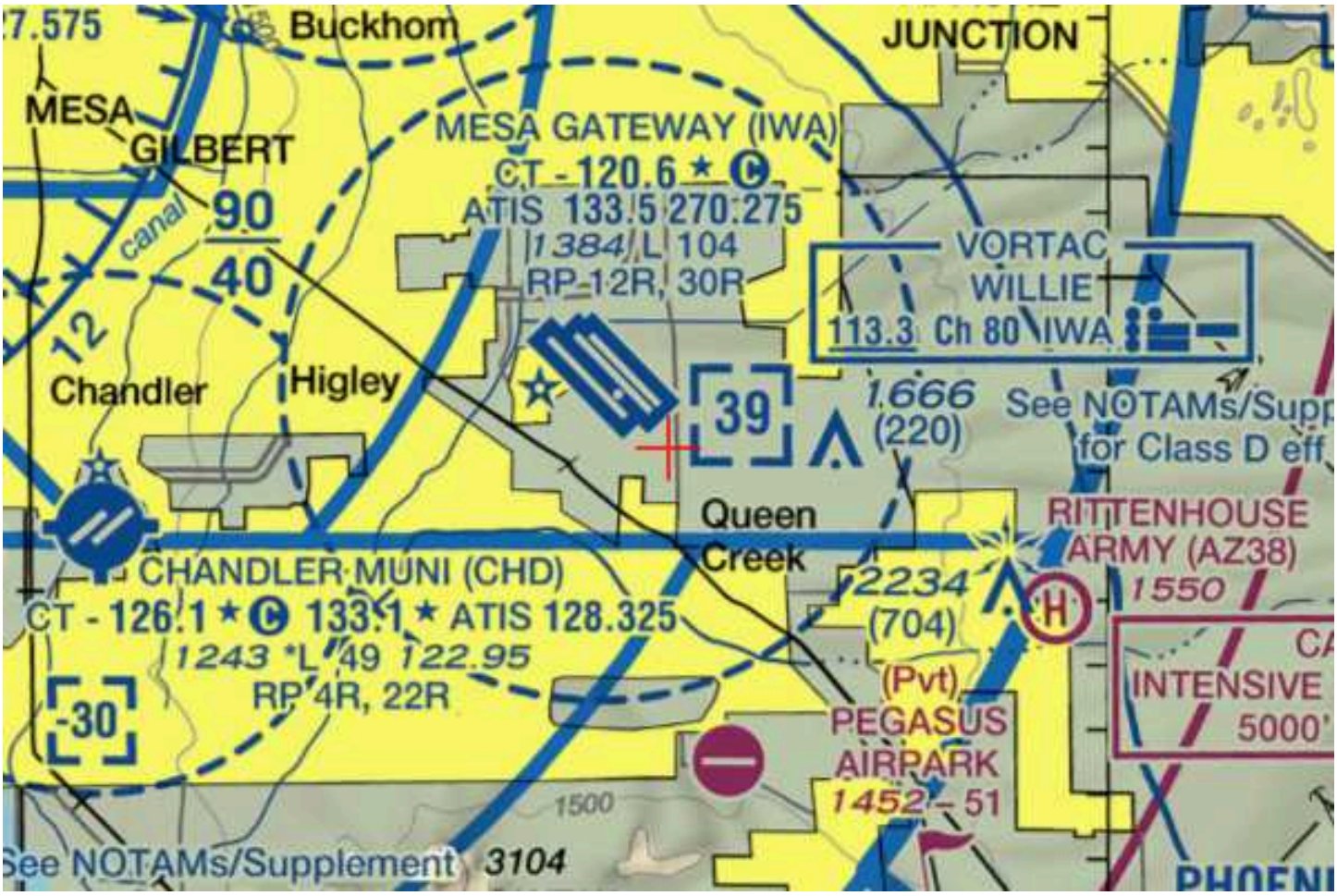
The cumulative impact of the structure is not considered significant. Study did not disclose any adverse effect on existing or proposed public-use or military airports or navigational facilities. Nor would the structure affect the capacity of any known existing or planned public-use or military airport.

Therefore, it is determined that the structure does not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and is not a hazard to air navigation.

TOPO Map for ASN 2025-AWP-14352-OE



Sectional Map for ASN 2025-AWP-14352-OE



From:	Campbell, Steve - FPAC-NRCS, OR <steve.campbell@usda.gov>
Sent:	Wednesday, December 17, 2025 11:47 AM
To:	McNeish, Sabra
Cc:	McCoy, Jamilah - FPAC-NRCS, AZ; Thomas, Robert - FPAC-NRCS, AZ
Subject:	[EXTERNAL] RE: PIRATE Project Farmland Conversion Form
Attachments:	UPRR_PIRATE_ROW_and_TCEs.zip; Pecos_Industrial_Rail_FPPA_Alternative_1 _WSS_Farmland_Class.pdf; Pecos_Industrial_Rail_FPPA_Alternative_2 _WSS_Farmland_Class.pdf

This Message Is From an External Sender

This message came from outside your organization.

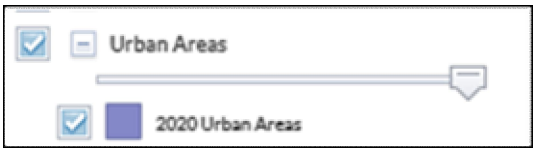
Hello Sabra,

I assisted Jamilah McCoy with the updated CPA-106 form for the Pecos Industrial Rail Access and Train Extension (PIRATE) project that was sent to you on November 24. You use the terms 'farmland' and 'developed land' in your December 11 email message. The current land use is not applicable in the Farmland Protection Policy Act (FFPA). All lands with prime or other important farmland soil map units are subject to the FPPA unless they are located in a Census Bureau Urban Area or are lands used for water storage.

The FFPA Manual is available at the web site below. Section 523.10 (B) on page 7 has information on lands not subject to the provisions of FPPA.

https://www.nrcs.usda.gov/sites/default/files/2022-08/FPPA_Manual_Final_2013_0.pdf

Alternatives 1 and 2 (Corridors A and B on the CPA-106 form) border a Census Bureau Urban Area to the north, but do not extend into the Urban Area. There is a web-based map of Urban Areas at https://tigerweb.geo.census.gov/tigerweb/ .



The updated acres on the new CPA-106 form are based on the attached shapefile in a zip file that I believe was provided to Emily Yulga in 2022 by your company. Below is a screen capture of the shapefile attribute table. I used the polygons where the label begins with 'Alternative 1' to determine the acres of prime and other important farmland in Web Soil Survey for 'Corridor A' on the CPA-106 form. The polygons where the label begins with 'Alternative 2' were used to determine the acres of prime and other important farmland in Web Soil Survey for 'Corridor B' on the CPA-106 form. I did not include the polygons where the label begins with 'Phoenix Subdivision'.

Attached are the Web Soil Survey reports for Alternatives 1 and 2 with acres of soil map units. All the soil map units are classified as Prime or Unique farmland in both alternatives.

Proposed_ROW_and_TCEs_20220615

Field: Add Calculate Selection: Select By Attributes

	FID	Shape *	Label	Acreage
1	0	Polygon ZM	Alternative 1 ROW	137.85
2	1	Polygon ZM	Alternative 1 TCEs	28.58
3	2	Polygon ZM	Alternative 2 ROW	145.73
4	3	Polygon ZM	Alternative 2 TCEs	24.89
5	4	Polygon ZM	Phoenix Subdivision Existing ROW	82.27
6	5	Polygon ZM	Phoenix Subdivision TCE	1.58

I'd be glad to have an MS Teams meeting with you if you'd like to review the maps together on the GIS software on my computer. You call also call me at 503-380-1737 to discuss any of this.

Best wishes,
Steve

Steve Campbell
Soil Scientist, CPSS
West National Technology Support Center
USDA Natural Resources Conservation Service
U.S. DEPARTMENT OF AGRICULTURE

1201 NE Lloyd Blvd, Suite 801, Portland, OR 97232
p: 503-273-2421 | c: 503-380-1737
e: steve.campbell@usda.gov
w: https://www.nrcs.usda.gov/west-national-technology-support-center

---

From: McNeish, Sabra <Sabra.McNeish@jacobs.com>
Sent: Thursday, December 11, 2025 1:42 PM
To: McCoy, Jamilah - FPAC-NRCS, AZ <jamilah.mccoy@usda.gov>
Cc: Thomas, Robert - FPAC-NRCS, AZ <Robert.Thomas2@usda.gov>; Buckley, Maggie <Maggie.Buckley@jacobs.com>; Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>; Assenza, Adam <adam.assenza@stb.gov>; Boerst, Alyssa <Alyssa.Boerst@jacobs.com>
Subject: RE: PIRATE Project Farmland Conversion Form

Good afternoon Jamilah,

I wanted to follow-up on behalf of Adam Assenza (Surface Transportation Board) regarding the revised CPA-106 form that you provided us a few weeks ago for the Pecos Industrial Rail Access and Train Extension (PIRATE) project.

We noticed the acreages in Part III of the form had been changed to reflect conversion of the entire project corridor. However, on the form that we completed in 2022, we had accounted for developed land in the corridor and had estimated only 50 acres of farmland would be converted under Corridor A and 53 acres under Corridor B at that time. Since then, the area has been even further developed, and we believe the existing acreage of farmland that would be converted by the project would be even less than that.

When I initially reached out earlier this fall, we were trying to confirm whether a new CPA-106 form would be required to reflect current conditions if there would be less farmland impacts than what we identified in 2022, or if

the existing form from 2022 would be sufficient. We really appreciate you providing the new form but would like to discuss if we can revise those acreages to reflect the actual farmland present in the corridor (if a new form is required).

If it's easiest to discuss on the phone, please feel free to give me a call at my phone number in my signature block below. If someone else is better suited to address this question, please let me know and I will reach out to them.

Thank you again for your time and assistance,

Sabra McNeish (she/her) | Jacobs | Environmental Planner
(410) 596-7790 | Sabra.McNeish@jacobs.com
1501 W Fountainhead Pkwy, Suite 401 | Tempe, Arizona 85282
Typical Working Hours | Mon-Thurs 8am to 5pm, Fri 8am to 12pm MST

Upcoming PTO:
Monday, December 22nd – Friday, January 2nd

On behalf of

Adam Assenza
Environmental Protection Specialist
Office of Environmental Analysis
Surface Transportation Board
O: 202-245-0301
C: 202-235-4658

From: McCoy, Jamilah - FPAC-NRCS, AZ <jamilah.mccoy@usda.gov>
Sent: Monday, November 24, 2025 3:21 PM
To: McNeish, Sabra <Sabra.McNeish@jacobs.com>
Cc: Thomas, Robert - FPAC-NRCS, AZ <Robert.Thomas2@usda.gov>; Buckley, Maggie <Maggie.Buckley@jacobs.com>; Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>; Assenza, Adam <adam.assenza@stb.gov>
Subject: [EXTERNAL] RE: PIRATE Project Farmland Conversion Form

Your Welcome

Jamilah McCoy
State Resource Conservationist
USDA/NRCS | Ecological Sciences Team
Phoenix State Office

U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE
230 N. FIRST AVENUE, SUITE 509, PHOENIX, ARIZONA, 85003
P: (520) 610-9762

From: McNeish, Sabra <Sabra.McNeish@jacobs.com>
Sent: Monday, November 24, 2025 3:08 PM
To: McCoy, Jamilah - FPAC-NRCS, AZ <jamilah.mccoy@usda.gov>
Cc: Thomas, Robert - FPAC-NRCS, AZ <Robert.Thomas2@usda.gov>; Buckley, Maggie <Maggie.Buckley@jacobs.com>;

Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>; Assenza, Adam <adam.assenza@stb.gov>
Subject: RE: PIRATE Project Farmland Conversion Form

Good afternoon Jamilah,

Thank you very much for providing the updated CPA 106 form for this project. We appreciate your assistance.

Thank you,

Sabra McNeish (she/her) | Jacobs | Environmental Planner
(410) 596-7790 | Sabra.McNeish@jacobs.com
1501 W Fountainhead Pkwy, Suite 401 | Tempe, Arizona 85282
Typical Working Hours | Mon-Thurs 8am to 5pm, Fri 8am to 12pm MST

Upcoming PTO:
Afternoon of Wednesday, November 26th – Friday, November 28th

---

From: McCoy, Jamilah - FPAC-NRCS, AZ <jamilah.mccoy@usda.gov>
Sent: Monday, November 24, 2025 2:20 PM
To: McNeish, Sabra <Sabra.McNeish@jacobs.com>
Cc: Thomas, Robert - FPAC-NRCS, AZ <Robert.Thomas2@usda.gov>; Buckley, Maggie <Maggie.Buckley@jacobs.com>; Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>; Assenza, Adam <adam.assenza@stb.gov>
Subject: [EXTERNAL] PIRATE Project Farmland Conversion Form

Hi Sabra,

Please see the attached updated forms.

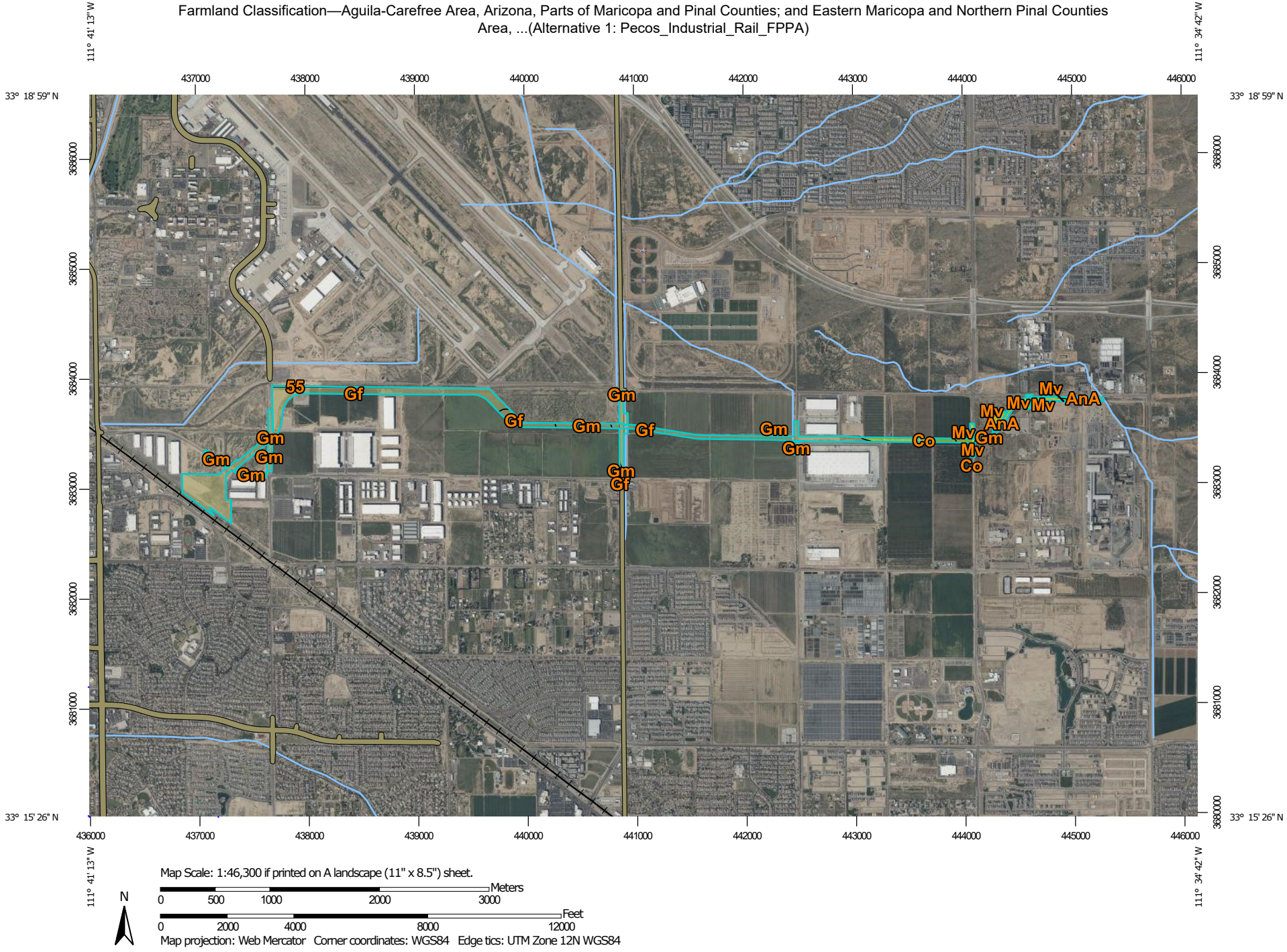
Thanks

Jamilah McCoy
State Resource Conservationist
USDA/NRCS | Ecological Sciences Team
Phoenix State Office

USDA U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE
230 N. FIRST AVENUE, SUITE 509, PHOENIX, ARIZONA, 85003
P: (520) 610-9762

This electronic message contains information generated by the USDA solely for the intended recipients.

Farmland Classification—Aguila-Carefree Area, Arizona, Parts of Maricopa and Pinal Counties; and Eastern Maricopa and Northern Pinal Counties Area, ...(Alternative 1: Pecos_Industrial_Rail_FPPA)



MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

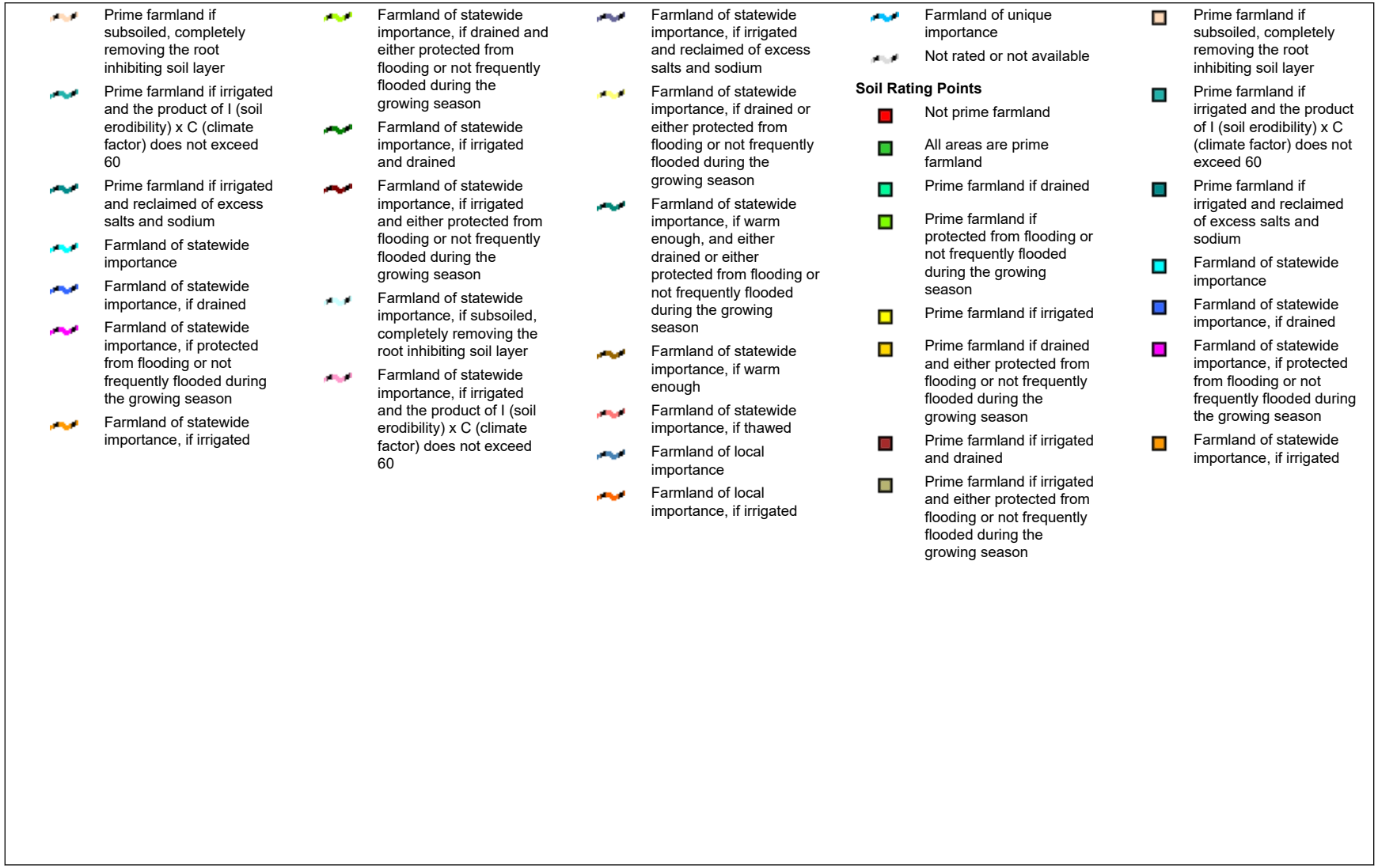
Soils

Soil Rating Polygons

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of statewide importance, if drained
- Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if irrigated
- Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if irrigated and drained
- Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer
- Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough
- Farmland of statewide importance, if thawed
- Farmland of local importance
- Farmland of local importance, if irrigated
- Farmland of unique importance
- Not rated or not available

Soil Rating Lines

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season


Prime farmland if subsoiled, completely removing the root inhibiting soil layer
Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
Prime farmland if irrigated and reclaimed of excess salts and sodium
Farmland of statewide importance
Farmland of statewide importance, if drained
Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if irrigated
Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if irrigated and drained
Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer
Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium
Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if warm enough
Farmland of statewide importance, if thawed
Farmland of local importance
Farmland of local importance, if irrigated
Farmland of unique importance
Not rated or not available
Soil Rating Points
Not prime farmland
All areas are prime farmland
Prime farmland if drained
Prime farmland if protected from flooding or not frequently flooded during the growing season
Prime farmland if irrigated
Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
Prime farmland if irrigated and drained
Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
Prime farmland if subsoiled, completely removing the root inhibiting soil layer
Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
Prime farmland if irrigated and reclaimed of excess salts and sodium
Farmland of statewide importance
Farmland of statewide importance, if drained
Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if irrigated

- Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if irrigated and drained
- Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer
- Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough
- Farmland of statewide importance, if thawed
- Farmland of local importance
- Farmland of local importance, if irrigated
- Farmland of unique importance
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

The soil surveys that comprise your AOI were mapped at scales ranging from 1:20,000 to 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Aguila-Carefree Area, Arizona, Parts of Maricopa and Pinal Counties
Survey Area Data: Version 19, Aug 30, 2024

Soil Survey Area: Eastern Maricopa and Northern Pinal Counties Area, Arizona
Survey Area Data: Version 18, Aug 30, 2024

Your area of interest (AOI) includes more than one soil survey area. These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels of detail. This may result in map unit symbols, soil properties, and interpretations that do not completely agree across soil survey area boundaries.

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 1, 2024—Mar 29, 2024

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Farmland Classification

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
55	Gilman loams	Prime farmland if irrigated	1.8	1.1%
Subtotals for Soil Survey Area			**1.8**	**1.1%**
Totals for Area of Interest			**166.4**	**100.0%**

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
AnA	Antho sandy loam, 0 to 1 percent slopes	Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season	3.4	2.0%
Co	Contine clay loam	Prime farmland if irrigated	7.5	4.5%
Gf	Gilman fine sandy loam, 0 to 2 percent slopes	Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season	17.8	10.7%
Gm	Gilman loam	Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season	122.6	73.7%
Mv	Mohall loam MLRA 40	Prime farmland if irrigated	13.3	8.0%
Subtotals for Soil Survey Area			**164.6**	**98.9%**
Totals for Area of Interest			**166.4**	**100.0%**

Description

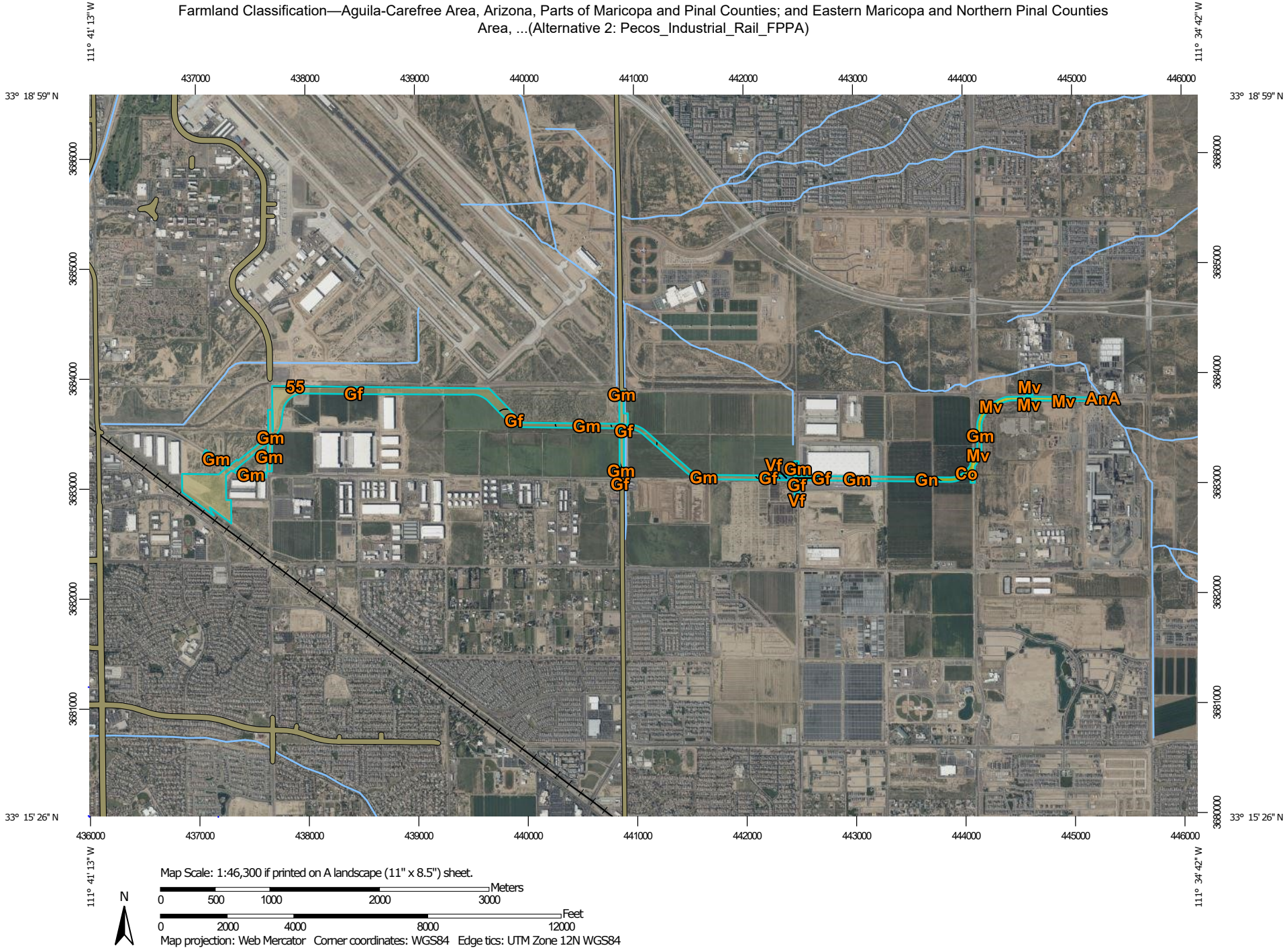
Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime and unique farmlands are published in the "Federal Register," Vol. 43, No. 21, January 31, 1978.

Rating Options

Aggregation Method: No Aggregation Necessary

Tie-break Rule: Lower

Farmland Classification—Aguila-Carefree Area, Arizona, Parts of Maricopa and Pinal Counties; and Eastern Maricopa and Northern Pinal Counties Area, ...(Alternative 2: Pecos_Industrial_Rail_FPPA)



MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

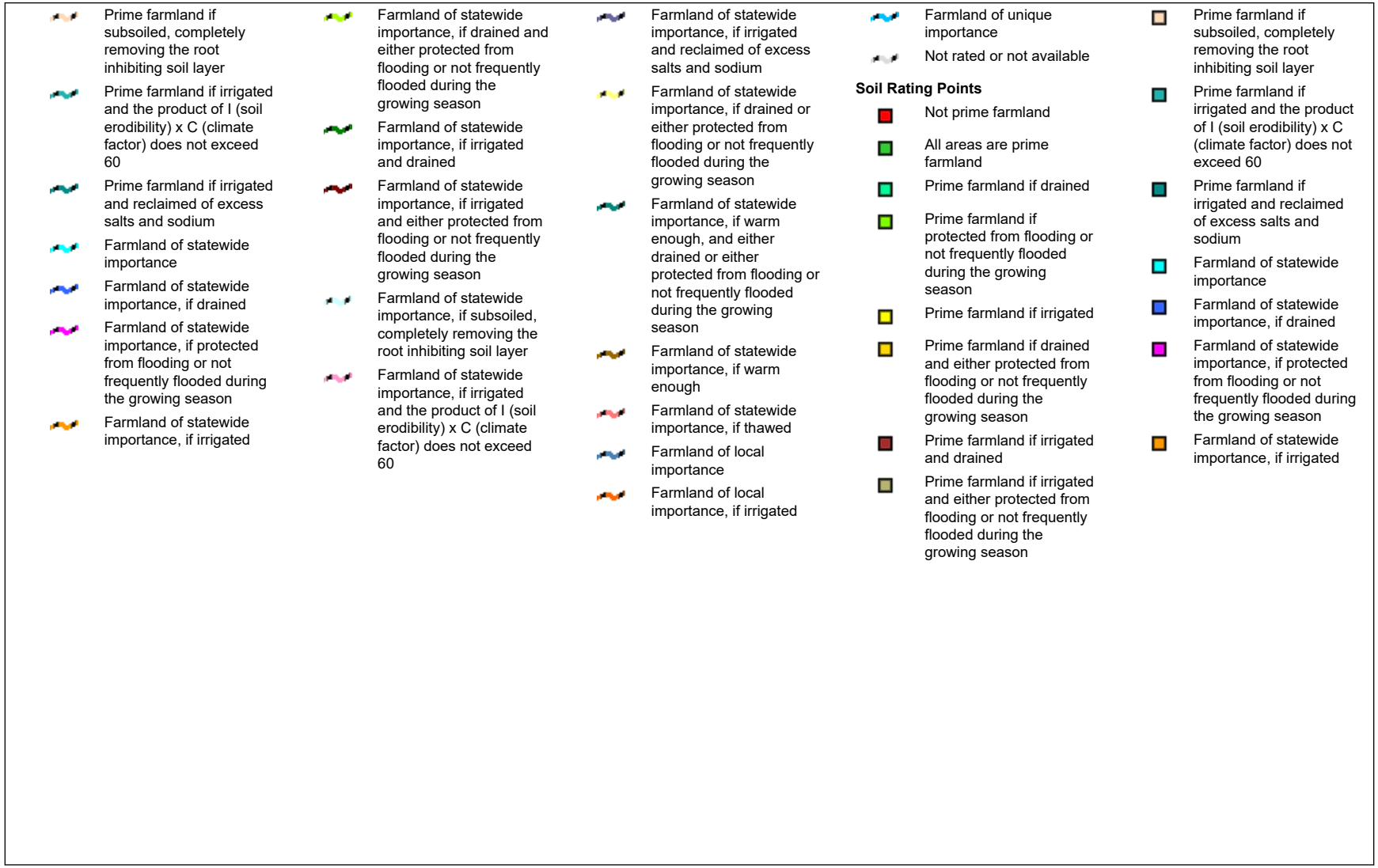
Soils

Soil Rating Polygons

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of statewide importance, if drained
- Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if irrigated
- Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if irrigated and drained
- Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer
- Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough
- Farmland of statewide importance, if thawed
- Farmland of local importance
- Farmland of local importance, if irrigated
- Farmland of unique importance
- Not rated or not available

Soil Rating Lines

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season


Prime farmland if subsoiled, completely removing the root inhibiting soil layer
Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
Prime farmland if irrigated and reclaimed of excess salts and sodium
Farmland of statewide importance
Farmland of statewide importance, if drained
Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if irrigated
Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if irrigated and drained
Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer
Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium
Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if warm enough
Farmland of statewide importance, if thawed
Farmland of local importance
Farmland of local importance, if irrigated
Farmland of unique importance
Not rated or not available
Soil Rating Points
Not prime farmland
All areas are prime farmland
Prime farmland if drained
Prime farmland if protected from flooding or not frequently flooded during the growing season
Prime farmland if irrigated
Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
Prime farmland if irrigated and drained
Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
Prime farmland if subsoiled, completely removing the root inhibiting soil layer
Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
Prime farmland if irrigated and reclaimed of excess salts and sodium
Farmland of statewide importance
Farmland of statewide importance, if drained
Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if irrigated

- Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if irrigated and drained
- Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer
- Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough
- Farmland of statewide importance, if thawed
- Farmland of local importance
- Farmland of local importance, if irrigated
- Farmland of unique importance
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

The soil surveys that comprise your AOI were mapped at scales ranging from 1:20,000 to 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Aguila-Carefree Area, Arizona, Parts of Maricopa and Pinal Counties
Survey Area Data: Version 19, Aug 30, 2024

Soil Survey Area: Eastern Maricopa and Northern Pinal Counties Area, Arizona
Survey Area Data: Version 18, Aug 30, 2024

Your area of interest (AOI) includes more than one soil survey area. These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels of detail. This may result in map unit symbols, soil properties, and interpretations that do not completely agree across soil survey area boundaries.

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 1, 2024—Mar 29, 2024

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Farmland Classification

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
55	Gilman loams	Prime farmland if irrigated	1.8	1.1%
Subtotals for Soil Survey Area			**1.8**	**1.1%**
Totals for Area of Interest			**170.6**	**100.0%**

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
AnA	Antho sandy loam, 0 to 1 percent slopes	Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season	2.8	1.6%
Co	Contine clay loam	Prime farmland if irrigated	5.8	3.4%
Gf	Gilman fine sandy loam, 0 to 2 percent slopes	Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season	23.1	13.5%
Gm	Gilman loam	Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season	121.7	71.3%
Gn	Glenbar clay loam, 0 to 2 percent slopes	Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season	2.0	1.2%
Mv	Mohall loam MLRA 40	Prime farmland if irrigated	11.6	6.8%
Vf	Vint loamy fine sand	Farmland of unique importance	1.7	1.0%
Subtotals for Soil Survey Area			**168.8**	**98.9%**
Totals for Area of Interest			**170.6**	**100.0%**

Description

Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime and unique farmlands are published in the "Federal Register," Vol. 43, No. 21, January 31, 1978.

Rating Options

Aggregation Method: No Aggregation Necessary

Tie-break Rule: Lower

Jacobs

Record of Conversation

Conversation With:	
Date and Time:	12/19/25
Name, Title:	Brianna Tiemann
Company:	Sierra School of Gateway
Phone No:	480-256-9551
Email:	

Conversation Initiated By:	
Name, Title:	Bailey Homan, Junior Traffic Engineer
Project No:	UPPRCP73
Project Name:	UPRR PIRATE
Subject:	School bus routes for Heritage Academy

Notes:

On December 19, 2025, Bailey Homan contacted Brianna Tiemann at the Sierra School of Gateway regarding bus route information for the Heritage Academy. Brianna explained that detailed route information could not be emailed due to sensitive student data but provided verbal information regarding bus times and travel paths.

Brianna reiterated that Heritage Academy's general student population does not use a bus system; however, the special-needs program located in a smaller on-campus building operates a limited set of bus routes. The school runs five morning buses and five afternoon buses. Morning outbound buses leave the campus between 5:40 AM and 6:40 AM to serve areas located far from the school. As a result, none of the morning outbound buses travel through the study area during the 7:00–8:00 AM peak hour. All five morning inbound buses return to the school by 8:00 AM. Of these, two return via southbound Ellsworth Road and westbound Germann Road, two return along westbound Germann Road within the study area, and one returns via northbound Sossaman Road and eastbound Germann Road.

During the 3:00–4:00 PM peak hour, all five outbound afternoon buses travel through the study area after leaving campus at 2:45 PM. Each bus travels eastbound on Germann Road and then southbound on Ellsworth Road as they exit the study area. Due to the long routes, no inbound buses enter the study area during this time. Afternoon inbound buses return to campus between 4:15 PM and 5:10 PM.

Follow Up: N/A	**Due Date: N/A**

From:	Campbell, Steve - FPAC-NRCS, OR <steve.campbell@usda.gov>
Sent:	Monday, February 23, 2026 10:42 AM
To:	McNeish, Sabra
Cc:	McCoy, Jamilah - FPAC-NRCS, AZ; Assenza, Adam; Phoebus, Elizabeth (Betsi); Buckley, Maggie; Boerst, Alyssa
Subject:	[EXTERNAL] RE: [External Email]RE: PIRATE Project Farmland Conversion Form
Attachments:	CPA_106_PIRATE_2_23_2026.pdf; WSS_Alternative_1_Farmland_Classification_2_23_2026.pdf; WSS_Alternative_2_Farmland_Classification_2_23_2026.pdf; Alternative_1_shapefile.zip; Alternative_2_shapefile.zip

This Message Is From an External Sender

This message came from outside your organization.

Hello All,

Attached is the updated CPA-106 Farmland Conversion Impact Rating form for the Pecos Industrial Rail Access and Train Extension (PIRATE) project. It contains the acreages for Corridor A (Alternative 1) and Corridor B (Alternative 2) that we agreed upon in the email string below.

Also attached are the Web Soil Survey (WSS) reports with the important farmland classes and acres for soil map units in both alternatives. The attached shapefile zip files for each alternative were used to create the Web Soil Survey reports. All the soil map units in each alternative are classified as prime farmland or farmland of unique importance.

Emily Yulga, with NRCS, created the original CPA-106 form for this project in 2022. She used a non-irrigated crop productivity index (NCCPI) to calculate the Relative Value in Part V of the original form. The majority of cropland in Arizona is irrigated, so we are now using a national irrigated crop productivity index for the Farmland Protection Policy Act in Arizona. This is the reason that the Relative Value in Part V of the attached revised CPA-106 is higher than the original 2022 form.

The total points in Part VII for both alternatives are still less than 160 in the revised form, so this project is not subject to the provisions of the Farmland Protection Policy Act, according to the Code of Federal Regulations, Part 658.2 at the web site below:

https://www.ecfr.gov/current/title-7/subtitle-B/chapter-VI/subchapter-F/part-658

Pleas contact me if you have any questions. Thanks.

Best wishes,
Steve

Steve Campbell
Soil Scientist, CPSS
West National Technology Support Center
USDA Natural Resources Conservation Service
U.S. DEPARTMENT OF AGRICULTURE
1201 NE Lloyd Blvd, Suite 801, Portland, OR 97232
p: 503-273-2421 | c: 503-380-1737

e: steve.campbell@usda.gov
w: https://www.nrcs.usda.gov/west-national-technology-support-center

---

From: McNeish, Sabra <Sabra.McNeish@jacobs.com>
Sent: Monday, February 23, 2026 7:25 AM
To: Campbell, Steve - FPAC-NRCS, OR <steve.campbell@usda.gov>
Cc: McCoy, Jamilah - FPAC-NRCS, AZ <jamilah.mccoy@usda.gov>; Assenza, Adam <adam.assenza@stb.gov>; Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>; Buckley, Maggie <Maggie.Buckley@jacobs.com>; Boerst, Alyssa <Alyssa.Boerst@jacobs.com>
Subject: RE: [External Email]RE: PIRATE Project Farmland Conversion Form

Good morning Steve,

Yes, the acreages you have showed below are correct. You have interpreted the shapefiles correctly based on the screenshots you have shared. We appreciate you modifying the form with those correct acreages. If you have any other questions for us, please let us know.

Thank you again for your assistance with this.

Sabra McNeish (she/her) | Jacobs | Environmental Planner
(410) 596-7790 | Sabra.McNeish@jacobs.com
1501 W Fountainhead Pkwy, Suite 401 | Tempe, Arizona 85282
Typical Working Hours | Mon-Thurs 8am to 5pm, Fri 8am to 12pm MST

On behalf of

Adam Assenza
Environmental Protection Specialist
Office of Environmental Analysis
Surface Transportation Board
O: 202-245-0301
C: 202-235-4658

From: Campbell, Steve - FPAC-NRCS, OR <steve.campbell@usda.gov>
Sent: Tuesday, February 17, 2026 11:41 AM
To: McNeish, Sabra <Sabra.McNeish@jacobs.com>
Subject: [EXTERNAL] RE: [External Email]RE: PIRATE Project Farmland Conversion Form

Hi Sabra,

Thanks for the new shapefile. I want to make sure to use the correct polygons that are subject to the Farmland Protection Policy Act (FPPA) to use for Alternatives 1 and 2. Below is a screen capture of the new shapefile attribute table you sent. I added the 'Acres_SC' attribute and calculated the acres to confirm that the acres are correct.

Proposed_ROW_and_TCEs_2026_Update

Field: Add Calculate Selection: Select By Attributes Zoom To Switch Cle

	FID	Shape *	Label	Acres	Acres_SC
1	0	Polygon ZM	Alternative 1 ROW	144.6	144.6
2	1	Polygon ZM	Phoenix Subdivision Existing ROW	82.3	82.3
3	2	Polygon ZM	Phoenix Subdivision TCE	1.6	1.6
4	3	Polygon ZM	Alternative 2 ROW	152.1	152.1
5	4	Polygon ZM	Alternative 2 TCEs	26.4	26.4
6	5	Polygon ZM	Alternative 1 TCEs	27.1	27.1
	Click to add new row.				

We discussed on the phone that the 'TCEs' polygons are temporary construction easements, which would not make the areas non-farmable, so are not subject to the FPPA.

The Phoenix Subdivision Existing ROW and TCE polygons are also not subject to the FPPA. Existing right out ways are exempt from FPPA if they were created before 1984.

Therefore, it seems like the part of Alternative 1 that is subject to the FPPA should only be the 144.6 acres in the FID 0 row (Alternative 1 ROW). The part of Alternative 2 that is subject to the FPPA should only be the 152.1 acres in the FID 3 row (Alternative 2 ROW).

The only acres that should be included in Part III of the CPA-106 form are areas that are subject to the FPPA. Below are instructions for this section from page 32 in the attached FPPA manual.

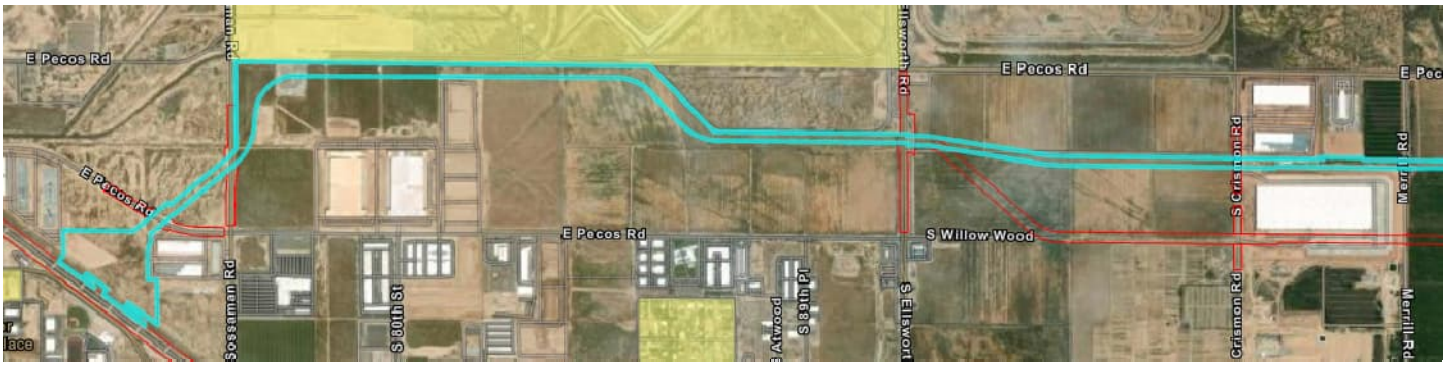
Part III (To be completed by Federal agency)

A. *Total Acres To Be Converted Directly*. Actual acres made nonfarmable by the action.

B. *Total Acres To Be Converted Indirectly*. Acres that will be made nonfarmable because access to them and acres planned to receive services from an infrastructure project as in project justification (e.g., utilities) that would be likely to be converted because of the pres infrastructure project.

Below are screen captures of the Alternative 1 ROW and Alternative 2 ROW polygons. The yellow areas are Census Bureau urban areas.

Alternative 1 ROW – blue polygon



Alternative 2 ROW – blue polygon



Below is the section of the CPA-106 form that you sent me. If you agree with the information above that the part of Alternative 1 (Corridor 1) that is subject to the FPPA should be 144. 6 acres and the part of Alternative 2 (Corridor 2) that is subject to the FPPA should be 152.1 acres, then I will modify the form I send back to you with those acres in Part III.

PART III *(To be completed by Federal Agency)*	Alternative Corridor For	
	Corridor A	Corridor B
A. Total Acres To Be Converted Directly	226.9	234.4
B. Total Acres To Be Converted Indirectly, Or To Receive Services		
C. Total Acres In Corridor	226.9	234.4

I can send you an MS Teams meeting invite where I can share my computer screen to assure that we're in agreement about the polygons in the project shapefile that are subject to the FPPA. Please call me back at 503-273-2421 if the MS Teams meeting won't work for you. Thanks.

Best wishes,
Steve

Steve Campbell
Soil Scientist, CPSS
West National Technology Support Center
USDA Natural Resources Conservation Service
U.S. DEPARTMENT OF AGRICULTURE
1201 NE Lloyd Blvd, Suite 801, Portland, OR 97232
p: 503-273-2421 | c: 503-380-1737
e: steve.campbell@usda.gov
w: https://www.nrcs.usda.gov/west-national-technology-support-center

From: McNeish, Sabra <Sabra.McNeish@jacobs.com>
Sent: Tuesday, February 17, 2026 8:39 AM
To: Campbell, Steve - FPAC-NRCS, OR <steve.campbell@usda.gov>
Cc: McCoy, Jamilah - FPAC-NRCS, AZ <jamilah.mccoy@usda.gov>; Assenza, Adam <adam.assenza@stb.gov>; Buckley, Maggie <Maggie.Buckley@jacobs.com>; Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>; Boerst, Alyssa <Alyssa.Boerst@jacobs.com>
Subject: RE: [External Email]RE: PIRATE Project Farmland Conversion Form

Good morning Steve,

Thanks again for your time this morning to discuss your questions on the revised CPA-106 form that we resubmitted earlier this month for the PIRATE project. As we discussed, I've attached the shapefiles that reflect the current project footprint, which is how we came up with the acreages on the revised form. We did not complete Parts II, IV, and V of the form as the form states that NRCS completes those portions of the form. If you have any other questions or need any clarification, please let me know and feel free to give me another call if easiest. We appreciate your timely attention and assistance with this.

Thank you again for your time!

Sabra McNeish (she/her) | Jacobs | Environmental Planner
(410) 596-7790 | Sabra.McNeish@jacobs.com
1501 W Fountainhead Pkwy, Suite 401 | Tempe, Arizona 85282
Typical Working Hours | Mon-Thurs 8am to 5pm, Fri 8am to 12pm MST

On behalf of

Adam Assenza
Environmental Protection Specialist
Office of Environmental Analysis
Surface Transportation Board
O: 202-245-0301
C: 202-235-4658

From: Campbell, Steve - FPAC-NRCS, OR <steve.campbell@usda.gov>
Sent: Friday, February 13, 2026 3:05 PM
To: McNeish, Sabra <Sabra.McNeish@jacobs.com>
Cc: McCoy, Jamilah - FPAC-NRCS, AZ <jamilah.mccoy@usda.gov>
Subject: [EXTERNAL] RE: [External Email]RE: PIRATE Project Farmland Conversion Form

HI Sabra,

I left you a voicemail today. Will you please send me the CPA-106 form that Jamilah McCoy sent you on November 24, according to the e-mail string below.

The acreages in Part III in the form you sent to me today do not agree with the corrected acres in the form I sent to Jamilah on September 26. The form you sent me also has no information in the NRCS sections Part II, Part IV, and Part V.

PART III *(To be completed by Federal Agency)*	Alternative Corridor For	
	Corridor A	Corridor B
A. Total Acres To Be Converted Directly	226.9	234.4
B. Total Acres To Be Converted Indirectly, Or To Receive Services		
C. Total Acres In Corridor	226.9	234.4

Below is part of the corrected form with acres that I sent to Jamilah on September 26.

PART III *(To be completed by Federal Agency)*	Alternative Corridor For	
	Corridor A	Corridor B
A. Total Acres To Be Converted Directly	166.4	170.6
B. Total Acres To Be Converted Indirectly, Or To Receive Services	0	0
C. Total Acres In Corridor	166.4	170.6
PART IV *(To be completed by NRCS) Land Evaluation Information*		
A. Total Acres Prime And Unique Farmland	166.4	170.6
B. Total Acres Statewide And Local Important Farmland		
C. Percentage Of Farmland in County Or Local Govt. Unit To Be Converted		
D. Percentage Of Farmland in Govt. Jurisdiction With Same Or Higher Relative Value		
PART V *(To be completed by NRCS) Land Evaluation Information Criterion Relative value of Farmland to Be Serviced or Converted (Scale of 0 - 100 Points)*	10.9	10.9

It may be helpful to have a phone conversation to resolve this. I'm available at 503-273-2421 on Friday afternoon, February 13 until 3:30 pm and on Tuesday, February 17. Thanks.

Best wishes,
Steve

Steve Campbell
Soil Scientist, CPSS
West National Technology Support Center
USDA Natural Resources Conservation Service
U.S. DEPARTMENT OF AGRICULTURE
1201 NE Lloyd Blvd, Suite 801, Portland, OR 97232
p: 503-273-2421 | c: 503-380-1737
e: steve.campbell@usda.gov
w: https://www.nrcs.usda.gov/west-national-technology-support-center

---

From: McNeish, Sabra <Sabra.McNeish@jacobs.com>
Sent: Friday, February 13, 2026 11:12 AM
To: Campbell, Steve - FPAC-NRCS, OR <steve.campbell@usda.gov>
Cc: McCoy, Jamilah - FPAC-NRCS, AZ <jamilah.mccoy@usda.gov>; Thomas, Robert - FPAC-NRCS, AZ <Robert.Thomas2@usda.gov>; Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>; Buckley, Maggie <Maggie.Buckley@jacobs.com>; Boerst, Alyssa <Alyssa.Boerst@jacobs.com>; Assenza, Adam <adam.assenza@stb.gov>
Subject: [External Email]RE: PIRATE Project Farmland Conversion Form

[External Email]
If this message comes from an **unexpected sender** or references a **vague/unexpected topic;**
Use caution before clicking links or opening attachments.
Please send any concerns or suspicious messages to: Spam.Abuse@usda.gov

Good afternoon Steve,

On behalf of Adam Assenza (Surface Transportation Board), I just wanted to follow up on the message I sent last week with the revised CPA-106 form for the Pecos Industrial Rail Access and Train Extension (PIRATE) project that reflects the current project limits. We are trying to publish the Final EA for this project at the end of this month and

would like to include this finalized/signed form in that documentation. Please let us know if you need anything else from us to finalize the form, or if you have any questions. We greatly appreciate your assistance with this.

Thank you and have a nice weekend,

Sabra McNeish (she/her) | Jacobs | Environmental Planner
(410) 596-7790 | Sabra.McNeish@jacobs.com
1501 W Fountainhead Pkwy, Suite 401 | Tempe, Arizona 85282
Typical Working Hours | Mon-Thurs 8am to 5pm, Fri 8am to 12pm MST

On behalf of

Adam Assenza
Environmental Protection Specialist
Office of Environmental Analysis
Surface Transportation Board
O: 202-245-0301
C: 202-235-4658

From: McNeish, Sabra
Sent: Thursday, February 5, 2026 9:45 AM
To: Campbell, Steve - FPAC-NRCS, OR <steve.campbell@usda.gov>
Cc: McCoy, Jamilah - FPAC-NRCS, AZ <jamilah.mccoy@usda.gov>; Thomas, Robert - FPAC-NRCS, AZ <Robert.Thomas2@usda.gov>; Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>; Buckley, Maggie <Maggie.Buckley@jacobs.com>; Boerst, Alyssa <Alyssa.Boerst@jacobs.com>; Assenza, Adam <adam.assenza@stb.gov>
Subject: RE: PIRATE Project Farmland Conversion Form

Good morning Steve,

Thank you very much for the clarification about NRCS's requirements and how to populate the CPA-106 form. On behalf of Adam Assenza (Surface Transportation Board), I am resubmitting the CPA-106 form for the Pecos Industrial Rail Access and Train Extension (PIRATE) project that reflects the current project limits, as well as the updated point values in Parts VI and VII. Please let us know if you need anything else from us to finalize the form, or if you have any questions.

Thank you for your time and assistance,

Sabra McNeish (she/her) | Jacobs | Environmental Planner
(410) 596-7790 | Sabra.McNeish@jacobs.com
1501 W Fountainhead Pkwy, Suite 401 | Tempe, Arizona 85282
Typical Working Hours | Mon-Thurs 8am to 5pm, Fri 8am to 12pm MST

On behalf of

Adam Assenza
Environmental Protection Specialist
Office of Environmental Analysis
Surface Transportation Board
O: 202-245-0301
C: 202-235-4658

From: Campbell, Steve - FPAC-NRCS, OR <steve.campbell@usda.gov>
Sent: Wednesday, December 17, 2025 11:47 AM
To: McNeish, Sabra <Sabra.McNeish@jacobs.com>
Cc: McCoy, Jamilah - FPAC-NRCS, AZ <jamilah.mccoy@usda.gov>; Thomas, Robert - FPAC-NRCS, AZ

<Robert.Thomas2@usda.gov>
Subject: [EXTERNAL] RE: PIRATE Project Farmland Conversion Form

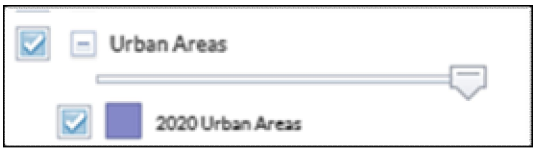
Hello Sabra,

I assisted Jamilah McCoy with the updated CPA-106 form for the Pecos Industrial Rail Access and Train Extension (PIRATE) project that was sent to you on November 24. You use the terms 'farmland' and 'developed land' in your December 11 email message. The current land use is not applicable in the Farmland Protection Policy Act (FFPA). All lands with prime or other important farmland soil map units are subject to the FPPA unless they are located in a Census Bureau Urban Area or are lands used for water storage.

The FFPA Manual is available at the web site below. Section 523.10 (B) on page 7 has information on lands not subject to the provisions of FPPA.

https://www.nrcs.usda.gov/sites/default/files/2022-08/FPPA_Manual_Final_2013_0.pdf

Alternatives 1 and 2 (Corridors A and B on the CPA-106 form) border a Census Bureau Urban Area to the north, but do not extend into the Urban Area. There is a web-based map of Urban Areas at https://tigerweb.geo.census.gov/tigerweb/ .



The updated acres on the new CPA-106 form are based on the attached shapefile in a zip file that I believe was provided to Emily Yulga in 2022 by your company. Below is a screen capture of the shapefile attribute table. I used the polygons where the label begins with 'Alternative 1' to determine the acres of prime and other important farmland in Web Soil Survey for 'Corridor A' on the CPA-106 form. The polygons where the label begins with 'Alternative 2' were used to determine the acres of prime and other important farmland in Web Soil Survey for 'Corridor B' on the CPA-106 form. I did not include the polygons where the label begins with 'Phoenix Subdivision'.

Attached are the Web Soil Survey reports for Alternatives 1 and 2 with acres of soil map units. All the soil map units are classified as Prime or Unique farmland in both alternatives.

Proposed_ROW_and_TCEs_20220615

Field: Add Calculate Selection: Select By Attributes

	FID	Shape *	Label	Acreage
1	0	Polygon ZM	Alternative 1 ROW	137.85
2	1	Polygon ZM	Alternative 1 TCEs	28.58
3	2	Polygon ZM	Alternative 2 ROW	145.73
4	3	Polygon ZM	Alternative 2 TCEs	24.89
5	4	Polygon ZM	Phoenix Subdivision Existing ROW	82.27
6	5	Polygon ZM	Phoenix Subdivision TCE	1.58

I'd be glad to have an MS Teams meeting with you if you'd like to review the maps together on the GIS software on my computer. You call also call me at 503-380-1737 to discuss any of this.

Best wishes,
Steve

Steve Campbell
Soil Scientist, CPSS
West National Technology Support Center
USDA Natural Resources Conservation Service
U.S. DEPARTMENT OF AGRICULTURE
1201 NE Lloyd Blvd, Suite 801, Portland, OR 97232
p: 503-273-2421 | c: 503-380-1737
e: steve.campbell@usda.gov
w: https://www.nrcs.usda.gov/west-national-technology-support-center

---

From: McNeish, Sabra <Sabra.McNeish@jacobs.com>
Sent: Thursday, December 11, 2025 1:42 PM
To: McCoy, Jamilah - FPAC-NRCS, AZ <jamilah.mccoy@usda.gov>
Cc: Thomas, Robert - FPAC-NRCS, AZ <Robert.Thomas2@usda.gov>; Buckley, Maggie <Maggie.Buckley@jacobs.com>; Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>; Assenza, Adam <adam.assenza@stb.gov>; Boerst, Alyssa <Alyssa.Boerst@jacobs.com>
Subject: RE: PIRATE Project Farmland Conversion Form

Good afternoon Jamilah,

I wanted to follow-up on behalf of Adam Assenza (Surface Transportation Board) regarding the revised CPA-106 form that you provided us a few weeks ago for the Pecos Industrial Rail Access and Train Extension (PIRATE) project.

We noticed the acreages in Part III of the form had been changed to reflect conversion of the entire project corridor. However, on the form that we completed in 2022, we had accounted for developed land in the corridor and had estimated only 50 acres of farmland would be converted under Corridor A and 53 acres under Corridor B at that time. Since then, the area has been even further developed, and we believe the existing acreage of farmland that would be converted by the project would be even less than that.

When I initially reached out earlier this fall, we were trying to confirm whether a new CPA-106 form would be required to reflect current conditions if there would be less farmland impacts than what we identified in 2022, or if the existing form from 2022 would be sufficient. We really appreciate you providing the new form but would like to discuss if we can revise those acreages to reflect the actual farmland present in the corridor (if a new form is required).

If it's easiest to discuss on the phone, please feel free to give me a call at my phone number in my signature block below. If someone else is better suited to address this question, please let me know and I will reach out to them.

Thank you again for your time and assistance,

Sabra McNeish (she/her) | Jacobs | Environmental Planner
(410) 596-7790 | Sabra.McNeish@jacobs.com
1501 W Fountainhead Pkwy, Suite 401 | Tempe, Arizona 85282
Typical Working Hours | Mon-Thurs 8am to 5pm, Fri 8am to 12pm MST

Upcoming PTO:
Monday, December 22nd – Friday, January 2nd

On behalf of

Adam Assenza
Environmental Protection Specialist
Office of Environmental Analysis
Surface Transportation Board
O: 202-245-0301
C: 202-235-4658

From: McCoy, Jamilah - FPAC-NRCS, AZ <jamilah.mccoy@usda.gov>
Sent: Monday, November 24, 2025 3:21 PM
To: McNeish, Sabra <Sabra.McNeish@jacobs.com>
Cc: Thomas, Robert - FPAC-NRCS, AZ <Robert.Thomas2@usda.gov>; Buckley, Maggie <Maggie.Buckley@jacobs.com>; Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>; Assenza, Adam <adam.assenza@stb.gov>
Subject: [EXTERNAL] RE: PIRATE Project Farmland Conversion Form

Your Welcome

Jamilah McCoy
State Resource Conservationist
USDA/NRCS | Ecological Sciences Team
Phoenix State Office

U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE
230 N. FIRST AVENUE, SUITE 509, PHOENIX, ARIZONA, 85003
P: (520) 610-9762

From: McNeish, Sabra <Sabra.McNeish@jacobs.com>
Sent: Monday, November 24, 2025 3:08 PM
To: McCoy, Jamilah - FPAC-NRCS, AZ <jamilah.mccoy@usda.gov>
Cc: Thomas, Robert - FPAC-NRCS, AZ <Robert.Thomas2@usda.gov>; Buckley, Maggie <Maggie.Buckley@jacobs.com>; Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>; Assenza, Adam <adam.assenza@stb.gov>
Subject: RE: PIRATE Project Farmland Conversion Form

Good afternoon Jamilah,

Thank you very much for providing the updated CPA 106 form for this project. We appreciate your assistance.

Thank you,

Sabra McNeish (she/her) | Jacobs | Environmental Planner
(410) 596-7790 | Sabra.McNeish@jacobs.com
1501 W Fountainhead Pkwy, Suite 401 | Tempe, Arizona 85282
Typical Working Hours | Mon-Thurs 8am to 5pm, Fri 8am to 12pm MST

Upcoming PTO:
Afternoon of Wednesday, November 26th – Friday, November 28th

From: McCoy, Jamilah - FPAC-NRCS, AZ <jamilah.mccoy@usda.gov>
Sent: Monday, November 24, 2025 2:20 PM

To: McNeish, Sabra <Sabra.McNeish@jacobs.com>
Cc: Thomas, Robert - FPAC-NRCS, AZ <Robert.Thomas2@usda.gov>; Buckley, Maggie <Maggie.Buckley@jacobs.com>; Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>; Assenza, Adam <adam.assenza@stb.gov>
Subject: [EXTERNAL] PIRATE Project Farmland Conversion Form

Hi Sabra,

Please see the attached updated forms.

Thanks

Jamilah McCoy
State Resource Conservationist
USDA/NRCS | Ecological Sciences Team
Phoenix State Office

U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE
230 N. FIRST AVENUE, SUITE 509, PHOENIX, ARIZONA, 85003
P: (520) 610-9762

This electronic message contains information generated by the USDA solely for the intended recipients. Any unauthorized interception of this message or the use or disclosure of the information it contains may violate the law and subject the violator to civil or criminal penalties. If you believe you have received this message in error, please notify the sender and delete the email immediately.

NOTICE - This communication may contain confidential and privileged information that is for the sole use of the intended recipient. Any viewing, copying or distribution of, or reliance on this message by unintended recipients is strictly prohibited. If you have received this message in error, please notify us immediately by replying to the message and deleting it from your computer.

NOTICE - This communication may contain confidential and privileged information that is for the sole use of the intended recipient. Any viewing, copying or distribution of, or reliance on this message by unintended recipients is strictly prohibited. If you have received this message in error, please notify us immediately by replying to the message and deleting it from your computer.

NOTICE - This communication may contain confidential and privileged information that is for the sole use of the intended recipient. Any viewing, copying or distribution of, or reliance on this message by unintended recipients is strictly prohibited. If you have received this message in error, please notify us immediately by replying to the message and deleting it from your computer.

U.S. DEPARTMENT OF AGRICULTURE
Natural Resources Conservation Service

NRCS-CPA-106
(Rev. 1-91)

FARMLAND CONVERSION IMPACT RATING FOR CORRIDOR TYPE PROJECTS

PART I *(To be completed by Federal Agency)*	3. Date of Land Evaluation Request: **2/17/2026**	4. Sheet **1** of **1**
1. Name of Project: **Pecos Industrial Rail Access and Train Extension**	5. Federal Agency Involved: **Surface Transportation Board**	
2. Type of Project: **Rail transportation construction**	6. County: **Maricopa**	State: **Arizona**

PART II *(To be completed by NRCS)*	Date Request Received by NRCS: **2/17/2026**	2. Person Completing Form: **Steve Campbell**	
3. Does the corridor contain prime, unique statewide or local important farmland? (If no, the FPPA does not apply - Do not complete additional parts of this form).	**Yes**	4. Acres Irrigated: **204,522**	Average Farm Size: **329 Acres**
5. **Major Crop(s): Cotton, forage, wheat**	6. Farmable Land in Government Jurisdiction: **Acres: 502,029 % 8.5**	7. Amount of Farmland as Defined in FPPA: **Acres: 1,302,579 % 22.1**	
8. Name Of Land Evaluation System Used: **Irrigated National Commodity Crops Productivity Index**	9. Name of Local Site Assessment System	10. Date Land Evaluation Returned by NRCS: **2/23/2026**	

PART III *(To be completed by Federal Agency)*	Alternative Corridor for Segment ____ Corridor A	Corridor B	Corridor C	Corridor D
A. Total Acres to Be Converted Directly	144.6	152.1		
B. Total Acres to Be Converted Indirectly, Or to Receive Services				
C. Total Acres in Corridor				
PART IV *(To be completed by NRCS) Land Evaluation Information*				
A. Total Acres Prime and Unique Farmland	144.6	152.1		
B. Total Acres Statewide and Local Important Farmland	0	0		
C. Percentage of Farmland in County or Local Govt. Unit to Be Converted	0.01	0.01		
D. Percentage of Farmland in Govt. Jurisdiction with Same or Higher Relative Value	22.03	22.03		
PART V *(To be completed by NRCS) Land Evaluation Information Criterion Relative value of Farmland to Be Serviced or Converted (Scale of 0 - 100 Points)*	74	74		

PART VI *(To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))*	Maximum Points				
1. Area in Nonurban Use	15	6	6		
2. Perimeter in Nonurban Use	10	4	4		
3. Percent Of Corridor Being Farmed	20	5	5		
4. Protection Provided by State and Local Government	20	0	0		
5. Size of Present Farm Unit Compared to Average	10	4	4		
6. Creation Of Nonfarmable Farmland	25	0	0		
7. Availability Of Farm Support Services	5	5	5		
8. On-Farm Investments	20	6	6		
9. Effects Of Conversion on Farm Support Services	25	0	0		
10. Compatibility With Existing Agricultural Use	10	0	0		
TOTAL CORRIDOR ASSESSMENT POINTS	160	30	30		
PART VII *(To be completed by Federal Agency)*					
Relative Value of Farmland (From Part V)	100	74	74		
Total Corridor Assessment (From Part VI above or a local site assessment)	160	30	30		
TOTAL POINTS *(Total of above 2 lines)*	260	104	104		

1. Corridor Selected:	2. Total Acres of Farmlands to be Converted by Project:	3. Date Of Selection:	4. Was A Local Site Assessment Used?
A	**144.6**	**11/1/2022**	YES ☐ ☐

5. Reason For Selection:

Both alternatives would have the same impact on farmland, which is well below the 160 point threshold.

Signature of Person Completing this Part: | DATE

NOTE: Complete a form for each segment with more than one Alternate Corridor

CORRIDOR - TYPE SITE ASSESSMENT CRITERIA

The following criteria are to be used for projects that have a linear or corridor - type site configuration connecting two distant points and crossing several different tracts of land. These include utility lines, highways, railroads, stream improvements, and flood control systems. Federal agencies are to assess the suitability of each corridor - type site or design alternative for protection as farmland along with the land evaluation information.

(1) How much land is in nonurban use within a radius of 1.0 mile from where the project is intended?
More than 90 percent - 15 points
90 to 20 percent - 14 to 1 point(s)
Less than 20 percent - 0 points

(2) How much of the perimeter of the site borders on land in nonurban use?
More than 90 percent - 10 points
90 to 20 percent - 9 to 1 point(s)
Less than 20 percent - 0 points

(3) How much of the site has been farmed (managed for a scheduled harvest or timber activity) more than five of the last 10 years?
More than 90 percent - 20 points
90 to 20 percent - 19 to 1 point(s)
Less than 20 percent - 0 points

(4) Is the site subject to state or unit of local government policies or programs to protect farmland or covered by private programs to protect farmland?
Site is protected - 20 points
Site is not protected - 0 points

(5) Is the farm unit(s) containing the site (before the project) as large as the average - size farming unit in the County ? (Average farm sizes in each county are available from the NRCS field offices in each state. Data are from the latest available Census of Agriculture, Acreage or Farm Units in Operation with $1,000 or more in sales.)
As large or larger - 10 points
Below average - deduct 1 point for each 5 percent below the average, down to 0 points if 50 percent or more below average - 9 to 0 points

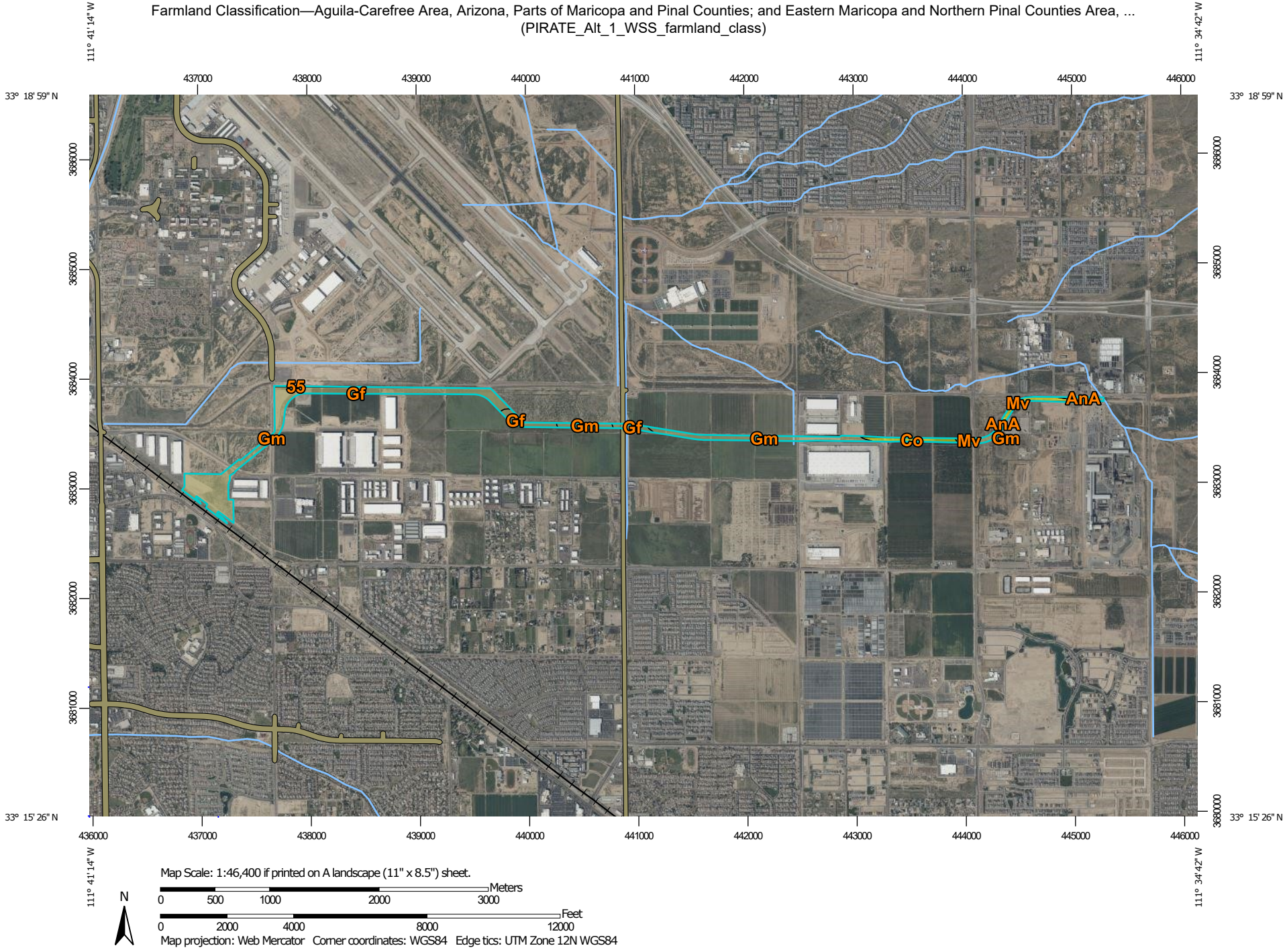
(6) If the site is chosen for the project, how much of the remaining land on the farm will become non-farmable because of interference with land patterns?
Acreage equal to more than 25 percent of acres directly converted by the project - 25 points
Acreage equal to between 25 and 5 percent of the acres directly converted by the project - 1 to 24 point(s)
Acreage equal to less than 5 percent of the acres directly converted by the project - 0 points

(7) Does the site have available adequate supply of farm support services and markets, i.e., farm suppliers, equipment dealers, processing and storage facilities and farmer's markets?
All required services are available - 5 points
Some required services are available - 4 to 1 point(s)
No required services are available - 0 points

(8) Does the site have substantial and well-maintained on-farm investments such as barns, other storage building, fruit trees and vines, field terraces, drainage, irrigation, waterways, or other soil and water conservation measures?
High amount of on-farm investment - 20 points
Moderate amount of on-farm investment - 19 to 1 point(s)
No on-farm investment - 0 points

(9) Would the project at this site, by converting farmland to nonagricultural use, reduce the demand for farm support services to jeopardize the continued existence of these support services and thus, the viability of the farms remaining in the area?
Substantial reduction in demand for support services if the site is converted - 25 points
Some reduction in demand for support services if the site is converted - 1 to 24 point(s)
No significant reduction in demand for support services if the site is converted - 0 points

(10) Is the kind and intensity of the proposed use of the site sufficiently incompatible with agriculture that it is likely to contribute to the eventual conversion of surrounding farmland to nonagricultural use?
Proposed project is incompatible to existing agricultural use of surrounding farmland - 10 points
Proposed project is tolerable to existing agricultural use of surrounding farmland - 9 to 1 point(s)
Proposed project is fully compatible with existing agricultural use of surrounding farmland - 0 points


111° 41' 14" W
111° 34' 42" W
33° 18' 59" N
33° 15' 26" N
437000
438000
439000
440000
441000
442000
443000
444000
445000
446000
436000
3686000
3685000
3684000
3683000
3682000
3681000
3680000
55
Gf
Gm
Mv
AnA
Co
Map Scale: 1:46,400 if printed on A landscape (11" x 8.5") sheet.
N
Meters
0 500 1000 2000 3000
Feet
0 2000 4000 8000 12000
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 12N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

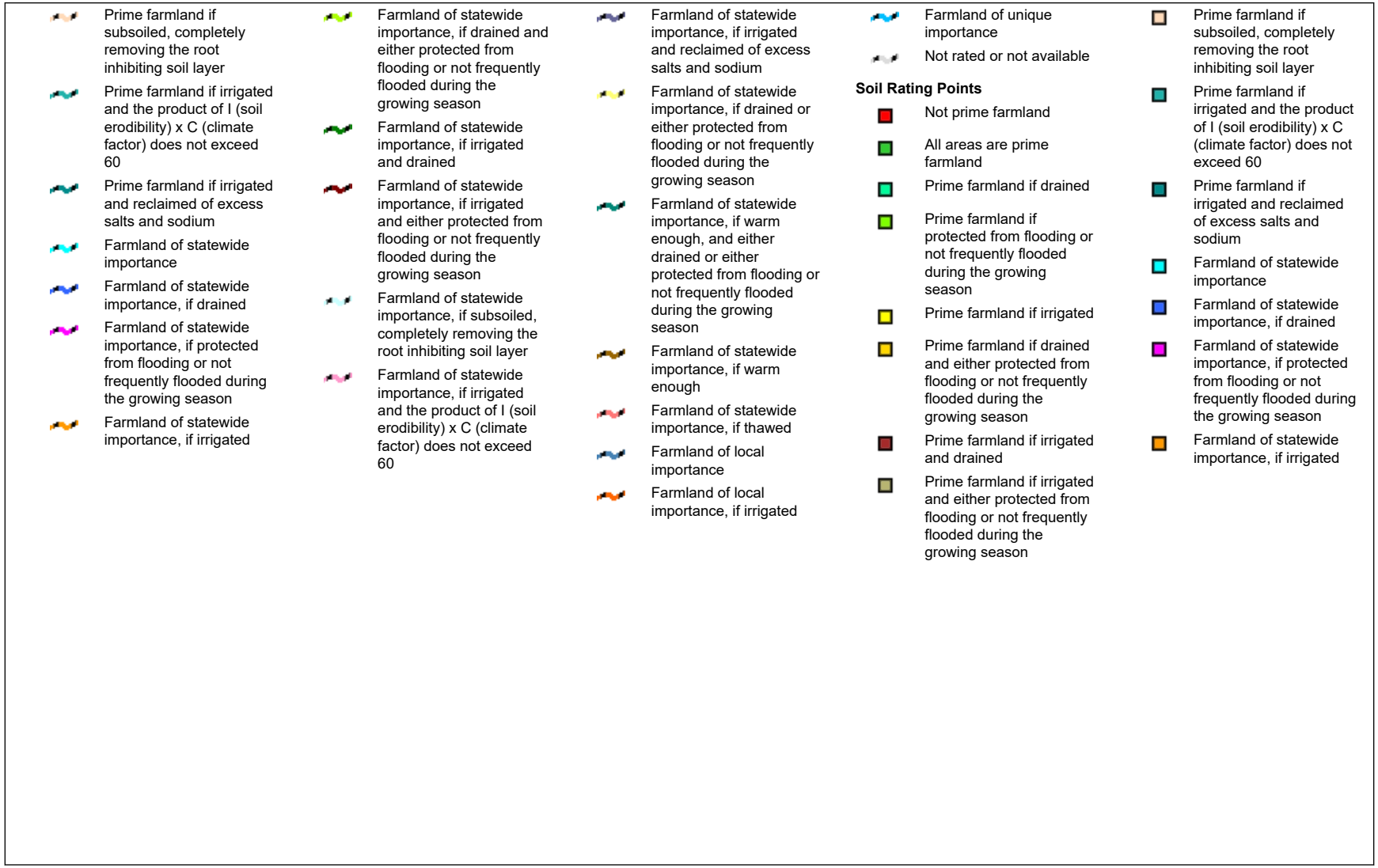
Soils

Soil Rating Polygons

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of statewide importance, if drained
- Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if irrigated
- Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if irrigated and drained
- Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer
- Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough
- Farmland of statewide importance, if thawed
- Farmland of local importance
- Farmland of local importance, if irrigated
- Farmland of unique importance
- Not rated or not available

Soil Rating Lines

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season


Prime farmland if subsoiled, completely removing the root inhibiting soil layer
Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
Prime farmland if irrigated and reclaimed of excess salts and sodium
Farmland of statewide importance
Farmland of statewide importance, if drained
Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if irrigated
Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if irrigated and drained
Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer
Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium
Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if warm enough
Farmland of statewide importance, if thawed
Farmland of local importance
Farmland of local importance, if irrigated
Farmland of unique importance
Not rated or not available
Soil Rating Points
Not prime farmland
All areas are prime farmland
Prime farmland if drained
Prime farmland if protected from flooding or not frequently flooded during the growing season
Prime farmland if irrigated
Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
Prime farmland if irrigated and drained
Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
Prime farmland if subsoiled, completely removing the root inhibiting soil layer
Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
Prime farmland if irrigated and reclaimed of excess salts and sodium
Farmland of statewide importance
Farmland of statewide importance, if drained
Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if irrigated

- Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if irrigated and drained
- Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer
- Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough
- Farmland of statewide importance, if thawed
- Farmland of local importance
- Farmland of local importance, if irrigated
- Farmland of unique importance
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

The soil surveys that comprise your AOI were mapped at scales ranging from 1:20,000 to 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Aguila-Carefree Area, Arizona, Parts of Maricopa and Pinal Counties
Survey Area Data: Version 21, Aug 28, 2025

Soil Survey Area: Eastern Maricopa and Northern Pinal Counties Area, Arizona
Survey Area Data: Version 19, Aug 27, 2025

Your area of interest (AOI) includes more than one soil survey area. These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels of detail. This may result in map unit symbols, soil properties, and interpretations that do not completely agree across soil survey area boundaries.

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 1, 2024—Mar 29, 2024

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Farmland Classification

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
55	Gilman loams	Prime farmland if irrigated	1.6	1.1%
Subtotals for Soil Survey Area			**1.6**	**1.1%**
Totals for Area of Interest			**144.6**	**100.0%**

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
AnA	Antho sandy loam, 0 to 1 percent slopes	Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season	3.5	2.4%
Co	Contine clay loam	Prime farmland if irrigated	7.5	5.2%
Gf	Gilman fine sandy loam, 0 to 2 percent slopes	Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season	11.1	7.7%
Gm	Gilman loam	Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season	112.5	77.8%
Mv	Mohall loam MLRA 40	Prime farmland if irrigated	8.4	5.8%
Subtotals for Soil Survey Area			**143.0**	**98.9%**
Totals for Area of Interest			**144.6**	**100.0%**

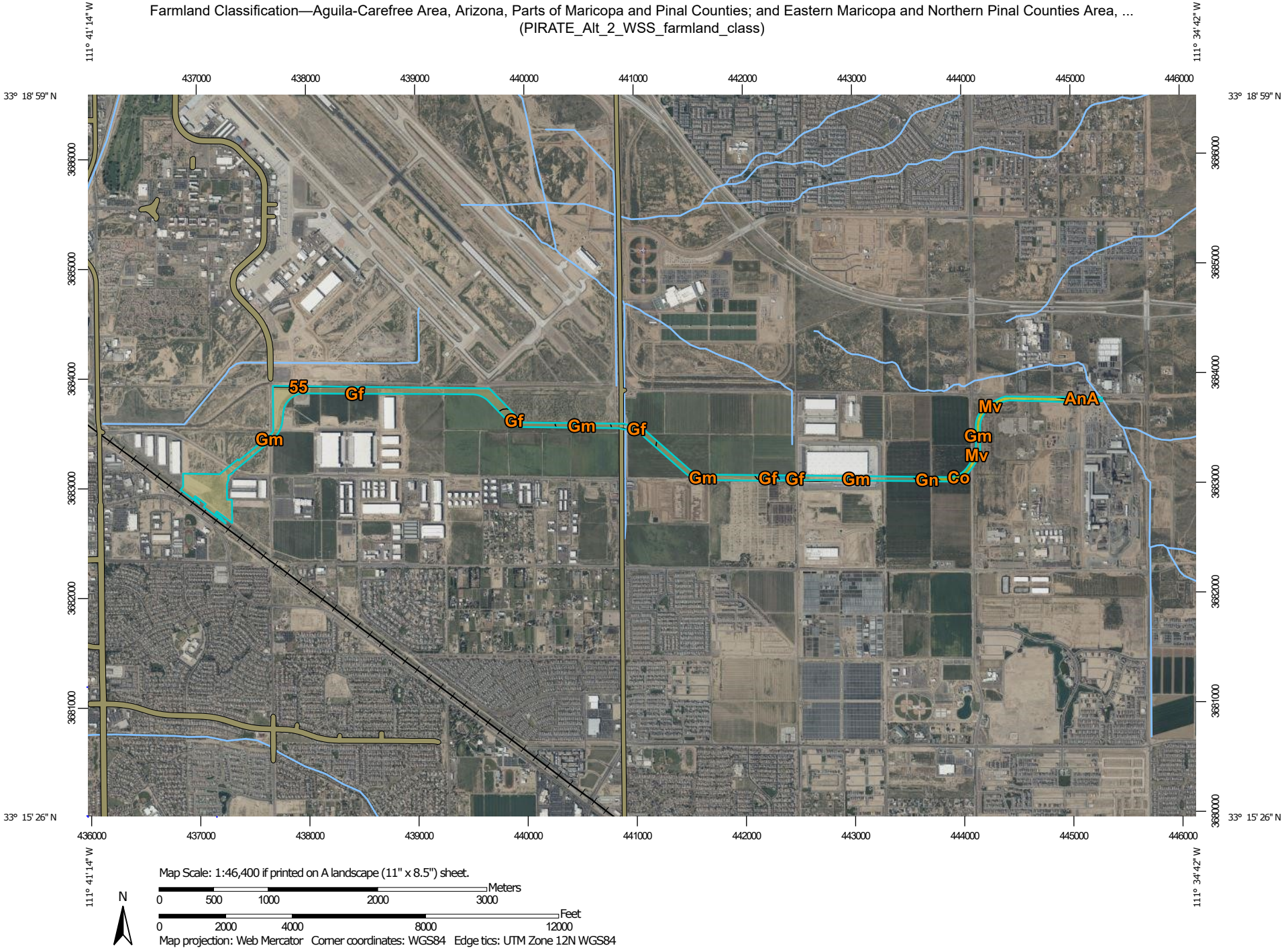
Description

Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime and unique farmlands are published in the "Federal Register," Vol. 43, No. 21, January 31, 1978.

Rating Options

Aggregation Method: No Aggregation Necessary

Tie-break Rule: Lower


111° 41' 14" W
111° 34' 42" W
33° 18' 59" N
33° 15' 26" N
437000
438000
439000
440000
441000
442000
443000
444000
445000
446000
436000
3686000
3685000
3684000
3683000
3682000
3681000
3680000
55
Gf
Gm
Mv
AnA
Co
Gn
Map Scale: 1:46,400 if printed on A landscape (11" x 8.5") sheet.
N
Meters
0 500 1000 2000 3000
Feet
0 2000 4000 8000 12000
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 12N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

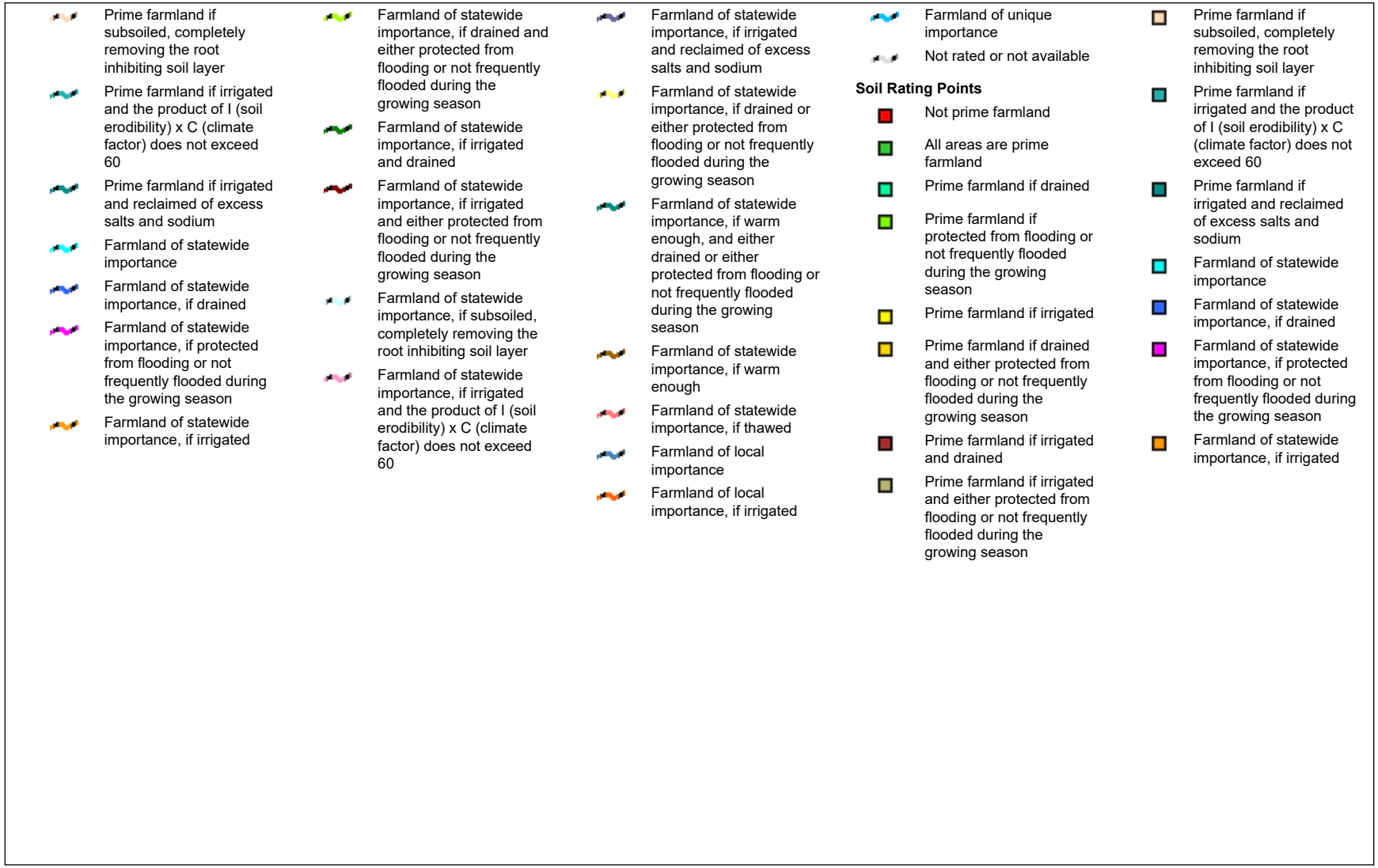
Soils

Soil Rating Polygons

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if subsoiled, completely removing the root inhibiting soil layer
- Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Prime farmland if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance
- Farmland of statewide importance, if drained
- Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if irrigated
- Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if irrigated and drained
- Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer
- Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough
- Farmland of statewide importance, if thawed
- Farmland of local importance
- Farmland of local importance, if irrigated
- Farmland of unique importance
- Not rated or not available

Soil Rating Lines

- Not prime farmland
- All areas are prime farmland
- Prime farmland if drained
- Prime farmland if protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Prime farmland if irrigated and drained
- Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season


Prime farmland if subsoiled, completely removing the root inhibiting soil layer
Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
Prime farmland if irrigated and reclaimed of excess salts and sodium
Farmland of statewide importance
Farmland of statewide importance, if drained
Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if irrigated
Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if irrigated and drained
Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer
Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium
Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if warm enough
Farmland of statewide importance, if thawed
Farmland of local importance
Farmland of local importance, if irrigated
Farmland of unique importance
Not rated or not available
Soil Rating Points
Not prime farmland
All areas are prime farmland
Prime farmland if drained
Prime farmland if protected from flooding or not frequently flooded during the growing season
Prime farmland if irrigated
Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
Prime farmland if irrigated and drained
Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season
Prime farmland if subsoiled, completely removing the root inhibiting soil layer
Prime farmland if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
Prime farmland if irrigated and reclaimed of excess salts and sodium
Farmland of statewide importance
Farmland of statewide importance, if drained
Farmland of statewide importance, if protected from flooding or not frequently flooded during the growing season
Farmland of statewide importance, if irrigated

- Farmland of statewide importance, if drained and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if irrigated and drained
- Farmland of statewide importance, if irrigated and either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if subsoiled, completely removing the root inhibiting soil layer
- Farmland of statewide importance, if irrigated and the product of I (soil erodibility) x C (climate factor) does not exceed 60
- Farmland of statewide importance, if irrigated and reclaimed of excess salts and sodium
- Farmland of statewide importance, if drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough, and either drained or either protected from flooding or not frequently flooded during the growing season
- Farmland of statewide importance, if warm enough
- Farmland of statewide importance, if thawed
- Farmland of local importance
- Farmland of local importance, if irrigated
- Farmland of unique importance
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

The soil surveys that comprise your AOI were mapped at scales ranging from 1:20,000 to 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Aguila-Carefree Area, Arizona, Parts of Maricopa and Pinal Counties
Survey Area Data: Version 21, Aug 28, 2025

Soil Survey Area: Eastern Maricopa and Northern Pinal Counties Area, Arizona
Survey Area Data: Version 19, Aug 27, 2025

Your area of interest (AOI) includes more than one soil survey area. These survey areas may have been mapped at different scales, with a different land use in mind, at different times, or at different levels of detail. This may result in map unit symbols, soil properties, and interpretations that do not completely agree across soil survey area boundaries.

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 1, 2024—Mar 29, 2024

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Farmland Classification

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
55	Gilman loams	Prime farmland if irrigated	1.6	1.0%
Subtotals for Soil Survey Area			**1.6**	**1.0%**
Totals for Area of Interest			**152.1**	**100.0%**

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
AnA	Antho sandy loam, 0 to 1 percent slopes	Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season	2.8	1.8%
Co	Contine clay loam	Prime farmland if irrigated	4.2	2.7%
Gf	Gilman fine sandy loam, 0 to 2 percent slopes	Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season	15.9	10.4%
Gm	Gilman loam	Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season	113.2	74.4%
Gn	Glenbar clay loam, 0 to 2 percent slopes	Prime farmland if irrigated and either protected from flooding or not frequently flooded during the growing season	2.0	1.3%
Mv	Mohall loam MLRA 40	Prime farmland if irrigated	11.0	7.2%
Vf	Vint loamy fine sand	Farmland of unique importance	1.5	1.0%
Subtotals for Soil Survey Area			**150.6**	**99.0%**
Totals for Area of Interest			**152.1**	**100.0%**

Description

Farmland classification identifies map units as prime farmland, farmland of statewide importance, farmland of local importance, or unique farmland. It identifies the location and extent of the soils that are best suited to food, feed, fiber, forage, and oilseed crops. NRCS policy and procedures on prime and unique farmlands are published in the "Federal Register," Vol. 43, No. 21, January 31, 1978.

Rating Options

Aggregation Method: No Aggregation Necessary

Tie-break Rule: Lower

BUILDING AMERICA®

Via email

March 24, 2022

Ms. Danielle Gosselin
Director, Office of Environmental Analysis
Surface Transportation Board
395 E Street, S.W.
Washington, D.C. 20423

Re: STB Docket No. FD 36501, Union Pacific Railroad – Construction and Operation Exemption- In Maricopa County, Arizona; Request for Reclassification

Dear Ms. Gosselin:

Pursuant to 49 C.F.R. § 1105.6(d), I am requesting on behalf of Union Pacific Railroad Company ("UPRR"), petitioner in the above-captioned proceeding, to request that the Surface Transportation Board (STB) waive the requirement of 49 C.F.R. §1105.6(a) of the preparation of an Environmental Impact Statement (EIS) in favor of the preparation of an Environmental Assessment (EA). UPRR submits that a reclassification is appropriate because of the proposed construction of Pecos Industrial Rail Access and Train Extension Project ("PIRATE Project") is not likely to have a significant environmental impact such that a waiver under 49 C.F.R. § 1105.6(a) and the preparation of an EA will be sufficient to address the impacts of the proposed construction. In support of this request, UPRR submits the following information in accordance with §1105.6(b)(1) and §1105.7(e).

Background

UPRR intends in the near future to file with the STB a petition to construct and operate a new industrial lead rail line in Maricopa County, Arizona. UPRR has been in discussions with the Office of Environmental Analysis (OEA) regarding the project for several months. Presently, UPRR serves Commercial Metals Company (CMC) at other locations in the United States. CMC closed their Rancho Cucamonga, CA mill in 2020 and is replacing that production with a new mill for straight and merchant bar production in Mesa, AZ. CMC is requesting rail service to support two adjacent mills with production of inbound scrap and outbound bar.

The purpose of the UPRR construction is to provide the new and existing CMC mill rail access. Potential rail development would connect the existing Pecos Advanced Manufacturing Zone (PAMZ)

UNION PACIFIC RAILROAD
1400 Douglas Street, 15th Floor
Omaha, Nebraska 68179

Tanya Spratt
Senior General Attorney
Law

P 402-544-4735
E tspratt@up.com

directly to the UPRR main line just west of the project area, running six miles through the PAMZ with a terminus at the border between Maricopa County and Pinal County. This PIRATE project will include a six-mile industrial lead extending from the UPRR Phoenix Subdivision (milepost 935) to CMC's new facility. In addition to granting access to CMC, it will also provide rail development opportunities as the lead cuts through two thousand acres of industrial zoned land.

On April 30, 2021, the OEA approved a waiver of the six-month pre-filing notice otherwise required under 49. C.F.R. § 1105.10(a)(1), and separately approved the selection of Jacobs as the third-party contractor to assist with the preparation of the environmental documentation and review. Currently, the environmental documentation and review process is ongoing. Jacobs and OEA staff have performed preliminary investigations, with onsite inspections to follow in the next few months. Jacobs, as directed by OEA staff, has also helped prepare and send out the environmental notification letters to local, state, and federal agencies. Based on the feedback received from OEA staff to date and UPRR's understanding of the natural resources within the project footprint, UPRR does not believe there will be a significant environmental impact, and therefore UPRR is submitting this request that the OEA prepare an EA instead of an EIS.

UPRR's Proposal is Not Likely to Have a Significant Impact on the Environment

Under 49 C.F.R. § 1105.6(a), an EIS "will normally be prepared for rail construction proposals." However, 49 C.F.R. § 1105.6(d), provides that an applicant can request that the STB instead evaluate a project through an EA, rather than an EIS, if the applicant demonstrates that a proposal is not likely to have a significant environmental impact. Further, under 49 C.F.R. § 1105.6(d), "any request for reclassification must be in writing and, in a rail construction, should be presented with a prefiling notice required by 49 C.F.R. § 1105.10(a)(1) (or request to waive that prefiling notice period)." Pursuant to 49 C.F.R. § 1105.10(c), on April 30, 2021, OEA granted UPRR's request for waiver of the six-month prefiling notice generally required for rail line construction projects.

As stated, the PIRATE project site is an extension to provide additional industrial opportunities. The PIRATE project will result in new rail connection to CMC, as well as potentially new customers locating on the line extension, creating a modest reduction in energy use for train operations versus trucking.

UPRR anticipates traffic to be limited to two trips per day, five days per week once the PIRATE project is operational and therefore does not expect that traffic to be handled over the PIRATE project will exceed the threshold of 8 trips per day for an attainment area as per 49 C.F.R. § 1105.7(e)(5)(i)(A).

Anticipated traffic volume can be expected to lead to a corresponding increase in noise levels. However, the PIRATE project site is situated near the Phoenix-Mesa Gateway Airport and as such it is not anticipated that the PIRATE project will impact sensitive noise receptors.

UPRR does not believe that the PIRATE project is likely to adversely affect endangered or threatened species or areas designated as critical habitat.

UPRR understands that a very small portion of the property is in a Zone A floodplain and that wetlands do not appear to exist in the proximity to the PIRATE project. UPRR is prepared to mitigate or design the project to address any concerns that arise related to the PIRATE project.

UPRR knows of no historic or cultural resources that may be impacted by the PIRATE project but will work with the OEA and the Arizona State Historic Preservation Office to identify any potential impacts. Cultural efforts are on-going and UPRR is prepared to mitigate or design the project to address any concerns that arise related to the PIRATE project.

UPRR does not believe that an environmental impact statement will be necessary because the environmental conditions of this property are known, and the impacts of the PIRATE project are negligible based on the information provided above. Accordingly, UPRR respectfully requests OEA waive the requirement of 49 C.F.R. §1105.6(a), Preparation of an Environmental Impact Statement (EIS), in favor of the preparation of an Environmental Assessment (EA).

Sincerely,

Tanya Spratt

Tanya Spratt
Senior General Attorney - Law

BUILDING AMERICA®

April 5, 2022

Mr. Adam Assenza
Environmental Protection Specialist
Office of Environmental Analysis
Surface Transportation Board
395 E Street, S.W.
Washington, D.C. 20423

Re: STB Docket No. FD 36501, Union Pacific Railroad – Explanation of Design Changes and Clarification of Construction and Operation Activities with Respect to Adjacent Property

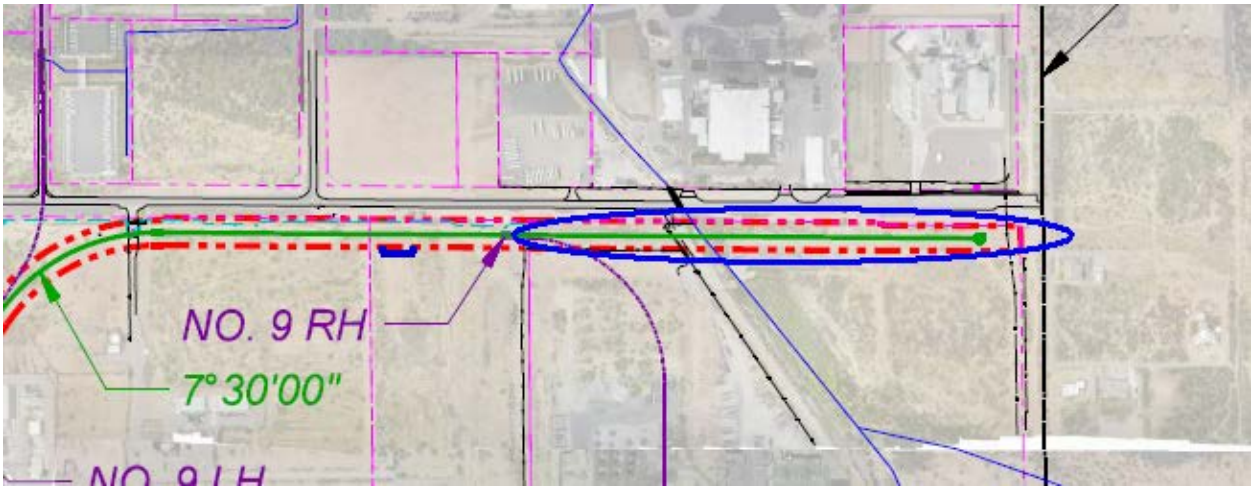
Dear Mr. Assenza:

With regards to the proposed construction of Pecos Industrial Rail Access and Train Extension Project ("PIRATE Project"), the Office of Environmental Analysis (OEA) has requested the Union Pacific Railroad (UPRR) provide an explanation for design changes made from the 10% conceptual level to the current 30% design as well as clarification of UPRR construction and operating activities as it relates to adjacent properties.

Alignment Changes from 10% Concept to 30% Design

There were two alignment changes from the 10% plans to the 30% plans, which shall be referred to as the "East Terminus" and "Hawes Road Spur" for purposes of this letter.

The East Terminus was an approximate 1800' extension of the Pirate I/L track to the East, beyond the future connection point to CMC Steel, as shown below in the 10% plans, circled in blue:



UNION PACIFIC RAILROAD
1400 Douglas Street, 9th Floor
Omaha, Nebraska 68179

Kevin Rice
Senior Manager M/W Environmental Engineering

P 402-544-2213
E kprice@up.com

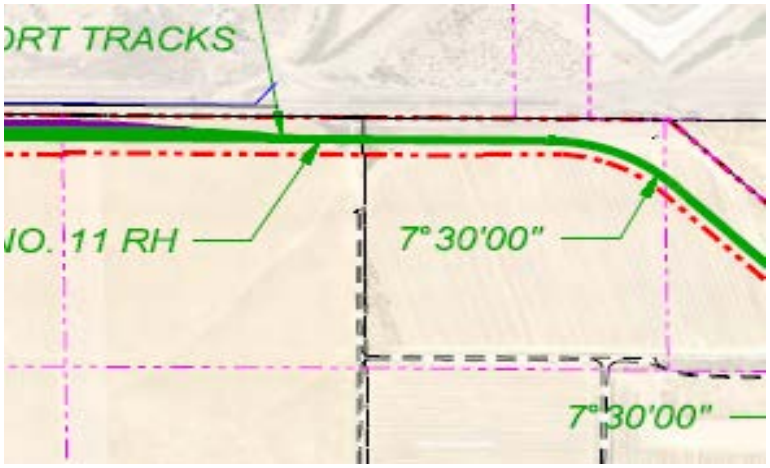
In the conceptual phase, the East Terminus was included in the design because it was thought that there could be a potential of serving additional customers to the East of CMC Steel. However, as design progressed, it was determined that industrial development was not likely East of N Moeur Rd in the short term, and therefore added no value to the project and was subsequently removed from the 30% plans as shown below:



Hawes Road Spur was requested to be included in the 10% Plans by the landowner to the South of the industrial lead alignment. It was a connection to a potential future development of the land, as shown below, circled in blue:



However, through communications with the landowner, it was determined that the future land development was not probable by the current landowner and therefore removed from the 30% plans. Any future development of this tract of land would be the designed, permitted and constructed by the landowner. The current 30% design depicts this area as shown below:

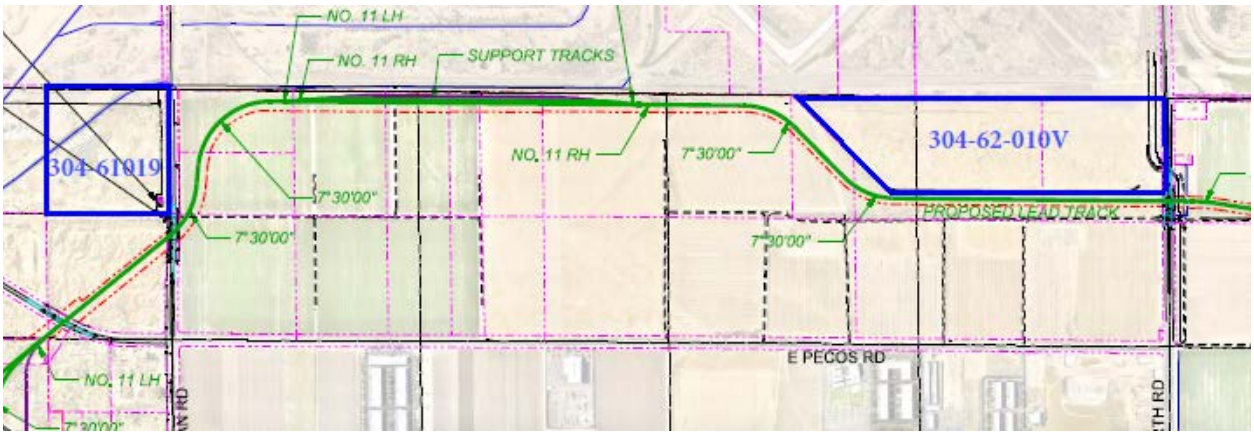


Construction or Operation Outside of UPRR ROW

As the OEA and Jacobs team continues to develop the Environmental Assessment (EA), they need to determine the Area of Potential Effects (APE) as a part of the Section 106 process. A question was posed regarding whether UPRR intends to have any construction or operating activities outside of the ROW or Temporary Construction Easements (TCEs), as shown on the current 30% plans. After careful consideration, UPRR has determined that no construction or operating activities shall be conducted outside of the ROW or TCEs.

Phoenix-Mesa Gateway Airport Authority and United States of America Property (Trust Land)

Both the Phoenix-Mesa Gateway Airport Authority (PMGAA) and the United States of America (USA) own property that abuts the ROW of the proposed PIRATE project. The PMGAA property in question is parcel #'s 304-62-010V. The USA property is parcel # 304-61019. See below for parcels highlighted in blue:



At no time during construction or operation of the proposed line will UPRR encroach on either of these properties.

Please let me know if there is any additional clarifications or information needed to assist in the continued development of the EA.

Sincerely,

Kevin Rice

Senior Manager M/W Environmental

Union Pacific Railroad

SURFACE TRANSPORTATION BOARD
Washington, DC 20423

Office of Environmental Analysis

April 21, 2022

Tanya Spratt
Union Pacific Railroad Company
1400 Douglass Street, 15th Floor
Omaha, NE 68179

Re: Docket No. FD 36501, Union Pacific Railroad - Construction and Operation Exemption - in Maricopa County, Arizona; Grant of EIS Waiver Request

Dear Ms. Spratt:

Thank you for your March 24, 2022, letter regarding the Union Pacific Railroad Company's (UP) proposed construction and operation of the Pecos Industrial Rail Access and Train Extension Project (PIRATE) in Maricopa County, Arizona. The proposed rail line would extend approximately six miles from UP's main line, located just west of the project area through the Pecos Advanced Manufacturing Zone (PAMZ), ending with a connection to the Commercial Metals Company (CMC) steel mill and would be maintained and operated by UP. The purpose of the new line would be to provide rail service to the CMC steel mill and rail development opportunities to industrial-zoned land in and near the PAMZ.

In your letter, you provide information about the level of potential environmental impacts that may be associated with the proposed construction and operation and request a waiver of the preparation of an environmental impact statement (EIS). Pursuant to 49 C.F.R. § 1105.6(d), the Board's Office of Environmental Analysis (OEA) is granting your request for a waiver of 49 C.F.R. § 1105.6(a), which normally provides for the preparation of an EIS for rail line construction proposals.

Based on the information available to date, OEA believes that the potential environmental impacts of this project would not be significant, and any impacts could most likely be addressed through appropriate mitigation measures. Therefore, OEA has determined that the preparation of an environmental assessment (EA) is appropriate in this case for the following reasons:

1. Since initiating outreach with a wide variety of federal, state, and local agencies and organizations, to date, no group contacted has expressed opposition to the proposed rail line; even groups identifying potential concerns regarding traffic, noise, or other local

impacts still appear to support the PIRATE project and OEA's efforts to identify and mitigate such potential issues.

- During an OEA virtual meeting with local, regional, and state agencies on March 29, 2022, the Town of Queen Creek expressed concern about traffic and noise impacts but noted that it recognizes the importance of the proposed rail line for economic development in the area and therefore supports the project.
- In a comment submitted to OEA on January 12, 2022, the City of Mesa indicated that UP must obtain right-of-way and building permits from the City of Mesa to construct the project and that acquisition of City-owned property would require approval from Mesa City Council but expressed overall support for the project.
- Heritage Academy Gateway, a local school near the project area, initially expressed concerns about traffic impacts from at-grade train crossings in a comment submitted to OEA on January 3, 2022. However, after receiving further information, Heritage Academy Gateway expressed support for the project during an OEA-hosted meeting with local schools on March 28, 2022.

2. After consulting with multiple federal agencies with potential interests in the PIRATE project due to jurisdiction or special expertise, none found the PIRATE project to be of sufficient size, scope, complexity, or interest to warrant participating in the environmental review as a cooperating agency, opting instead to remain consulting parties.

   - During an OEA-hosted interagency meeting on March 29, 2022, both the U.S. Environmental Protection Agency (USEPA) and U.S. Air Force (USAF) declined to participate as cooperating agencies for the environmental review of the PIRATE project. USEPA and USAF requested information coordination only.
   - On December 15, 2021, the Western Area Power Administration (WAPA) requested cooperating agency status if the project were to impact the Rogers to Coolidge 230-kV transmission line. The transmission line would be avoided. Therefore, WAPA is not participating as a cooperating agency.
   - No other federal agencies with jurisdiction or other interests in the project have been identified by OEA.

3. Based on OEA's consultation with various agencies, the potential rail line alternatives appear to be aligned with planned land use. OEA anticipates that any environmental issues identified through the EA process could be addressed by reasonable mitigation measures.

   - No wildlife sanctuaries or refuges, national or state parks, or forests should be affected by the proposed PIRATE project.
   - On February 25, 2022, the U.S. Fish and Wildlife Service (USFWS) provided OEA with a list of threatened and endangered species that may occur in the project area or may be affected by the proposed project. No critical habitats are present. There is no

riparian habitat within or adjacent to the project area. In its transmittal email to OEA, USFWS highlighted information related to migratory birds and bald eagles and recommended coordination with the Arizona Game and Fish Department (AZGFD) regarding species of greatest conservation need, such as the western burrowing owl and the Sonoran desert tortoise. To the extent that any sensitive species would be adversely affected by the proposed project, appropriate mitigation measures would be developed in coordination with USFWS and AZGFD.

- OEA's cultural resource surveys will identify cultural and historic properties that are present within the project area. Tribes and agencies will be consulted throughout the Section 106 process to develop any appropriate mitigation measures for potential impacts to cultural resources.

4. The potential for significant negative regional or national impacts associated with the PIRATE project appears to be negligible.

    - UP does not propose to add additional trains to its main line traffic. Railcars destined to or originating from the proposed PIRATE project would be delivered and collected by existing main line trains. Although these new operating procedures would result in a couple of longer trains per day on UP's main line, little to no impact on regional rail traffic is anticipated.
    - Providing rail service to the PAMZ would remove trucks from local and regional roadways which would have secondary benefits to air quality, traffic, noise, and climate change. No diversion of rail traffic to trucking is associated with the proposed PIRATE project.
    - The entire PAMZ is designated for industrial and commercial development, so providing rail service to this area would not be expected to result in significant adverse cumulative or indirect land use impacts.

After the Draft EA is prepared, OEA will make the document available for public review and comment. OEA will then prepare a Final EA that responds to the substantive comments received and includes any appropriate modifications to its existing analysis or additional analysis. The Final EA will also set forth OEA's final recommended mitigation measures to the Board. The Board will then consider the entire environmental record, including the Draft EA, public comments on the Draft EA, and the Final EA, when making its final decision in this proceeding. However, should the EA process disclose unanticipated impacts that are significant, OEA would require the preparation of an EIS at that time.

If we can be of further assistance, please do not hesitate to contact me or Adam Assenza at 202-245-0301.

Sincerely,



Danielle Gosselin
Director
Office of Environmental Analysis

cc: Kevin Rice

BUILDING AMERICA®

June 30, 2022

304920

Via Electronic Filing

ENTERED
Office of Proceedings
June 30, 2022
Part of
Public Record

Ms. Cynthia T. Brown
Chief, Section of Administration
Office of Proceedings
Surface Transportation Board
395 E Street, SW
Washington, D.C. 20024

Re: STB Docket No. FD 36501; Union Pacific Railroad Company – Construction and Operation Exemption–In Maricopa County, AZ

Dear Ms. Brown,

Enclosed for E-filing in the above-captioned proceeding is the Petition of Union Pacific Railroad Company for Construction and Operation Exemption under 49 U.S.C. § 10502 from the requirements of 49 U.S.C. § 10901. Pursuant to 49 C.F.R. § 1002.2(f)(12)(iii), the filing fee of $91,600.00 has been paid via pay.gov. If there are any questions, please contact me directly at (402) 544-4735 or by email at tspratt@up.com.

Sincerely,

Tanya L. Spratt

Tanya L. Spratt, Attorney for Union Pacific Railroad Company

F I L E D
June 30, 2022
SURFACE
TRANSPORTATION BOARD

FEE RECEIVED
June 30, 2022
SURFACE
TRANSPORTATION BOARD

UNION PACIFIC RAILROAD
1400 Douglas Street, 15th Floor
Omaha, Nebraska 68179

Tanya Spratt
Senior General Attorney

P 402-544-4735
E tspratt@up.com

BEFORE THE
SURFACE TRANSPORTATION BOARD

Finance Docket No. 36501

UNION PACIFIC RAILROAD COMPANY
--CONSTRUCTION AND OPERATION EXEMPTION--
IN MARICOPA COUNTY, AZ

UNION PACIFIC RAILROAD COMPANY'S PETITION FOR EXEMPTION

CRAIG V. RICHARDSON
JAMES B. BOLES
TANYA L. SPRATT
Union Pacific Railroad Company
1400 Douglas Street
Omaha, Nebraska 68179
(402) 544-7004

Attorneys for Union Pacific Railroad Company

Dated: June 30, 2022

BEFORE THE
SURFACE TRANSPORTATION BOARD

Finance Docket No. 36501

UNION PACIFIC RAILROAD COMPANY
--CONSTRUCTION AND OPERATION EXEMPTION--
IN MARICOPA COUNTY, AZ

PETITION FOR EXEMPTION

EXPEDITED CONSIDERATION REQUESTED

Pursuant to 49 U.S.C. § 10502, Union Pacific Railroad Company ("UP") hereby petitions the Surface Transportation Board ("Board" or "STB") for an exemption from the prior approval requirements of 49 U.S.C. § 10901 to construct and operate approximately six (6) miles of rail line in connection with its Pecos Industrial Rail Access and Train Extension Project (the PIRATE project) in southeast Maricopa County, Mesa, Arizona (the "Line"). The proposed rail line would connect the existing Pecos Advanced Manufacturing Zone (PAMZ) directly to the UP main line (the UP Phoenix Subdivision) just west of the project area, running six miles through the PAMZ with a terminus at the border between Maricopa County and Pinal County, Arizona.

The proposed rail line would provide rail service to Commercial Metals Company ("CMC"), which has an existing steel micro mill in Mesa. It would also provide rail service to a new steel micro mill that CMC is constructing that is anticipated to be operational in 2023. The proposed line, which cuts through approximately 2,000 acres of industrial zoned land, would also provide an alternate mode of freight transportation to future shippers.

As set forth below, an exemption from the full application requirements is warranted in this case because they are not necessary to carry out the rail transportation policy at 49 U.S.C. § 10101, the proposed construction is limited in scope, and Board regulation is not necessary to protect any shipper from an abuse of market power. UP's proposed rail construction is consistent with numerous decisions of the Board exempting similar transactions from the prior approval requirements of 49 U.S.C. § 10901.

UP respectfully requests that the Board issue a decision granting the exemption expeditiously upon completion of the environmental review.

This Petition is supported by the statement of Barbara R. Smith, Chairman of the Board, President and Chief Executive Officer of CMC, which is included at Exhibit A.

BACKGROUND

A. Description and Purpose of Proposed Line and Planned Operations

UP proposes to construct and operate approximately six (6) miles of rail line in connection with the PIRATE project in southeast Maricopa County, Mesa, Arizona. The PIRATE project is a public/private initiative to fund, engineer, design and construct a six-mile industrial rail branch in southeast Mesa, Arizona. The proposed rail line will serve the transportation and logistics needs of CMC, and open up competitive advantages to new businesses looking to locate/relocate to the area. The PIRATE project encompasses 4,800 acres of agricultural and industrial land primarily situated on the former Williams Air Force Base.

UP has collaborated with the City of Mesa for several years on this project, which is expected to provide far-reaching public benefits by transferring materials away from public roadways onto rail, while also reducing greenhouse gas emissions, local air pollution, highway maintenance costs, and congestion associated with long-haul trucking. Locally, the project will

drive economic growth and expand high-skilled manufacturing job creation in Maricopa County, Arizona. The project has been supported by the City of Mesa, the Arizona Commerce Authority, the Great Phoenix Economic Council, the Arizona Manufacturers Council the Mesa Chamber of Commerce, and other entities and public officials.

The line will allow CMC to receive raw materials and deliver products to its customers by rail. CMC is the largest manufacturer of steel reinforcing bar (rebar) in North America and Central Europe, and also a leading producer in the steel long products market.[1] UP currently serves CMC at other locations in the United States, and the proposed line will serve CMC's facilities in Mesa, Arizona. CMC has an existing steel micro mill in Mesa, and is currently constructing a new steel micro mill in Mesa capable of producing 500,000 tons of rebar and merchant bar products to replace rebar production from a facility that CMC closed in California.[2] The proposed line will provide rail access to CMC's existing facility and the facility that is being constructed. CMC anticipates that rail access will allow it to receive raw material and deliver products to its customers more efficiently, eliminating an estimated 10,000 trucks per year from current operations and 25,000 trucks per year from its new manufacturing facility in 2023.[3]

Adding a rail transportation option will allow CMC to expand operations, add high-paying manufacturing jobs, provide its customers a low-cost logistics option, and explore additional multi-modal efficiencies that would benefit the region by reducing truck traffic and congestion.[4]

---

[1] Statement of Barbara R. Smith (Smith Statement) at 1.

[2] *Id.* at 2.

[3] *Id.* at 2.

[4] *Id.* at 1-2.

The addition of the proposed line will provide an alternate mode of freight transportation for future customers that could locate along the industrial lead as well.

A map of the proposed rail line is included at Exhibit B.

B. Environmental Review

UP has met with the Board's Office of Environmental Analysis (OEA) on five occasions regarding the environmental and planning considerations for the proposed line, which is not expected to have a significant environmental impact. By letter dated April 1, 2021, UP asked OEA to grant a waiver pursuant to 49 C.F.R. § 1105.10(c) of the requirement under 49 C.F.R. § 1105.10(a) that an applicant meet and provide "written notice of its forthcoming proposal at least six (6) months prior to filing its application."[5] OEA granted UP's waiver request by letter dated April 30, 2021.[6] UP has also contracted and received approval for a third-party contractor, Jacobs Engineering Group Inc. ("Jacobs"), to provide assistance with the environmental documentation.[7] The STB, UP, and Jacobs have also executed a Memorandum of Understanding ("MOU") to ensure that construction of the Line complies with the requirements of the National Environmental Policy Act.[8]

By letter dated March 24, 2022, UP requested a waiver from the requirements of 49 C.F.R. § 1105.6(a) of the preparation of an Environmental Impact Statement (EIS) in favor of

---

[5] See EI-31953 (UP letter dated Apr. 1, 2021).

[6] See Exhibit C.

[7] See Exhibit D.

[8] See EI-3672 (MOU).

the preparation of an Environmental Assessment (EA).[9] A waiver to prepare an EA was granted by OEA on April 21, 2022.[10]

UP is working with OEA and Jacobs to support preparation of the Draft EA.

ARGUMENT

Construction and operation of a new common carrier rail line require Board approval under 49 U.S.C. § 10901(a)(1) and (2). However, § 10901(c) directs the Board to authorize construction and operation of a rail line "unless the Board finds that such activities are inconsistent with the public convenience and necessity." Thus, as the Board has stated, "Congress has established a presumption that rail construction projects are in the public interest unless shown otherwise."[11]

Under 49 U.S.C. § 10502(a), the Board "shall," to the maximum extent consistent with the statute, exempt a proposed rail construction and operation from regulation under § 10901 if it finds that (1) such regulation is not necessary to carry out the rail transportation policy of 49 U.S.C. § 10101; and (2) either (a) the transaction or service is of limited scope, or (b) regulation is not needed to protect shippers from the abuse of market power.

As explained herein, the Board should grant the requested exemption because the proposed rail line construction and operation meet the § 10502(a) exemption criteria. UP respectfully requests that the Board issue a decision granting the exemption expeditiously upon completion of the environmental review.

---

[9] See EI-31927 (UP letter dated Mar. 24, 2022).

[10] See Exhibit E.

[11] Alaska Railroad—Construction & Operating Exemption—Rail Line Extension to Port MacKenzie, Alaska, FD 35095, at 5 (STB served Nov. 21, 2011), aff'd sub nom. Alaska Survival v. STB, 705 F.3d 1073 (9th Cir. 2013); see also Lone Star R.R.—Track Construction & Operation Exemption—In Howard County, Tex., FD 35874, at 3 (STB served March 3, 2016).

A. Board Regulation Is Not Necessary to Carry Out the Rail Transportation Policy at § 10101

Regulation of the proposed construction and operation is not necessary to carry out the rail transportation policy at § 10101. Rather, granting an exemption will promote several provisions of the rail transportation policy and will not run counter to any of those goals.

Granting the exemption is consistent with the goals at § 10101(4) and (5), to ensure the development and continuation of a sound rail transportation system with effective competition among rail carriers and with other modes to meet the needs of the public, and to foster sound economic conditions in transportation and ensure effective competition and coordination between rail carriers and other modes. The proposed line will provide alternative transportation options for CMC and future shippers, thus enhancing competition. See Palmetto Railways—Construction & Operation Exemption—In Berkeley County, S.C., FD 36095, at 3 (STB served July 22, 2019) (proposed line would enhance competition by providing a freight rail option that did not previously exist, consistent with § 10101(4) & (5)); Six County Assoc. of Governments—Construction & Operation Exemption—Rail Line Between Levan & Selina, UT, FD 34075, at 3 (STB served Oct. 19, 2001) (proposed line would provide a rail service option to shippers in an area where no rail service exists, thereby increasing competition consistent with § 10101(4)).

Also, consistent with the goals at § 10101(2) and (7), an exemption will minimize the need for federal regulatory control over the rail transportation system and reduce regulatory barriers to entry. An exemption here will promote these policies by minimizing the time and administrative expense associated with the construction and commencement of operations, which are intended to bring rail service to an area where none currently exists and help promote economic development and growth. See Palmetto Railways, FD 36095, at 3; Six County Assoc.

of Governments, FD 34075, at 3. An exemption is also consistent with the goals at § 10101(15), to provide for the expeditious handling and resolution of proceedings.

In summary, formal approval under § 10901 is not necessary to carry out the goals of the rail transportation policy.

B. The Transaction Is Limited In Scope and Regulation Is Not Needed to Protect Shippers from an Abuse of Market Power

Although the second test for an exemption is stated in the alternative—either the transaction must be of limited scope or the Board must find that regulation is not needed to protect shippers from an abuse of market power—UP's proposed construction satisfies both elements.

First, the proposed construction is limited in scope. The line to be constructed and operated is only approximately six miles in length. The agency has routinely granted construction exemptions for rail lines of similar length. See, e.g., Ken Tenn Regional Rail Partners, Inc.—Construction & Operation Exemption—In Fulton County, Ky. & Obion County, Tenn., FD 36328, at 1 (STB served Dec. 1, 2020) (conditionally exempting construction of 12.17 miles of rail line); Itasca County Regional Rail Authority—Pet. for Exemption—Construction of a Line of R.R. in Itasca County, MN, FD 34992, at 1 (STB served Sept. 8, 2008) (exempting construction of a 9-mile rail line); Southwest Gulf R.R.—Constr. & Operation Exemption—Medina County, TX, FD 34284, at 1 (STB served May 19, 2003) (conditionally exempting construction of approximately 7-mile line of railroad); Burlington N. & Santa Fe Ry.—Construction & Operation Exemption—Seadrift & Kamey, TX, FD 34003, at 1 (STB served June 19, 2001) (conditionally exempting construction of 7.5 miles of rail line).

Second, regulation is not needed to protect shippers from an abuse of market power. The proposed line will benefit CMC, which supports construction of the line.[12] The proposed line will provide an additional mode of freight transportation for CMC as well as future shippers. The proposed line will therefore enhance transportation services and competition. See Palmetto Railways, FD 36095, at 3 (finding that proposed rail line would enhance competition by providing rail service where it does not currently exist, thereby creating an alternative mode of transportation); Six County Assoc. of Governments, FD 34075, at 3 (finding that the proposed construction was not needed to protect shippers from an abuse of market power because the line would provide another transportation option and enhanced competition).

C. Expedited Consideration Requested

UP respectfully requests that the Board issue a decision granting the exemption expeditiously upon completion of the environmental review. As described above, UP has been collaborating with the City of Mesa and a number of other entities and public officials for several years on the PIRATE project, which is expected to provide far-reaching public benefits, described above. UP has diligently prepared the required documentation for the proposed line, obtaining a waiver of the six-month pre-filing notice and waiver of the EIS requirement. Given the limited scope of the transaction, the fact that the line is not expected to have a significant impact on the environment, and the benefits associated with the project, UP urges the Board to expeditiously complete its environmental review and grant the petition for exemption.

CONCLUSION

UP respectfully requests that this exemption petition be granted.

---

[12] Smith Statement at 1-2.

Respectfully submitted,

/s/ CRAIG RICHARDSON

CRAIG V. RICHARDSON
JAMES B. BOLES
TANYA L. SPRATT
Union Pacific Railroad Company
1400 Douglas Street
Omaha, Nebraska 68179
(402) 544-7004

Attorneys for Union Pacific Railroad Company

Dated: June 30, 2022

BEFORE THE
SURFACE TRANSPORTATION BOARD

Finance Docket No. 36501

UNION PACIFIC RAILROAD COMPANY
--CONSTRUCTION AND OPERATION EXEMPTION--
IN MARICOPA COUNTY, AZ

PETITION FOR EXEMPTION

EXHIBIT A

CMC Statement

BEFORE THE
SURFACE TRANSPORTATION BOARD

Finance Docket No. 36501

UNION PACIFIC RAILROAD COMPANY
--CONSTRUCTION AND OPERATION EXEMPTION--
IN MARICOPA COUNTY, AZ

PETITION FOR EXEMPTION

STATEMENT OF Barbara R. Smith, Chairman of the Board, President and Chief Executive Officer, Commercial Metals Company

---

Commercial Metals Company (CMC) is a leading provider of construction reinforcement solutions, capable of meeting the most rigorous demands of the markets we serve. As the largest manufacturer of steel reinforcing bar (rebar) in North America and Central Europe, we are a key supplier to the construction markets across two continents. Our Tensar line of innovative subgrade soil stabilization and foundation enhancement solutions reaches customers around the globe and helps to lower the cost and duration of construction projects, while offering unique environmental benefits compared to traditional alternatives.

In addition to rebar, CMC also produces merchant bar, steel fence post and wire rod, making us a leader in the steel long products market. Our products go mostly unseen, but support virtually every element of modern life - from highways, bridges and airports, to sky-scrapers, sports stadiums and hospitals.

With a best-in-class safety record, technologies that reduce carbon emissions, and a commitment to helping the communities in which we operate, we are a responsible corporate citizen.

Union Pacific (UP) is a major logistics service provider to CMC in the markets they serve. Over the last 3 years, we have worked with UP and the local authorities in the development of this important rail solution that will serve our manufacturing facilities in Mesa, Arizona and the Pecos Advanced Manufacturing Zone in the East Valley of Phoenix. CMC is aware that UP is filing this Petition for a Construction and Operation Exemption under 49 U.S.C. § 10504 from the Requirements of 49 U.S.C. § 10901.

As one of the major industrial companies located along the future freight rail track line, we are in strong support of bringing rail freight infrastructure into the region. The addition of rail will allow us to expand operations, add high-paying manufacturing jobs and explore additional multi-

modal efficiencies that will benefit the region by reducing truck traffic and congestion while reducing greenhouse gas emissions.

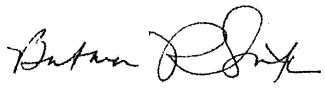
This rail project is critical to the success of our operations in Mesa, Arizona. We built our original steel micromill, capable of producing 275,000 tons per year of steel rebar, in 2009 and have expanded the capability of this facility to 420,000 tons per year over the past 13 years. This expansion has required that we increase our market reach and rail service is critical to providing our customers a low-cost logistics option. Additionally, after an extensive multi-state site search process, we chose Mesa, Arizona to locate a new steel micromill due to its central proximity to growing markets and the potential availability of lower-cost rail freight options that are provided by this project. We are currently constructing the first and one-of-a-kind, state of the art micromill capable of producing 500,000 tons of rebar and merchant bar products to replace rebar production from a facility that we closed in California and to expand our merchant bar production to western U.S. markets. We anticipate completion of this project and startup of manufacturing in mid-2023.

We currently receive and ship 48,000 truckloads per year via over the road freight and an estimated additional 52,000 truckloads per year after completion of our new facility in 2023. Rail will allow us to both receive raw material and deliver products to our customers more efficiently, eliminating an estimated 10,000 trucks per year from current operations and 25,000 trucks per year from our new manufacturing facility in 2023, further reducing traffic congestion and improving safety.

The existing steelmaking facility and the new mill both utilize leading edge micromill steelmaking technology. This technology, developed by CMC and the equipment manufacturer, emits 65% less GHG and uses 87% less energy to produce a ton of steel than the global steelmaking average. Additionally, the reduction of 35,000 over the road trucks per year will reduce GHG emissions further by using more efficient rail logistics for both incoming raw material and outbound finished goods. We estimate that this rail project will reduce GHG logistics emissions by another 20%.

In summary, this rail project is critical to our manufacturing facilities and to the East Valley's efforts in attracting advanced manufacturing to the region. CMC's existing facility will utilize this immediately at completion and significantly increase our usage upon commissioning of our new facility in 2023.

Barbara R. Smith



Chairman of the Board, President and Chief Executive Officer
Commercial Metals Company

BEFORE THE
SURFACE TRANSPORTATION BOARD

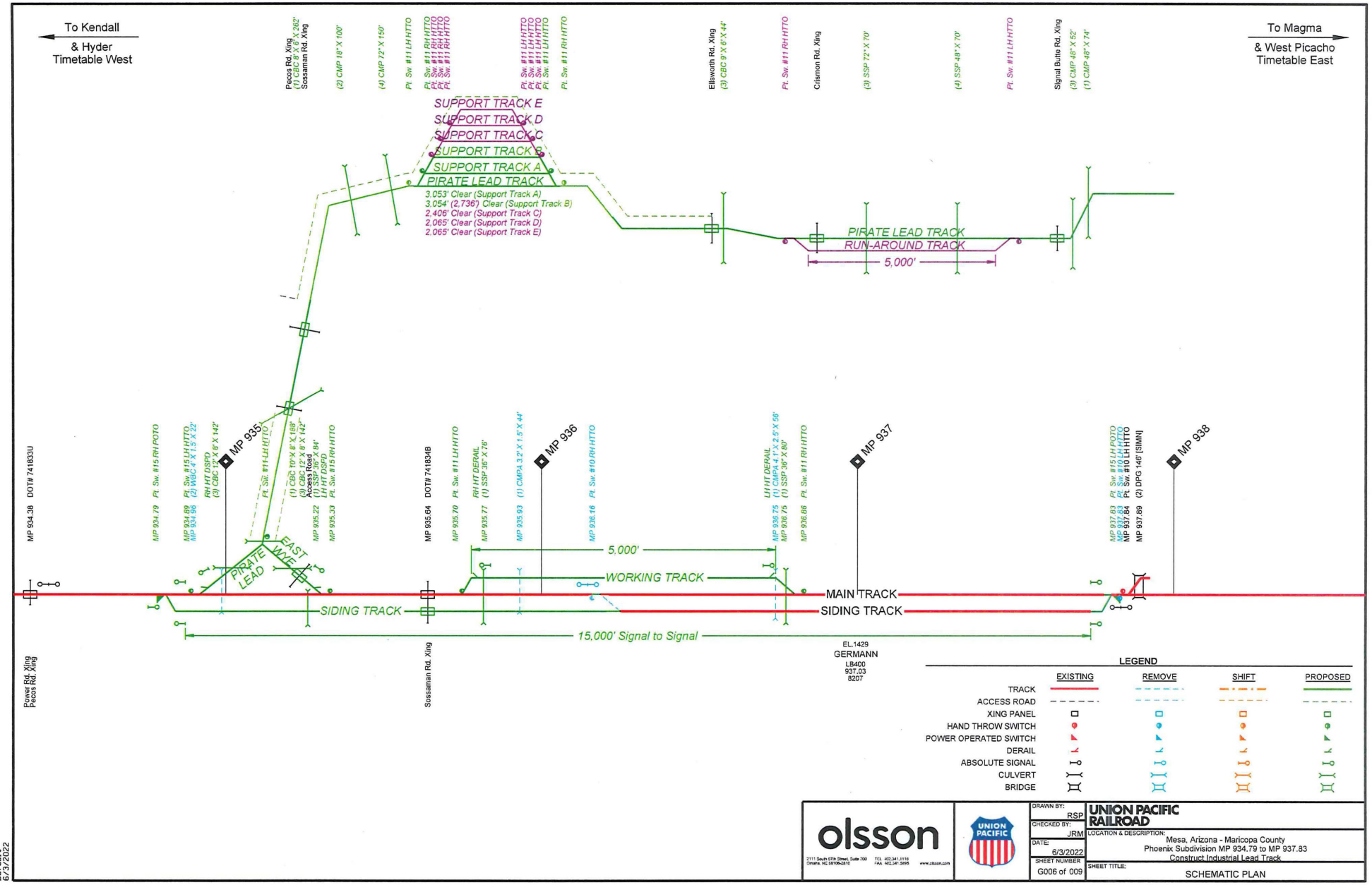
Finance Docket No. 36501

UNION PACIFIC RAILROAD COMPANY
--CONSTRUCTION AND OPERATION EXEMPTION--
IN MARICOPA COUNTY, AZ

PETITION FOR EXEMPTION

EXHIBIT B

Map Condensed Plan



olsson
2111 South 67th Street, Suite 200
Omaha, NE 68106-2310
TEL 402.341.1116
FAX 402.341.5895
www.olsson.com

UNION PACIFIC

DRAWN BY: RSP
CHECKED BY: JRM
DATE: 6/3/2022
SHEET NUMBER: G006 of 009

UNION PACIFIC RAILROAD
LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track
SHEET TITLE:
SCHEMATIC PLAN

Color tables:K:\Bentley\WorkspaceV8i\projects\Clients\UPRR_Track-V8i\scalor\UPRR.tbl
File:K:\2020\0501-1000\020-0927\40-Design\Microstation\020-0927_RLTK_Mainline_GEN_200927.dgn
File:K:\2020\0501-1000\020-0927\40-Design\Microstation\020-0927_RLTK_GEN_Sheets_01_General_GEN_200927.dgn
Default
6/3/2022

BEFORE THE
SURFACE TRANSPORTATION BOARD

Finance Docket No. 36501

UNION PACIFIC RAILROAD COMPANY
--CONSTRUCTION AND OPERATION EXEMPTION--
IN MARICOPA COUNTY, AZ

PETITION FOR EXEMPTION

EXHIBIT C

OEA April 30, 2021 Waiver Approval

SURFACE TRANSPORTATION BOARD
Washington, DC 20423

Office of Environmental Analysis

April 30, 2020

Mr. Jeremy Berman
Union Pacific Railroad Company
1400 Douglas Street
15th Floor
Omaha, NE 68197

Re: Docket No. FD 36501, Union Pacific Railroad Company – Construction and Operation Exemption – In Maricopa County, AZ; Waiver of Six-Month Prefiling Notice and Approval of Third-Party Contractor

Dear Mr. Berman:

Thank you for your letter dated April 1, 2021 requesting a waiver of the six-month prefiling notice and approval of a third-party contractor in the above-referenced proceeding. According to your letter, Union Pacific Railroad Company (UP) intends to file a petition with the Surface Transportation Board (Board) for an exemption under 49 U.S.C. § 10502 from the prior approval requirements of 49 U.S.C. § 10901to construct and operate a an approximately 6-mile rail line in Mesa, Arizona. As part of the Board's licensing process, the Board's Office of Environmental Analysis (OEA) will conduct an environmental review for the proposed rail line in compliance with the National Environmental Policy Act (NEPA), Section 106 of the National Historic Preservation Act (NHPA) and the Board's environmental rules at 49 C.F.R. Part 1105.

Waiver from the Six-Month Notice Requirement

Pursuant to 49 C.F.R. § 1105.10(c), OEA is granting your request for waiver of the six-month prefiling notice generally required for rail line construction projects under 49 C.F.R. § 1105.10(a)(l). OEA met with UP representatives on February 19, 2021 regarding the proposed construction and operation of a new rail line in Maricopa County, Arizona. At the meeting, UP's representatives provided OEA with an overview of the project, and OEA discussed the Board's environmental review process.

OEA understands that UP proposes to construct and operate approximately 6 miles of

track in association with its Pecos Industrial Rail Access and Train Extension Project (the PIRATE project) in southeast Mesa, Arizona. The PIRATE project encompasses 4,800 acres of agricultural and industrial land primarily situated on the former Williams Air Force Base. The proposed rail line would connect the existing Pecos Advanced Manufacturing Zone (PAMZ) directly to the UP main line just west of the project area, running six miles through the PAMZ with a terminus at the border between Maricopa County and Pinal County. The proposed rail line would provide rail service to a currently non-rail served facility with future facilities planned for development along the line and would be operated by UP.

Because of what was discussed at the February 19, 2021 meeting, OEA believes that it has adequate information, and that UP is sufficiently aware of the environmental review process, to grant this request.

Third-Party Contractor Approval

Your request for approval under 49 C.F.R. 1105.10(d) and 40 C.F.R. 1506.5 for retention of Jacobs as an independent third-party contractor is also approved. Jacobs will prepare the appropriate environmental document on behalf of the Board in connection with the proposed rail line. Enclosed please find a disclosure statement that we ask you to forward to Jacobs to complete. Once the statement is signed by Jacobs, we request that Jacobs send it back to us. As we discussed in our meeting on February 19, 2021, OEA will directly supervise, review, and approve all environmental documents prepared by the independent third-party contractor.

If we can be of further assistance, please contact me or Adam Assenza of my staff at (202) 245-0301 or by email at adam.assenza@stb.gov.

Sincerely,



Danielle Gosselin
Acting Director
Office of Environmental Analysis

Enclosure

SURFACE TRANSPORTATION BOARD
DISCLOSURE STATEMENT

On behalf of _____, I certify that _____ has
(name of contractor) (name of contractor)

no financial or other interests in the outcome of the prospective petition of the

_____ to construct a rail line in _____.
(name of applicant/petitioner) (location of proposed rail line)

Signature: _____

Printed Name: _____

Title: _____

Date: _____

BEFORE THE
SURFACE TRANSPORTATION BOARD

Finance Docket No. 36501

UNION PACIFIC RAILROAD COMPANY
--CONSTRUCTION AND OPERATION EXEMPTION--
IN MARICOPA COUNTY, AZ

PETITION FOR EXEMPTION

EXHIBIT D

Approval Letter for Jacobs June 10, 2021

SURFACE TRANSPORTATION BOARD
Washington, DC 20423

Office of Environmental Analysis

June 10, 2021

Jeremy M. Berman
Union Pacific Railroad Company
1400 Douglas Street, 15th Floor
Omaha, Nebraska 68179

Re: Docket No. FD 36501, Union Pacific Railroad Company – Construction and Operation Exemption – in Maricopa County, AZ – Request for Signature of Memorandum of Understanding

Dear Mr. Berman:

As you know, the Surface Transportation Board's (Board) Office of Environmental Analysis (OEA) has approved, under 49 C.F.R. § 1105.10(d), Jacobs as the independent third-party consultant for the above-referenced proceeding. Jacobs will assist OEA in preparing the appropriate environmental documentation in connection with Union Pacific Railroad Company's (UP) proposed construction of a rail line in Maricopa County, Arizona. OEA has received the signed disclosure statement from Jacobs. As previously discussed, OEA will direct, supervise, review, and approve all environmental materials prepared by the third-party consultant in this proceeding.

Attached please find a Memorandum of Understanding (MOU) which should be signed by UP, forwarded to Jacobs for signature, and returned to OEA. The purpose of the MOU is to outline each party's responsibilities and establish an understanding regarding the conditions and procedures each party must follow in preparing all environmental documentation.

Thank you for your cooperation in this matter. If you have any questions, please feel free to contact me at 202-245-0300 or Adam Assenza of my staff at 202-245-0301.

Sincerely,

Danielle Gosselin
Acting Director
Office of Environmental Analysis

Enclosures

BEFORE THE
SURFACE TRANSPORTATION BOARD

Finance Docket No. 36501

UNION PACIFIC RAILROAD COMPANY
--CONSTRUCTION AND OPERATION EXEMPTION--
IN MARICOPA COUNTY, AZ

PETITION FOR EXEMPTION

EXHIBIT E

OEA Waiver for EA versus EIS

SURFACE TRANSPORTATION BOARD
Washington, DC 20423

Office of Environmental Analysis

April 21, 2022

Tanya Spratt
Union Pacific Railroad Company
1400 Douglass Street, 15th Floor
Omaha, NE 68179

Re: Docket No. FD 36501, Union Pacific Railroad - Construction and Operation Exemption - in Maricopa County, Arizona; Grant of EIS Waiver Request

Dear Ms. Spratt:

Thank you for your March 24, 2022, letter regarding the Union Pacific Railroad Company's (UP) proposed construction and operation of the Pecos Industrial Rail Access and Train Extension Project (PIRATE) in Maricopa County, Arizona. The proposed rail line would extend approximately six miles from UP's main line, located just west of the project area through the Pecos Advanced Manufacturing Zone (PAMZ), ending with a connection to the Commercial Metals Company (CMC) steel mill and would be maintained and operated by UP. The purpose of the new line would be to provide rail service to the CMC steel mill and rail development opportunities to industrial-zoned land in and near the PAMZ.

In your letter, you provide information about the level of potential environmental impacts that may be associated with the proposed construction and operation and request a waiver of the preparation of an environmental impact statement (EIS). Pursuant to 49 C.F.R. § 1105.6(d), the Board's Office of Environmental Analysis (OEA) is granting your request for a waiver of 49 C.F.R. § 1105.6(a), which normally provides for the preparation of an EIS for rail line construction proposals.

Based on the information available to date, OEA believes that the potential environmental impacts of this project would not be significant, and any impacts could most likely be addressed through appropriate mitigation measures. Therefore, OEA has determined that the preparation of an environmental assessment (EA) is appropriate in this case for the following reasons:

1. Since initiating outreach with a wide variety of federal, state, and local agencies and organizations, to date, no group contacted has expressed opposition to the proposed rail line; even groups identifying potential concerns regarding traffic, noise, or other local

impacts still appear to support the PIRATE project and OEA's efforts to identify and mitigate such potential issues.

- During an OEA virtual meeting with local, regional, and state agencies on March 29, 2022, the Town of Queen Creek expressed concern about traffic and noise impacts but noted that it recognizes the importance of the proposed rail line for economic development in the area and therefore supports the project.
- In a comment submitted to OEA on January 12, 2022, the City of Mesa indicated that UP must obtain right-of-way and building permits from the City of Mesa to construct the project and that acquisition of City-owned property would require approval from Mesa City Council but expressed overall support for the project.
- Heritage Academy Gateway, a local school near the project area, initially expressed concerns about traffic impacts from at-grade train crossings in a comment submitted to OEA on January 3, 2022. However, after receiving further information, Heritage Academy Gateway expressed support for the project during an OEA-hosted meeting with local schools on March 28, 2022.

2. After consulting with multiple federal agencies with potential interests in the PIRATE project due to jurisdiction or special expertise, none found the PIRATE project to be of sufficient size, scope, complexity, or interest to warrant participating in the environmental review as a cooperating agency, opting instead to remain consulting parties.

   - During an OEA-hosted interagency meeting on March 29, 2022, both the U.S. Environmental Protection Agency (USEPA) and U.S. Air Force (USAF) declined to participate as cooperating agencies for the environmental review of the PIRATE project. USEPA and USAF requested information coordination only.
   - On December 15, 2021, the Western Area Power Administration (WAPA) requested cooperating agency status if the project were to impact the Rogers to Coolidge 230-kV transmission line. The transmission line would be avoided. Therefore, WAPA is not participating as a cooperating agency.
   - No other federal agencies with jurisdiction or other interests in the project have been identified by OEA.

3. Based on OEA's consultation with various agencies, the potential rail line alternatives appear to be aligned with planned land use. OEA anticipates that any environmental issues identified through the EA process could be addressed by reasonable mitigation measures.

   - No wildlife sanctuaries or refuges, national or state parks, or forests should be affected by the proposed PIRATE project.
   - On February 25, 2022, the U.S. Fish and Wildlife Service (USFWS) provided OEA with a list of threatened and endangered species that may occur in the project area or may be affected by the proposed project. No critical habitats are present. There is no

riparian habitat within or adjacent to the project area. In its transmittal email to OEA, USFWS highlighted information related to migratory birds and bald eagles and recommended coordination with the Arizona Game and Fish Department (AZGFD) regarding species of greatest conservation need, such as the western burrowing owl and the Sonoran desert tortoise. To the extent that any sensitive species would be adversely affected by the proposed project, appropriate mitigation measures would be developed in coordination with USFWS and AZGFD.

- OEA's cultural resource surveys will identify cultural and historic properties that are present within the project area. Tribes and agencies will be consulted throughout the Section 106 process to develop any appropriate mitigation measures for potential impacts to cultural resources.

4. The potential for significant negative regional or national impacts associated with the PIRATE project appears to be negligible.

    - UP does not propose to add additional trains to its main line traffic. Railcars destined to or originating from the proposed PIRATE project would be delivered and collected by existing main line trains. Although these new operating procedures would result in a couple of longer trains per day on UP's main line, little to no impact on regional rail traffic is anticipated.
    - Providing rail service to the PAMZ would remove trucks from local and regional roadways which would have secondary benefits to air quality, traffic, noise, and climate change. No diversion of rail traffic to trucking is associated with the proposed PIRATE project.
    - The entire PAMZ is designated for industrial and commercial development, so providing rail service to this area would not be expected to result in significant adverse cumulative or indirect land use impacts.

After the Draft EA is prepared, OEA will make the document available for public review and comment. OEA will then prepare a Final EA that responds to the substantive comments received and includes any appropriate modifications to its existing analysis or additional analysis. The Final EA will also set forth OEA's final recommended mitigation measures to the Board. The Board will then consider the entire environmental record, including the Draft EA, public comments on the Draft EA, and the Final EA, when making its final decision in this proceeding. However, should the EA process disclose unanticipated impacts that are significant, OEA would require the preparation of an EIS at that time.

If we can be of further assistance, please do not hesitate to contact me or Adam Assenza at 202-245-0301.

Sincerely,

Danielle Gosselin
Director
Office of Environmental Analysis

cc: Kevin Rice

BUILDING AMERICA®

April 12, 2023

VIA EMAIL

Ms. Danielle Gosselin
Director, Office of Environmental Analysis
Surface Transportation Board
395 E Street, SW
Washington, DC 20423

Re: STB Docket No. FD 36501 – Union Pacific Railroad – Construction and Operation Exemption - PIRATE Project – Voluntary Mitigation Measures

Dear Ms. Gosselin:

Please find enclosed the proposed voluntary mitigation measures for Union Pacific Railroad's PIRATE Project. Union Pacific Railroad submits these voluntary mitigation measures for consideration in the Draft Environmental Assessment that is currently being prepared by the Surface Transportation Board's Office of Environmental Analysis.

If there are any questions regarding the proposed voluntary mitigation measures, please do not hesitate to contact me.

Sincerely,

/s/

Tanya Spratt

Encl.

cc: Adam Assenza
Maggie Buckley
Kevin Rice

UNION PACIFIC RAILROAD
1400 Douglas Street, 15th Floor,
STOP 1580
Omaha, Nebraska 68179

Tanya Spratt
Senior General Attorney

P 402-544-4735
E tspratt@up.com

Introduction

This report presents the Union Pacific Railroad's (Applicant) draft Voluntary Mitigation Measures (VMs) for the proposed PIRATE Project. These VMs were developed based on the Applicant's understanding of the environmental and built environmental conditions within the rail corridor and are based on feedback received during the environmental review process to date. As appropriate, these VMs may be carried out either by the Applicant or the Applicant's construction contractor(s).

Voluntary Mitigation Measures

The following sections provide the Applicant's VMs. They are presented by resource category.

CONSTRUCTION AND RAIL OPERATIONS SAFETY

VM 1. The Applicant will follow all applicable federal Occupational Safety and Health Administration, Federal Railroad Administration (FRA), and operational safety regulations to minimize the potential for accidents and incidents during construction and operation of the rail line.

GRADE CROSSING SAFETY

VM 2. The Applicant will consultant with appropriate federal, state, and local transportation agencies to determine the final design of the at-grade crossing warning devices. Warning devices on public roadways will be subject to review and approval, depending on location, by the Arizona Corporation Commission (ACC), City of Mesa, and Town of Queen Creek. The Applicant will follow standard safety designs for each at-grade crossing for proposed warning devices and signs. These designs will follow the Federal Highway Administration's *Manual on Uniform Traffic Control Devices for Streets and Highways* (MUTCD) and the American Railway Engineering and Maintenance-of-Way Association (AREMA) guidelines for railroad warning devices. They will also comply with applicable ACC, City of Mesa, and Town of Queen Creek requirements.

VM 3. For construction of road crossings, when reasonably practical, the Applicant and Applicant's contractor(s) will consult with local transportation officials regarding construction phasing and temporary traffic control. The Applicant's contractor(s) will be responsible for local agency coordination of construction schedules, detours, and temporary traffic control, as well as obtainment of necessary temporary traffic control permits from the City of Mesa and Town of Queen Creek. As appropriate, the Applicant's contractor(s) will maintain egress or routing of traffic to allow for passage of emergency and other vehicles.

VM 4. The Applicant will consult with the Flood Control District of Maricopa County (FCDMC) to determine the final details and reasonable signage for private at-grade crossings along access roads.

VM 5. The Applicant and Applicant's contractor(s) will consult with appropriate adjacent landowners for coordination of construction schedules and temporary access during construction.

VM 6. The Applicant will consult with the ACC and City of Mesa regarding roadway safety and user expectations, which includes items such as pavement markings, signing, delineators, and active warning devices for vehicles, pedestrians, and bicyclists at proposed at-grade crossings.

HAZARDOUS MATERIALS HANDLING AND SPILLS DURING CONSTRUCTION

VM 7. Prior to initiating any project-related construction activities, the Applicant's contractor(s) will prepare a Hazardous Waste Management Plan (HWMP) detailing the manner in which hazardous wastes will be managed and describing the types and volumes of hazardous wastes anticipated to be managed. The HWMP will address both onsite and offsite hazardous waste management and include the following: description of the methods to be used to ensure accurate piece counts or weights of shipments, waste minimization methods, facilities to be used for treatment, storage, and disposal (TSD), onsite areas designated where hazardous wastes are to be handled, identify whether transfer facilities are to be used, and if so, how the wastes will be tracked to ultimate disposal. Additionally, the Applicant's contractor(s) will document hazardous waste inspections on a weekly basis.

VM 8. In accordance with the Applicant contractor's HWMP and Emergency Management Plan (EMP), and in the event of a spill over the applicable reportable quantity, the Applicant's contractor(s) will comply with its spill prevention, control, and countermeasures plan and applicable federal, state, and local regulations pertaining to spill containment, appropriate clean-up, and notifications.

VM 9. The Applicant will require its construction contractor(s) to implement measures to protect workers' health and safety and the environment in the event that undocumented hazardous materials are encountered during construction. The Applicant will document all activities associated with hazardous material spill sites and hazardous waste sites and will notify the appropriate state and local agencies according to applicable regulations. The goal of the measures is to ensure the proper handling and disposal of contaminated materials including contaminated soil, groundwater, and stormwater, if such materials are encountered. The Applicant will use disposal methods that comply with applicable solid and hazardous water regulations.

VM 10. The Applicant's contractor(s) will responsibly handle and store gasoline, diesel fuel, oil, lubricants, and other petroleum products to reduce the risk of spills

contaminating soils or surface waters. If a petroleum spill occurs in the project area as a result of rail construction, operation, or maintenance and exceeds specific quantities or enters a water body, the Applicant's contractor(s) will be responsible for promptly cleaning up the spill and notifying responsible agencies in accordance with federal and state regulations.

HAZARDOUS MATERIALS TRANSPORT AND EMERGENCY RESPONSE

VM 11. The Applicant will prepare a hazardous materials emergency response plan to address potential derailments or spills. This plan will address the requirements of the Pipeline and Hazardous Materials Safety Administration (PHMSA) and FRA requirements for comprehensive oil spill response plans. The Applicant will distribute the plan to federal, state, and local emergency response agencies. This plan shall include a roster of agencies and people to be contacted for specific types of emergencies during rail construction, operation and maintenance activities, procedures to be followed by particular rail employees, emergency routes for vehicles, and the location of emergency equipment.

VM 12. The Applicant will work with the local agencies to facilitate the development of cooperative agreements with other emergency service providers to share services areas and emergency call response.

VM 13. In the event of a reportable hazardous materials release, the Applicant will notify appropriate federal, and state environmental agencies as required under federal and state law.

VM 14. The Applicant will comply with applicable FRA, PHMSA, and Transportation Security Administration regulations for the safe and secure transportation of hazardous materials.

TOPOGRAPHY, GEOLOGY, AND SOILS

VM 15. The Applicant's contractors(s) will limit ground disturbance to only the areas necessary for project-related construction activities.

VM 16. During project-related earth-moving activities, the Applicant's contractors(s) will remove topsoil and excess earthen material for safe and legal disposal to an offsite location.

VM 17. The Applicant's contractor(s) will stockpile excavated soil in areas away from environmentally or culturally sensitive areas and will use appropriate erosion control measures to prevent or contain erosion.

VM 18. The Applicant's contractor(s) will submit a Notice of Intent (NOI) to request permit coverage under Arizona Pollutant Discharge Elimination System

(AZPDES) Construction Activity General Permit (CGP) AZG2020-001 CGP for construction stormwater management.

VM 19. The Applicant's contractors(s) will submit an application for coverage under the National Pollutant Discharge Elimination System stormwater construction permits pursuant to Section 402 of the Clean Water Act for construction stormwater management.

VM 20. The Applicant's contractor(s) will develop a stormwater pollution prevention plan (SWPPP), which will include construction best management practices (BMPs) to control erosion and reduce the amount of sediment and pollutants entering surface waters, groundwater, and waters of the U.S. The Applicant will require its construction contractor(s) to follow all water quality control conditions identified in all permits, including the Section 404 permit from the U.S. Army Corps of Engineers (USACE) and the Section 401 Water Quality Certification from the Arizona Department of Environmental Quality.

VM 21. The Applicant's contractors(s) will perform finish grading and surface disturbed areas with appropriate BMPs, where practical and in consultation with the City of Mesa and Town of Queen Creek, when construction is completed.

AIR QUALITY

VM 22. In accordance with Maricopa County dust control permitting requirements, the Applicant's contractor(s) will implement appropriate dust control measures to reduce fugitive-dust emissions created during project-related construction activities. The Applicant will require its construction contractor(s) to regularly operate water trucks on haul roads to reduce dust generation.

VM 23. The Applicant will work with its contractor(s) to make sure that construction equipment is properly maintained, and that mufflers and other required pollution-control devices are in working condition in order to limit construction-related air pollutant emissions.

WATER RESOURCES/WETLANDS

VM 24. The Applicant will obtain a permit from USACE under Section 404 of the Clean Water Act before initiating project-related construction activities in wetlands and other jurisdictional waters of the United States. The Applicant will comply with all conditions of the Section 404 permit.

VM 25. The Applicant will obtain a Section 401 Water Quality Certification from the Arizona Department of Environmental Quality. The Applicant will incorporate the conditions of the Section 401 Water Quality Certification into its construction contract specifications and will monitor the project for compliance.

VM 26. The Applicant will minimize impacts to wetlands to the extent practicable in the final design. After all practicable steps have been taken to minimize impacts to wetlands, the Applicant agrees to prepare a mitigation plan for any remaining wetland impacts in consultation with USACE, where applicable.

STREAMS AND PERENNIAL WASHES

VM 27. The Applicant's contractor(s) will construct stream crossings during low-flow periods, when practical.

VM 28. When practical and in consultation with the FCDMC and USACE where applicable, the Applicant's contractor (s) will minimize impacts to streams where impacts are unavoidable. After all practicable steps have been taken to minimize impacts to streams, the Applicant agrees to prepare a mitigation plan for any remaining stream impacts in consultation with USACE, where applicable.

VM 29. For streams and rivers within a floodplain regulated by the FCDMC, the Applicant will design the stream crossing with the goal of not impeding floodwaters and not raising water surface elevations to levels that would change the regulated floodplain boundary. If flood elevations change, the Applicant will coordinate with FEMA and/or local floodplain managers to obtain a Letter of Map Revision where construction of bridges, culverts or embankments results in an unavoidable increase greater than 1 foot to the 100-year water surface elevations.

VM 30. The Applicant will obtain a permit from FCDMC before initiating project-related construction activities in a floodplain regulated by FEMA. The Applicant will comply with all conditions of the floodplain permit.

BIOLOGICAL RESOURCES

VM 31. The Applicant will comply with any conditions and mitigation commitments contained in the EA or similar document, provided by the Arizona Game and Fish Department, and/or the USFWS, for sensitive species that could potentially be impacted by the project.

VM 32. The Applicant will require its contractor(s) to comply with the requirements of the Migratory Bird Treaty Act as applicable. The following measures will be conducted by the Applicant and/or its contractor(s):

a. Where practical, any ground-disturbing, ground-clearing activities or vegetation treatments will be performed before migratory birds begin nesting or after all young have fledged.
b. If activities must be scheduled to start during the migratory bird breeding season, the Applicant will not take steps to prevent migratory birds from establishing nests in the potential impact area. The Applicant or its agents will

not haze or exclude nest access for migratory birds and other sensitive avian species.

c. If activities must be scheduled during the migratory bird breeding season, a qualified biologist will perform a site-specific survey for nesting birds starting no more than 7 days prior to ground-disturbing activities or vegetation treatments. Birds with eggs or young will not be hazed, and nests with eggs or young will not be moved until the young are no longer dependent on the nest.
d. If nesting birds are found during the survey, the Applicant will establish appropriate seasonal or spatial buffers around nests. Vegetation treatments or ground-disturbing activities withing the buffer areas will be postponed, where feasible, until the birds have left the nest. A qualified biologist will confirm that all young have fledged.

THE BURROWING OWL

VM 33. Within 30 days prior to construction, qualified biologists will survey for the federal- and state-protected Burrowing Owl (*Athene cunicularia*) following guidelines provided by the Arizona Game and Fish Department. Survey results will be provided to the Arizona Game and Fish Department.

VM 34. If Burrowing Owls are observed at burrows in the project area, a 100-ft buffer of no activity will be established around the burrow for the duration of the project.

VM 35. If an active Burrowing Owl burrow is in an area that requires impact, a local, qualified rehabber will be contacted to remove the owls from the project area with the appropriate state and federal permits. The burrows will be collapsed by the rehabber to prevent further nesting activities.

VEGETATION

VM 36. The Applicant will comply with any conditions and mitigation commitments contained in the EA or similar document, provided by the Arizona Game and Fish Department, and/or the USFWS, for sensitive plant species that could potentially be impacted by the project.

CULTURAL RESOURCES

VM 37. The Applicant will apply all measures identified in the Historic Properties Treatment Plan (HPTP) regarding development training materials to educate construction supervisors about the importance of protecting cultural resources and the procedures for handling undocumented discoveries.

VM 38. The Applicant and the Applicant's contractor(s) will comply with the requirements of the Memorandum of Agreement (MOA) and the HPTP developed by OEA, the Advisory Council on Historic Preservation (ACHP), Arizona State Historic

Preservation Office, Native American tribal representatives, and other federal and state agencies in consultation with other consulting parties.

UTILITIES

VM 39. The Applicant will secure agreements with utility owners to establish responsibility for protecting or relocating existing utilities, if impacted by construction.

VM 40. The Applicant will coordinate with Arizona State Land Department (ASLD) to develop irrigation infrastructure protection or relocation plans.

COMMUNITY OUTREACH

VM 41. The Applicant will appoint a liaison to consult with communities, businesses, agencies, Tribal Governments, educational institutions, and non-profit organizations to provide general project information, progress on construction, information on rail operations and safety as needed and will seek to develop cooperative solutions to local concerns regarding construction activities.

VM 42. In accordance with temporary traffic control permitting requirements, the Applicant's contractor(s) will install temporary traffic control including pavement markings, signing, and detours throughout the project areas and applicable work zones.

NOISE AND VIBRATION

VM 43. The Applicant will comply with FRA regulations (49 Code of Federal Regulations Part 210) establishing decibel limits for train operation.

VM 44. The Applicant will work with its contractor(s) to make sure that project-related construction and maintenance vehicles are maintained in good working order with properly functioning mufflers to control noise.

EO - 3957

SURFACE TRANSPORTATION BOARD
Washington, DC 20423

Office of Environmental Analysis

September 27, 2024

Tanya Spratt
Senior General Attorney
Union Pacific Railroad
1400 Douglas Street, STOP 1580
Omaha, Nebraska 68179

Re: Docket No. FD 36501, Union Pacific Railroad Company – Construction and Operation Exemption – in Maricopa County, Ariz., Kinder Morgan Zinc Line

Dear Ms. Spratt:

As you know, the Surface Transportation Board's (Board) Office of Environmental Analysis (OEA) learned that Kinder Morgan plans to soon install a zinc line within an existing easement across Union Pacific's (UP) property in the Area of Potential Effects (APE) for the proposed PIRATE project. Ground disturbing activities on UP property within the APE have the potential to impact significant cultural resources, including archaeological sites identified during the Section 106 historic review process for the PIRATE project.

As the project applicant before the Board, coordination and oversight of any work that includes ground disturbing activities on UP controlled property within the APE by third parties while the PIRATE project is ongoing is the responsibility of UP. Accordingly, UP should take all the steps that it can to ensure that sensitive cultural resources are avoided or fully protected during any ground disturbing activities. To the extent possible, this should include coordination with Kinder Morgan to ensure that there is appropriate monitoring of any work on UP property within the APE during this proceeding. OEA is available to consult with UP and Kinder Morgan about this issue if it would be helpful.

If you have any questions, please contact Alan Tabachnick of my staff at (202) 245-0367.

Sincerely,

Danielle Gosselin
Director
Office of Environmental Analysis

SURFACE TRANSPORTATION BOARD
Washington, DC 20423

Office of Environmental Analysis

September 18, 2025

Mr. Kevin Rice
Union Pacific Railroad Company
1400 Douglas Street, STOP 0910
Omaha, NE 68179

By email at kprice@up.com

Re: Docket No. FD 36501, Union Pacific Railroad Company – Construction and Operation Exemption – in Maricopa County, Ariz.; **Information Request**

Dear Mr. Rice:

Consistent with 40 C.F.R. § 1506.5(b)(1), the Surface Transportation Board's Office of Environmental Analysis (OEA) requests the information below, which is needed to support the environmental review in connection with the above-referenced proceeding. This information will be used to prepare the Final Environmental Assessment (EA).

OEA requests the following information:

1. A description of any substantial changes that have been made to the proposal's design, construction, and operational details listed in Attachment A and/or the construction information listed in Attachment B.
2. Confirmation that there have not been any new requests for quiet zones since publication of the Draft EA.
3. Confirmation that no changes have been made to the proposed detour routes to be used during construction of the proposed rail line.
4. A summary of any utility coordination completed to date and identification of any unresolved utility conflicts.
5. An update on the status of permit applications or approvals, including the Clean Water Act Section 404 permit from the U.S. Army Corps of Engineers and the floodplain development permit from the Flood Control District of Maricopa County.
6. Any updates to the economic analysis[1] from the Pecos Industrial Rail Access and Train Extension (PIRATE) 2021 RAISE grant application that the City of Mesa provided on December 16, 2021.

[1] Rounds Consulting Group, Inc. 2021. *Updated Economic Impact Analysis of Project PIRATE*. Prepared for PIRATE Team.

7. An update on any coordination efforts with the Phoenix-Mesa Gateway Airport since August 2023.
8. Any updates to right-of-way or temporary construction easements summarized in Attachment A.
9. Confirmation that construction sequencing would begin with the proposed rail line, starting at the wye and continuing east, followed by construction of the planned Phoenix Subdivision support tracks.

Please provide your response as soon as possible and no later than October 3, 2025. If you have any questions, please contact Adam Assenza at 202-245-0301 or at Adam.Assenza@stb.gov. Thank you for your assistance in this matter.

Sincerely,



Danielle Gosselin
Director
Office of Environmental Analysis

Enclosures:
Attachment A – Proposed PIRATE Construction and Design Features
Attachment B – PIRATE Construction Information

cc: Adam Assenza, OEA Environmental Protection Specialist, Adam.Assenza@stb.gov
Alan Tabachnick, Board Federal Preservation Officer, Alan.Tabachnick@stb.gov
Maggie Buckley, Jacobs Project Manager, Maggie.Buckley@jacobs.com

ATTACHMENT A – Proposed PIRATE Construction and Design Features

Project Feature	Proposed Action
Proposed rail line length	5.7 miles
PIRATE yard	3,500 feet long; 2-yard tracks in addition to the proposed rail line
Future yard tracks	Three planned additional yard tracks at the PIRATE yard up to 2,500 feet long (for a total of five yard tracks)
Run-around track	5,100-foot-long run-around track west of Signal Butte Road
Grading for segments of connecting track located within PIRATE right-of-way	650 feet of the segment of track connecting to Fujifilm; 300 feet of the segment of track connecting to CMC
Total new right-of-way	141.7 acres (with right-of-way widths generally ranging from 110 to 150 feet)
New right-of-way from private owners	126.0 acres
New right-of-way or permanent easements from public agencies: ASLD, FCDMC, and Mesa	7.3 acres (ASLD), 3.5 acres (FCDMC), and 4.9 acres (Mesa)
Total TCEs	28.7 acres
TCEs from private owners	9.0 acres
TCEs from public agencies: ASLD, Mesa, and Queen Creek	1.5 acres (ASLD), 16.9 acres (Mesa), and 1.3 acres (Queen Creek)
Rail line access	New, unpaved access road parallel to rail alignment west of Ellsworth Road, existing paved public roads, existing unpaved private roads; UP would not maintain the private access roads as public roads
Railbed and track construction	Total fill: approximately 100,000 cubic yards; total excavation: approximately 280,000 cubic yards;[2] railbed composition: 12-inch-deep layer of subballast, 12-inch-deep layer of ballast, railroad ties, and steel rails; typical single-track section: 30 feet wide
Maximum height of project elements	Railbed, ballast, and track: 15 feet above the existing ground surface; wayside signs: 32 feet; crossing gates and lights: 32 feet
At-grade crossings	Pecos, Sossaman (two locations), Ellsworth, Crismon, and Signal Butte Roads
Drainage	Culverts to convey existing channels and washes beneath railbed; drainage ditches adjacent to the railbed; detention basins to manage stormwater runoff
Acquisition of materials for rail line construction	No new materials sources or borrow areas; construction materials delivered via truck and rail
Construction staging areas	Staging, stockpiling, and laydown areas within proposed right-of-way and TCEs
Construction schedule	9-month time frame; weekday and daylight work only; 10-hour workdays
Operational information	• 4 trains/day at 60 mph on main line and 10 mph on Germann Siding; projected growth +1 train/day over 5 years on main line. 1 train/day (30 to 35 cars) at opening on PIRATE; 1 train/day (70 to 100 cars) at full buildout. 2,218 feet (2 locomotives + 35 boxcars) at opening; 4,435 feet (4 locomotives + 70 boxcars) at full buildout. • Service 5 days/week. • PIRATE would travel 5 to 30 mph, working track 20 mph, and Germann Siding 10 to 30 mph at opening. • Switching/train building only at support yard. • Standing trains at support tracks and occasionally short term at Germann Siding. • Trains slow from 60 mph to 5 mph and braking begins 1-2 miles away; airhorn use at at-grade crossings only (~2 times/day near wye area).
Locomotives	2 units, 3,800 hp each; GP60 or GP40; Ultralow Sulfur Diesel #2; average age 30 years; 1.2 hp per ton minimum.
Reduced truck trips	PIRATE would reduce approximately 30,000 truck trips off public roadways in the first year of operation.

ASLD = Arizona State Land Department; FCDMC = Flood Control District of Maricopa County; hp = horsepower; mph = miles per hour; PIRATE = Pecos Industrial Rail Access and Train Extension; TCE = temporary construction easement

[2] The approximate excavation quantity of 280,000 cubic yards accounts for previous excavation of approximately 41,000 cubic yards at the wye and east of Sossaman Road.

ATTACHMENT B – PIRATE Construction Information[3]

Mesa Arizona
Phoenix Subdivision
MP 934.79 to MP 937.83
Construct Industrial Track

Project Schedule

Total Project duration 9 months

Equipment

Equipment	Quantity	Fuel	HP	Hours/day	Duration (months)	Notes
D6 Dozer	4	Diesel	215	9	7	Earthwork and Subballast
330 Trackhoe	2	Diesel	273	9	7	Earthwork and Culverts
352 Trackhoe	3	Diesel	424	9	5	Earthwork
730 Articulated Truck	18	Diesel	370	9	7	Earthwork, this could be tractors and pans, scrapers, or road haul trucks depending on means and methods
140 Motor Grader	3	Diesel	179	9	7	Earthwork and Subballast
815 Compactor	3	Diesel	249	9	5	Earthwork
CS12 GC compactor	1	Diesel	121	9	5	Subballast and Paving
966 Wheel Loader	2	Diesel	321	9	9	Culverts, Box Culverts and Misc.
262D3 Skid Steer	2	Diesel	74	9	8	Misc.
35 Ton Crane	2	Diesel	164	9	3	Box Culverts
Pickup	8	Gas	300	9	9	Contractor Supervision
AP1000F Paver	1	Diesel	225	9	2	Road work
Tractor Trailer	18	Diesel	400	9	4	Aggregate base hauling
TLM (UPRR)	1			9	1	Track
963 Track Loader (UPRR)	1	Diesel	202	9	1	Track, To pull the TLM
6700 Tamper (UPRR)	2	Diesel	280	9	2	Track
966 Wheel Loader	2	Diesel	321	9	2	Track
4600 Regulator (UPRR)	2	Diesel	250	9	2	Track
Locomotive (UPRR)	1	Diesel	2,200	9	2	Track, Moving ballast cars
Pickup (UPRR)	6	Gas	300	9	2	Track Supervision

Assume 10 hour workdays, equipment is running 9 out of the 10 hours

Haul Trucks

Earthwork Trips

Per 30% plans excavation quantity is 390,000 CY
Average 2 miles each way, 4 miles roundtrip

390,000 CY
20 CY/Truck
19500 Trips

Aggregate Base Trips

Based on preliminary research, several quarries are located within 25 miles of the project
Assume 50 miles roundtrip
Per 30% plans subballast quantity is 61,000 CY
Per 30% plans ditch facing quantity is 21,000 CY
Round up to 86,000 CY for culvert, box culvert bedding and road base
Assume 1.8 tons/CY

154,800 Tons
22 Tons/Truck
7,036 Trips

Personnel

Assume an average of 70 personnel over the total project duration
Assume 30 miles round trip
Assume working 21 days per month (5 days a week)

13,230 Total Trips

Acres Disturbed

Per 30% plans clear and grub quantity is 100 acres
Assume 7 months of disturbance

100 Total Acres
14.3 Acres/Month

[3] UP. 2022. UPRR Gateway Pirate Construction Summary 2022-02-15.

BUILDING AMERICA®

10/3/2025

Ms. Danielle Gosselin
Director
Office of Environmental Analysis
Surface Transportation Board
395 E Street, S.W.
Washington, D.C. 20423

Re: STB Docket No. FD 36501, Union Pacific Railroad (UPRR) –Responses to information requests

Dear Ms. Gosselin,

As it relates to the PIRATE Industrial Lead project, with regards to the information request made by the STB on 9/18/2025 to update the draft Environmental Assessment (EA), UPRR offers the following responses (answer in red):

1. Question: A description of any substantial changes that have been made to the proposal's design, construction, and operational details listed in Attachment A and/or the construction information listed in Attachment B.

   Answer: there are two notable changes. The first is revisions to the proposed Ellsworth Road at-grade crossing design due to the City of Mesa road-widening project (from 4 lane to 6 lane section). Please see Attachment C, page 3 for details. The second is that UPRR will no longer grade 650' of the segment of track connecting to Fujifilm. Other edits to Attachment A and B are shown in red on the respective documents (see attachments).

2. Confirmation that there have not been any new requests for quiet zones since publication of the Draft EA.

   Answer: there have not been any new requests for quiet zones.

3. Confirmation that no changes have been made to the proposed detour routes to be used during construction of the proposed rail line.

   Answer: there have not been any changes to the proposed detour routes.

4. A summary of any utility coordination completed to date and identification of any unresolved utility conflicts.

   Answer: please refer to attachment D for a summary of utility coordination.

5. An update on the status of permit applications or approvals, including the Clean Water Act Section 404 permit from the U.S. Army Corps of Engineers and the floodplain development permit from the Flood Control District of Maricopa County.

UNION PACIFIC RAILROAD
1400 Douglas Street, 9th Floor
Omaha, Nebraska 68179

Kevin Rice
Senior Manager M/W Environmental Engineering

P 402-544-2213
E kprice@up.com

Answer:

a. USACE Section 404: NWP14 - Corps is waiting for conclusion of S106 under the STB undertaking and will reference that in the permit document. This is the only outstanding item to issue the permit.

b. AZ DEQ Section 401: programmatically certified under NWP14

c. FCDMC floodplain permit: renewed in August 2025

d. FAA 7460: 38 locations total studied; 36 locations cleared; 2 locations outstanding

6. Any updates to the economic analysis from the Pecos Industrial Rail Access and Train Extension (PIRATE) 2021 RAISE grant application that the City of Mesa provided on December 16, 2021.

   Answer: there are no updates to the economic analysis.

7. An update on any coordination efforts with the Phoenix-Mesa Gateway Airport since August 2023.

   Answer: Design consultant (Olsson) outreach to Rich Adams (PMGAA Project Manager) was made via phone call on 8/5/2025. Summary of discussion topics:

   a. UPRR intent to advance the project. Rich acknowledged and appreciated the communication and advanced notification.
   b. Per direction from City of Mesa, UPRR intends to maintain two-way traffic along Sossaman Road during roadway/utility construction followed by a second temporary full-closure for a short duration during track/crossing installation.
   c. Confirmation of PMGAA contact information for inclusion with contract documents to facilitate further contractor coordination at time of PIRATE project construction. Rich will serve as the PMGAA's primary point of contact. Project *Special Conditions* currently includes the following language regarding Contractor coordination with the PMGAA:

      The Contractor shall notify Phoenix-Mesa Gateway Airport Authority (PMGAA) at least 30 calendar days prior to Sossaman Road construction activities to coordinate schedules and estimated timelines. The Contractor shall also provide notification to PMGAA upon completion of work. PMGAA contact information:

      Rich AdamsProject Manager

      Phoenix-Mesa Gateway Airport Authority

      5835 S Sossaman Rd

      Mesa, AZ 85212-6014

      Office: (480) 988-7655

      Cell: (480) 283-4933

      radams@gatewayairport.com

8. Any updates to right-of-way or temporary construction easements summarized in Attachment A.

   Answer: Summary of ROW and TCE acreages in Attachment A, changes in red. Footnotes to the changes as follows:

   a. Total new ROW (previously 141.7 ac, updated to 144.3 ac) is attributed to additional property purchased south of Pecos Rd and east of PIRATE lead track (see Attachment E) as well as the Trammell Crow property being slightly larger than was originally contemplated (irregular curves versus idealized curves).

   b. New ROW and permanent easements from public agencies (FCDMC previously 3.5 ac, updated to 3.3 ac) attributed to a reduction in the easement along Rittenhouse Channel per direction from FCDMC.

   c. Total TCE's (previously 28.7 ac, updated to 23.4 ac) attributed to the detention cell previously included with P034 is no longer required

   See attachment C for locations of new TCE's (all are within the limits of the APE)

9. Confirmation that construction sequencing would begin with the proposed rail line, starting at the wye and continuing east, followed by construction of the planned Phoenix Subdivision support tracks.

   Answer: This is correct with one caveat: UPRR wishes to advance construction in non-culturally sensitive areas on the proposed rail line upon approval of the project by the STB and with a cultural monitor per requirements of the Memorandum of Agreement (MOA).

If there is any additional information or clarification needed with regard to the updated information, please don't hesitate to call me. Or we can set up a conference call to review the changes

Sincerely,



Kevin Rice

Senior Manager M/W Environmental Union Pacific Railroad

cc: Tanya Spratt, UPRR

Adam Assenza, OEA

Maggie Buckley, Jacobs

Alan Tabachnick, OEA

Enclosures: Attachment A,B,C,D,E

ATTACHMENT A – Proposed PIRATE Construction and Design Features

Project Feature	Proposed Action
Proposed rail line length	5.7 miles
PIRATE yard	3,500 feet long; 2-yard tracks in addition to the proposed rail line
Future yard tracks	Three planned additional yard tracks at the PIRATE yard up to 2,500 feet long (for a total of five yard tracks)
Run-around track	5,100-foot-long run-around track west of Signal Butte Road
Grading for segments of connecting track located within PIRATE right-of-way	~~650 feet of the segment of track connecting to Fujifilm;~~ Proposed CMC turnout and 300 feet of the segment of track connecting to CMC
Total new right-of-way	~~141.7~~ 144.3 acres (with right-of-way widths generally ranging from 110 to 150 feet)
New right-of-way from private owners	~~126.0~~ 128.8 acres
New right-of-way or permanent easements from public agencies: ASLD, FCDMC, and Mesa	7.3 acres (ASLD), ~~3.5~~ 3.3 acres (FCDMC), and 4.9 acres (Mesa)
Total TCEs	~~28.7~~ 23.4 acres
TCEs from private owners	~~9.0~~ 2.5 acres
TCEs from public agencies: ASLD, Mesa, and Queen Creek	~~1.5~~ 0.6 acres (ASLD), ~~16.9~~ 19.0 acres (Mesa), and 1.3 acres (Queen Creek)
Rail line access	New, unpaved access road parallel to rail alignment west of Ellsworth Road, existing paved public roads, existing unpaved private roads; UP would not maintain the private access roads as public roads. New access drives from public right-of-way to provide UPRR unpaved access to UPRR signal equipment adjacent to at-grade crossings. UPRR unpaved access road along proposed Run-Around Track between Crismon Road and Signal Butte Road.
Railbed and track construction	Total fill: approximately ~~100,000~~ 150,000 cubic yards; total excavation: approximately ~~280,000~~ 331,000 cubic yards;[2] railbed composition: ~~12~~ 8-inch-deep layer of subballast, 12-inch-deep layer of ballast, railroad ties, and steel rails; typical single-track section: 30 feet wide
Maximum height of project elements	Railbed, ballast, and track: 15 feet above the existing ground surface; wayside signs: 32 feet; crossing gates and lights: 32 feet
At-grade crossings	Pecos, Sossaman (two locations), Ellsworth, Crismon, and Signal Butte Roads
Drainage	Culverts to convey existing channels and washes beneath railbed; drainage ditches adjacent to the railbed; detention basins to manage stormwater runoff
Acquisition of materials for rail line construction	No new materials sources or borrow areas; construction materials delivered via truck and rail
Construction staging areas	Staging, stockpiling, and laydown areas within proposed right-of-way and TCEs
Construction schedule	9-month time frame; weekday and daylight work only; 10-hour workdays
Operational information	• 4 trains/day at 60 mph on main line and 10 mph on Germann Siding; projected growth +1 train/day over 5 years on main line. 1 train/day (30 to 35 cars) at opening on PIRATE; 1 train/day (70 to 100 cars) at full buildout. 2,218 feet (2 locomotives + 35 boxcars) at opening; 4,435 feet (4 locomotives + 70 boxcars) at full buildout. • Service 5 days/week. • PIRATE would travel 5 to 30 mph, working track 20 mph, and Germann Siding 10 to 30 mph at opening. • Switching/train building only at support yard. • Standing trains at support tracks and occasionally short term at Germann Siding. • Trains slow from 60 mph to 5 mph and braking begins 1-2 miles away; airhorn use at at-grade crossings only (~2 times/day near wye area).
Locomotives	2 units, 3,800 hp each; GP60 or GP40; Ultralow Sulfur Diesel #2; average age 30 years; 1.2 hp per ton minimum.
Reduced truck trips	PIRATE would reduce approximately 30,000 truck trips off public roadways in the first year of operation.

ASLD = Arizona State Land Department; FCDMC = Flood Control District of Maricopa County; hp = horsepower; mph = miles per hour; PIRATE = Pecos Industrial Rail Access and Train Extension; TCE = temporary construction easement

[2] The approximate excavation quantity of ~~280,000~~ 331,000 cubic yards accounts for previous excavation of approximately 41,000 cubic yards at the wye and east of Sossaman Road.

ATTACHMENT B – PIRATE Construction Information[3]

Mesa Arizona
Phoenix Subdivision
MP 934.79 to MP 937.83
Construct Industrial Track

Project Schedule

Total Project duration 9 months

Equipment

Equipment	Quantity	Fuel	HP	Hours/day	Duration (months)	Notes
D6 Dozer	4	Diesel	215	9	7	Earthwork and Subballast
330 Trackhoe	2	Diesel	273	9	7	Earthwork and Culverts
352 Trackhoe	3	Diesel	424	9	5	Earthwork
730 Articulated Truck	18	Diesel	370	9	7	Earthwork, this could be tractors and pans, scrapers, or road haul trucks depending on means and methods
140 Motor Grader	3	Diesel	179	9	7	Earthwork and Subballast
815 Compactor	3	Diesel	249	9	5	Earthwork
CS12 GC compactor	1	Diesel	121	9	5	Subballast and Paving
966 Wheel Loader	2	Diesel	321	9	9	Culverts, Box Culverts and Misc.
262D3 Skid Steer	2	Diesel	74	9	8	Misc.
35 Ton Crane	2	Diesel	164	9	3	Box Culverts
Pickup	8	Gas	300	9	9	Contractor Supervision
AP1000F Paver	1	Diesel	225	9	2	Road work
Tractor Trailer	18	Diesel	400	9	4	Aggregate base hauling
TLM (UPRR)	1			9	1	Track
963 Track Loader (UPRR)	1	Diesel	202	9	1	Track, To pull the TLM
6700 Tamper (UPRR)	2	Diesel	280	9	2	Track
966 Wheel Loader	2	Diesel	321	9	2	Track
4600 Regulator (UPRR)	2	Diesel	250	9	2	Track
Locomotive (UPRR)	1	Diesel	2,200	9	2	Track, Moving ballast cars
Pickup (UPRR)	6	Gas	300	9	2	Track Supervision

Assume 10 hour workdays, equipment is running 9 out of the 10 hours

Haul Trucks

Earthwork Trips 331,000 CY

Per 30% plans excavation quantity is ~~390,000 CY~~

Average 2 miles each way, 4 miles roundtrip

~~390,000 CY~~ 331,000 CY
20 CY/Truck
~~19500 Trips~~ 16,550 Trips

Aggregate Base Trips

Based on preliminary research, several quarries are located within 25 miles of the project

Assume 50 miles roundtrip

Per 30% plans subballast quantity is ~~61,000 CY~~ 43,000 CY
Per 30% plans ditch facing quantity is ~~21,000 CY~~ 25,000 CY
Round up to 86,000 CY for culvert, box culvert bedding and road base
Assume 1.8 tons/CY

154,800 Tons
22 Tons/Truck
7,036 Trips

Personnel

Assume an average of 70 personnel over the total project duration

Assume 30 miles round trip

Assume working 21 days per month (5 days a week)

13,230 Total Trips

Acres Disturbed

Per 30% plans clear and grub quantity is ~~100 acres~~ 107 acres
Assume 7 months of disturbance

107 ~~100~~ Total Acres
15.3 ~~14.3~~ **Acres/Month**

[3] UP. 2022. UPRR Gateway Pirate Construction Summary 2022-02-15.

8' Wide PUFE

Existing R/W

Track 101

S. Sossaman Rd.

M.H.

V.F.H.

V.

A.R.V.

A.R.V.

F.H.

M.H.

180'

50'

Existing R/W

8' Wide PUFE

222'

Temporary Construction Easement,
10,038 S.F.

CITY OF MESA

UPRR R/W

40 0 40 80

SCALE IN FEET

olsson
2111 South 67th Street, Suite 200
Omaha, NE 68106-2810
TEL 402.341.1116
FAX 402.341.5895
www.olsson.com

UNION PACIFIC

DRAWN BY: JTD
CHECKED BY: JRM
DATE: 10/2/2025
SHEET NUMBER: 001of 001

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.78 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
CITY OF MESA TCE EXHIBIT

Color table: K:\Bentley\WorkspaceV8i\projects\Clients\UPRR_Track\UPRR_Track_V8i\color\UPRR.tbl
F:\2020\0501-1000\020-0927\40-Design\Microstation\020-0927_RLTK\Pentable\020-0927_RLTK.tbl
F:\2020\0501-1000\020-0927\40-Design\Microstation\020-0927_RLTK\DGN\Sheets\00_Exhibits\TCE - Sossaman Rd.dgn
Default
10/2/2025

S. Ellsworth Rd. (Northbound)

S. Ellsworth Rd. (Southbound)

10+00

11+00

12+00

A.R.

M.H.

SIHI

25'

25'

140'

Temporary Construction Easement,
3,495 S.F.

UPRR R/W

Existing R/W

8' Wide PUFE

Access Rd.

Track 101

20 0 20 40

SCALE IN FEET

olsson
2111 South 67th Street, Suite 200
Omaha, NE 68106-2810
TEL 402.341.1116
FAX 402.341.5895
www.olsson.com

UNION PACIFIC

DRAWN BY: JTD
CHECKED BY: JRM
DATE: 10/2/2025
SHEET NUMBER: 001 of 001

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.78 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
SIHI TCE EXHIBIT

Color table:K:\Bentley\WorkspaceV8i\projects\Clients\UPRR_Track\UPRR_Track_V8i\color\UPRR.tbl
F:\2020\0501-1000\020-0927\40-Design\Microstation\020-0927_RLTK\Pentable\020-0927_RLTK.tbl
F:\2020\0501-1000\020-0927\40-Design\Microstation\020-0927_RLTK\DGN\Sheets\00_Exhibits\TCE Exhibits\TCE - Ellsworth Rd at Drive.dgn
Default
10/2/2025

SIHI

SIHI

UPRR R/W

UPRR R/W

50'

95'

Permanent Channel Easement and Agreement for Flood Control Purposes, Document No. 2003-0521472

Temporary Construction Easement, 40,278 S.F.

Temporary Construction Easement, 16,647 S.F.

339'

160'

20'

20'

Track 101

C.B.

40'

31'

111'

119'

119'

79'

8' Wide PUFE

339'

130'

City of Mesa R/W

A.R.V.

M.H.

M.H.

M.H.

M.H.

4:1 (EXISTING)

4:1 (EXISTING)

4:1 (EXISTING)

4:1 (EXISTING)

S. Ellsworth Rd. (Northbound)

S. Ellsworth Rd. (Southbound)

50 0 50 100

SCALE IN FEET

olsson
2111 South 67th Street, Suite 200
Omaha, NE 68106-2810
TEL 402.341.1116
FAX 402.341.5895
www.olsson.com

UNION PACIFIC

DRAWN BY: $drn4$

CHECKED BY: $chk1$

DATE: 10/2/2025

SHEET NUMBER 001 of 001

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.78 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
SIHI ELLSWORTH CHANNELTCE EXHIBIT

Color table:K:\Bentley\Workspace\V8i\projects\Clients\UPRR_Track\UPRR_Track_V8i\color\UPRR.tbl
F:\2020\0501-1000\020-0927\40-Design\Microstation\020-0927_RLTK\Pentable\020-0927_RLTK_EXH.tbl
F:\2020\0501-1000\020-0927\40-Design\Microstation\020-0927_RLTK\DGN\Sheets\00_Exhibits\TCE Exhibits\TCE - Ellsworth Rd at drainage way.dgn
Default
10/2/2025

Utility coordination for the UPRR PIRATE project has been organized into three categories:
1. Utilities cleared for construction
2. Utilities requiring relocation prior to construction
3. Utilities to be modified by UPRR's contractor during construction

Coordination was previously completed with several utility providers to resolve conflicts with the proposed rail infrastructure. Remaining utility conflicts must be addressed before grading operations commence. A Subsurface Utility Engineering (SUE) Quality Level B survey has been completed to verify existing and new utility installations within the Public ROW. The Utility Coordination team is actively reengaging utility companies to confirm outstanding conflicts and finalize relocation plans.

1. Utilities Cleared for Construction

- Kinder Morgan: Lowered a 24" underground natural gas pipeline to resolve a conflict with the proposed culvert north of the Rittenhouse Canal.
- Southwest Gas Corporation (SWG):
- - Modified 2" casing vents for a 12" natural gas pipeline near S Sossaman Rd and E Germann Rd
- - Lowered a 6" natural gas pipeline at S Sossaman Rd to resolve grading conflicts.
- Salt River Project (SRP):
- - Removed a pole and overhead electrical distribution wireline along S Merril Rd.
- - Coordinated placement of a new high-voltage overhead transmission wireline and poles to avoid conflicts.
- Cox Communications: Coordinated design to ensure proposed underground fiber optic wireline meets railroad depth standards.

2. Utilities Requiring Relocation Prior to Construction

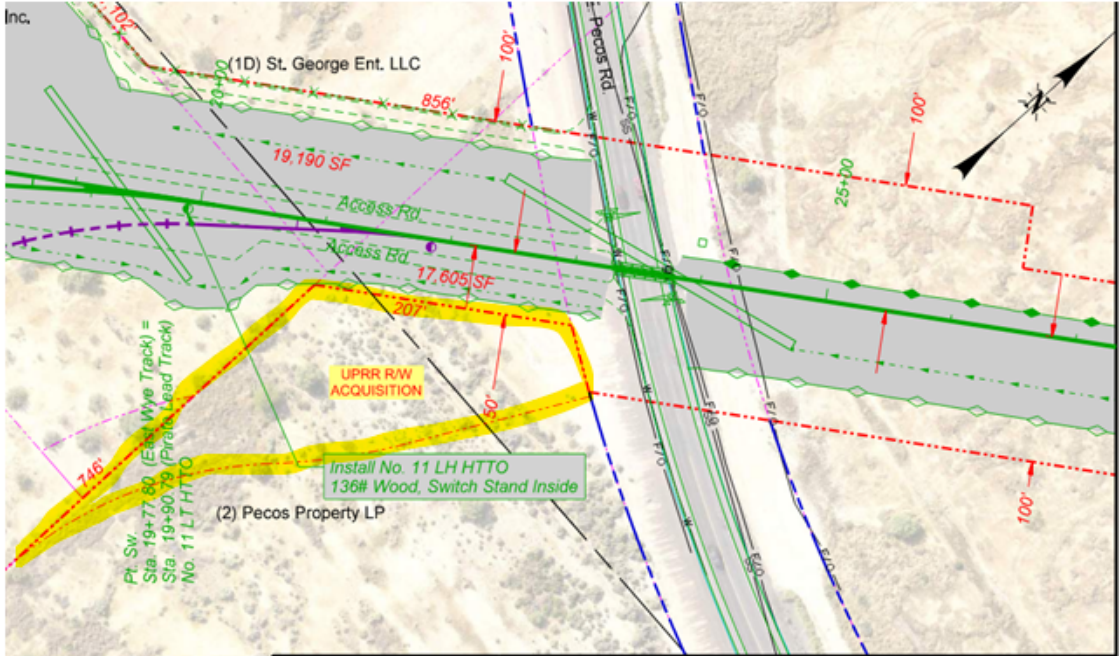
- Lumen:
- - Two underground fiber optic cables and one underground copper cable along S Sossaman Rd.
- - One underground fiber optic cable along Pecos Rd.
- Cox Communications: One underground fiber optic cable along Pecos Rd.
- SRP:
- - Overhead electrical distribution wirelines along S Sossaman Rd and Crismon Rd.
- - One underground electrical distribution wireline along S Sossaman Rd.
- Verizon: One underground fiber optic cable along S Sossaman Rd.
- Sunbelt Investment Holdings Inc. (SIHI): Requested coordination for a new crossing of a 10" irrigation waterline in a 24" casing. Initial design requirements have been provided to meet railroad standards.

3. Utilities to Be Modified During Construction

- Kinder Morgan: Install a concrete slab between the pipeline and proposed track to protect the 24” natural gas pipeline north of the Rittenhouse Canal under both track wye segments.
- Zayo: Temporarily raise a fiber duct containing Zayo’s and the City of Mesa’s underground fiber optic cables during culvert construction at S Sossaman Rd.
- City of Mesa:
- - Pecos Rd: Modify a 20” underground waterline, fiber optic cable, and 18” sanitary sewer pipeline.
- - S Sossaman Rd: Modify a fiber optic cable and a 20” underground waterline.
- - Ellsworth Rd: Modify an 18” sanitary sewer pipeline, fiber optic cable, 20” and 16” underground waterlines.
- - Signal Butte Rd: Modify a 16” underground waterline, electrical wireline, and fiber optic cable.
- Verizon: Coordinate installation of a concrete cap over its underground fiber optic cable during paving at Signal Butte Rd.
- ZF Property: Relocate two 12” sanitary sewer pipelines and a low-voltage electrical wireline system.
- CMC Property: Install a protective concrete slab over a 12” underground waterline.

4. Current Utility Engagement

A non-intrusive SUE Quality Level B survey has been completed within public rights-of-way to verify existing and new utility installations. The results are currently under analysis to identify any changes or new conflicts. The Utility Coordination team has reinitiated contact with known utility providers to confirm outstanding issues and finalize relocation plans.



olsson

DRAWN BY:	JTD
CHECKED BY:	JRM
DATE:	3/11/2022
SHEET NUMBER:	P014 of 036

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
PLAN & PROFILE STA. 12+00 TO STA. 26+00

BUILDING AMERICA®

11/21/2025

Transmitted via email only

Ms. Danielle Gosselin
Director
Office of Environmental Analysis
Surface Transportation Board
395 E Street, S.W.
Washington, D.C. 20423

Re: STB Docket No. FD 36501, Union Pacific Railroad (UPRR) –Responses to information requests

Dear Ms. Gosselin,

As it relates to the PIRATE Industrial Lead project, with regards to the information request made by the STB on 9/19/2025 to update the draft Environmental Assessment (EA), UPRR offers the following responses (answer in red):

1. Question: A description of any substantial changes that have been made to the proposal's design, construction, and operational details listed in Attachment A and/or the construction information listed in Attachment B.

   Answer: there are two notable changes. The first is revisions to the proposed Ellsworth Road at-grade crossing design due to the City of Mesa road-widening project (from 4 lane to 6 lane section). Please see Attachment C, page 3 for details. The second is that UPRR will no longer grade 650' of the segment of track connecting to Fujifilm. Other edits to Attachment A and B are shown in red on the respective documents (see attachments).

2. Confirmation that there have not been any new requests for quiet zones since publication of the Draft EA.

   Answer: there have not been any new requests for quiet zones.

3. Confirmation that no changes have been made to the proposed detour routes to be used during construction of the proposed rail line.

   Answer: there have not been any changes to the proposed detour routes.

4. A summary of any utility coordination completed to date and identification of any unresolved utility conflicts.

   Answer: please refer to Attachment D for a summary of utility coordination.

5. An update on the status of permit applications or approvals, including the Clean Water Act Section 404 permit from the U.S. Army Corps of Engineers and the floodplain development permit from the Flood Control District of Maricopa County.

UNION PACIFIC RAILROAD
1400 Douglas Street, 9th Floor
Omaha, Nebraska 68179

Kevin Rice
Senior Manager M/W Environmental Engineering

P 402-544-2213
E kprice@up.com

Answer:

a. USACE Section 404: NWP14 - Corps is waiting for conclusion of S106 under the STB undertaking and will reference that in the permit document. This is the only outstanding item to issue the permit.

b. AZ DEQ Section 401: programmatically certified under NWP14

c. FCDMC floodplain permit: renewed in August 2025

d. FAA 7460: 38 locations total studied; 36 locations cleared; 2 locations outstanding

6. Any updates to the economic analysis from the Pecos Industrial Rail Access and Train Extension (PIRATE) 2021 RAISE grant application that the City of Mesa provided on December 16, 2021.

   Answer: there are no updates to the economic analysis

7. An update on any coordination efforts with the Phoenix-Mesa Gateway Airport since August 2023.

   Answer: Design consultant (Olsson) outreach to Rich Adams (PMGAA Project Manager) was made via phone call on 8/5/2025. Summary of discussion topics:

   a. UPRR intent to advance the project. Rich acknowledged and appreciated the communication and advanced notification.
   b. Per direction from City of Mesa, UPRR intends to maintain two-way traffic along Sossaman Road during roadway/utility construction followed by a second temporary full-closure for a short duration during track/crossing installation.
   c. Confirmation of PMGAA contact information for inclusion with contract documents to facilitate further contractor coordination at time of PIRATE project construction. Rich will serve as the PMGAA's primary point of contact. Project *Special Conditions* currently includes the following language regarding Contractor coordination with the PMGAA:

      The Contractor shall notify Phoenix-Mesa Gateway Airport Authority (PMGAA) at least 30 calendar days prior to Sossaman Road construction activities to coordinate schedules and estimated timelines. The Contractor shall also provide notification to PMGAA upon completion of work. PMGAA contact information:

      Rich AdamsProject Manager
      Phoenix-Mesa Gateway Airport Authority
      5835 S Sossaman Rd
      Mesa, AZ 85212-6014
      Office: (480) 988-7655
      Cell: (480) 283-4933
      radams@gatewayairport.com

8. Any updates to right-of-way or temporary construction easements summarized in

Attachment A.

Answer: Summary of ROW and TCE acreages in Attachment A, changes in red. Footnotes to the changes as follows:

a. Total new ROW (previously 141.7 ac, updated to 144.4 ac) is attributed to additional property purchased south of Pecos Rd and east of PIRATE lead track (see Attachment E) as well as the Trammell Crow property being larger than was originally contemplated (see Attachment F)

b. New ROW and permanent easements from public agencies (FCDMC previously 3.5 ac, updated to 3.3 ac) attributed to a reduction in the easement along Rittenhouse Channel per direction from FCDMC

c. Total TCE's (previously 28.7 ac, updated to 23.4 ac) primarily attributed to the detention cell previously included with P034 is no longer required

See attachment C for locations of new TCE's (all are within the limits of the APE)

9. Confirmation that construction sequencing would begin with the proposed rail line, starting at the wye and continuing east, followed by construction of the planned Phoenix Subdivision support tracks.

   Answer: This is correct with one caveat: UPRR wishes to advance construction in non-culturally sensitive areas on the proposed rail line upon approval of the project by the STB and with a cultural monitor per requirements of the Memorandum of Agreement (MOA).

Additional information requested from the 11/17/25 conference call

- Revised typical sections that reflect the change in subballast from 12 inches to 8 inches deep for the proposed PIRATE lead track paralleled by a drainage ditch and for the proposed PIRATE lead track paralleled by an access road and drainage ditch (see Sheets T006 and T008).

  Answer: revised typical cross sections provided in Attachment G

- The anticipated year where rail traffic on the Phoenix Sub is anticipated to increase by one train a day to a total of 5, and whether that additional train would be in one direction or both directions

  Answer: 2027 – this would be in both directions

If there is any additional information or clarification needed with regard to the updated information, please don't hesitate to call me. Or we can set up a conference call to review the changes

Sincerely,



Kevin Rice

Senior Manager M/W Environmental

Union Pacific Railroad

cc: Tanya Spratt, UPRR

Adam Assenza, OEA

Maggie Buckley, Jacobs

Alan Tabachnick, OEA

Enclosures: Attachment A,B,C,D,E,F,G

ATTACHMENT A – Proposed PIRATE Construction and Design Features

Project Feature	Proposed Action
Proposed rail line length	5.7 miles
PIRATE yard	3,500 feet long; 2-yard tracks in addition to the proposed rail line
Future yard tracks	Three planned additional yard tracks at the PIRATE yard up to 2,500 feet long (for a total of five yard tracks)
Run-around track	5,100-foot-long run-around track west of Signal Butte Road
Grading for segments of connecting track located within PIRATE right-of-way	~~650 feet of the segment of track connecting to Fujifilm;~~ Proposed CMC turnout and 300 feet of the segment of track connecting to CMC
Total new right-of-way	~~141.7~~ 144.4 acres (with right-of-way widths generally ranging from 110 to 150 feet)
New right-of-way from private owners	~~126.0~~ 128.9 acres
New right-of-way or permanent easements from public agencies: ASLD, FCDMC, and Mesa	7.3 acres (ASLD), ~~3.5~~ 3.3 acres (FCDMC), and 4.9 acres (Mesa)
Total TCEs	~~28.7~~ 23.4 acres
TCEs from private owners	~~9.0~~ 2.5 acres
TCEs from public agencies: ASLD, Mesa, and Queen Creek	~~1.5~~ 0.6 acres (ASLD), ~~16.9~~ 19.0 acres (Mesa), and 1.3 acres (Queen Creek)
Rail line access	New, unpaved access road parallel to rail alignment west of Ellsworth Road, existing paved public roads, existing unpaved private roads; UP would not maintain the private access roads as public roads. New access drives from public right-of-way to provide UPRR unpaved access to UPRR signal equipment adjacent to at-grade crossings. UPRR unpaved access road along proposed Run-Around Track between Crismon Road and Signal Butte Road.
Railbed and track construction	Total fill: approximately ~~100,000~~ 150,000 cubic yards; total excavation: approximately ~~280,000~~ 331,000 cubic yards;[2] railbed composition: ~~12~~ 8-inch-deep layer of subballast, 12-inch-deep layer of ballast, railroad ties, and steel rails; typical single-track section: 30 feet wide
Maximum height of project elements	Railbed, ballast, and track: 15 feet above the existing ground surface; wayside signs: 32 feet; crossing gates and lights: 32 feet
At-grade crossings	Pecos, Sossaman (two locations), Ellsworth, Crismon, and Signal Butte Roads
Drainage	Culverts to convey existing channels and washes beneath railbed; drainage ditches adjacent to the railbed; detention basins to manage stormwater runoff
Acquisition of materials for rail line construction	No new materials sources or borrow areas; construction materials delivered via truck and rail
Construction staging areas	Staging, stockpiling, and laydown areas within proposed right-of-way and TCEs
Construction schedule	9-month time frame; weekday and daylight work only; 10-hour workdays
Operational information	• 4 trains/day at 60 mph on main line and 10 mph on Germann Siding; projected growth +1 train/day over 5 years on main line. 1 train/day (30 to 35 cars) at opening on PIRATE; 1 train/day (70 to 100 cars) at full buildout. 2,218 feet (2 locomotives + 35 boxcars) at opening; 4,435 feet (4 locomotives + 70 boxcars) at full buildout. • Service 5 days/week. • PIRATE would travel 5 to 30 mph, working track 20 mph, and Germann Siding 10 to 30 mph at opening. • Switching/train building only at support yard. • Standing trains at support tracks and occasionally short term at Germann Siding. • Trains slow from 60 mph to 5 mph and braking begins 1-2 miles away; airhorn use at at-grade crossings only (~2 times/day near wye area).
Locomotives	2 units, 3,800 hp each; GP60 or GP40; Ultralow Sulfur Diesel #2; average age 30 years; 1.2 hp per ton minimum.
Reduced truck trips	PIRATE would reduce approximately 30,000 truck trips off public roadways in the first year of operation.

ASLD = Arizona State Land Department; FCDMC = Flood Control District of Maricopa County; hp = horsepower; mph = miles per hour; PIRATE = Pecos Industrial Rail Access and Train Extension; TCE = temporary construction easement

[2] The approximate excavation quantity of ~~280,000~~ 331,000 cubic yards accounts for previous excavation of approximately 41,000 cubic yards at the wye and east of Sossaman Road.

ATTACHMENT B – PIRATE Construction Information[3]

Mesa Arizona
Phoenix Subdivision
MP 934.79 to MP 937.83
Construct Industrial Track

Project Schedule

Total Project duration 9 months

Equipment

Equipment	Quantity	Fuel	HP	Hours/day	Duration (months)	Notes
D6 Dozer	4	Diesel	215	9	7	Earthwork and Subballast
330 Trackhoe	2	Diesel	273	9	7	Earthwork and Culverts
352 Trackhoe	3	Diesel	424	9	5	Earthwork
730 Articulated Truck	18	Diesel	370	9	7	Earthwork, this could be tractors and pans, scrapers, or road haul trucks depending on means and methods
140 Motor Grader	3	Diesel	179	9	7	Earthwork and Subballast
815 Compactor	3	Diesel	249	9	5	Earthwork
CS12 GC compactor	1	Diesel	121	9	5	Subballast and Paving
966 Wheel Loader	2	Diesel	321	9	9	Culverts, Box Culverts and Misc.
262D3 Skid Steer	2	Diesel	74	9	8	Misc.
35 Ton Crane	2	Diesel	164	9	3	Box Culverts
Pickup	8	Gas	300	9	9	Contractor Supervision
AP1000F Paver	1	Diesel	225	9	2	Road work
Tractor Trailer	18	Diesel	400	9	4	Aggregate base hauling
TLM (UPRR)	1	Diesel	845	9	1	Track
963 Track Loader (UPRR)	1	Diesel	202	9	1	Track, To pull the TLM
6700 Tamper (UPRR)	2	Diesel	280	9	2	Track
966 Wheel Loader	2	Diesel	321	9	2	Track
4600 Regulator (UPRR)	2	Diesel	250	9	2	Track
Locomotive (UPRR)	1	Diesel	2,200	9	2	Track, Moving ballast cars
Pickup (UPRR)	6	Gas	300	9	2	Track Supervision

Assume 10 hour workdays, equipment is running 9 out of the 10 hours

Haul Trucks

Earthwork Trips 331,000 CY
Per 30% plans excavation quantity is ~~390,000 CY~~
Average 2 miles each way, 4 miles roundtrip
~~390,000 CY~~ 331,000 CY
20 CY/Truck
~~19500 Trips~~ 16,550 Trips

Aggregate Base Trips
Based on preliminary research, several quarries are located within 25 miles of the project
Assume 50 miles roundtrip
Per 30% plans subballast quantity is ~~61,000 CY~~ 43,000 CY
Per 30% plans ditch facing quantity is ~~21,000 CY~~ 25,000 CY
Round up to 86,000 CY for culvert, box culvert bedding and road base
Assume 1.8 tons/CY
154,800 Tons
22 Tons/Truck
7,036 Trips

Personnel

Assume an average of 70 personnel over the total project duration
Assume 30 miles round trip
Assume working 21 days per month (5 days a week)
13,230 Total Trips

Acres Disturbed

Per 30% plans clear and grub quantity is ~~100 acres~~ 107 acres
Assume 7 months of disturbance
107 ~~100~~ Total Acres
15.3 ~~14.3~~ **Acres/Month**

[3] UP. 2022. UPRR Gateway Pirate Construction Summary 2022-02-15.

8' Wide PUFE

Existing R/W

Track 101

S. Sossaman Rd.

Existing R/W

8' Wide PUFE

165'

50'

205'

Temporary Construction Easement,
9,238 S.F.

CITY OF MESA

UPRR R/W

V.F.H.

V.H.

A.R.V.

A.R.V.

F.H.

M.H.

M.H.

40 0 40 80

SCALE IN FEET

olsson
2111 South 67th Street, Suite 200
Omaha, NE 68106-2810
TEL 402.341.1116
FAX 402.341.5895
www.olsson.com

UNION PACIFIC

DRAWN BY: JTD
CHECKED BY: JRM
DATE: 11/19/2025
SHEET NUMBER: 001 of 001

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.78 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
CITY OF MESA TCE EXHIBIT

Color table: K:\Bentley\WorkspaceV8i\projects\Clients\UPRR_Track\UPRR_Track_V8i\color\UPRR.tbl
F:\2020\0501-1000\020-0927\40-Design\Microstation\020-0927_RLTK\Pentable\020-0927_RLTK.tbl
F:\2020\0501-1000\020-0927\40-Design\Microstation\020-0927_RLTK\DGN\Sheets\00_Exhibits\TCE Exhibits\TCE - Sossaman Rd.dgn
Default
11/19/2025

S. Ellsworth Rd. (Northbound)

S. Ellsworth Rd. (Southbound)

10+00

11+00

12+00

A.R.

M.H.

SIHI

25'

25'

140'

Temporary Construction Easement,
3,495 S.F.

UPRR R/W

Existing R/W

8' Wide PUFE

Access Rd.

Track 101

20 0 20 40

SCALE IN FEET

olsson
2111 South 67th Street, Suite 200
Omaha, NE 68106-2810
TEL 402.341.1116
FAX 402.341.5895
www.olsson.com

UNION PACIFIC

DRAWN BY: JTD
CHECKED BY: JRM
DATE: 10/2/2025
SHEET NUMBER: 001 of 001

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.78 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
SIHI TCE EXHIBIT

Color table:K:\Bentley\WorkspaceV8i\projects\Clients\UPRR_Track\UPRR_Track_V8i\color\UPRR.tbl
F:\2020\0501-1000\020-0927\40-Design\Microstation\020-0927_RLTK\Pentable\020-0927_RLTK.tbl
F:\2020\0501-1000\020-0927\40-Design\Microstation\020-0927_RLTK\DGN\Sheets\00_Exhibits\TCE Exhibits\TCE - Ellsworth Rd at Drive.dgn
Default
10/2/2025

SIHI

SIHI

UPRR R/W

UPRR R/W

50'

95'

Permanent Channel Easement and Agreement for Flood Control Purposes, Document No. 2003-0521472

Temporary Construction Easement, 40,278 S.F.

Temporary Construction Easement, 15,269 S.F.

339'

160'

111'

119'

20'

20'

Track 101

C.B.

32'

26'

29'

119'

68'

8' Wide PUFE

339'

115'

City of Mesa R/W

A.R.V.

F.H.

M.H.

M.H.

M.H.

4:1 (EXISTING)

4:1 (EXISTING)

4:1 (EXISTING)

4:1 (EXISTING)

4:1 (EXISTING)

4:1 (EXISTING)

S. Ellsworth Rd. (Northbound)

S. Ellsworth Rd. (Southbound)

50 0 50 100

SCALE IN FEET

olsson

2111 South 67th Street, Suite 200
Omaha, NE 68106-2810

TEL 402.341.1116
FAX 402.341.5895

www.olsson.com

UNION PACIFIC

DRAWN BY: $drn4$

CHECKED BY: $chk1$

DATE: 11/19/2025

SHEET NUMBER: 001 of 001

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.78 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
SIHI ELLSWORTH CHANNELTCE EXHIBIT

Color table: K:\Bentley\Workspace\V8i\projects\Clients\UPRR_Track\UPRR_Track_V8i\color\UPRR.tbl
F:\2020\0501-1000\020-0927\40-Design\Microstation\020-0927_RLTK\Pentable\020-0927_RLTK_EXH.tbl
F:\2020\0501-1000\020-0927\40-Design\Microstation\020-0927_RLTK\DGN\Sheets\00_Exhibits\TCE Exhibits\TCE - Ellsworth Rd at drainage way.dgn
Default
11/19/2025

Utility coordination for the UPRR PIRATE project has been organized into three categories:
1. Utilities cleared for construction
2. Utilities requiring relocation prior to construction
3. Utilities to be modified by UPRR's contractor during construction

Coordination was previously completed with several utility providers to resolve conflicts with the proposed rail infrastructure. Remaining utility conflicts must be addressed before grading operations commence. A Subsurface Utility Engineering (SUE) Quality Level B survey has been completed to verify existing and new utility installations within the Public ROW. The Utility Coordination team is actively reengaging utility companies to confirm outstanding conflicts and finalize relocation plans.

1. Utilities Cleared for Construction

- Kinder Morgan: Lowered a 24" underground natural gas pipeline to resolve a conflict with the proposed culvert north of the Rittenhouse Canal.
- Southwest Gas Corporation (SWG):
- - Modified 2" casing vents for a 12" natural gas pipeline near S Sossaman Rd and E Germann Rd
- - Lowered a 6" natural gas pipeline at S Sossaman Rd to resolve grading conflicts.
- Salt River Project (SRP):
- - Removed a pole and overhead electrical distribution wireline along S Merril Rd.
- - Coordinated placement of a new high-voltage overhead transmission wireline and poles to avoid conflicts.
- Cox Communications: Coordinated design to ensure proposed underground fiber optic wireline meets railroad depth standards.

2. Utilities Requiring Relocation Prior to Construction

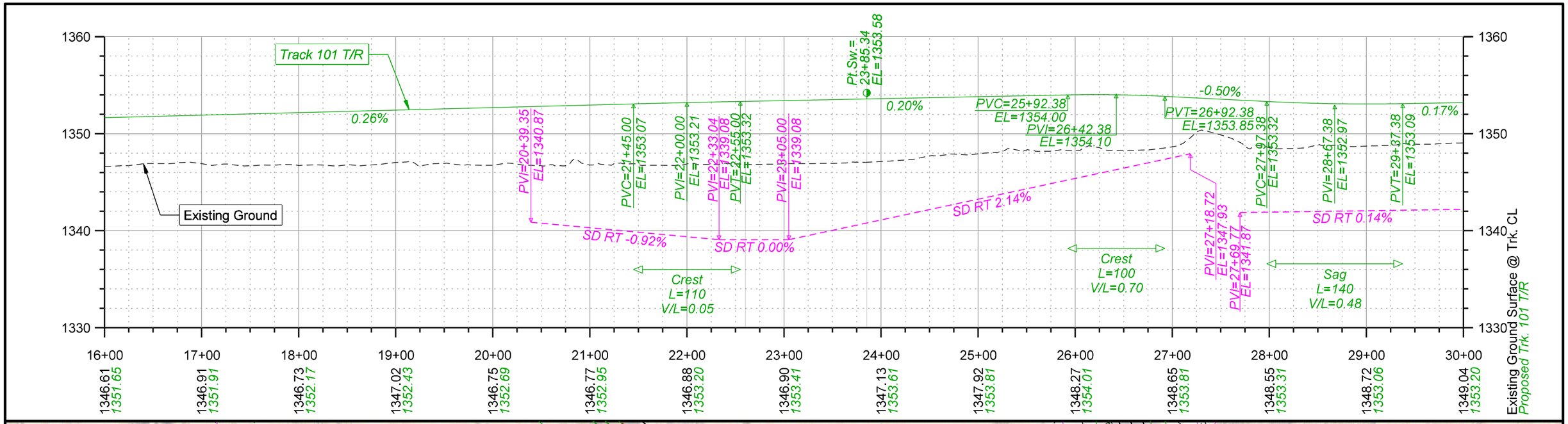
- Lumen:
- - Two underground fiber optic cables and one underground copper cable along S Sossaman Rd.
- - One underground fiber optic cable along Pecos Rd.
- Cox Communications: One underground fiber optic cable along Pecos Rd.
- SRP:
- - Overhead electrical distribution wirelines along S Sossaman Rd and Crismon Rd.
- - One underground electrical distribution wireline along S Sossaman Rd.
- Verizon: One underground fiber optic cable along S Sossaman Rd.
- Sunbelt Investment Holdings Inc. (SIHI): Requested coordination for a new crossing of a 10" irrigation waterline in a 24" casing. Initial design requirements have been provided to meet railroad standards.

3. Utilities to Be Modified During Construction

- Kinder Morgan: Install a concrete slab between the pipeline and proposed track to protect the 24” natural gas pipeline north of the Rittenhouse Canal under both track wye segments.
- Zayo: Temporarily raise a fiber duct containing Zayo’s and the City of Mesa’s underground fiber optic cables during culvert construction at S Sossaman Rd.
- City of Mesa:
- - Pecos Rd: Modify a 20” underground waterline, fiber optic cable, and 18” sanitary sewer pipeline.
- - S Sossaman Rd: Modify a fiber optic cable and a 20” underground waterline.
- - Ellsworth Rd: Modify an 18” sanitary sewer pipeline, fiber optic cable, 20” and 16” underground waterlines.
- - Signal Butte Rd: Modify a 16” underground waterline, electrical wireline, and fiber optic cable.
- Verizon: Coordinate installation of a concrete cap over its underground fiber optic cable during paving at Signal Butte Rd.
- ZF Property: Relocate two 12” sanitary sewer pipelines and a low-voltage electrical wireline system.
- CMC Property: Install a protective concrete slab over a 12” underground waterline.

4. Current Utility Engagement

A non-intrusive SUE Quality Level B survey has been completed within public rights-of-way to verify existing and new utility installations. The results are currently under analysis to identify any changes or new conflicts. The Utility Coordination team has reinitiated contact with known utility providers to confirm outstanding issues and finalize relocation plans.



olsson
2111 South 67th Street, Suite 200
Omaha, NE 68106-2810
TEL 402.341.1116
FAX 402.341.5895
www.olsson.com

UNION PACIFIC

DRAWN BY:	$drn4$
CHECKED BY:	$chk1$
DATE:	11/19/2025
SHEET NUMBER	001 of 001

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.78 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
PECOS ROAD EXHIBIT

Color table: K:\Bentley\WorkspaceV8i\projects\Clients\UPRR_Track\UPRR_Track_V8i\color\UPRR.tbl
F:\2020\0501-1000\020-0927\40-Design\Microstation\020-0927_RLTK\Pentable\020-0927_RLTK_EXH.tbl
F:\2020\0501-1000\020-0927\40-Design\Microstation\020-0927_RLTK\DGN\Sheets\00_Exhibits\final plans grading changes\E. pecos Road.dgn
Default
11/19/2025

UPRR R/W Area Beyond EA Project Limits (2.15 Acres)

EA Project Limits (60% UPRR R/W)

UPRR R/W

Est. APE Boundary

Temporary Construction Easement

EA TCE Boundary (-3.42 Acres, No Longer Required)

Signal Butte Rd.

8' Wide PUFE

City R/W

Construction activities will not exceed UPRR ROW or APE boundary, which will be delineated means of visual barrier

Track 101 136# Concrete

20 MPH

NOTES:

1. Overall footprint of the drainage design has a net decrease (2.15 ac new ROW for detention ditches -3.42 ac TCE no longer needed = 1.27 ac net decrease)
2. UPRR track footprint did not substantially change, but the drainage requirements from the City of Mesa (City) caused an additional ROW need
3. Revised ROW extends beyond the 60% ROW boundaries in most areas but stays within the Area of Potential Effect (APE) in all areas
4. City will not allow a detention facility located in a Temporary Construction Easement (TCE). All drainage must be accounted for in UPRR ROW
5. As a result of the City drainage requirements, UPRR designed a linear retention ditch within the expanded ROW to offset the loss of the detention basin
6. No cultural resource concerns within the APE at this location

150 0 150 300

SCALE IN FEET

olsson
2111 South 67th Street, Suite 200
Omaha, NE 68106-2810
TEL 402.341.1116
FAX 402.341.5895
www.olsson.com

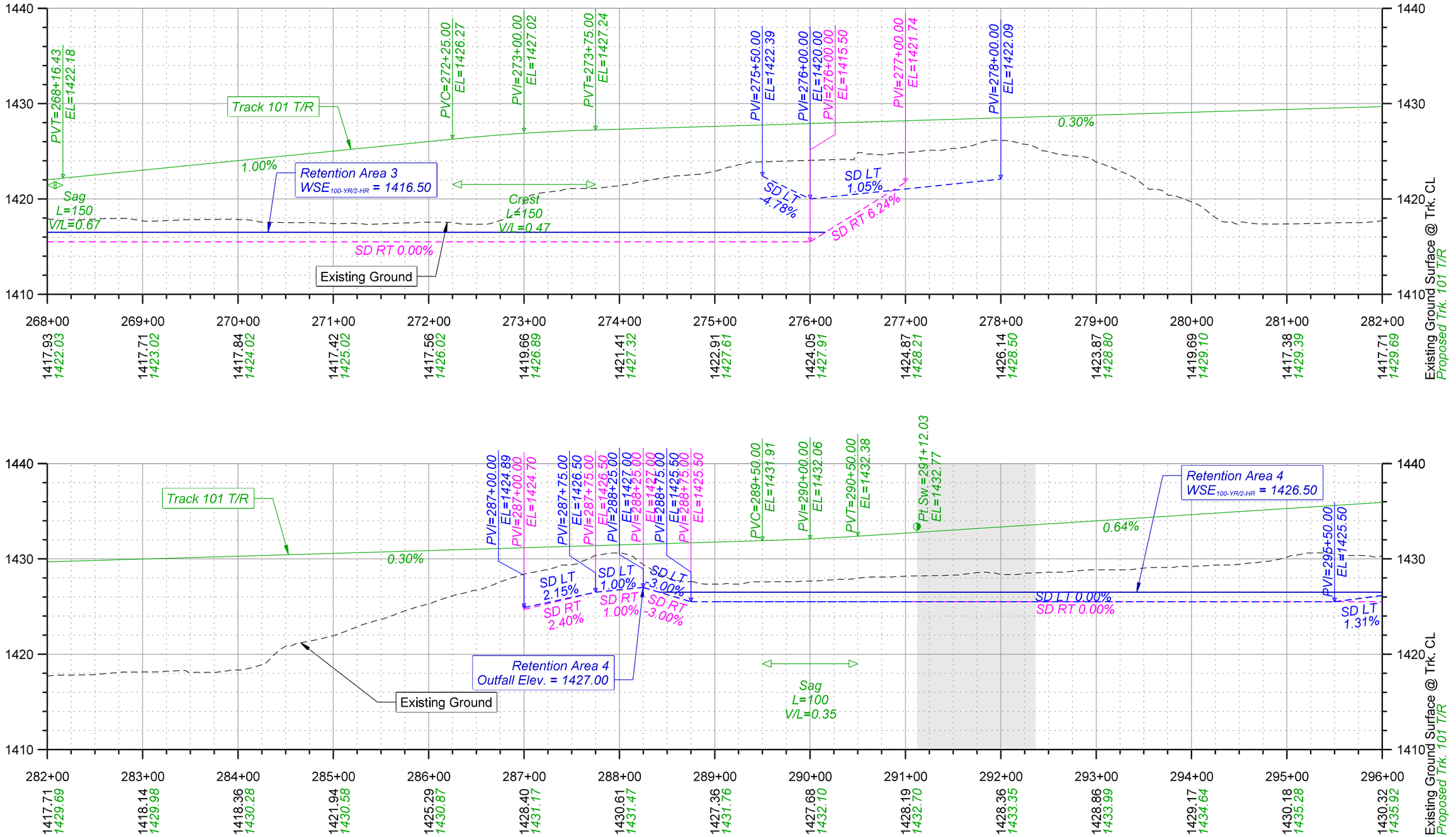
DRAWN BY:	JTD
CHECKED BY:	JRM
DATE:	11/21/2025
SHEET NUMBER	001 of 002

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.78 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
TRAMMELL CROW PROPERTY

Color table: K:\Bentley\WorkspaceV8i\projects\Clients\UPRR_Track\UPRR_Track_V8i\color\UPRR.tbl
F:\2020\0501-1000\020-0927\40-Design\Microstation\020-0927_RLTK\Pentable\020-0927_RLTK.tbl
F:\2020\0501-1000\020-0927\40-Design\Microstation\020-0927_RLTK\DGN\Sheets\00_Exhibits\final plans grading changes\Trammell Crow Development Area.dgn
Default
11/21/2025



olsson
2111 South 67th Street, Suite 200
Omaha, NE 68106-2810
TEL 402.341.1116
FAX 402.341.5895
www.olsson.com

UNION PACIFIC

DRAWN BY:	JTD
CHECKED BY:	JRM
DATE:	11/19/2025
SHEET NUMBER	002 of 002

UNION PACIFIC RAILROAD

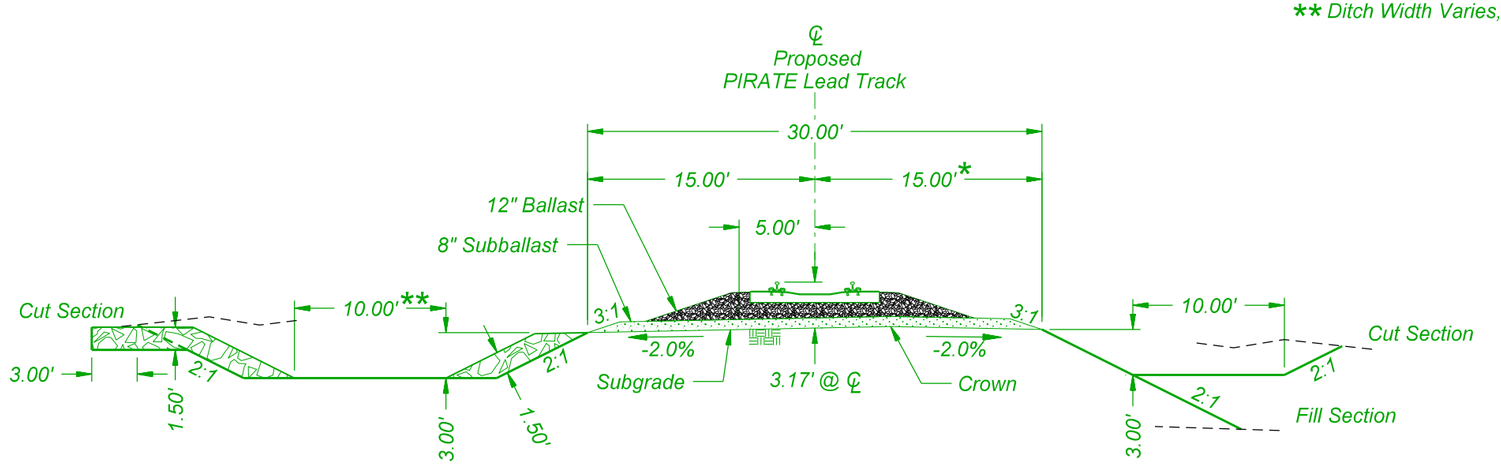
LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.78 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
TRAMMELL CROW PROFILES

Color table: K:\Bentley\WorkspaceV8i\projects\Clients\UPRR_Track\UPRR_Track_V8i\color\UPRR.tbl
F:\2020\0501-1000\020-0927.40-Design\Microstation\020-0927_RLTK\Pentable\020-0927_RLTK.tbl
F:\2020\0501-1000\020-0927.40-Design\Microstation\020-0927_RLTK\DGN\Sheets\00.Exhibits\final plans grading changes\Trammell Crow Development Area.dgn
Default
11/19/2025

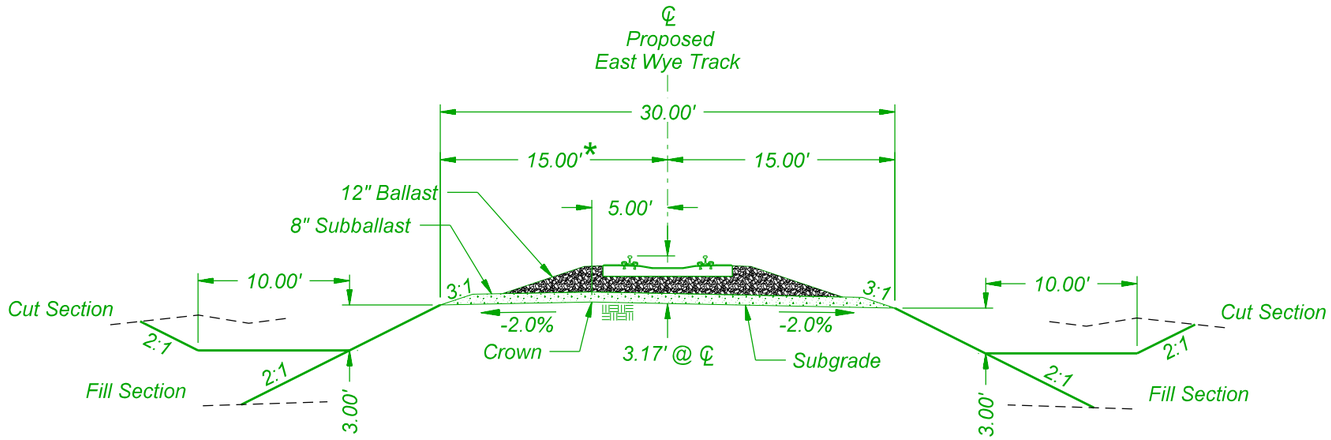
* Shoulder Widens to Accomodate Superelevation, Refer to Cross Sections

** Ditch Width Varies, Refer to Cross Sections



TYPICAL SECTION

Sta. 4+20 to Sta. 15+23



TYPICAL SECTION

Sta. 4+20 to Sta. 15+11

olsson
2111 South 67th Street, Suite 200
Omaha, NE 68106-2810
TEL 402.341.1116
FAX 402.341.5895
www.olsson.com

UNION PACIFIC

DRAWN BY:	JTD
CHECKED BY:	JRM
DATE:	11/21/2025
SHEET NUMBER	T006 of 012

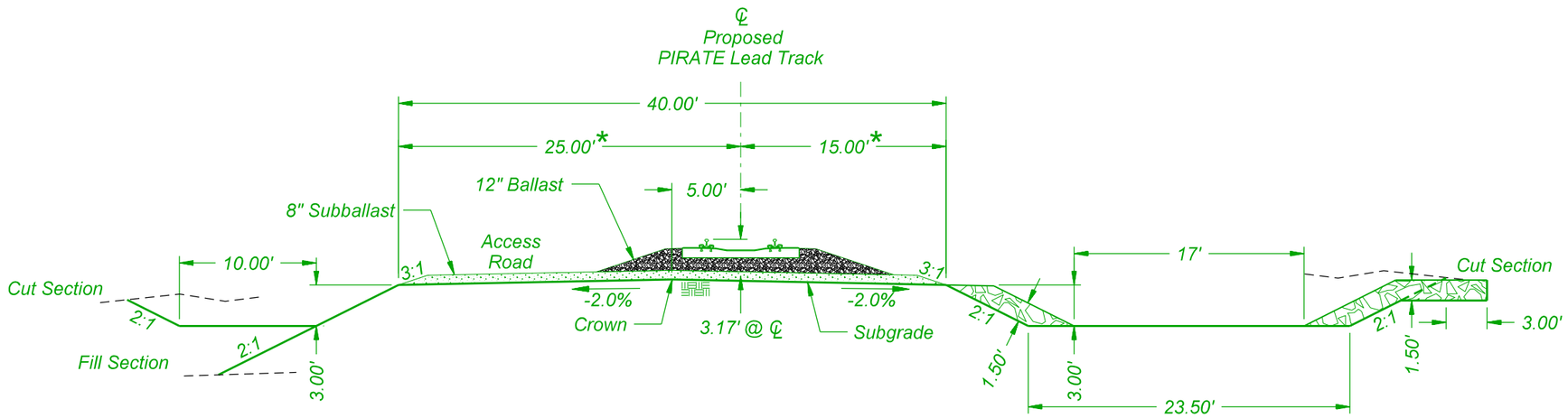
UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.78 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
TYPICAL SECTIONS

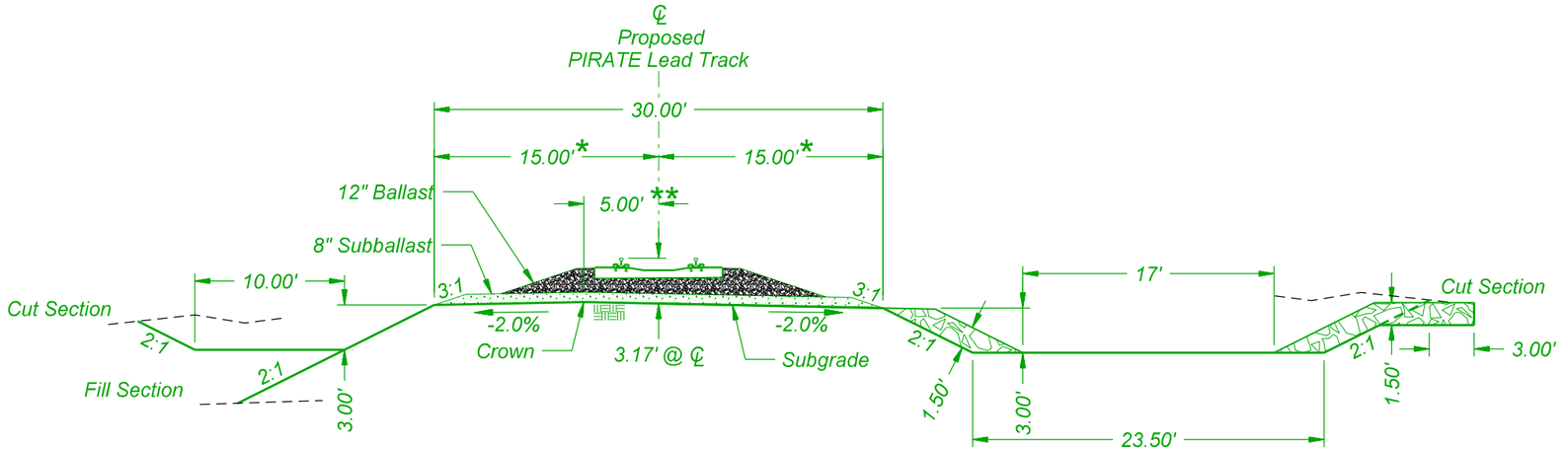
Color table:K:\Bentley\WorkspaceV8i\projects\Clients\UPRR_Track\UPRR_Track_V8i\color\UPRR.tbl
F:\2020\0501-1000\020-0927\40-Design\Microstation\020-0927_RLTK\Pentable\020-0927_RLTK.tbl
F:\2020\0501-1000\020-0927\40-Design\Microstation\020-0927_RLTK\DGN\Sheets\00_Exhibits\final plans grading changes\T_TYP_Exhibit.dgn
Default
11/21/2025

* Shoulder Widens to Accomodate Superelevation, Refer to Cross Sections



TYPICAL SECTION

Sta. 40+50 to Sta. 59+34



TYPICAL SECTION

Sta. 23+30 to Sta. 40+50

olsson
2111 South 67th Street, Suite 200
Omaha, NE 68106-2810
TEL 402.341.1116
FAX 402.341.5895
www.olsson.com

UNION PACIFIC

DRAWN BY:	JTD
CHECKED BY:	JRM
DATE:	11/21/2025
SHEET NUMBER	T008 of 012

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.78 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
TYPICAL SECTIONS

Color table: K:\Bentley\WorkspaceV8i\projects\Clients\UPRR_Track\UPRR_Track_V8i\color\UPRR.tbl
F:\2020\0501-1000\020-0927\40-Design\Microstation\020-0927_RLTK\Pentable\020-0927_RLTK.tbl
F:\2020\0501-1000\020-0927\40-Design\Microstation\020-0927_RLTK\DGN\Sheets\00_Exhibits\final plans grading changes\T_TYP_Exhibit.dgn
Default
11/21/2025

SURFACE TRANSPORTATION BOARD
Washington, DC 20423

Office of Environmental Analysis

December 5, 2025

Mr. Kevin Rice
Union Pacific Railroad Company
1400 Douglas Street, STOP 0910
Omaha, NE 68179

By email at kprice@up.com

Re: Docket No. FD 36501, Union Pacific Railroad Company (UP) – Construction and Operation Exemption – in Maricopa County, Ariz.; **Information Request # 3**

Dear Mr. Rice:

Consistent with 40 C.F.R. § 1506.5(b)(1), the Surface Transportation Board's Office of Environmental Analysis (OEA) requests the information below, which is needed to support the environmental review in connection with the above-referenced proceeding. This information is necessary for the Final Environmental Assessment (EA).

Specifically, OEA requests the following updated information to clarify UP's responses to Information Request #2 dated November 21, 2025:

1. Provide updated shapefiles or KMZ files for UP's current right-of-way, specifically:
    a. An update to the "C-RWAY-REQ" layer previously provided in the 60 percent KMZ file that UP submitted to OEA on July 7, 2022.
        i. Additionally, please clarify that the last segment of right-of-way east of the Trammel Crow property will also be 120 feet wide to match the Trammel Crow width.
2. Provide updated shapefiles or KMZ files for UP's current temporary construction easements (TCEs), specifically:
    a. An update to the two "C-ESMT-REQ" layers previously provided in the 60 percent KMZ file that UP submitted to OEA on July 7, 2022.
        i. Additionally, please include the new TCEs west of Sossaman Road and Ellsworth Road, the extended TCE east of Ellsworth Road, and the removal of the detention basin TCE east of Signal Butte Road.
        ii. Please confirm that the TCEs now extend beyond the City of Mesa and Town of Queen Creek's roadway right-of-way, including the areas east and west of the Pecos Road crossing, south of the Sossamon Road crossing, and north of the Trammel Crow property entrance.

Please provide your response as soon as possible and no later than December 12, 2025. If you have any questions, please contact Adam Assenza at 202-245-0301 or at Adam.Assenza@stb.gov. Thank you for your assistance in this matter.

Sincerely,



Danielle Gosselin
Director
Office of Environmental Analysis

cc: Adam Assenza, OEA Environmental Protection Specialist, Adam.Assenza@stb.gov
Alan Tabachnick, Board Federal Preservation Officer, Alan.Tabachnick@stb.gov
Maggie Buckley, Jacobs Project Manager, Maggie.Buckley@jacobs.com

BUILDING AMERICA®

12/12/2025

Transmitted via email only

Ms. Danielle Gosselin
Director
Office of Environmental Analysis
Surface Transportation Board
395 E Street, S.W.
Washington, D.C. 20423

Re: STB Docket No. FD 36501, Union Pacific Railroad (UPRR) –Responses to information requests

Dear Ms. Gosselin,

As it relates to the PIRATE Industrial Lead project, with regards to the information request made by the STB on 12/5/2025 to update the draft Environmental Assessment (EA), UPRR offers the following responses (answer in red):

1. Provide updated shapefiles or KMZ files for UP's current right-of-way, specifically:
    a. An update to the "C-RWAY-REQ" layer previously provided in the 60 percent KMZ file that UP submitted to OEA on July 7, 2022. See Attachment A
        i. Additionally, please clarify that the last segment of right-of-way east of the Trammel Crow property will also be 120 feet wide to match the Trammel Crow width. The right-of-way east of the Trammel Crow property varies from 120' to 155' wide
2. Provide updated shapefiles or KMZ files for UP's current temporary construction easements (TCEs), specifically:
    a. An update to the two "C-ESMT-REQ" layers previously provided in the 60 percent KMZ file that UP submitted to OEA on July 7, 2022. Updated, see Attachment A
        i. Additionally, please include the new TCEs west of Sossaman Road and Ellsworth Road, the extended TCE east of Ellsworth Road, and the removal of the detention basin TCE east of Signal Butte Road. Included, see Attachment A
        ii. Please confirm that the TCEs now extend beyond the City of Mesa and Town of Queen Creek's roadway right-of-way, including the areas east and west of the Pecos Road crossing, south of the Sossamon Road crossing, and north of the Trammel Crow property entrance. TCEs to capture any drainage infrastructure and construction staging that extends beyond the City right-of-way are shown in Attachment A (to be obtained)

UNION PACIFIC RAILROAD
1400 Douglas Street, 9th Floor
Omaha, Nebraska 68179

Kevin Rice
Senior Manager M/W Environmental Engineering

P 402-544-2213
E kprice@up.com

If there is any additional information or clarification needed with regard to the updated information, please don't hesitate to call me. Or we can set up a conference call to review the changes.

Sincerely,

Kevin Rice
Senior Manager M/W Environmental
Union Pacific Railroad

cc: Tanya Spratt, UPRR
Adam Assenza, OEA
Maggie Buckley, Jacobs
Alan Tabachnick, OEA

Enclosures: Attachment A

BUILDING AMERICA®

January 30, 2026

Mr. Adam Assenza
Environmental Protection Specialist
Office of Environmental Analysis
Surface Transportation Board
395 E Street, S.W.
Washington, D.C. 20423

Re: STB Docket No. FD 36501, Union Pacific Railroad –Two Un-surveyed Portions of APE

Dear Mr. Assenza:

As it relates to the PIRATE Industrial Lead project, with regards to the two un-surveyed areas depicted in the *Area of Potential Effects* maps, these areas are not currently owned by Union Pacific Railroad (UPRR). UPRR will not:

- Acquire or attempt to acquire the un-surveyed areas
- Acquire temporary construction easements on the un-surveyed areas
- Perform any work in the un-surveyed areas

If there is any additional information or clarification needed, please don't hesitate to contact me.

Sincerely,

Kevin Rice

Senior Manager M/W Environmental

Union Pacific Railroad

UNION PACIFIC RAILROAD
1400 Douglas Street, 9th Floor
Omaha, Nebraska 68179

Kevin Rice
Senior Manager M/W Environmental
Engineering

P 402-544-2213
E kprice@up.com

3684513N
435837E
1S 6E
1S 7E
Mesa
Gateway Airport
3684134N
441623E
Pecos Rd
BM 1389
Rittenhouse Rd
Alternative 1
Alternative 2
Pecos Rd
Ellsworth Rd
Crismon Rd
Wye
Germann
Germann Rd
Higley
7.5' USGS Map (1956)
Desert Well
7.5' USGS Map (1956)
UP Phoenix Subdivision Main Line
BM 1365
3681999N
441601E
2S 6E
3681716N
436304E
2S 7E
Queen Creek Rd
Sossaman Rd
Power Rd
Arizona
Boys Ranch
Hawes Rd
Queen Creek
Sch
BM 1401
Rittenhouse
BM 1402
Landing Field
3680046N
436564E
APE
Unsurveyed
City of Mesa
Flood Control District of Maricopa County
Phoenix-Mesa Gateway Airport Authority
Town of Queen Creek
Arizona State Land Department
UTM Coordinates
(Zone 12, NAD 83)
N
0
0.5
1
Miles

Mesa
Gateway Airport

Pecos Rd

BM 1389

Alternative 1

Alternative 2

Ellsworth Rd

Crismon Rd

Meridian Rd

Higley
7.5' USGS Map (1956)

Desert Well
7.5' USGS Map (1956)

Germann Rd

Hawes Rd

BM 1401

Queen Creek
Sch

Rittenhouse

BM 1402

Swimming Pool

Landing
Field

1S 7E

1S 8E

2S 7E

2S 8E

T1S
R7E

T2S
R7E

3684134N
441623E

3684743N
445880E

3681999N
441601E

3682046N
444965E

3680008N
441808E

APE

City of Mesa

Flood Control District of Maricopa County

Phoenix-Mesa Gateway Airport Authority

Arizona State Land Department

UTM Coordinates
(Zone 12, NAD 83)

0 0.5 1 Miles

N

Appendix B
Traffic Report

TRAFFIC REPORT

PECOS INDUSTRIAL RAIL ACCESS AND TRAIN EXTENSION (PIRATE) PROJECT

Docket No. FD 36501 - Union Pacific Railroad Company
Construction and Operation Exemption - In Maricopa County, Ariz.

February 2026

Summary

The Union Pacific Railroad Company (UP) is seeking authority from the Surface Transportation Board to construct and operate approximately 6.0 miles of new rail line in Maricopa County, Arizona (Docket No. FD 36501) to transport raw materials and commercial freight. The proposed rail line, referred to as Pecos Industrial Rail Access and Train Extension (PIRATE), would connect UP's Phoenix Subdivision main line (Phoenix Subdivision) to industrial properties south of the Mesa Gateway Airport (formerly the Phoenix-Mesa Gateway Airport) via a single-track rail line. UP also proposes to construct and operate approximately 2.5 miles of planned support tracks along the Phoenix Subdivision between Power Road and Ellsworth Road. The Surface Transportation Board's Office of Environmental Analysis identified two reasonable alternatives that meet the purpose and need for PIRATE: Alternative 1 and Alternative 2.

This traffic and analysis report was developed as supplemental material to the Final Environmental Assessment (EA). The purpose of the traffic analysis is to determine if PIRATE and the planned Phoenix Subdivision support tracks would negatively affect traffic patterns and cause detrimental delays at neighboring intersections. This report is an update to the previous report published in 2023. The previous analysis used traffic data and assumptions from 2022. The population growth and development expansion in this region has increased significantly since the conclusion of the previous traffic study. This report serves as the updated version of the traffic operational analysis for the current and future conditions, as well as providing a grade separation analysis for the railroad crossings of roads within the study area.

PIRATE and the planned Phoenix Subdivision support tracks would intersect with several arterial streets at grade and could potentially affect traffic operations at adjacent intersections. The arterial streets potentially affected by the project connect the regional freeway system to residential and commercial areas in the city of Mesa and the town of Queen Creek.

The region in the immediate vicinity of the project is experiencing tremendous growth; there are several active commercial and residential developments in the town of Queen Creek and several active and planned commercial developments in the Pecos Advanced Manufacturing Zone. As a result, travel demand in this area is expected to increase significantly by the planning horizon year (2050). The travel demand for the project influence area was estimated using the regional travel demand model. The travel demand forecasts considered socioeconomic and land use changes resulting from the intense growth in the area.

To evaluate the operational impact of the project on adjacent intersections, traffic analyses were conducted for three scenarios: Existing (2025), 2050 No Build, and 2050 Build. The Existing scenario analysis was completed for both A.M. and P.M. peak hours. Operational analysis was conducted using Synchro and VISSIM software. To evaluate a worst-case scenario, it was assumed that peak-hour traffic operations would be affected by a train on the proposed rail line or on the existing Phoenix Subdivision. Further, this train was assumed to interrupt traffic operations for approximately 4 minutes in the peak hour. Intersection delays and queue lengths were used as measures of effectiveness to compare operations between the No Build and Build scenarios.

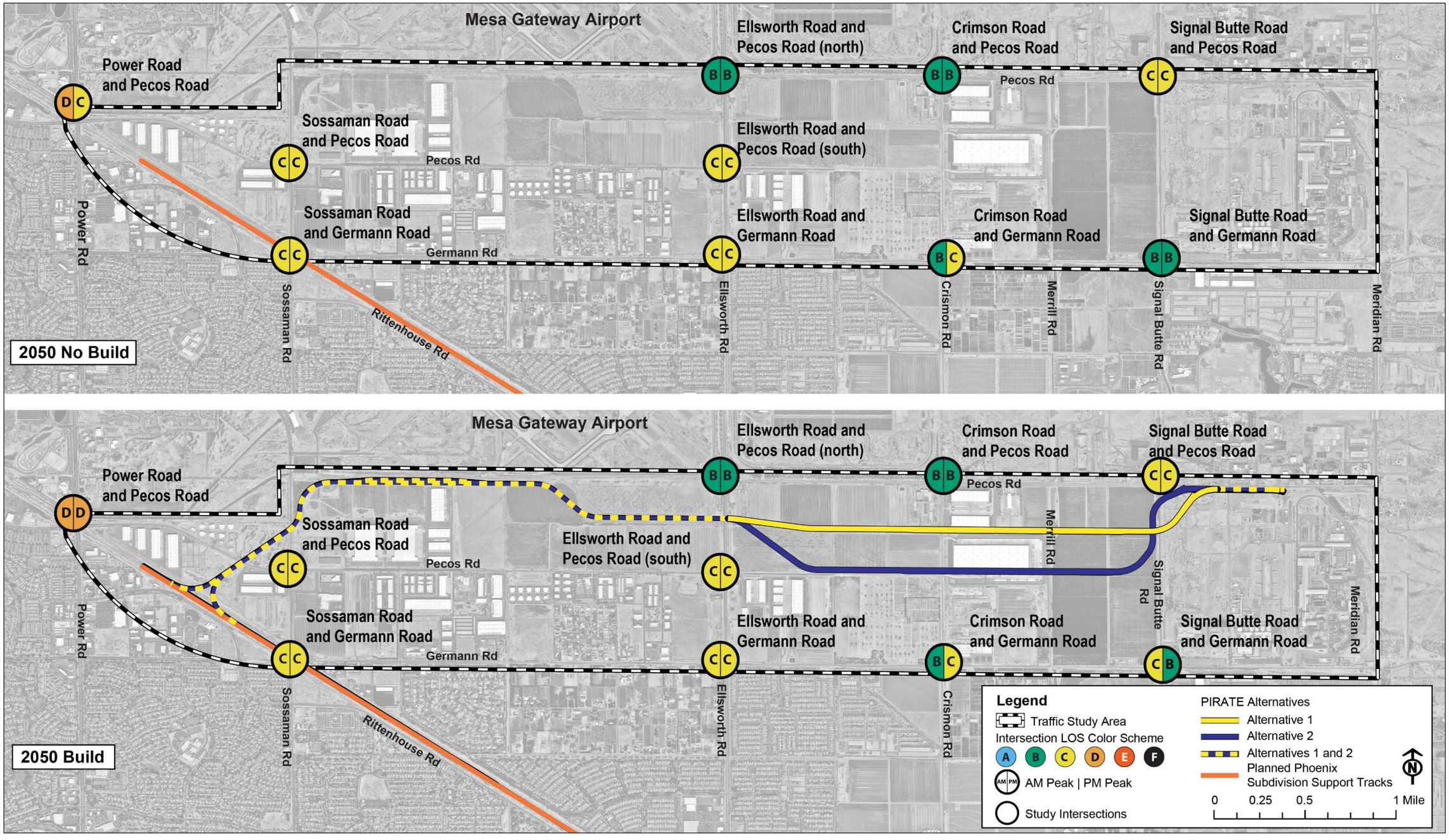
The results of the analysis indicate that the intersections near the proposed rail line would experience slightly increased delays (delays increase by 10 seconds per vehicle on average or less) during the A.M. and P.M. peak hours. Intersection queue lengths are anticipated to increase overall, yet as illustrated in Figure S-1, no drastic changes to levels of service are anticipated (levels of service description are shown in **Section 3.2 Criteria for Traffic Performance,** with no decrease in LOS below D). After completing its updated traffic analysis, OEA recommends retaining and revising the following mitigation measures previously recommended in the 2023 Traffic Report (May 2023) and Draft EA (May 2023) as indicated to minimize impacts to traffic on the adjacent street network:

- **Design and Compliance:** UP will consult federal, state, and local agencies on final at-grade crossing warning device designs, following Federal Highway Administration guidance,[1] American Railway Engineering and Maintenance-of-Way Association guidelines, and requirements from Arizona Corporation Commission (ACC), the City of Mesa (Mesa), and the Town of Queen Creek. This voluntary mitigation measure from UP was included in the Draft EA as VM-TS-2 and has not been modified.
- **Train Operations:** UP shall avoid operating trains over PIRATE crossings during peak periods (6:00 to 9:00 A.M. and 3:00 to 7:00 P.M.) to the maximum extent practicable. These peak periods have been updated since the 2023 Traffic Report and Draft EA as MM-TS-1 in which the A.M. peak period was 7:00 to 9:00 A.M. and the P.M. peak period was from 3:00 to 6:00 P.M.
- **Frequency and Peak Operations:** Before increasing train frequency beyond two per day (one inbound and one outbound) or operating during peak periods (6:00 to 9:00 A.M. and 3:00 to 7:00 P.M.), UP shall consult with and comply with ACC requirements. The peak periods have been updated since the 2023 Traffic Report and Draft EA as MM-TS-2 in which the A.M. peak period was from 7:00 to 9:00 A.M. and the P.M. peak period was from 3:00 to 6:00 P.M.
- **Blocking Crossings:** UP shall not block PIRATE crossings or adjacent signalized intersections on major arterials (Pecos North, Pecos South, Sossaman, Germann, Ellsworth, Crismon, Signal Butte) for more than 10 minutes, except in emergency condition that prevents a train from being moved to clear the crossing. This measure was recommended in the Draft EA as MM-TS-3 and wasn't modified.
- **Agency Consultations:** UP shall consult with relevant agencies at least 30 days before intersection or roadway closures and comply with reasonable requirements, including those from the Town of Gilbert. This measure was recommended in the Draft EA as MM-TS-4 and has not been was not modified.

[1] Federal Highway Administration. 2023. *Manual on Uniform Traffic Control Devices for Streets and Highways* (11th Edition). U.S. Department of Transportation. December. https://mutcd.fhwa.dot.gov/pdfs/11th_Edition/mutcd11thedition.pdf.

- **Construction Coordination:** Before road crossing construction, UP and contractors shall coordinate with local transportation officials on phasing, schedules, detours, temporary traffic control, and permits, ensuring emergency access. This voluntary mitigation measure from UP was included in the Draft EA as VM-TS-3 and has not been modified.
- **Safety Measures:** Prior to construction, UP shall consult ACC, Mesa, and Queen Creek on roadway safety features (markings, signs, delineators, active warning devices for vehicles, pedestrians, and bicyclists). This voluntary mitigation measure from UP was included in the Draft EA as VM-TS-2 and has not been modified.
- **Temporary Traffic Control:** During construction, UP's contractors shall install temporary traffic control measures (markings, signs, detours) according to permit requirements throughout the project limits and applicable work zones. This voluntary mitigation measure was included in the Draft EA as VM-TS-6 and has not been modified.

Figure S-1. 2050 Level of Service Summary



Contents

Summary ii
Figures viii
Tables ix
Appendices xii
Acronyms and Abbreviations xiii
Chapter 1 Introduction 1-1
Chapter 2 Traffic Forecasting 2-1
2.1 Technical Process and Assumptions 2-1
2.2 Existing Conditions 2-1
2.2.1 Socioeconomic Conditions 2-2
2.2.2 Roadway Network 2-4
2.2.3 Traffic Volumes 2-4
2.3 Future Conditions 2-5
2.3.1 2050 No Build Roadway Network Conditions 2-5
2.3.2 2050 Build Roadway Network Conditions 2-6
2.4 2050 Travel Demand Forecasts 2-7
Chapter 3 Operational Analysis 3-1
3.1 Roadway Geometry and Traffic Volumes 3-1
3.1.1 Existing Conditions 3-1
3.1.2 Future Conditions 3-7
3.2 Criteria for Traffic Performance 3-18
3.3 Traffic Operational Analysis Results 3-22
3.3.1 Existing Conditions 3-25
3.3.2 2050 No Build Conditions 3-26
3.3.3 2050 Build Conditions 3-28
3.3.4 Queuing Analysis 3-30
3.4 Traffic Operations During Construction 3-52
Chapter 4 Grade Separation Analysis 4-1
4.1 ACC Warrants 4-1
4.2 FHWA Warrants 4-2
4.3 AASHTO Warrants 4-3
4.3.1 Sight Distance 4-3
4.3.2 Volume and Capacity of Traffic Along Roadway 4-3
4.3.3 Travel Delay Along Tracks 4-4
4.3.4 Mix of Users and Modes of Travel 4-4
4.3.5 Predicted Crashes 4-5
4.3.6 AASHTO Warrant Summary 4-5

4.4 Grade Separation Analysis Summary 4-6
Chapter 5 Conclusions 5-1
5.1 Existing Conditions 5-1
5.2 2050 No Build and Build Conditions 5-1
5.3 Traffic Operations During Construction 5-2
5.4 Grade Separation Analysis 5-2
Chapter 6 Recommended Mitigation 6-1
Chapter 7 References 7-1

Figures

Figure 1-1. Study Area Limits for Traffic Operational Analysis 1-2
Figure 2-1. Traffic Analysis Zone Boundaries in the Project Influence Area 2-3
Figure 3-1. Existing Power Road and Pecos Road (South) Intersection Network and Traffic Volumes 3-2
Figure 3-2. Existing Sossaman Road Roadway Network and Traffic Volumes 3-3
Figure 3-3. Existing Ellsworth Road Roadway Network and Traffic Volumes 3-4
Figure 3-4. Existing Pecos Road (North) Roadway Network and Traffic Volumes 3-5
Figure 3-5. Existing Germann Road Roadway Network and Traffic Volumes 3-6
Figure 3-6. 2050 No Build Power Road and Pecos Road (South) Intersection Roadway Network and Traffic Volumes 3-8
Figure 3-7. 2050 No Build Sossaman Road Roadway Network and Traffic Volumes 3-9
Figure 3-8. 2050 No Build Ellsworth Road Roadway Network and Traffic Volumes 3-10
Figure 3-9. 2050 No Build Pecos Road (North) Roadway Network and Traffic Volumes 3-11
Figure 3-10. 2050 No Build Germann Road Roadway Network and Traffic Volumes 3-12
Figure 3-11. 2050 Build Power Road and Pecos Road (South) Intersection Roadway Network and Traffic Volumes 3-13
Figure 3-12. 2050 Build Sossaman Road Roadway Network and Traffic Volumes 3-14
Figure 3-13. 2050 Build Ellsworth Road Roadway Network and Traffic Volumes 3-15
Figure 3-14. 2050 Build Pecos Road (North) Roadway Network and Traffic Volumes 3-16
Figure 3-15. 2050 Build Germann Road Roadway Network and Traffic Volumes 3-17
Figure 3-16. Levels of Service 3-21
Figure 3-17. Existing Level of Service Summary 3-23
Figure 3-18. 2050 No Build and Build Level of Service Summary 3-24

Tables

Table 2-1. Traffic Counts in the Project Influence Area 2-5
Table 3-1. Unsignalized Intersection LOS Criteria 3-19
Table 3-2. Signalized Intersection LOS Criteria 3-20
Table 3-3. Existing Conditions Operations Analysis Results - Sossaman Road and Pecos Road Intersection 3-32
Table 3-4. Existing Conditions Operations Analysis Results - Sossaman Road and Germann Road Intersection 3-32
Table 3-5. Existing Conditions Operations Analysis Results - Ellsworth Road and Pecos Road (North) Intersection 3-33
Table 3-6. Existing Conditions Operations Analysis Results - Ellsworth Road and Pecos Road (South) Intersection 3-33
Table 3-7. Existing Conditions Operations Analysis Results - Crismon Road and Pecos Road Intersection 3-34
Table 3-8. Existing Conditions Operations Analysis Results - Signal Butte and Pecos Road Intersection 3-34
Table 3-9. Existing Conditions Operations Analysis Results - Ellsworth Road and Germann Road Intersection 3-35
Table 3-10. Existing Conditions Operations Analysis Results - Crismon Road and Germann Road Intersection 3-35
Table 3-11. Existing Conditions Operations Analysis Results - Signal Butte Road and Germann Road Intersection 3-36
Table 3-12. Existing Conditions Operations Analysis Results - Power Road and Pecos Road Intersection 3-36
Table 3-13. 2050 No Build Operations Analysis Results - Sossaman Road and Pecos Road Intersection 3-37
Table 3-14. 2050 No Build Operations Analysis Results - Sossaman Road and Germann Road Intersection 3-37
Table 3-15. 2050 No Build Operations Analysis Results - Ellsworth Road and Pecos Road (North) Intersection 3-38
Table 3-16. 2050 No Build Operations Analysis Results - Ellsworth Road and Pecos Road (South) Intersection 3-38
Table 3-17. 2050 No Build Operations Analysis Results - Crismon Road and Pecos Road Intersection 3-39
Table 3-18. No Build Operations Analysis Results - Signal Butte and Pecos Road Intersection 3-39
Table 3-19. 2050 No Build Operations Analysis Results - Ellsworth Road and Germann Road Intersection 3-40
Table 3-20. 2050 No Build Operations Analysis Results - Crismon Road and Germann Road Intersection 3-40
Table 3-21. 2050 No Build Operations Analysis Results - Signal Butte Road and Germann Road Intersection 3-41

Table 3-22. 2050 No Build Operations Analysis Results - Power Road and Pecos Road Intersection 3-41
Table 3-23. 2050 Build Operations Analysis Results - Sossaman Road and Pecos Road Intersection 3-42
Table 3-24. 2050 Build Operations Analysis Results - Sossaman Road and Germann Road Intersection 3-42
Table 3-25. 2050 Build Operations Analysis Results - Ellsworth Road and Pecos Road (North) Intersection 3-43
Table 3-26. 2050 Build Operations Analysis Results - Ellsworth Road and Pecos Road (South) Intersection 3-43
Table 3-27. 2050 Build Operations Analysis Results - Crismon Road and Pecos Road Intersection 3-44
Table 3-28. 2050 Build Operations Analysis Results - Signal Butte and Pecos Road Intersection 3-44
Table 3-29. 2050 Build Operations Analysis Results - Ellsworth Road and Germann Road Intersection 3-45
Table 3-30. 2050 Build Operations Analysis Results - Crismon Road and Germann Road Intersection 3-45
Table 3-31. 2050 Build Operations Analysis Results - Signal Butte Road and Germann Road Intersection 3-46
Table 3-32. 2050 Build Operations Analysis Results - Power Road and Pecos Road Intersection 3-46
Table 3-33. 2050 No Build and Build Queue Lengths - Sossaman Road and Pecos Road Intersection 3-47
Table 3-34. 2050 No Build and Build Queue Lengths - Sossaman Road and Germann Road Intersection 3-47
Table 3-35. 2050 No Build and Build Queue Lengths - Ellsworth Road and Pecos Road (North) Intersection 3-48
Table 3-36. 2050 No Build and Build Queue Lengths - Ellsworth Road and Pecos Road (South) Intersection 3-48
Table 3-37. 2050 No Build and Build Queue Lengths - Crismon Road and Pecos Road Intersection 3-49
Table 3-38. 2050 No Build and Build Queue Lengths - Signal Butte Road and Pecos Road Intersection 3-49
Table 3-39. 2050 No Build and Build Queue Lengths - Ellsworth Road and Germann Road Intersection 3-50
Table 3-40. 2050 No Build and Build Queue Lengths - Crismon Road and Germann Road Intersection 3-50
Table 3-41. 2050 No Build and Build Queue Lengths - Signal Butte Road and Germann Road Intersection 3-51
Table 3-42. 2050 No Build and Build Queue Lengths - Power Road and Pecos Road Intersection 3-51
Table 3-43. 2050 Build and No Build Queue Lengths – PIRATE At-Grade Crossing Locations 3-52

Table 4-1. ADT and Daily Traffic Capacity of Roadway Segments in Design Year 2050 4-4
Table 4-2. Travel Delay 4-4
Table 4-3. Design Year 2050 Predicted Crashes in Roadway Segments with Railroad Crossings 4-5

Appendices

Appendix A. 2025 Traffic Counts
Appendix B. Future Development Figures
Appendix C. Synchro Analysis Outputs
Appendix D. VISSIM Analysis Outputs
Appendix E. Grade Separation Warrants

Acronyms and Abbreviations

AADT	annual average daily traffic
AASHTO	American Association of State Highway and Transportation Officials
ACC	Arizona Corporation Commission
ADT	average daily traffic
BFHS	Benjamin Franklin High School
Board	Surface Transportation Board
CUSD	Chandler Unified School District
EA	Environmental Assessment
EB	eastbound
FHWA	Federal Highway Administration
FRA	Federal Railroad Administration
HUSC	Higley Unified School District
ICU	intersection capacity utilization
L	left
LOS	level of service
MAG	Maricopa Association of Governments
Mesa	City of Mesa
mph	miles per hour
NASEM	National Academies of Sciences, Engineering, and Medicine
NB	northbound
OEA	Office of Environmental Analysis
Phoenix Subdivision	Phoenix Subdivision main line
PIRATE	Pecos Industrial Rail Access and Train Extension
QCUSD	Queen Creek Unified School District
Queen Creek	Town of Queen Creek
R	right
SB	southbound
SR	State Route
T	through
TAZ	Traffic Analysis Zone
TDM	travel demand model

UP	Union Pacific Railroad Company
USDOT	U.S. Department of Transportation
vpd	vehicles per day
WB	westbound

Chapter 1
Introduction

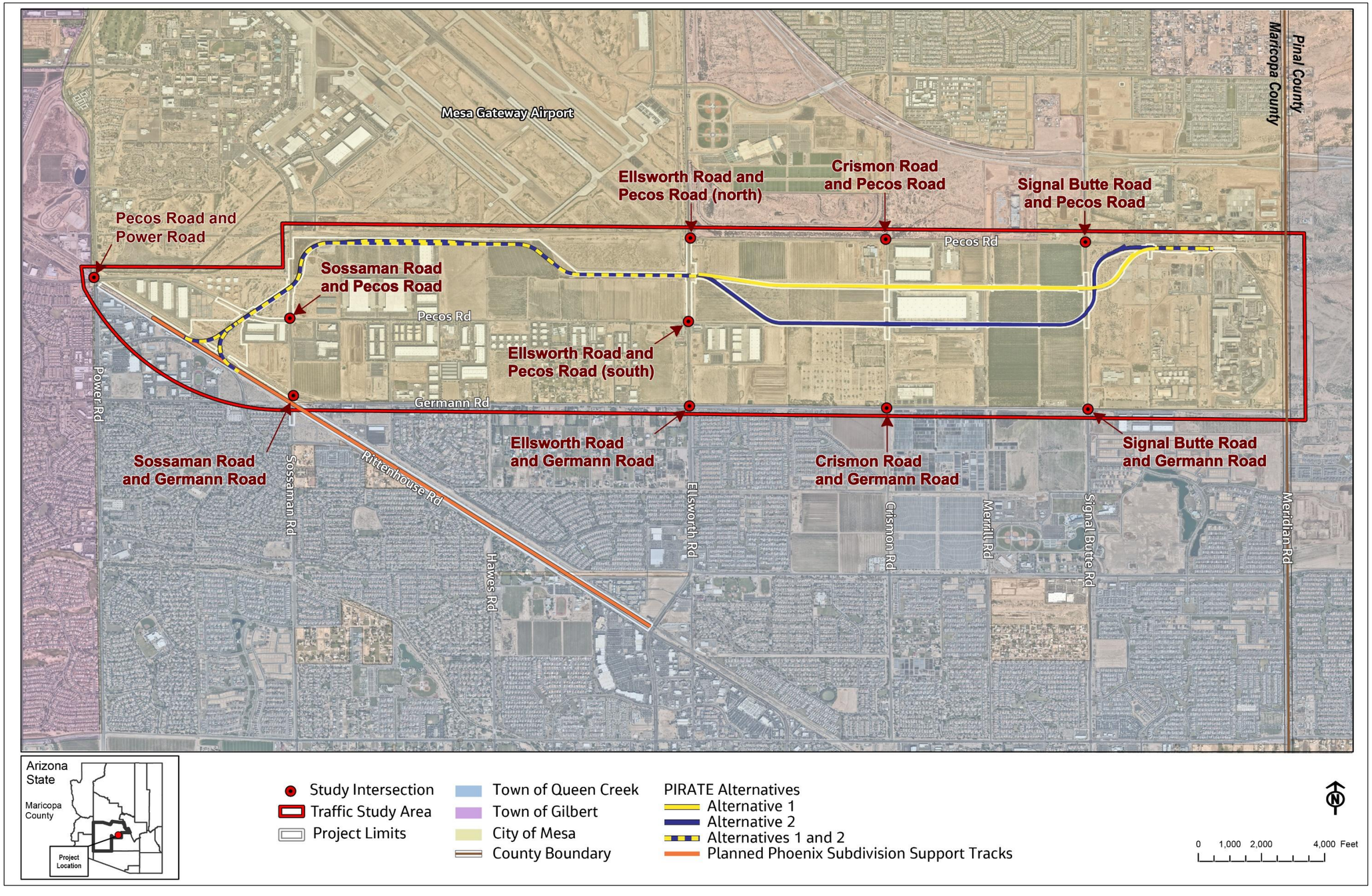
The Union Pacific Railroad Company (UP) is seeking authority from the Surface Transportation Board (Board) to construct and operate approximately 6.0 miles of new rail line in Maricopa County, Arizona (Docket No. FD 36501) for purposes of transporting raw materials and commercial freight. The proposed rail line, referred to as Pecos Industrial Rail Access and Train Extension (PIRATE), would connect UP's Phoenix Subdivision main line (Phoenix Subdivision) to industrial properties southeast of the Mesa Gateway Airport (formerly the Phoenix-Mesa Gateway Airport) via a single-track rail line. UP also proposes to construct and operate approximately 2.5 miles of planned support tracks along the Phoenix Subdivision between Power Road and Ellsworth Road.

The purpose of PIRATE is to meet the transportation and logistics needs of existing and future manufacturing businesses within the Pecos Advanced Manufacturing Zone and adjacent areas. The Board's Office of Environmental Analysis (OEA) identified two reasonable alternatives that meet the purpose and need for PIRATE. The two Action Alternatives (Alternative 1 and Alternative 2), the No-Action Alternative, and the planned Phoenix Subdivision support tracks are described in detail in Chapter 2 of the Final Environmental Assessment (EA).

The project is located in southeast Maricopa County and lies within the city of Mesa and the town of Queen Creek. As shown in Chapter 2 of the Final EA, PIRATE extends from Power Road and Pecos Road to the west to Pecos Road and Meridian Road to the east. The Phoenix Subdivision portion of the project limits extends from Power Road to Ellsworth Loop. The study area for this traffic analysis is bounded by Power Road and Rittenhouse Road to the west, Meridian Road to the east, Pecos Road to the north, and Germann Road to the south.

This Traffic Report is an update to the Traffic Report published in May 2023. The 2023 Traffic Report's analysis used traffic data and assumptions from 2022. The population growth and development expansion in this region has increased significantly since the conclusion of the 2023 *Traffic Report*. This report serves as the updated version of the traffic operational analysis for the current and future conditions, as well as providing a grade separation analysis for the railroad crossings of roads within the study area. For this traffic analysis, on behalf of OEA, Jacobs, OEA's third-party contractor, evaluated major intersections within the study area for three scenarios: Existing (2025), 2050 No Build, and 2050 Build. Figure 1-1 depicts the study area for the traffic operational analysis.

Figure 1-1. Study Area Limits for Traffic Operational Analysis



Chapter 2
Traffic Forecasting

On behalf of OEA, Jacobs conducted a study area intersection operational analysis for the Existing (2025), 2050 No Build, and 2050 Build conditions. No Build conditions include the network improvements programmed and anticipated to be completed by the year 2050. In addition to No Build conditions roadway improvements, the Build conditions assume construction and operation of PIRATE and the planned Phoenix Subdivision support tracks.

The project vicinity is evolving rapidly; multiple industrial, commercial, and residential developments are under active construction and more are planned. In addition to the active developments near PIRATE and the Phoenix Subdivision, anticipated developments in the city of Mesa, the town of Queen Creek, and farther south in San Tan Valley are expected to influence the travel patterns and roadway demand potentially affected by new railroad operations. This section discusses the approach to traffic forecasts for the potentially affected roadways and summarizes existing and future conditions.

2.1 Technical Process and Assumptions

Travel demand models (TDMs) are tools used to assess how future transportation systems will perform based on the land use and the forecasted growth in a region. A TDM allows for modeling, evaluating, and assessing future improvements on study area roadways and surrounding facilities. The impact of major activity centers and roadway characteristics, such as the number of lanes, travel speeds, and functional classification, can also be assessed. Future transportation deficiencies can be identified based on model inputs, and planning level recommendations can be formulated and evaluated based on forecasted traffic. The regional model output can also be used for the more detailed operational analysis conducted at the corridor design level and anytime during or after construction.

TDMs are usually developed at a regional scale and have varying demand estimation accuracy. Typically, these models provide good estimates for high functional classification roadways, such as freeways and principal arterials. The model accuracy drops for low-volume roadways, such as collectors and local roads. To account for model estimate discrepancy, model outputs for study areas are compared to observed traffic volumes. The discrepancies in the existing conditions are used to refine model forecasts for horizon years. For this study, the 2050 model forecasts were post-processed using the methodologies outlined in National Cooperative Highway Research Program's *Analytical Travel Forecasting Approaches for Project-Level Planning and Design* (Horowitz et al. 2014).

2.2 Existing Conditions

This section summarizes the current land use and socioeconomic conditions and evaluates the existing transportation system conditions. The existing traffic counts were taken during the A.M. peak period (6:00 A.M. to 9:00 A.M.) and P.M. peak period (3:00 P.M. to 7:00 P.M.) at the following intersections (Figure 1-1):

- Power Road and Pecos Road
- Sossaman Road and Pecos Road

- Sossaman Road and Germann Road
- Ellsworth Road and Pecos Road (north)
- Ellsworth Road and Pecos Road (south)
- Ellsworth Road and Germann Road
- Crismon Road and Pecos Road
- Crismon Road and Germann Road
- Signal Butte Road and Pecos Road
- Signal Butte Road and Germann Road

The 24-hour vehicle volume and classification data were also taken at the following locations:

- Power Road, south of Pecos Road
- Pecos Road, west of Power Road
- Sossaman Road, north of Pecos Road
- Ellsworth Road, north of Pecos Road
- Crismon Road, south of Pecos Road
- Pecos Road, east of Signal Butte Road
- Germann Road, east of Ellsworth Road

The traffic volumes and vehicle data are included in Appendix A of this report.

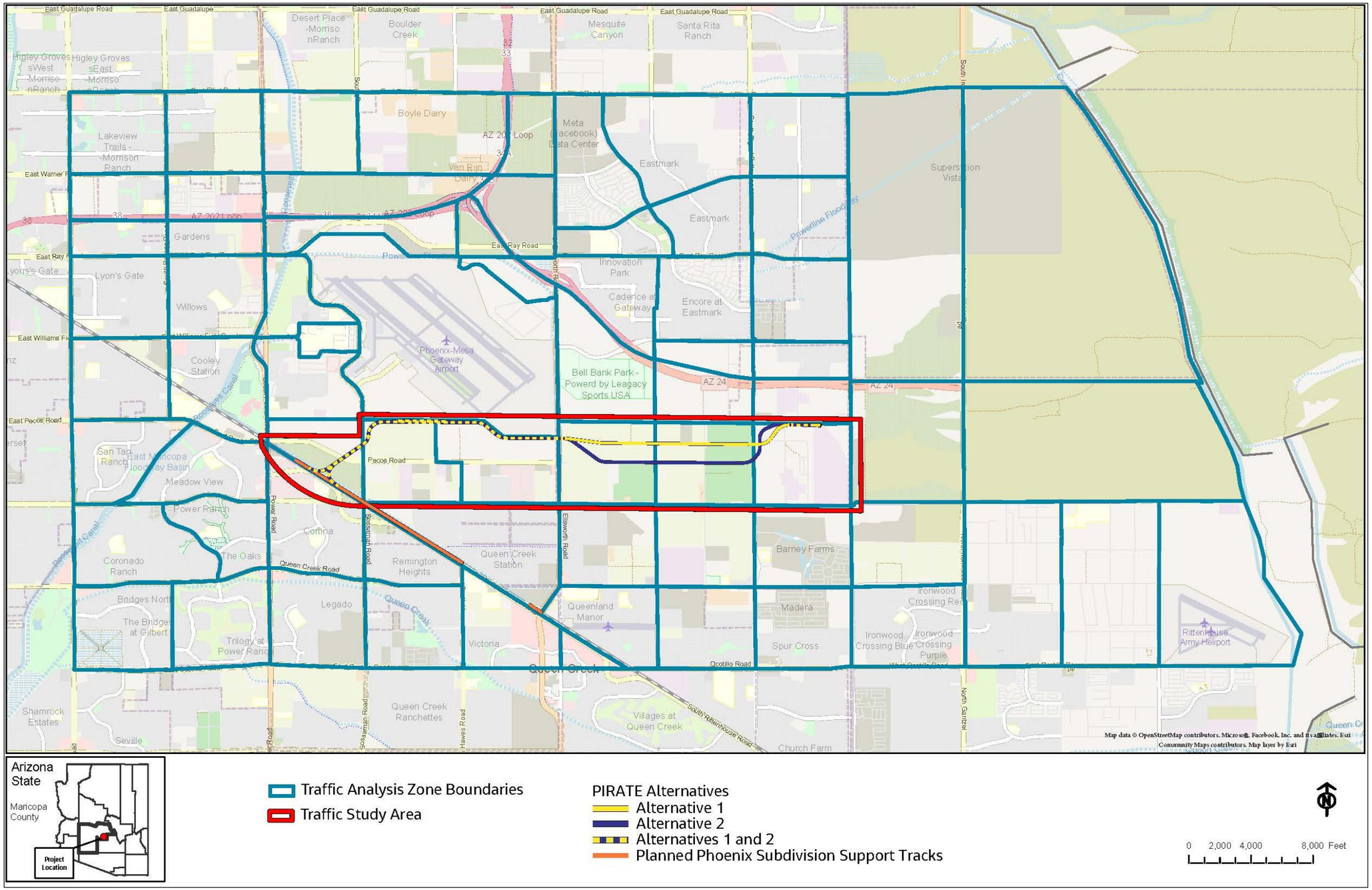
2.2.1 Socioeconomic Conditions

Socioeconomic data in the Maricopa Association of Governments (MAG) TDM model is comprised of population, housing units, and employment estimates and is compiled at the Traffic Analysis Zone (TAZ) level. TAZs are geographic zonal units used to tabulate land use and trip generation data. TAZ boundaries are defined based on similar land uses, physical barriers, and major streets in the transportation system. The development information provided by the City of Mesa (Mesa) and Town of Queen Creek (Queen Creek) were used to refine the socioeconomic forecasts in the horizon year (2050) models. Appendix B illustrates the major developments that are projected to come online in the future years.

Figure 2-1 displays the MAG model's TAZ boundaries that intersect the study area, as well as the additional TAZs that comprise the project influence area. The project influence area is the region from which the data is sourced and used in the MAG TDM model to calculate the travel demand in the study area. The 2050 socioeconomic estimates for the TAZ boundaries identified on Figure 2-1 are summarized below (MAG 2025):

- Total Population – 350,973
- Total Employment – 141,432
- Single-Family Households – 91,030
- Multifamily Households – 17,381

Figure 2-1. Traffic Analysis Zone Boundaries in the Project Influence Area



2.2.2 Roadway Network

Within the study area, the existing roadway network is comprised of regional and local routes; there are eight major corridors:

- Power Road: A six-lane (three lanes each direction with a raised median and left-turn pockets), north–south arterial providing direct access to the State Route (SR) 202 loop north of the study area.
- Sossaman Road: A two-lane (single lane each direction with a two-way, left-turn lane), north–south arterial.
- Ellsworth Road: A four- to six-lane (two to three lanes each direction with a raised median or two-way, left-turn lane), north–south arterial providing direct access to SR 24, north of the project limits.
- Pecos Road (south): A two-lane, east–west arterial providing access from Power Road to Ellsworth Road, west of the project limits.
- Pecos Road (north): A two-lane, east–west arterial providing access from Ellsworth Road to Meridian Road, east of the project limits.
- Germann Road: A two-lane, east–west arterial providing access from Power Road to Ironwood Road.
- Rittenhouse Road: A four- to six-lane (two to three lanes each direction with a raised median), diagonal arterial extending northwest–southeast between Power Road and Ellsworth Road.
- Crismon Road: A two-lane (with a two-way left-turn lane), north–south arterial providing access from Germann Road to Pecos Road.
- Signal Butte Road: A two-lane, north–south arterial providing access from Germann Road to Pecos Road and a four-lane, divided arterial between Germann Road and SR 24.

The Phoenix Subdivision travels in a similar direction to and near Rittenhouse Road. At-grade railroad crossings are located at the intersection of Power Road and Pecos Road, at Sossaman Road near Germann Road, and at Ellsworth Road near Rittenhouse Road.

2.2.3 Traffic Volumes

Existing year 2025 daily traffic count data (field counts conducted by United Civil Group; Appendix A) was obtained for major arterial roadways within the study area. Below are key observations obtained from the data:

- Ellsworth Road carries the highest amount of traffic through the study area, with an approximate average of 47,000 vehicles per day (vpd).
- Power Road carries approximately 37,400 vpd near Pecos Road.
- Pecos Road carries nearly 23,800 vpd near Power Road.
- Crismon Road carries approximately 3,800 vpd near Pecos Road.

- Germann Road estimated daily volumes are nearly 10,000 vpd.
- Sossaman Road daily volume averages around 8,000 vpd.

Table 2-1 lists the 2025 traffic counts used to verify existing TDM estimates and to refine model forecasts for the 2050 No Build and 2050 Build conditions (MAG 2025).

Table 2-1. Traffic Counts in the Project Influence Area

Segment	Traffic Count (24-hour period)
Power Road south of Pecos Road	37,409
Pecos Road west of Power Road	23,749
Sossaman Road north of Pecos Road	8,621
Ellsworth Road north of Pecos Road (south)	47,003
Crismon Road south of Pecos Road	3,790
Pecos Road east of Signal Butte Road	3,450
Germann Road east of Sossaman Road	4,997
Germann Road east of Ellsworth Road	9,518

2.3 Future Conditions

2.3.1 2050 No Build Roadway Network Conditions

No Build scenarios are often used to determine how future transportation systems operate with programmed and funded improvements but without the facility/project currently under study. For this study, the No Build scenario does not include PIRATE or the planned Phoenix Subdivision support tracks. However, the existing Phoenix Subdivision is included in the No Build scenario as an existing condition. The No Build roadway network consists of facilities identified in local and regional transportation plans for the year 2050. The 2050 No Build improvements consist of approved new roadway alignments and capacity improvements throughout the study area, according to the programmed improvements included in the 2050 MAG TDM and capital improvement projects listed by agencies within the study area.

Several new road segments have opened to traffic since the 2023 *Traffic Report* was published in 2023. The following road segments were not previously included in the 2023 existing conditions and have been added to the 2025 existing conditions in this report:

- Crismon Road was constructed with one lane in each direction between Pecos Road (north) and Germann Road.
- Signal Butte Road was constructed with one lane in each direction between Pecos Road (north) and Germann Road.

From the 2025 existing conditions, it is assumed that several other roadways will be widened by 2050. Therefore, widening of the following roadways within or near the study area has been included in the 2050 No Build scenario in this report:

- Pecos Road (south) from one to two lanes in each direction
- Sossaman Road from one to two lanes in each direction
- Germann Road from two to three lanes in each direction, between Sossaman Road and Ellsworth Road and between Crismon Road and Signal Butte Road
- Ellsworth Road from two to three lanes in each direction, south of Germann Road
- Pecos Road (north) from one to two lanes in each direction
- Crismon Road from one to two lanes in each direction
- Signal Butte Road from one to three lanes in each direction

The 2050 No Build scenario also includes a planned intersection expansion project at Germann Road and Sossaman Road, with a four-way signalized intersection and an at-grade rail crossing.

2.3.2 2050 Build Roadway Network Conditions

The Build scenario is used to determine how future transportation systems operate with the facility/project currently under study. The Build scenario incorporates all the elements from the No Build scenario, including the existing Phoenix Subdivision and an at-grade crossing at the Germann Road and Sossaman Road intersection, as well as Alternative 1 or Alternative 2. PIRATE would generally run west–east between Power Road and Meridian Road (Figure 1-1). PIRATE would have at-grade crossings with Pecos Road (south), Sossaman Road, Ellsworth Road, Crismon Road, and Signal Butte Road.

Two alternative alignments are being evaluated for PIRATE. The alignments for the proposed rail line are located within 0.25 mile of one another between Ellsworth Road and Signal Butte Road. From a traffic operations standpoint, both alternatives would have similar impacts on the adjacent roadways and intersections. Hence, only one alternative has been analyzed for traffic impacts on the study network.

The Build scenario only adds the proposed PIRATE alignment and does not include any additional capacity improvements to the adjacent intersections that are not already included in the No Build scenario. The roadway configurations for the Build network would remain the same as the No Build network, except for improvements to the roadways for the at-grade and existing rail crossings due to the addition of PIRATE track. The conditions and key observations for the Build scenario are therefore the same as in the No Build condition.

2.4 2050 Travel Demand Forecasts

The revised model forecasts were post-processed for all the roads and intersections that would be affected by railroad operations. The post-processed, 24-hour model forecasts for the year 2050 are included below:

- Ellsworth Road carries the highest amount of traffic through the study area, with an average of approximately 46,000 vpd to 52,000 vpd.
- Power Road carries approximately 43,000 vpd to 54,000 vpd near Pecos Road (south).
- Signal Butte Road carries approximately 42,000 vpd near SR 24.
- Pecos Road (south) carries between 25,000 vpd and 32,000 vpd.
- Pecos Road (north) carries 25,000 vpd.
- Germann Road estimated daily volumes range between 20,000 vpd and 30,000 vpd.
- Sossaman Road daily volume averages between 20,000 vpd and 32,000 vpd.
- Rittenhouse Road carries 30,000 vpd.

Chapter 3
Operational Analysis

3.1 Roadway Geometry and Traffic Volumes

The roadway network for the operational analysis encompasses the major roadways potentially affected by PIRATE and the planned Phoenix Subdivision support tracks within the study area, including signalized intersections adjacent to rail crossings.

3.1.1 Existing Conditions

The existing roadway network and the existing traffic volumes are as identified in Section 2.2. Traffic counts were collected in August 2025 (Appendix A); the A.M. and P.M. peak-hour turning movement traffic counts were conducted at the following intersections:

- Power Road and Pecos Road (south)
- Sossaman Road and Pecos Road (south)
- Sossaman Road and Germann Road
- Ellsworth Road and Pecos Road (north)
- Ellsworth Road and Pecos Road (south)
- Ellsworth Road and Germann Road
- Crismon Road and Pecos Road (north)
- Crismon Road and Germann Road
- Signal Butte Road and Pecos Road (north)
- Signal Butte Road and Germann Road

The intersection of Power Road and Pecos Road was not included in the 2023 *Traffic Report* operational analysis published in 2023. The Phoenix Subdivision currently crosses this intersection diagonally and is anticipated to remain in the future conditions as well.

Figures 3-1 through 3-5 show the existing roadway geometry and the A.M. and P.M. peak-hour turning movement volumes at each of the study intersections. Near the Sossaman Road and Pecos Road (south) intersection, traffic flows northwest in the A.M. peak hour and southeast in the P.M. peak hour. Along Ellsworth Road, traffic flows predominately north in the A.M. peak hour and south in the P.M. peak hour. Appendix A contains the 2025 turning movement data.

Figure 3-1. Existing Power Road and Pecos Road (South) Intersection Network and Traffic Volumes

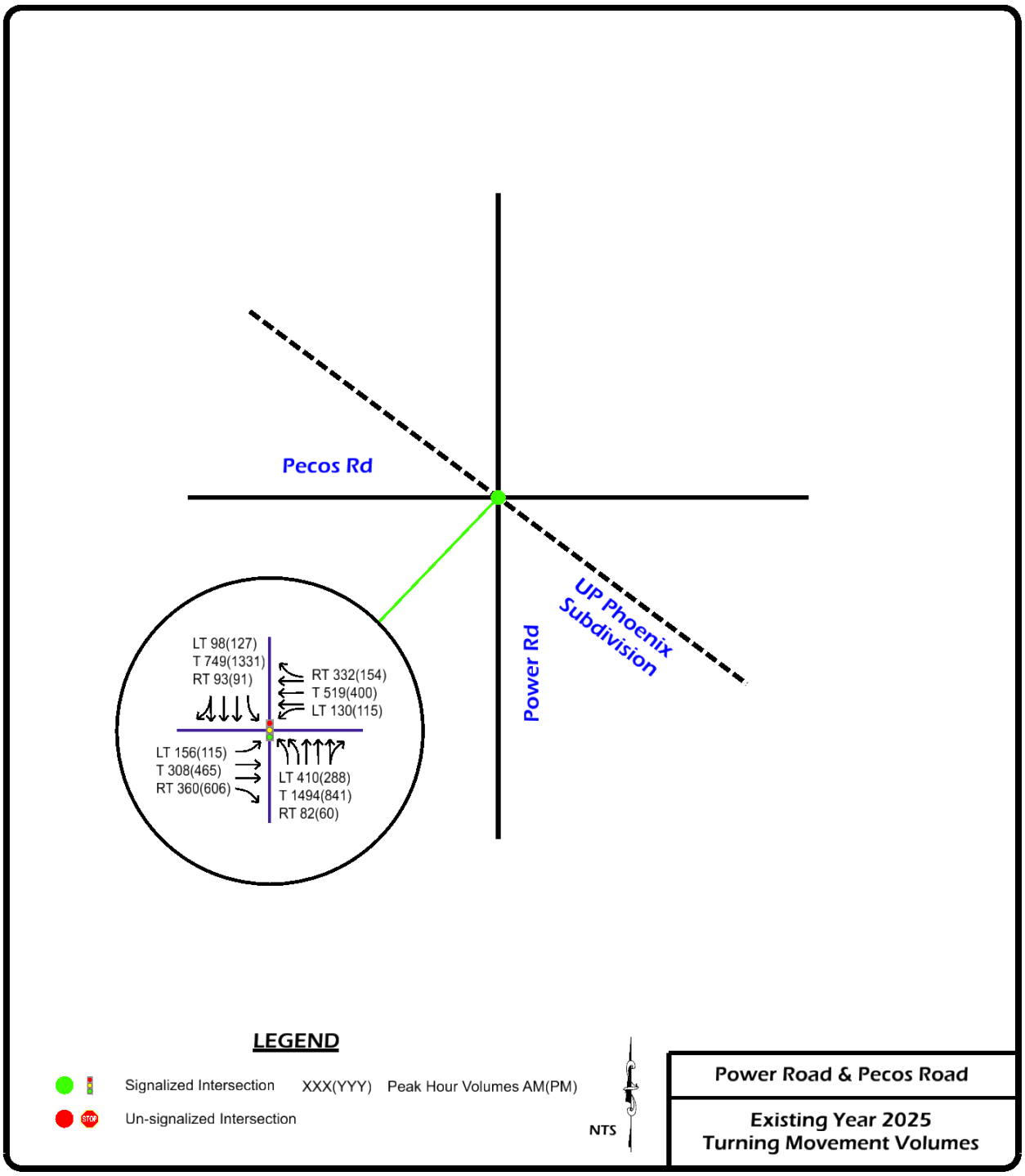


Figure 3-2. Existing Sossaman Road Roadway Network and Traffic Volumes

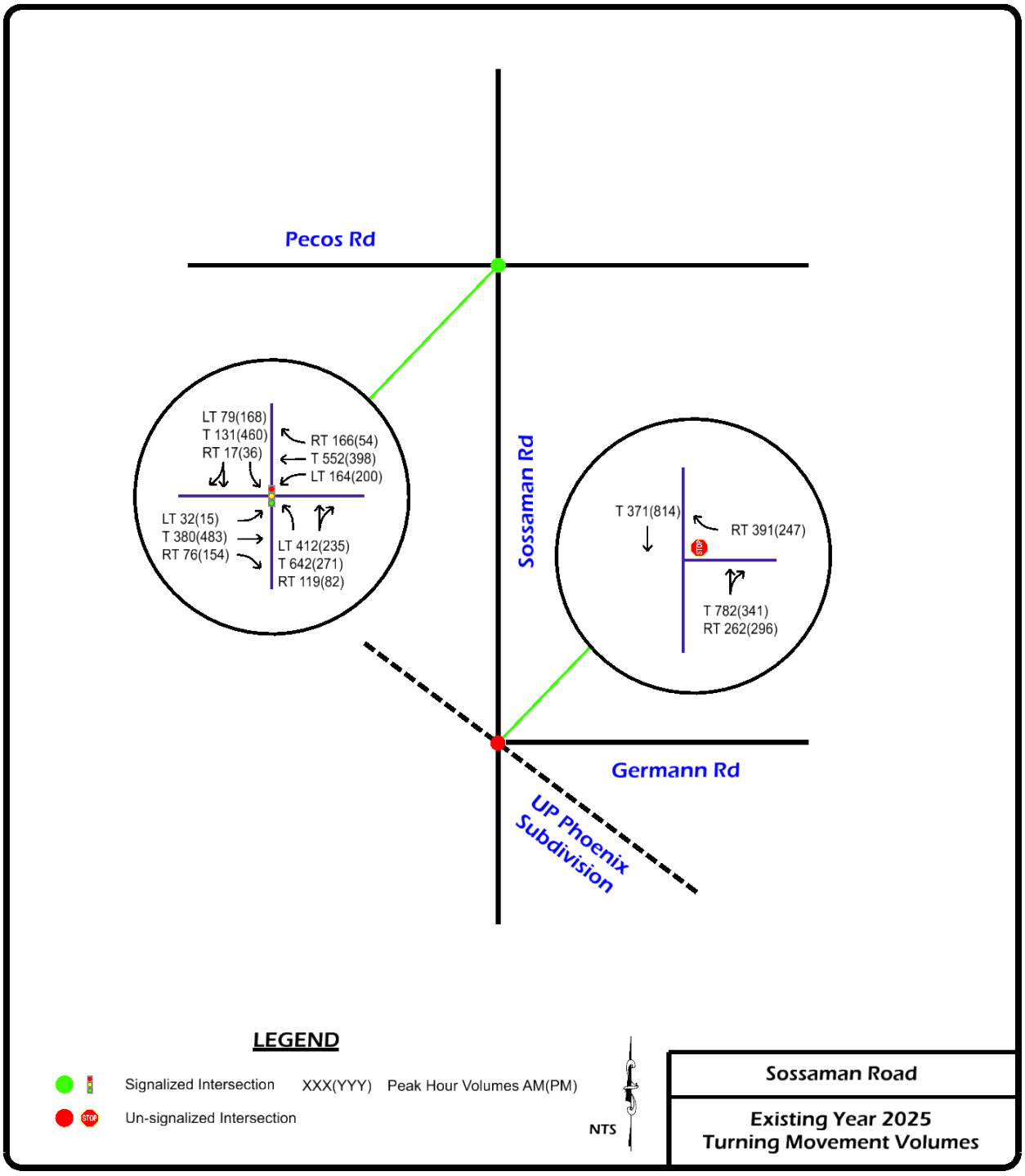


Figure 3-3. Existing Ellsworth Road Roadway Network and Traffic Volumes

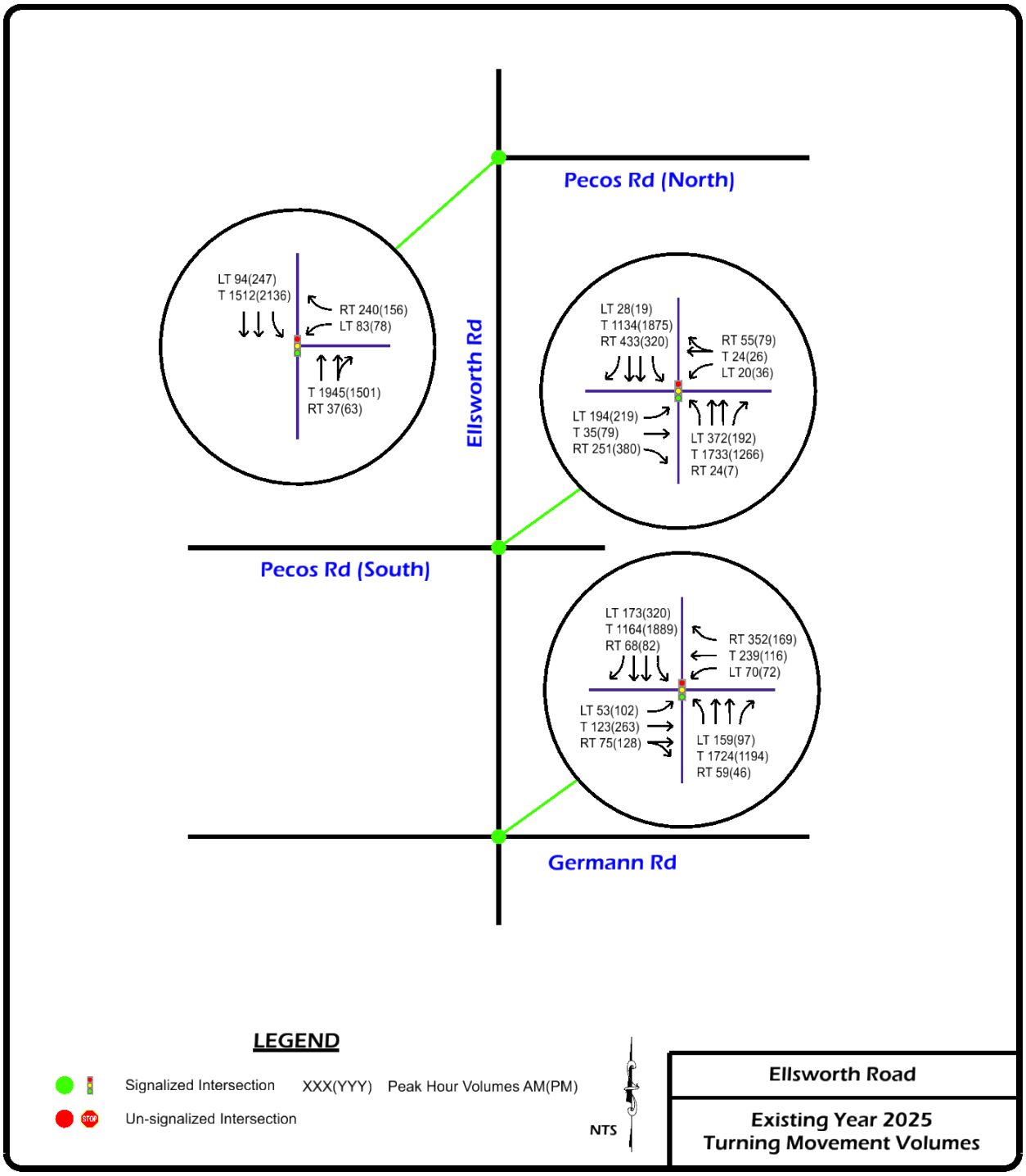


Figure 3-4. Existing Pecos Road (North) Roadway Network and Traffic Volumes

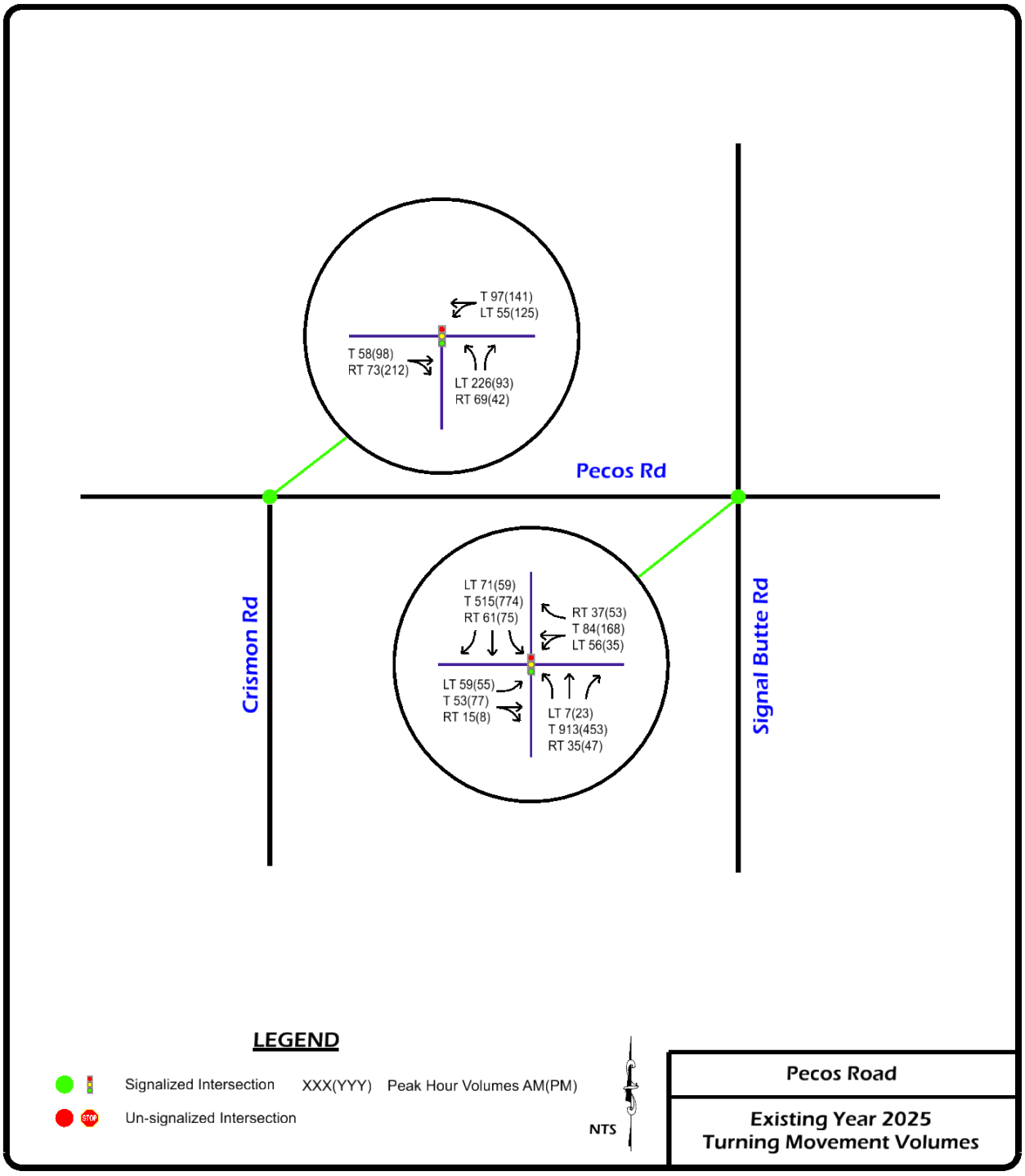
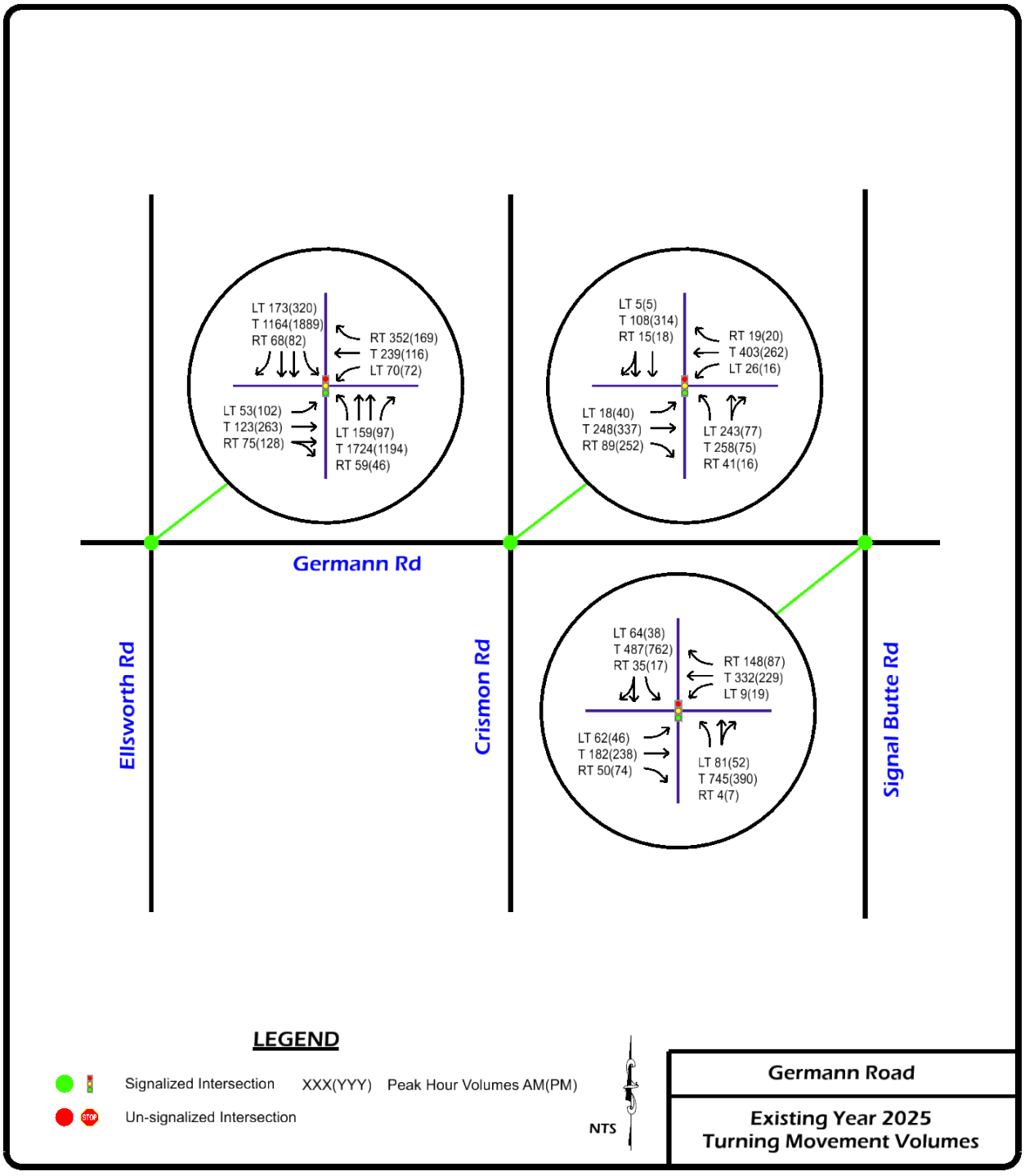


Figure 3-5. Existing Germann Road Roadway Network and Traffic Volumes



3.1.2 Future Conditions

The peak-hour turning movement volumes were developed using the daily traffic volumes obtained from the TDM. The A.M. and P.M. peak-hour traffic volumes were developed for the design year 2050 at the following intersections:

- Power Road and Pecos Road (south)
- Sossaman Road and Pecos Road (south)
- Sossaman Road and Germann Road
- Ellsworth Road and Pecos Road (north)
- Ellsworth Road and Pecos Road (south)
- Ellsworth Road and Germann Road
- Crismon Road and Pecos Road (north)
- Crismon Road and Germann Road
- Signal Butte Road and Pecos Road (north)
- Signal Butte Road and Germann Road

Figures 3-6 through 3-15 depict the 2050 No Build and 2050 Build peak-hour traffic volumes and the roadway configurations. The future traffic travel patterns are similar to the existing patterns, where traffic generally travels northwest in the A.M. peak period and southeast in the P.M. peak period. The study area will experience tremendous growth in the future year 2050 conditions as the existing connections of Signal Butte Road and Williams Field Road to SR 24 will allow for more development access and population expansion.

Figure 3-6. 2050 No Build Power Road and Pecos Road (South) Intersection Roadway Network and Traffic Volumes

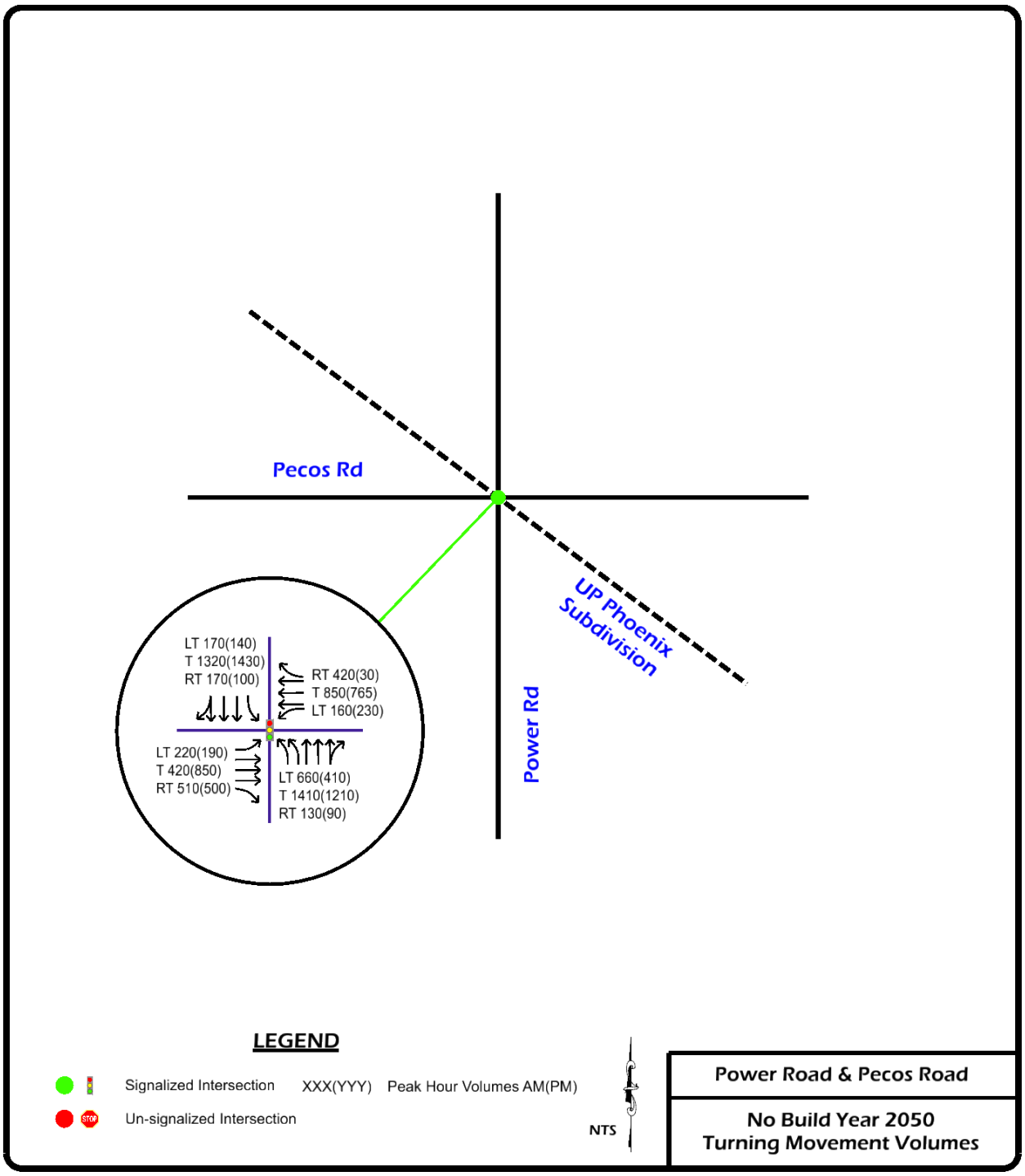


Figure 3-7. 2050 No Build Sossaman Road Roadway Network and Traffic Volumes

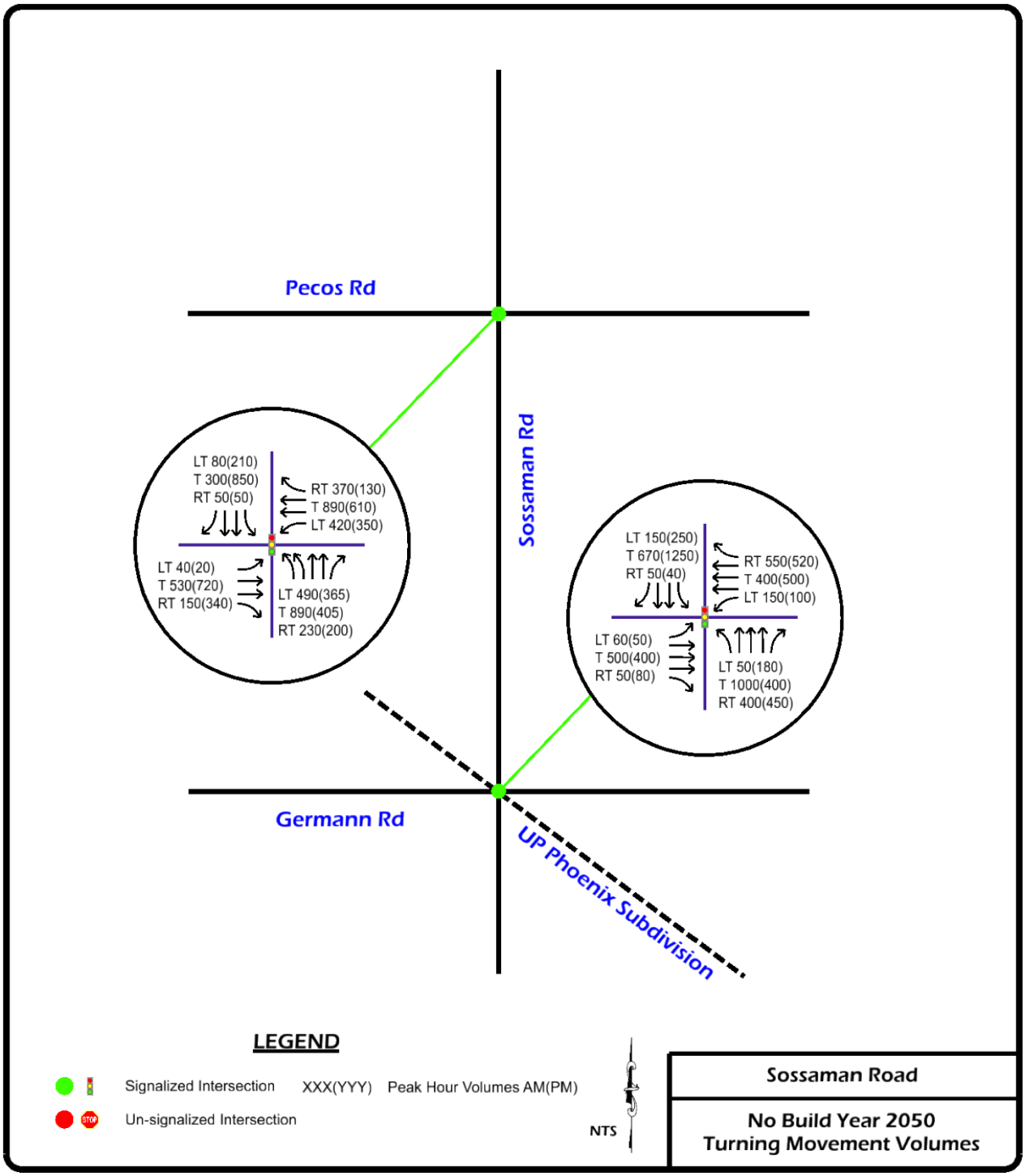


Figure 3-8. 2050 No Build Ellsworth Road Roadway Network and Traffic Volumes

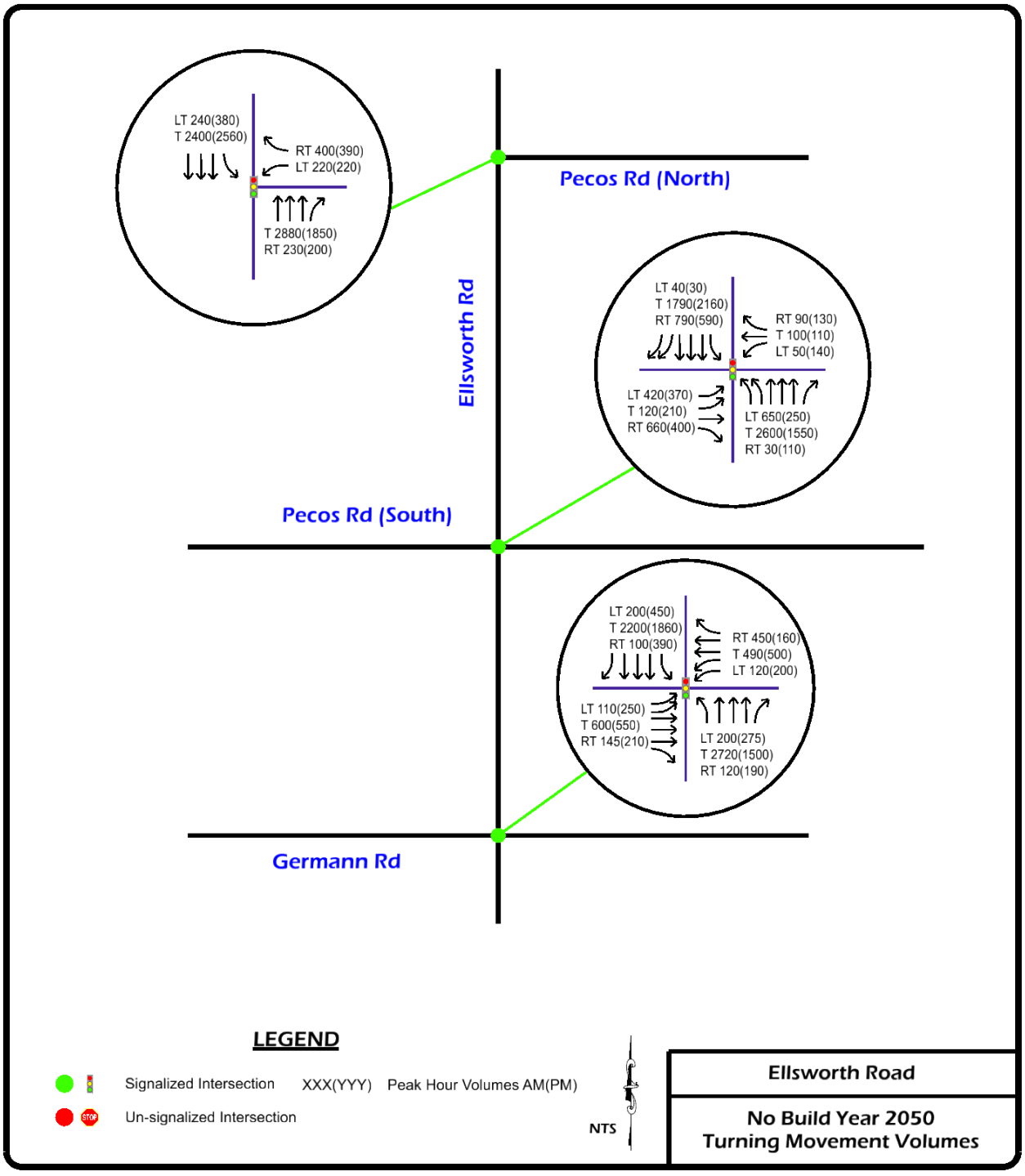
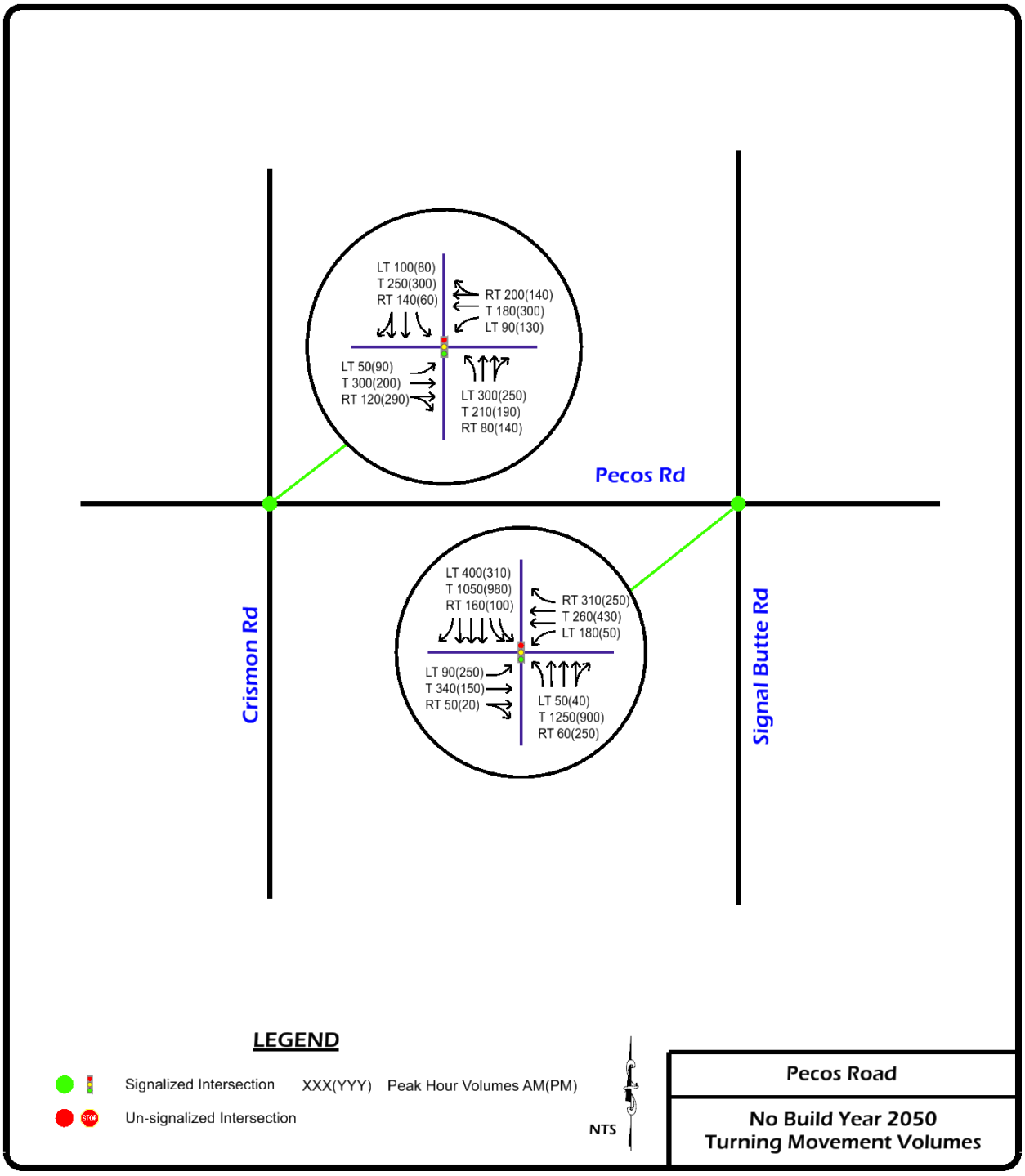
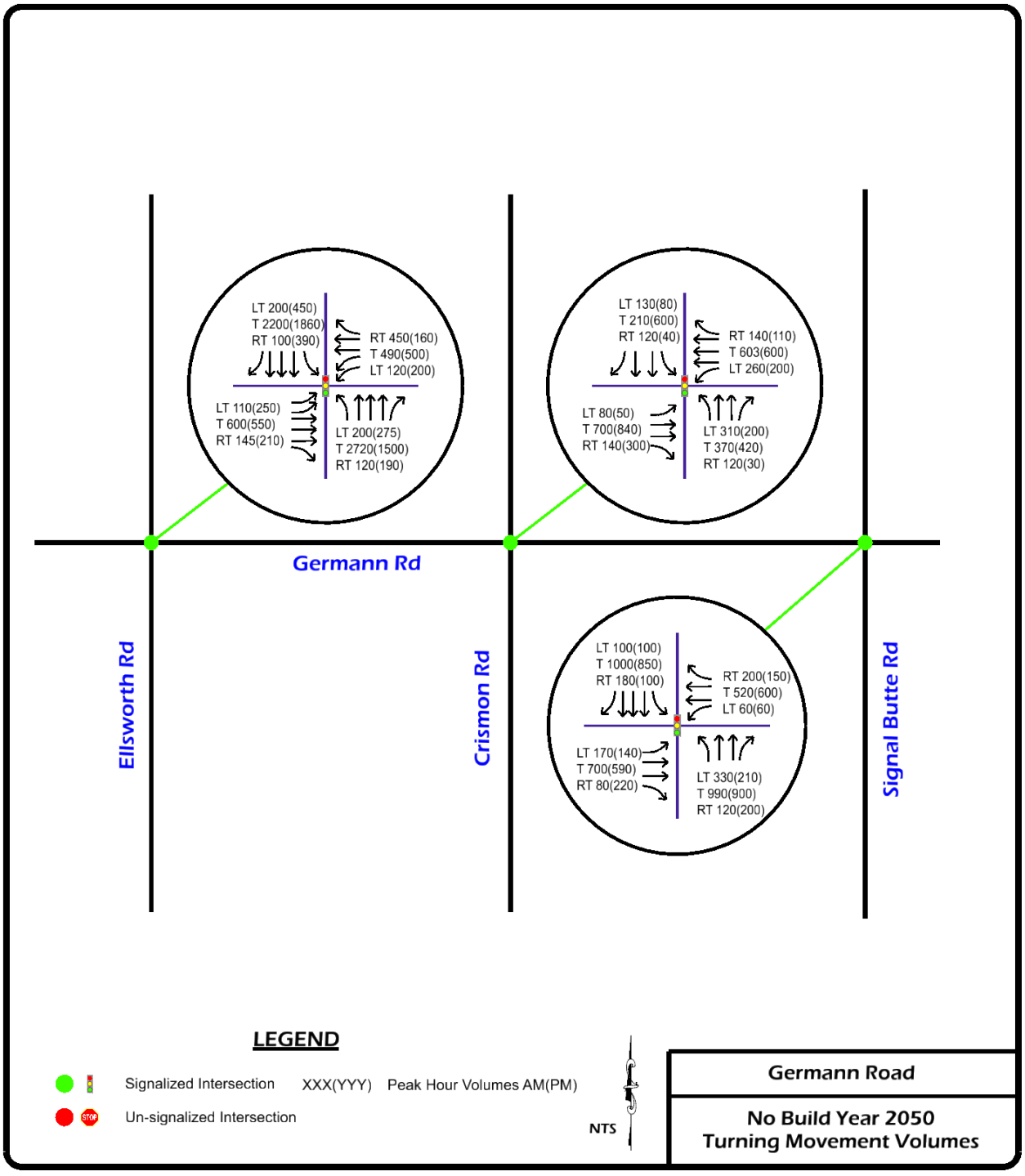


Figure 3-9. 2050 No Build Pecos Road (North) Roadway Network and Traffic Volumes



Note: By 2050, Crismon Road will extend north of Pecos Road.

Figure 3-10. 2050 No Build Germann Road Roadway Network and Traffic Volumes



Note: By 2050, Crismon Road will extend north of Pecos Road.

Figure 3-11. 2050 Build Power Road and Pecos Road (South) Intersection Roadway Network and Traffic Volumes

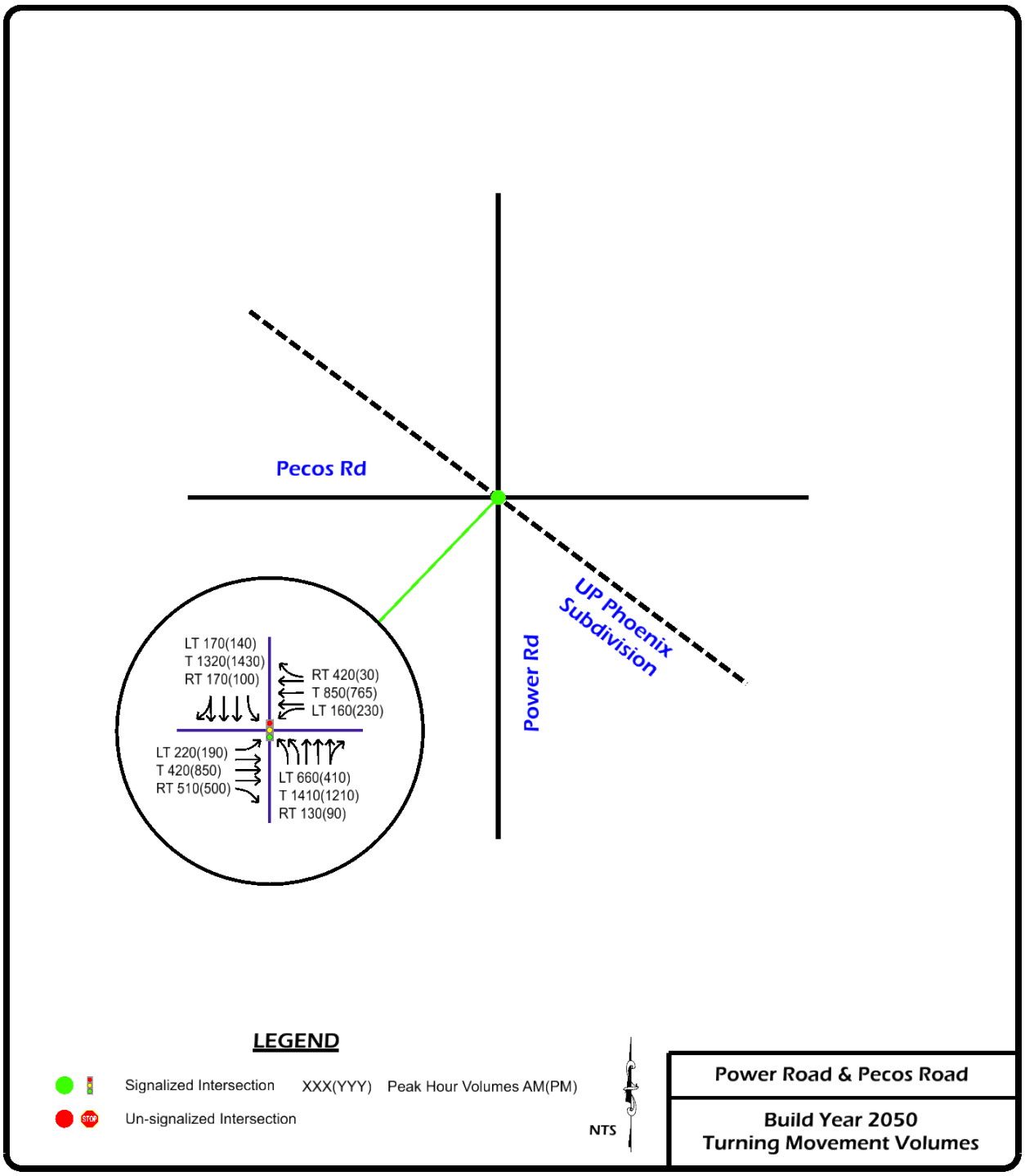


Figure 3-12. 2050 Build Sossaman Road Roadway Network and Traffic Volumes

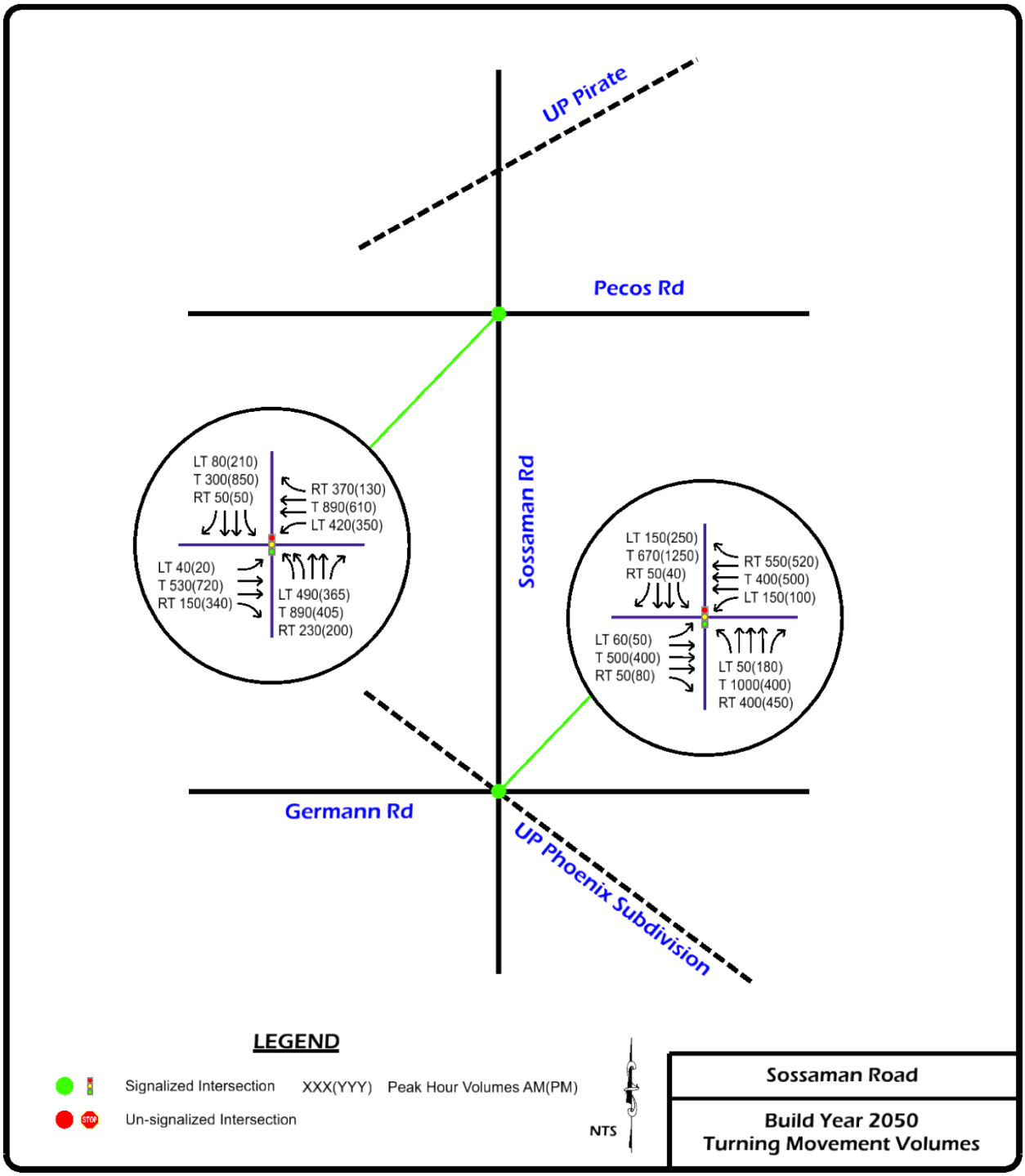


Figure 3-13. 2050 Build Ellsworth Road Roadway Network and Traffic Volumes

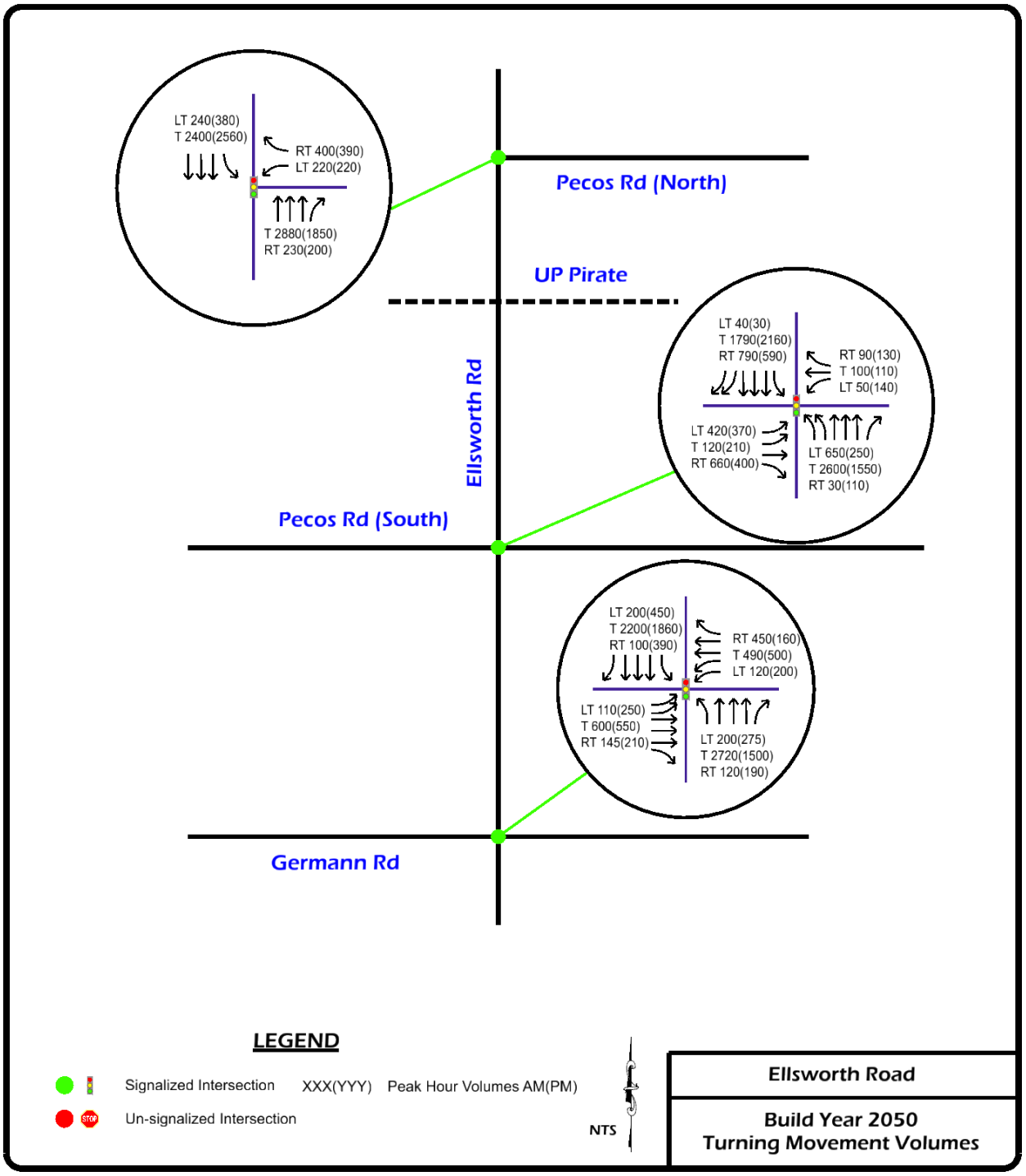
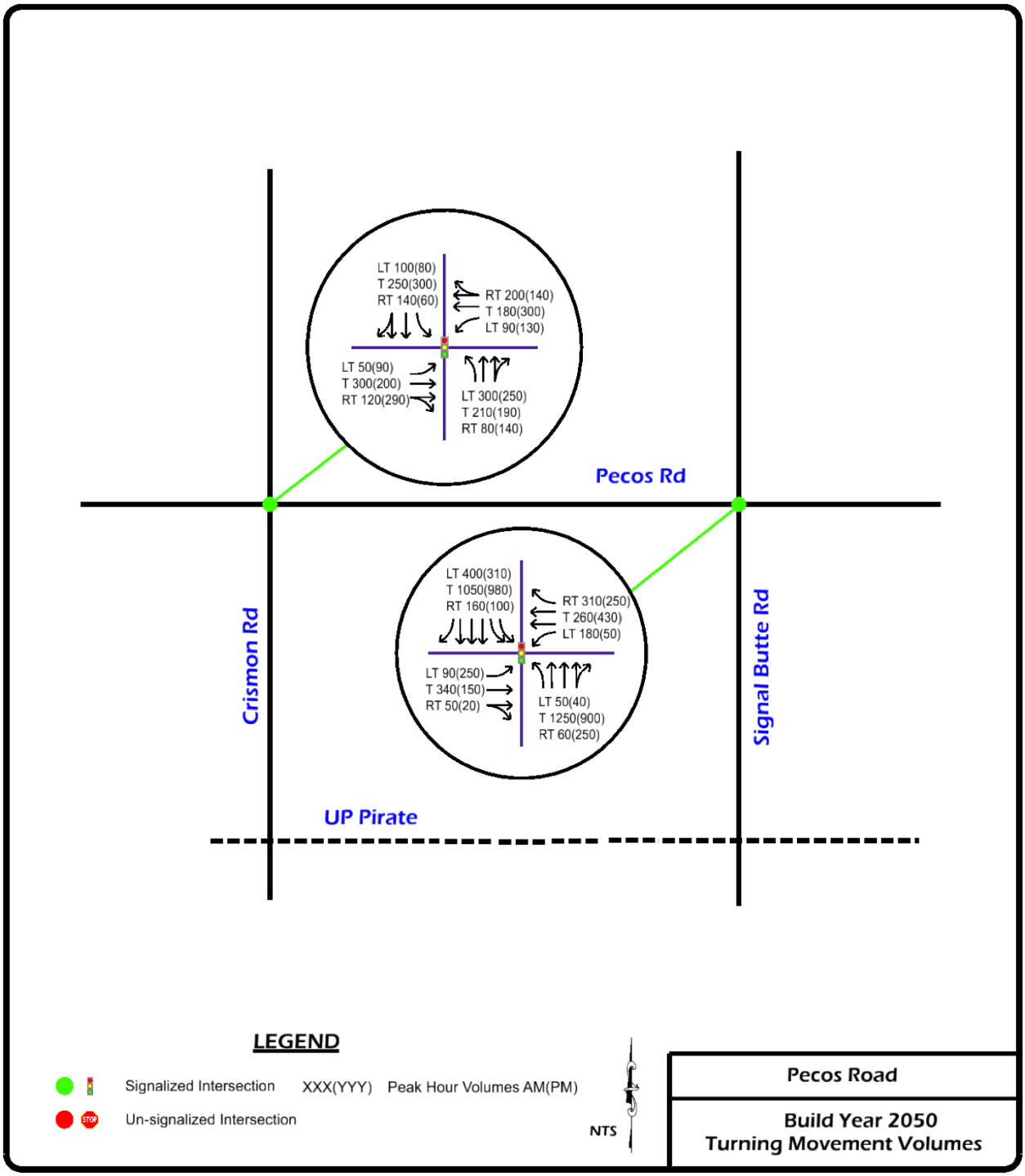
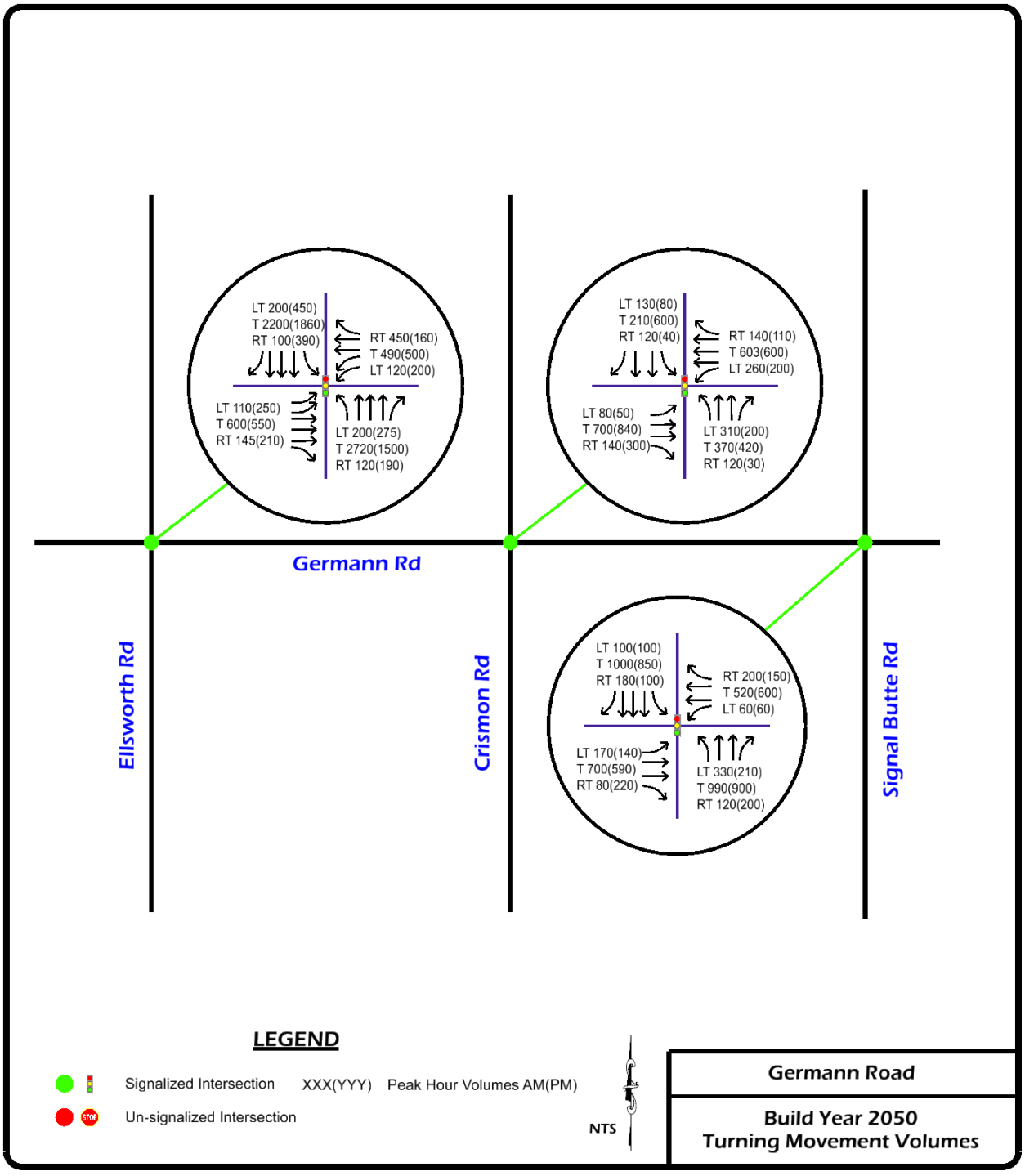


Figure 3-14. 2050 Build Pecos Road (North) Roadway Network and Traffic Volumes



Note: By 2050, Crismon Road will extend north of Pecos Road.

Figure 3-15. 2050 Build Germann Road Roadway Network and Traffic Volumes



Note: By 2050, Crismon Road will extend north of Pecos Road.

3.2 Criteria for Traffic Performance

An intersection level of service (LOS) analysis for signalized and unsignalized intersections was conducted using Synchro 12 and SimTraffic (Trafficware Ltd. 2025) in accordance with the procedures outlined in the Highway Capacity Manual (NASEM 2022). The Existing, 2050 No Build, and 2050 Build scenarios were modeled using VISSIM software, Version 13 (PTV North America 2025) to accurately model the operational scenarios on the adjacent roadway network. Appendices C and D include the results of these analyses.

LOS is generally described in terms of speed, travel time, freedom to maneuver, traffic interruptions, comfort and convenience, and safety. Six LOSs are used to define operating conditions, designated by the letters A through F. LOS A represents the best operating conditions while LOS F represents heavily congested flow with traffic demand exceeding roadway capacity. Mesa has a goal of maintaining traffic operations at LOS D or better (City of Mesa 2025, Section 204.4.21) for urban intersections. Queen Creek also has a goal of maintaining traffic operations at LOS D or better for urban intersections (Town of Queen Creek 2016).

The traffic analysis used the following assumptions/input parameters:

- Existing signal timing plans for intersections within the study area were collected from Mesa and implemented for the existing conditions traffic modeling. For the 2050 conditions, cycle lengths, splits, and offsets were optimized.
- The school bus routing information within the study area was collected from Benjamin Franklin High School (BFHS), Higley Unified School District (HUSD), Chandler Unified School District (CUSD), Queen Creek Unified School District (QCUSD), and Mesa Public Schools (BFHS 2025; HUSD 2025; CUSD 2025; QCUSD 2025; Jacobs 2025a; Jacobs 2025b). Mesa Public Schools and CUSD stated that no bus routes are serviced within the study area. QCUSD stated that approximately 10 buses travel along Ellsworth Road in the morning (6:15 A.M. to 6:45 A.M.) and 20 buses travel along Ellsworth Road in the afternoon (1:20 P.M. to 1:50 P.M.). Both of these periods are outside of the determined peak hours of traffic based on collected traffic counts within the study area.
- The traffic analysis morning peak hour is from 7:00 A.M. to 8:00 A.M. and the evening peak hour is from 3:00 P.M. to 4:00 P.M. Therefore, these QCUSD buses were not modeled during the A.M. peak hour or P.M. peak-hour traffic analysis. During the A.M. peak hour traffic analysis, 2 school buses from BFHS and 13 school buses from HUSD travel along Power Road. During the P.M. peak hour traffic analysis, 2 school buses from BFHS and 6 school buses from HUSD travel along Power Road. The signal timing at the Power Road and Pecos Road intersection accounts for the school bus railroad crossing.
- No Heritage Academy school buses are provided to the general student population; however, the Sierra School Gateway campus is located within the Heritage Academy campus and has 5 school buses. In the morning, the 5 Sierra School Gateway buses enter the campus during the 7:00 A.M. to 8:00 A.M. peak hour from different routes along Sossaman Road, Ellsworth Road, and Germann Road. In the afternoon, the 5 Sierra School Gateway buses exit the campus during the 3:00 P.M. to 4:00 P.M. peak hour along Germann Road and Ellsworth Road.

- The proposed rail operations include two train crossings per day (one inbound and one outbound) of the five at-grade intersections along PIRATE and six train crossings per day of the Pecos Road and Power Road at-grade intersection on the Phoenix Subdivision. To assume a worst-case scenario, one train crossing along PIRATE and two train crossings along the Phoenix Subdivision were modeled for each peak hour (A.M. and P.M. peak).
- Based on PIRATE's operating train speed (20 miles per hour [mph]) and train length (4,500 feet), the following train crossing scenario was developed: one train crossing for each peak hour for a duration of approximately 4 minutes. These at-grade train crossings include Pecos Road, Sossaman Road, Ellsworth Road, Crismon Road, and Signal Butte Road. The rail check-in detector was placed approximately 600 feet before the railroad crossing to accommodate the 20-second requirement for warning lights to flash and gate arms to lower before the train's arrival and 12 seconds to rise after the train has passed (FHWA 2023).
    - 20 seconds before crossing gates lower + (29.33 feet/second train/ (4,500-foot train + 180-foot crossing) = 159 seconds) + 12 seconds for the crossing gates to open = 3.2 minutes, conservatively rounded to 4 minutes per train crossing
- Based on the Phoenix Subdivision train speed (60 mph) and train length (4,500 feet), the following train crossing scenario was developed: two train crossings per peak hour for a duration of 2 minutes.
    - 20 seconds before crossing gates lower + (88.0 feet/second train/ (4,500-foot train +180-foot crossing) = 53 seconds) + 12 seconds for the crossing gates to open = 1.4 minutes, conservatively rounded to 2 minutes per train crossing

Tables 3-1 and 3-2 summarize the LOS criteria at unsignalized intersections and signalized intersections, respectively. Figure 3-16 illustrates LOS A through LOS F.

Table 3-1. Unsignalized Intersection LOS Criteria

Level of Service	Description	Average Control Delay (seconds/vehicle)
A	Little or no delay	0 to 10
B	Minor delays	Greater than 10 to 15
C	Average delays	Greater than 15 to 25
D	Moderate delays	Greater than 25 to 35
E	Lengthy delays	Greater than 35 to 50
F	Excessive delays/gridlock	Greater than 50

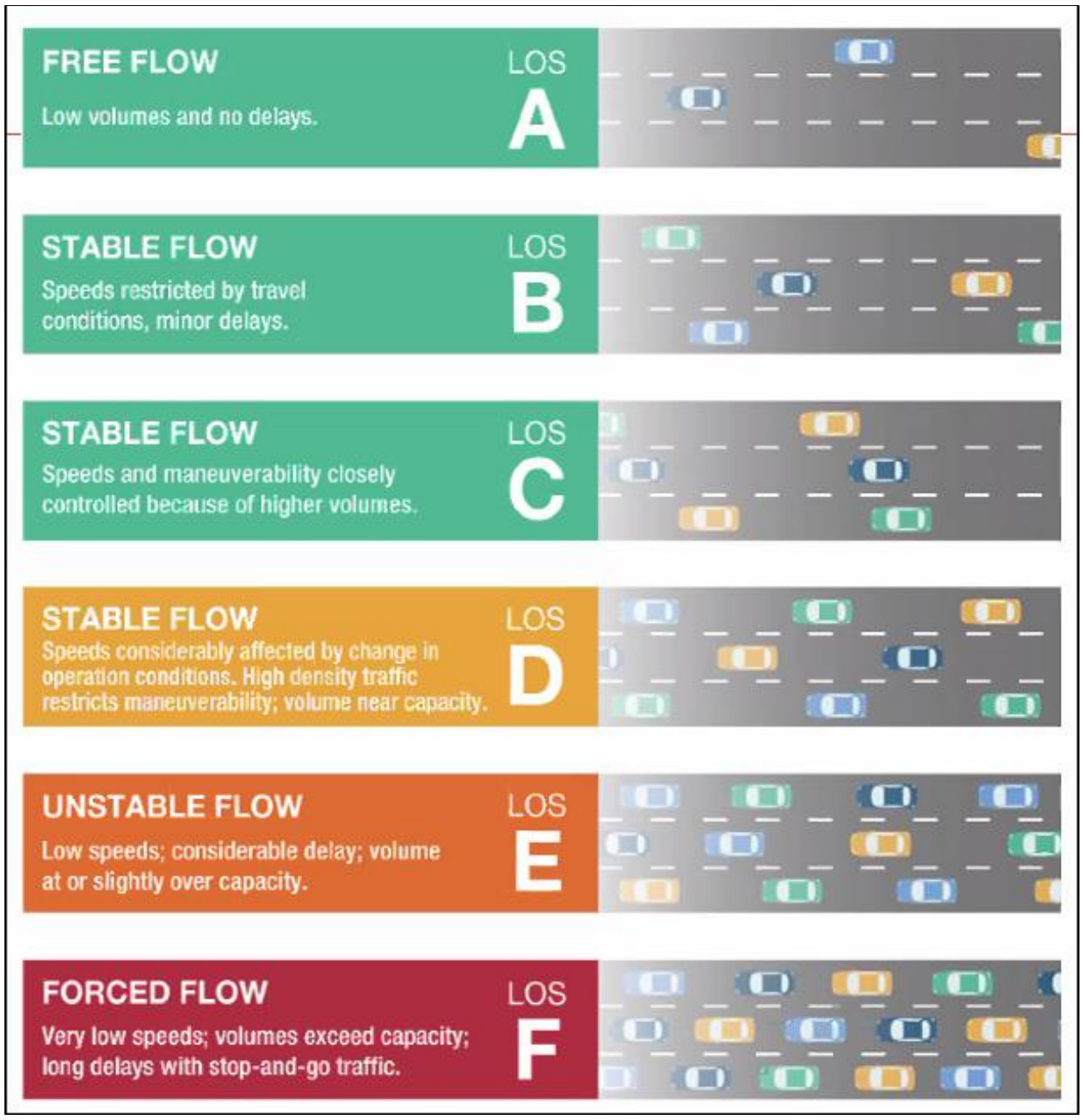
Source: NASEM 2022.

Table 3-2. Signalized Intersection LOS Criteria

Level of Service	Description	Average Control Delay (seconds/vehicle)
A	Operations with very low delay occurring with favorable progression and/or short cycle lengths.	Less than or equal to 10
B	Operations with low delay occurring with good progression and/or short cycle lengths.	Greater than 10 to 20
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	Greater than 20 to 35
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high volume-to-capacity ratios. Many vehicles stop and individual cycle failures are noticeable.	Greater than 35 to 55
E	Operations with high delay values, indicating poor progression, long cycle lengths, and high volume-to-capacity ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay.	Greater than 55 to 80
F	Operations with delays unacceptable to most drivers occurring due to oversaturation, poor progression, or very long cycle lengths.	Greater than 80

Source: NASEM 2022.

Figure 3-16. Levels of Service



Source: Kuntzman 2020.

3.3 Traffic Operational Analysis Results

This section presents the results of the intersection operational analysis for the Existing, 2050 No Build, and 2050 Build scenarios. Appendices C and D provide detailed copies of the Synchro and VISSIM analyses, respectively, for the intersections. Figure 3-17 shows LOS for both Existing A.M. and P.M. peak hours. Figure 3-18 shows a comparative LOS for both the A.M. and P.M. peak hours in the 2050 No Build and 2050 Build conditions. The subsequent sections of the report discuss the findings of the traffic operational analysis.

The traffic analysis included a comprehensive rail-vehicle interaction on the roadway network at all the at-grade crossings and the study intersections. The delays associated with the at-grade crossings will be included in the microsimulation model and are captured in the queuing analysis results for the build scenario. Overall, approximately 63 school buses travel through the study area each school day. As mentioned in Section 3.2 of this report, school buses operating on the study area roadways outside of the analysis peak hours are not included in the microsimulation model.

Figure 3-17. Existing Level of Service Summary

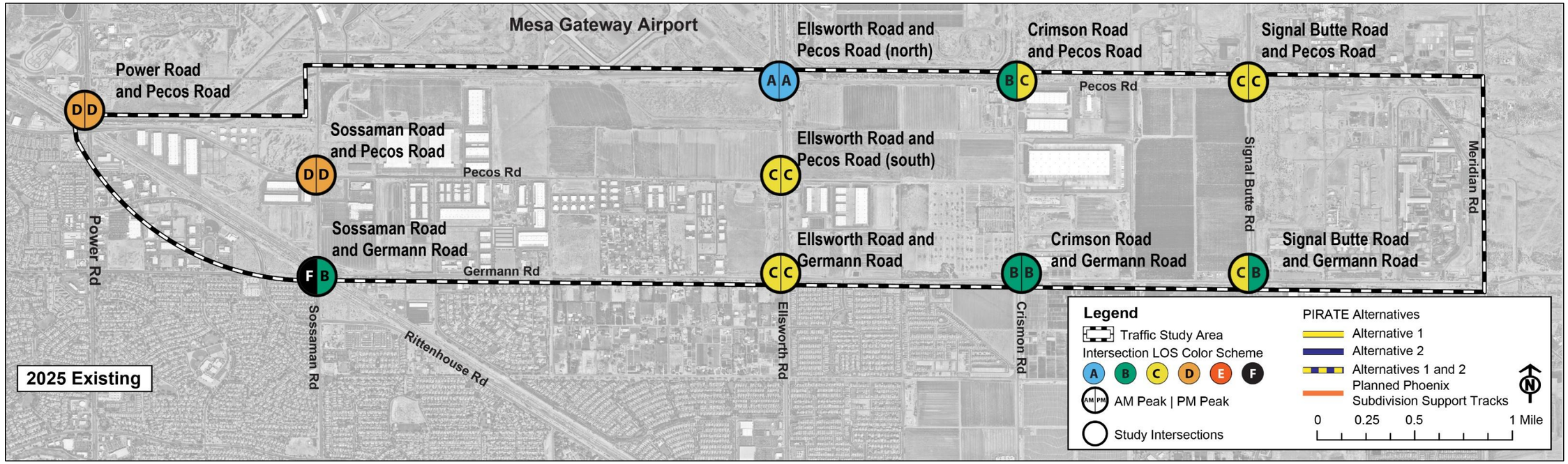
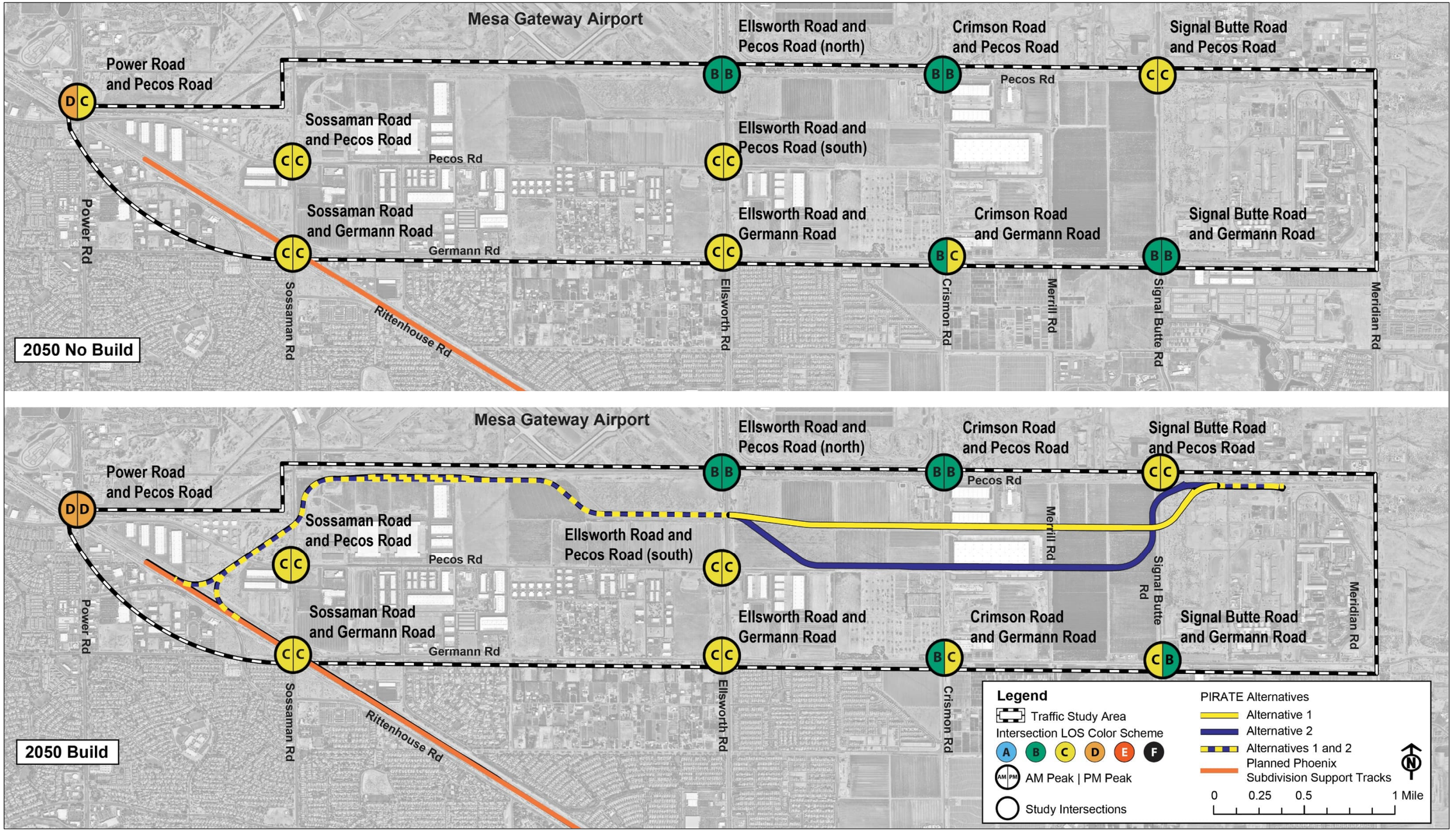


Figure 3-18. 2050 No Build and Build Level of Service Summary



3.3.1 Existing Conditions

The existing conditions turn lane configurations and peak-hour volumes are shown on Figures 3-1 through 3-5. The queue lengths and intersection LOSs for existing conditions were calculated and are listed in Tables 3-3 through 3-12. Key analysis results include the following:

- All intersections would operate at LOS D or better except the Sossaman Road and Germann Road intersection in the A.M. peak hour with LOS F.
- The Power Road and Pecos Road intersection would operate at LOS D during the A.M. and P.M. peak hours. During the A.M. peak hour, the northbound and southbound approaches would operate at LOS D. During the P.M. peak hour, the southbound approach would operate at LOS E, and the northbound approach would operate at LOS D.
- The Sossaman Road and Pecos Road intersection would operate at LOS D during the A.M. and P.M. peak hours. During the A.M. peak hour, the westbound and northbound approaches would operate at LOS D. During the P.M. peak hour, the northbound approach would operate at LOS D.
- The Sossaman Road and Germann Road intersection would operate at LOS F during the A.M. peak hour and LOS B during the P.M. peak hour. Long queues are recorded at the westbound stop-controlled approach (LOS F) during the A.M. peak hour at this location.
- The Ellsworth Road and Pecos Road (north) intersection would operate at LOS A during the A.M. and P.M. peak hours.
- The Ellsworth Road and Pecos Road (south) intersection would operate at LOS C during the A.M. and P.M. peak hours. The eastbound approach would operate at LOS D during the P.M. peak hour.
- The Ellsworth Road and Germann Road intersection would operate at LOS C during the A.M. and P.M. peak hours. The westbound and eastbound approaches would operate at LOS D during the A.M. peak hour. The eastbound approach would operate at LOS D during the P.M. peak hour.
- The Crismon Road and Pecos Road intersection would operate at LOS B during the A.M. peak hour and LOS C during the P.M. peak hour.
- The Crismon and Germann Road intersection would operate at LOS B during the A.M. and P.M. peak hours.
- The Signal Butte Road and Pecos Road intersection would operate at LOS C during the A.M. and P.M. peak hours. During the A.M. peak hour, the eastbound approach would operate at LOS D.
- The Signal Butte Road and Germann Road intersection would operate at LOS C during the A.M. peak hour and LOS B during the P.M. peak hour.

A summary of the comparison of the results from 2023 to the updated 2025 analysis, in the A.M. peak hour, is shown below:

- Ellsworth Road and Pecos Road (south) intersection would improve from LOS D to LOS C.
- Ellsworth Road and Pecos Road (north) intersection would improve from LOS C to LOS A.
- Ellsworth Road and Germann Road intersection would improve from LOS D to LOS C.
- Sossaman Road and Germann Road intersection would degrade from LOS B to LOS F due to restricted movements in 2025 (no longer allowing southbound left-turn or westbound left-turn movements).
- The AM Peak Hour volume would increase by 73 percent at this location from 2023 to 2025.

A summary of the comparison of the results from 2023 to the updated 2025 analysis, in the P.M. peak hour, is shown below:

- Ellsworth Road and Pecos Road (south) intersection would improve from LOS F to LOS C.
- Ellsworth Road and Pecos Road (north) intersection would improve from LOS B to LOS A.
- Ellsworth Road and Germann Road intersection would improve from LOS D to LOS C. These improvements can be attributed to the capacity improvements along Ellsworth Road with an additional lane added in each direction since 2023.

3.3.2 2050 No Build Conditions

The 2050 No Build conditions turn lane configurations and peak-hour volumes are shown on Figures 3-6 through 3-10. The queue lengths and intersection LOS for 2050 No Build conditions were calculated and are listed in Tables 3-13 through 3-22. Key analysis results include the following:

- All intersections would operate at LOS C or better except the Power Road and Pecos Road intersection, which would operate at LOS D during the A.M. peak hour.
- The Power Road and Pecos Road intersection would operate at LOS D during the A.M. peak hour and LOS C during the P.M. peak hour. The southbound and westbound approach would operate at LOS D during the A.M. peak hour, and the westbound approach would operate at LOS D during the P.M. peak hour.
- The Sossaman Road and Pecos Road intersection would operate at LOS C during the A.M. and P.M. peak hours. The eastbound approach would operate at LOS D during the P.M. peak hour.
- The Sossaman Road and Germann Road intersection would operate at LOS C during the A.M. and P.M. peak hours.
- The Ellsworth Road and Pecos Road (north) intersection would operate at LOS B during the A.M. and P.M. peak hours. However, the westbound approach would operate at LOS D during the A.M. peak hour.

- The Ellsworth Road and Pecos Road (south) intersection would operate at LOS C during the A.M. and P.M. peak hours. During the A.M. peak hour, the eastbound approach would operate at LOS D.
- The Ellsworth Road and Germann Road intersection would operate at LOS C during the A.M. and P.M. peak hours. The westbound and eastbound approaches would operate at LOS D during the A.M. and P.M. peak hours.
- The Crismon Road and Pecos Road intersection would operate at LOS B during the A.M. and P.M. peak hours.
- The Crismon Road and Germann Road intersection would operate at LOS B during the A.M. peak hour and LOS C during the P.M. peak hour.
- The Signal Butte Road and Pecos Road intersection would operate at LOS C during the A.M. and P.M. peak hours.
- The Signal Butte and Germann Road intersection would operate at LOS B during the A.M. and P.M. peak hours.

A summary of the comparison of the results from 2023 to the updated 2025 analysis, in the A.M. peak hour, is shown below:

- Signal Butte Road and Germann Road intersection would improve from LOS C to LOS B.
- Ellsworth Road and Pecos Road (south) intersection would degrade from LOS B to LOS C, due to a 10 percent increase in peak hour volumes.
- Ellsworth Road and Pecos Road (north) intersection would degrade from LOS A to LOS B due to a 17 percent increase in peak hour volumes.

A summary of the comparison of the results from 2023 to the updated 2025 analysis, in the P.M. peak hour, is shown below:

- Signal Butte Road and Germann Road intersection would improve from LOS C to LOS B.
- Ellsworth Road and Pecos Road (south) intersection would degrade from LOS C to LOS B, due to a 13 percent increase in volume.
- Ellsworth Road and Pecos Road (north) intersection would degrade from LOS A to LOS B, due to a 5 percent increase in volume.
- Signal Butte Road and Pecos Road (north) intersection would degrade from LOS B to LOS C, due to an 18 percent increase in volume.
- Crimson Road and Germann Road intersection would degrade from LOS B to LOS C, due to a 66 percent increase in volume.

3.3.3 2050 Build Conditions

The 2050 Build conditions turn lane configurations and peak-hour volumes are shown on Figures 3-11 through 3-15. The queue lengths and intersection LOS for 2050 Build conditions were calculated and are listed in Tables 3-23 through 3-32. Key analysis results include the following:

- All intersections would operate at LOS C or better except the Power Road and Pecos Road intersection, which would operate at LOS D during the A.M. and P.M. peak hours.
- The Power Road and Pecos Road intersection would operate at LOS D during the A.M. and P.M. peak hours. The approaches for this intersection display would increase delays and decrease LOSs in the Build conditions compared to the No Build conditions. The southbound and westbound approaches would operate at LOS D in the A.M. peak hour and all approaches would operate at LOS D in the P.M. peak hour.
- The Sossaman Road and Pecos Road intersection would operate at LOS C during both the A.M. and P.M. peak hours. The northbound approach would operate at LOS D during the A.M. peak hour, and the eastbound approach would operate at LOS D during the P.M. peak hour. This intersection would operate at similar levels of delays and LOSs in the Build conditions compared to the No Build conditions. However, the northbound and southbound queues would be longer in the Build conditions compared to the No Build conditions.
- The Sossaman Road and Germann Road intersection would operate at LOS C during both the A.M. and P.M. peak hours. The approaches for this intersection would display similar delays and LOSs in the Build conditions compared to the No Build conditions. It is anticipated that the No Build and Build conditions for this intersection would be identical and that the Phoenix Subdivision main line track would operate with an at-grade crossing in both the scenarios. Due to the presence of the existing Phoenix Subdivision main line track in both the No Build and Build scenarios, the extension of the existing Germann siding to cross Sossaman Road would not have any adverse impacts on this intersection.
- The Ellsworth Road and Pecos Road (north) intersection would operate at LOS B during both the A.M. and P.M. peak hours. This intersection would operate at similar levels of delays and LOSs in the Build conditions compared to the No Build conditions. However, the northbound and southbound queues would be longer in the Build conditions compared to the No Build conditions. During the A.M. peak hour, the westbound approach would operate at LOS D.
- The Ellsworth Road and Pecos Road (south) intersection would operate at LOS C during the A.M. and P.M. peak hours. This intersection would operate at similar levels of delays and LOSs in the Build conditions compared to the No Build conditions. However, the northbound and southbound queues would be longer in the Build conditions compared to the No Build conditions. During the A.M. peak hour, the eastbound approach would operate at LOS D.

- The Ellsworth Road and Germann Road intersection would operate at LOS C during the A.M. and P.M. peak hours. This intersection would operate at similar levels of delays and LOSs in the Build conditions compared to the No Build conditions. However, the northbound and southbound queues would be longer in the Build conditions compared to the No Build conditions. The westbound and eastbound approaches would operate at LOS D for the A.M. and P.M. peak hours.
- The Crismon Road and Pecos Road intersection would operate at LOS B during the A.M. and P.M. peak hours. This intersection would operate at similar levels of delays and LOSs in the Build conditions compared to the No Build conditions. However, the northbound and southbound queues would be longer in the Build conditions compared to the No Build conditions.
- The Crismon Road and Germann Road intersection would operate at LOS B during the A.M. peak hour and LOS C during the P.M. peak hour. This intersection would operate at similar levels of delays and LOSs in the Build conditions compared to the No Build conditions. However, the northbound and southbound queues would be longer in the Build conditions compared to the No Build conditions.
- The Signal Butte Road and Pecos Road intersection would operate at LOS C during the A.M. and P.M. peak hours. This intersection would operate at similar levels of delays and LOSs in the Build conditions compared to the No Build conditions. However, the northbound and southbound queues would be longer in the Build conditions compared to the No Build conditions.
- The Signal Butte Road and Germann Road intersection would operate at LOS C during the A.M. peak hour and LOS B during the P.M. peak hour. This intersection would operate at similar levels of delays and LOSs in the Build conditions compared to the No Build conditions. However, the northbound and southbound queues would be longer in the Build conditions compared to the No Build conditions.

A summary of the comparison of the results from 2023 to the updated 2025 analysis, in the A.M. peak hour, is shown below:

- Sossaman Road and Pecos Road (south) intersection would improve from LOS D to LOS C.
- Sossaman Road and Germann Road intersection would improve from LOS E to LOS C.
- Ellsworth Road and Pecos Road (north) intersection would improve from LOS C to LOS B.
- Crismon Road and Pecos Road (north) intersection would improve from LOS C to LOS B, and
- Ellsworth Road and Germann Road intersection would improve from LOS D to LOS C.

A summary of the comparison of the results from 2023 to the updated 2025 analysis, in the P.M. peak hour, is shown below:

- Sossaman Road and Pecos Road (south) intersection would improve from LOS D to LOS C.
- Sossaman Road and Germann Road intersection would improve from LOS E to LOS C.

- Ellsworth Road and Pecos Road (north) intersection would improve from LOS C to LOS B.
- Signal Butte Road and Germann Road intersection would improve from LOS C to LOS B.
- Crimson Rd and Germann Road intersection would degrade from LOS B to LOS C, due to a 66 percent increase in volume.

3.3.4 Queuing Analysis

A queuing analysis was conducted for the proposed and existing at-grade railroad crossings and major signalized intersections in the study area. The queuing was calculated using average queue length and maximum queue length in feet from the intersection or crossing. The maximum queue (feet) is defined as the maximum observed distance from the stop bar to the back of the queue over the analysis period.

Queuing can occur when trains pass through the at-grade railroad crossings twice each day, and when trains block roadways while turning around at the wye (Pecos Road), entering the PIRATE yard from the west (Sossaman Road), and when moving locomotives on the run-around track (Crismon Road). However, the overall intersection performance is calculated using the parameter "average control delay" for all the approaches at an intersection over the entire analysis period. It is anticipated that maximum queueing would occur during the analysis period, and the queues would dissipate over the next few cycles of operation, and the overall control delay would still be within the acceptable range for the intersection.

The maximum queue lengths for the 2050 No Build and 2050 Build conditions are listed in Tables 3-33 through 3-43. Maximum queueing would occur at higher levels in Build conditions compared to No Build conditions. However, the LOS and overall control delay for the study intersections would not change substantially (intersection delays do not increase more than 10 seconds per vehicle on average for the 2050 Build conditions compared to No Build conditions).

The key findings from the queuing analysis are summarized below:

- Power Road and Pecos Road (south) intersection: During the A.M. peak hour, the westbound approach would experience longer queues in the Build conditions compared to the No Build conditions. The southbound and northbound approaches displayed higher queuing during the Build conditions compared to the No Build conditions during the P.M. peak hour. The 2050 Build eastbound Pecos Road railroad crossing queue does not build up long enough to impact the Power Road and Pecos Road (south) intersection.
- Sossaman Road and Pecos Road (south) intersection: During the A.M. peak hour, the westbound, northbound, and eastbound approaches would experience longer queues in the Build conditions compared to the No Build conditions. The southbound and eastbound approaches displayed higher queuing in the Build conditions compared to the No Build conditions during the P.M. peak hour. The 2050 Build westbound Pecos Road railroad crossing queue does not build up long enough to impact the Sossaman Road and Pecos Road (south) intersection.
- Sossaman Road and Germann Road intersection: Queue lengths would be similar in Build conditions at this intersection compared to No Build conditions due to the presence of the Phoenix Subdivision main line track and the at-grade railroad crossing. The extension of the

existing Germann siding to cross Sossaman Road would not add any additional delays to this intersection's movements. During the Build scenario, some queue backups from the Sossaman Road and Pecos Road intersection would affect the Sossaman Road and Germann Road intersection.

- Ellsworth Road and Pecos Road (north) intersection: The southbound and northbound approaches would experience longer queues in the Build conditions compared to the No Build conditions during the A.M. and P.M. peak hours.
- Ellsworth Road and Pecos Road (south) intersection: During the A.M. and P.M. peak hours, the southbound approach would experience longer queues in the Build conditions compared to the No Build conditions.
- Crismon Road and Pecos Road intersection: For the A.M. and P.M. peak hours, the northbound approach queue lengths would be longer in the Build conditions compared to the No Build conditions.
- Signal Butte Road and Pecos Road intersection: The northbound approach queue lengths would be longer in the Build conditions compared to the No Build conditions for the A.M. and P.M. peak-hour queue lengths.
- Ellsworth Road and Germann Road intersection: During the A.M. and P.M. peak hours, the southbound approach would experience longer queues in the Build conditions compared to the No Build conditions.
- Crismon Road and Germann Road intersection: The southbound through approach would experience longer queues in the Build conditions compared to the No Build conditions in the A.M. and P.M. peak hours.
- Signal Butte Road and Germann Road intersection: During both the A.M. and P.M. peak hours, the southbound approach would experience longer queues in the Build conditions compared to the No Build conditions.
- At-grade PIRATE railroad crossings: The longest queue length was observed during the 2050 Build A.M. peak hour at the northbound Ellsworth Road crossing, with a maximum queue length of 1,495 feet. This queue length does not build up long enough to impact neighboring intersections. The No Build crossings would experience minimal queues since the PIRATE train is not active in the No Build scenario.

Table 3-3. Existing Conditions Operations Analysis Results - Sossaman Road and Pecos Road Intersection

Approach Direction	Movement	A.M. Delay by Movement (all vehicles) (seconds)	A.M. Weighted Delay by Approach	A.M. Approach LOS	A.M. Intersection Delay	A.M. Intersection LOS	P.M. Delay by Movement (all vehicles) (seconds)	P.M. Weighted Delay by Approach	P.M. Approach LOS	P.M. Intersection Delay	P.M. Intersection LOS
SB	R	23.2	32.1	C	38.1	D	61.1	64.1	**E**[1]	38.5	D
SB	T	36.2	32.1	C	38.1	D	67.8	64.1	**E**[1]	38.5	D
SB	L	27.2	32.1	C	38.1	D	54.6	64.1	**E**[1]	38.5	D
WB	R	16.4	36.9	D	38.1	D	5.3	23.3	C	38.5	D
WB	T	44.0	36.9	D	38.1	D	25.5	23.3	C	38.5	D
WB	L	33.7	36.9	D	38.1	D	23.8	23.3	C	38.5	D
NB	R	46.7	46.4	D	38.1	D	27.6	42.6	D	38.5	D
NB	T	52.4	46.4	D	38.1	D	35.8	42.6	D	38.5	D
NB	L	37.0	46.4	D	38.1	D	55.7	42.6	D	38.5	D
EB	R	6.4	26.1	C	38.1	D	10.5	24.4	C	38.5	D
EB	T	30.3	26.1	C	38.1	D	29.0	24.4	C	38.5	D
EB	L	22.0	26.1	C	38.1	D	17.6	24.4	C	38.5	D

[1] **Bolded** values indicate project locations with adverse delays.

Table 3-4. Existing Conditions Operations Analysis Results - Sossaman Road and Germann Road Intersection

Approach Direction	Movement	A.M. Delay by Movement (all vehicles) (seconds)	A.M. Weighted Delay by Approach	A.M. Approach LOS	A.M. Intersection Delay	A.M. Intersection LOS	P.M. Delay by Movement (all vehicles) (seconds)	P.M. Weighted Delay by Approach	P.M. Approach LOS	P.M. Intersection Delay	P.M. Intersection LOS
SB	R	Not Applicable	2.1	A	294.7	**F**[1]	Not Applicable	2.6	A	11.4	B
SB	T	2.1	2.1	A	294.7	**F**[1]	2.6	2.6	A	11.4	B
SB	L	Not Applicable	2.1	A	294.7	**F**[1]	Not Applicable	2.6	A	11.4	B
WB	R	294.7	294.7	**F**[1]	294.7	**F**[1]	11.4	11.4	B	11.4	B
WB	T	Not Applicable	294.7	**F**[1]	294.7	**F**[1]	Not Applicable	11.4	B	11.4	B
WB	L	Not Applicable	294.7	**F**[1]	294.7	**F**[1]	Not Applicable	11.4	B	11.4	B
NB	R	8.0	14.3	B	294.7	**F**[1]	2.3	2.8	A	11.4	B
NB	T	16.5	14.3	B	294.7	**F**[1]	3.2	2.8	A	11.4	B
NB	L	Not Applicable	14.3	B	294.7	**F**[1]	Not Applicable	2.8	A	11.4	B
EB	R	Not Applicable	Not Applicable	Not Applicable	294.7	**F**[1]	Not Applicable	Not Applicable	Not Applicable	11.4	B
EB	T	Not Applicable	Not Applicable	Not Applicable	294.7	**F**[1]	Not Applicable	Not Applicable	Not Applicable	11.4	B
EB	L	Not Applicable	Not Applicable	Not Applicable	294.7	**F**[1]	Not Applicable	Not Applicable	Not Applicable	11.4	B

[1] **Bolded** values indicate project locations with adverse delays.

Table 3-5. Existing Conditions Operations Analysis Results - Ellsworth Road and Pecos Road (North) Intersection

Approach Direction	Movement	A.M. Delay by Movement (all vehicles) (seconds)	A.M. Weighted Delay by Approach	A.M. Approach LOS	A.M. Intersection Delay	A.M. Intersection LOS	P.M. Delay by Movement (all vehicles) (seconds)	P.M. Weighted Delay by Approach	P.M. Approach LOS	P.M. Intersection Delay	P.M. Intersection LOS
SB	R	Not Applicable	4.8	A	8.2	A	Not Applicable	6.9	A	9.2	A
SB	T	4.0	4.8	A	8.2	A	5.9	6.9	A	9.2	A
SB	L	18.0	4.8	A	8.2	A	16.2	6.9	A	9.2	A
WB	R	16.5	26.0	C	8.2	A	11.2	23.8	C	9.2	A
WB	T	Not Applicable	26.0	C	8.2	A	Not Applicable	23.8	C	9.2	A
WB	L	53.8	26.0	C	8.2	A	50.9	23.8	C	9.2	A
NB	R	6.9	8.0	A	8.2	A	9.8	10.5	B	9.2	A
NB	T	8.0	8.0	A	8.2	A	10.5	10.5	B	9.2	A
NB	L	Not Applicable	8.0	A	8.2	A	Not Applicable	10.5	B	9.2	A

Table 3-6. Existing Conditions Operations Analysis Results - Ellsworth Road and Pecos Road (South) Intersection

Approach Direction	Movement	A.M. Delay by Movement (all vehicles) (seconds)	A.M. Weighted Delay by Approach	A.M. Approach LOS	A.M. Intersection Delay	A.M. Intersection LOS	P.M. Delay by Movement (all vehicles) (seconds)	P.M. Weighted Delay by Approach	P.M. Approach LOS	P.M. Intersection Delay	P.M. Intersection LOS
SB	R	14.2	22.5	C	21.5	C	6.8	17.6	B	23.5	C
SB	T	24.8	22.5	C	21.5	C	19.1	17.6	B	23.5	C
SB	L	56.3	22.5	C	21.5	C	50.4	17.6	B	23.5	C
WB	R	15.6	28.2	C	21.5	C	17.3	29.9	C	23.5	C
WB	T	43.6	28.2	C	21.5	C	47.4	29.9	C	23.5	C
WB	L	49.3	28.2	C	21.5	C	47.2	29.9	C	23.5	C
NB	R	2.6	18.5	B	21.5	C	3.4	26.6	C	23.5	C
NB	T	13.0	18.5	B	21.5	C	15.9	26.6	C	23.5	C
NB	L	45.3	18.5	B	21.5	C	97.4	26.6	C	23.5	C
EB	R	12.3	29.6	C	21.5	C	23.7	35.1	D	23.5	C
EB	T	46.4	29.6	C	21.5	C	44.6	35.1	D	23.5	C
EB	L	49.1	29.6	C	21.5	C	51.1	35.1	D	23.5	C

Table 3-7. Existing Conditions Operations Analysis Results - Crismon Road and Pecos Road Intersection

Approach Direction	Movement	A.M. Delay by Movement (all vehicles) (seconds)	A.M. Weighted Delay by Approach	A.M. Approach LOS	A.M. Intersection Delay	A.M. Intersection LOS	P.M. Delay by Movement (all vehicles) (seconds)	P.M. Weighted Delay by Approach	P.M. Approach LOS	P.M. Intersection Delay	P.M. Intersection LOS
SB	R	Not Applicable	Not Applicable	Not Applicable	15.2	B	Not Applicable	Not Applicable	Not Applicable	22.7	C
SB	T	Not Applicable	Not Applicable	Not Applicable	15.2	B	Not Applicable	Not Applicable	Not Applicable	22.7	C
SB	L	Not Applicable	Not Applicable	Not Applicable	15.2	B	Not Applicable	Not Applicable	Not Applicable	22.7	C
WB	R	Not Applicable	30.4	C	15.2	B	Not Applicable	32.3	C	22.7	C
WB	T	29.9	30.4	C	15.2	B	32.3	32.3	C	22.7	C
WB	L	31.1	30.4	C	15.2	B	32.3	32.3	C	22.7	C
NB	R	3.0	6.1	A	15.2	B	3.3	6.5	A	22.7	C
NB	T	Not Applicable	6.1	A	15.2	B	Not Applicable	6.5	A	22.7	C
NB	L	6.9	6.1	A	15.2	B	7.9	6.5	A	22.7	C
EB	R	11.6	18.8	B	15.2	B	18.1	21.2	C	22.7	C
EB	T	27.1	18.8	B	15.2	B	28.0	21.2	C	22.7	C
EB	L	Not Applicable	18.8	B	15.2	B	Not Applicable	21.2	C	22.7	C

Table 3-8. Existing Conditions Operations Analysis Results - Signal Butte and Pecos Road Intersection

Approach Direction	Movement	A.M. Delay by Movement (all vehicles) (seconds)	A.M. Weighted Delay by Approach	A.M. Approach LOS	A.M. Intersection Delay	A.M. Intersection LOS	P.M. Delay by Movement (all vehicles) (seconds)	P.M. Weighted Delay by Approach	P.M. Approach LOS	P.M. Intersection Delay	P.M. Intersection LOS
SB	R	3.5	17.2	B	21.4	C	4.9	23.7	C	21.2	C
SB	T	18.2	17.2	B	21.4	C	26.3	23.7	C	21.2	C
SB	L	21.2	17.2	B	21.4	C	13.8	23.7	C	21.2	C
WB	R	5.0	33.0	C	21.4	C	5.0	26.2	C	21.2	C
WB	T	45.3	33.0	C	21.4	C	33.9	26.2	C	21.2	C
WB	L	33.6	33.0	C	21.4	C	20.7	26.2	C	21.2	C
NB	R	7.4	20.1	C	21.4	C	3.8	12.8	B	21.2	C
NB	T	20.7	20.1	C	21.4	C	13.4	12.8	B	21.2	C
NB	L	10.1	20.1	C	21.4	C	18.6	12.8	B	21.2	C
EB	R	20.9	36.4	D	21.4	C	18.3	26.6	C	21.2	C
EB	T	43.0	36.4	D	21.4	C	29.9	26.6	C	21.2	C
EB	L	34.7	36.4	D	21.4	C	23.6	26.6	C	21.2	C

Table 3-9. Existing Conditions Operations Analysis Results - Ellsworth Road and Germann Road Intersection

Approach Direction	Movement	A.M. Delay by Movement (all vehicles) (seconds)	A.M. Weighted Delay by Approach	A.M. Approach LOS	A.M. Intersection Delay	A.M. Intersection LOS	P.M. Delay by Movement (all vehicles) (seconds)	P.M. Weighted Delay by Approach	P.M. Approach LOS	P.M. Intersection Delay	P.M. Intersection LOS
SB	R	8.3	27.8	C	25.8	C	3.4	14.9	B	21.3	C
SB	T	28.9	27.8	C	25.8	C	14.9	14.9	B	21.3	C
SB	L	27.8	27.8	C	25.8	C	17.8	14.9	B	21.3	C
WB	R	23.6	40.8	D	25.8	C	11.5	31.0	C	21.3	C
WB	T	66.4	40.8	D	25.8	C	52.2	31.0	C	21.3	C
WB	L	41.4	40.8	D	25.8	C	42.8	31.0	C	21.3	C
NB	R	3.2	17.8	B	25.8	C	3.7	18.4	B	21.3	C
NB	T	18.8	17.8	B	25.8	C	18.7	18.4	B	21.3	C
NB	L	13.0	17.8	B	25.8	C	22.0	18.4	B	21.3	C
EB	R	12.6	37.0	D	25.8	C	35.7	51.5	D	21.3	C
EB	T	47.8	37.0	D	25.8	C	61.8	51.5	D	21.3	C
EB	L	43.8	37.0	D	25.8	C	43.4	51.5	D	21.3	C

Table 3-10. Existing Conditions Operations Analysis Results - Crismon Road and Germann Road Intersection

Approach Direction	Movement	A.M. Delay by Movement (all vehicles) (seconds)	A.M. Weighted Delay by Approach	A.M. Approach LOS	A.M. Intersection Delay	A.M. Intersection LOS	P.M. Delay by Movement (all vehicles) (seconds)	P.M. Weighted Delay by Approach	P.M. Approach LOS	P.M. Intersection Delay	P.M. Intersection LOS
SB	R	10.5	17.5	B	14.5	B	13.4	18.3	B	13.9	B
SB	T	18.6	17.5	B	14.5	B	18.7	18.3	B	13.9	B
SB	L	10.8	17.5	B	14.5	B	10.5	18.3	B	13.9	B
WB	R	3.8	15.9	B	14.5	B	4.0	14.0	B	13.9	B
WB	T	16.7	15.9	B	14.5	B	14.9	14.0	B	13.9	B
WB	L	13.0	15.9	B	14.5	B	12.5	14.0	B	13.9	B
NB	R	8.4	13.3	B	14.5	B	6.3	12.5	B	13.9	B
NB	T	13.5	13.3	B	14.5	B	12.9	12.5	B	13.9	B
NB	L	13.8	13.3	B	14.5	B	13.5	12.5	B	13.9	B
EB	R	4.6	13.8	B	14.5	B	7.0	11.8	B	13.9	B
EB	T	16.6	13.8	B	14.5	B	15.2	11.8	B	13.9	B
EB	L	15.7	13.8	B	14.5	B	12.2	11.8	B	13.9	B

Table 3-11. Existing Conditions Operations Analysis Results - Signal Butte Road and Germann Road Intersection

Approach Direction	Movement	A.M. Delay by Movement (all vehicles) (seconds)	A.M. Weighted Delay by Approach	A.M. Approach LOS	A.M. Intersection Delay	A.M. Intersection LOS	P.M. Delay by Movement (all vehicles) (seconds)	P.M. Weighted Delay by Approach	P.M. Approach LOS	P.M. Intersection Delay	P.M. Intersection LOS
SB	R	13.9	17.5	B	20.0	C	4.8	6.6	A	14.0	B
SB	T	17.6	17.5	B	20.0	C	6.7	6.6	A	14.0	B
SB	L	18.4	17.5	B	20.0	C	5.2	6.6	A	14.0	B
WB	R	11.5	24.7	C	20.0	C	5.7	22.9	C	14.0	B
WB	T	30.7	24.7	C	20.0	C	29.2	22.9	C	14.0	B
WB	L	24.1	24.7	C	20.0	C	22.0	22.9	C	14.0	B
NB	R	14.0	17.5	B	20.0	C	7.6	11.1	B	14.0	B
NB	T	17.9	17.5	B	20.0	C	10.8	11.1	B	14.0	B
NB	L	14.3	17.5	B	20.0	C	14.0	11.1	B	14.0	B
EB	R	20.9	25.0	C	20.0	C	18.3	28.9	C	14.0	B
EB	T	25.0	25.0	C	20.0	C	29.8	28.9	C	14.0	B
EB	L	25.9	25.0	C	20.0	C	26.0	28.9	C	14.0	B

Table 3-12. Existing Conditions Operations Analysis Results - Power Road and Pecos Road Intersection

Approach Direction	Movement	A.M. Delay by Movement (all vehicles) (seconds)	A.M. Weighted Delay by Approach	A.M. Approach LOS	A.M. Intersection Delay	A.M. Intersection LOS	P.M. Delay by Movement (all vehicles) (seconds)	P.M. Weighted Delay by Approach	P.M. Approach LOS	P.M. Intersection Delay	P.M. Intersection LOS
SB	R	51.6	47.9	D	37.7	D	66.4	63.2	**E**[1]	40.3	D
SB	T	50.4	47.9	D	37.7	D	65.2	63.2	**E**[1]	40.3	D
SB	L	25.9	47.9	D	37.7	D	41.5	63.2	**E**[1]	40.3	D
WB	R	10.3	18.9	B	37.7	D	6.8	24.1	C	40.3	D
WB	T	24.1	18.9	B	37.7	D	31.1	24.1	C	40.3	D
WB	L	19.6	18.9	B	37.7	D	21.9	24.1	C	40.3	D
NB	R	58.3	49.1	D	37.7	D	32.9	36.8	D	40.3	D
NB	T	52.2	49.1	D	37.7	D	33.5	36.8	D	40.3	D
NB	L	35.8	49.1	D	37.7	D	47.9	36.8	D	40.3	D
EB	R	8.8	19.4	B	37.7	D	16.9	22.7	C	40.3	D
EB	T	30.0	19.4	B	37.7	D	30.6	22.7	C	40.3	D
EB	L	23.0	19.4	B	37.7	D	20.0	22.7	C	40.3	D

[1] **Bolded** values indicate project locations with adverse delays.

Table 3-13. 2050 No Build Operations Analysis Results - Sossaman Road and Pecos Road Intersection

Approach Direction	Movement	A.M. Delay by Movement (all vehicles) (seconds)	A.M. Weighted Delay by Approach	A.M. Approach LOS	A.M. Intersection Delay	A.M. Intersection LOS	P.M. Delay by Movement (all vehicles) (seconds)	P.M. Weighted Delay by Approach	P.M. Approach LOS	P.M. Intersection Delay	P.M. Intersection LOS
SB	R	8.4	26.9	C	29.2	C	9.6	28.0	C	30.8	C
SB	T	31.7	26.9	C	29.2	C	30.6	28.0	C	30.8	C
SB	L	21.3	26.9	C	29.2	C	21.6	28.0	C	30.8	C
WB	R	12.4	27.1	C	29.2	C	5.1	27.2	C	30.8	C
WB	T	28.8	27.1	C	29.2	C	26.5	27.2	C	30.8	C
WB	L	35.9	27.1	C	29.2	C	36.1	27.2	C	30.8	C
NB	R	11.5	31.5	C	29.2	C	6.6	28.1	C	30.8	C
NB	T	32.9	31.5	C	29.2	C	24.2	28.1	C	30.8	C
NB	L	38.4	31.5	C	29.2	C	43.8	28.1	C	30.8	C
EB	R	8.5	30.7	C	29.2	C	23.4	39.7	D	30.8	C
EB	T	37.7	30.7	C	29.2	C	47.6	39.7	D	30.8	C
EB	L	23.0	30.7	C	29.2	C	20.0	39.7	D	30.8	C

Table 3-14. 2050 No Build Operations Analysis Results - Sossaman Road and Germann Road Intersection

Approach Direction	Movement	A.M. Delay by Movement (all vehicles) (seconds)	A.M. Weighted Delay by Approach	A.M. Approach LOS	A.M. Intersection Delay	A.M. Intersection LOS	P.M. Delay by Movement (all vehicles) (seconds)	P.M. Weighted Delay by Approach	P.M. Approach LOS	P.M. Intersection Delay	P.M. Intersection LOS
SB	R	18.3	22.7	C	23.7	C	9.3	14.7	B	22.1	C
SB	T	22.1	22.7	C	23.7	C	16.0	14.7	B	22.1	C
SB	L	26.8	22.7	C	23.7	C	9.4	14.7	B	22.1	C
WB	R	12.8	17.8	B	23.7	C	13.3	26.1	C	22.1	C
WB	T	23.8	17.8	B	23.7	C	38.4	26.1	C	22.1	C
WB	L	20.3	17.8	B	23.7	C	31.9	26.1	C	22.1	C
NB	R	32.8	29.5	C	23.7	C	26.3	24.1	C	22.1	C
NB	T	28.8	29.5	C	23.7	C	21.3	24.1	C	22.1	C
NB	L	16.4	29.5	C	23.7	C	24.8	24.1	C	22.1	C
EB	R	5.3	22.0	C	23.7	C	9.6	31.4	C	22.1	C
EB	T	24.3	22.0	C	23.7	C	35.8	31.4	C	22.1	C
EB	L	16.1	22.0	C	23.7	C	30.4	31.4	C	22.1	C

Table 3-15. 2050 No Build Operations Analysis Results - Ellsworth Road and Pecos Road (North) Intersection

Approach Direction	Movement	A.M. Delay by Movement (all vehicles) (seconds)	A.M. Weighted Delay by Approach	A.M. Approach LOS	A.M. Intersection Delay	A.M. Intersection LOS	P.M. Delay by Movement (all vehicles) (seconds)	P.M. Weighted Delay by Approach	P.M. Approach LOS	P.M. Intersection Delay	P.M. Intersection LOS
SB	R	Not Applicable	13.3	B	16.6	B	Not Applicable	11.4	B	15.5	B
SB	T	9.3	13.3	B	16.6	B	9.1	11.4	B	15.5	B
SB	L	53.0	13.3	B	16.6	B	26.1	11.4	B	15.5	B
WB	R	29.5	36.6	D	16.6	B	15.7	22.8	C	15.5	B
WB	T	Not Applicable	36.6	D	16.6	B	Not Applicable	22.8	C	15.5	B
WB	L	50.0	36.6	D	16.6	B	35.6	22.8	C	15.5	B
NB	R	7.3	15.6	B	16.6	B	7.9	19.3	B	15.5	B
NB	T	16.2	15.6	B	16.6	B	20.5	19.3	B	15.5	B
NB	L	Not Applicable	15.6	B	16.6	B	Not Applicable	19.3	B	15.5	B

Table 3-16. 2050 No Build Operations Analysis Results - Ellsworth Road and Pecos Road (South) Intersection

Approach Direction	Movement	A.M. Delay by Movement (all vehicles) (seconds)	A.M. Weighted Delay by Approach	A.M. Approach LOS	A.M. Intersection Delay	A.M. Intersection LOS	P.M. Delay by Movement (all vehicles) (seconds)	P.M. Weighted Delay by Approach	P.M. Approach LOS	P.M. Intersection Delay	P.M. Intersection LOS
SB	R	11.5	25.5	C	25.5	C	6.3	20.8	C	22.2	C
SB	T	31.5	25.5	C	25.5	C	24.8	20.8	C	22.2	C
SB	L	30.9	25.5	C	25.5	C	16.8	20.8	C	22.2	C
WB	R	15.1	32.6	C	25.5	C	7.4	27.8	C	22.2	C
WB	T	41.1	32.6	C	25.5	C	31.6	27.8	C	22.2	C
WB	L	47.2	32.6	C	25.5	C	43.6	27.8	C	22.2	C
NB	R	7.0	19.2	B	25.5	C	3.4	20.4	C	22.2	C
NB	T	19.4	19.2	B	25.5	C	16.9	20.4	C	22.2	C
NB	L	23.0	19.2	B	25.5	C	50.2	20.4	C	22.2	C
EB	R	32.4	40.0	D	25.5	C	16.9	27.4	C	22.2	C
EB	T	44.9	40.0	D	25.5	C	30.7	27.4	C	22.2	C
EB	L	50.4	40.0	D	25.5	C	36.7	27.4	C	22.2	C

Table 3-17. 2050 No Build Operations Analysis Results - Crismon Road and Pecos Road Intersection

Approach Direction	Movement	A.M. Delay by Movement (all vehicles) (seconds)	A.M. Weighted Delay by Approach	A.M. Approach LOS	A.M. Intersection Delay	A.M. Intersection LOS	P.M. Delay by Movement (all vehicles) (seconds)	P.M. Weighted Delay by Approach	P.M. Approach LOS	P.M. Intersection Delay	P.M. Intersection LOS
SB	R	4.5	8.7	A	12.3	B	4.8	9.5	A	11.0	B
SB	T	9.9	8.7	A	12.3	B	9.8	9.5	A	11.0	B
SB	L	12.0	8.7	A	12.3	B	12.2	9.5	A	11.0	B
WB	R	9.9	14.4	B	12.3	B	9.3	12.6	B	11.0	B
WB	T	15.6	14.4	B	12.3	B	12.1	12.6	B	11.0	B
WB	L	21.5	14.4	B	12.3	B	17.1	12.6	B	11.0	B
NB	R	5.3	11.7	B	12.3	B	5.8	11.5	B	11.0	B
NB	T	9.2	11.7	B	12.3	B	9.6	11.5	B	11.0	B
NB	L	15.0	11.7	B	12.3	B	15.9	11.5	B	11.0	B
EB	R	9.5	14.5	B	12.3	B	6.8	10.0	A	11.0	B
EB	T	16.0	14.5	B	12.3	B	12.1	10.0	A	11.0	B
EB	L	18.0	14.5	B	12.3	B	15.0	10.0	A	11.0	B

Table 3-18. No Build Operations Analysis Results - Signal Butte and Pecos Road Intersection

Approach Direction	Movement	A.M. Delay by Movement (all vehicles) (seconds)	A.M. Weighted Delay by Approach	A.M. Approach LOS	A.M. Intersection Delay	A.M. Intersection LOS	P.M. Delay by Movement (all vehicles) (seconds)	P.M. Weighted Delay by Approach	P.M. Approach LOS	P.M. Intersection Delay	P.M. Intersection LOS
SB	R	4.0	23.4	C	22.9	C	4.0	26.2	C	26.2	C
SB	T	21.2	23.4	C	22.9	C	24.9	26.2	C	26.2	C
SB	L	36.8	23.4	C	22.9	C	37.3	26.2	C	26.2	C
WB	R	9.4	19.9	B	22.9	C	7.0	22.0	C	26.2	C
WB	T	30.0	19.9	B	22.9	C	31.3	22.0	C	26.2	C
WB	L	23.3	19.9	B	22.9	C	17.0	22.0	C	26.2	C
NB	R	17.6	22.2	C	22.9	C	25.5	30.0	C	26.2	C
NB	T	22.9	22.2	C	22.9	C	31.9	30.0	C	26.2	C
NB	L	11.2	22.2	C	22.9	C	16.7	30.0	C	26.2	C
EB	R	16.1	28.5	C	22.9	C	7.9	22.7	C	26.2	C
EB	T	32.0	28.5	C	22.9	C	25.3	22.7	C	26.2	C
EB	L	21.9	28.5	C	22.9	C	22.3	22.7	C	26.2	C

Table 3-19. 2050 No Build Operations Analysis Results - Ellsworth Road and Germann Road Intersection

Approach Direction	Movement	A.M. Delay by Movement (all vehicles) (seconds)	A.M. Weighted Delay by Approach	A.M. Approach LOS	A.M. Intersection Delay	A.M. Intersection LOS	P.M. Delay by Movement (all vehicles) (seconds)	P.M. Weighted Delay by Approach	P.M. Approach LOS	P.M. Intersection Delay	P.M. Intersection LOS
SB	R	6.8	19.8	B	27.1	C	11.1	21.2	C	28.7	C
SB	T	16.0	19.8	B	27.1	C	20.9	21.2	C	28.7	C
SB	L	69.5	19.8	B	27.1	C	31.4	21.2	C	28.7	C
WB	R	32.1	47.3	D	27.1	C	9.7	48.2	D	28.7	C
WB	T	53.7	47.3	D	27.1	C	53.4	48.2	D	28.7	C
WB	L	75.9	47.3	D	27.1	C	64.9	48.2	D	28.7	C
NB	R	7.0	19.2	B	27.1	C	5.1	20.1	C	28.7	C
NB	T	19.4	19.2	B	27.1	C	21.3	20.1	C	28.7	C
NB	L	23.0	19.2	B	27.1	C	24.1	20.1	C	28.7	C
EB	R	11.9	51.8	D	27.1	C	11.9	49.0	D	28.7	C
EB	T	57.7	51.8	D	27.1	C	48.5	49.0	D	28.7	C
EB	L	71.4	51.8	D	27.1	C	81.8	49.0	D	28.7	C

Table 3-20. 2050 No Build Operations Analysis Results - Crismon Road and Germann Road Intersection

Approach Direction	Movement	A.M. Delay by Movement (all vehicles) (seconds)	A.M. Weighted Delay by Approach	A.M. Approach LOS	A.M. Intersection Delay	A.M. Intersection LOS	P.M. Delay by Movement (all vehicles) (seconds)	P.M. Weighted Delay by Approach	P.M. Approach LOS	P.M. Intersection Delay	P.M. Intersection LOS
SB	R	5.7	15.8	B	19.7	B	4.6	19.3	B	20.1	C
SB	T	22.8	15.8	B	19.7	B	20.9	19.3	B	20.1	C
SB	L	14.2	15.8	B	19.7	B	14.1	19.3	B	20.1	C
WB	R	5.1	19.1	B	19.7	B	5.9	22.4	C	20.1	C
WB	T	19.2	19.1	B	19.7	B	20.7	22.4	C	20.1	C
WB	L	26.5	19.1	B	19.7	B	36.8	22.4	C	20.1	C
NB	R	4.4	15.7	B	19.7	B	4.2	17.9	B	20.1	C
NB	T	19.0	15.7	B	19.7	B	17.0	17.9	B	20.1	C
NB	L	16.0	15.7	B	19.7	B	21.8	17.9	B	20.1	C
EB	R	6.7	25.7	C	19.7	B	8.9	20.1	C	20.1	C
EB	T	29.7	25.7	C	19.7	B	24.3	20.1	C	20.1	C
EB	L	21.8	25.7	C	19.7	B	14.6	20.1	C	20.1	C

Table 3-21. 2050 No Build Operations Analysis Results - Signal Butte Road and Germann Road Intersection

Approach Direction	Movement	A.M. Delay by Movement (all vehicles) (seconds)	A.M. Weighted Delay by Approach	A.M. Approach LOS	A.M. Intersection Delay	A.M. Intersection LOS	P.M. Delay by Movement (all vehicles) (seconds)	P.M. Weighted Delay by Approach	P.M. Approach LOS	P.M. Intersection Delay	P.M. Intersection LOS
SB	R	3.6	13.9	B	19.2	B	5.5	20.6	C	16.0	B
SB	T	15.7	13.9	B	19.2	B	22.6	20.6	C	16.0	B
SB	L	15.4	13.9	B	19.2	B	19.4	20.6	C	16.0	B
WB	R	5.2	23.1	C	19.2	B	4.3	15.9	B	16.0	B
WB	T	30.3	23.1	C	19.2	B	18.9	15.9	B	16.0	B
WB	L	22.4	23.1	C	19.2	B	16.1	15.9	B	16.0	B
NB	R	5.5	16.2	B	19.2	B	5.6	16.1	B	16.0	B
NB	T	15.9	16.2	B	19.2	B	18.0	16.1	B	16.0	B
NB	L	20.9	16.2	B	19.2	B	17.8	16.1	B	16.0	B
EB	R	11.0	27.4	C	19.2	B	6.0	10.7	B	16.0	B
EB	T	29.2	27.4	C	19.2	B	10.8	10.7	B	16.0	B
EB	L	27.3	27.4	C	19.2	B	17.9	10.7	B	16.0	B

Table 3-22. 2050 No Build Operations Analysis Results - Power Road and Pecos Road Intersection

Approach Direction	Movement	A.M. Delay by Movement (all vehicles) (seconds)	A.M. Weighted Delay by Approach	A.M. Approach LOS	A.M. Intersection Delay	A.M. Intersection LOS	P.M. Delay by Movement (all vehicles) (seconds)	P.M. Weighted Delay by Approach	P.M. Approach LOS	P.M. Intersection Delay	P.M. Intersection LOS
SB	R	41.8	37.7	D	35.2	D	35.9	34.1	C	33.7	C
SB	T	38.8	37.7	D	35.2	D	35.3	34.1	C	33.7	C
SB	L	25.8	37.7	D	35.2	D	20.8	34.1	C	33.7	C
WB	R	21.9	43.1	D	35.2	D	6.9	39.1	D	33.7	C
WB	T	53.2	43.1	D	35.2	D	42.2	39.1	D	33.7	C
WB	L	44.0	43.1	D	35.2	D	33.2	39.1	D	33.7	C
NB	R	28.0	32.8	C	35.2	D	29.4	31.8	C	33.7	C
NB	T	27.7	32.8	C	35.2	D	27.6	31.8	C	33.7	C
NB	L	44.9	32.8	C	35.2	D	45.1	31.8	C	33.7	C
EB	R	14.7	26.1	C	35.2	D	15.7	31.8	C	33.7	C
EB	T	32.6	26.1	C	35.2	D	41.8	31.8	C	33.7	C
EB	L	39.6	26.1	C	35.2	D	28.8	31.8	C	33.7	C

Table 3-23. 2050 Build Operations Analysis Results - Sossaman Road and Pecos Road Intersection

Approach Direction	Movement	A.M. Delay by Movement (all vehicles) (seconds)	A.M. Weighted Delay by Approach	A.M. Approach LOS	A.M. Intersection Delay	A.M. Intersection LOS	P.M. Delay by Movement (all vehicles) (seconds)	P.M. Weighted Delay by Approach	P.M. Approach LOS	P.M. Intersection Delay	P.M. Intersection LOS
SB	R	9.2	26.8	C	33.0	C	14.1	33.8	C	34.1	C
SB	T	31.5	26.8	C	33.0	C	36.3	33.8	C	34.1	C
SB	L	20.9	26.8	C	33.0	C	28.0	33.8	C	34.1	C
WB	R	14.9	31.7	C	33.0	C	5.1	27.7	C	34.1	C
WB	T	33.4	31.7	C	33.0	C	26.5	27.7	C	34.1	C
WB	L	42.3	31.7	C	33.0	C	37.6	27.7	C	34.1	C
NB	R	13.3	35.8	D	33.0	C	6.8	28.3	C	34.1	C
NB	T	37.0	35.8	D	33.0	C	24.2	28.3	C	34.1	C
NB	L	44.3	35.8	D	33.0	C	44.4	28.3	C	34.1	C
EB	R	10.8	33.5	C	33.0	C	29.1	45.9	D	34.1	C
EB	T	40.3	33.5	C	33.0	C	54.2	45.9	D	34.1	C
EB	L	27.2	33.5	C	33.0	C	35.5	45.9	D	34.1	C

Table 3-24. 2050 Build Operations Analysis Results - Sossaman Road and Germann Road Intersection

Approach Direction	Movement	A.M. Delay by Movement (all vehicles) (seconds)	A.M. Weighted Delay by Approach	A.M. Approach LOS	A.M. Intersection Delay	A.M. Intersection LOS	P.M. Delay by Movement (all vehicles) (seconds)	P.M. Weighted Delay by Approach	P.M. Approach LOS	P.M. Intersection Delay	P.M. Intersection LOS
SB	R	19.1	25.6	C	27.4	C	9.7	15.2	B	22.3	C
SB	T	24.3	25.6	C	27.4	C	16.4	15.2	B	22.3	C
SB	L	32.7	25.6	C	27.4	C	10.5	15.2	B	22.3	C
WB	R	14.0	21.0	C	27.4	C	13.3	26.1	C	22.3	C
WB	T	29.7	21.0	C	27.4	C	38.4	26.1	C	22.3	C
WB	L	24.1	21.0	C	27.4	C	31.9	26.1	C	22.3	C
NB	R	36.1	33.2	C	27.4	C	26.2	24.2	C	22.3	C
NB	T	32.7	33.2	C	27.4	C	21.3	24.2	C	22.3	C
NB	L	20.9	33.2	C	27.4	C	25.6	24.2	C	22.3	C
EB	R	5.4	27.9	C	27.4	C	9.3	31.3	C	22.3	C
EB	T	31.1	27.9	C	27.4	C	35.7	31.3	C	22.3	C
EB	L	19.2	27.9	C	27.4	C	30.4	31.3	C	22.3	C

Table 3-25. 2050 Build Operations Analysis Results - Ellsworth Road and Pecos Road (North) Intersection

Approach Direction	Movement	A.M. Delay by Movement (all vehicles) (seconds)	A.M. Weighted Delay by Approach	A.M. Approach LOS	A.M. Intersection Delay	A.M. Intersection LOS	P.M. Delay by Movement (all vehicles) (seconds)	P.M. Weighted Delay by Approach	P.M. Approach LOS	P.M. Intersection Delay	P.M. Intersection LOS
SB	R	Not Applicable	16.5	B	19.5	B	Not Applicable	14.6	B	18.1	B
SB	T	11.8	16.5	B	19.5	B	12.4	14.6	B	18.1	B
SB	L	63.3	16.5	B	19.5	B	29.2	14.6	B	18.1	B
WB	R	32.9	40.9	D	19.5	B	19.1	28.2	C	18.1	B
WB	T	Not Applicable	40.9	D	19.5	B	Not Applicable	28.2	C	18.1	B
WB	L	56.1	40.9	D	19.5	B	44.9	28.2	C	18.1	B
NB	R	9.3	18.0	B	19.5	B	8.5	20.1	C	18.1	B
NB	T	18.7	18.0	B	19.5	B	21.3	20.1	C	18.1	B
NB	L	Not Applicable	18.0	B	19.5	B	Not Applicable	20.1	C	18.1	B

Table 3-26. 2050 Build Operations Analysis Results - Ellsworth Road and Pecos Road (South) Intersection

Approach Direction	Movement	A.M. Delay by Movement (all vehicles) (seconds)	A.M. Weighted Delay by Approach	A.M. Approach LOS	A.M. Intersection Delay	A.M. Intersection LOS	P.M. Delay by Movement (all vehicles) (seconds)	P.M. Weighted Delay by Approach	P.M. Approach LOS	P.M. Intersection Delay	P.M. Intersection LOS
SB	R	11.9	25.5	C	26.2	C	7.3	22.9	C	23.3	C
SB	T	31.3	25.5	C	26.2	C	27.2	22.9	C	23.3	C
SB	L	33.5	25.5	C	26.2	C	17.0	22.9	C	23.3	C
WB	R	18.7	34.0	C	26.2	C	7.4	27.7	C	23.3	C
WB	T	41.2	34.0	C	26.2	C	31.8	27.7	C	23.3	C
WB	L	47.2	34.0	C	26.2	C	43.3	27.7	C	23.3	C
NB	R	7.0	19.3	B	26.2	C	3.5	20.6	C	23.3	C
NB	T	19.5	19.3	B	26.2	C	17.0	20.6	C	23.3	C
NB	L	24.7	19.3	B	26.2	C	50.8	20.6	C	23.3	C
EB	R	32.9	43.4	D	26.2	C	17.7	28.1	C	23.3	C
EB	T	45.3	43.4	D	26.2	C	30.7	28.1	C	23.3	C
EB	L	58.9	43.4	D	26.2	C	37.6	28.1	C	23.3	C

Table 3-27. 2050 Build Operations Analysis Results - Crismon Road and Pecos Road Intersection

Approach Direction	Movement	A.M. Delay by Movement (all vehicles) (seconds)	A.M. Weighted Delay by Approach	A.M. Approach LOS	A.M. Intersection Delay	A.M. Intersection LOS	P.M. Delay by Movement (all vehicles) (seconds)	P.M. Weighted Delay by Approach	P.M. Approach LOS	P.M. Intersection Delay	P.M. Intersection LOS
SB	R	4.5	8.8	A	12.8	B	4.8	9.6	A	11.7	B
SB	T	9.9	8.8	A	12.8	B	9.8	9.6	A	11.7	B
SB	L	12.1	8.8	A	12.8	B	12.5	9.6	A	11.7	B
WB	R	10.1	14.5	B	12.8	B	9.2	12.6	B	11.7	B
WB	T	15.7	14.5	B	12.8	B	12.2	12.6	B	11.7	B
WB	L	21.3	14.5	B	12.8	B	17.1	12.6	B	11.7	B
NB	R	6.2	13.3	B	12.8	B	6.7	14.0	B	11.7	B
NB	T	10.1	13.3	B	12.8	B	10.8	14.0	B	11.7	B
NB	L	17.3	13.3	B	12.8	B	20.3	14.0	B	11.7	B
EB	R	9.5	14.5	B	12.8	B	6.8	10.0	A	11.7	B
EB	T	16.0	14.5	B	12.8	B	12.1	10.0	A	11.7	B
EB	L	18.0	14.5	B	12.8	B	15.1	10.0	A	11.7	B

Table 3-28. 2050 Build Operations Analysis Results - Signal Butte and Pecos Road Intersection

Approach Direction	Movement	A.M. Delay by Movement (all vehicles) (seconds)	A.M. Weighted Delay by Approach	A.M. Approach LOS	A.M. Intersection Delay	A.M. Intersection LOS	P.M. Delay by Movement (all vehicles) (seconds)	P.M. Weighted Delay by Approach	P.M. Approach LOS	P.M. Intersection Delay	P.M. Intersection LOS
SB	R	4.0	23.4	C	24.2	C	4.0	26.2	C	27.6	C
SB	T	21.2	23.4	C	24.2	C	24.9	26.2	C	27.6	C
SB	L	36.8	23.4	C	24.2	C	37.3	26.2	C	27.6	C
WB	R	9.5	20.0	C	24.2	C	7.0	22.0	C	27.6	C
WB	T	30.0	20.0	C	24.2	C	31.3	22.0	C	27.6	C
WB	L	23.6	20.0	C	24.2	C	16.9	22.0	C	27.6	C
NB	R	22.1	26.1	C	24.2	C	30.6	34.2	C	27.6	C
NB	T	26.9	26.1	C	24.2	C	35.8	34.2	C	27.6	C
NB	L	12.8	26.1	C	24.2	C	18.6	34.2	C	27.6	C
EB	R	16.0	28.4	C	24.2	C	8.5	22.8	C	27.6	C
EB	T	31.8	28.4	C	24.2	C	25.1	22.8	C	27.6	C
EB	L	21.9	28.4	C	24.2	C	22.5	22.8	C	27.6	C

Table 3-29. 2050 Build Operations Analysis Results - Ellsworth Road and Germann Road Intersection

Approach Direction	Movement	A.M. Delay by Movement (all vehicles) (seconds)	A.M. Weighted Delay by Approach	A.M. Approach LOS	A.M. Intersection Delay	A.M. Intersection LOS	P.M. Delay by Movement (all vehicles) (seconds)	P.M. Weighted Delay by Approach	P.M. Approach LOS	P.M. Intersection Delay	P.M. Intersection LOS
SB	R	7.0	20.1	C	27.4	C	11.4	22.5	C	29.7	C
SB	T	16.1	20.1	C	27.4	C	22.2	22.5	C	29.7	C
SB	L	71.8	20.1	C	27.4	C	33.5	22.5	C	29.7	C
WB	R	33.5	48.2	D	27.4	C	9.8	48.1	D	29.7	C
WB	T	54.4	48.2	D	27.4	C	53.4	48.1	D	29.7	C
WB	L	75.7	48.2	D	27.4	C	64.2	48.1	D	29.7	C
NB	R	7.0	19.3	B	27.4	C	5.2	20.4	C	29.7	C
NB	T	19.5	19.3	B	27.4	C	21.4	20.4	C	29.7	C
NB	L	24.7	19.3	B	27.4	C	25.5	20.4	C	29.7	C
EB	R	12.9	51.9	D	27.4	C	11.9	51.2	D	29.7	C
EB	T	57.7	51.9	D	27.4	C	48.5	51.2	D	29.7	C
EB	L	71.2	51.9	D	27.4	C	90.7	51.2	D	29.7	C

Table 3-30. 2050 Build Operations Analysis Results - Crismon Road and Germann Road Intersection

Approach Direction	Movement	A.M. Delay by Movement (all vehicles) (seconds)	A.M. Weighted Delay by Approach	A.M. Approach LOS	A.M. Intersection Delay	A.M. Intersection LOS	P.M. Delay by Movement (all vehicles) (seconds)	P.M. Weighted Delay by Approach	P.M. Approach LOS	P.M. Intersection Delay	P.M. Intersection LOS
SB	R	6.6	16.7	B	19.7	B	5.6	21.3	C	20.7	C
SB	T	23.4	16.7	B	19.7	B	23.1	21.3	C	20.7	C
SB	L	15.7	16.7	B	19.7	B	15.8	21.3	C	20.7	C
WB	R	5.0	18.9	B	19.7	B	6.1	23.2	C	20.7	C
WB	T	18.9	18.9	B	19.7	B	21.6	23.2	C	20.7	C
WB	L	26.4	18.9	B	19.7	B	37.8	23.2	C	20.7	C
NB	R	4.3	15.5	B	19.7	B	4.2	18.0	B	20.7	C
NB	T	18.7	15.5	B	19.7	B	16.9	18.0	B	20.7	C
NB	L	15.8	15.5	B	19.7	B	22.5	18.0	B	20.7	C
EB	R	6.7	25.7	C	19.7	B	8.9	19.9	B	20.7	C
EB	T	29.7	25.7	C	19.7	B	23.9	19.9	B	20.7	C
EB	L	21.8	25.7	C	19.7	B	15.2	19.9	B	20.7	C

Table 3-31. 2050 Build Operations Analysis Results - Signal Butte Road and Germann Road Intersection

Approach Direction	Movement	A.M. Delay by Movement (all vehicles) (seconds)	A.M. Weighted Delay by Approach	A.M. Approach LOS	A.M. Intersection Delay	A.M. Intersection LOS	P.M. Delay by Movement (all vehicles) (seconds)	P.M. Weighted Delay by Approach	P.M. Approach LOS	P.M. Intersection Delay	P.M. Intersection LOS
SB	R	4.9	17.2	B	20.1	C	6.7	23.5	C	16.8	B
SB	T	19.4	17.2	B	20.1	C	25.9	23.5	C	16.8	B
SB	L	17.9	17.2	B	20.1	C	20.4	23.5	C	16.8	B
WB	R	5.1	23.0	C	20.1	C	4.4	16.2	B	16.8	B
WB	T	30.1	23.0	C	20.1	C	19.3	16.2	B	16.8	B
WB	L	22.2	23.0	C	20.1	C	16.2	16.2	B	16.8	B
NB	R	5.5	16.4	B	20.1	C	5.6	16.1	B	16.8	B
NB	T	16.0	16.4	B	20.1	C	18.0	16.1	B	16.8	B
NB	L	21.6	16.4	B	20.1	C	17.9	16.1	B	16.8	B
EB	R	11.2	27.0	C	20.1	C	6.1	10.8	B	16.8	B
EB	T	28.8	27.0	C	20.1	C	10.6	10.8	B	16.8	B
EB	L	27.1	27.0	C	20.1	C	19.0	10.8	B	16.8	B

Table 3-32. 2050 Build Operations Analysis Results - Power Road and Pecos Road Intersection

Approach Direction	Movement	A.M. Delay by Movement (all vehicles) (seconds)	A.M. Weighted Delay by Approach	A.M. Approach LOS	A.M. Intersection Delay	A.M. Intersection LOS	P.M. Delay by Movement (all vehicles) (seconds)	P.M. Weighted Delay by Approach	P.M. Approach LOS	P.M. Intersection Delay	P.M. Intersection LOS
SB	R	41.8	37.8	D	35.4	D	47.9	45.2	D	41.3	D
SB	T	38.8	37.8	D	35.4	D	46.7	45.2	D	41.3	D
SB	L	26.0	37.8	D	35.4	D	29.1	45.2	D	41.3	D
WB	R	23.5	44.3	D	35.4	D	6.7	43.5	D	41.3	D
WB	T	54.3	44.3	D	35.4	D	42.9	43.5	D	41.3	D
WB	L	44.4	44.3	D	35.4	D	50.5	43.5	D	41.3	D
NB	R	28.0	32.8	C	35.4	D	35.3	40.3	D	41.3	D
NB	T	27.7	32.8	C	35.4	D	36.1	40.3	D	41.3	D
NB	L	44.9	32.8	C	35.4	D	54.4	40.3	D	41.3	D
EB	R	14.6	26.0	C	35.4	D	16.7	36.8	D	41.3	D
EB	T	32.6	26.0	C	35.4	D	47.4	36.8	D	41.3	D
EB	L	39.5	26.0	C	35.4	D	41.1	36.8	D	41.3	D

Table 3-33. 2050 No Build and Build Queue Lengths - Sossaman Road and Pecos Road Intersection

Approach Direction	Movement	2050 No Build A.M. Max Queue (feet)	2050 No Build P.M. Max Queue (feet)	2050 Build A.M. Max Queue (feet)	2050 Build P.M. Max Queue (feet)
SB	R	72.4	67.6	74.6	67.2
SB	T	132.3	382.3	201.8	1044.3
SB	L	90.3	221.0	86.4	982.4
WB	R	248.9	83.7	531.8	83.7
WB	T	422.8	239.4	1006.8	239.4
WB	L	464.4	325.7	840.1	334.3
NB	R	138.4	105.3	139.3	105.5
NB	T	460.0	137.9	842.8	137.9
NB	L	219.0	185.7	418.7	185.7
EB	R	154.4	371.5	273.7	802.1
EB	T	294.1	357.1	527.1	844.4
EB	L	62.3	42.1	70.9	40.0

Table 3-34. 2050 No Build and Build Queue Lengths - Sossaman Road and Germann Road Intersection

Approach Direction	Movement	2050 No Build A.M. Max Queue (feet)	2050 No Build P.M. Max Queue (feet)	2050 Build A.M. Max Queue (feet)	2050 Build P.M. Max Queue (feet)
SB	R	54.8	57.8	67.4	50.3
SB	T	221.0	418.1	292.4	494.4
SB	L	159.7	145.3	182.6	158.4
WB	R	270.2	291.2	379.3	289.6
WB	T	64.3	211.7	181.5	212.4
WB	L	250.6	101.9	162.4	134.5
NB	R	187.5	234.9	187.5	234.9
NB	T	73.7	161.5	299.0	132.6
NB	L	110.2	167.1	58.7	148.1
EB	R	148.1	72.0	53.8	72.4
EB	T	148.1	171.9	225.8	171.9
EB	L	97.4	73.7	75.6	73.7

Table 3-35. 2050 No Build and Build Queue Lengths - Ellsworth Road and Pecos Road (North) Intersection

Approach Direction	Movement	2050 No Build A.M. Max Queue (feet)	2050 No Build P.M. Max Queue (feet)	2050 Build A.M. Max Queue (feet)	2050 Build P.M. Max Queue (feet)
SB	R	Not Applicable	Not Applicable	Not Applicable	Not Applicable
SB	T	457.7	397.9	1,211.4	1,516.5
SB	L	374.4	353.0	532.9	1,020.2
WB	R	360.8	281.5	401.2	362.0
WB	T	Not Applicable	Not Applicable	Not Applicable	Not Applicable
WB	L	322.5	244.3	361.6	324.8
NB	R	78.3	84.2	87.3	92.1
NB	T	745.9	507.4	1,087.1	1,068.9
NB	L	Not Applicable	Not Applicable	Not Applicable	Not Applicable

Table 3-36. 2050 No Build and Build Queue Lengths - Ellsworth Road and Pecos Road (South) Intersection

Approach Direction	Movement	2050 No Build A.M. Max Queue (feet)	2050 No Build P.M. Max Queue (feet)	2050 Build A.M. Max Queue (feet)	2050 Build P.M. Max Queue (feet)
SB	R	252.1	139.6	260.2	160.5
SB	T	661.5	614.8	1,246.3	1552.2
SB	L	73.7	57.1	76.1	60.5
WB	R	110.2	114.1	113.4	115.1
WB	T	148.1	181.0	148.1	181.0
WB	L	148.1	181.0	148.1	181.0
NB	R	97.4	47.1	97.4	49.4
NB	T	859.9	406.6	841.8	423.6
NB	L	180.7	154.0	198.0	150.9
EB	R	769.6	275.5	817.2	290.8
EB	T	177.8	201.7	171.8	201.7
EB	L	246.0	175.7	378.6	188.1

Table 3-37. 2050 No Build and Build Queue Lengths - Crismon Road and Pecos Road Intersection

Approach Direction	Movement	2050 No Build A.M. Max Queue (feet)	2050 No Build P.M. Max Queue (feet)	2050 Build A.M. Max Queue (feet)	2050 Build P.M. Max Queue (feet)
SB	R	131.0	117.5	131.0	117.5
SB	T	103.5	90.0	103.5	90.0
SB	L	82.9	69.5	84.0	70.5
WB	R	176.1	189.9	172.9	189.3
WB	T	156.9	170.7	153.7	170.1
WB	L	98.3	128.8	99.5	128.7
NB	R	100.9	137.7	287.7	278.8
NB	T	91.2	128.0	278.1	269.1
NB	L	226.6	178.1	478.0	375.8
EB	R	169.8	182.8	169.8	182.8
EB	T	132.8	145.8	132.8	145.8
EB	L	64.0	89.0	64.0	89.0

Table 3-38. 2050 No Build and Build Queue Lengths - Signal Butte Road and Pecos Road Intersection

Approach Direction	Movement	2050 No Build A.M. Max Queue (feet)	2050 No Build P.M. Max Queue (feet)	2050 Build A.M. Max Queue (feet)	2050 Build P.M. Max Queue (feet)
SB	R	99.6	83.3	99.6	83.3
SB	T	221.9	214.2	221.9	214.2
SB	L	181.4	156.2	181.4	156.2
WB	R	172.3	128.7	180.2	128.6
WB	T	121.3	178.0	122.0	178.0
WB	L	170.0	74.5	165.1	74.2
NB	R	347.3	352.5	886.0	764.0
NB	T	313.1	318.3	851.9	729.9
NB	L	48.8	63.8	71.7	71.3
EB	R	205.0	138.3	208.3	145.4
EB	T	164.1	97.7	167.4	104.8
EB	L	106.6	208.8	107.1	217.5

Table 3-39. 2050 No Build and Build Queue Lengths - Ellsworth Road and Germann Road Intersection

Approach Direction	Movement	2050 No Build A.M. Max Queue (feet)	2050 No Build P.M. Max Queue (feet)	2050 Build A.M. Max Queue (feet)	2050 Build P.M. Max Queue (feet)
SB	R	68.6	304.5	76.2	362.0
SB	T	721.2	741.7	719.5	951.9
SB	L	654.2	699.6	672.2	874.2
WB	R	467.8	130.9	494.7	132.5
WB	T	363.1	319.4	391.8	316.3
WB	L	121.8	151.3	116.0	142.9
NB	R	97.4	123.3	97.4	125.4
NB	T	859.9	365.4	841.8	363.3
NB	L	180.7	229.5	198.0	242.2
EB	R	120.1	144.4	131.2	138.3
EB	T	243.8	191.4	244.3	191.4
EB	L	119.1	192.7	119.1	203.5

Table 3-40. 2050 No Build and Build Queue Lengths - Crismon Road and Germann Road Intersection

Approach Direction	Movement	2050 No Build A.M. Max Queue (feet)	2050 No Build P.M. Max Queue (feet)	2050 Build A.M. Max Queue (feet)	2050 Build P.M. Max Queue (feet)
SB	R	102.9	66.9	161.0	67.0
SB	T	96.0	205.1	167.2	432.4
SB	L	117.4	76.3	238.2	94.3
WB	R	101.3	90.5	101.4	89.3
WB	T	147.8	139.1	154.2	142.8
WB	L	235.9	223.5	232.8	230.8
NB	R	88.8	62.8	88.8	62.7
NB	T	133.0	137.1	130.6	137.1
NB	L	206.5	150.7	200.6	157.0
EB	R	123.7	231.4	125.1	238.6
EB	T	287.6	308.6	282.4	325.3
EB	L	103.0	64.1	102.8	59.4

Table 3-41. 2050 No Build and Build Queue Lengths - Signal Butte Road and Germann Road Intersection

Approach Direction	Movement	2050 No Build A.M. Max Queue (feet)	2050 No Build P.M. Max Queue (feet)	2050 Build A.M. Max Queue (feet)	2050 Build P.M. Max Queue (feet)
SB	R	74.9	77.1	104.2	86.2
SB	T	242.3	220.3	656.6	522.3
SB	L	95.9	121.1	121.5	127.0
WB	R	79.3	58.0	79.3	58.6
WB	T	207.9	191.0	207.1	193.2
WB	L	79.7	71.4	79.7	70.7
NB	R	84.5	103.4	85.3	102.3
NB	T	306.5	262.8	305.1	262.8
NB	L	262.8	168.6	264.4	168.6
EB	R	289.7	187.3	290.3	171.5
EB	T	271.4	169.0	272.0	153.2
EB	L	180.7	136.5	176.3	123.1

Table 3-42. 2050 No Build and Build Queue Lengths - Power Road and Pecos Road Intersection

Approach Direction	Movement	2050 No Build A.M. Max Queue (feet)	2050 No Build P.M. Max Queue (feet)	2050 Build A.M. Max Queue (feet)	2050 Build P.M. Max Queue (feet)
SB	R	645.1	707.7	645.1	1301.5
SB	T	645.1	707.7	645.1	1301.5
SB	L	165.1	128.6	165.1	243.3
WB	R	317.8	80.0	426.8	80.3
WB	T	344.9	287.3	390.1	413.6
WB	L	202.3	260.2	218.4	488.6
NB	R	864.9	552.3	866.2	1031.8
NB	T	864.9	552.3	866.2	1031.8
NB	L	864.9	552.3	866.2	1031.8
EB	R	355.4	329.7	355.7	348.1
EB	T	144.4	276.8	144.4	439.1
EB	L	279.0	199.5	276.5	318.6

Table 3-43. 2050 Build and No Build Queue Lengths – PIRATE At-Grade Crossing Locations

At-Grade Crossing	Direction	2050 No-Build A.M. Max Queue (feet)	2050 No-Build P.M. Max Queue (feet)	2050 Build A.M. Max Queue (feet)	2050 Build P.M. Max Queue (feet)
Pecos Crossing	EB	0.0	0.0	627.2	795.5
	WB	0.0	0.0	981.8	873.9
Sossaman Crossing	SB	0.0	0.0	302.2	1024.5
	NB	0.0	0.0	957.9	389.9
Ellsworth Crossing	SB	4.7	38.7	956.0	943.0
	NB	50.4	47.7	1,495.0	1,363.3
Crismon Crossing	SB	0.0	0.0	358.3	547.2
	NB	0.0	0.0	492.1	411.3
Signal Butte Crossing	SB	0.0	0.0	703.2	497.0
	NB	0.0	0.0	816.3	662.7

3.4 Traffic Operations During Construction

This section presents the traffic operations summary during project construction and identifies potential detour routes. PIRATE includes at-grade crossings at the following locations on the adjacent roadway network:

- Pecos Road between Power Road and Sossaman Road
- Sossaman Road, north of Pecos Road
- Ellsworth Road between Pecos Road (south) and Pecos Road (north)
- Crismon Road between Pecos Road and Germann Road
- Signal Butte Road between Pecos Road and Germann Road

The proposed PIRATE at-grade crossings fall under Mesa jurisdiction, except for the Sossaman Road crossing just south of Germann Road, which falls in Queen Creek jurisdiction. During construction, traffic may be detoured to streets in the city of Mesa, the city of Queen Creek, or the town of Gilbert. For any work or detours conducted in the public streets within the city or the towns, the applicant would be required to obtain permits from Mesa, Queen Creek, or the Town of Gilbert. The permit processes include providing temporary traffic control plans to maintain traffic during construction and/or to detour traffic to adjacent roadways, as needed. The temporary traffic control plans would need to be developed by the applicant and would be stipulated by Mesa's *Temporary Traffic Control Manual* (City of Mesa 2017) and the traffic control permit processes established by Queen Creek and the Town of Gilbert.

The project construction activities and the potential detours are expected to affect the following roadways:

- Sossaman Road
- Ellsworth Road
- Pecos Road
- Germann Road
- Crismon Road
- Signal Butte Road
- Ray Road (for potential detours)
- Power Road (for potential detours)

The agency traffic control permits generally require the temporary traffic control plans to be reviewed and approved by the respective agency at least 21 calendar days prior to the actual closure.

Pedestrian facilities are defined as sidewalks or pathways (paved or unpaved), marked or unmarked crosswalks (including school crosswalks), and bus stops within the public right-of-way. The temporary traffic control plans shall also consider impacts to any pedestrian facilities, if currently existing, within the at-grade rail crossings.

Section 7.0 of Mesa's *Temporary Traffic Control Manual* requires that the pedestrian facilities be maintained through the duration of construction, but if they need to be closed for construction, then the applicant is required to prepare a pedestrian detour plan and obtain approval from the respective agency (City of Mesa 2017).

Chapter 4
Grade Separation Analysis

This section evaluates the need for grade separation at the proposed PIRATE road crossings within the study area. OEA performed the analysis using warrants[2] and associated factors based on methodologies from the *Procedure for Requesting a New Crossing or Upgrading an Existing Crossing* (ACC 2018), the *Highway-Rail Crossing Handbook* (FRA and FHWA 2019), and *A Policy on Geometric Design of Highways and Streets* (AASHTO 2018). These references provided the framework and criteria OEA used to assess each crossing under projected 2050 conditions. The following sections describe the results of the grade separation analysis. Supporting calculations for the warrant evaluations are provided in Appendix E.

4.1 ACC Warrants

The Arizona Corporation Commission (ACC 2018) has modified the FHWA warrants (FRA and FHWA 2019) to evaluate the need for grade separations as part of its new railroad crossing application process. While the railroads within the study area are not designated highways, the ACC retains regulatory authority over all public railroad crossings in Arizona. As such, the ACC warrant applies to this project and provides the baseline criteria for determining whether grade separation is warranted. The guidelines state, "Highway-rail grade crossings should be considered for grade separation or otherwise eliminated across the railroad right of way whenever one or more of the following conditions exist":

1. The highway is part of the designated Interstate Highway System.
2. The highway is otherwise designed to have full controlled access.
3. The posted highway speed equals or exceeds 70 mph.
4. Annual average daily traffic (AADT) exceeds 100,000 vehicles in urban areas or 50,000 vehicles in rural areas.
5. Maximum authorized train speed exceeds 110 mph.
6. An average of 150 or more trains per day or 300 million gross tons/year.
7. Crossing exposure (trains/day × AADT) exceeds 1 million in urban or 250,000 in rural, or passenger train crossing exposure exceeds 800,000 in urban or 200,000 in rural.
8. Expected accident frequency for active devices with gates, as calculated by the U.S. Department of Transportation (USDOT) Accident Prediction Formula, including 5-year accident history, exceeds 0.5.
9. Vehicle delays exceed 40 vehicle-hours per day.

[2] A warrant is a set of measurable criteria used to determine whether a grade separation is justified.

Based on U.S. Census Bureau (2024) estimates, the City of Mesa had a population of approximately 517,151 in 2024, classifying it as an urban area. Accordingly, all warrants with differing thresholds for urban and rural settings were evaluated using the urban criteria. For this analysis, 2050 average daily traffic (ADT) projections were used to assess future roadway demand and crossing exposure.

These projections are consistent with regional planning documents, such as the Mesa 2050 General Plan (City of Mesa 2024). A delay analysis was conducted to evaluate ACC Warrant 9, incorporating peak-hour traffic patterns, representative train operating conditions, and anticipated gate-down periods to estimate daily vehicle-hours of delay. The detailed methodology and results are provided in Appendix E, along with the data used to validate ACC warrants for the five crossings.

The ACC evaluation summary results indicate that none of the analyzed PIRATE road crossings in the study area meet any of the ACC grade separation warrants under design year 2050 conditions.

4.2 FHWA Warrants

The *Highway–Rail Crossing Handbook* (FRA and FHWA 2019) also provides national guidance for evaluating the need for grade separations. The guidelines state, "Grade separation should be provided at all limited access facilities and should be considered for whenever one or more of the following conditions exist":

1. The posted highway speed equals or exceeds 55 mph.
2. AADT exceeds 30,000 vehicles in urban areas or 20,000 vehicles in rural areas.
3. Maximum authorized train speed exceeds 79 mph.
4. An average of 30 or more trains per day.
5. An average of 75 or more passenger trains per day in urban areas or 30 or more passenger trains per day in rural areas.
6. An average of 150 or more transit trains per day in urban areas or 60 or more passenger trains per day in rural areas.
7. Freight Train Crossing Exposure (the product of the number of passenger trains per day and AADT) exceeds 2,250,000 in urban areas or 600,000 in rural areas.
8. Transit Train Crossing Exposure (the product of the number of transit trains per day and AADT) exceeds 4,500,000 in urban areas or 1,200,000 in rural areas.
9. The expected accident frequency for active devices with gates, as calculated by the USDOT Accident Prediction Formula, including 5-year accident history, exceeds 0.5 (per year). If the highway is part of the designated National Highway System, the expected accident frequency for active devices with gates, as calculated by the USDOT Accident Prediction Formula including 5-year accident history, exceeds 0.2 (per year).
10. Vehicle delays exceed 30 vehicle-hours per day with consideration for cost-effectiveness.

The evaluation results indicate that none of the proposed PIRATE road crossings are expected to meet any FHWA grade separation warrants. When considering projected traffic growth and future operating conditions, all locations remain below the thresholds at which FHWA recommends grade separation. Therefore, grade separation is not anticipated to be required at any of the study crossings under design year 2050 conditions.

4.3 AASHTO Warrants

The American Association of State Highway and Transportation Officials (AASHTO) also provide warrants for grade separation; however, these warrants do not provide specific target values for when grade separation should be considered. Section 9 of *A Policy on Geometric Design of Highways and Streets* (AASHTO 2018) outlines specific conditions or warrants to be considered when evaluating the need for grade separation:

1. Sight distance
2. Volume and capacity of traffic along roadway
3. Traffic delay along tracks
4. Mix of users and modes of travel
5. Predicted crashes

4.3.1 Sight Distance

The 2025 Google imagery and street view were reviewed to assess sight distance along the roadway approaches to each crossing. Some crossings, such as Pecos Road, Crismon Road, and Signal Butte Road, have adjacent development, whereas portions of Sossaman Road and Ellsworth Road retain more open frontage.

Based on the imagery, the roadway approaches appear to provide adequate forward visibility for drivers to recognize the crossing in advance. Necessary sight lines should be preserved as surrounding development occurs to ensure continued adequate visibility at the crossings. Each crossing would also be equipped with active warning devices that notify drivers of an approaching train and restrict access when the tracks are occupied.

The 2050 design speed limit for the five road segments with proposed crossings is 45 mph, and the AASHTO (2018) stopping sight distance for level grade at this speed is 360 feet. The observed roadway conditions indicate that available sight distance complies with AASHTO stopping sight distance expectations for the applicable design speed.

4.3.2 Volume and Capacity of Traffic Along Roadway

Design year 2050 ADT volumes were collected from the 2050 TDM and analyzed for each crossing location. These volumes were compared to the estimated daily capacity of the corresponding roadway segments, as shown in Table 4-1. Daily capacity values were derived from the *Simplified Highway Capacity Calculation Method for the Highway Performance Monitoring System* (FHWA 2017), which provides generalized service volumes for signalized highways based on the number of lanes, posted speed, percent green time, and LOS. Percent

green time and LOS values were determined through the VISSIM operational analysis presented in Section 3.3. The comparison shows that projected 2050 ADT volumes for all roadway segments remain within their respective daily capacity limits.

Table 4-1. ADT and Daily Traffic Capacity of Roadway Segments in Design Year 2050

Roadway Segment with Proposed Crossing	No. of Lanes	Speed Limit (mph)	% Green Time	LOS	ADT (vehicles per day)	Daily Capacity (vehicles per day)
Sossaman Road	4	45	60	C	22,600	56,600
Pecos Road (south)	4	45	55	C	31,100	44,100
Ellsworth Road	6	45	70	C	47,800	83,600
Crismon Road	4	45	50	C	22,800	37,100
Signal Butte Road	4	45	55	C	33,400	41,000

4.3.3 Travel Delay Along Tracks

PIRATE is projected to operate with two trains per day (one inbound trip, one outbound trip). The maximum authorized train speed along the proposed industrial lead is 20 mph. OEA evaluated train operations using VISSIM under both 2050 No Build and Build conditions (Section 3.3). Table 4-2 summarizes the travel delay results from the simulation.

The 2050 No Build scenario shows negligible delays of less than 2 seconds due to the absence of rail activity. In the 2050 Build scenario, which includes the proposed rail crossings, simulated average delays per vehicle during the peak hour range from approximately 25 to 32 seconds per vehicle. Given the low train frequency, limited speed, and modest delay times, the proposed crossings are anticipated to have minimal impact on roadway traffic operations within the study corridors.

Table 4-2. Travel Delay

Roadway Segment with Proposed Crossing	2050 No Build Travel Delay (seconds/vehicle)	2050 Build Travel Delay (seconds/vehicle)
Sossaman Road	0.8	28.8
Pecos Road (south)	1.3	25.8
Ellsworth Road	1.7	24.9
Crismon Road	0.6	31.9
Signal Butte Road	0.9	26.9

4.3.4 Mix of Users and Modes of Travel

By the design year 2050, the proposed crossings will accommodate a range of users, including passenger vehicles, trucks, pedestrians, bicyclists, and buses. Sidewalks will be provided along corridors such as Crismon Road and Signal Butte Road. Bike lanes will continue along corridors, such as Sossaman Road, Pecos Road (south), and Ellsworth Road, supporting bicycle travel within the area.

Truck activity will continue due to nearby industrial uses; however, operation of PIRATE is expected to divert approximately over 30,000 truck trips per year from local roadways to rail, reducing overall roadway congestion. With low train speeds (20 mph), limited train frequency (two trains per day), and the inclusion of active warning devices, all user groups can be safely accommodated at grade. Because the projected multimodal activity occurs in a controlled, low-speed rail environment with adequate sight distance and appropriate warning systems, the combination of users does not present conditions warranting grade separation.

4.3.5 Predicted Crashes

Table 4-3 presents the predicted crash frequencies for the five roadway segments with proposed railroad crossings for design year 2050. The predicted crash frequencies per year were calculated using the USDOT Accident Prediction Formula from the FHWA Railroad–Highway Grade Crossing Handbook (Second Edition), as documented in Appendix E. Each value is below the FHWA threshold of 0.5 crashes per year, which identifies locations where grade separation may be warranted. This threshold reflects the level at which expected crash occurrence suggests a heightened safety concern that may justify further evaluation of alternative crossing treatments. In this analysis, all predicted values remain substantially lower than this benchmark. Therefore, no AASHTO warrants for grade separation are met for design year 2050 conditions. Detailed calculations of predicted crash frequencies are provided in Appendix E.

Table 4-3. Design Year 2050 Predicted Crashes in Roadway Segments with Railroad Crossings

Roadway Segments with Proposed Crossings	Predicted Crashes for Design Year 2050
Sossaman Road	0.092
Pecos Road (south)	0.102
Ellsworth Road	0.144
Crismon Road	0.093
Signal Butte Road	0.104

4.3.6 AASHTO Warrant Summary

Review of AASHTO warrant factors—including sight distance, roadway capacity, travel delay, multimodal activity, and predicted crashes—shows that none of the proposed PIRATE crossings exhibit conditions that would suggest a need for grade separation. None of the AASHTO warrant guidelines explicitly state thresholds for which grade separation is warranted except Warrant 5, Predicted Crashes. The FHWA threshold of 0.5 crashes per year is not exceeded at any of the locations for proposed crossings in 2050, thus a grade-separated railroad crossing is not warranted under AASHTO Warrant 5.

4.4 Grade Separation Analysis Summary

OEA conducted this grade separation analysis for PIRATE in accordance with ACC, FHWA, and AASHTO methodologies. The grade separation analysis summary is provided below:

- The evaluation using 2050 design year traffic and train operation data shows that none of the proposed crossings would meet any ACC, FHWA, or AASHTO grade separation warrants by 2050.
- All roadway segments with proposed crossings have projected 2050 traffic volumes well within their roadway capacity limits, which indicates adequate operational performance.
- Train operations would be minimal—one inbound and one outbound trip per day at 20 mph—which would lead to minor average vehicular delays of approximately 25 to 32 seconds per vehicle.
- By 2050, the crossings would accommodate mixed users (vehicles, trucks, pedestrians, and bicyclists); however, low train speeds, clear visibility, and appropriate warning systems would support safe, at-grade operation for all users.
- With crash frequencies that would stay well under the FHWA's 0.5 per year threshold, the sites do not show safety concerns that would justify grade separation.
- Overall, grade separation is not warranted for any of the proposed PIRATE crossings under 2050 conditions.

Chapter 5
Conclusions

The traffic operations analysis conclusions for the 2025 Existing, 2050 No Build, and 2050 Build conditions are provided below.

5.1 Existing Conditions

All of the study intersections operate at an acceptable LOS D or better during the A.M. and P.M. peak hours, except for the Sossaman Road and Germann Road intersection in the A.M. peak hour. The Sossaman Road and Germann Road intersection fails operationally, meaning it does not have the capacity to handle the volume of vehicles, in the A.M. peak hour with LOS F. Currently, the stop-controlled intersection at Sossaman Road and Germann Road is unable to serve the increasing volumes.

Mesa is currently widening Ellsworth Road from two lanes in each direction to three lanes in each direction and is also increasing capacity at the signalized intersections. For Ellsworth Road, Mesa anticipates project completion by late 2026, which should provide adequate capacity at the study intersections along this roadway.

5.2 2050 No Build and Build Conditions

A comparative analysis of the operational performance for the year 2050 No Build and Build conditions shows that all the study intersections would operate at an acceptable LOS D or better during A.M. and P.M. peak hours. It should be noted that A.M. peak hour intersection delays are longer in the Build scenario compared to the No Build scenario at the following locations:

- 1 second longer delay at Ellsworth and Pecos (South) intersection, Crismon and Pecos intersection, Ellsworth and Germann intersection, Signal Butte and Germann intersection, and Power and Pecos intersection.
- 2 seconds longer delays at Signal Butte and Pecos intersection.
- 3 seconds longer delays at Ellsworth and Pecos (North) intersection.
- 4 seconds longer delays at Sossaman and Pecos intersection and Sossaman and Germann intersection.

The P.M. peak hour intersection delays are longer in the Build scenario compared to the No Build scenario at the following locations:

- 1 second longer delay at Sossaman and Germann intersection, Crismon and Pecos intersection, Ellsworth and Germann intersection, Crismon and Germann intersection, and Signal Butte and Germann intersection.
- 2 seconds longer delays at Ellsworth and Pecos (South) intersection and Signal Butte and Pecos intersection.
- 3 seconds longer delays at Ellsworth and Pecos (North) intersection.

- 4 seconds longer delays at Sossaman and Pecos intersection.
- 8 seconds longer delays at Power and Pecos intersection.

The longer delays under the Build scenario are mainly attributed to the presence of PIRATE train operations during A.M. and P.M. peak hours. The average hourly overall intersection LOS for the Build scenario would continue to be within the thresholds identified in this report.

Due to the high traffic volumes projected for Signal Butte Road, Crismon Road, Ellsworth Road, Pecos Road (south), and Sossaman Road in design year 2050, queue lengths would likely be longer. The maximum queues would dissipate within the first few cycles of the traffic signal operations. This indicates that the overall intersection LOS would be within the acceptable levels identified in this report. The maximum queues reported at each of the train crossings would not extend to the previous crossing.

5.3 Traffic Operations During Construction

Jacobs, on behalf of OEA, analyzed each crossing location to evaluate impacts to adjacent study intersections during the construction of PIRATE and the planned Phoenix Subdivision support tracks. Construction impacts are expected to be high on heavy traffic corridors, such as Ellsworth Road, Sossaman Road, and Pecos Road, and the detour routes are anticipated to affect other roadways, such as Ray Road, Power Road, and Germann Road. The applicant would be responsible for preparing the temporary traffic control plans for impacts to roadways/pedestrian facilities at the proposed and existing at-grade crossing locations and should follow the procedures for obtaining a permit to work from the respective local agency.

5.4 Grade Separation Analysis

The grade separation analysis conducted for PIRATE demonstrates that none of the proposed crossings meet the ACC, FHWA, or AASHTO warrants for grade separation under the 2050 Build conditions. Projected traffic volumes, low train speeds (20 mph), and limited train frequency (two trains per day) would result in minimal vehicle delay and low train-vehicle crash likelihoods. Each crossing provides adequate sight distance and sufficient roadway capacity. Overall, the findings indicate that all proposed crossings can safely and efficiently operate at grade through 2050.

Chapter 6
Recommended Mitigation

In addition to 7 voluntary mitigation measures proposed by UP, OEA is recommending several mitigation measures to minimize the impacts of the rail operations on the adjacent roadways and major signalized intersections.

Voluntary mitigation measures proposed by UP, and previously identified in the Draft EA include the following:

- **VM-TS-1**. UP will follow all applicable federal Occupational Safety and Health Administration, Federal Railroad Administration, and operational safety regulations to minimize the potential for accidents and incidents during project-related construction and operation.
- **VM-TS-2**. UP will consult with appropriate federal, state, and local transportation agencies to determine the final design of the at-grade crossing warning devices. Warning devices on public roadways will be subject to review and approval, depending on location, by the Arizona Corporation Commission, Mesa, and Queen Creek. UP will follow standard safety designs for each at-grade crossing for proposed warning devices and signs. These designs will follow the Federal Highway Administration's *Manual on Uniform Traffic Control Devices for Streets and Highways* (2023) and the American Railway Engineering and Maintenance-of-Way Association's guidelines for railroad warning devices. UP will also comply with applicable Arizona Corporation Commission, Mesa, and Queen Creek requirements.
- **VM-TS-3**. Prior to construction of road crossings, when reasonably practical, UP and its contractor(s) will consult with local transportation officials regarding construction phasing and temporary traffic control. UP's contractor(s) will be responsible for local agency coordination of construction schedules, detours, and temporary traffic control, as well as obtainment of necessary temporary traffic control permits from the Mesa and Queen Creek. As appropriate, UP's contractor(s) will maintain egress or traffic routing to allow for passage of emergency and other vehicles.
- **VM-TS-4**. Prior to project-related construction, UP will consult with the Flood Control District of Maricopa County to determine the final details and reasonable signage for private at-grade crossings along access roads.
- **VM-TS-5**. Prior to project-related construction, UP will consult with the Arizona Corporation Commission and Mesa regarding roadway safety and user expectations, which includes items such as pavement markings, signing, delineators, and active warning devices for vehicles, pedestrians, and bicyclists at proposed at-grade crossings.
- **VM-TS-6**. Prior to and during project-related construction, in accordance with temporary traffic control permitting requirements, UP's contractor(s) will install temporary traffic control, including pavement markings, signing, and detours, throughout the project limits and applicable work zones.

- **VM-TS-7**. Prior to and during construction and operation of the project, UP will work with the local agencies to facilitate the development of cooperative agreements with other emergency service providers to share services areas and emergency call response.

OEA recommended mitigation measures identified in the 2023 *Traffic Report* and Draft EA retained without revision include the following:

- **MM-TS-3**. UP shall not block at-grade crossings and adjacent signalized intersections on major arterials along PIRATE for more than 10 minutes at a time, when reasonably practical, unless mechanical failure, an obstruction on the track, or a similar emergency condition prevents a train from being moved clear of the crossing. Major arterials include Pecos Road (south and north), Sossaman Road, Germann Road, Ellsworth Road, Crismon Road, and Signal Butte Road.
- **MM-TS-4**. UP shall conduct the consultations required in mitigation measures VM-TS-3, VM-TS-4, and VM-TS-5 at least 30 days prior to intersection or roadway closures and comply with any reasonable requirements of those agencies, unless it is not reasonably practical. Additionally, the requirements in mitigation measures VM-TS-3, VM-TS-4, and VM-TS-5, as needed, shall also apply to the Town of Gilbert.
- **MM-TS-5.** If Alternative 2 is authorized by the Board, prior to project-related construction, UP shall coordinate with the City of Mesa regarding any impacts to Willis Road and the remaining part of the Willis Road project.

OEA recommended mitigation measures identified in the 2023 *Traffic Report* and Draft EA retained with revisions include the following:

- **MM-TS-1**. UP shall conduct train operations on or over the PIRATE at-grade crossings outside the A.M. (6:00 to 9:00 A.M.) and P.M. (3:00 to 7:00 P.M.) peak periods to the maximum extent practicable. These peak periods have been updated since the 2023 *Traffic Report* in which the A.M. peak period was from 7:00 to 9:00 A.M. and the P.M. peak period was from 3:00 to 6:00 P.M.
- **MM-TS-2**. Prior to increasing the frequency of trains on PIRATE beyond two per day (one in each direction) or routinely conducting train operations at at-grade crossings on or over PIRATE during peak periods (6:00 to 9:00 A.M. or 3:00 to 7:00 P.M.), UP shall consult with and comply with the reasonable requirements of the Arizona Corporation Commission. These peak periods have been updated since the 2023 *Traffic Report* in which the A.M. peak period was from 7:00 to 9:00 A.M. and the P.M. peak period was from 3:00 to 6:00 P.M.

OEA recommended new mitigation measures not identified in the 2023 *Traffic Report* and Draft EA include the following:

- **MM-TS-6**. UP shall fulfill all commitments imposed during the Arizona Corporation Commission's railroad crossing review process, as recorded in Arizona Corporation Commission Docket No. RR-03639A-22-0287.
- **MM-TS-7**. At least 30 days prior to any project-related construction on Sossaman Road, UP and UP's contractor shall notify the Mesa Gateway Airport of the construction schedule and estimated timeline for completion. UP's contractor shall also notify Mesa Gateway Airport Authority when construction on Sossaman Road is complete.

Chapter 7
References

American Association of State Highway and Transportation Officials. 2018. *A Policy on Geometric Design of Highways and Streets* (7th Edition). Washington, DC. https://kankakeerecycling.com/wp-content/uploads/2023/04/THE_GREEN_BOOK_A_Policy_on_Geometric_Des.pdf.

Arizona Corporation Commission. 2018. "Procedures for Requesting a New Crossing or Upgrading an Existing Crossing." Safety Division. Phoenix, AZ. https://azcc.gov/docs/default-source/safety-files/railroad/new_application_procedures.pdf?sfvrsn=baa15d81_2.

Benjamin Franklin High School. 2025. Personal communication (email) regarding school bus routes and schedules in the PIRATE study area from David Craig, Transportation Coordinator, Benjamin Franklin High School, to Bailey Homan, Transportation Analyst, Jacobs. December 4.

Chandler Unified School District. 2025. Personal communication (email) regarding school bus routes and schedules in the PIRATE study area from CUSD Routing, Chandler Unified School District, to Bailey Homan, Transportation Analyst, Jacobs. December 2.

City of Mesa. 2017. *Temporary Traffic Control Manual* (First Edition). City of Mesa Transportation Department, Mesa, AZ. https://www.mesaaz.gov/files/assets/public/v/1/business-development/ttc/temporary-traffic-control-manual.pdf.

City of Mesa. 2024. *Tomorrow's Mesa 2050 General Plan*. City of Mesa Engineering Department, Mesa, AZ. https://www.mesalistens.com/mesa-general-plan.

City of Mesa. 2025. *Engineering & Design Standards*. Engineering Procedure Manual. City of Mesa Engineering Department, Mesa, AZ. August. https://www.mesaaz.gov/files/assets/public/v/2/business-development/engineering/designstandards/engdesstands2025.pdf.

Federal Highway Administration. 2017. *Simplified Highway Capacity Calculation Method for the Highway Performance Monitoring System.* Report No. PL-18-003. U.S. Department of Transportation. October 15. https://www.fhwa.dot.gov/policyinformation/pubs/pl18003/hpms_cap.pdf.

Federal Highway Administration. 2023. *Manual on Uniform Traffic Control Devices for Streets and Highways* (11th Edition). U.S. Department of Transportation. December. https://mutcd.fhwa.dot.gov/pdfs/11th_Edition/mutcd11thedition.pdf.

Federal Railroad Administration and Federal Highway Administration. 2019. *Highway-Rail Crossing Handbook* (Third Edition). Report No. FHWA-SA-18-040/FRA-RRS-18-001. U.S. Department of Transportation. July. https://highways.dot.gov/sites/fhwa.dot.gov/files/2022-06/fhwasa18040v2.pdf.

Higley Unified School District. 2025. Personal communication (email) regarding school bus routes and schedules in the PIRATE study area from Josh Crosby, Director of Transportation, Higley Unified School District, to Bailey Homan, Transportation Analyst, Jacobs. December 3.

Horowitz, Alan, Tom Creasey, Ram Pendyala, and Mei Chen. 2014. *NCHRP Report 765*, *Analytical Travel Forecasting Approaches for Project-Level Planning and Design*. Transportation Research Board; National Cooperative Highway Research Program. https://doi.org/10.17226/22366.

Jacobs. 2025a. Personal communication (phone call) regarding school bus routes and schedules in the PIRATE study area from Bailey Homan, Transportation Analyst, Jacobs, to Denise Ayer, Site Supervisor, Transportation Department, Mesa Public Schools. September 29.

Jacobs. 2025b. Personal communication (phone call) regarding school bus routes and schedules in the PIRATE study area from Bailey Homan, Transportation Analyst, Jacobs, to Brianna Tiemann, Sierra School of Gateway. December 19.

Kuntzman, Gersh. 2020. "Levels of Service." StreetsBlog NYC. October 21. https://old.nyc.streetsblog.org/level-of-service-chart-source-utah-dot/.

Maricopa Association of Governments. 2025. 2050 Socioeconomic Data from MAG Conformity Model. Published by Maricopa Association of Governments, AZ.

National Academies of Sciences, Engineering, and Medicine. 2022. *Highway Capacity Manual (7th Edition): A Guide for Multimodal Mobility Analysis*. Washington, DC: The National Academies Press.

PTV North America. 2025. PTV VISSIM, Version 13, Multimodal Traffic Simulation Software. Arlington, VA. https://www.ptvgroup.com/en/products/ptv-vissim.

Queen Creek Unified School District. 2025. Personal communication (email) regarding school bus routes and schedules in the PIRATE study area from Alexander Jewett, Dispatcher, Queen Creek Unified School District, to Bailey Homan, Transportation Analyst, Jacobs. September 29.

Town of Queen Creek. 2016. *Traffic Impact Analysis Guidelines*. January. https://www.queencreekaz.gov/home/showpublisheddocument/20779/635862886388430000.

Trafficware Ltd. 2025. Synchro 12 and SimTraffic Software. Sugar Land, TX. https://www.trafficware.com/synchro-studio.html. July.

U.S. Census Bureau. 2024. "QuickFacts: Mesa city, Arizona." https://www.census.gov/quickfacts/fact/table/mesacityarizona/HEA775224.

Appendix A
2025 Traffic Counts

United Civil Group

Turning Movement Count

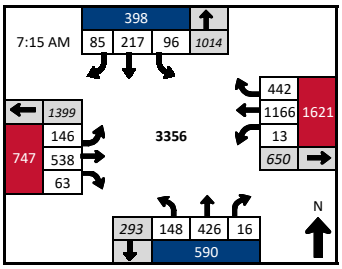
Project No: TC25106

August 27, 2025 (Wednesday)

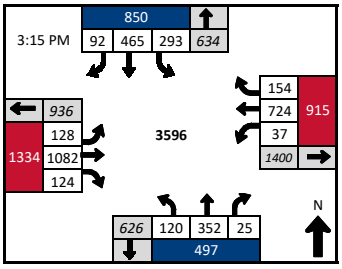
Location: Sossaman Road and Rittenhouse Road

Intersection Configuration: Signalized

	Speed Limit	Lt	Lt\T	T	T/Rt	Rt	Lt/T/Rt	Lt/Rt
Northbound		1		1		1		
Southbound		1		1		1		
Eastbound		1		2		1		
Westbound		1		1	1			



	Sossaman Road				Sossaman Road				Rittenhouse Road				Rittenhouse Road				Total	Peak Hour
	Northbound				Southbound				Eastbound				Westbound					
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
6:00 AM	12	42	0	0	4	16	5	0	4	44	3	0	5	158	44	0	337	
6:15 AM	15	46	0	0	6	28	7	0	11	62	9	0	2	234	55	0	475	
6:30 AM	28	64	2	0	16	18	12	0	13	74	14	0	3	287	58	0	589	
6:45 AM	34	116	3	0	13	32	17	0	14	143	16	0	0	319	84	0	791	2192
7:00 AM	13	103	2	0	16	41	13	0	44	112	10	0	4	247	148	0	753	2608
7:15 AM	37	114	4	0	24	51	18	1	38	108	14	0	4	252	150	0	814	2947
7:30 AM	50	100	4	0	28	57	30	0	34	134	12	0	3	348	108	0	908	3266
7:45 AM	27	96	5	0	17	46	22	0	44	173	17	0	3	322	85	0	857	3332
8:00 AM	34	116	3	0	27	63	15	0	30	123	20	1	3	244	99	0	777	3356
8:15 AM	28	101	8	0	29	56	11	0	17	106	16	0	11	250	67	0	700	3242
8:30 AM	20	95	9	0	40	53	7	0	14	104	16	1	1	231	65	0	655	2989
8:45 AM	23	79	4	0	14	34	9	0	18	135	16	0	7	221	68	0	628	2760
Peak Hour Total	**148**	**426**	**16**	**0**	**96**	**217**	**85**	**1**	**146**	**538**	**63**	**1**	**13**	**1166**	**442**	**0**	**3356**	



	Sossaman Road				Sossaman Road				Rittenhouse Road				Rittenhouse Road				Total	Peak Hour
	Northbound				Southbound				Eastbound				Westbound					
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
3:00 PM	21	68	6	0	63	90	11	0	24	230	29	0	10	197	50	0	799	
3:15 PM	25	101	6	0	62	125	25	0	34	214	24	0	11	188	40	0	855	
3:30 PM	31	93	4	0	51	92	23	0	41	309	40	0	8	199	33	0	924	
3:45 PM	31	91	7	0	96	126	29	0	29	287	32	0	11	160	35	0	934	3512
4:00 PM	33	67	8	0	84	122	15	0	24	272	28	0	7	177	46	0	883	3596
4:15 PM	15	65	9	0	62	105	17	0	34	259	28	1	9	186	36	0	825	3566
4:30 PM	19	73	11	0	59	87	21	0	25	268	30	0	14	174	32	0	813	3455
4:45 PM	22	90	7	0	65	104	14	0	29	294	27	0	10	190	37	0	889	3410
5:00 PM	21	75	10	0	68	92	14	0	40	275	24	0	5	193	29	0	846	3373
5:15 PM	21	78	9	0	72	100	10	0	27	282	35	0	10	167	40	0	851	3399
5:30 PM	23	89	8	0	63	69	11	0	33	242	39	0	9	160	27	0	773	3359
5:45 PM	22	82	13	0	61	107	15	0	25	206	28	0	8	191	26	0	784	3254
6:00 PM	14	77	6	0	57	90	15	0	21	233	24	0	6	137	17	0	697	3105
6:15 PM	12	78	10	0	39	55	9	0	8	213	25	0	10	154	33	0	646	2900
6:30 PM	13	54	8	0	41	55	11	0	17	180	17	0	13	160	21	0	590	2717
6:45 PM	16	53	8	0	42	58	7	0	13	194	12	0	10	132	26	0	571	2504
Peak Hour Total	**120**	**352**	**25**	**0**	**293**	**465**	**92**	**0**	**128**	**1082**	**124**	**0**	**37**	**724**	**154**	**0**	**3596**	

United Civil Group

Turning Movement Count

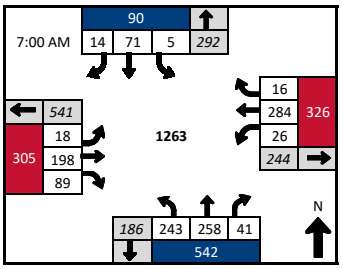
Project No: TC25106

August 27, 2025 (Wednesday)

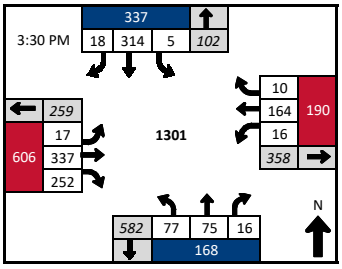
Location: Crismon Road and Germann Road

Intersection Configuration: Signalized

	Speed Limit	Lt	Lt\T	T	T/Rt	Rt	Lt/T/Rt	Lt/Rt
Northbound		1			1			
Southbound		1			1			
Eastbound		1		1		1		
Westbound		1		1		1		



	Crismon Road Northbound				Crismon Road Southbound				Germann Road Eastbound				Germann Road Westbound				Total	Peak Hour
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
6:00 AM	24	26	2	0	1	6	1	0	1	21	4	0	3	19	1	0	109	
6:15 AM	28	38	5	0	0	8	0	0	1	30	7	0	0	44	1	0	162	
6:30 AM	33	43	8	0	1	17	1	0	2	22	11	0	3	47	2	0	190	
6:45 AM	46	34	5	0	0	11	3	0	5	26	19	0	4	46	3	0	202	663
7:00 AM	60	54	5	0	1	15	1	0	0	36	12	0	6	70	3	0	263	817
7:15 AM	64	73	12	0	0	17	2	0	7	33	10	0	3	72	5	0	298	953
7:30 AM	51	69	12	0	3	15	5	0	4	68	37	0	8	73	5	0	350	1113
7:45 AM	68	62	12	0	1	24	6	0	7	61	30	0	9	69	3	0	352	1263
8:00 AM	52	29	7	0	1	14	3	0	4	41	36	0	6	64	4	0	261	1261
8:15 AM	26	32	11	0	0	15	3	0	0	37	19	0	4	32	4	0	183	1146
8:30 AM	23	19	8	0	3	14	3	0	4	40	17	0	9	46	3	0	189	985
8:45 AM	19	14	3	0	1	19	0	0	2	34	19	0	8	48	1	0	168	801
Peak Hour Total	**243**	**258**	**41**	**0**	**5**	**71**	**14**	**0**	**18**	**198**	**89**	**0**	**26**	**284**	**16**	**0**	**1263**	



	Crismon Road Northbound				Crismon Road Southbound				Germann Road Eastbound				Germann Road Westbound				Total	Peak Hour
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
3:00 PM	25	19	3	0	1	24	2	0	4	73	41	0	12	40	2	0	246	
3:15 PM	22	20	3	0	1	64	2	0	4	47	40	0	11	63	7	0	284	
3:30 PM	14	13	3	0	3	66	6	0	3	77	56	0	8	55	6	0	310	
3:45 PM	26	21	1	0	0	70	6	1	6	103	68	0	0	51	2	0	354	1194
4:00 PM	22	24	4	0	1	80	3	0	6	93	71	0	2	27	2	0	335	1283
4:15 PM	15	17	8	0	1	98	3	0	2	64	57	0	6	31	0	0	302	1301
4:30 PM	27	21	5	0	3	87	4	0	5	66	62	0	4	24	1	0	309	1300
4:45 PM	15	19	4	0	2	82	4	0	1	57	50	0	3	47	2	0	286	1232
5:00 PM	19	26	1	0	1	85	4	0	1	69	42	0	2	23	3	0	276	1173
5:15 PM	30	18	2	0	0	88	8	0	1	56	83	0	6	32	2	0	326	1197
5:30 PM	21	12	3	0	2	89	3	0	5	70	54	0	3	33	0	0	295	1183
5:45 PM	22	13	6	0	1	63	3	0	0	66	48	0	6	28	0	0	256	1153
6:00 PM	16	21	3	0	4	62	4	0	0	56	49	0	2	23	1	0	241	1118
6:15 PM	18	25	1	0	1	40	5	0	3	49	38	0	4	33	0	0	217	1009
6:30 PM	18	15	1	0	1	33	2	0	0	48	36	0	2	25	2	0	183	897
6:45 PM	22	11	3	0	0	19	1	0	1	39	32	0	4	21	1	0	154	795
Peak Hour Total	**77**	**75**	**16**	**0**	**5**	**314**	**18**	**1**	**17**	**337**	**252**	**0**	**16**	**164**	**10**	**0**	**1301**	

UCG
United Civil Group

Turning Movement Count

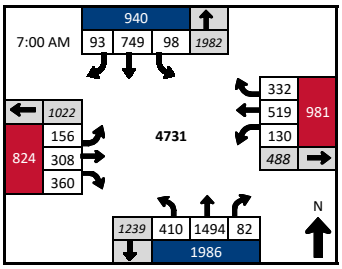
Project No: TC25106

August 27, 2025 (Wednesday)

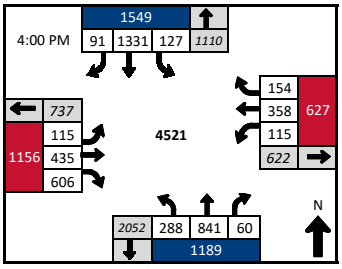
Location: Power Road
and Pecos Road

Intersection Configuration: Signalized

	Speed Limit	Lt	Lt\T	T	T/Rt	Rt	Lt/T/Rt	Lt/Rt
Northbound		2		2	1			
Southbound		1		2	1			
Eastbound		1		2		1		
Westbound		1		3		1		



	Power Road Northbound				Power Road Southbound				Pecos Road Eastbound				Pecos Road Westbound				Total	Peak Hour
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
6:00 AM	49	161	5	0	14	70	3	0	18	27	37	0	4	40	36	0	464	
6:15 AM	69	177	12	0	10	98	6	0	24	30	38	0	14	71	35	0	584	
6:30 AM	110	275	10	0	21	120	21	0	26	44	67	0	15	78	72	0	859	
6:45 AM	85	294	13	0	21	158	17	0	31	65	63	0	23	104	71	0	945	2852
7:00 AM	150	323	12	0	35	143	27	0	30	55	64	0	23	148	76	0	1086	3474
7:15 AM	80	418	29	0	23	178	16	0	37	101	102	0	31	123	106	0	1244	4134
7:30 AM	81	387	19	0	17	206	21	0	35	74	75	0	33	102	96	0	1146	4421
7:45 AM	99	366	22	0	23	222	29	0	54	78	119	0	43	146	54	0	1255	4731
8:00 AM	101	341	15	0	28	199	22	0	40	66	89	0	33	100	47	0	1081	4726
8:15 AM	64	302	21	0	25	185	23	0	32	72	98	0	31	82	58	0	993	4475
8:30 AM	96	276	23	0	17	156	18	0	28	49	52	1	11	76	43	0	845	4174
8:45 AM	93	250	18	0	19	155	25	0	27	52	58	0	26	74	33	0	830	3749
Peak Hour Total	**410**	**1494**	**82**	**0**	**98**	**749**	**93**	**0**	**156**	**308**	**360**	**0**	**130**	**519**	**332**	**0**	**4731**	



	Power Road Northbound				Power Road Southbound				Pecos Road Eastbound				Pecos Road Westbound				Total	Peak Hour
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
3:00 PM	95	213	14	0	41	325	24	0	24	79	111	0	25	86	51	0	1088	
3:15 PM	65	197	13	0	23	264	28	0	29	95	116	0	26	90	28	0	974	
3:30 PM	95	228	12	0	40	297	14	0	30	80	115	0	29	78	42	0	1060	
3:45 PM	74	181	15	0	21	267	14	0	34	122	160	0	38	99	44	0	1069	4191
4:00 PM	90	229	12	0	38	306	31	1	30	125	174	0	33	104	37	0	1209	4312
4:15 PM	71	175	19	0	34	351	26	0	24	108	142	0	23	89	43	0	1105	4443
4:30 PM	51	215	18	0	26	359	23	0	26	90	146	0	28	88	41	0	1111	4494
4:45 PM	76	222	11	0	29	315	11	0	35	112	144	0	31	77	33	0	1096	4521
5:00 PM	92	238	18	1	39	325	19	0	29	102	112	0	17	89	26	0	1106	4418
5:15 PM	85	207	21	0	28	282	28	0	46	119	139	0	35	80	31	0	1101	4414
5:30 PM	79	208	12	0	33	343	21	0	32	107	107	0	27	76	37	0	1082	4385
5:45 PM	89	159	15	0	19	281	32	0	35	109	134	0	23	59	25	0	980	4269
6:00 PM	93	187	21	0	28	284	28	0	25	85	101	0	20	59	32	0	963	4126
6:15 PM	73	182	22	0	23	232	23	0	27	89	114	0	18	59	24	0	886	3911
6:30 PM	59	191	9	0	26	217	33	0	24	66	87	0	13	46	22	0	793	3622
6:45 PM	55	132	7	0	23	181	28	0	30	65	95	0	9	48	17	0	690	3332
Peak Hour Total	**288**	**841**	**60**	**0**	**127**	**1331**	**91**	**1**	**115**	**435**	**606**	**0**	**115**	**358**	**154**	**0**	**4521**	

United Civil Group

Turning Movement Count

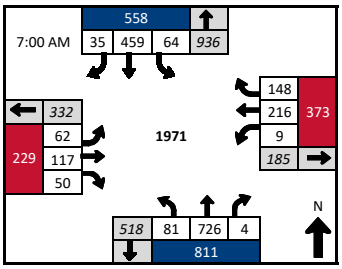
Project No: TC25106

August 27, 2025 (Wednesday)

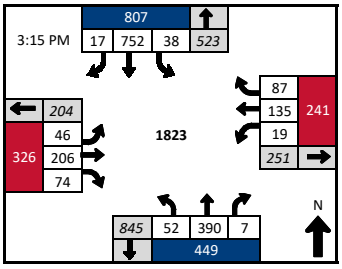
Location: Signal Butte Road and Germann Road

Intersection Configuration: Signalized

	Speed Limit	Lt	Lt\T	T	T/Rt	Rt	Lt/T/Rt	Lt/Rt
Northbound		1			1			
Southbound		1			1			
Eastbound		1		1		1		
Westbound		1		1		1		



	Signal Butte Road Northbound				Signal Butte Road Southbound				Germann Road Eastbound				Germann Road Westbound				Total	Peak Hour
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
6:00 AM	6	145	2	0	23	59	4	0	6	10	2	0	2	15	7	0	281	
6:15 AM	13	186	4	0	24	56	3	0	8	22	4	0	0	32	8	0	360	
6:30 AM	7	204	2	0	20	73	8	0	5	12	4	0	3	37	45	0	420	
6:45 AM	9	164	2	0	23	94	7	0	10	27	2	0	3	47	37	0	425	1486
7:00 AM	21	183	2	0	15	96	6	0	7	30	2	0	5	52	50	0	469	1674
7:15 AM	24	189	0	0	15	121	8	0	13	19	3	0	2	59	48	0	501	1815
7:30 AM	21	169	0	0	21	114	12	0	25	33	20	0	2	54	29	0	500	1895
7:45 AM	15	185	2	0	13	128	9	0	17	35	25	0	0	51	21	0	501	1971
8:00 AM	16	173	1	0	20	127	6	0	11	31	10	0	1	40	14	0	450	1952
8:15 AM	8	160	2	0	15	79	7	0	15	25	9	0	1	29	11	0	361	1812
8:30 AM	10	105	1	0	10	110	14	0	8	26	9	0	4	28	12	0	337	1649
8:45 AM	8	101	2	0	12	115	11	0	8	26	7	0	2	35	7	0	334	1482
Peak Hour Total	**81**	**726**	**4**	**0**	**64**	**459**	**35**	**0**	**62**	**117**	**50**	**0**	**9**	**216**	**148**	**0**	**1971**	



	Signal Butte Road Northbound				Signal Butte Road Southbound				Germann Road Eastbound				Germann Road Westbound				Total	Peak Hour
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
3:00 PM	5	102	2	0	3	168	3	0	6	45	28	0	7	39	38	0	446	
3:15 PM	16	118	0	0	7	172	7	0	9	29	13	0	6	46	25	0	448	
3:30 PM	15	98	3	0	9	176	3	0	10	57	27	0	4	41	25	0	468	
3:45 PM	17	88	3	0	10	179	3	0	15	61	19	0	4	32	15	0	446	1808
4:00 PM	4	86	1	0	12	225	4	0	12	59	15	0	5	16	22	0	461	1823
4:15 PM	10	94	1	0	3	202	3	0	12	49	31	0	6	21	15	0	447	1822
4:30 PM	6	105	4	0	12	202	6	0	9	50	15	0	7	18	13	0	447	1801
4:45 PM	7	92	0	0	11	215	4	0	8	34	21	0	2	38	7	0	439	1794
5:00 PM	6	122	1	0	5	221	2	0	7	48	16	0	2	19	8	0	457	1790
5:15 PM	11	106	1	0	3	204	7	0	5	35	22	0	2	17	6	0	419	1762
5:30 PM	12	87	4	0	8	219	6	0	9	31	27	0	6	19	4	0	432	1747
5:45 PM	7	80	0	0	15	207	4	0	12	35	24	0	5	17	4	0	410	1718
6:00 PM	9	92	0	0	12	206	5	0	6	35	23	0	2	18	12	0	420	1681
6:15 PM	9	94	6	0	14	178	7	0	11	27	16	0	1	14	6	0	383	1645
6:30 PM	11	79	3	0	3	164	4	0	13	21	10	0	3	13	3	0	327	1540
6:45 PM	11	49	0	0	3	157	3	0	6	32	12	0	1	12	4	0	290	1420
Peak Hour Total	**52**	**390**	**7**	**0**	**38**	**752**	**17**	**0**	**46**	**206**	**74**	**0**	**19**	**135**	**87**	**0**	**1823**	

United Civil Group

Turning Movement Count

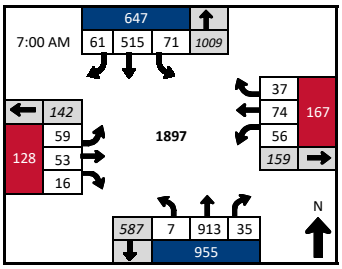
Project No: TC25106

August 27, 2025 (Wednesday)

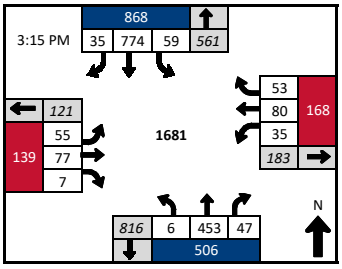
Location: Signal Butte Road and Pecos Road

Intersection Configuration: Signalized

	Speed Limit	Lt	Lt\T	T	T/Rt	Rt	Lt/T/Rt	Lt/Rt
Northbound		1		1	1			
Southbound		1		1		1		
Eastbound		1			1			
Westbound		1		1		1		



	Signal Butte Road				Signal Butte Road				Pecos Road				Pecos Road				Total	Peak Hour
	Northbound				Southbound				Eastbound				Westbound					
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
6:00 AM	1	145	1	0	12	74	3	0	10	2	1	0	7	6	3	0	265	
6:15 AM	0	174	8	0	10	90	11	0	12	7	2	0	4	8	2	0	328	
6:30 AM	1	242	5	0	14	77	13	0	11	3	3	0	8	16	5	0	398	
6:45 AM	0	197	4	0	18	122	13	0	8	12	4	0	9	12	12	0	411	1402
7:00 AM	2	229	3	0	17	115	10	0	12	5	2	0	7	17	13	0	432	1569
7:15 AM	1	236	8	0	14	138	16	0	14	17	3	0	16	24	4	0	491	1732
7:30 AM	4	238	11	0	23	116	21	0	22	14	7	0	16	24	9	1	505	1839
7:45 AM	0	210	13	0	17	146	14	0	11	17	4	0	17	9	11	0	469	1897
8:00 AM	4	180	10	0	29	107	15	0	7	11	9	0	7	9	6	0	394	1859
8:15 AM	2	156	19	0	12	90	10	0	19	6	3	0	13	7	5	0	342	1710
8:30 AM	1	112	2	0	10	115	13	0	8	12	3	0	17	11	11	0	315	1520
8:45 AM	2	114	10	0	11	122	10	0	6	7	4	0	10	13	6	0	315	1366
Peak Hour Total	**7**	**913**	**35**	**0**	**71**	**515**	**61**	**0**	**59**	**53**	**16**	**0**	**56**	**74**	**37**	**1**	**1897**	



	Signal Butte Road				Signal Butte Road				Pecos Road				Pecos Road				Total	Peak Hour
	Northbound				Southbound				Eastbound				Westbound					
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
3:00 PM	1	124	14	0	12	166	7	0	12	15	0	0	5	9	7	0	372	
3:15 PM	1	123	14	0	15	175	4	0	11	18	3	0	14	23	17	0	418	
3:30 PM	2	132	8	0	31	196	2	0	16	20	1	0	8	21	13	0	450	
3:45 PM	0	93	14	0	8	224	14	0	17	18	1	0	5	14	10	0	418	1658
4:00 PM	3	105	11	0	5	179	15	0	11	21	2	0	8	22	13	0	395	1681
4:15 PM	1	112	11	0	1	207	20	0	13	14	3	0	7	17	12	0	418	1681
4:30 PM	4	104	7	0	7	208	21	0	10	24	1	0	7	12	14	0	419	1650
4:45 PM	1	106	9	0	9	223	14	0	9	8	4	0	8	17	6	0	414	1646
5:00 PM	0	117	9	0	6	207	15	0	14	17	0	0	10	17	8	0	420	1671
5:15 PM	1	104	10	0	4	214	21	0	9	12	0	0	10	14	3	0	402	1655
5:30 PM	0	98	12	0	8	254	18	0	6	11	1	0	11	21	2	1	442	1678
5:45 PM	4	74	9	0	15	226	18	0	12	9	0	0	8	18	1	0	394	1658
6:00 PM	3	106	14	0	3	167	12	0	9	11	3	0	12	13	5	0	358	1596
6:15 PM	0	105	12	0	2	194	7	0	14	7	1	0	7	11	0	0	360	1554
6:30 PM	1	77	9	0	4	151	9	0	4	11	1	0	6	10	1	0	284	1396
6:45 PM	1	53	6	0	2	149	6	0	3	10	0	0	9	7	5	0	251	1253
Peak Hour Total	**6**	**453**	**47**	**0**	**59**	**774**	**35**	**0**	**55**	**77**	**7**	**0**	**35**	**80**	**53**	**0**	**1681**	

United Civil Group

Turning Movement Count

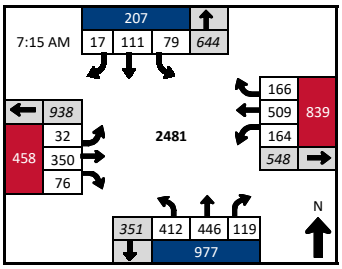
Project No: TC25106

August 27, 2025 (Wednesday)

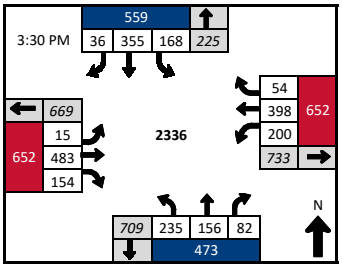
Location: Sossaman Road and Pecos Road

Intersection Configuration: Signalized

	Speed Limit	Lt	Lt\T	T	T/Rt	Rt	Lt/T/Rt	Lt/Rt
Northbound		1			1			
Southbound		1			1			
Eastbound		1			1			
Westbound		1		1		1		



	Sossaman Road				Sossaman Road				Pecos Road				Pecos Road					
	Northbound				Southbound				Eastbound				Westbound				Total	Peak Hour
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
6:00 AM	34	62	5	0	6	6	0	0	3	32	2	0	21	53	11	0	235	
6:15 AM	46	52	9	0	8	8	3	0	6	39	4	0	17	81	14	0	287	
6:30 AM	87	61	11	0	9	10	1	0	4	46	9	0	21	96	22	0	377	
6:45 AM	109	79	29	0	10	19	3	0	11	65	23	0	30	114	24	0	516	1415
7:00 AM	124	95	27	0	12	21	5	0	6	78	23	0	30	130	18	0	569	1749
7:15 AM	115	102	42	1	23	21	4	0	2	103	27	0	31	134	35	0	639	2101
7:30 AM	124	112	38	0	18	27	2	0	12	94	15	0	56	121	36	0	655	2379
7:45 AM	91	109	21	0	13	16	6	0	9	91	15	0	27	142	37	0	577	2440
8:00 AM	82	123	18	0	25	47	5	0	9	62	19	0	50	112	58	0	610	2481
8:15 AM	59	107	22	0	29	43	10	0	15	90	15	0	43	99	43	0	575	2417
8:30 AM	56	104	9	0	19	49	8	0	13	66	8	0	17	82	26	0	457	2219
8:45 AM	40	100	12	0	25	29	6	0	11	64	11	0	24	75	24	0	421	2063
Peak Hour Total	**412**	**446**	**119**	**1**	**79**	**111**	**17**	**0**	**32**	**350**	**76**	**0**	**164**	**509**	**166**	**0**	**2481**	



	Sossaman Road				Sossaman Road				Pecos Road				Pecos Road					
	Northbound				Southbound				Eastbound				Westbound				Total	Peak Hour
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
3:00 PM	50	38	20	0	42	82	11	0	4	113	28	0	35	106	18	0	547	
3:15 PM	56	50	19	0	47	94	8	0	2	93	22	0	62	63	14	0	530	
3:30 PM	57	38	27	0	41	83	12	0	1	110	22	0	48	103	17	0	559	
3:45 PM	73	42	29	0	37	97	9	0	8	119	39	0	49	92	10	0	604	2240
4:00 PM	68	38	13	0	33	90	9	0	0	102	56	0	58	98	13	0	578	2271
4:15 PM	37	38	13	0	57	85	6	0	6	152	37	0	45	105	14	0	595	2336
4:30 PM	50	35	19	0	53	104	10	0	2	99	22	0	34	115	11	0	554	2331
4:45 PM	44	38	27	0	30	86	5	0	3	125	30	0	51	79	4	0	522	2249
5:00 PM	46	32	28	0	37	93	3	0	4	134	27	0	52	86	6	0	548	2219
5:15 PM	50	43	17	0	31	92	11	1	0	112	35	0	37	69	9	0	506	2130
5:30 PM	48	23	18	0	23	76	8	0	5	127	42	0	27	111	11	0	519	2095
5:45 PM	33	28	37	0	29	92	3	0	0	119	25	0	46	50	5	0	467	2040
6:00 PM	34	27	20	0	25	62	5	0	4	98	26	0	56	84	14	0	455	1947
6:15 PM	42	17	32	0	16	38	4	0	1	131	21	0	25	51	4	0	382	1823
6:30 PM	32	22	21	0	12	46	5	0	0	61	24	0	42	46	4	0	315	1619
6:45 PM	19	23	15	0	10	37	2	0	3	81	22	0	34	45	13	0	304	1456
Peak Hour Total	**235**	**156**	**82**	**0**	**168**	**355**	**36**	**0**	**15**	**483**	**154**	**0**	**200**	**398**	**54**	**0**	**2336**	

United Civil Group

Turning Movement Count

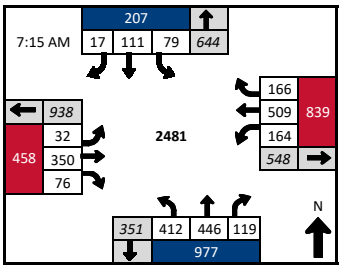
Project No: TC25106

August 27, 2025 (Wednesday)

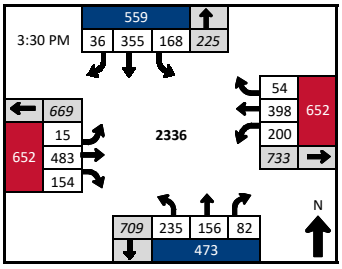
Location: Sossaman Road and Pecos Road

Intersection Configuration: Signalized

	Speed Limit	Lt	Lt\T	T	T/Rt	Rt	Lt/T/Rt	Lt/Rt
Northbound		1			1			
Southbound		1			1			
Eastbound		1			1			
Westbound		1		1		1		



	Sossaman Road				Sossaman Road				Pecos Road				Pecos Road					
	Northbound				Southbound				Eastbound				Westbound				Total	Peak Hour
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
6:00 AM	34	62	5	0	6	6	0	0	3	32	2	0	21	53	11	0	235	
6:15 AM	46	52	9	0	8	8	3	0	6	39	4	0	17	81	14	0	287	
6:30 AM	87	61	11	0	9	10	1	0	4	46	9	0	21	96	22	0	377	
6:45 AM	109	79	29	0	10	19	3	0	11	65	23	0	30	114	24	0	516	1415
7:00 AM	124	95	27	0	12	21	5	0	6	78	23	0	30	130	18	0	569	1749
7:15 AM	115	102	42	1	23	21	4	0	2	103	27	0	31	134	35	0	639	2101
7:30 AM	124	112	38	0	18	27	2	0	12	94	15	0	56	121	36	0	655	2379
7:45 AM	91	109	21	0	13	16	6	0	9	91	15	0	27	142	37	0	577	2440
8:00 AM	82	123	18	0	25	47	5	0	9	62	19	0	50	112	58	0	610	2481
8:15 AM	59	107	22	0	29	43	10	0	15	90	15	0	43	99	43	0	575	2417
8:30 AM	56	104	9	0	19	49	8	0	13	66	8	0	17	82	26	0	457	2219
8:45 AM	40	100	12	0	25	29	6	0	11	64	11	0	24	75	24	0	421	2063
Peak Hour Total	**412**	**446**	**119**	**1**	**79**	**111**	**17**	**0**	**32**	**350**	**76**	**0**	**164**	**509**	**166**	**0**	**2481**	



	Sossaman Road				Sossaman Road				Pecos Road				Pecos Road					
	Northbound				Southbound				Eastbound				Westbound				Total	Peak Hour
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
3:00 PM	50	38	20	0	42	82	11	0	4	113	28	0	35	106	18	0	547	
3:15 PM	56	50	19	0	47	94	8	0	2	93	22	0	62	63	14	0	530	
3:30 PM	57	38	27	0	41	83	12	0	1	110	22	0	48	103	17	0	559	
3:45 PM	73	42	29	0	37	97	9	0	8	119	39	0	49	92	10	0	604	2240
4:00 PM	68	38	13	0	33	90	9	0	0	102	56	0	58	98	13	0	578	2271
4:15 PM	37	38	13	0	57	85	6	0	6	152	37	0	45	105	14	0	595	2336
4:30 PM	50	35	19	0	53	104	10	0	2	99	22	0	34	115	11	0	554	2331
4:45 PM	44	38	27	0	30	86	5	0	3	125	30	0	51	79	4	0	522	2249
5:00 PM	46	32	28	0	37	93	3	0	4	134	27	0	52	86	6	0	548	2219
5:15 PM	50	43	17	0	31	92	11	1	0	112	35	0	37	69	9	0	506	2130
5:30 PM	48	23	18	0	23	76	8	0	5	127	42	0	27	111	11	0	519	2095
5:45 PM	33	28	37	0	29	92	3	0	0	119	25	0	46	50	5	0	467	2040
6:00 PM	34	27	20	0	25	62	5	0	4	98	26	0	56	84	14	0	455	1947
6:15 PM	42	17	32	0	16	38	4	0	1	131	21	0	25	51	4	0	382	1823
6:30 PM	32	22	21	0	12	46	5	0	0	61	24	0	42	46	4	0	315	1619
6:45 PM	19	23	15	0	10	37	2	0	3	81	22	0	34	45	13	0	304	1456
Peak Hour Total	**235**	**156**	**82**	**0**	**168**	**355**	**36**	**0**	**15**	**483**	**154**	**0**	**200**	**398**	**54**	**0**	**2336**	

United Civil Group

Turning Movement Count

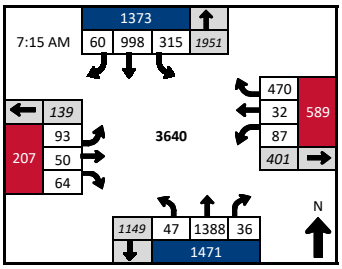
Project No: TC25106

August 27, 2025 (Wednesday)

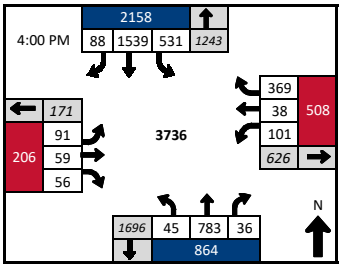
Location: Power Road
and Rittenhouse Road

Intersection Configuration: Signalized

	Speed Limit	Lt	Lt\T	T	T/Rt	Rt	Lt/T/Rt	Lt/Rt
Northbound		1		2	1			
Southbound		1		2	1			
Eastbound		1		1	1			
Westbound		1		1		1		



	Power Road Northbound				Power Road Southbound				Rittenhouse Road Eastbound				Rittenhouse Road Westbound				Total	Peak Hour
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
6:00 AM	2	132	6	0	26	75	1	0	12	3	4	0	4	6	82	0	353	
6:15 AM	6	151	2	0	55	106	2	0	15	3	3	0	3	7	93	0	446	
6:30 AM	3	278	3	0	53	132	7	0	22	5	7	0	6	8	127	0	651	
6:45 AM	17	326	7	1	75	187	16	2	24	17	13	0	7	6	128	0	823	2273
7:00 AM	26	338	11	3	52	163	7	2	31	9	10	0	17	8	117	0	789	2709
7:15 AM	7	354	4	1	77	246	11	1	20	10	11	0	18	4	103	0	865	3128
7:30 AM	13	367	11	2	72	223	21	0	22	12	12	0	21	8	128	0	910	3387
7:45 AM	17	362	17	0	87	283	13	1	26	18	22	0	17	12	117	0	991	3555
8:00 AM	10	305	4	2	79	246	15	0	25	10	19	0	31	8	122	0	874	3640
8:15 AM	15	285	7	2	68	251	17	0	22	14	12	0	29	8	97	0	825	3600
8:30 AM	12	251	6	2	51	161	9	1	18	8	9	0	23	8	108	0	664	3354
8:45 AM	11	263	13	1	70	190	8	0	21	10	6	0	16	3	116	0	727	3090
Peak Hour Total	**47**	**1388**	**36**	**5**	**315**	**998**	**60**	**2**	**93**	**50**	**64**	**0**	**87**	**32**	**470**	**0**	**3640**	



	Power Road Northbound				Power Road Southbound				Rittenhouse Road Eastbound				Rittenhouse Road Westbound				Total	Peak Hour
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
3:00 PM	12	183	8	0	118	311	17	1	27	9	8	0	16	11	96	0	816	
3:15 PM	12	222	8	0	126	321	18	0	17	16	13	0	13	7	82	0	855	
3:30 PM	16	209	9	0	130	288	20	1	18	16	10	0	34	19	109	0	878	
3:45 PM	16	196	10	0	131	348	15	0	23	10	7	0	24	10	79	0	869	3418
4:00 PM	12	197	9	0	139	384	16	0	18	15	20	0	21	6	109	0	946	3548
4:15 PM	9	177	4	0	130	394	20	0	20	19	11	0	21	11	74	0	890	3583
4:30 PM	17	194	11	0	129	377	32	0	22	13	11	0	29	8	96	0	939	3644
4:45 PM	7	215	12	0	133	384	20	0	31	12	14	1	30	13	90	0	961	3736
5:00 PM	11	209	10	0	101	312	21	0	32	26	7	0	34	8	96	0	867	3657
5:15 PM	15	224	6	0	117	354	24	0	30	20	9	1	13	5	91	0	908	3675
5:30 PM	8	181	8	0	115	305	25	0	20	8	9	0	26	8	87	0	800	3536
5:45 PM	16	218	10	0	120	369	18	1	14	5	7	0	19	5	79	0	880	3455
6:00 PM	5	198	11	0	104	291	25	2	12	9	5	0	25	4	72	0	761	3349
6:15 PM	12	212	3	0	111	286	11	0	13	8	7	0	19	6	79	0	767	3208
6:30 PM	13	161	5	1	78	217	17	0	14	8	7	0	16	9	73	0	618	3026
6:45 PM	13	135	5	0	83	216	15	0	16	7	4	1	20	6	65	0	585	2731
Peak Hour Total	**45**	**783**	**36**	**0**	**531**	**1539**	**88**	**0**	**91**	**59**	**56**	**1**	**101**	**38**	**369**	**0**	**3736**	

United Civil Group

Turning Movement Count

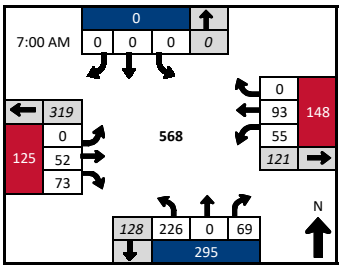
Project No: TC25106

August 27, 2025 (Wednesday)

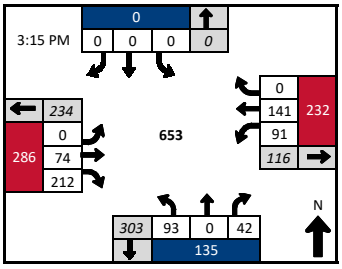
Location: Crismon Road and Pecos Road

Intersection Configuration: Signalized

	Speed Limit	Lt	Lt\T	T	T/Rt	Rt	Lt/T/Rt	Lt/Rt
Northbound		1				1		
Southbound								
Eastbound					1			
Westbound			1					



	Crismon Road				Crismon Road				Pecos Road				Pecos Road					
	Northbound				Southbound				Eastbound				Westbound				Total	Peak Hour
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
6:00 AM	27	0	9	0	0	0	0	0	0	7	12	0	2	9	0	0	66	
6:15 AM	30	0	10	0	0	0	0	0	0	8	8	0	5	6	0	0	67	
6:30 AM	38	0	13	0	0	0	0	0	0	6	22	0	7	23	0	0	109	
6:45 AM	39	0	10	0	0	0	0	0	0	13	20	0	11	18	0	0	111	353
7:00 AM	47	0	12	0	0	0	0	0	0	9	17	0	11	23	0	0	119	406
7:15 AM	52	0	21	0	0	0	0	0	0	23	17	0	15	24	0	0	152	491
7:30 AM	68	0	19	0	0	0	0	0	0	9	20	0	11	31	0	0	158	540
7:45 AM	59	0	17	0	0	0	0	0	0	11	19	0	18	15	0	0	139	568
8:00 AM	39	0	8	0	0	0	0	0	0	14	15	0	11	16	0	0	103	552
8:15 AM	27	0	14	0	0	0	0	0	0	9	11	0	5	11	0	0	77	477
8:30 AM	21	0	7	0	0	0	0	0	0	15	17	0	6	11	0	0	77	396
8:45 AM	11	0	7	0	0	0	0	0	0	6	16	0	14	14	0	0	68	325
Peak Hour Total	**226**	**0**	**69**	**0**	**0**	**0**	**0**	**0**	**0**	**52**	**73**	**0**	**55**	**93**	**0**	**0**	**568**	



	Crismon Road				Crismon Road				Pecos Road				Pecos Road					
	Northbound				Southbound				Eastbound				Westbound				Total	Peak Hour
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
3:00 PM	17	0	8	0	0	0	1	0	1	13	21	0	8	36	0	0	105	
3:15 PM	26	0	11	0	0	0	0	0	0	15	53	0	17	47	0	0	169	
3:30 PM	26	0	5	0	0	0	0	0	0	17	38	0	33	45	0	0	164	
3:45 PM	27	0	11	0	0	0	0	0	0	21	58	0	21	20	0	0	158	596
4:00 PM	14	0	15	0	0	0	0	0	0	21	63	0	20	29	0	0	162	653
4:15 PM	16	0	8	0	0	0	0	0	0	15	78	0	26	21	0	0	164	648
4:30 PM	15	0	16	0	0	0	0	0	0	21	76	0	19	20	0	0	167	651
4:45 PM	20	0	3	0	0	0	0	0	0	17	67	0	21	14	1	0	143	636
5:00 PM	27	0	10	0	0	1	0	0	0	18	65	0	20	10	0	0	151	625
5:15 PM	23	0	7	0	0	0	0	0	0	12	75	0	25	12	0	0	154	615
5:30 PM	10	0	10	0	0	0	0	0	0	13	71	0	28	13	0	0	145	593
5:45 PM	10	0	6	0	0	0	0	0	0	18	41	0	19	14	0	0	108	558
6:00 PM	20	0	5	0	0	0	0	0	0	16	54	0	19	18	0	0	132	539
6:15 PM	16	2	13	0	0	0	0	0	0	11	40	0	10	13	0	0	105	490
6:30 PM	18	0	4	0	0	0	0	0	0	10	27	0	9	12	0	0	80	425
6:45 PM	12	0	6	0	0	0	0	0	0	8	11	0	5	11	0	0	53	370
Peak Hour Total	**93**	**0**	**42**	**0**	**0**	**0**	**0**	**0**	**0**	**74**	**212**	**0**	**91**	**141**	**0**	**0**	**653**	

UCG
United Civil Group

Turning Movement Count

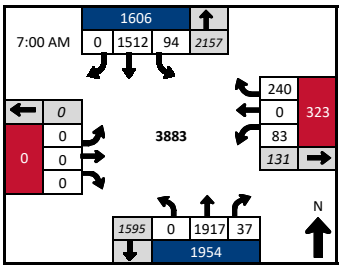
Project No: TC25106

August 27, 2025 (Wednesday)

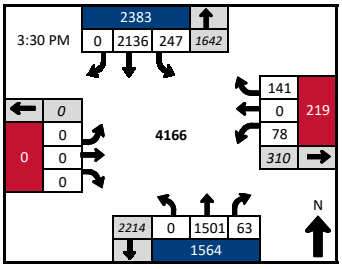
Location: Ellsworth Road
and Pecos Road (North)

Intersection Configuration: Signalized

	Speed Limit	Lt	Lt\T	T	T/Rt	Rt	Lt/T/Rt	Lt/Rt
Northbound				1	1			
Southbound		1		2				
Eastbound								
Westbound		1				1		



	Ellsworth Road				Ellsworth Road				Pecos Road (North)				Pecos Road (North)				Total	Peak Hour
	Northbound				Southbound				Eastbound				Westbound					
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
6:00 AM	0	440	4	0	16	210	0	0	0	0	0	0	4	0	31	0	705	
6:15 AM	0	473	6	0	15	246	0	0	0	0	0	0	4	0	29	0	773	
6:30 AM	0	514	3	0	24	286	0	0	0	0	0	0	16	0	36	0	879	
6:45 AM	0	516	8	0	29	305	0	0	0	0	0	0	16	0	49	0	923	3280
7:00 AM	0	502	6	0	18	362	0	0	0	0	0	0	18	0	48	0	954	3529
7:15 AM	0	478	13	0	29	374	0	0	0	0	0	0	19	0	55	0	968	3724
7:30 AM	0	483	11	0	24	416	0	0	0	0	0	0	28	0	71	0	1033	3878
7:45 AM	0	454	7	0	23	360	0	0	0	0	0	0	18	0	66	0	928	3883
8:00 AM	0	498	8	0	17	321	0	0	0	0	0	0	12	0	41	0	897	3826
8:15 AM	0	466	5	0	17	349	0	0	0	0	0	0	10	0	36	0	883	3741
8:30 AM	0	439	15	0	15	323	0	0	0	0	0	0	5	0	24	0	821	3529
8:45 AM	0	355	2	0	23	295	0	0	0	0	0	0	13	0	23	0	711	3312
Peak Hour Total	**0**	**1917**	**37**	**0**	**94**	**1512**	**0**	**0**	**0**	**0**	**0**	**0**	**83**	**0**	**240**	**0**	**3883**	



	Ellsworth Road				Ellsworth Road				Pecos Road (North)				Pecos Road (North)				Total	Peak Hour
	Northbound				Southbound				Eastbound				Westbound					
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
3:00 PM	0	360	12	0	26	506	0	0	0	0	0	0	13	0	38	0	955	
3:15 PM	0	352	12	0	47	525	0	0	0	0	0	0	20	0	53	0	1009	
3:30 PM	0	358	14	0	41	545	0	0	0	0	0	0	22	0	56	0	1036	
3:45 PM	0	398	25	0	55	539	0	0	0	0	0	0	19	0	32	0	1068	4068
4:00 PM	0	362	13	0	73	513	0	0	0	0	0	0	19	0	29	0	1009	4122
4:15 PM	0	383	11	0	78	539	0	0	0	0	0	0	18	0	24	0	1053	4166
4:30 PM	0	341	18	0	88	460	0	0	0	0	0	0	15	0	20	0	942	4072
4:45 PM	0	375	12	0	70	522	0	0	0	0	0	0	13	0	23	0	1015	4019
5:00 PM	0	346	14	0	65	525	0	0	0	0	0	0	10	0	29	0	989	3999
5:15 PM	0	375	12	0	80	514	0	0	0	0	0	0	8	0	25	0	1014	3960
5:30 PM	0	374	10	0	69	512	0	0	0	0	0	0	18	0	14	0	997	4015
5:45 PM	0	343	17	0	42	551	0	0	0	0	0	0	9	0	11	0	973	3973
6:00 PM	0	337	12	0	55	506	0	0	0	0	0	0	14	0	25	0	949	3933
6:15 PM	0	331	10	0	43	541	0	0	0	0	0	0	9	0	17	0	951	3870
6:30 PM	0	292	10	0	28	414	0	0	0	0	0	0	15	0	23	0	782	3655
6:45 PM	0	287	9	0	10	345	0	0	0	0	0	0	8	0	11	0	670	3352
Peak Hour Total	**0**	**1501**	**63**	**0**	**247**	**2136**	**0**	**0**	**0**	**0**	**0**	**0**	**78**	**0**	**141**	**0**	**4166**	

UCG
United Civil Group

Turning Movement Count

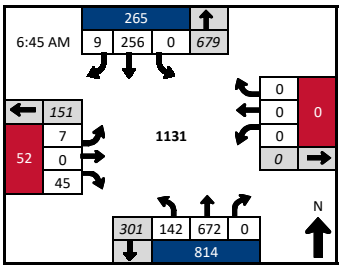
Project No: TC25106

August 27, 2025 (Wednesday)

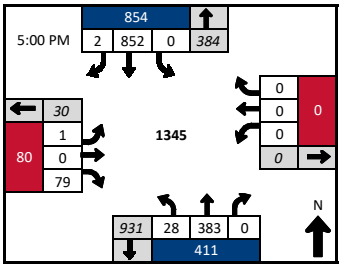
Location: Meridian Road and Pecos Road

Intersection Configuration: Signalized

	Speed Limit	Lt	Lt\T	T	T/Rt	Rt	Lt/T/Rt	Lt/Rt
Northbound		1		1				
Southbound					1			
Eastbound		1				1		
Westbound								



	Meridian Road				Meridian Road				Pecos Road				Pecos Road				Total	Peak Hour
	Northbound				Southbound				Eastbound				Westbound					
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
6:00 AM	10	144	0	0	0	55	7	0	0	0	7	0	0	0	0	0	223	
6:15 AM	22	192	0	0	0	48	5	0	2	0	7	0	0	0	0	0	276	
6:30 AM	20	177	0	0	0	61	4	0	3	0	9	0	0	0	0	0	274	
6:45 AM	34	187	0	0	0	40	1	0	1	0	14	0	0	0	0	0	277	1050
7:00 AM	36	135	0	0	0	66	1	0	1	0	10	0	0	0	0	0	249	1076
7:15 AM	31	176	0	0	0	82	2	0	1	0	10	0	0	0	0	0	302	1102
7:30 AM	41	174	0	0	0	68	5	0	4	0	11	0	0	0	0	0	303	1131
7:45 AM	34	142	0	1	0	72	0	0	0	0	10	0	0	0	0	0	258	1112
8:00 AM	18	143	0	0	0	64	7	0	1	0	14	0	0	0	0	0	247	1110
8:15 AM	10	114	0	0	0	61	2	0	6	0	11	0	0	0	0	0	204	1012
8:30 AM	12	117	0	0	0	65	3	0	2	0	11	0	0	0	0	0	210	919
8:45 AM	4	114	0	0	0	47	0	0	2	0	6	0	0	0	0	0	173	834
Peak Hour Total	**142**	**672**	**0**	**0**	**0**	**256**	**9**	**0**	**7**	**0**	**45**	**0**	**0**	**0**	**0**	**0**	**1131**	



	Meridian Road				Meridian Road				Pecos Road				Pecos Road				Total	Peak Hour
	Northbound				Southbound				Eastbound				Westbound					
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
3:00 PM	9	90	0	0	0	166	0	0	2	0	17	0	0	0	0	0	284	
3:15 PM	7	96	0	0	0	170	1	0	1	0	17	0	0	0	0	0	292	
3:30 PM	7	94	0	0	0	183	2	0	3	0	26	0	0	0	0	0	315	
3:45 PM	6	80	0	0	0	189	0	0	3	0	23	0	0	0	0	0	301	1192
4:00 PM	6	81	0	0	0	188	1	0	8	0	27	0	0	0	0	0	311	1219
4:15 PM	7	112	0	0	0	222	0	0	2	0	24	0	0	0	0	0	367	1294
4:30 PM	5	71	0	0	0	200	0	0	5	0	28	0	0	0	0	0	309	1288
4:45 PM	8	78	0	0	0	190	0	0	0	0	30	0	0	0	0	0	306	1293
5:00 PM	7	122	0	0	0	207	0	0	0	0	20	0	0	0	0	0	356	1338
5:15 PM	5	99	0	0	0	215	1	0	0	0	16	0	0	0	0	0	336	1307
5:30 PM	8	93	0	0	0	214	0	0	1	0	24	0	0	0	0	0	340	1338
5:45 PM	8	69	0	0	0	216	1	0	0	0	19	0	0	0	0	0	313	1345
6:00 PM	5	89	0	0	0	169	0	0	0	0	13	0	0	0	0	0	276	1265
6:15 PM	10	90	0	0	0	175	0	0	0	0	11	0	0	0	0	0	286	1215
6:30 PM	8	70	0	0	0	120	0	0	1	0	6	0	0	0	0	0	205	1080
6:45 PM	5	44	0	0	0	106	1	0	0	0	6	0	0	0	0	0	162	929
Peak Hour Total	**28**	**383**	**0**	**0**	**0**	**852**	**2**	**0**	**1**	**0**	**79**	**0**	**0**	**0**	**0**	**0**	**1345**	

UCG
United Civil Group

Turning Movement Count

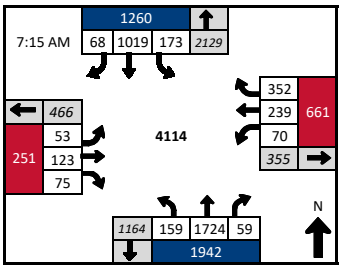
Project No: TC25106

August 27, 2025 (Wednesday)

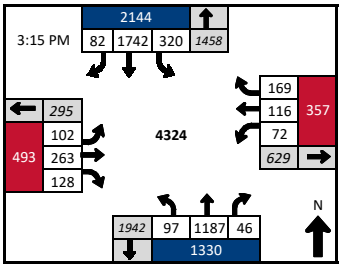
Location: Ellsworth Road and Germann Road

Intersection Configuration: Signalized

	Speed Limit	Lt	Lt\T	T	T/Rt	Rt	Lt/T/Rt	Lt/Rt
Northbound		1		2		1		
Southbound		1		2		1		
Eastbound		1		1	1			
Westbound		1		1		1		



	Ellsworth Road				Ellsworth Road				Germann Road				Germann Road				Total	Peak Hour
	Northbound				Southbound				Eastbound				Westbound					
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
6:00 AM	6	396	2	0	19	156	10	0	4	4	4	0	7	13	41	0	662	
6:15 AM	16	480	0	1	23	161	7	1	6	11	8	0	11	22	60	0	805	
6:30 AM	22	455	3	0	22	188	8	0	11	11	5	0	11	31	73	0	840	
6:45 AM	25	531	4	5	23	218	13	1	5	11	8	0	16	43	59	0	956	3263
7:00 AM	28	451	3	2	26	212	11	1	9	14	14	0	17	59	97	0	941	3542
7:15 AM	49	442	16	0	30	220	13	0	8	12	16	0	17	72	100	0	995	3732
7:30 AM	42	368	18	0	45	250	12	0	19	35	17	0	22	74	93	0	995	3887
7:45 AM	46	468	18	1	51	297	28	0	12	41	24	0	14	48	65	0	1112	4043
8:00 AM	22	446	7	1	47	252	15	0	14	35	18	0	17	45	94	0	1012	4114
8:15 AM	30	423	7	5	31	253	9	0	9	28	6	0	18	27	44	0	885	4004
8:30 AM	11	374	7	2	45	260	9	0	12	26	5	0	17	25	43	0	834	3843
8:45 AM	29	347	7	0	33	234	14	0	7	16	7	0	9	22	58	0	783	3514
Peak Hour Total	**159**	**1724**	**59**	**2**	**173**	**1019**	**68**	**0**	**53**	**123**	**75**	**0**	**70**	**239**	**352**	**0**	**4114**	



	Ellsworth Road				Ellsworth Road				Germann Road				Germann Road				Total	Peak Hour
	Northbound				Southbound				Eastbound				Westbound					
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
3:00 PM	20	293	12	0	82	423	22	0	17	31	21	0	11	32	31	0	995	
3:15 PM	37	315	9	0	73	425	20	0	18	43	23	0	21	41	44	0	1069	
3:30 PM	31	297	9	0	82	444	20	0	19	58	32	0	15	28	46	0	1081	
3:45 PM	14	298	15	0	79	427	19	0	37	87	37	0	19	31	47	0	1110	4255
4:00 PM	15	277	13	0	86	446	23	1	28	75	36	0	17	16	32	1	1064	4324
4:15 PM	20	309	8	0	79	411	18	0	20	61	26	0	12	27	25	0	1016	4271
4:30 PM	14	291	5	0	83	469	16	0	24	48	26	0	20	18	26	0	1040	4230
4:45 PM	24	299	9	0	79	431	16	0	28	37	26	0	16	33	39	0	1037	4157
5:00 PM	18	273	14	0	76	457	11	0	30	58	30	0	11	19	33	0	1030	4123
5:15 PM	16	313	21	0	82	459	13	0	19	60	18	0	18	24	36	0	1079	4186
5:30 PM	15	320	12	0	76	447	8	0	29	61	27	0	23	16	40	0	1074	4220
5:45 PM	12	274	11	0	82	441	11	0	17	45	33	0	12	18	34	0	990	4173
6:00 PM	14	258	8	0	79	442	9	1	20	35	32	0	20	13	23	0	953	4096
6:15 PM	24	276	21	0	66	436	17	0	10	31	10	0	24	15	41	0	971	3988
6:30 PM	12	234	17	0	41	384	7	0	25	22	22	0	19	14	24	0	821	3735
6:45 PM	11	236	13	0	37	311	13	0	21	38	14	0	9	9	21	0	733	3478
Peak Hour Total	**97**	**1187**	**46**	**0**	**320**	**1742**	**82**	**1**	**102**	**263**	**128**	**0**	**72**	**116**	**169**	**1**	**4324**	

United Civil Group

Turning Movement Count

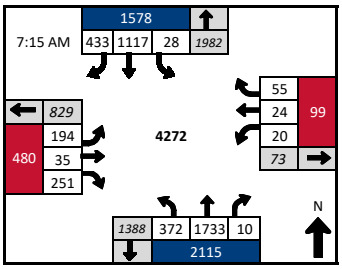
Project No: TC25106

August 27, 2025 (Wednesday)

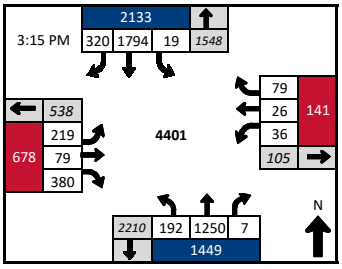
Location: Ellsworth Road and Pecos Road (South)

Intersection Configuration: Signalized

	Speed Limit	Lt	Lt\T	T	T/Rt	Rt	Lt/T/Rt	Lt/Rt
Northbound		1		2		1		
Southbound		1		2		1		
Eastbound		1		1		1		
Westbound		1			1			



	Ellsworth Road				Ellsworth Road				Pecos Road (South)				Pecos Road (South)				Total	Peak Hour
	Northbound				Southbound				Eastbound				Westbound					
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
6:00 AM	24	412	0	0	5	156	40	0	17	1	18	0	0	3	3	0	679	
6:15 AM	53	493	0	0	8	202	43	0	15	4	17	0	2	0	5	0	842	
6:30 AM	72	457	2	0	5	210	67	0	16	2	18	0	0	0	8	0	857	
6:45 AM	92	512	0	0	2	237	100	0	25	2	20	0	1	1	4	0	996	3374
7:00 AM	79	445	3	0	3	215	99	0	40	2	34	0	6	2	10	0	938	3633
7:15 AM	104	469	4	0	5	289	139	1	48	3	48	0	5	4	5	0	1123	3914
7:30 AM	80	395	2	0	9	273	120	0	55	16	85	0	6	4	21	0	1066	4123
7:45 AM	95	432	2	0	11	298	106	0	47	11	66	0	6	8	11	0	1093	4220
8:00 AM	93	437	2	0	3	257	68	0	44	5	52	0	3	8	18	0	990	4272
8:15 AM	57	425	2	2	6	275	65	0	47	5	41	0	8	3	11	0	945	4094
8:30 AM	54	392	2	1	1	266	55	0	43	4	46	0	6	2	9	0	880	3908
8:45 AM	58	350	2	0	9	267	68	0	38	1	30	0	4	2	2	0	831	3646
Peak Hour Total	**372**	**1733**	**10**	**0**	**28**	**1117**	**433**	**1**	**194**	**35**	**251**	**0**	**20**	**24**	**55**	**0**	**4272**	



	Ellsworth Road				Ellsworth Road				Pecos Road (South)				Pecos Road (South)				Total	Peak Hour
	Northbound				Southbound				Eastbound				Westbound					
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
3:00 PM	37	279	0	0	7	420	73	0	58	16	100	0	8	5	17	0	1020	
3:15 PM	47	338	3	0	5	454	105	0	45	9	87	0	13	4	8	0	1118	
3:30 PM	48	290	1	0	5	439	77	0	54	22	104	0	7	9	24	0	1080	
3:45 PM	56	347	1	0	5	460	78	0	53	15	86	0	5	7	20	0	1133	4351
4:00 PM	41	275	2	0	4	441	60	0	67	33	103	0	11	6	27	0	1070	4401
4:15 PM	34	332	0	0	5	480	78	0	53	7	59	0	7	2	11	0	1068	4351
4:30 PM	38	296	1	0	4	436	58	0	58	11	91	0	9	4	13	0	1019	4290
4:45 PM	58	311	5	0	6	474	53	0	51	19	75	0	6	6	21	0	1085	4242
5:00 PM	47	289	1	0	6	446	44	0	60	14	83	0	10	6	19	0	1025	4197
5:15 PM	35	341	0	0	3	469	81	0	58	5	52	0	9	2	6	0	1061	4190
5:30 PM	44	302	3	0	5	470	55	0	58	9	66	0	6	1	9	0	1028	4199
5:45 PM	59	298	2	1	4	465	71	0	58	4	54	0	10	2	4	0	1031	4145
6:00 PM	29	264	1	0	0	466	63	0	75	20	99	0	5	1	18	0	1041	4161
6:15 PM	35	291	0	0	4	443	87	0	44	1	55	0	6	0	3	0	969	4069
6:30 PM	44	231	0	0	11	366	63	0	60	5	72	0	7	0	4	0	863	3904
6:45 PM	43	254	1	0	2	313	56	0	46	5	43	0	4	0	2	0	769	3642
Peak Hour Total	**192**	**1250**	**7**	**0**	**19**	**1794**	**320**	**0**	**219**	**79**	**380**	**0**	**36**	**26**	**79**	**0**	**4401**	

United Civil Group

Turning Movement Count

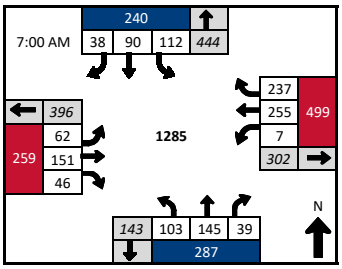
Project No: TC25106

August 27, 2025 (Wednesday)

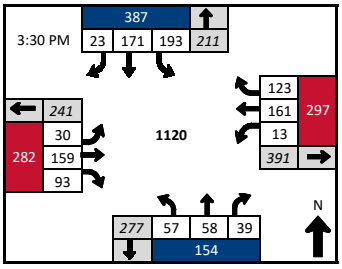
Location: 196th Street and Germann Road

Intersection Configuration: Signalized

	Speed Limit	Lt	Lt\T	T	T/Rt	Rt	Lt/T/Rt	Lt/Rt
Northbound							1	
Southbound			1			1		
Eastbound							1	
Westbound			1			1		



	196th Street Northbound				196th Street Southbound				Germann Road Eastbound				Germann Road Westbound				Total	Peak Hour
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
6:00 AM	9	20	1	0	8	2	0	0	1	15	2	0	0	21	10	0	89	
6:15 AM	6	20	2	0	4	7	1	0	1	13	4	0	0	32	16	0	106	
6:30 AM	16	22	0	0	5	2	3	0	1	9	3	0	3	41	29	0	134	
6:45 AM	9	23	1	0	12	9	0	0	5	20	6	0	0	49	35	0	169	498
7:00 AM	22	32	4	0	16	10	3	0	9	19	7	0	2	49	36	0	209	618
7:15 AM	27	39	10	0	30	19	8	0	16	30	13	0	2	61	77	0	332	844
7:30 AM	30	47	16	0	26	30	13	0	23	59	8	0	1	68	67	0	388	1098
7:45 AM	24	27	9	0	40	31	14	0	14	43	18	0	2	77	57	0	356	1285
8:00 AM	7	19	1	0	25	6	7	0	11	31	9	0	1	49	26	0	192	1268
8:15 AM	13	20	1	0	22	20	0	0	7	26	4	0	0	17	27	0	157	1093
8:30 AM	7	14	3	0	14	10	4	0	5	32	8	0	1	31	17	0	146	851
8:45 AM	6	16	3	0	14	12	1	0	5	27	8	0	1	23	23	0	139	634
Peak Hour Total	**103**	**145**	**39**	**0**	**112**	**90**	**38**	**0**	**62**	**151**	**46**	**0**	**7**	**255**	**237**	**0**	**1285**	



	196th Street Northbound				196th Street Southbound				Germann Road Eastbound				Germann Road Westbound				Total	Peak Hour
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds		
3:00 PM	7	21	1	0	24	27	1	0	9	32	24	0	3	20	44	0	213	
3:15 PM	4	15	3	0	28	33	6	0	11	49	26	0	2	23	28	0	228	
3:30 PM	20	14	20	0	32	43	9	0	17	47	30	0	2	58	49	0	341	
3:45 PM	22	10	15	0	57	52	8	0	7	48	22	0	6	54	27	0	328	1110
4:00 PM	9	14	0	0	48	40	2	0	1	29	18	0	2	26	24	0	213	1110
4:15 PM	6	20	4	21	56	36	4	0	5	35	23	0	3	23	23	0	238	1120
4:30 PM	13	10	4	98	38	33	0	0	4	32	17	1	2	23	15	0	191	970
4:45 PM	9	7	2	59	43	29	1	0	5	40	22	0	2	21	10	0	191	833
5:00 PM	10	10	1	14	36	31	2	0	2	60	16	0	0	29	16	0	213	833
5:15 PM	6	19	5	1	48	41	3	0	4	46	12	0	1	21	15	0	221	816
5:30 PM	6	14	6	1	34	42	4	0	4	51	18	0	1	19	12	0	211	836
5:45 PM	4	13	3	0	29	24	0	0	6	36	11	0	0	14	16	0	156	801
6:00 PM	4	9	1	0	26	31	0	0	3	39	18	0	3	16	11	0	161	749
6:15 PM	7	9	2	73	21	27	0	0	0	24	11	0	3	14	6	0	124	652
6:30 PM	2	18	2	165	9	21	0	0	1	29	15	0	4	11	8	0	120	561
6:45 PM	6	12	2	8	21	21	1	0	5	21	10	0	3	12	3	0	117	522
Peak Hour Total	**57**	**58**	**39**	**21**	**193**	**171**	**23**	**0**	**30**	**159**	**93**	**0**	**13**	**161**	**123**	**0**	**1120**	

United Civil Group

2803 N. 7th Avenue

Street : Power Road
Location : South of Pecos Road
Lat, Long : 33.28625, -111.68625

Site: TC25106
8/27/2025
Wednesday

24 Hour Classification

NB

Interval Start	Total	Motor Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi
00:00	73	0	56	12	0	5	0	0	0	0	0	0	0	0
01:00	34	0	26	7	0	0	0	0	0	1	0	0	0	0
02:00	36	0	27	6	0	2	0	0	0	1	0	0	0	0
03:00	80	0	48	21	0	7	0	0	3	1	0	0	0	0
04:00	304	1	179	82	0	40	0	0	1	1	0	0	0	0
05:00	533	1	296	159	2	63	0	0	10	0	0	2	0	0
06:00	1080	8	687	236	23	85	3	0	28	2	0	8	0	0
07:00	1238	24	719	238	67	64	4	2	71	4	0	32	0	13
08:00	1514	4	915	364	51	96	2	0	62	2	0	17	1	0
09:00	1147	6	724	273	19	73	3	0	31	2	0	15	1	0
10:00	1031	5	638	239	21	78	1	0	34	2	0	11	2	0
11:00	1174	2	761	254	30	69	2	1	34	1	0	19	0	1
12:00	1044	5	669	234	22	60	2	0	39	1	0	12	0	0
13:00	1111	4	681	280	18	72	0	0	43	1	0	12	0	0
14:00	1173	3	750	295	14	63	2	0	26	3	0	16	0	1
15:00	1202	15	778	279	28	53	2	0	39	1	0	6	0	1
16:00	1145	7	772	257	21	44	3	0	31	1	0	9	0	0
17:00	1199	10	780	280	25	62	2	0	32	0	0	8	0	0
18:00	1074	9	762	211	17	46	2	0	22	1	0	4	0	0
19:00	743	12	522	144	8	37	1	0	12	0	0	7	0	0
20:00	667	3	493	128	6	21	0	0	15	0	0	0	0	1
21:00	339	5	258	61	0	14	0	0	1	0	0	0	0	0
22:00	231	3	184	39	0	5	0	0	0	0	0	0	0	0
23:00	117	0	89	15	0	9	0	0	3	1	0	0	0	0
Total	18289	127	11814	4114	372	1068	29	3	537	26	0	178	4	17
%		0.7	64.6	22.5	2.0	5.8	0.2	0.0	2.9	0.1	0.0	1.0	0.0	0.1

United Civil Group

2803 N. 7th Avenue

Street : Power Road
Location : South of Pecos Road
Lat, Long : 33.28625, -111.68625

Site: TC25106
8/27/2025
Wednesday

24 Hour Volume, per Channel

NB

Interval Start				Interval Start		
8/27/2025	00:00	20	73	12:00	259	1044
	00:15	20		12:15	237	
	00:30	16		12:30	269	
	00:45	17		12:45	279	
	01:00	5	34	13:00	264	1111
	01:15	11		13:15	309	
	01:30	12		13:30	280	
	01:45	6		13:45	258	
	02:00	7	36	14:00	284	1173
	02:15	7		14:15	246	
	02:30	9		14:30	306	
	02:45	13		14:45	337	
	03:00	14	80	15:00	312	1202
	03:15	13		15:15	288	
	03:30	20		15:30	291	
	03:45	33		15:45	311	
	04:00	42	304	16:00	280	1145
	04:15	58		16:15	306	
	04:30	98		16:30	269	
	04:45	106		16:45	290	
	05:00	98	533	17:00	300	1199
	05:15	106		17:15	330	
	05:30	148		17:30	302	
	05:45	181		17:45	267	
	06:00	192	1080	18:00	282	1074
	06:15	217		18:15	285	
	06:30	299		18:30	261	
	06:45	372		18:45	246	
	07:00	209	1238	19:00	203	743
	07:15	217		19:15	170	
	07:30	421		19:30	194	
	07:45	391		19:45	176	
	08:00	405	1514	20:00	169	667
	08:15	375		20:15	176	
	08:30	381		20:30	188	
	08:45	353		20:45	134	
	09:00	314	1147	21:00	84	339
	09:15	270		21:15	95	
	09:30	287		21:30	90	
	09:45	276		21:45	70	
	10:00	257	1031	22:00	65	231
	10:15	249		22:15	47	
	10:30	273		22:30	70	
	10:45	252		22:45	49	
	11:00	244	1174	23:00	39	117
	11:15	307		23:15	30	
	11:30	350		23:30	26	
	11:45	273		23:45	22	

24 Hour Total
18289

00:00 - 12:00

12 Hour Count	8244
Peak Hour	07:30
Peak Volume	1592
Factor	0.95

12:00 - 00:00

12 Hour Count	10045
Peak Hour	14:30
Peak Volume	1243

Factor 0.92

United Civil Group

2803 N. 7th Avenue

Street : Power Road
Location : South of Pecos Road
Lat, Long : 33.28652, -111.68644

Site: TC25106
9/3/2025
Wednesday

24 Hour Classification

SB

Interval Start	Total	Motor Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi
00:00	84	0	72	11	0	1	0	0	0	0	0	0	0	0
01:00	51	0	37	9	0	3	0	0	2	0	0	0	0	0
02:00	41	0	24	12	0	3	0	0	0	2	0	0	0	0
03:00	50	0	30	8	0	6	0	0	5	1	0	0	0	0
04:00	84	0	56	15	3	8	0	0	2	0	0	0	0	0
05:00	261	1	162	67	4	19	3	0	4	1	0	0	0	0
06:00	518	2	274	137	13	47	5	2	34	2	1	1	0	0
07:00	1045	9	655	236	30	49	6	4	38	0	0	18	0	0
08:00	1230	4	758	283	52	66	2	1	46	2	0	12	1	3
09:00	837	6	483	218	29	40	4	3	35	4	0	14	0	1
10:00	914	7	566	240	23	45	2	3	22	2	0	3	0	1
11:00	1078	5	682	241	40	57	2	1	39	4	0	7	0	0
12:00	1092	11	669	242	47	69	7	0	33	4	0	10	0	0
13:00	1080	11	663	236	57	49	2	2	46	0	1	13	0	0
14:00	1280	10	809	291	56	45	7	0	47	2	0	13	0	0
15:00	1640	12	1018	377	67	72	2	0	69	1	0	22	0	0
16:00	1746	20	1131	342	80	83	1	1	53	3	0	30	0	2
17:00	1671	22	1084	338	68	60	2	1	69	2	1	23	0	1
18:00	1348	15	932	264	48	42	0	1	29	0	1	15	1	0
19:00	1033	13	713	222	25	33	0	0	18	1	0	8	0	0
20:00	932	6	670	190	16	31	1	0	13	0	0	5	0	0
21:00	605	4	458	110	5	17	0	0	7	0	0	4	0	0
22:00	326	0	252	60	1	10	0	0	2	1	0	0	0	0
23:00	174	2	141	25	0	4	0	0	2	0	0	0	0	0
Total	19120	160	12339	4174	664	859	46	19	615	32	4	198	2	8
%		0.8	64.5	21.8	3.5	4.5	0.2	0.1	3.2	0.2	0.0	1.0	0.0	0.0

United Civil Group

2803 N. 7th Avenue

Street : Power Road
Location : South of Pecos Road
Lat, Long : 33.28652, -111.68644

Site: TC25106
9/3/2025
Wednesday

24 Hour Volume, per Channel

Interval Start	SB		Interval Start	SB	
9/3/2025 00:00	25	84	12:00	261	1092
00:15	22		12:15	255	
00:30	17		12:30	312	
00:45	20		12:45	264	
01:00	15	51	13:00	283	1080
01:15	13		13:15	221	
01:30	10		13:30	304	
01:45	13		13:45	272	
02:00	8	41	14:00	289	1280
02:15	15		14:15	252	
02:30	11		14:30	315	
02:45	7		14:45	424	
03:00	12	50	15:00	420	1640
03:15	9		15:15	392	
03:30	17		15:30	404	
03:45	12		15:45	424	
04:00	11	84	16:00	464	1746
04:15	10		16:15	376	
04:30	27		16:30	451	
04:45	36		16:45	455	
05:00	68	261	17:00	430	1671
05:15	52		17:15	405	
05:30	74		17:30	450	
05:45	67		17:45	386	
06:00	109	518	18:00	372	1348
06:15	132		18:15	343	
06:30	133		18:30	337	
06:45	144		18:45	296	
07:00	212	1045	19:00	271	1033
07:15	214		19:15	261	
07:30	311		19:30	267	
07:45	308		19:45	234	
08:00	338	1230	20:00	227	932
08:15	305		20:15	231	
08:30	330		20:30	235	
08:45	257		20:45	239	
09:00	258	837	21:00	208	605
09:15	213		21:15	164	
09:30	198		21:30	147	
09:45	168		21:45	86	
10:00	255	914	22:00	98	326
10:15	216		22:15	87	
10:30	220		22:30	81	
10:45	223		22:45	60	
11:00	294	1078	23:00	45	174
11:15	126		23:15	49	
11:30	346		23:30	46	
11:45	312		23:45	34	

24 Hour Total
19120

00:00 - 12:00

12 Hour Count	6193
Peak Hour	07:45
Peak Volume	1281
Factor	0.95

12:00 - 00:00

12 Hour Count	12927
Peak Hour	16:00
Peak Volume	1746

Factor 0.94

United Civil Group

2803 N. 7th Avenue

Street : Pecos Road
Location : West of Power Road
Lat, Long : 33.28852, -111.68988

Site: TC25106
9/3/2025
Wednesday

24 Hour Classification

EB

Interval Start	Total	Motor Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi
00:00	37	2	23	8	0	3	1	0	0	0	0	0	0	0
01:00	29	0	13	7	0	7	2	0	0	0	0	0	0	0
02:00	20	0	13	3	0	3	0	0	1	0	0	0	0	0
03:00	50	1	23	6	1	12	2	1	1	2	0	1	0	0
04:00	169	5	80	27	6	37	12	0	2	0	0	0	0	0
05:00	408	6	203	72	6	84	20	1	11	5	0	0	0	0
06:00	398	5	205	89	22	47	2	0	20	6	0	1	1	0
07:00	680	4	371	154	31	69	3	1	35	2	1	9	0	0
08:00	747	2	396	202	36	86	1	1	20	0	0	3	0	0
09:00	500	3	240	148	17	64	0	1	25	0	0	2	0	0
10:00	506	5	265	132	14	61	0	1	21	1	1	4	1	0
11:00	630	2	344	160	26	64	0	2	21	5	0	5	0	1
12:00	655	3	355	176	25	72	4	0	14	2	0	4	0	0
13:00	675	4	373	182	20	73	1	1	18	0	0	3	0	0
14:00	726	6	411	189	27	68	0	0	17	0	0	7	0	1
15:00	913	9	490	262	30	82	1	0	32	2	0	4	0	1
16:00	1038	4	610	260	41	92	0	0	26	1	0	4	0	0
17:00	974	5	575	242	29	96	1	1	18	0	0	7	0	0
18:00	811	5	468	213	29	76	0	0	14	1	0	4	0	1
19:00	632	10	369	171	6	61	0	0	7	0	0	8	0	0
20:00	498	3	303	143	4	39	0	0	5	0	0	1	0	0
21:00	321	1	218	82	2	17	0	0	1	0	0	0	0	0
22:00	135	2	88	33	1	10	0	0	0	0	0	1	0	0
23:00	68	0	50	14	0	4	0	0	0	0	0	0	0	0
Total	11620	87	6486	2975	373	1227	50	10	309	27	2	68	2	4
%		0.7	55.8	25.6	3.2	10.6	0.4	0.1	2.7	0.2	0.0	0.6	0.0	0.0

United Civil Group

2803 N. 7th Avenue

Street : Pecos Road
Location : West of Power Road
Lat, Long : 33.28852, -111.68988

Site: TC25106
9/3/2025
Wednesday

24 Hour Volume, per Channel

	Interval Start	EB		Interval Start	EB	
9/3/2025	00:00	12	37	12:00	215	655
	00:15	10		12:15	126	
	00:30	11		12:30	156	
	00:45	4		12:45	158	
	01:00	10	29	13:00	161	675
	01:15	5		13:15	184	
	01:30	10		13:30	179	
	01:45	4		13:45	151	
	02:00	6	20	14:00	133	726
	02:15	5		14:15	161	
	02:30	4		14:30	221	
	02:45	5		14:45	211	
	03:00	5	50	15:00	222	913
	03:15	7		15:15	204	
	03:30	12		15:30	255	
	03:45	26		15:45	232	
	04:00	34	169	16:00	280	1038
	04:15	25		16:15	233	
	04:30	54		16:30	255	
	04:45	56		16:45	270	
	05:00	96	408	17:00	246	974
	05:15	67		17:15	249	
	05:30	121		17:30	246	
	05:45	124		17:45	233	
	06:00	124	398	18:00	242	811
	06:15	79		18:15	212	
	06:30	80		18:30	190	
	06:45	115		18:45	167	
	07:00	136	680	19:00	187	632
	07:15	166		19:15	141	
	07:30	209		19:30	154	
	07:45	169		19:45	150	
	08:00	195	747	20:00	120	498
	08:15	213		20:15	102	
	08:30	169		20:30	128	
	08:45	170		20:45	148	
	09:00	116	500	21:00	96	321
	09:15	118		21:15	95	
	09:30	129		21:30	73	
	09:45	137		21:45	57	
	10:00	131	506	22:00	45	135
	10:15	122		22:15	28	
	10:30	107		22:30	30	
	10:45	146		22:45	32	
	11:00	150	630	23:00	20	68
	11:15	127		23:15	18	
	11:30	164		23:30	11	
	11:45	189		23:45	19	

24 Hour Total
11620

00:00 - 12:00

12 Hour Count	4174
Peak Hour	07:30
Peak Volume	786
Factor	0.92

12:00 - 00:00

12 Hour Count	7446
Peak Hour	16:00
Peak Volume	1038
Factor	0.93

United Civil Group

2803 N. 7th Avenue

Street : Pecos Road
Location : West of Power Road
Lat, Long : 33.28852, -111.68988

Site: TC25106
9/3/2025
Wednesday

24 Hour Classification

WB

Interval Start	Total	Motor Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi
00:00	45	4	28	4	1	5	2	0	1	0	0	0	0	0
01:00	30	0	19	3	1	7	0	0	0	0	0	0	0	0
02:00	28	0	14	6	0	7	1	0	0	0	0	0	0	0
03:00	44	2	25	8	2	7	0	0	0	0	0	0	0	0
04:00	143	9	69	22	7	28	5	0	3	0	0	0	0	0
05:00	323	27	154	56	10	53	8	1	8	1	3	1	0	1
06:00	611	41	334	75	41	79	13	0	15	9	2	0	0	2
07:00	1064	79	533	136	90	146	22	2	28	6	8	6	0	8
08:00	801	58	412	96	48	122	32	0	18	10	4	1	0	0
09:00	799	40	408	104	55	129	17	2	20	14	8	1	0	1
10:00	788	42	392	103	51	150	12	2	18	7	8	0	0	3
11:00	551	28	273	84	36	93	9	0	19	3	3	2	0	1
12:00	792	29	393	119	25	184	11	0	17	6	6	0	0	2
13:00	739	1	452	168	23	66	3	0	16	3	0	6	0	1
14:00	911	6	545	233	34	57	0	0	24	4	0	8	0	0
15:00	845	5	522	189	23	71	1	0	25	1	0	7	0	1
16:00	810	4	511	186	11	69	1	0	23	2	0	3	0	0
17:00	763	15	487	160	15	67	1	0	12	1	0	5	0	0
18:00	694	7	445	165	12	46	0	0	13	0	0	6	0	0
19:00	475	2	296	125	4	35	0	0	10	2	0	1	0	0
20:00	445	3	270	122	3	36	0	0	8	0	0	3	0	0
21:00	227	2	167	50	1	7	0	0	0	0	0	0	0	0
22:00	138	2	107	20	1	6	0	0	1	0	0	1	0	0
23:00	63	1	43	13	0	6	0	0	0	0	0	0	0	0
Total	12129	407	6899	2247	494	1476	138	7	279	69	42	51	0	20
%		3.4	56.9	18.5	4.1	12.2	1.1	0.1	2.3	0.6	0.3	0.4	0.0	0.2

United Civil Group

2803 N. 7th Avenue

Street : Pecos Road
Location : West of Power Road
Lat, Long : 33.28852, -111.68988

Site: TC25106
9/3/2025
Wednesday

24 Hour Volume, per Channel

Interval Start				WB Interval Start			
9/3/2025	00:00	15	45	12:00	186	792	
	00:15	8		12:15	210		
	00:30	8		12:30	190		
	00:45	14		12:45	206		
	01:00	10	30	13:00	192	739	
	01:15	10		13:15	166		
	01:30	8		13:30	188		
	01:45	2		13:45	193		
	02:00	8	28	14:00	232	911	
	02:15	2		14:15	245		
	02:30	8		14:30	173		
	02:45	10		14:45	261		
	03:00	7	44	15:00	224	845	
	03:15	8		15:15	205		
	03:30	13		15:30	188		
	03:45	16		15:45	228		
	04:00	17	143	16:00	214	810	
	04:15	30		16:15	226		
	04:30	51		16:30	167		
	04:45	45		16:45	203		
	05:00	61	323	17:00	198	763	
	05:15	59		17:15	201		
	05:30	70		17:30	180		
	05:45	133		17:45	184		
	06:00	88	611	18:00	192	694	
	06:15	169		18:15	173		
	06:30	147		18:30	150		
	06:45	207		18:45	179		
	07:00	266	1064	19:00	130	475	
	07:15	292		19:15	123		
	07:30	213		19:30	120		
	07:45	293		19:45	102		
	08:00	245	801	20:00	91	445	
	08:15	229		20:15	123		
	08:30	183		20:30	121		
	08:45	144		20:45	110		
	09:00	215	799	21:00	79	227	
	09:15	181		21:15	53		
	09:30	204		21:30	50		
	09:45	199		21:45	45		
	10:00	182	788	22:00	45	138	
	10:15	210		22:15	34		
	10:30	191		22:30	27		
	10:45	205		22:45	32		
	11:00	55	551	23:00	20	63	
	11:15	124		23:15	14		
	11:30	177		23:30	21		
	11:45	195		23:45	8		

24 Hour Total
12129

00:00 - 12:00

12 Hour Count	5227
Peak Hour	07:00
Peak Volume	1064
Factor	0.91

12:00 - 00:00

12 Hour Count	6902
Peak Hour	14:00
Peak Volume	911

Factor 0.87

United Civil Group

2803 N. 7th Avenue

Street : Sossaman Road
Location : North of Pecos Road
Lat, Long : 33.28760, -111.66949

Site: TC25106
9/3/2025
Wednesday

24 Hour Classification

SB

Interval Start	Total	Motor Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi
00:00	16	0	7	8	0	1	0	0	0	0	0	0	0	0
01:00	11	0	7	3	0	1	0	0	0	0	0	0	0	0
02:00	11	0	8	2	0	1	0	0	0	0	0	0	0	0
03:00	2	0	1	0	0	1	0	0	0	0	0	0	0	0
04:00	10	0	5	4	0	1	0	0	0	0	0	0	0	0
05:00	41	0	19	9	0	11	1	1	0	0	0	0	0	0
06:00	85	3	44	21	3	10	0	1	3	0	0	0	0	0
07:00	181	7	97	53	1	17	0	3	3	0	0	0	0	0
08:00	209	1	126	54	7	16	0	3	2	0	0	0	0	0
09:00	166	2	92	46	1	19	0	3	2	1	0	0	0	0
10:00	186	5	115	38	2	17	1	4	4	0	0	0	0	0
11:00	272	4	169	68	3	25	0	2	1	0	0	0	0	0
12:00	252	3	142	75	3	20	0	5	3	1	0	0	0	0
13:00	256	1	156	67	3	21	1	2	5	0	0	0	0	0
14:00	309	2	184	73	4	44	0	0	1	1	0	0	0	0
15:00	482	3	294	131	4	41	0	0	8	0	0	1	0	0
16:00	449	1	284	104	10	39	0	0	10	0	0	1	0	0
17:00	475	1	302	115	3	47	0	0	5	0	0	2	0	0
18:00	312	2	218	58	1	33	0	0	0	0	0	0	0	0
19:00	187	0	122	40	0	24	0	0	1	0	0	0	0	0
20:00	191	0	124	48	0	18	0	0	1	0	0	0	0	0
21:00	83	0	62	11	0	10	0	0	0	0	0	0	0	0
22:00	66	0	47	11	0	7	0	0	1	0	0	0	0	0
23:00	35	0	20	10	0	5	0	0	0	0	0	0	0	0
Total	4287	35	2645	1049	45	429	3	24	50	3	0	4	0	0
%		0.8	61.7	24.5	1.0	10.0	0.1	0.6	1.2	0.1	0.0	0.1	0.0	0.0

United Civil Group

2803 N. 7th Avenue

Street : Sossaman Road
Location : North of Pecos Road
Lat, Long : 33.28760, -111.66949

Site: TC25106
9/3/2025
Wednesday

24 Hour Classification

NB

Interval Start	Total	Motor Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi
00:00	5	0	3	2	0	0	0	0	0	0	0	0	0	0
01:00	3	0	2	0	0	1	0	0	0	0	0	0	0	0
02:00	4	0	2	1	0	1	0	0	0	0	0	0	0	0
03:00	27	0	12	9	0	6	0	0	0	0	0	0	0	0
04:00	108	0	65	34	0	9	0	0	0	0	0	0	0	0
05:00	257	3	147	79	1	24	0	0	3	0	0	0	0	0
06:00	353	0	213	91	7	30	1	0	4	7	0	0	0	0
07:00	522	1	348	127	8	31	0	0	6	1	0	0	0	0
08:00	619	4	415	142	12	34	1	0	6	5	0	0	0	0
09:00	255	2	166	62	3	18	1	0	2	1	0	0	0	0
10:00	244	1	158	60	8	14	0	0	3	0	0	0	0	0
11:00	200	0	129	48	6	12	0	0	4	1	0	0	0	0
12:00	210	3	120	56	12	13	0	0	3	3	0	0	0	0
13:00	225	1	144	61	5	8	0	0	4	2	0	0	0	0
14:00	222	0	127	67	5	20	0	0	3	0	0	0	0	0
15:00	267	3	183	60	3	15	1	0	2	0	0	0	0	0
16:00	220	1	142	54	3	17	0	0	3	0	0	0	0	0
17:00	198	4	125	51	3	13	0	0	2	0	0	0	0	0
18:00	136	0	90	37	0	9	0	0	0	0	0	0	0	0
19:00	119	1	78	31	1	6	0	0	2	0	0	0	0	0
20:00	84	0	67	14	0	3	0	0	0	0	0	0	0	0
21:00	38	1	25	9	0	3	0	0	0	0	0	0	0	0
22:00	11	0	5	5	0	1	0	0	0	0	0	0	0	0
23:00	7	0	4	2	0	1	0	0	0	0	0	0	0	0
Total	4334	25	2770	1102	77	289	4	0	47	20	0	0	0	0
%		0.6	63.9	25.4	1.8	6.7	0.1	0.0	1.1	0.5	0.0	0.0	0.0	0.0

United Civil Group

2803 N. 7th Avenue

Street : Sossaman Road
Location : North of Pecos Road
Lat, Long : 33.28760, -111.66949

Site: TC25106
9/3/2025
Wednesday

24 Hour Volume

Interval Start	SB		NB		Combined	
00:00	5	16	1	5	6	21
00:15	6		0		6	
00:30	2		2		4	
00:45	3		2		5	
01:00	3	11	2	3	5	14
01:15	3		0		3	
01:30	1		1		2	
01:45	4		0		4	
02:00	8	11	2	4	10	15
02:15	2		0		2	
02:30	1		1		2	
02:45	0		1		1	
03:00	0	2	4	27	4	29
03:15	1		4		5	
03:30	1		5		6	
03:45	0		14		14	
04:00	3	10	12	108	15	118
04:15	2		12		14	
04:30	1		31		32	
04:45	4		53		57	
05:00	14	41	44	257	58	298
05:15	5		50		55	
05:30	11		62		73	
05:45	11		101		112	
06:00	11	85	113	353	124	438
06:15	17		75		92	
06:30	31		80		111	
06:45	26		85		111	
07:00	32	181	121	522	153	703
07:15	46		120		166	
07:30	53		132		185	
07:45	50		149		199	
08:00	47	209	151	619	198	828
08:15	54		189		243	
08:30	68		141		209	
08:45	40		138		178	
09:00	63	166	90	255	153	421
09:15	44		62		106	
09:30	30		61		91	
09:45	29		42		71	
10:00	38	186	76	244	114	430
10:15	47		68		115	
10:30	57		58		115	
10:45	44		42		86	
11:00	40	272	15	200	55	472
11:15	89		39		128	
11:30	82		86		168	
11:45	61		60		121	
12:00	84	252	59	210	143	462
12:15	58		53		111	
12:30	55		46		101	
12:45	55		52		107	
13:00	46	256	59	225	105	481
13:15	58		56		114	
13:30	89		62		151	
13:45	63		48		111	
14:00	67	309	44	222	111	531
14:15	64		35		99	
14:30	74		45		119	
14:45	104		98		202	
15:00	112	482	88	267	200	749
15:15	118		64		182	
15:30	145		68		213	
15:45	107		47		154	
16:00	113	449	53	220	166	669
16:15	128		62		190	
16:30	97		55		152	
16:45	111		50		161	
17:00	121	475	58	198	179	673
17:15	126		47		173	
17:30	111		48		159	
17:45	117		45		162	
18:00	94	312	32	136	126	448
18:15	70		35		105	
18:30	62		35		97	
18:45	86		34		120	
19:00	51	187	40	119	91	306
19:15	55		36		91	
19:30	52		20		72	
19:45	29		23		52	
20:00	60	191	21	84	81	275
20:15	37		23		60	
20:30	54		24		78	
20:45	40		16		56	
21:00	26	83	17	38	43	121
21:15	28		10		38	
21:30	19		5		24	
21:45	10		6		16	
22:00	25	66	6	11	31	77
22:15	14		2		16	
22:30	19		1		20	
22:45	8		2		10	
23:00	6	35	1	7	7	42
23:15	14		2		16	
23:30	8		2		10	
23:45	7		2		9	

Volume Totals

	SB	NB	Combined
00:00 - 12:00	1190	2597	3787
	(31.4%)	(68.6%)	
12:00 - 00:00	3097	1737	4834
	(64.1%)	(35.9%)	
24 Hours	4287	4334	8621
	(49.7%)	(50.3%)	

Peak Hours

00:00 - 12:00

	SB	NB	Combined
Started	11:00	07:45	07:45
Volume	272	630	849
Factor	0.76	0.83	0.87

12:00 - 00:00

	SB	NB	Combined
Started	15:30	14:45	14:45
Volume	493	318	797
Factor	0.85	0.81	0.94

United Civil Group

2803 N. 7th Avenue

Street : Ellsworth Road
Location : North of Pecos Road (South intersection)
Lat, Long : 33.29047, -111.63508

Site: TC25106
8/27/2025
Wednesday

24 Hour Classification

NB

Interval Start	Total	Motor Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi
00:00	84	1	67	11	0	5	0	0	0	0	0	0	0	0
01:00	83	0	65	10	0	5	2	0	0	1	0	0	0	0
02:00	126	1	67	38	0	7	5	0	3	2	0	3	0	0
03:00	303	2	164	86	0	38	6	0	3	3	0	1	0	0
04:00	797	7	395	236	5	109	6	0	26	3	0	10	0	0
05:00	1262	15	667	338	18	138	4	0	48	9	0	25	0	0
06:00	1655	12	953	394	44	143	10	0	63	4	0	29	0	3
07:00	1811	19	1128	390	40	113	7	3	75	5	0	27	1	3
08:00	1653	11	970	435	41	99	7	1	54	11	0	24	0	0
09:00	1318	8	757	335	24	117	5	2	42	10	0	18	0	0
10:00	1239	12	700	337	24	104	8	0	44	2	0	8	0	0
11:00	1249	6	712	346	32	85	2	1	38	12	0	14	0	1
12:00	1225	4	676	339	34	99	0	1	44	3	2	22	0	1
13:00	1162	5	640	314	33	103	3	0	45	5	0	14	0	0
14:00	1245	6	715	325	36	85	2	1	58	5	0	12	0	0
15:00	1323	3	827	318	35	69	2	0	51	4	0	8	1	5
16:00	1338	8	861	304	40	64	3	0	37	3	0	18	0	0
17:00	1362	12	909	309	33	49	1	1	30	2	0	15	0	1
18:00	1339	11	929	285	15	63	1	0	24	3	0	7	0	1
19:00	933	10	665	186	14	38	0	0	17	0	0	3	0	0
20:00	920	7	654	195	7	40	2	0	12	1	0	2	0	0
21:00	550	2	413	103	0	22	0	0	8	1	0	1	0	0
22:00	302	2	236	49	0	10	0	0	2	3	0	0	0	0
23:00	167	0	144	17	1	1	0	0	3	1	0	0	0	0
Total	23446	164	14314	5700	476	1606	76	10	727	93	2	261	2	15
%		0.7	61.1	24.3	2.0	6.8	0.3	0.0	3.1	0.4	0.0	1.1	0.0	0.1

United Civil Group

2803 N. 7th Avenue

Street : Ellsworth Road
Location : North of Pecos Road (South intersection)
Lat, Long : 33.29047, -111.63508

Site: TC25106
8/27/2025
Wednesday

24 Hour Volume, per Channel

NB

Interval Start				Interval Start		
8/27/2025	00:00	19	84	12:00	277	1225
	00:15	28		12:15	312	
	00:30	26		12:30	324	
	00:45	11		12:45	312	
	01:00	23	83	13:00	272	1162
	01:15	20		13:15	298	
	01:30	18		13:30	305	
	01:45	22		13:45	287	
	02:00	28	126	14:00	304	1245
	02:15	35		14:15	305	
	02:30	33		14:30	297	
	02:45	30		14:45	339	
	03:00	41	303	15:00	330	1323
	03:15	57		15:15	336	
	03:30	84		15:30	307	
	03:45	121		15:45	350	
	04:00	119	797	16:00	334	1338
	04:15	174		16:15	332	
	04:30	236		16:30	327	
	04:45	268		16:45	345	
	05:00	263	1262	17:00	316	1362
	05:15	309		17:15	345	
	05:30	319		17:30	368	
	05:45	371		17:45	333	
	06:00	369	1655	18:00	331	1339
	06:15	408		18:15	344	
	06:30	434		18:30	332	
	06:45	444		18:45	332	
	07:00	467	1811	19:00	247	933
	07:15	442		19:15	233	
	07:30	442		19:30	229	
	07:45	460		19:45	224	
	08:00	401	1653	20:00	261	920
	08:15	430		20:15	248	
	08:30	404		20:30	209	
	08:45	418		20:45	202	
	09:00	307	1318	21:00	165	550
	09:15	336		21:15	138	
	09:30	324		21:30	125	
	09:45	351		21:45	122	
	10:00	307	1239	22:00	88	302
	10:15	287		22:15	84	
	10:30	306		22:30	69	
	10:45	339		22:45	61	
	11:00	287	1249	23:00	47	167
	11:15	328		23:15	44	
	11:30	311		23:30	33	
	11:45	323		23:45	43	

24 Hour Total
23446

00:00 - 12:00

12 Hour Count	11580
Peak Hour	07:00
Peak Volume	1811
Factor	0.97

12:00 - 00:00

12 Hour Count	11866
Peak Hour	17:15
Peak Volume	1377

Factor 0.94

United Civil Group

2803 N. 7th Avenue

Street : Ellsworth Road
Location : North of Pecos Road
Lat, Long : 33.29126, -111.63498

Site: TC25106
9/3/2025
Wednesday

24 Hour Classification

SB

Interval Start	Total	Motor Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi
00:00	130	0	90	27	0	10	0	0	3	0	0	0	0	0
01:00	106	0	65	24	0	4	1	4	2	6	0	0	0	0
02:00	127	3	70	30	1	7	1	7	3	5	0	0	0	0
03:00	165	3	71	47	5	21	0	5	4	9	0	0	0	0
04:00	294	5	134	88	2	31	4	10	12	8	0	0	0	0
05:00	679	2	307	241	11	59	7	5	33	11	0	3	0	0
06:00	954	4	456	310	19	79	6	4	58	8	0	9	0	1
07:00	1425	8	840	368	27	95	4	4	54	13	0	12	0	0
08:00	1258	6	705	333	38	96	5	2	51	13	1	7	1	0
09:00	1091	9	587	295	26	85	6	2	50	11	2	18	0	0
10:00	1099	3	622	312	17	81	2	1	41	8	0	10	1	1
11:00	1278	6	732	348	28	84	3	1	55	12	0	9	0	0
12:00	1297	6	755	338	30	95	3	0	43	12	0	15	0	0
13:00	1392	5	835	348	35	86	0	2	53	14	0	12	1	1
14:00	1585	6	945	419	31	107	1	0	57	4	1	14	0	0
15:00	1884	14	1143	473	43	124	3	1	60	2	0	19	0	2
16:00	1536	14	878	343	60	104	1	1	90	3	1	36	1	4
17:00	1703	15	1058	362	55	91	4	0	81	3	0	32	0	2
18:00	1799	6	1241	388	12	83	2	0	37	6	0	23	0	1
19:00	1221	5	846	270	13	56	1	0	23	2	0	5	0	0
20:00	1217	7	833	266	13	57	0	0	26	1	0	14	0	0
21:00	657	3	477	128	2	31	0	0	11	1	0	4	0	0
22:00	395	1	288	81	1	18	1	0	2	1	0	2	0	0
23:00	265	3	197	52	1	7	0	0	3	2	0	0	0	0
Total	23557	134	14175	5891	470	1511	55	49	852	155	5	244	4	12
%		0.6	60.2	25.0	2.0	6.4	0.2	0.2	3.6	0.7	0.0	1.0	0.0	0.1

United Civil Group

2803 N. 7th Avenue

Street : Ellsworth Road
Location : North of Pecos Road
Lat, Long : 33.29126, -111.63498

Site: TC25106
9/3/2025
Wednesday

24 Hour Volume, per Channel

SB

Interval Start				Interval Start		
9/3/2025	00:00	43	130	12:00	321	1297
	00:15	32		12:15	306	
	00:30	24		12:30	333	
	00:45	31		12:45	337	
	01:00	31	106	13:00	316	1392
	01:15	32		13:15	364	
	01:30	20		13:30	342	
	01:45	23		13:45	370	
	02:00	24	127	14:00	370	1585
	02:15	27		14:15	373	
	02:30	35		14:30	417	
	02:45	41		14:45	425	
	03:00	38	165	15:00	439	1884
	03:15	42		15:15	482	
	03:30	30		15:30	443	
	03:45	55		15:45	520	
	04:00	47	294	16:00	450	1536
	04:15	48		16:15	351	
	04:30	75		16:30	370	
	04:45	124		16:45	365	
	05:00	162	679	17:00	481	1703
	05:15	126		17:15	322	
	05:30	183		17:30	420	
	05:45	208		17:45	480	
	06:00	235	954	18:00	460	1799
	06:15	191		18:15	503	
	06:30	241		18:30	443	
	06:45	287		18:45	393	
	07:00	294	1425	19:00	313	1221
	07:15	353		19:15	307	
	07:30	382		19:30	301	
	07:45	396		19:45	300	
	08:00	348	1258	20:00	301	1217
	08:15	300		20:15	285	
	08:30	325		20:30	273	
	08:45	285		20:45	358	
	09:00	276	1091	21:00	214	657
	09:15	255		21:15	158	
	09:30	279		21:30	145	
	09:45	281		21:45	140	
	10:00	292	1099	22:00	112	395
	10:15	284		22:15	94	
	10:30	265		22:30	100	
	10:45	258		22:45	89	
	11:00	303	1278	23:00	72	265
	11:15	296		23:15	65	
	11:30	335		23:30	74	
	11:45	344		23:45	54	

24 Hour Total
23557

00:00 - 12:00

12 Hour Count	8606
Peak Hour	07:15
Peak Volume	1479
Factor	0.93

12:00 - 00:00

12 Hour Count	14951
Peak Hour	15:15
Peak Volume	1895

Factor 0.91

United Civil Group

2803 N. 7th Avenue

Street : Crismon Road
Location : South of Pecos Road
Lat, Long : 33.288535, -111.617727

Site: TC25106
8/27/2025
Wednesday

24 Hour Classification

NB

Interval Start	Total	Motor Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi
00:00	17	3	0	0	0	1	1	8	0	4	0	0	0	0
01:00	15	3	0	1	0	3	1	5	0	2	0	0	0	0
02:00	17	0	10	4	0	1	0	1	0	1	0	0	0	0
03:00	13	1	3	3	0	1	0	4	0	1	0	0	0	0
04:00	41	1	19	13	1	6	0	0	0	1	0	0	0	0
05:00	93	0	46	18	3	18	2	1	1	4	0	0	0	0
06:00	152	2	77	43	6	17	1	0	1	4	1	0	0	0
07:00	257	1	164	59	2	24	1	1	1	4	0	0	0	0
08:00	159	1	96	41	1	16	1	0	1	2	0	0	0	0
09:00	82	0	40	27	1	8	1	0	3	2	0	0	0	0
10:00	78	1	38	23	0	9	2	0	3	2	0	0	0	0
11:00	89	0	39	25	4	16	1	0	2	2	0	0	0	0
12:00	95	0	50	24	2	12	1	0	2	4	0	0	0	0
13:00	82	0	42	25	0	11	1	0	3	0	0	0	0	0
14:00	110	1	59	35	1	5	1	0	4	4	0	0	0	0
15:00	122	0	76	31	2	10	1	0	0	2	0	0	0	0
16:00	127	4	79	32	1	9	0	0	0	2	0	0	0	0
17:00	117	1	62	36	0	14	0	0	0	4	0	0	0	0
18:00	98	0	64	20	0	10	2	0	0	2	0	0	0	0
19:00	51	0	30	13	0	3	0	0	0	5	0	0	0	0
20:00	37	0	23	10	0	2	0	0	0	2	0	0	0	0
21:00	11	0	8	1	0	1	0	0	0	1	0	0	0	0
22:00	9	1	2	1	1	0	0	0	0	4	0	0	0	0
23:00	8	0	2	3	0	0	1	1	0	1	0	0	0	0
Total	1880	20	1029	488	25	197	18	21	21	60	1	0	0	0
%		1.1	54.7	26.0	1.3	10.5	1.0	1.1	1.1	3.2	0.1	0.0	0.0	0.0

United Civil Group

2803 N. 7th Avenue

Street : Crismon Road
Location : South of Pecos Road
Lat, Long : 33.288535, -111.617727

Site: TC25106
8/27/2025
Wednesday

24 Hour Classification

SB

Interval Start	Total	Motor Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi
00:00	13	1	0	0	0	1	11	0	0	0	0	0	0	0
01:00	14	1	0	1	0	4	5	0	1	2	0	0	0	0
02:00	11	1	2	0	0	1	6	1	0	0	0	0	0	0
03:00	8	0	2	1	0	1	4	0	0	0	0	0	0	0
04:00	24	0	10	5	0	5	4	0	0	0	0	0	0	0
05:00	49	0	24	12	0	9	1	0	1	1	1	0	0	0
06:00	61	0	31	10	3	13	1	0	2	1	0	0	0	0
07:00	99	1	46	25	0	23	1	0	0	3	0	0	0	0
08:00	121	0	62	31	5	18	2	0	2	1	0	0	0	0
09:00	70	1	29	20	1	15	0	0	1	3	0	0	0	0
10:00	64	1	22	14	2	20	1	0	3	1	0	0	0	0
11:00	82	0	35	22	3	18	0	0	3	1	0	0	0	0
12:00	99	1	55	22	1	11	2	0	3	3	1	0	0	0
13:00	109	0	43	19	8	26	2	0	7	4	0	0	0	0
14:00	109	1	58	31	2	16	0	0	0	1	0	0	0	0
15:00	136	1	61	41	4	26	0	0	2	1	0	0	0	0
16:00	220	0	114	74	1	30	0	0	0	1	0	0	0	0
17:00	272	0	158	65	1	43	1	0	3	1	0	0	0	0
18:00	158	0	91	47	0	17	0	0	0	3	0	0	0	0
19:00	67	0	38	18	0	9	0	0	0	2	0	0	0	0
20:00	42	0	25	5	0	9	1	0	0	2	0	0	0	0
21:00	43	0	15	15	1	9	0	0	0	3	0	0	0	0
22:00	21	0	13	1	2	3	1	0	0	1	0	0	0	0
23:00	18	0	10	2	0	4	0	1	0	1	0	0	0	0
Total	1910	9	944	481	34	331	43	2	28	36	2	0	0	0
%		0.5	49.4	25.2	1.8	17.3	2.3	0.1	1.5	1.9	0.1	0.0	0.0	0.0

United Civil Group

2803 N. 7th Avenue

Street : Crismon Road
Location : South of Pecos Road
Lat, Long : 33.288535, -111.617727

Site: TC25106
8/27/2025
Wednesday

24 Hour Volume

Interval Start	NB		SB		Combined	
00:00	4	17	3	13	7	30
00:15	6		3		9	
00:30	4		3		7	
00:45	3		4		7	
01:00	3	15	3	14	6	29
01:15	3		5		8	
01:30	5		1		6	
01:45	4		5		9	
02:00	1	17	4	11	5	28
02:15	3		2		5	
02:30	7		0		7	
02:45	6		5		11	
03:00	7	13	2	8	9	21
03:15	1		1		2	
03:30	2		1		3	
03:45	3		4		7	
04:00	4	41	3	24	7	65
04:15	11		3		14	
04:30	11		7		18	
04:45	15		11		26	
05:00	19	93	11	49	30	142
05:15	24		13		37	
05:30	26		12		38	
05:45	24		13		37	
06:00	31	152	12	61	43	213
06:15	22		10		32	
06:30	39		17		56	
06:45	60		22		82	
07:00	65	257	21	99	86	356
07:15	66		23		89	
07:30	61		30		91	
07:45	65		25		90	
08:00	68	159	44	121	112	280
08:15	35		26		61	
08:30	29		22		51	
08:45	27		29		56	
09:00	21	82	13	70	34	152
09:15	21		22		43	
09:30	19		16		35	
09:45	21		19		40	
10:00	19	78	12	64	31	142
10:15	23		16		39	
10:30	19		19		38	
10:45	17		17		34	
11:00	13	89	20	82	33	171
11:15	24		23		47	
11:30	22		20		42	
11:45	30		19		49	

Interval Start	NB		SB		Combined	
12:00	21	95	17	99	38	194
12:15	25		31		56	
12:30	26		24		50	
12:45	23		27		50	
13:00	22	82	19	109	41	191
13:15	17		28		45	
13:30	19		31		50	
13:45	24		31		55	
14:00	30	110	20	109	50	219
14:15	17		27		44	
14:30	27		26		53	
14:45	36		36		72	
15:00	29	122	32	136	61	258
15:15	40		39		79	
15:30	29		32		61	
15:45	24		33		57	
16:00	27	127	35	220	62	347
16:15	40		62		102	
16:30	26		58		84	
16:45	34		65		99	
17:00	28	117	61	272	89	389
17:15	37		69		106	
17:30	28		80		108	
17:45	24		62		86	
18:00	26	98	50	158	76	256
18:15	21		47		68	
18:30	30		32		62	
18:45	21		29		50	
19:00	12	51	19	67	31	118
19:15	13		20		33	
19:30	14		15		29	
19:45	12		13		25	
20:00	5	37	11	42	16	79
20:15	13		8		21	
20:30	8		14		22	
20:45	11		9		20	
21:00	1	11	13	43	14	54
21:15	1		13		14	
21:30	5		10		15	
21:45	4		7		11	
22:00	5	9	9	21	14	30
22:15	0		6		6	
22:30	3		2		5	
22:45	1		4		5	
23:00	2	8	6	18	8	26
23:15	4		4		8	
23:30	1		4		5	
23:45	1		4		5	

Volume Totals

	NB	SB	Combined
00:00 - 12:00	1013 (62.2%)	616 (37.8%)	1629
12:00 - 00:00	867 (40.1%)	1294 (59.9%)	2161
24 Hours	1880 (49.6%)	1910 (50.4%)	3790

Peak Hours

00:00 - 12:00

	NB	SB	Combined
Started	07:15	07:30	07:15
Volume	260	125	382
Factor	0.96	0.71	0.85

12:00 - 00:00

	NB	SB	Combined
Started	14:45	16:45	16:45
Volume	134	275	402
Factor	0.84	0.86	0.93

United Civil Group

2803 N. 7th Avenue

Street : Pecos Road
Location : East of Signal Butte Road
Lat, Long : 33.291915, -111.599200

Site: TC25106
8/27/2025
Wednesday

24 Hour Classification

EB

Interval Start	Total	Motor Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi
00:00	7	0	3	0	0	1	0	0	0	3	0	0	0	0
01:00	2	0	1	0	0	0	0	0	0	1	0	0	0	0
02:00	1	0	1	0	0	0	0	0	0	0	0	0	0	0
03:00	3	0	0	1	0	1	0	0	0	1	0	0	0	0
04:00	27	0	11	12	0	3	1	0	0	0	0	0	0	0
05:00	83	0	31	30	1	13	2	1	0	5	0	0	0	0
06:00	113	1	47	37	6	12	3	0	0	6	1	0	0	0
07:00	135	0	68	32	5	12	2	0	5	11	0	0	0	0
08:00	192	0	114	50	6	14	2	0	3	3	0	0	0	0
09:00	101	0	37	34	4	14	4	0	4	3	1	0	0	0
10:00	107	0	44	27	4	14	4	2	3	8	0	1	0	0
11:00	106	0	47	27	4	14	4	0	5	5	0	0	0	0
12:00	118	3	60	30	2	7	5	0	9	2	0	0	0	0
13:00	113	0	48	32	4	13	4	1	5	6	0	0	0	0
14:00	95	0	52	21	1	7	3	1	5	5	0	0	0	0
15:00	102	0	60	32	1	2	2	0	4	1	0	0	0	0
16:00	141	0	83	40	0	15	1	0	0	2	0	0	0	0
17:00	120	0	81	27	0	7	1	0	2	2	0	0	0	0
18:00	97	0	72	19	0	5	0	0	0	1	0	0	0	0
19:00	79	0	61	12	0	2	1	0	0	1	2	0	0	0
20:00	61	1	44	11	0	4	0	0	0	1	0	0	0	0
21:00	38	0	28	6	0	1	0	0	0	3	0	0	0	0
22:00	21	0	14	5	0	1	0	0	0	1	0	0	0	0
23:00	8	0	7	1	0	0	0	0	0	0	0	0	0	0
Total	1870	5	1014	486	38	162	39	5	45	71	4	1	0	0
%		0.3	54.2	26.0	2.0	8.7	2.1	0.3	2.4	3.8	0.2	0.1	0.0	0.0

United Civil Group

2803 N. 7th Avenue

Street : Pecos Road
Location : East of Signal Butte Road
Lat, Long : 33.291915, -111.599200

Site: TC25106
8/27/2025
Wednesday

24 Hour Classification

WB

Interval Start	Total	Motor Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi
00:00	6	0	3	1	0	1	1	0	0	0	0	0	0	0
01:00	4	0	0	1	1	0	1	0	0	1	0	0	0	0
02:00	4	0	3	0	0	1	0	0	0	0	0	0	0	0
03:00	5	0	2	1	0	1	0	0	0	1	0	0	0	0
04:00	11	0	2	3	0	5	0	0	0	1	0	0	0	0
05:00	18	0	5	4	1	5	1	0	1	1	0	0	0	0
06:00	54	0	30	8	2	8	0	0	4	2	0	0	0	0
07:00	135	0	52	47	8	20	1	1	5	0	0	1	0	0
08:00	140	0	59	43	3	26	1	0	8	0	0	0	0	0
09:00	87	0	31	25	2	18	0	0	4	7	0	0	0	0
10:00	86	0	26	24	7	24	0	0	4	1	0	0	0	0
11:00	83	0	25	20	6	24	0	1	4	3	0	0	0	0
12:00	123	0	36	28	14	26	3	0	9	7	0	0	0	0
13:00	100	1	41	20	6	22	0	0	10	0	0	0	0	0
14:00	100	1	33	25	6	27	0	0	4	4	0	0	0	0
15:00	132	1	42	47	0	32	0	0	6	4	0	0	0	0
16:00	116	0	53	38	0	22	1	0	1	1	0	0	0	0
17:00	136	0	74	41	0	18	0	0	2	1	0	0	0	0
18:00	101	0	46	40	0	15	0	0	0	0	0	0	0	0
19:00	68	0	33	23	0	7	1	0	3	1	0	0	0	0
20:00	33	0	14	13	0	5	0	0	1	0	0	0	0	0
21:00	20	0	11	4	1	4	0	0	0	0	0	0	0	0
22:00	12	0	4	6	0	2	0	0	0	0	0	0	0	0
23:00	6	0	6	0	0	0	0	0	0	0	0	0	0	0
Total	1580	3	631	462	57	313	10	2	66	35	0	1	0	0
%		0.2	39.9	29.2	3.6	19.8	0.6	0.1	4.2	2.2	0.0	0.1	0.0	0.0

United Civil Group

2803 N. 7th Avenue

Street : Pecos Road
Location : East of Signal Butte Road
Lat, Long : 33.291915, -111.599200

Site: TC25106
8/27/2025
Wednesday

24 Hour Volume

Interval Start	EB		WB		Combined	
00:00	2	7	2	6	4	13
00:15	3		1		4	
00:30	1		1		2	
00:45	1		2		3	
01:00	1	2	2	4	3	6
01:15	0		1		1	
01:30	1		0		1	
01:45	0		1		1	
02:00	0	1	2	4	2	5
02:15	0		1		1	
02:30	1		0		1	
02:45	0		1		1	
03:00	0	3	2	5	2	8
03:15	0		0		0	
03:30	1		3		4	
03:45	2		0		2	
04:00	5	27	2	11	7	38
04:15	7		3		10	
04:30	3		2		5	
04:45	12		4		16	
05:00	18	83	4	18	22	101
05:15	24		6		30	
05:30	17		4		21	
05:45	24		4		28	
06:00	32	113	5	54	37	167
06:15	35		20		55	
06:30	23		13		36	
06:45	23		16		39	
07:00	21	135	24	135	45	270
07:15	35		28		63	
07:30	34		35		69	
07:45	45		48		93	
08:00	43	192	47	140	90	332
08:15	49		34		83	
08:30	60		35		95	
08:45	40		24		64	
09:00	29	101	21	87	50	188
09:15	27		20		47	
09:30	26		23		49	
09:45	19		23		42	
10:00	18	107	26	86	44	193
10:15	31		17		48	
10:30	29		20		49	
10:45	29		23		52	
11:00	27	106	18	83	45	189
11:15	18		20		38	
11:30	24		24		48	
11:45	37		21		58	

Interval Start	EB		WB		Combined	
12:00	31	118	34	123	65	241
12:15	37		30		67	
12:30	26		43		69	
12:45	24		16		40	
13:00	29	113	33	100	62	213
13:15	29		18		47	
13:30	33		20		53	
13:45	22		29		51	
14:00	18	95	28	100	46	195
14:15	22		15		37	
14:30	33		37		70	
14:45	22		20		42	
15:00	26	102	35	132	61	234
15:15	19		37		56	
15:30	29		30		59	
15:45	28		30		58	
16:00	37	141	37	116	74	257
16:15	39		25		64	
16:30	36		22		58	
16:45	29		32		61	
17:00	32	120	44	136	76	256
17:15	35		16		51	
17:30	22		41		63	
17:45	31		35		66	
18:00	32	97	29	101	61	198
18:15	30		27		57	
18:30	19		25		44	
18:45	16		20		36	
19:00	25	79	20	68	45	147
19:15	23		22		45	
19:30	22		15		37	
19:45	9		11		20	
20:00	18	61	12	33	30	94
20:15	14		9		23	
20:30	13		6		19	
20:45	16		6		22	
21:00	17	38	9	20	26	58
21:15	7		5		12	
21:30	6		2		8	
21:45	8		4		12	
22:00	6	21	1	12	7	33
22:15	5		3		8	
22:30	7		4		11	
22:45	3		4		7	
23:00	1	8	4	6	5	14
23:15	3		2		5	
23:30	1		0		1	
23:45	3		0		3	

Volume Totals

	EB	WB	Combined
00:00 - 12:00	877 (58.1%)	633 (41.9%)	1510
12:00 - 00:00	993 (51.2%)	947 (48.8%)	1940
24 Hours	1870 (54.2%)	1580 (45.8%)	3450

Peak Hours

00:00 - 12:00

	EB	WB	Combined
Started	07:45	07:30	07:45
Volume	197	164	361
Factor	0.82	0.85	0.95

12:00 - 00:00

	EB	WB	Combined
Started	16:00	17:00	16:15
Volume	141	136	259
Factor	0.90	0.77	0.85

United Civil Group

2803 N. 7th Avenue

Street : Germann Road
Location : East of Sossaman Road
Lat, Long : 33.277970, -111.666936

Site: TC25106
8/27/2025
Wednesday

24 Hour Classification

WB

Interval Start	Total	Motor Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi
00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	1	0	1	0	0	0	0	0	0	0	0	0	0	0
02:00	2	0	2	0	0	0	0	0	0	0	0	0	0	0
03:00	3	0	0	1	0	1	0	0	1	0	0	0	0	0
04:00	5	0	2	2	0	1	0	0	0	0	0	0	0	0
05:00	46	1	23	11	0	9	0	0	2	0	0	0	0	0
06:00	140	1	77	37	1	23	0	0	1	0	0	0	0	0
07:00	345	2	184	110	2	43	1	0	3	0	0	0	0	0
08:00	218	0	110	67	8	27	1	0	4	1	0	0	0	0
09:00	112	0	60	38	2	12	0	0	0	0	0	0	0	0
10:00	108	0	48	33	1	24	1	0	1	0	0	0	0	0
11:00	111	0	62	29	1	16	0	0	3	0	0	0	0	0
12:00	104	0	58	26	3	15	0	0	2	0	0	0	0	0
13:00	107	0	63	23	0	17	0	0	4	0	0	0	0	0
14:00	184	1	104	54	2	20	1	0	2	0	0	0	0	0
15:00	207	1	122	65	1	17	0	0	1	0	0	0	0	0
16:00	173	0	101	51	3	17	0	0	1	0	0	0	0	0
17:00	131	0	83	29	1	18	0	0	0	0	0	0	0	0
18:00	73	0	49	13	0	10	0	0	1	0	0	0	0	0
19:00	64	0	40	12	0	12	0	0	0	0	0	0	0	0
20:00	53	0	27	22	0	3	1	0	0	0	0	0	0	0
21:00	19	1	16	1	0	1	0	0	0	0	0	0	0	0
22:00	6	0	1	3	0	2	0	0	0	0	0	0	0	0
23:00	4	1	3	0	0	0	0	0	0	0	0	0	0	0
Total	2216	8	1236	627	25	288	5	0	26	1	0	0	0	0
%		0.4	55.8	28.3	1.1	13.0	0.2	0.0	1.2	0.0	0.0	0.0	0.0	0.0

United Civil Group

2803 N. 7th Avenue

Street : Germann Road
Location : East of Sossaman Road
Lat, Long : 33.277970, -111.666936

Site: TC25106
8/27/2025
Wednesday

24 Hour Classification

EB

Interval Start	Total	Motor Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi
00:00	3	0	2	1	0	0	0	0	0	0	0	0	0	0
01:00	2	0	1	1	0	0	0	0	0	0	0	0	0	0
02:00	2	0	2	0	0	0	0	0	0	0	0	0	0	0
03:00	3	0	2	0	0	1	0	0	0	0	0	0	0	0
04:00	32	0	7	9	0	16	0	0	0	0	0	0	0	0
05:00	49	0	18	17	2	12	0	0	0	0	0	0	0	0
06:00	72	0	38	17	0	15	0	0	2	0	0	0	0	0
07:00	220	2	117	66	0	31	0	0	4	0	0	0	0	0
08:00	179	1	86	64	1	25	0	0	2	0	0	0	0	0
09:00	130	0	62	29	3	30	0	0	6	0	0	0	0	0
10:00	129	0	59	38	3	24	2	0	2	1	0	0	0	0
11:00	162	1	73	47	3	30	2	0	2	4	0	0	0	0
12:00	161	0	62	49	2	41	1	0	4	2	0	0	0	0
13:00	165	0	84	51	2	25	0	1	2	0	0	0	0	0
14:00	184	1	97	46	2	30	3	0	4	1	0	0	0	0
15:00	318	0	147	125	2	37	0	0	6	1	0	0	0	0
16:00	224	0	122	73	1	25	1	0	2	0	0	0	0	0
17:00	276	1	151	76	0	46	0	0	2	0	0	0	0	0
18:00	180	0	95	57	0	28	0	0	0	0	0	0	0	0
19:00	131	0	77	38	0	16	0	0	0	0	0	0	0	0
20:00	94	0	49	30	0	15	0	0	0	0	0	0	0	0
21:00	41	0	29	8	0	4	0	0	0	0	0	0	0	0
22:00	23	0	12	4	0	7	0	0	0	0	0	0	0	0
23:00	1	0	0	1	0	0	0	0	0	0	0	0	0	0
Total	2781	6	1392	847	21	458	9	1	38	9	0	0	0	0
%		0.2	50.1	30.5	0.8	16.5	0.3	0.0	1.4	0.3	0.0	0.0	0.0	0.0

United Civil Group

2803 N. 7th Avenue

Street : Germann Road
Location : East of Sossaman Road
Lat, Long : 33.277970, -111.666936

Site: TC25106
8/27/2025
Wednesday

24 Hour Volume

Interval Start	WB		EB		Combined	
00:00	0	0	1	3	1	3
00:15	0		1		1	
00:30	0		1		1	
00:45	0		0		0	
01:00	1	1	0	2	1	3
01:15	0		0		0	
01:30	0		1		1	
01:45	0		1		1	
02:00	0	2	0	2	0	4
02:15	2		1		3	
02:30	0		0		0	
02:45	0		1		1	
03:00	1	3	1	3	2	6
03:15	1		0		1	
03:30	0		2		2	
03:45	1		0		1	
04:00	0	5	2	32	2	37
04:15	1		7		8	
04:30	1		14		15	
04:45	3		9		12	
05:00	6	46	8	49	14	95
05:15	9		14		23	
05:30	12		13		25	
05:45	19		14		33	
06:00	14	140	16	72	30	212
06:15	28		17		45	
06:30	41		18		59	
06:45	57		21		78	
07:00	59	345	32	220	91	565
07:15	77		37		114	
07:30	83		69		152	
07:45	126		82		208	
08:00	99	218	65	179	164	397
08:15	52		34		86	
08:30	25		46		71	
08:45	42		34		76	
09:00	27	112	45	130	72	242
09:15	24		23		47	
09:30	30		28		58	
09:45	31		34		65	
10:00	23	108	35	129	58	237
10:15	23		35		58	
10:30	28		33		61	
10:45	34		26		60	
11:00	23	111	34	162	57	273
11:15	27		47		74	
11:30	31		48		79	
11:45	30		33		63	
12:00	33	104	40	161	73	265
12:15	29		44		73	
12:30	20		48		68	
12:45	22		29		51	
13:00	34	107	30	165	64	272
13:15	33		45		78	
13:30	22		54		76	
13:45	18		36		54	
14:00	44	184	45	184	89	368
14:15	37		39		76	
14:30	50		40		90	
14:45	53		60		113	
15:00	40	207	85	318	125	525
15:15	28		67		95	
15:30	39		96		135	
15:45	100		70		170	
16:00	65	173	55	224	120	397
16:15	40		65		105	
16:30	34		50		84	
16:45	34		54		88	
17:00	38	131	69	276	107	407
17:15	37		76		113	
17:30	29		62		91	
17:45	27		69		96	
18:00	19	73	54	180	73	253
18:15	20		46		66	
18:30	18		42		60	
18:45	16		38		54	
19:00	19	64	37	131	56	195
19:15	19		37		56	
19:30	14		28		42	
19:45	12		29		41	
20:00	8	53	26	94	34	147
20:15	15		21		36	
20:30	17		34		51	
20:45	13		13		26	
21:00	6	19	10	41	16	60
21:15	6		14		20	
21:30	2		10		12	
21:45	5		7		12	
22:00	1	6	7	23	8	29
22:15	4		7		11	
22:30	1		6		7	
22:45	0		3		3	
23:00	0	4	0	1	0	5
23:15	1		1		2	
23:30	2		0		2	
23:45	1		0		1	

Volume Totals

	WB	EB	Combined
00:00 - 12:00	1091 (52.6%)	983 (47.4%)	2074
12:00 - 00:00	1125 (38.5%)	1798 (61.5%)	2923
24 Hours	2216 (44.3%)	2781 (55.7%)	4997

Peak Hours

00:00 - 12:00

	WB	EB	Combined
Started	07:15	07:15	07:15
Volume	385	253	638
Factor	0.76	0.77	0.77

12:00 - 00:00

	WB	EB	Combined
Started	15:30	15:00	15:30
Volume	244	318	530
Factor	0.61	0.83	0.78

United Civil Group

2803 N. 7th Avenue

Street : Germann Road
Location : East of Ellsworth Road
Lat, Long : 33.277665, -111.627447

Site: TC25106
8/27/2025
Wednesday

24 Hour Classification

EB

Interval Start	Total	Motor Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi
00:00	14	1	4	5	0	4	0	0	0	0	0	0	0	0
01:00	7	0	4	2	0	1	0	0	0	0	0	0	0	0
02:00	8	0	4	1	0	2	0	0	1	0	0	0	0	0
03:00	10	0	5	2	0	3	0	0	0	0	0	0	0	0
04:00	59	0	15	20	2	21	0	0	1	0	0	0	0	0
05:00	120	1	49	40	3	24	0	0	2	1	0	0	0	0
06:00	153	3	49	42	10	32	1	1	8	7	0	0	0	0
07:00	267	0	79	106	20	48	0	1	4	9	0	0	0	0
08:00	302	0	87	137	7	54	2	0	8	7	0	0	0	0
09:00	203	1	54	84	7	44	0	0	5	8	0	0	0	0
10:00	213	1	58	82	11	40	0	1	7	13	0	0	0	0
11:00	274	0	76	102	6	70	0	0	8	12	0	0	0	0
12:00	294	1	71	129	9	62	0	0	13	9	0	0	0	0
13:00	288	0	101	111	14	58	0	0	4	0	0	0	0	0
14:00	305	3	95	130	6	56	0	1	9	4	1	0	0	0
15:00	498	3	161	245	11	74	0	0	4	0	0	0	0	0
16:00	635	5	250	272	6	97	1	0	3	1	0	0	0	0
17:00	528	6	209	226	2	82	0	0	3	0	0	0	0	0
18:00	398	0	148	179	0	69	0	0	2	0	0	0	0	0
19:00	256	1	101	124	0	30	0	0	0	0	0	0	0	0
20:00	180	2	72	81	0	24	0	0	1	0	0	0	0	0
21:00	119	0	53	54	0	12	0	0	0	0	0	0	0	0
22:00	49	0	18	22	0	8	1	0	0	0	0	0	0	0
23:00	24	0	9	8	0	7	0	0	0	0	0	0	0	0
Total	5204	28	1772	2204	114	922	5	4	83	71	1	0	0	0
%		0.5	34.1	42.4	2.2	17.7	0.1	0.1	1.6	1.4	0.0	0.0	0.0	0.0

United Civil Group

2803 N. 7th Avenue

Street : Germann Road
Location : East of Ellsworth Road
Lat, Long : 33.277665, -111.627447

Site: TC25106
8/27/2025
Wednesday

24 Hour Classification

WB

Interval Start	Total	Motor Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi
00:00	4	0	3	1	0	0	0	0	0	0	0	0	0	0
01:00	4	0	2	0	0	2	0	0	0	0	0	0	0	0
02:00	6	0	2	3	0	1	0	0	0	0	0	0	0	0
03:00	9	0	3	2	0	4	0	0	0	0	0	0	0	0
04:00	47	1	24	8	1	13	0	0	0	0	0	0	0	0
05:00	120	0	53	28	4	30	0	0	4	1	0	0	0	0
06:00	260	0	130	69	9	39	1	0	1	11	0	0	0	0
07:00	546	3	286	169	8	68	0	1	4	7	0	0	0	0
08:00	416	2	182	134	14	69	1	1	6	7	0	0	0	0
09:00	252	1	112	77	0	42	1	0	4	15	0	0	0	0
10:00	250	0	98	86	3	44	2	0	6	11	0	0	0	0
11:00	270	0	114	90	4	44	1	0	5	12	0	0	0	0
12:00	226	1	107	65	7	41	0	0	4	0	0	0	1	0
13:00	250	0	99	95	2	50	0	0	4	0	0	0	0	0
14:00	301	0	139	107	7	39	0	0	5	4	0	0	0	0
15:00	335	3	143	123	2	57	0	0	5	2	0	0	0	0
16:00	242	0	116	85	4	35	0	0	1	1	0	0	0	0
17:00	235	0	121	76	2	31	1	0	0	3	1	0	0	0
18:00	194	0	112	60	0	22	0	0	0	0	0	0	0	0
19:00	137	0	74	44	0	19	0	0	0	0	0	0	0	0
20:00	123	0	60	43	0	19	0	0	1	0	0	0	0	0
21:00	47	0	28	14	0	5	0	0	0	0	0	0	0	0
22:00	29	0	23	3	0	3	0	0	0	0	0	0	0	0
23:00	11	0	7	2	0	2	0	0	0	0	0	0	0	0
Total	4314	11	2038	1384	67	679	7	2	50	74	1	0	1	0
%		0.3	47.2	32.1	1.6	15.7	0.2	0.0	1.2	1.7	0.0	0.0	0.0	0.0

United Civil Group

2803 N. 7th Avenue

Street : Germann Road
Location : East of Ellsworth Road
Lat, Long : 33.277665, -111.627447

Site: TC25106
8/27/2025
Wednesday

24 Hour Volume

Interval Start	EB		WB		Combined	
00:00	4	14	3	4	7	18
00:15	5		0		5	
00:30	3		1		4	
00:45	2		0		2	
01:00	1	7	1	4	2	11
01:15	1		1		2	
01:30	2		1		3	
01:45	3		1		4	
02:00	2	8	0	6	2	14
02:15	2		1		3	
02:30	0		2		2	
02:45	4		3		7	
03:00	2	10	3	9	5	19
03:15	0		3		3	
03:30	2		1		3	
03:45	6		2		8	
04:00	6	59	8	47	14	106
04:15	13		8		21	
04:30	17		12		29	
04:45	23		19		42	
05:00	23	120	19	120	42	240
05:15	15		31		46	
05:30	29		34		63	
05:45	53		36		89	
06:00	44	153	41	260	85	413
06:15	40		39		79	
06:30	33		80		113	
06:45	36		100		136	
07:00	49	267	122	546	171	813
07:15	53		137		190	
07:30	70		143		213	
07:45	95		144		239	
08:00	94	302	135	416	229	718
08:15	77		107		184	
08:30	69		79		148	
08:45	62		95		157	
09:00	68	203	61	252	129	455
09:15	49		60		109	
09:30	35		65		100	
09:45	51		66		117	
10:00	50	213	54	250	104	463
10:15	57		66		123	
10:30	49		65		114	
10:45	57		65		122	
11:00	71	274	61	270	132	544
11:15	57		66		123	
11:30	66		68		134	
11:45	80		75		155	

Interval Start	EB		WB		Combined	
12:00	81	294	53	226	134	520
12:15	76		62		138	
12:30	88		51		139	
12:45	49		60		109	
13:00	78	288	48	250	126	538
13:15	65		77		142	
13:30	68		54		122	
13:45	77		71		148	
14:00	77	305	72	301	149	606
14:15	81		57		138	
14:30	67		76		143	
14:45	80		96		176	
15:00	152	498	81	335	233	833
15:15	104		80		184	
15:30	120		98		218	
15:45	122		76		198	
16:00	174	635	72	242	246	877
16:15	168		53		221	
16:30	147		66		213	
16:45	146		51		197	
17:00	133	528	71	235	204	763
17:15	128		56		184	
17:30	141		49		190	
17:45	126		59		185	
18:00	111	398	62	194	173	592
18:15	108		60		168	
18:30	87		35		122	
18:45	92		37		129	
19:00	80	256	47	137	127	393
19:15	68		28		96	
19:30	47		35		82	
19:45	61		27		88	
20:00	56	180	27	123	83	303
20:15	52		36		88	
20:30	45		34		79	
20:45	27		26		53	
21:00	30	119	19	47	49	166
21:15	32		10		42	
21:30	32		10		42	
21:45	25		8		33	
22:00	11	49	7	29	18	78
22:15	14		8		22	
22:30	13		5		18	
22:45	11		9		20	
23:00	9	24	5	11	14	35
23:15	4		1		5	
23:30	7		5		12	
23:45	4		0		4	

Volume Totals

	EB	WB	Combined
00:00 - 12:00	1630 (42.7%)	2184 (57.3%)	3814
12:00 - 00:00	3574 (62.7%)	2130 (37.3%)	5704
24 Hours	5204 (54.7%)	4314 (45.3%)	9518

Peak Hours

00:00 - 12:00

	EB	WB	Combined
Started	07:30	07:15	07:15
Volume	336	559	871
Factor	0.88	0.97	0.91

12:00 - 00:00

	EB	WB	Combined
Started	16:00	14:45	15:30
Volume	635	355	883
Factor	0.91	0.91	0.90

Appendix B
Future Development Figures

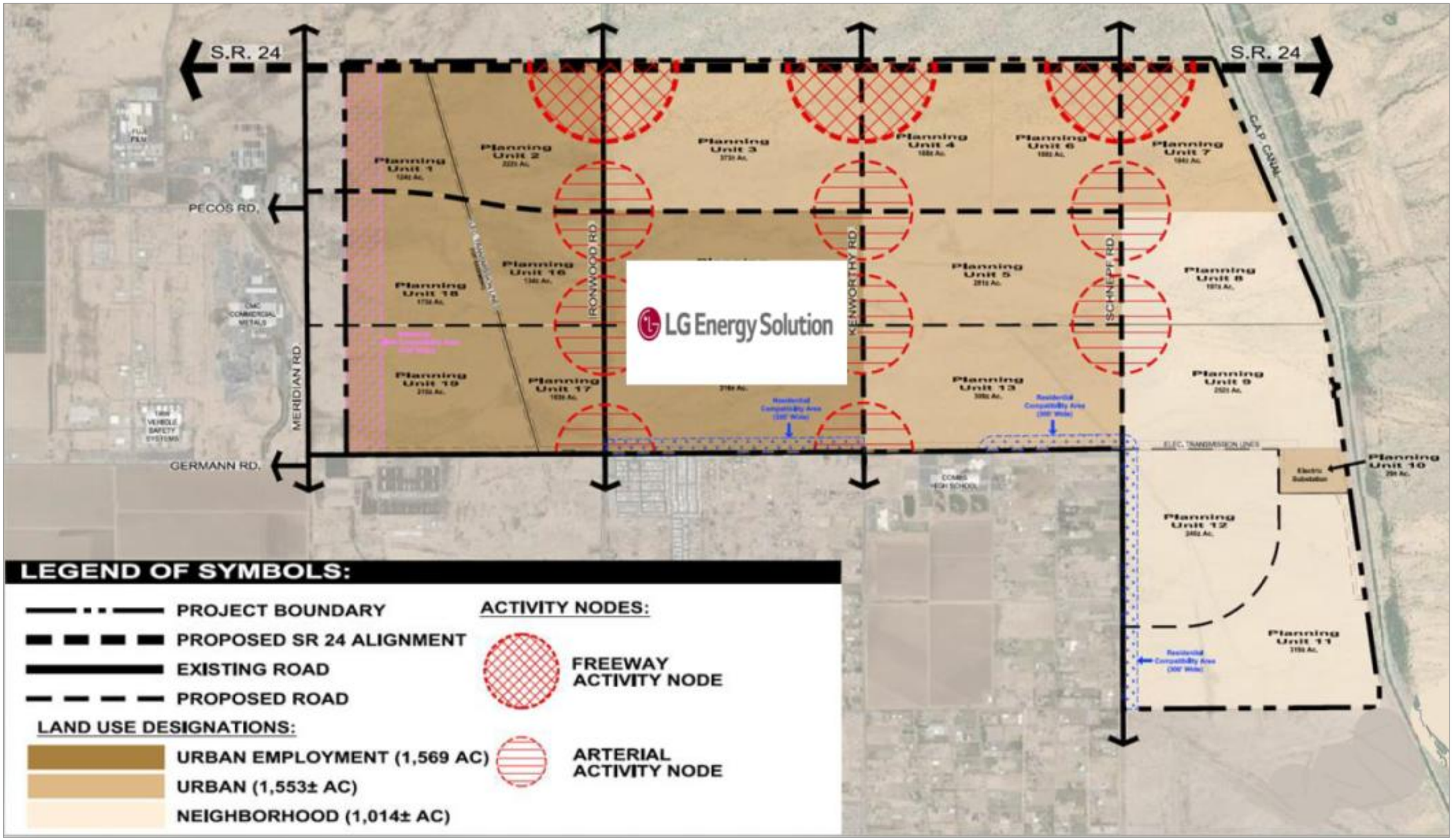
Figure B-1. Industrial and Commercial Developments within and near the Study Area - North of SR 202 Loop and SR 24 (Mesa)



Figure B-2. Industrial and Commercial Developments within and near the Study Area - South of SR 202 loop and SR 24 (Mesa)



Figure B-3. Additional Developments in Queen Creek Considered in the Travel Demand Model



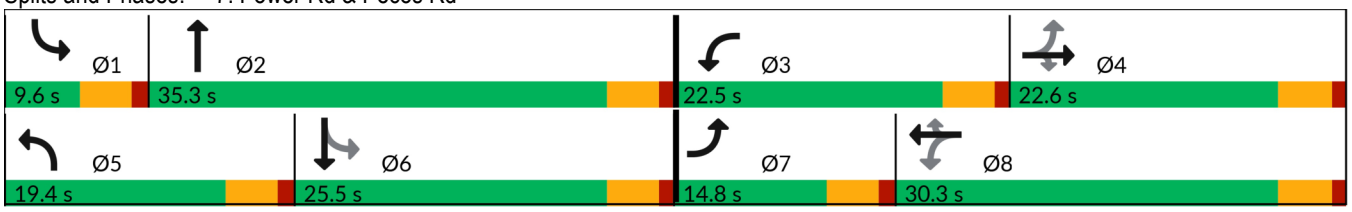
Appendix C
Synchro Analysis Outputs

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	156	308	360	130	519	332	410	1494	82	98	749	93
Future Volume (vph)	156	308	360	130	519	332	410	1494	82	98	749	93
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		225	260		275	175		0	185		0
Storage Lanes	1		1	1		1	2		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	1.00	0.97	0.91	0.91	1.00	0.91	0.91
Frt			0.850			0.850		0.992			0.983	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	5085	1583	3433	5045	0	1770	4999	0
Flt Permitted	0.345			0.470			0.950			0.179		
Satd. Flow (perm)	643	3539	1583	875	5085	1583	3433	5045	0	333	4999	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			391			217		10			23	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1340			1066			2117			1257	
Travel Time (s)		30.5			24.2			48.1			28.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	170	335	391	141	564	361	446	1624	89	107	814	101
Shared Lane Traffic (%)												
Lane Group Flow (vph)	170	335	391	141	564	361	446	1713	0	107	915	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8				6		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5	22.5	22.5	22.5	22.5	9.5	22.5		9.5	22.5	
Total Split (s)	14.8	22.6	22.6	22.5	30.3	30.3	19.4	35.3		9.6	25.5	
Total Split (%)	16.4%	25.1%	25.1%	25.0%	33.7%	33.7%	21.6%	39.2%		10.7%	28.3%	
Maximum Green (s)	10.3	18.1	18.1	18.0	25.8	25.8	14.9	30.8		5.1	21.0	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Max		None	Max	
Walk Time (s)		7.0	7.0	7.0	7.0	7.0		7.0			7.0	
Flash Don't Walk (s)		11.0	11.0	11.0	11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)		0	0	0	0	0		0			0	
Act Effct Green (s)	27.5	18.0	18.0	27.8	18.1	18.1	13.9	32.4		26.5	21.4	
Actuated g/C Ratio	0.34	0.22	0.22	0.34	0.22	0.22	0.17	0.40		0.33	0.26	
v/c Ratio	0.49	0.43	0.60	0.35	0.50	0.69	0.76	0.85		0.54	0.69	
Control Delay (s/veh)	21.2	29.1	7.3	18.3	28.9	19.0	42.3	29.2		26.5	30.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	21.2	29.1	7.3	18.3	28.9	19.0	42.3	29.2		26.5	30.4	
LOS	C	C	A	B	C	B	D	C		C	C	
Approach Delay (s/veh)		18.1			24.2			31.9			30.0	
Approach LOS		B			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 81.1			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.85			
Intersection Signal Delay (s/veh): 27.5		Intersection LOS: C	
Intersection Capacity Utilization 71.1%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 7: Power Rd & Pecos Rd

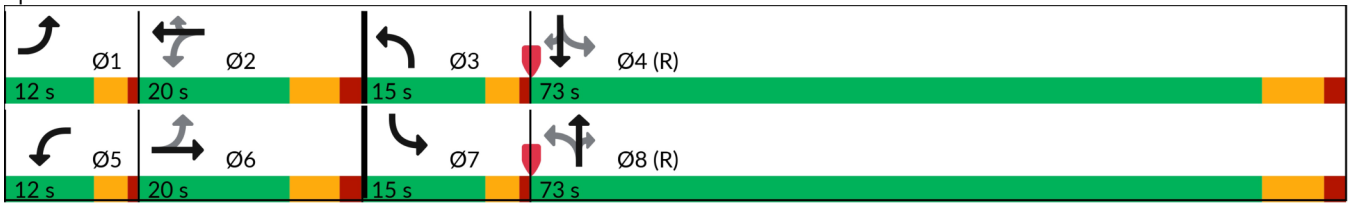


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	123	75	70	239	352	159	1724	59	173	1164	68
Future Volume (vph)	53	123	75	70	239	352	159	1724	59	173	1164	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	200		420	225		225	235		250
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.943				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3337	0	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.296			0.586			0.150			0.058		
Satd. Flow (perm)	551	3337	0	1092	1863	1583	279	3539	1583	108	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		82				201			105			105
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1313			5207			958			2625	
Travel Time (s)		29.8			118.3			21.8			59.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	58	134	82	76	260	383	173	1874	64	188	1265	74
Shared Lane Traffic (%)												
Lane Group Flow (vph)	58	216	0	76	260	383	173	1874	64	188	1265	74
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6			2		2	8		8	4		4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2	2	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	8.0	10.0		8.0	10.0	10.0	8.0	15.0	15.0	8.0	15.0	15.0
Minimum Split (s)	12.0	37.5		12.0	37.5	37.5	12.5	30.5	30.5	12.5	30.5	30.5
Total Split (s)	12.0	20.0		12.0	20.0	20.0	15.0	73.0	73.0	15.0	73.0	73.0
Total Split (%)	10.0%	16.7%		10.0%	16.7%	16.7%	12.5%	60.8%	60.8%	12.5%	60.8%	60.8%
Maximum Green (s)	8.0	13.5		8.0	13.5	13.5	11.0	65.5	65.5	11.0	65.5	65.5
Yellow Time (s)	3.0	4.5		3.0	4.5	4.5	3.0	5.5	5.5	3.0	5.5	5.5
All-Red Time (s)	1.0	2.0		1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.5		4.0	6.5	6.5	4.0	7.5	7.5	4.0	7.5	7.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	7.0
Flash Don't Walk (s)		24.0			24.0	24.0		16.0	16.0		16.0	16.0
Pedestrian Calls (#/hr)		0			0	0		0	0		0	0
Act Effct Green (s)	22.4	13.5		22.4	13.5	13.5	81.4	68.5	68.5	83.4	69.5	69.5
Actuated g/C Ratio	0.19	0.11		0.19	0.11	0.11	0.68	0.57	0.57	0.70	0.58	0.58
v/c Ratio	0.32	0.48		0.31	1.24	1.08	0.57	0.93	0.07	0.86	0.62	0.08
Control Delay (s/veh)	41.7	34.6		41.0	187.4	93.6	13.8	34.0	0.7	42.0	33.8	7.8
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	41.7	34.6		41.0	187.4	93.6	13.8	34.0	0.7	42.0	33.8	7.8
LOS	D	C		D	F	F	B	C	A	D	C	A
Approach Delay (s/veh)		36.1			122.0			31.4			33.5	
Approach LOS		D			F			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 4:SBTL and 8:NBTL, Start of Green			
Natural Cycle: 145			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.24			
Intersection Signal Delay (s/veh): 46.4		Intersection LOS: D	
Intersection Capacity Utilization 94.8%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 10: Ellsworth Rd & Germann Rd





Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	391	782	262	0	371
Future Volume (vph)	0	391	782	262	0	371
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.865	0.966			
Flt Protected						
Satd. Flow (prot)	0	1611	1799	0	0	1863
Flt Permitted						
Satd. Flow (perm)	0	1611	1799	0	0	1863
Link Speed (mph)	30		30			30
Link Distance (ft)	934		1322			2563
Travel Time (s)	21.2		30.0			58.3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	425	850	285	0	403
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	425	1135	0	0	403
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 88.0%		ICU Level of Service E	
Analysis Period (min) 15			

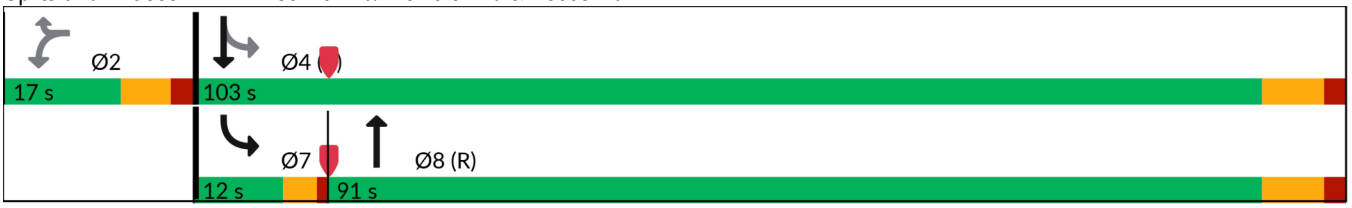


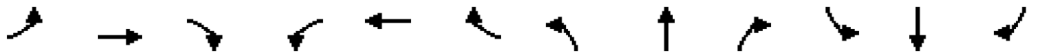
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	83	240	1945	37	94	1512
Future Volume (vph)	83	240	1945	37	94	1512
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90	0		0	150	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt		0.850	0.997			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	3529	0	1770	3539
Flt Permitted	0.950				0.046	
Satd. Flow (perm)	1770	1583	3529	0	86	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		111	4			
Link Speed (mph)	30		30			30
Link Distance (ft)	5144		2669			3843
Travel Time (s)	116.9		60.7			87.3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	90	261	2114	40	102	1643
Shared Lane Traffic (%)						
Lane Group Flow (vph)	90	261	2154	0	102	1643
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2		1	2
Detector Template	Left	Right	Thru		Left	Thru
Leading Detector (ft)	20	20	100		20	100
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	20	20	6		20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Perm	Perm	NA		pm+pt	NA
Protected Phases			8		7	4
Permitted Phases	2	2			4	

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector Phase	2	2	8		7	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	15.0		8.0	15.0
Minimum Split (s)	17.0	17.0	25.5		12.0	25.5
Total Split (s)	17.0	17.0	91.0		12.0	103.0
Total Split (%)	14.2%	14.2%	75.8%		10.0%	85.8%
Maximum Green (s)	10.5	10.5	83.5		8.0	95.5
Yellow Time (s)	4.5	4.5	5.5		3.0	5.5
All-Red Time (s)	2.0	2.0	2.0		1.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	6.5	6.5	7.5		4.0	7.5
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	Max	Max	C-Max		None	C-Max
Act Effct Green (s)	10.5	10.5	83.5		99.0	95.5
Actuated g/C Ratio	0.09	0.09	0.70		0.83	0.80
v/c Ratio	0.58	1.09	0.88		0.56	0.58
Control Delay (s/veh)	68.6	114.4	15.0		29.2	5.7
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay (s/veh)	68.6	114.4	15.0		29.2	5.7
LOS	E	F	B		C	A
Approach Delay (s/veh)	102.7		15.0			7.0
Approach LOS	F		B			A

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 60 (50%), Referenced to phase 4:SBTL and 8:NBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.09			
Intersection Signal Delay (s/veh): 19.0		Intersection LOS: B	
Intersection Capacity Utilization 81.5%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 14: Ellsowrth Rd/Ellsworth Rd & Pecos Rd



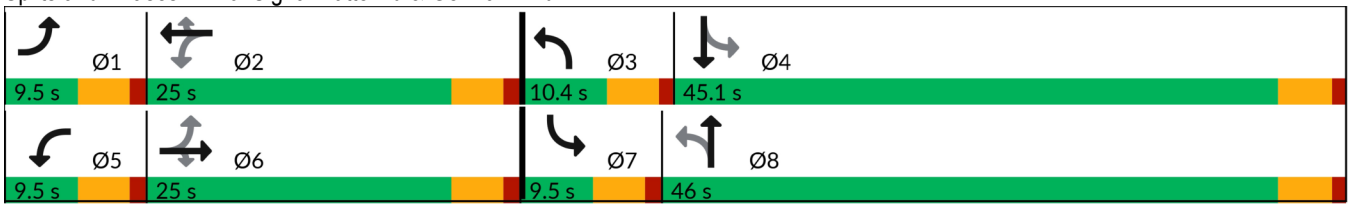


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	62	182	50	9	332	148	81	745	4	64	487	35
Future Volume (vph)	62	182	50	9	332	148	81	745	4	64	487	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200	200		200	150		0	200		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.999			0.990	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1861	0	1770	1844	0
Flt Permitted	0.227			0.622			0.241			0.104		
Satd. Flow (perm)	423	1863	1583	1159	1863	1583	449	1861	0	194	1844	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			127			161					5	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2320			2162			5275			637	
Travel Time (s)		52.7			49.1			119.9			14.5	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	67	198	54	10	361	161	88	810	4	70	529	38
Shared Lane Traffic (%)												
Lane Group Flow (vph)	67	198	54	10	361	161	88	814	0	70	567	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6		6	2		2	8			4		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6	6	5	2	2	3	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5		9.5	22.5	
Total Split (s)	9.5	25.0	25.0	9.5	25.0	25.0	10.4	46.0		9.5	45.1	
Total Split (%)	10.6%	27.8%	27.8%	10.6%	27.8%	27.8%	11.6%	51.1%		10.6%	50.1%	
Maximum Green (s)	5.0	20.5	20.5	5.0	20.5	20.5	5.9	41.5		5.0	40.6	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	Min	Min	None	Min	Min	None	Min		None	Min	
Act Effct Green (s)	25.4	24.5	24.5	23.0	19.3	19.3	43.2	38.9		41.9	38.3	
Actuated g/C Ratio	0.31	0.30	0.30	0.28	0.24	0.24	0.53	0.48		0.51	0.47	
v/c Ratio	0.31	0.35	0.10	0.03	0.82	0.32	0.26	0.92		0.35	0.65	
Control Delay (s/veh)	24.8	27.0	0.3	20.6	49.0	7.1	11.0	39.3		14.0	22.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	24.8	27.0	0.3	20.6	49.0	7.1	11.0	39.3		14.0	22.8	
LOS	C	C	A	C	D	A	B	D		B	C	
Approach Delay (s/veh)		22.0			35.8			36.5			21.8	
Approach LOS		C			D			D			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 81.6			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.92			
Intersection Signal Delay (s/veh): 30.5		Intersection LOS: C	
Intersection Capacity Utilization 80.3%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 16: Signal Butte Rd & Germann Rd

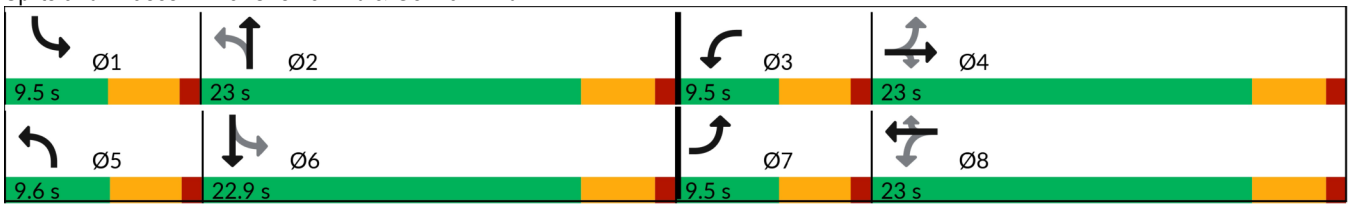


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	248	89	26	403	19	243	258	41	5	108	15
Future Volume (vph)	18	248	89	26	403	19	243	258	41	5	108	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		200	160		160	160		0	50		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.979			0.982	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1824	0	1770	1829	0
Flt Permitted	0.230			0.439			0.563			0.564		
Satd. Flow (perm)	428	1863	1583	818	1863	1583	1049	1824	0	1051	1829	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			176			176		12			11	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		5207			2930			5243			1371	
Travel Time (s)		118.3			66.6			119.2			31.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	20	270	97	28	438	21	264	280	45	5	117	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	20	270	97	28	438	21	264	325	0	5	133	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2			6		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5		9.5	22.5	
Total Split (s)	9.5	23.0	23.0	9.5	23.0	23.0	9.6	23.0		9.5	22.9	
Total Split (%)	14.6%	35.4%	35.4%	14.6%	35.4%	35.4%	14.8%	35.4%		14.6%	35.2%	
Maximum Green (s)	5.0	18.5	18.5	5.0	18.5	18.5	5.1	18.5		5.0	18.4	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Max		None	Max	
Act Effct Green (s)	18.4	16.6	16.6	19.2	18.3	18.3	27.5	26.6		23.7	18.6	
Actuated g/C Ratio	0.32	0.29	0.29	0.33	0.32	0.32	0.48	0.46		0.41	0.32	
v/c Ratio	0.08	0.50	0.17	0.08	0.74	0.03	0.46	0.38		0.01	0.22	
Control Delay (s/veh)	11.9	21.6	1.1	11.8	27.7	0.1	14.6	14.2		10.2	16.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	11.9	21.6	1.1	11.8	27.7	0.1	14.6	14.2		10.2	16.2	
LOS	B	C	A	B	C	A	B	B		B	B	
Approach Delay (s/veh)		16.0			25.6			14.4			16.0	
Approach LOS		B			C			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 65			
Actuated Cycle Length: 57.4			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.74			
Intersection Signal Delay (s/veh): 18.3		Intersection LOS: B	
Intersection Capacity Utilization 53.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 23: Crismon Rd & Germann Rd

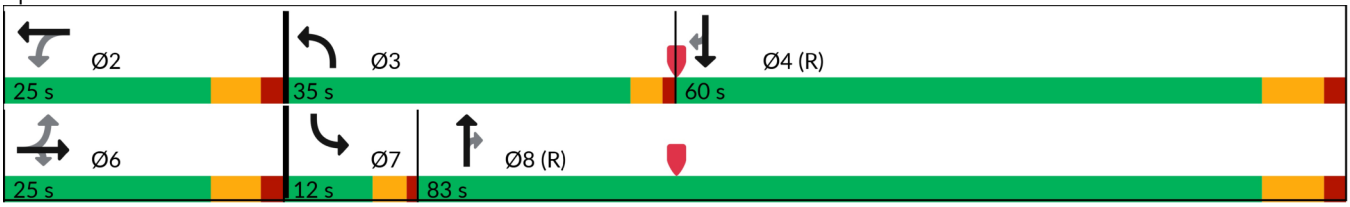


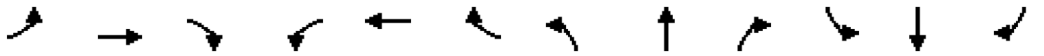
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	194	35	251	20	24	55	372	1733	24	28	1134	433
Future Volume (vph)	194	35	251	20	24	55	372	1733	24	28	1134	433
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		300	300		0	200		425	285		300
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850		0.895				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1667	0	1770	3539	1583	1770	3539	1583
Flt Permitted	0.701			0.732			0.950			0.950		
Satd. Flow (perm)	1306	1863	1583	1364	1667	0	1770	3539	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			273		60				68			440
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		10590			1487			2625			2669	
Travel Time (s)		240.7			33.8			59.7			60.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	211	38	273	22	26	60	404	1884	26	30	1233	471
Shared Lane Traffic (%)												
Lane Group Flow (vph)	211	38	273	22	86	0	404	1884	26	30	1233	471
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		6			2		3	8		7	4	
Permitted Phases	6		6	2					8			4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	6	6	6	2	2		3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		8.0	15.0	15.0	8.0	15.0	15.0
Minimum Split (s)	38.5	38.5	38.5	22.5	22.5		12.5	22.5	22.5	12.0	22.5	22.5
Total Split (s)	25.0	25.0	25.0	25.0	25.0		35.0	83.0	83.0	12.0	60.0	60.0
Total Split (%)	20.8%	20.8%	20.8%	20.8%	20.8%		29.2%	69.2%	69.2%	10.0%	50.0%	50.0%
Maximum Green (s)	18.5	18.5	18.5	18.5	18.5		31.0	75.5	75.5	8.0	52.5	52.5
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5		3.0	5.5	5.5	3.0	5.5	5.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5		4.0	7.5	7.5	4.0	7.5	7.5
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	Max	Max		None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)	4.0	4.0	4.0									
Flash Don't Walk (s)	28.0	28.0	28.0									
Pedestrian Calls (#/hr)	0	0	0									
Act Effct Green (s)	18.5	18.5	18.5	18.5	18.5		29.7	80.3	80.3	8.0	53.8	53.8
Actuated g/C Ratio	0.15	0.15	0.15	0.15	0.15		0.25	0.67	0.67	0.07	0.45	0.45
v/c Ratio	1.05	0.13	0.58	0.10	0.28		0.92	0.80	0.02	0.25	0.78	0.49
Control Delay (s/veh)	126.4	45.3	10.6	45.2	20.0		48.2	27.0	1.8	71.3	29.3	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	126.4	45.3	10.6	45.2	20.0		48.2	27.0	1.8	71.3	29.3	6.7
LOS	F	D	B	D	B		D	C	A	E	C	A
Approach Delay (s/veh)		59.9			25.1			30.4			23.9	
Approach LOS		E			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 20 (17%), Referenced to phase 4:SBT and 8:NBT, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.05			
Intersection Signal Delay (s/veh): 31.2		Intersection LOS: C	
Intersection Capacity Utilization 87.0%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 27: Ellsworth Rd/Ellsowrth Rd & Pecos Rd



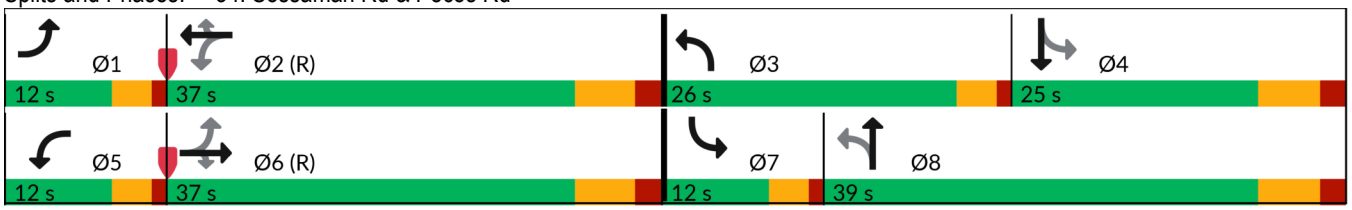


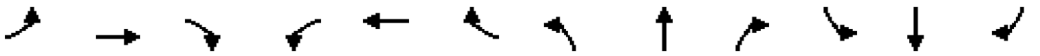
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	380	76	164	552	166	412	642	119	79	131	17
Future Volume (vph)	32	380	76	164	552	166	412	642	119	79	131	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		250	230		230	100		0	100		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.977			0.983	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1820	0	1770	1831	0
Flt Permitted	0.131			0.278			0.497			0.216		
Satd. Flow (perm)	244	1863	1583	518	1863	1583	926	1820	0	402	1831	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			169			169		10			6	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1095			10590			2563			1844	
Travel Time (s)		24.9			240.7			58.3			41.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	35	413	83	178	600	180	448	698	129	86	142	18
Shared Lane Traffic (%)												
Lane Group Flow (vph)	35	413	83	178	600	180	448	827	0	86	160	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6		6	2		2	8			4		
Minimum Split (s)	12.0	21.5	21.5	12.0	21.5	21.5	12.0	21.5		12.0	21.5	
Total Split (s)	12.0	37.0	37.0	12.0	37.0	37.0	26.0	39.0		12.0	25.0	
Total Split (%)	12.0%	37.0%	37.0%	12.0%	37.0%	37.0%	26.0%	39.0%		12.0%	25.0%	
Maximum Green (s)	8.0	30.5	30.5	8.0	30.5	30.5	22.0	32.5		8.0	18.5	
Yellow Time (s)	3.0	4.5	4.5	3.0	4.5	4.5	3.0	4.5		3.0	4.5	
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	6.5	6.5	4.0	6.5	6.5	4.0	6.5		4.0	6.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Act Effct Green (s)	41.0	30.5	30.5	41.0	30.5	30.5	47.0	32.5		29.0	18.5	
Actuated g/C Ratio	0.41	0.31	0.31	0.41	0.31	0.31	0.47	0.33		0.29	0.19	
v/c Ratio	0.16	0.73	0.14	0.57	1.06	0.30	0.72	1.38		0.38	0.47	
Control Delay (s/veh)	17.3	39.7	0.5	25.3	88.6	6.4	26.7	211.9		22.1	40.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	17.3	39.7	0.5	25.3	88.6	6.4	26.7	211.9		22.1	40.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	B	D	A	C	F	A	C	F		C	D	
Approach Delay (s/veh)		32.1			61.4			146.9			33.8	
Approach LOS		C			E			F			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 12 (12%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green			
Natural Cycle: 150			
Control Type: Pretimed			
Maximum v/c Ratio: 1.38			
Intersection Signal Delay (s/veh): 90.2		Intersection LOS: F	
Intersection Capacity Utilization 100.9%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 34: Sossaman Rd & Pecos Rd





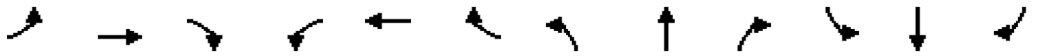
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	58	73	55	97	0	226	0	69	0	0	0
Future Volume (vph)	0	58	73	55	97	0	226	0	69	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		350	0		0
Storage Lanes	0		0	0		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.925							0.850			
Flt Protected					0.982		0.950					
Satd. Flow (prot)	0	1723	0	0	1829	0	1770	0	1583	0	1863	0
Flt Permitted					0.821		0.108					
Satd. Flow (perm)	0	1723	0	0	1529	0	201	0	1583	0	1863	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		75							138			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		5144			5305			1665			231	
Travel Time (s)		116.9			120.6			37.8			5.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	63	79	60	105	0	246	0	75	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	142	0	0	165	0	246	0	75	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors		2		1	2		1		1	1	2	
Detector Template		Thru		Left	Thru		Left		Right	Left	Thru	
Leading Detector (ft)		100		20	100		20		20	20	100	
Trailing Detector (ft)		0		0	0		0		0	0	0	
Detector 1 Position(ft)		0		0	0		0		0	0	0	
Detector 1 Size(ft)		6		20	6		20		20	20	6	
Detector 1 Type		Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)		0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Queue (s)		0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 1 Delay (s)		0.0		0.0	0.0		0.0		0.0	0.0	0.0	
Detector 2 Position(ft)		94			94						94	
Detector 2 Size(ft)		6			6						6	
Detector 2 Type		Cl+Ex			Cl+Ex						Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0						0.0	
Turn Type		NA		Perm	NA		Perm		Perm			
Protected Phases					2						4	
Permitted Phases		6		2			8		8	4		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase		6		2	2		8		8	4	4	
Switch Phase												
Minimum Initial (s)		14.5		14.5	14.5		10.0		10.0	5.0	5.0	
Minimum Split (s)		21.0		21.0	21.0		24.0		24.0	11.0	11.0	
Total Split (s)		21.0		21.0	21.0		43.0		43.0	11.0	11.0	
Total Split (%)		28.0%		28.0%	28.0%		57.3%		57.3%	14.7%	14.7%	
Maximum Green (s)		14.5		14.5	14.5		37.0		37.0	5.0	5.0	
Yellow Time (s)		4.5		4.5	4.5		4.0		4.0	4.0	4.0	
All-Red Time (s)		2.0		2.0	2.0		2.0		2.0	2.0	2.0	
Lost Time Adjust (s)		0.0			0.0		0.0		0.0		0.0	
Total Lost Time (s)		6.5			6.5		6.0		6.0		6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0		3.0	3.0		3.0		3.0	3.0	3.0	
Recall Mode		C-Max		C-Max	C-Max		Max		Max	Max	Max	
Act Effct Green (s)		14.5			14.5		37.0		37.0			
Actuated g/C Ratio		0.19			0.19		0.49		0.49			
v/c Ratio		0.36			0.56		2.48		0.09			
Control Delay (s/veh)		16.5			35.6		714.8		0.6			
Queue Delay		0.0			0.0		0.0		0.0			
Total Delay (s/veh)		16.5			35.6		714.8		0.6			
LOS		B			D		F		A			
Approach Delay (s/veh)		16.5			35.6			548.0				
Approach LOS		B			D			F				

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 75			
Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBT, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 2.48			
Intersection Signal Delay (s/veh): 293.2		Intersection LOS: F	
Intersection Capacity Utilization 50.9%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 52: Crismon Rd & Pecos Rd



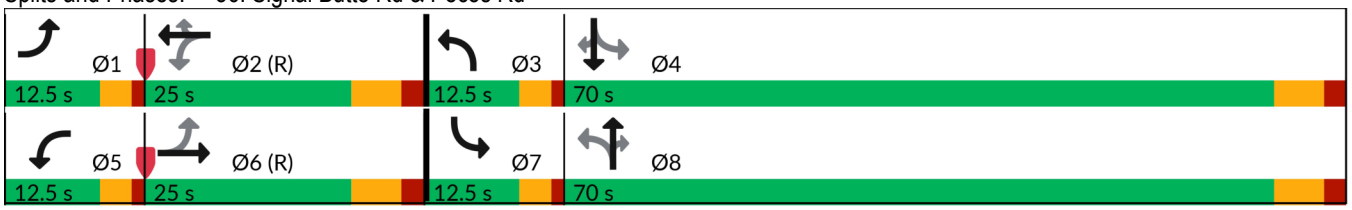


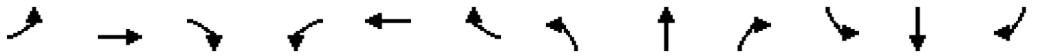
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	59	53	15	56	84	37	7	913	35	71	515	61
Future Volume (vph)	59	53	15	56	84	37	7	913	35	71	515	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	200		200	250		100	250		0
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.968				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1803	0	1770	1863	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.698			0.709			0.318			0.063		
Satd. Flow (perm)	1300	1803	0	1321	1863	1583	592	1863	1583	117	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10				105			105			105
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		5305			5293			1105			871	
Travel Time (s)		120.6			120.3			25.1			19.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	64	58	16	61	91	40	8	992	38	77	560	66
Shared Lane Traffic (%)												
Lane Group Flow (vph)	64	74	0	61	91	40	8	992	38	77	560	66
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6			2		2	8		8	4		4
Minimum Split (s)	12.5	24.5		12.5	24.5	24.5	12.5	24.5	24.5	12.5	24.5	24.5
Total Split (s)	12.5	25.0		12.5	25.0	25.0	12.5	70.0	70.0	12.5	70.0	70.0
Total Split (%)	10.4%	20.8%		10.4%	20.8%	20.8%	10.4%	58.3%	58.3%	10.4%	58.3%	58.3%
Maximum Green (s)	8.5	18.5		8.5	18.5	18.5	8.5	63.5	63.5	8.5	63.5	63.5
Yellow Time (s)	3.0	4.5		3.0	4.5	4.5	3.0	4.5	4.5	3.0	4.5	4.5
All-Red Time (s)	1.0	2.0		1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.5		4.0	6.5	6.5	4.0	6.5	6.5	4.0	6.5	6.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Act Effct Green (s)	29.5	18.5		29.5	18.5	18.5	74.5	63.5	63.5	74.5	63.5	63.5
Actuated g/C Ratio	0.25	0.15		0.25	0.15	0.15	0.62	0.53	0.53	0.62	0.53	0.53
v/c Ratio	0.18	0.26		0.17	0.32	0.12	0.02	1.01	0.04	0.41	0.57	0.07
Control Delay (s/veh)	34.0	41.3		33.8	48.6	0.7	7.4	59.2	0.1	18.0	21.9	0.9
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	34.0	41.3		33.8	48.6	0.7	7.4	59.2	0.1	18.0	21.9	0.9

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	C	D		C	D	A	A	E	A	B	C	A
Approach Delay (s/veh)		37.9			33.9			56.7			19.5	
Approach LOS		D			C			E			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green			
Natural Cycle: 120			
Control Type: Pretimed			
Maximum v/c Ratio: 1.01			
Intersection Signal Delay (s/veh): 40.7		Intersection LOS: D	
Intersection Capacity Utilization 81.4%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 56: Signal Butte Rd & Pecos Rd



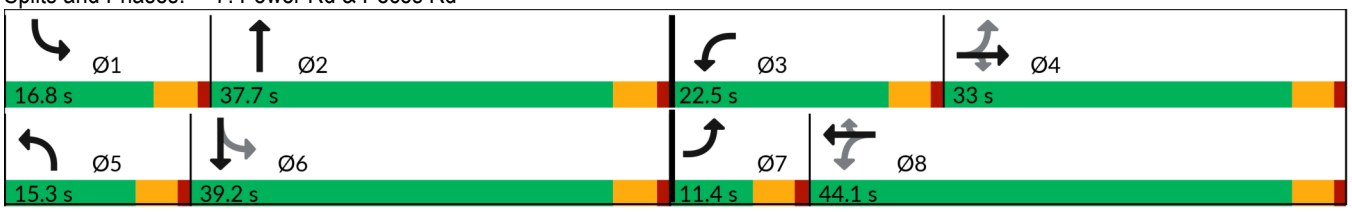


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	115	465	606	115	400	154	288	841	60	127	1331	91
Future Volume (vph)	115	465	606	115	400	154	288	841	60	127	1331	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		225	260		275	175		0	185		0
Storage Lanes	1		1	1		1	2		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	1.00	0.97	0.91	0.91	1.00	0.91	0.91
Frt			0.850			0.850		0.990			0.990	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	5085	1583	3433	5034	0	1770	5034	0
Flt Permitted	0.490			0.299			0.950			0.193		
Satd. Flow (perm)	913	3539	1583	557	5085	1583	3433	5034	0	360	5034	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			344			167		10			10	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1340			1066			2117			1257	
Travel Time (s)		30.5			24.2			48.1			28.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	125	505	659	125	435	167	313	914	65	138	1447	99
Shared Lane Traffic (%)												
Lane Group Flow (vph)	125	505	659	125	435	167	313	979	0	138	1546	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8				6		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5	22.5	22.5	22.5	22.5	9.5	22.5		9.5	22.5	
Total Split (s)	11.4	33.0	33.0	22.5	44.1	44.1	15.3	37.7		16.8	39.2	
Total Split (%)	10.4%	30.0%	30.0%	20.5%	40.1%	40.1%	13.9%	34.3%		15.3%	35.6%	
Maximum Green (s)	6.9	28.5	28.5	18.0	39.6	39.6	10.8	33.2		12.3	34.7	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Max		None	Max	
Walk Time (s)		7.0	7.0	7.0	7.0	7.0		7.0			7.0	
Flash Don't Walk (s)		11.0	11.0	11.0	11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)		0	0	0	0	0		0			0	
Act Effct Green (s)	35.4	28.5	28.5	41.2	31.6	31.6	10.8	35.8		44.4	34.7	
Actuated g/C Ratio	0.35	0.28	0.28	0.40	0.31	0.31	0.11	0.35		0.44	0.34	
v/c Ratio	0.33	0.51	0.96	0.36	0.28	0.28	0.86	0.55		0.47	0.90	
Control Delay (s/veh)	21.7	33.4	43.4	21.5	27.0	5.3	68.8	28.4		20.7	40.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	21.7	33.4	43.4	21.5	27.0	5.3	68.8	28.4		20.7	40.4	
LOS	C	C	D	C	C	A	E	C		C	D	
Approach Delay (s/veh)		37.4			21.1			38.2			38.8	
Approach LOS		D			C			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 102			
Natural Cycle: 110			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.96			
Intersection Signal Delay (s/veh): 35.7		Intersection LOS: D	
Intersection Capacity Utilization 82.9%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 7: Power Rd & Pecos Rd

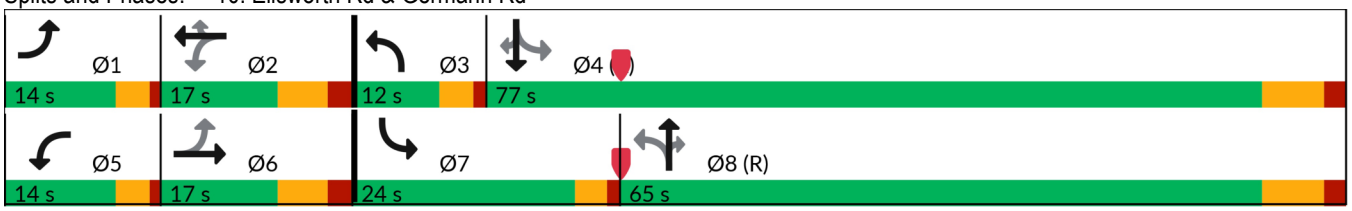


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	102	263	128	72	116	169	97	1194	46	320	1889	82
Future Volume (vph)	102	263	128	72	116	169	97	1194	46	320	1889	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	200		420	225		225	235		250
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt		0.951				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3366	0	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.496			0.342			0.069			0.093		
Satd. Flow (perm)	924	3366	0	637	1863	1583	129	3539	1583	173	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		54				184			141			105
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1313			5207			958			2625	
Travel Time (s)		29.8			118.3			21.8			59.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	111	286	139	78	126	184	105	1298	50	348	2053	89
Shared Lane Traffic (%)												
Lane Group Flow (vph)	111	425	0	78	126	184	105	1298	50	348	2053	89
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6			2		2	8		8	4		4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6		5	2	2	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	8.0	10.0		8.0	10.0	10.0	8.0	15.0	15.0	8.0	15.0	15.0
Minimum Split (s)	12.5	17.0		12.5	17.0	17.0	12.0	34.5	34.5	12.5	30.5	30.5
Total Split (s)	14.0	17.0		14.0	17.0	17.0	12.0	65.0	65.0	24.0	77.0	77.0
Total Split (%)	11.7%	14.2%		11.7%	14.2%	14.2%	10.0%	54.2%	54.2%	20.0%	64.2%	64.2%
Maximum Green (s)	10.0	10.5		10.0	10.5	10.5	8.0	57.5	57.5	20.0	69.5	69.5
Yellow Time (s)	3.0	4.5		3.0	4.5	4.5	3.0	5.5	5.5	3.0	5.5	5.5
All-Red Time (s)	1.0	2.0		1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.5		4.0	6.5	6.5	4.0	7.5	7.5	4.0	7.5	7.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0			7.0	7.0		7.0	7.0		7.0	7.0
Flash Don't Walk (s)		24.0			24.0	24.0		20.0	20.0		16.0	16.0
Pedestrian Calls (#/hr)		0			0	0		0	0		0	0
Act Effct Green (s)	24.2	13.7		22.6	10.9	10.9	70.0	58.5	58.5	85.0	69.5	69.5
Actuated g/C Ratio	0.20	0.11		0.19	0.09	0.09	0.58	0.49	0.49	0.71	0.58	0.58
v/c Ratio	0.44	0.98		0.38	0.75	0.59	0.57	0.75	0.06	0.93	1.00	0.09
Control Delay (s/veh)	44.6	86.8		43.5	79.4	15.8	31.6	28.7	0.1	36.5	44.9	5.5
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	44.6	86.8		43.5	79.4	15.8	31.6	28.7	0.1	36.5	44.9	5.5
LOS	D	F		D	E	B	C	C	A	D	D	A
Approach Delay (s/veh)		78.1			42.0			27.9			42.3	
Approach LOS		E			D			C			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 40 (33%), Referenced to phase 4:SBTL and 8:NBTL, Start of Green			
Natural Cycle: 130			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.00			
Intersection Signal Delay (s/veh): 41.9		Intersection LOS: D	
Intersection Capacity Utilization 95.3%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 10: Ellsworth Rd & Germann Rd





Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	247	341	296	0	814
Future Volume (vph)	0	247	341	296	0	814
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.865	0.937			
Flt Protected						
Satd. Flow (prot)	0	1611	1745	0	0	1863
Flt Permitted						
Satd. Flow (perm)	0	1611	1745	0	0	1863
Link Speed (mph)	30		30			30
Link Distance (ft)	934		1322			2563
Travel Time (s)	21.2		30.0			58.3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	268	371	322	0	885
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	268	693	0	0	885
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	0		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 58.0%		ICU Level of Service B	
Analysis Period (min) 15			

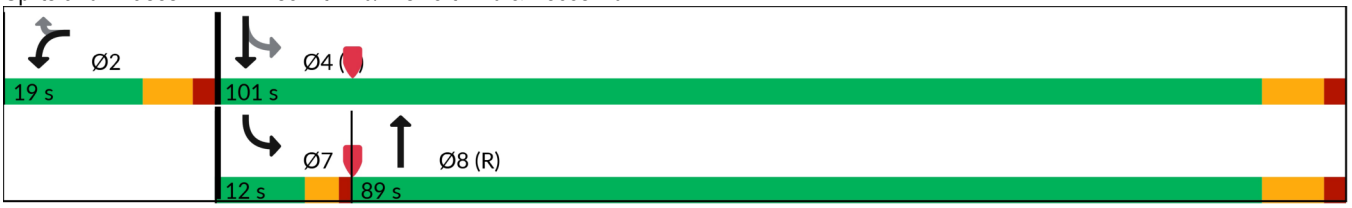


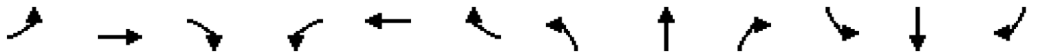
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	78	156	1501	63	247	2136
Future Volume (vph)	78	156	1501	63	247	2136
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90	0		0	150	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt		0.850	0.994			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	3518	0	1770	3539
Flt Permitted	0.950				0.089	
Satd. Flow (perm)	1770	1583	3518	0	166	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		137	8			
Link Speed (mph)	30		30			30
Link Distance (ft)	5244		2669			3843
Travel Time (s)	119.2		60.7			87.3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	85	170	1632	68	268	2322
Shared Lane Traffic (%)						
Lane Group Flow (vph)	85	170	1700	0	268	2322
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2		1	2
Detector Template	Left	Right	Thru		Left	Thru
Leading Detector (ft)	20	20	100		20	100
Trailing Detector (ft)	0	0	0		0	0
Detector 1 Position(ft)	0	0	0		0	0
Detector 1 Size(ft)	20	20	6		20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA		pm+pt	NA
Protected Phases	2		8		7	4
Permitted Phases	2	2			4	

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector Phase	2	2	8		7	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	15.0		8.0	15.0
Minimum Split (s)	19.0	19.0	25.5		12.0	29.0
Total Split (s)	19.0	19.0	89.0		12.0	101.0
Total Split (%)	15.8%	15.8%	74.2%		10.0%	84.2%
Maximum Green (s)	12.5	12.5	81.5		8.0	93.5
Yellow Time (s)	4.5	4.5	5.5		3.0	5.5
All-Red Time (s)	2.0	2.0	2.0		1.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	6.5	6.5	7.5		4.0	7.5
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	None	C-Max		None	C-Max
Act Effct Green (s)	10.4	10.4	83.6		99.1	95.6
Actuated g/C Ratio	0.09	0.09	0.70		0.83	0.80
v/c Ratio	0.55	0.65	0.69		1.10	0.82
Control Delay (s/veh)	65.8	25.7	4.8		108.6	11.0
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay (s/veh)	65.8	25.7	4.8		108.6	11.0
LOS	E	C	A		F	B
Approach Delay (s/veh)	39.0		4.8			21.1
Approach LOS	D		A			C

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 41 (34%), Referenced to phase 4:SBTL and 8:NBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.10			
Intersection Signal Delay (s/veh): 16.0		Intersection LOS: B	
Intersection Capacity Utilization 76.5%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 14: Ellsowrth Rd/Ellsworth Rd & Pecos Rd



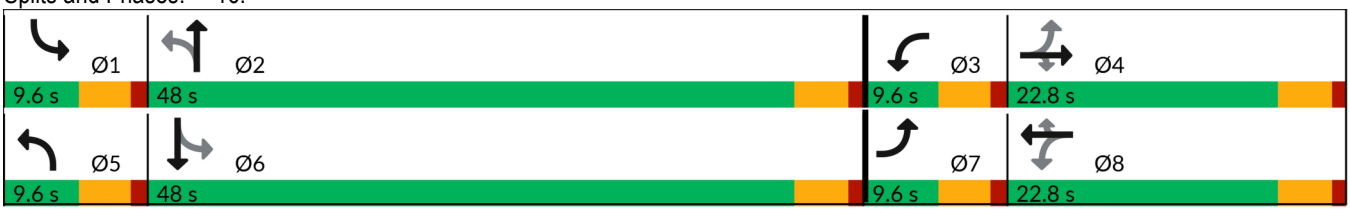


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	46	238	74	19	229	87	52	390	7	38	762	17
Future Volume (vph)	46	238	74	19	229	87	52	390	7	38	762	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200	200		200	150		0	200		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.997			0.997	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1857	0	1770	1857	0
Flt Permitted	0.380			0.412			0.101			0.409		
Satd. Flow (perm)	708	1863	1583	767	1863	1583	188	1857	0	762	1857	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			127			127		1			2	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		2320			2162			5275			780	
Travel Time (s)		52.7			49.1			119.9			17.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	50	259	80	21	249	95	57	424	8	41	828	18
Shared Lane Traffic (%)												
Lane Group Flow (vph)	50	259	80	21	249	95	57	432	0	41	846	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2			6		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5		9.5	22.5	
Total Split (s)	9.6	22.8	22.8	9.6	22.8	22.8	9.6	48.0		9.6	48.0	
Total Split (%)	10.7%	25.3%	25.3%	10.7%	25.3%	25.3%	10.7%	53.3%		10.7%	53.3%	
Maximum Green (s)	5.1	18.3	18.3	5.1	18.3	18.3	5.1	43.5		5.1	43.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Min		None	Min	
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	
Flash Don't Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)		0	0		0	0		0			0	
Act Effct Green (s)	18.7	17.0	17.0	18.0	15.4	15.4	42.1	39.5		42.1	39.5	
Actuated g/C Ratio	0.25	0.23	0.23	0.24	0.21	0.21	0.57	0.53		0.57	0.53	
v/c Ratio	0.19	0.61	0.17	0.08	0.65	0.22	0.25	0.44		0.08	0.86	
Control Delay (s/veh)	24.0	36.1	2.8	22.7	39.3	4.3	10.4	14.9		7.9	29.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	24.0	36.1	2.8	22.7	39.3	4.3	10.4	14.9		7.9	29.2	
LOS	C	D	A	C	D	A	B	B		A	C	
Approach Delay (s/veh)		27.7			29.2			14.4			28.2	
Approach LOS		C			C			B			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 74.4			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.86			
Intersection Signal Delay (s/veh): 25.1		Intersection LOS: C	
Intersection Capacity Utilization 71.2%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 16:

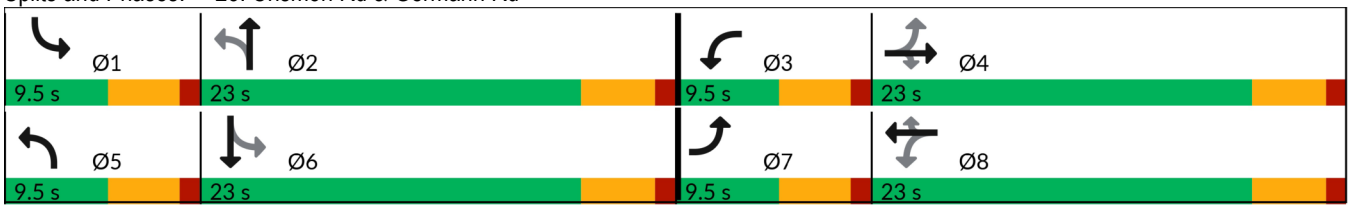


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	337	252	16	262	20	77	75	16	5	314	18
Future Volume (vph)	40	337	252	16	262	20	77	75	16	5	314	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		200	160		160	160		160	50		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.974			0.992	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1814	0	1770	1848	0
Flt Permitted	0.429			0.354			0.382			0.693		
Satd. Flow (perm)	799	1863	1583	659	1863	1583	712	1814	0	1291	1848	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			274			176		16			5	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		5207			2930			5243			1371	
Travel Time (s)		118.3			66.6			119.2			31.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	43	366	274	17	285	22	84	82	17	5	341	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	43	366	274	17	285	22	84	99	0	5	361	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru		Left	Thru	
Leading Detector (ft)	20	100	20	20	100	20	20	100		20	100	
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	
Detector 1 Size(ft)	20	6	20	20	6	20	20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2			6		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5		9.5	22.5	
Total Split (s)	9.5	23.0	23.0	9.5	23.0	23.0	9.5	23.0		9.5	23.0	
Total Split (%)	14.6%	35.4%	35.4%	14.6%	35.4%	35.4%	14.6%	35.4%		14.6%	35.4%	
Maximum Green (s)	5.0	18.5	18.5	5.0	18.5	18.5	5.0	18.5		5.0	18.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None	None	None	Max		None	Max	
Walk Time (s)		7.0	7.0		7.0	7.0		7.0			7.0	
Flash Don't Walk (s)		11.0	11.0		11.0	11.0		11.0			11.0	
Pedestrian Calls (#/hr)		0	0		0	0		0			0	
Act Effct Green (s)	17.5	16.7	16.7	16.7	15.1	15.1	23.7	22.9		22.1	19.5	
Actuated g/C Ratio	0.34	0.32	0.32	0.32	0.29	0.29	0.45	0.44		0.42	0.37	
v/c Ratio	0.12	0.61	0.40	0.05	0.53	0.04	0.20	0.12		0.01	0.52	
Control Delay (s/veh)	12.2	21.6	4.5	11.7	21.5	0.1	10.9	11.4		10.2	19.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	12.2	21.6	4.5	11.7	21.5	0.1	10.9	11.4		10.2	19.8	
LOS	B	C	A	B	C	A	B	B		B	B	
Approach Delay (s/veh)		14.2			19.5			11.2			19.7	
Approach LOS		B			B			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 65			
Actuated Cycle Length: 52.1			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.61			
Intersection Signal Delay (s/veh): 16.2		Intersection LOS: B	
Intersection Capacity Utilization 58.8%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 23: Crismon Rd & Germann Rd

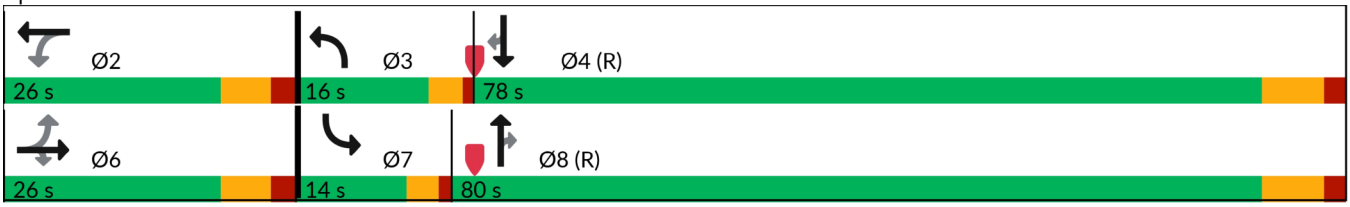


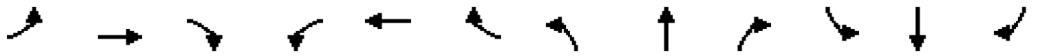
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	219	79	380	36	26	79	192	1266	7	19	1875	320
Future Volume (vph)	219	79	380	36	26	79	192	1266	7	19	1875	320
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		300	300		0	200		425	285		300
Storage Lanes	1		1	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850		0.887				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1652	0	1770	3539	1583	1770	3539	1583
Flt Permitted	0.673			0.701			0.950			0.950		
Satd. Flow (perm)	1254	1863	1583	1306	1652	0	1770	3539	1583	1770	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			144		86				68			307
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		10590			1340			2625			2669	
Travel Time (s)		240.7			30.5			59.7			60.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	238	86	413	39	28	86	209	1376	8	21	2038	348
Shared Lane Traffic (%)												
Lane Group Flow (vph)	238	86	413	39	114	0	209	1376	8	21	2038	348
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2		1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases		6			2		3	8		7	4	
Permitted Phases	6		6	2					8			4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	6	6	6	2	2		3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		8.0	15.0	15.0	8.0	15.0	15.0
Minimum Split (s)	38.5	38.5	38.5	22.5	22.5		12.5	22.5	22.5	14.0	26.0	26.0
Total Split (s)	26.0	26.0	26.0	26.0	26.0		16.0	80.0	80.0	14.0	78.0	78.0
Total Split (%)	21.7%	21.7%	21.7%	21.7%	21.7%		13.3%	66.7%	66.7%	11.7%	65.0%	65.0%
Maximum Green (s)	19.5	19.5	19.5	19.5	19.5		12.0	72.5	72.5	10.0	70.5	70.5
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5		3.0	5.5	5.5	3.0	5.5	5.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0		1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5		4.0	7.5	7.5	4.0	7.5	7.5
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None		None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)	4.0	4.0	4.0									
Flash Don't Walk (s)	28.0	28.0	28.0									
Pedestrian Calls (#/hr)	0	0	0									
Act Effct Green (s)	19.5	19.5	19.5	19.5	19.5		12.0	81.5	81.5	8.2	70.5	70.5
Actuated g/C Ratio	0.16	0.16	0.16	0.16	0.16		0.10	0.68	0.68	0.07	0.59	0.59
v/c Ratio	1.17	0.28	1.10	0.18	0.34		1.18	0.57	0.01	0.17	0.98	0.33
Control Delay (s/veh)	161.7	47.0	105.4	46.0	17.4		151.1	25.2	0.0	54.4	47.7	7.0
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	161.7	47.0	105.4	46.0	17.4		151.1	25.2	0.0	54.4	47.7	7.0
LOS	F	D	F	D	B		F	C	A	D	D	A
Approach Delay (s/veh)		116.8			24.7			41.6			41.9	
Approach LOS		F			C			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 20 (17%), Referenced to phase 4:SBT and 8:NBT, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.18			
Intersection Signal Delay (s/veh): 52.5		Intersection LOS: D	
Intersection Capacity Utilization 100.8%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 27: Ellsworth Rd/Ellsowrth Rd & Pecos Rd



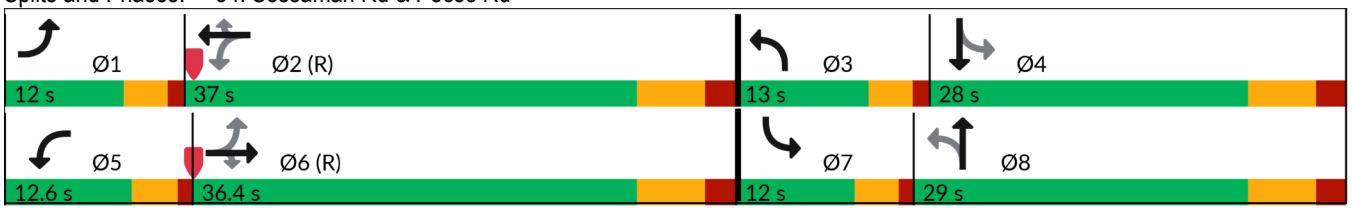


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	483	154	200	398	54	235	271	82	168	460	36
Future Volume (vph)	15	483	154	200	398	54	235	271	82	168	460	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	250		250	230		230	100		0	100		0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.965			0.989	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	1798	0	1770	1842	0
Flt Permitted	0.310			0.179			0.178			0.266		
Satd. Flow (perm)	577	1863	1583	333	1863	1583	332	1798	0	495	1842	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			167			139		16			4	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1095			10590			2563			1844	
Travel Time (s)		24.9			240.7			58.3			41.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	525	167	217	433	59	255	295	89	183	500	39
Shared Lane Traffic (%)												
Lane Group Flow (vph)	16	525	167	217	433	59	255	384	0	183	539	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6		6	2		2	8			4		
Minimum Split (s)	12.0	21.5	21.5	12.0	21.5	21.5	12.0	21.5		12.0	21.5	
Total Split (s)	12.0	36.4	36.4	12.6	37.0	37.0	13.0	29.0		12.0	28.0	
Total Split (%)	13.3%	40.4%	40.4%	14.0%	41.1%	41.1%	14.4%	32.2%		13.3%	31.1%	
Maximum Green (s)	8.0	29.9	29.9	8.6	30.5	30.5	9.0	22.5		8.0	21.5	
Yellow Time (s)	3.0	4.5	4.5	3.0	4.5	4.5	3.0	4.5		3.0	4.5	
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.0	6.5	6.5	4.0	6.5	6.5	4.0	6.5		4.0	6.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Act Effct Green (s)	40.4	29.9	29.9	41.6	30.5	30.5	34.0	22.5		32.0	21.5	
Actuated g/C Ratio	0.45	0.33	0.33	0.46	0.34	0.34	0.38	0.25		0.36	0.24	
v/c Ratio	0.04	0.85	0.26	0.75	0.69	0.09	0.95	0.83		0.63	1.22	
Control Delay (s/veh)	11.8	42.9	4.8	31.2	32.3	0.3	65.9	47.7		29.1	148.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	11.8	42.9	4.8	31.2	32.3	0.3	65.9	47.7		29.1	148.8	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	B	D	A	C	C	A	E	D		C	F	
Approach Delay (s/veh)		33.2			29.3			55.0			118.5	
Approach LOS		C			C			D			F	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green			
Natural Cycle: 90			
Control Type: Pretimed			
Maximum v/c Ratio: 1.22			
Intersection Signal Delay (s/veh): 59.4		Intersection LOS: E	
Intersection Capacity Utilization 93.4%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 34: Sossaman Rd & Pecos Rd

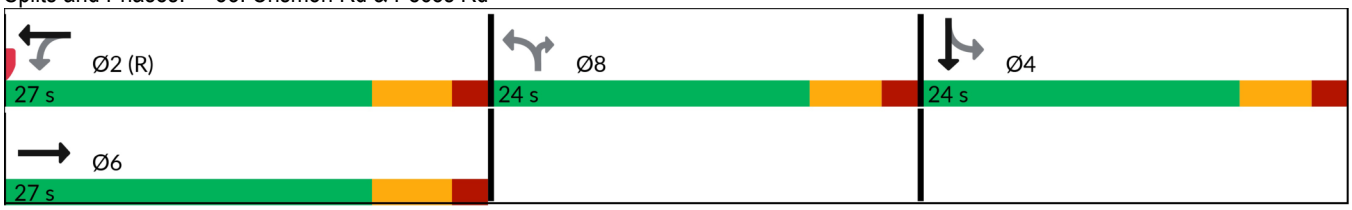


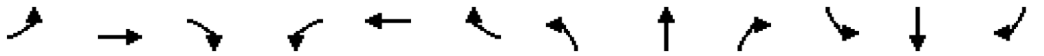
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	98	212	125	141	0	93	0	42	0	0	0
Future Volume (vph)	0	98	212	125	141	0	93	0	42	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		350	0		0
Storage Lanes	0		0	0		0	1		1	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.908							0.850			
Flt Protected					0.977		0.950					
Satd. Flow (prot)	0	1691	0	0	1820	0	1770	0	1583	0	1863	0
Flt Permitted					0.486		0.222					
Satd. Flow (perm)	0	1691	0	0	905	0	414	0	1583	0	1863	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		142							138			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		5244			5276			1103			147	
Travel Time (s)		119.2			119.9			25.1			3.3	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	107	230	136	153	0	101	0	46	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	337	0	0	289	0	101	0	46	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type		NA		Perm	NA		Perm		Perm			
Protected Phases		6			2						4	
Permitted Phases				2			8		8	4		
Minimum Split (s)		24.5		24.5	24.5		24.0		24.0	24.0	24.0	
Total Split (s)		27.0		27.0	27.0		24.0		24.0	24.0	24.0	
Total Split (%)		36.0%		36.0%	36.0%		32.0%		32.0%	32.0%	32.0%	
Maximum Green (s)		20.5		20.5	20.5		18.0		18.0	18.0	18.0	
Yellow Time (s)		4.5		4.5	4.5		4.0		4.0	4.0	4.0	
All-Red Time (s)		2.0		2.0	2.0		2.0		2.0	2.0	2.0	
Lost Time Adjust (s)		0.0			0.0		0.0		0.0		0.0	
Total Lost Time (s)		6.5			6.5		6.0		6.0		6.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		20.5			20.5		18.0		18.0			
Actuated g/C Ratio		0.27			0.27		0.24		0.24			
v/c Ratio		0.60			1.17		1.02		0.10			
Control Delay (s/veh)		18.4			140.5		131.5		0.4			
Queue Delay		0.0			0.0		0.0		0.0			
Total Delay (s/veh)		18.4			140.5		131.5		0.4			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS		B			F		F		A			
Approach Delay (s/veh)		18.4			140.5			90.5				
Approach LOS		B			F			F				

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 75			
Offset: 0 (0%), Referenced to phase 2:WBTL, Start of Green			
Natural Cycle: 80			
Control Type: Pretimed			
Maximum v/c Ratio: 1.17			
Intersection Signal Delay (s/veh): 77.7		Intersection LOS: E	
Intersection Capacity Utilization 51.8%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 53: Crismon Rd & Pecos Rd





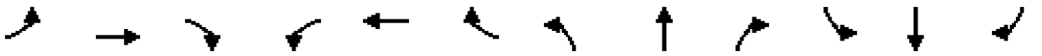
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	77	8	35	168	53	23	453	47	59	774	75
Future Volume (vph)	55	77	8	35	168	53	23	453	47	59	774	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	200		200	250		100	250		0
Storage Lanes	1		0	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.985				0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1835	0	1770	1863	1583	1770	1863	1583	1770	1863	1583
Flt Permitted	0.516			0.697			0.106			0.288		
Satd. Flow (perm)	961	1835	0	1298	1863	1583	197	1863	1583	536	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5				127			127			127
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		5276			5274			1218			1239	
Travel Time (s)		119.9			119.9			27.7			28.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	60	84	9	38	183	58	25	492	51	64	841	82
Shared Lane Traffic (%)												
Lane Group Flow (vph)	60	93	0	38	183	58	25	492	51	64	841	82
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6			2		2	8		8	4		4
Minimum Split (s)	12.5	22.5		12.5	22.5	22.5	12.5	22.5	22.5	12.5	22.5	22.5
Total Split (s)	12.5	22.9		12.5	22.9	22.9	12.5	42.1	42.1	12.5	42.1	42.1
Total Split (%)	13.9%	25.4%		13.9%	25.4%	25.4%	13.9%	46.8%	46.8%	13.9%	46.8%	46.8%
Maximum Green (s)	8.0	18.4		8.0	18.4	18.4	8.0	37.6	37.6	8.0	37.6	37.6
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Act Effct Green (s)	26.4	18.4		26.4	18.4	18.4	45.6	37.6	37.6	45.6	37.6	37.6
Actuated g/C Ratio	0.29	0.20		0.29	0.20	0.20	0.51	0.42	0.42	0.51	0.42	0.42
v/c Ratio	0.17	0.25		0.09	0.48	0.14	0.10	0.63	0.07	0.17	1.08	0.11
Control Delay (s/veh)	21.6	30.4		20.7	36.5	0.7	10.1	25.2	0.2	10.4	83.9	1.4
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	21.6	30.4		20.7	36.5	0.7	10.1	25.2	0.2	10.4	83.9	1.4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	C	C		C	D	A	B	C	A	B	F	A
Approach Delay (s/veh)		26.9			26.9			22.3			72.3	
Approach LOS		C			C			C			E	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green			
Natural Cycle: 90			
Control Type: Pretimed			
Maximum v/c Ratio: 1.08			
Intersection Signal Delay (s/veh): 48.1		Intersection LOS: D	
Intersection Capacity Utilization 79.4%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 54: Signal Butte Rd & Pecos Rd



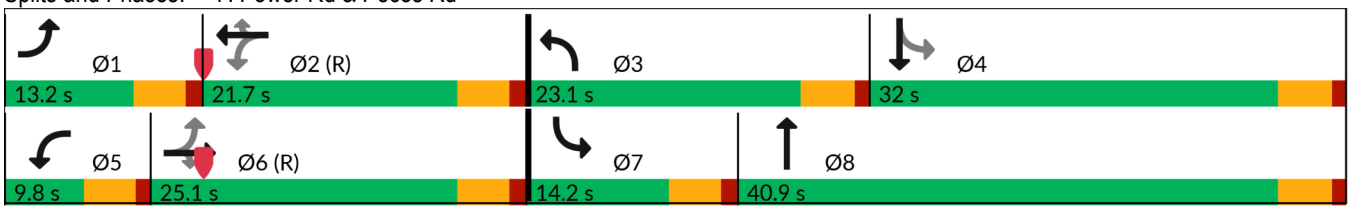


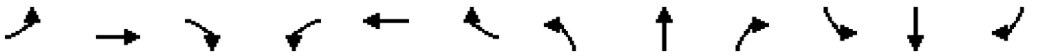
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	220	420	510	160	850	420	660	1410	130	170	1320	170
Future Volume (vph)	220	420	510	160	850	420	660	1410	130	170	1320	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		225	260		275	175		0	185		0
Storage Lanes	1		1	1		1	2		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.97	0.91	0.91	1.00	0.91	0.91
Frt			0.850			0.850		0.987			0.983	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	3433	5019	0	1770	4999	0
Flt Permitted	0.194			0.479			0.950			0.145		
Satd. Flow (perm)	361	5085	1583	892	5085	1583	3433	5019	0	270	4999	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			357			243		20			26	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1340			1066			1058			1257	
Travel Time (s)		30.5			24.2			24.0			28.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	239	457	554	174	924	457	717	1533	141	185	1435	185
Shared Lane Traffic (%)												
Lane Group Flow (vph)	239	457	554	174	924	457	717	1674	0	185	1620	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA		pm+pt	NA	
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6		6	2		2				4		
Minimum Split (s)	9.5	22.0	22.0	9.5	21.0	21.0	9.5	22.5		9.5	22.5	
Total Split (s)	13.2	25.1	25.1	9.8	21.7	21.7	23.1	40.9		14.2	32.0	
Total Split (%)	14.7%	27.9%	27.9%	10.9%	24.1%	24.1%	25.7%	45.4%		15.8%	35.6%	
Maximum Green (s)	8.7	20.6	20.6	5.3	17.2	17.2	18.6	36.4		9.7	27.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Act Effct Green (s)	29.3	20.6	20.6	22.5	17.2	17.2	18.6	36.4		37.2	27.5	
Actuated g/C Ratio	0.33	0.23	0.23	0.25	0.19	0.19	0.21	0.40		0.41	0.31	
v/c Ratio	0.94	0.39	0.87	0.64	0.95	0.92	1.01	0.82		0.68	1.05	
Control Delay (s/veh)	71.6	30.6	27.9	13.9	31.2	31.6	73.6	27.7		30.7	68.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	71.6	30.6	27.9	13.9	31.2	31.6	73.6	27.7		30.7	68.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	E	C	C	B	C	C	E	C		C	E	
Approach Delay (s/veh)		37.2			29.4			41.5			64.2	
Approach LOS		D			C			D			E	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 52 (58%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green			
Natural Cycle: 100			
Control Type: Pretimed			
Maximum v/c Ratio: 1.05			
Intersection Signal Delay (s/veh): 43.9		Intersection LOS: D	
Intersection Capacity Utilization 91.7%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 7: Power Rd & Pecos Rd



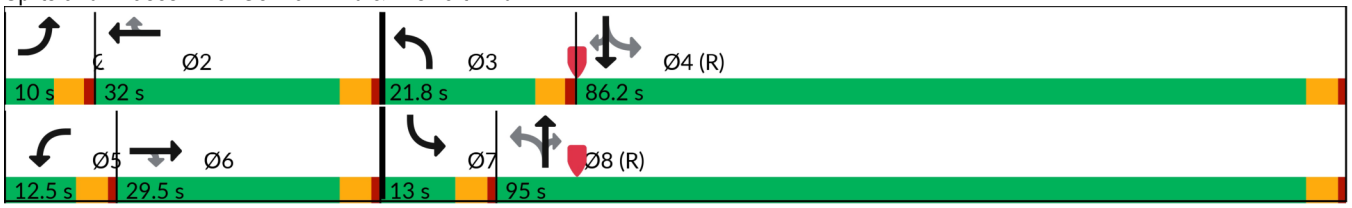


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	110	600	145	120	490	450	200	2720	120	200	2200	100
Future Volume (vph)	110	600	145	120	490	450	200	2720	120	200	2200	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		150	150		150	150		150	150		150
Storage Lanes	2		1	2		1	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5085	1583	3433	3539	1583	1770	3539	1583	1770	5085	1583
Flt Permitted	0.950			0.950			0.046			0.048		
Satd. Flow (perm)	3433	5085	1583	3433	3539	1583	86	3539	1583	89	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			133			109			76			109
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		9588			452			1334			525	
Travel Time (s)		145.3			6.8			20.2			8.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	120	652	158	130	533	489	217	2957	130	217	2391	109
Shared Lane Traffic (%)												
Lane Group Flow (vph)	120	652	158	130	533	489	217	2957	130	217	2391	109
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases			6			2	8		8	4		4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6	6	5	2	2	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	10.0	29.5	29.5	12.5	32.0	32.0	21.8	95.0	95.0	13.0	86.2	86.2
Total Split (%)	6.7%	19.7%	19.7%	8.3%	21.3%	21.3%	14.5%	63.3%	63.3%	8.7%	57.5%	57.5%
Maximum Green (s)	5.5	25.0	25.0	8.0	27.5	27.5	17.3	90.5	90.5	8.5	81.7	81.7
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	Max	Max	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	5.5	25.0	25.0	8.0	27.5	27.5	103.5	90.5	90.5	91.1	82.6	82.6
Actuated g/C Ratio	0.04	0.17	0.17	0.05	0.18	0.18	0.69	0.60	0.60	0.61	0.55	0.55
v/c Ratio	0.96	0.77	0.42	0.71	0.82	1.29	0.89	1.39	0.13	1.46	0.85	0.12
Control Delay (s/veh)	140.6	66.7	16.4	98.0	62.4	180.0	78.1	203.8	5.8	271.9	32.7	3.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	140.6	66.7	16.4	98.0	62.4	180.0	78.1	203.8	5.8	271.9	32.7	3.0
LOS	F	E	B	F	E	F	E	F	A	F	C	A
Approach Delay (s/veh)		67.7			116.3			187.7			50.7	
Approach LOS		E			F			F			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 150			
Actuated Cycle Length: 150			
Offset: 72 (48%), Referenced to phase 4:SBTL and 8:NBTL, Start of Green			
Natural Cycle: 150			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.46			
Intersection Signal Delay (s/veh): 117.8		Intersection LOS: F	
Intersection Capacity Utilization 119.0%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 8: Germann Rd & Ellsworth Rd



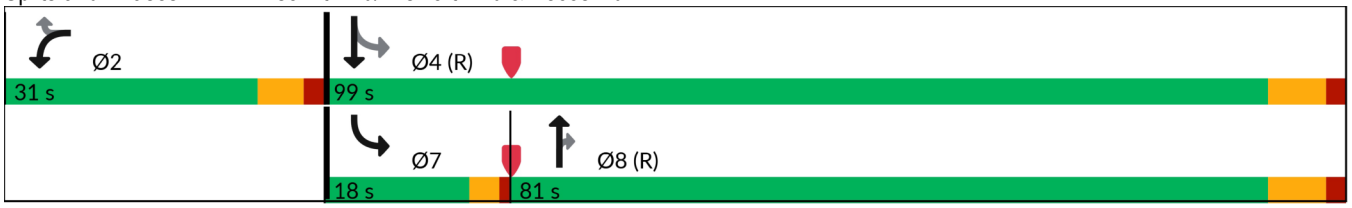


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	220	400	2880	230	240	2400
Future Volume (vph)	220	400	2880	230	240	2400
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		200	150	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.91	1.00	1.00	0.91
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	5085	1583	1770	5085
Flt Permitted	0.950				0.052	
Satd. Flow (perm)	1770	1583	5085	1583	97	5085
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		175		125		
Link Speed (mph)	30		30			30
Link Distance (ft)	5242		2657			3843
Travel Time (s)	119.1		60.4			87.3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	239	435	3130	250	261	2609
Shared Lane Traffic (%)						
Lane Group Flow (vph)	239	435	3130	250	261	2609
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	24		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (ft)	20	20	100	20	20	100
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	6	20	20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	2		8		7	4
Permitted Phases	2	2		8	4	

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector Phase	2	2	8	8	7	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	15.0	15.0	8.0	15.0
Minimum Split (s)	23.0	23.0	25.5	25.5	12.5	25.5
Total Split (s)	31.0	31.0	81.0	81.0	18.0	99.0
Total Split (%)	23.8%	23.8%	62.3%	62.3%	13.8%	76.2%
Maximum Green (s)	24.5	24.5	73.5	73.5	14.0	91.5
Yellow Time (s)	4.5	4.5	5.5	5.5	3.0	5.5
All-Red Time (s)	2.0	2.0	2.0	2.0	1.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	7.5	7.5	4.0	7.5
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Max	Max	C-Max	C-Max	None	C-Max
Act Effct Green (s)	24.5	24.5	73.5	73.5	95.0	91.5
Actuated g/C Ratio	0.19	0.19	0.57	0.57	0.73	0.70
v/c Ratio	0.72	0.99	1.09	0.26	1.04	0.73
Control Delay (s/veh)	62.7	71.7	75.0	7.6	104.9	13.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	62.7	71.7	75.0	7.6	104.9	13.2
LOS	E	E	E	A	F	B
Approach Delay (s/veh)	68.5		70.0			21.6
Approach LOS	E		E			C

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 0 (0%), Referenced to phase 4:SBTL and 8:NBT, Start of Green			
Natural Cycle: 130			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.09			
Intersection Signal Delay (s/veh): 49.8		Intersection LOS: D	
Intersection Capacity Utilization 96.1%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 14: Ellsowrth Rd/Ellsworth Rd & Pecos Rd

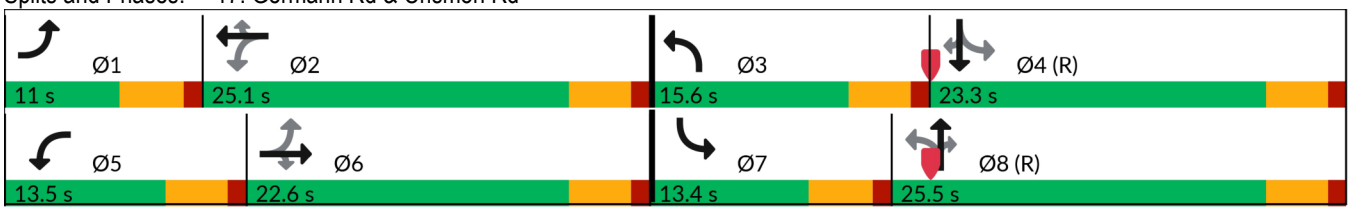


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	700	140	260	630	140	310	370	120	130	210	120
Future Volume (vph)	80	700	140	260	630	140	310	370	120	130	210	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		150	150		150	150		150	150		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	5085	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.377			0.175			0.530			0.515		
Satd. Flow (perm)	702	3539	1583	326	5085	1583	987	3539	1583	959	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			153			153			153			153
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		593			5322			1482			4156	
Travel Time (s)		9.0			80.6			22.5			63.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	87	761	152	283	685	152	337	402	130	141	228	130
Shared Lane Traffic (%)												
Lane Group Flow (vph)	87	761	152	283	685	152	337	402	130	141	228	130
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6		6	2		2	8		8	4		4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6	6	5	2	2	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	11.0	22.6	22.6	13.5	25.1	25.1	15.6	25.5	25.5	13.4	23.3	23.3
Total Split (%)	14.7%	30.1%	30.1%	18.0%	33.5%	33.5%	20.8%	34.0%	34.0%	17.9%	31.1%	31.1%
Maximum Green (s)	6.5	18.1	18.1	9.0	20.6	20.6	11.1	21.0	21.0	8.9	18.8	18.8
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	Max	Max	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Don't Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	24.4	18.1	18.1	30.0	22.8	22.8	32.6	21.7	21.7	27.2	19.0	19.0
Actuated g/C Ratio	0.33	0.24	0.24	0.40	0.30	0.30	0.43	0.29	0.29	0.36	0.25	0.25
v/c Ratio	0.27	0.89	0.31	0.93	0.44	0.26	0.62	0.39	0.23	0.32	0.25	0.25
Control Delay (s/veh)	11.4	34.1	4.4	58.0	22.9	5.3	19.8	23.0	4.0	14.6	23.4	4.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	11.4	34.1	4.4	58.0	22.9	5.3	19.8	23.0	4.0	14.6	23.4	4.4
LOS	B	C	A	E	C	A	B	C	A	B	C	A
Approach Delay (s/veh)		27.6			29.4			18.9			15.9	
Approach LOS		C			C			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 75			
Offset: 64 (85%), Referenced to phase 4:SBTL and 8:NBTL, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.93			
Intersection Signal Delay (s/veh): 24.3		Intersection LOS: C	
Intersection Capacity Utilization 71.7%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 17: Germann Rd & Crismon Rd

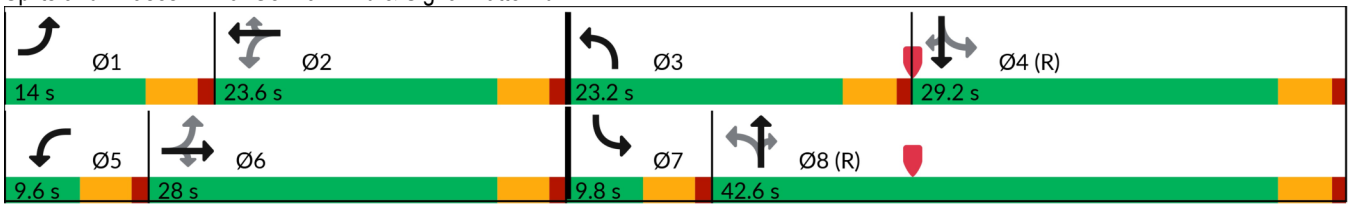


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	170	700	80	60	520	200	330	990	120	100	1000	180
Future Volume (vph)	170	700	80	60	520	200	330	990	120	100	1000	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		150	150		150	150		150
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1770	5085	1583
Flt Permitted	0.194			0.205			0.132			0.197		
Satd. Flow (perm)	361	3539	1583	382	3539	1583	246	3539	1583	367	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			182			186			130			190
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		5322			551			378			3951	
Travel Time (s)		80.6			8.3			5.7			59.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	185	761	87	65	565	217	359	1076	130	109	1087	196
Shared Lane Traffic (%)												
Lane Group Flow (vph)	185	761	87	65	565	217	359	1076	130	109	1087	196
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6		6	2		2	8		8	4		4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6	6	5	2	2	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	14.0	28.0	28.0	9.6	23.6	23.6	23.2	42.6	42.6	9.8	29.2	29.2
Total Split (%)	15.6%	31.1%	31.1%	10.7%	26.2%	26.2%	25.8%	47.3%	47.3%	10.9%	32.4%	32.4%
Maximum Green (s)	9.5	23.5	23.5	5.1	19.1	19.1	18.7	38.1	38.1	5.3	24.7	24.7
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	Max	Max	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	33.0	25.4	25.4	24.4	19.3	19.3	47.9	40.1	40.1	31.9	26.6	26.6
Actuated g/C Ratio	0.37	0.28	0.28	0.27	0.21	0.21	0.53	0.45	0.45	0.35	0.30	0.30
v/c Ratio	0.67	0.76	0.15	0.36	0.74	0.45	0.87	0.68	0.17	0.51	0.72	0.33
Control Delay (s/veh)	33.3	36.3	0.6	25.0	40.0	10.3	42.2	23.3	3.6	26.8	18.9	3.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	33.3	36.3	0.6	25.0	40.0	10.3	42.2	23.3	3.6	26.8	18.9	3.5
LOS	C	D	A	C	D	B	D	C	A	C	B	A
Approach Delay (s/veh)		32.8			31.2			26.0			17.3	
Approach LOS		C			C			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 48 (53%), Referenced to phase 4:SBTL and 8:NBTL, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.87			
Intersection Signal Delay (s/veh): 25.9		Intersection LOS: C	
Intersection Capacity Utilization 76.4%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 20: Germann Rd & Signal Butte Rd

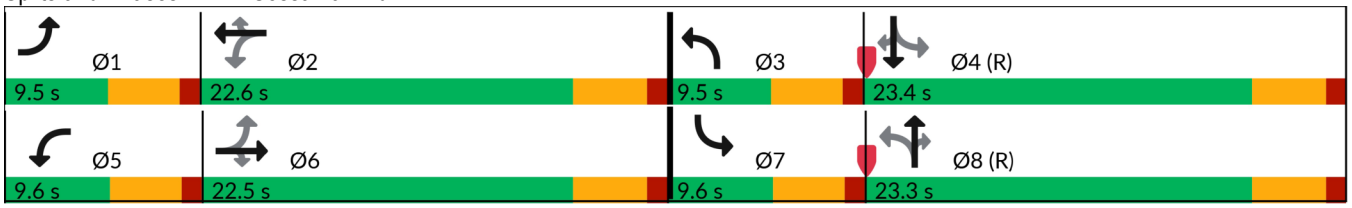


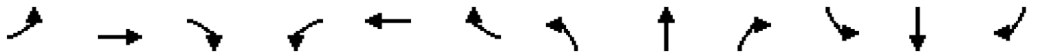
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	500	50	150	400	550	50	1000	400	150	670	50
Future Volume (vph)	60	500	50	150	400	550	50	1000	400	150	670	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		300	300		300	300		300	300		300
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	0.91	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	1770	5085	1583	1770	3539	1583
Flt Permitted	0.490			0.373			0.305			0.170		
Satd. Flow (perm)	913	5085	1583	695	5085	1583	568	5085	1583	317	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			176			323			284			176
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		708			934			661			613	
Travel Time (s)		16.1			21.2			15.0			13.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	65	543	54	163	435	598	54	1087	435	163	728	54
Shared Lane Traffic (%)												
Lane Group Flow (vph)	65	543	54	163	435	598	54	1087	435	163	728	54
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6		6	2		2	8		8	4		4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6	6	5	2	2	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	9.5	22.5	22.5	9.6	22.6	22.6	9.5	23.3	23.3	9.6	23.4	23.4
Total Split (%)	14.6%	34.6%	34.6%	14.8%	34.8%	34.8%	14.6%	35.8%	35.8%	14.8%	36.0%	36.0%
Maximum Green (s)	5.0	18.0	18.0	5.1	18.1	18.1	5.0	18.8	18.8	5.1	18.9	18.9
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	19.5	15.5	15.5	20.5	17.5	17.5	27.7	22.5	22.5	30.2	27.1	27.1
Actuated g/C Ratio	0.30	0.24	0.24	0.32	0.27	0.27	0.43	0.35	0.35	0.46	0.42	0.42
v/c Ratio	0.19	0.45	0.11	0.54	0.32	0.90	0.16	0.62	0.59	0.59	0.49	0.07
Control Delay (s/veh)	13.3	21.9	0.4	20.8	19.4	30.6	11.8	20.8	11.0	23.2	18.3	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	13.3	21.9	0.4	20.8	19.4	30.6	11.8	20.8	11.0	23.2	18.3	0.2
LOS	B	C	A	C	B	C	B	C	B	C	B	A
Approach Delay (s/veh)		19.3			25.2			17.8			18.1	
Approach LOS		B			C			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 65			
Actuated Cycle Length: 65			
Offset: 0 (0%), Referenced to phase 4:SBTL and 8:NBTL, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.90			
Intersection Signal Delay (s/veh): 20.1		Intersection LOS: C	
Intersection Capacity Utilization 68.8%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 21: Sossaman Rd



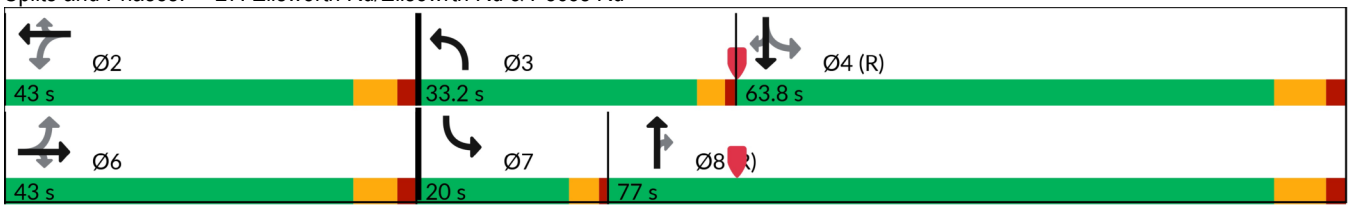


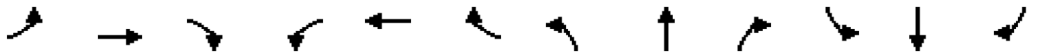
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	420	120	660	50	100	90	650	2600	30	40	1790	790
Future Volume (vph)	420	120	660	50	100	90	650	2600	30	40	1790	790
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200	0		200	200		425	285		300
Storage Lanes	1		1	1		1	2		1	1		2
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	0.97	0.91	1.00	1.00	0.91	0.88
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1863	1583	1770	1863	1583	3433	5085	1583	1770	5085	2787
Flt Permitted	0.683			0.645			0.950			0.071		
Satd. Flow (perm)	2468	1863	1583	1201	1863	1583	3433	5085	1583	132	5085	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			338			98			58			672
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		10561			702			1317			2657	
Travel Time (s)		240.0			16.0			29.9			60.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	457	130	717	54	109	98	707	2826	33	43	1946	859
Shared Lane Traffic (%)												
Lane Group Flow (vph)	457	130	717	54	109	98	707	2826	33	43	1946	859
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm
Protected Phases		6			2		3	8		7	4	
Permitted Phases	6		6	2		2			8	4		4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	6	6	6	2	2	2	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	8.0	15.0	15.0	8.0	15.0	15.0
Minimum Split (s)	38.5	38.5	38.5	22.5	22.5	22.5	12.5	22.5	22.5	12.5	22.5	22.5
Total Split (s)	43.0	43.0	43.0	43.0	43.0	43.0	33.2	77.0	77.0	20.0	63.8	63.8
Total Split (%)	30.7%	30.7%	30.7%	30.7%	30.7%	30.7%	23.7%	55.0%	55.0%	14.3%	45.6%	45.6%
Maximum Green (s)	36.5	36.5	36.5	36.5	36.5	36.5	29.2	69.5	69.5	16.0	56.3	56.3
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	3.0	5.5	5.5	3.0	5.5	5.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	4.0	7.5	7.5	4.0	7.5	7.5
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	Max	Max	Max	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)	4.0	4.0	4.0									
Flash Don't Walk (s)	28.0	28.0	28.0									
Pedestrian Calls (#/hr)	0	0	0									
Act Effct Green (s)	36.5	36.5	36.5	36.5	36.5	36.5	29.2	79.9	79.9	67.8	56.3	56.3
Actuated g/C Ratio	0.26	0.26	0.26	0.26	0.26	0.26	0.21	0.57	0.57	0.48	0.40	0.40
v/c Ratio	0.71	0.27	1.08	0.17	0.22	0.20	0.99	0.97	0.04	0.27	0.95	0.56
Control Delay (s/veh)	54.1	43.0	85.3	42.0	42.2	8.2	85.5	41.3	1.1	17.2	52.1	7.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	54.1	43.0	85.3	42.0	42.2	8.2	85.5	41.3	1.1	17.2	52.1	7.8
LOS	D	D	F	D	D	A	F	D	A	B	D	A
Approach Delay (s/veh)		70.2			29.4			49.7			38.2	
Approach LOS		E			C			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 140			
Actuated Cycle Length: 140			
Offset: 0 (0%), Referenced to phase 4:SBTL and 8:NBT, Start of Green			
Natural Cycle: 140			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.08			
Intersection Signal Delay (s/veh): 48.3		Intersection LOS: D	
Intersection Capacity Utilization 100.9%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 27: Ellsworth Rd/Ellsowrth Rd & Pecos Rd





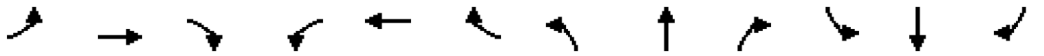
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	530	150	420	890	370	490	890	230	80	300	50
Future Volume (vph)	40	530	150	420	890	370	490	890	230	80	300	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		100	100		100	100		100	100		100
Storage Lanes	1		1	1		1	2		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	3433	3539	1583	1770	3539	1583
Flt Permitted	0.205			0.217			0.950			0.216		
Satd. Flow (perm)	382	3539	1583	404	3539	1583	3433	3539	1583	402	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			236			227			188			236
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1090			10561			1281			1844	
Travel Time (s)		24.8			240.0			29.1			41.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	43	576	163	457	967	402	533	967	250	87	326	54
Shared Lane Traffic (%)												
Lane Group Flow (vph)	43	576	163	457	967	402	533	967	250	87	326	54
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6		6	2		2			8	4		4
Minimum Split (s)	12.0	24.5	24.5	12.0	24.5	24.5	12.0	24.5	24.5	12.0	24.5	24.5
Total Split (s)	12.0	26.0	26.0	20.0	34.0	34.0	19.0	32.0	32.0	12.0	25.0	25.0
Total Split (%)	13.3%	28.9%	28.9%	22.2%	37.8%	37.8%	21.1%	35.6%	35.6%	13.3%	27.8%	27.8%
Maximum Green (s)	8.0	19.5	19.5	16.0	27.5	27.5	15.0	25.5	25.5	8.0	18.5	18.5
Yellow Time (s)	3.0	4.5	4.5	3.0	4.5	4.5	3.0	4.5	4.5	3.0	4.5	4.5
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.5	6.5	4.0	6.5	6.5	4.0	6.5	6.5	4.0	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Act Effct Green (s)	30.0	19.5	19.5	42.0	27.5	27.5	15.0	25.5	25.5	29.0	18.5	18.5
Actuated g/C Ratio	0.33	0.22	0.22	0.47	0.31	0.31	0.17	0.28	0.28	0.32	0.21	0.21
v/c Ratio	0.17	0.75	0.31	1.06	0.89	0.63	0.93	0.97	0.43	0.35	0.45	0.11
Control Delay (s/veh)	11.7	29.2	1.6	82.4	42.1	16.2	62.4	54.1	10.0	19.6	33.6	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	11.7	29.2	1.6	82.4	42.1	16.2	62.4	54.1	10.0	19.6	33.6	0.4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	B	C	A	F	D	B	E	D	B	B	C	A
Approach Delay (s/veh)		22.5			46.5			50.4			27.2	
Approach LOS		C			D			D			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 84 (93%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green			
Natural Cycle: 90			
Control Type: Pretimed			
Maximum v/c Ratio: 1.06			
Intersection Signal Delay (s/veh): 42.1		Intersection LOS: D	
Intersection Capacity Utilization 86.3%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 34: Sossaman Rd & Pecos Rd





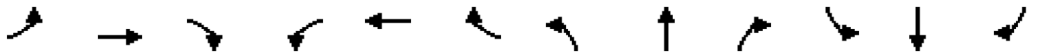
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	300	120	90	180	200	300	210	80	100	250	140
Future Volume (vph)	50	300	120	90	180	200	300	210	80	100	250	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	200		0	200		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.957			0.921			0.959			0.946	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3387	0	1770	3260	0	1770	3394	0	1770	3348	0
Flt Permitted	0.510			0.489			0.505			0.561		
Satd. Flow (perm)	950	3387	0	911	3260	0	941	3394	0	1045	3348	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		105			217			87			152	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		5242			594			1176			1019	
Travel Time (s)		119.1			13.5			26.7			23.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	326	130	98	196	217	326	228	87	109	272	152
Shared Lane Traffic (%)												
Lane Group Flow (vph)	54	456	0	98	413	0	326	315	0	109	424	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		6			2			8			4	
Permitted Phases	6			2			8			4		
Minimum Split (s)	24.5	24.5		24.5	24.5		24.0	24.0		24.0	24.0	
Total Split (s)	26.0	26.0		26.0	26.0		34.0	34.0		34.0	34.0	
Total Split (%)	43.3%	43.3%		43.3%	43.3%		56.7%	56.7%		56.7%	56.7%	
Maximum Green (s)	19.5	19.5		19.5	19.5		28.0	28.0		28.0	28.0	
Yellow Time (s)	4.5	4.5		4.5	4.5		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.5	6.5		6.5	6.5		6.0	6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)	19.5	19.5		19.5	19.5		28.0	28.0		28.0	28.0	
Actuated g/C Ratio	0.33	0.33		0.33	0.33		0.47	0.47		0.47	0.47	
v/c Ratio	0.18	0.39		0.33	0.34		0.74	0.19		0.22	0.26	
Control Delay (s/veh)	16.4	13.0		19.3	8.0		26.5	7.0		11.1	6.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	16.4	13.0		19.3	8.0		26.5	7.0		11.1	6.5	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	B	B		B	A		C	A		B	A	
Approach Delay (s/veh)		13.4			10.2			16.9			7.5	
Approach LOS		B			B			B			A	

Intersection Summary			
Area Type:	Other		
Cycle Length: 60			
Actuated Cycle Length: 60			
Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green			
Natural Cycle: 60			
Control Type: Pretimed			
Maximum v/c Ratio: 0.74			
Intersection Signal Delay (s/veh): 12.2		Intersection LOS: B	
Intersection Capacity Utilization 73.8%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 47: Crismon Rd & Pecos Rd





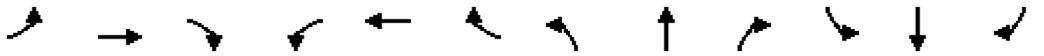
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	90	340	50	180	260	310	50	1250	60	400	1050	160
Future Volume (vph)	90	340	50	180	260	310	50	1250	60	400	1050	160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	200		200	200		0	200		200
Storage Lanes	1		0	1		1	1		0	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.91	0.91	0.97	0.91	1.00
Frt		0.981				0.850		0.993				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3472	0	1770	3539	1583	1770	5050	0	3433	5085	1583
Flt Permitted	0.539			0.363			0.192			0.950		
Satd. Flow (perm)	1004	3472	0	676	3539	1583	358	5050	0	3433	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16				337		8				174
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		503			539			1349			1309	
Travel Time (s)		11.4			12.3			30.7			29.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	98	370	54	196	283	337	54	1359	65	435	1141	174
Shared Lane Traffic (%)												
Lane Group Flow (vph)	98	424	0	196	283	337	54	1424	0	435	1141	174
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6			2		2	8					4
Minimum Split (s)	12.5	22.5		12.5	22.5	22.5	12.5	22.5		12.5	22.5	22.5
Total Split (s)	12.6	24.7		13.0	25.1	25.1	12.6	33.0		19.3	39.7	39.7
Total Split (%)	14.0%	27.4%		14.4%	27.9%	27.9%	14.0%	36.7%		21.4%	44.1%	44.1%
Maximum Green (s)	8.1	20.2		8.5	20.6	20.6	8.1	28.5		14.8	35.2	35.2
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Act Effct Green (s)	28.3	20.2		29.1	20.6	20.6	36.6	28.5		14.8	35.2	35.2
Actuated g/C Ratio	0.31	0.22		0.32	0.23	0.23	0.41	0.32		0.16	0.39	0.39
v/c Ratio	0.26	0.54		0.61	0.35	0.54	0.20	0.89		0.77	0.57	0.24
Control Delay (s/veh)	21.1	32.5		29.9	30.6	7.1	9.1	25.3		46.5	22.9	3.9
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	21.1	32.5		29.9	30.6	7.1	9.1	25.3		46.5	22.9	3.9

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	C	C		C	C	A	A	C		D	C	A
Approach Delay (s/veh)		30.3			20.7			24.7			26.9	
Approach LOS		C			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green			
Natural Cycle: 80			
Control Type: Pretimed			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay (s/veh): 25.5		Intersection LOS: C	
Intersection Capacity Utilization 74.4%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 51: Signal Butte Rd & Pecos Rd





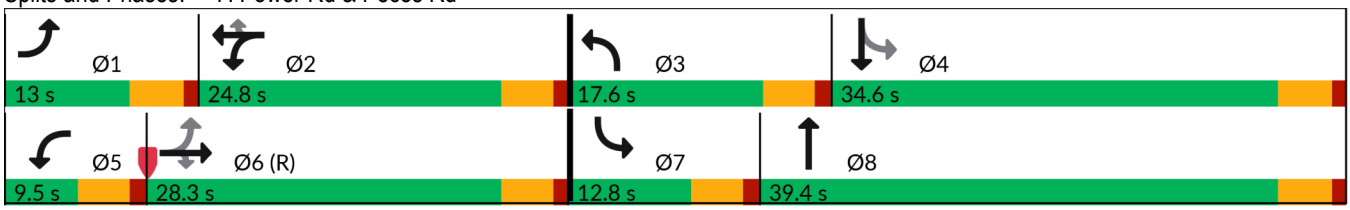
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	190	850	500	230	765	30	410	1210	90	140	1430	100
Future Volume (vph)	190	850	500	230	765	30	410	1210	90	140	1430	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		225	260		275	175		0	185		0
Storage Lanes	1		1	1		1	2		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.97	0.91	0.91	1.00	0.91	0.91
Frt			0.850			0.850		0.990			0.990	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	3433	5034	0	1770	5034	0
Flt Permitted	0.168			0.950			0.950			0.133		
Satd. Flow (perm)	313	5085	1583	1770	5085	1583	3433	5034	0	248	5034	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			255			182		15			13	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1340			1066			1058			1257	
Travel Time (s)		30.5			24.2			24.0			28.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	207	924	543	250	832	33	446	1315	98	152	1554	109
Shared Lane Traffic (%)												
Lane Group Flow (vph)	207	924	543	250	832	33	446	1413	0	152	1663	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA		pm+pt	NA	
Protected Phases	1	6!		2 5!	2		3	8		7	4	
Permitted Phases	6		6			2				4		
Minimum Split (s)	9.5	22.0	22.0		9.5	9.5	9.5	22.5		9.5	22.5	
Total Split (s)	13.0	28.3	28.3		24.8	24.8	17.6	39.4		12.8	34.6	
Total Split (%)	14.4%	31.4%	31.4%		27.6%	27.6%	19.6%	43.8%		14.2%	38.4%	
Maximum Green (s)	8.5	23.8	23.8		20.3	20.3	13.1	34.9		8.3	30.1	
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag	Lag		Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes		Yes	Yes	Yes	Yes		Yes	Yes	
Act Effct Green (s)	32.3	23.8	23.8	25.3	20.3	20.3	13.1	34.9		38.4	30.1	
Actuated g/C Ratio	0.36	0.26	0.26	0.28	0.23	0.23	0.15	0.39		0.43	0.33	
v/c Ratio	0.83	0.69	0.90	0.50	0.73	0.07	0.89	0.72		0.62	0.98	
Control Delay (s/veh)	50.2	32.9	36.5	28.7	37.7	0.7	60.0	25.7		26.4	48.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	50.2	32.9	36.5	28.7	37.7	0.7	60.0	25.7		26.4	48.6	

Lane Group	Ø5
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Turn Type	
Protected Phases	5
Permitted Phases	
Minimum Split (s)	9.5
Total Split (s)	9.5
Total Split (%)	11%
Maximum Green (s)	5.0
Yellow Time (s)	3.5
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lead
Lead-Lag Optimize?	Yes
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay (s/veh)	
Queue Delay	
Total Delay (s/veh)	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	D	C	D	C	D	A	E	C		C	D	
Approach Delay (s/veh)		36.2			34.6			34.0			46.7	
Approach LOS		D			C			C			D	

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 6:EBTL, Start of Green	
Natural Cycle: 90	
Control Type: Pretimed	
Maximum v/c Ratio: 0.98	
Intersection Signal Delay (s/veh): 38.2	Intersection LOS: D
Intersection Capacity Utilization 85.7%	ICU Level of Service E
Analysis Period (min) 15	
! Phase conflict between lane groups.	

Splits and Phases: 7: Power Rd & Pecos Rd



Lane Group	Ø5
LOS	
Approach Delay (s/veh)	
Approach LOS	

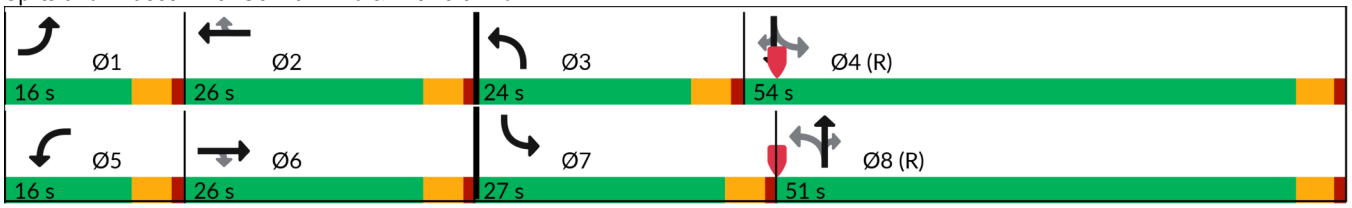
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	250	550	210	200	500	160	275	1500	190	450	1860	390
Future Volume (vph)	250	550	210	200	500	160	275	1500	190	450	1860	390
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		150	150		150	150		150	150		150
Storage Lanes	2		1	2		1	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	0.91	1.00	0.97	0.95	1.00	1.00	0.95	1.00	1.00	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	5085	1583	3433	3539	1583	1770	3539	1583	1770	5085	1583
Flt Permitted	0.950			0.950			0.086			0.079		
Satd. Flow (perm)	3433	5085	1583	3433	3539	1583	160	3539	1583	147	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			228			156			130			205
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		9588			452			1334			525	
Travel Time (s)		145.3			6.8			20.2			8.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	272	598	228	217	543	174	299	1630	207	489	2022	424
Shared Lane Traffic (%)												
Lane Group Flow (vph)	272	598	228	217	543	174	299	1630	207	489	2022	424
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases			6			2	8		8	4		4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6	6	5	2	2	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	16.0	26.0	26.0	16.0	26.0	26.0	24.0	51.0	51.0	27.0	54.0	54.0
Total Split (%)	13.3%	21.7%	21.7%	13.3%	21.7%	21.7%	20.0%	42.5%	42.5%	22.5%	45.0%	45.0%
Maximum Green (s)	11.5	21.5	21.5	11.5	21.5	21.5	19.5	46.5	46.5	22.5	49.5	49.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	Max	Max	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	11.5	22.0	22.0	11.0	21.5	21.5	65.0	46.5	46.5	72.3	50.5	50.5
Actuated g/C Ratio	0.10	0.18	0.18	0.09	0.18	0.18	0.54	0.39	0.39	0.60	0.42	0.42
v/c Ratio	0.83	0.64	0.48	0.69	0.86	0.42	0.90	1.19	0.30	1.25	0.95	0.54
Control Delay (s/veh)	74.7	49.2	9.1	64.6	62.0	12.3	62.3	126.6	10.9	163.1	44.2	15.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	74.7	49.2	9.1	64.6	62.0	12.3	62.3	126.6	10.9	163.1	44.2	15.9
LOS	E	D	A	E	E	B	E	F	B	F	D	B
Approach Delay (s/veh)		47.2			53.3			106.4			59.9	
Approach LOS		D			D			F			E	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 4:SBTL and 8:NBTL, Start of Green			
Natural Cycle: 120			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.25			
Intersection Signal Delay (s/veh): 71.1		Intersection LOS: E	
Intersection Capacity Utilization 102.3%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 8: Germann Rd & Ellsworth Rd



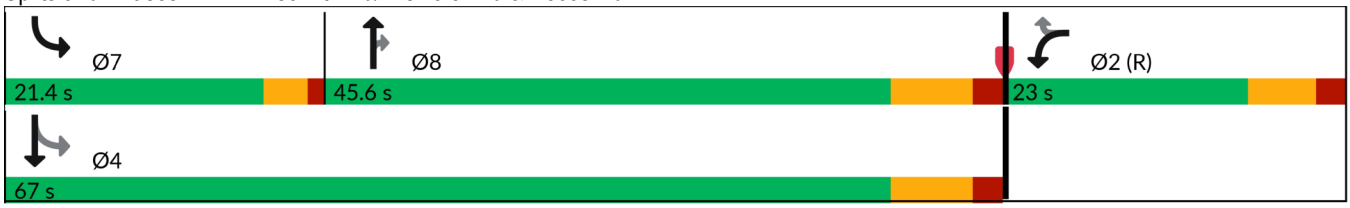


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	220	390	1850	200	380	2560
Future Volume (vph)	220	390	1850	200	380	2560
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		200	150	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.91	1.00	1.00	0.91
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	5085	1583	1770	5085
Flt Permitted	0.950				0.095	
Satd. Flow (perm)	1770	1583	5085	1583	177	5085
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		343		184		
Link Speed (mph)	30		30			30
Link Distance (ft)	5242		2657			3843
Travel Time (s)	119.1		60.4			87.3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	239	424	2011	217	413	2783
Shared Lane Traffic (%)						
Lane Group Flow (vph)	239	424	2011	217	413	2783
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	24		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (ft)	20	20	100	20	20	100
Trailing Detector (ft)	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0
Detector 1 Size(ft)	20	20	6	20	20	6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)			94			94
Detector 2 Size(ft)			6			6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Prot	Perm	NA	Perm	pm+pt	NA
Protected Phases	2		8		7	4
Permitted Phases	2	2		8	4	

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Detector Phase	2	2	8	8	7	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	15.0	15.0	8.0	15.0
Minimum Split (s)	23.0	23.0	25.5	25.5	12.5	25.5
Total Split (s)	23.0	23.0	45.6	45.6	21.4	67.0
Total Split (%)	25.6%	25.6%	50.7%	50.7%	23.8%	74.4%
Maximum Green (s)	16.5	16.5	38.1	38.1	17.4	59.5
Yellow Time (s)	4.5	4.5	5.5	5.5	3.0	5.5
All-Red Time (s)	2.0	2.0	2.0	2.0	1.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	7.5	7.5	4.0	7.5
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	C-Max	Max	Max	None	Max
Act Effct Green (s)	16.5	16.5	38.1	38.1	63.0	59.5
Actuated g/C Ratio	0.18	0.18	0.42	0.42	0.70	0.66
v/c Ratio	0.74	0.74	0.93	0.28	0.96	0.83
Control Delay (s/veh)	49.9	16.9	34.5	4.9	59.3	14.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	49.9	16.9	34.5	4.9	59.3	14.3
LOS	D	B	C	A	E	B
Approach Delay (s/veh)	28.8		31.6			20.1
Approach LOS	C		C			C

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:WBL and 6:, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.96			
Intersection Signal Delay (s/veh): 25.3		Intersection LOS: C	
Intersection Capacity Utilization 84.0%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 14: Ellsowrth Rd/Ellsworth Rd & Pecos Rd

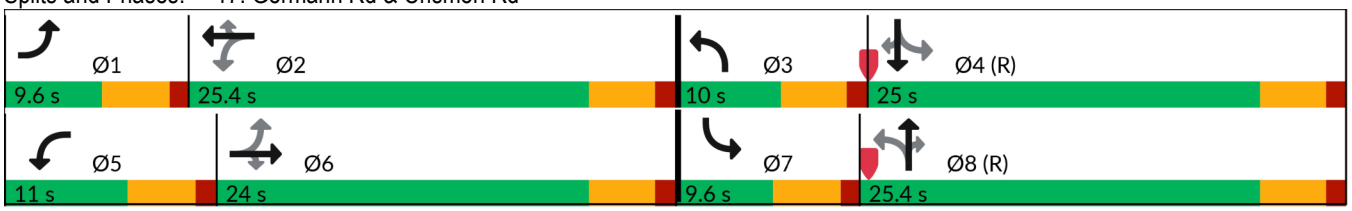


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	840	300	200	600	110	200	420	30	80	600	40
Future Volume (vph)	50	840	300	200	600	110	200	420	30	80	600	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		150	150		150	150		150	150		150
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	5085	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.393			0.162			0.223			0.442		
Satd. Flow (perm)	732	3539	1583	302	5085	1583	415	3539	1583	823	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			243			164			164			164
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		593			5322			1482			4156	
Travel Time (s)		9.0			80.6			22.5			63.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	913	326	217	652	120	217	457	33	87	652	43
Shared Lane Traffic (%)												
Lane Group Flow (vph)	54	913	326	217	652	120	217	457	33	87	652	43
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6		6	2		2	8		8	4		4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6	6	5	2	2	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	9.6	24.0	24.0	11.0	25.4	25.4	10.0	25.4	25.4	9.6	25.0	25.0
Total Split (%)	13.7%	34.3%	34.3%	15.7%	36.3%	36.3%	14.3%	36.3%	36.3%	13.7%	35.7%	35.7%
Maximum Green (s)	5.1	19.5	19.5	6.5	20.9	20.9	5.5	20.9	20.9	5.1	20.5	20.5
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	Max	Max	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Don't Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	24.6	19.5	19.5	28.6	24.7	24.7	27.2	22.8	22.8	25.6	20.5	20.5
Actuated g/C Ratio	0.35	0.28	0.28	0.41	0.35	0.35	0.39	0.33	0.33	0.37	0.29	0.29
v/c Ratio	0.16	0.93	0.53	0.84	0.36	0.18	0.81	0.40	0.05	0.24	0.63	0.07
Control Delay (s/veh)	13.1	41.9	9.7	50.3	17.4	4.3	41.3	20.3	0.2	13.7	24.7	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	13.1	41.9	9.7	50.3	17.4	4.3	41.3	20.3	0.2	13.7	24.7	0.3
LOS	B	D	A	D	B	A	D	C	A	B	C	A
Approach Delay (s/veh)		32.6			23.0			25.8			22.1	
Approach LOS		C			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 0 (0%), Referenced to phase 4:SBTL and 8:NBTL, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.93			
Intersection Signal Delay (s/veh): 26.6		Intersection LOS: C	
Intersection Capacity Utilization 77.0%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 17: Germann Rd & Crismon Rd

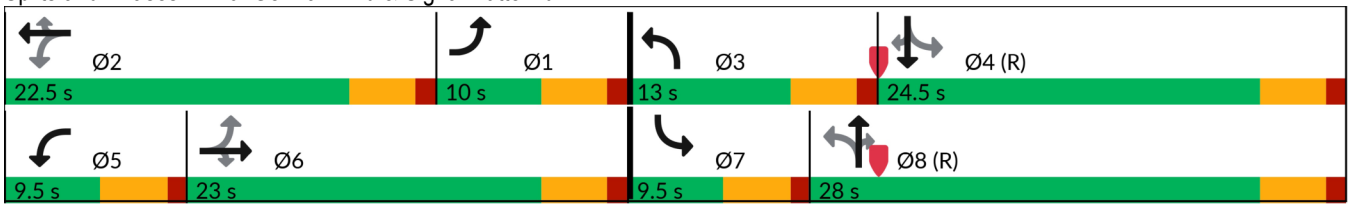


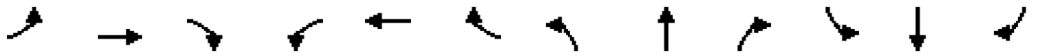
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	140	590	220	60	600	150	210	900	200	100	850	100
Future Volume (vph)	140	590	220	60	600	150	210	900	200	100	850	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	150		150	150		150	150		150
Storage Lanes	1		1	1		1	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	1770	3539	1583	1770	5085	1583
Flt Permitted	0.397			0.267			0.176			0.219		
Satd. Flow (perm)	740	3539	1583	497	3539	1583	328	3539	1583	408	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			239			164			234			234
Link Speed (mph)		45			45			45			45	
Link Distance (ft)		5322			551			378			3951	
Travel Time (s)		80.6			8.3			5.7			59.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	152	641	239	65	652	163	228	978	217	109	924	109
Shared Lane Traffic (%)												
Lane Group Flow (vph)	152	641	239	65	652	163	228	978	217	109	924	109
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6		6	2		2	8		8	4		4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6	6	5	2	2	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	10.0	23.0	23.0	9.5	22.5	22.5	13.0	28.0	28.0	9.5	24.5	24.5
Total Split (%)	14.3%	32.9%	32.9%	13.6%	32.1%	32.1%	18.6%	40.0%	40.0%	13.6%	35.0%	35.0%
Maximum Green (s)	5.5	18.5	18.5	5.0	18.0	18.0	8.5	23.5	23.5	5.0	20.0	20.0
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	None	Max	Max	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	22.3	22.3	22.3	18.0	18.0	18.0	32.2	25.4	25.4	25.1	20.1	20.1
Actuated g/C Ratio	0.32	0.32	0.32	0.26	0.26	0.26	0.46	0.36	0.36	0.36	0.29	0.29
v/c Ratio	0.48	0.57	0.36	0.30	0.72	0.31	0.71	0.76	0.30	0.45	0.63	0.18
Control Delay (s/veh)	10.3	7.1	1.0	24.0	28.9	5.7	25.6	25.5	3.5	17.3	24.1	0.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	10.3	7.1	1.0	24.0	28.9	5.7	25.6	25.5	3.5	17.3	24.1	0.6
LOS	B	A	A	C	C	A	C	C	A	B	C	A
Approach Delay (s/veh)		6.2			24.2			22.1			21.2	
Approach LOS		A			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 12 (17%), Referenced to phase 4:SBTL and 8:NBTL, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.76			
Intersection Signal Delay (s/veh): 18.6		Intersection LOS: B	
Intersection Capacity Utilization 69.8%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 20: Germann Rd & Signal Butte Rd



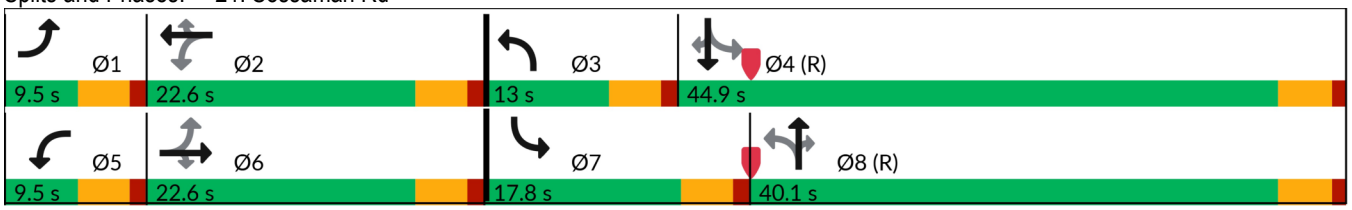


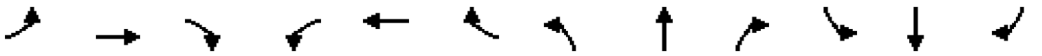
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	400	80	100	500	520	180	400	250	250	1250	40
Future Volume (vph)	50	400	80	100	500	520	180	400	250	250	1250	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	300		300	300		300	300		300	300		300
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	0.91	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	1770	5085	1583	1770	3539	1583
Flt Permitted	0.332			0.423			0.112			0.425		
Satd. Flow (perm)	618	5085	1583	788	5085	1583	209	5085	1583	792	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			182			446			272			127
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		708			934			661			613	
Travel Time (s)		16.1			21.2			15.0			13.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	435	87	109	543	565	196	435	272	272	1359	43
Shared Lane Traffic (%)												
Lane Group Flow (vph)	54	435	87	109	543	565	196	435	272	272	1359	43
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6		6	2		2	8		8	4		4
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	9.5	22.6	22.6	9.5	22.6	22.6	13.0	40.1	40.1	17.8	44.9	44.9
Total Split (%)	10.6%	25.1%	25.1%	10.6%	25.1%	25.1%	14.4%	44.6%	44.6%	19.8%	49.9%	49.9%
Maximum Green (s)	5.0	18.1	18.1	5.0	18.1	18.1	8.5	35.6	35.6	13.3	40.4	40.4
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Act Effct Green (s)	23.1	18.1	18.1	23.1	18.1	18.1	44.1	35.6	35.6	53.4	40.4	40.4
Actuated g/C Ratio	0.26	0.20	0.20	0.26	0.20	0.20	0.49	0.40	0.40	0.59	0.45	0.45
v/c Ratio	0.24	0.43	0.19	0.43	0.53	0.84	0.79	0.22	0.34	0.44	0.86	0.06
Control Delay (s/veh)	25.4	32.9	0.9	29.6	34.3	20.8	41.3	18.3	3.7	8.7	15.9	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	25.4	32.9	0.9	29.6	34.3	20.8	41.3	18.3	3.7	8.7	15.9	0.1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	C	C	A	C	C	C	D	B	A	A	B	A
Approach Delay (s/veh)		27.4			27.6			18.9			14.3	
Approach LOS		C			C			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 17 (19%), Referenced to phase 4:SBTL and 8:NBTL, Start of Green			
Natural Cycle: 90			
Control Type: Pretimed			
Maximum v/c Ratio: 0.86			
Intersection Signal Delay (s/veh): 20.7		Intersection LOS: C	
Intersection Capacity Utilization 73.4%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 21: Sossaman Rd



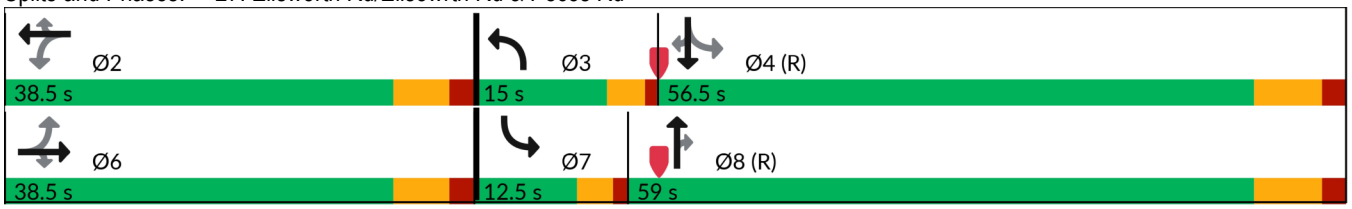


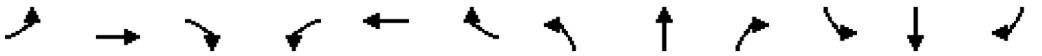
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	370	210	400	140	110	130	250	1550	110	30	2160	590
Future Volume (vph)	370	210	400	140	110	130	250	1550	110	30	2160	590
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		200	0		200	200		425	285		300
Storage Lanes	1		1	1		1	2		1	1		2
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	0.97	0.91	1.00	1.00	0.91	0.88
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3433	1863	1583	1770	1863	1583	3433	5085	1583	1770	5085	2787
Flt Permitted	0.680			0.524			0.950			0.092		
Satd. Flow (perm)	2457	1863	1583	976	1863	1583	3433	5085	1583	171	5085	2787
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			162			141			120			572
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		10561			702			1317			2657	
Travel Time (s)		240.0			16.0			29.9			60.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	402	228	435	152	120	141	272	1685	120	33	2348	641
Shared Lane Traffic (%)												
Lane Group Flow (vph)	402	228	435	152	120	141	272	1685	120	33	2348	641
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100	20	20	100	20	20	100	20	20	100	20
Trailing Detector (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Detector 1 Size(ft)	20	6	20	20	6	20	20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm
Protected Phases		6			2		3	8		7	4	
Permitted Phases	6		6	2		2			8	4		4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	6	6	6	2	2	2	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	8.0	15.0	15.0	8.0	15.0	15.0
Minimum Split (s)	38.5	38.5	38.5	22.5	22.5	22.5	12.5	22.5	22.5	12.5	22.5	22.5
Total Split (s)	38.5	38.5	38.5	38.5	38.5	38.5	15.0	59.0	59.0	12.5	56.5	56.5
Total Split (%)	35.0%	35.0%	35.0%	35.0%	35.0%	35.0%	13.6%	53.6%	53.6%	11.4%	51.4%	51.4%
Maximum Green (s)	32.0	32.0	32.0	32.0	32.0	32.0	11.0	51.5	51.5	8.5	49.0	49.0
Yellow Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	3.0	5.5	5.5	3.0	5.5	5.5
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	4.0	7.5	7.5	4.0	7.5	7.5
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None	Max	Max	Max	None	C-Max	C-Max	None	C-Max	C-Max
Walk Time (s)	4.0	4.0	4.0									
Flash Don't Walk (s)	28.0	28.0	28.0									
Pedestrian Calls (#/hr)	0	0	0									
Act Effct Green (s)	32.0	32.0	32.0	32.0	32.0	32.0	10.9	56.8	56.8	60.6	49.1	49.1
Actuated g/C Ratio	0.29	0.29	0.29	0.29	0.29	0.29	0.10	0.52	0.52	0.55	0.45	0.45
v/c Ratio	0.56	0.42	0.76	0.54	0.22	0.25	0.80	0.64	0.14	0.16	1.03	0.41
Control Delay (s/veh)	36.7	34.4	31.4	41.1	30.9	6.2	66.6	21.5	3.3	10.4	59.3	3.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	36.7	34.4	31.4	41.1	30.9	6.2	66.6	21.5	3.3	10.4	59.3	3.5
LOS	D	C	C	D	C	A	E	C	A	B	E	A
Approach Delay (s/veh)		34.1			26.2			26.4			46.9	
Approach LOS		C			C			C			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 110			
Offset: 0 (0%), Referenced to phase 4:SBTL and 8:NBT, Start of Green			
Natural Cycle: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.03			
Intersection Signal Delay (s/veh): 37.1		Intersection LOS: D	
Intersection Capacity Utilization 91.9%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 27: Ellsworth Rd/Ellsowrth Rd & Pecos Rd



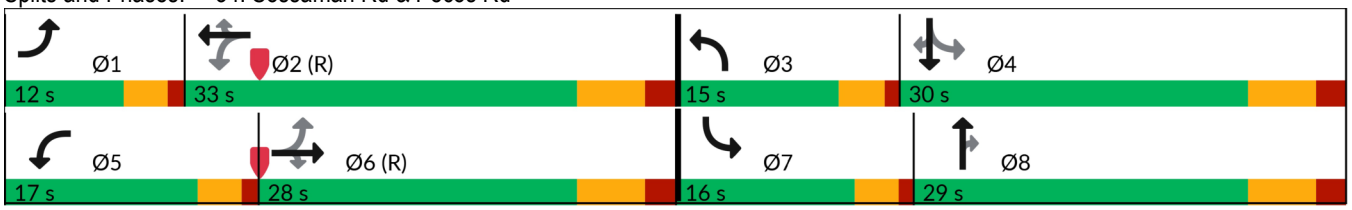


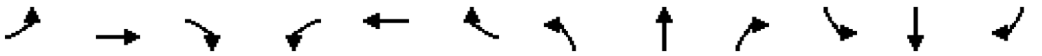
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	720	340	350	610	130	365	405	200	210	850	50
Future Volume (vph)	20	720	340	350	610	130	365	405	200	210	850	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		100	100		100	100		100	100		100
Storage Lanes	1		1	1		1	2		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3539	1583	1770	3539	1583	3433	3539	1583	1770	3539	1583
Flt Permitted	0.330			0.157			0.950			0.402		
Satd. Flow (perm)	615	3539	1583	292	3539	1583	3433	3539	1583	749	3539	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			236			139			217			188
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1090			10561			1281			1844	
Travel Time (s)		24.8			240.0			29.1			41.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	22	783	370	380	663	141	397	440	217	228	924	54
Shared Lane Traffic (%)												
Lane Group Flow (vph)	22	783	370	380	663	141	397	440	217	228	924	54
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6		6	2		2			8	4		4
Minimum Split (s)	12.0	24.5	24.5	12.0	24.5	24.5	12.0	24.5	24.5	12.0	24.5	24.5
Total Split (s)	12.0	28.0	28.0	17.0	33.0	33.0	15.0	29.0	29.0	16.0	30.0	30.0
Total Split (%)	13.3%	31.1%	31.1%	18.9%	36.7%	36.7%	16.7%	32.2%	32.2%	17.8%	33.3%	33.3%
Maximum Green (s)	8.0	21.5	21.5	13.0	26.5	26.5	11.0	22.5	22.5	12.0	23.5	23.5
Yellow Time (s)	3.0	4.5	4.5	3.0	4.5	4.5	3.0	4.5	4.5	3.0	4.5	4.5
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	6.5	6.5	4.0	6.5	6.5	4.0	6.5	6.5	4.0	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Act Effct Green (s)	32.0	21.5	21.5	41.0	26.5	26.5	11.0	22.5	22.5	38.0	23.5	23.5
Actuated g/C Ratio	0.36	0.24	0.24	0.46	0.29	0.29	0.12	0.25	0.25	0.42	0.26	0.26
v/c Ratio	0.07	0.93	0.66	1.10	0.64	0.25	0.95	0.50	0.39	0.50	1.00	0.10
Control Delay (s/veh)	27.4	67.2	36.4	101.2	30.9	5.8	71.2	26.6	4.7	19.7	64.2	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	27.4	67.2	36.4	101.2	30.9	5.8	71.2	26.6	4.7	19.7	64.2	0.4

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	C	E	D	F	C	A	E	C	A	B	E	A
Approach Delay (s/veh)		56.7			50.4			38.9			52.9	
Approach LOS		E			D			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 16 (18%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green			
Natural Cycle: 90			
Control Type: Pretimed			
Maximum v/c Ratio: 1.10			
Intersection Signal Delay (s/veh): 50.1		Intersection LOS: D	
Intersection Capacity Utilization 90.7%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 34: Sossaman Rd & Pecos Rd





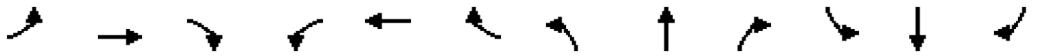
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	90	200	290	130	300	140	250	290	140	80	300	60
Future Volume (vph)	90	200	290	130	300	140	250	290	140	80	300	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	200		0	200		0	200		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.911			0.952			0.951			0.975	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3224	0	1770	3369	0	1770	3366	0	1770	3451	0
Flt Permitted	0.479			0.453			0.521			0.484		
Satd. Flow (perm)	892	3224	0	844	3369	0	970	3366	0	902	3451	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		315			152			152			52	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		5242			594			1176			1019	
Travel Time (s)		119.1			13.5			26.7			23.2	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	98	217	315	141	326	152	272	315	152	87	326	65
Shared Lane Traffic (%)												
Lane Group Flow (vph)	98	532	0	141	478	0	272	467	0	87	391	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		6			2			8			4	
Permitted Phases	6			2			8			4		
Minimum Split (s)	24.5	24.5		24.5	24.5		24.0	24.0		24.0	24.0	
Total Split (s)	26.0	26.0		26.0	26.0		29.0	29.0		29.0	29.0	
Total Split (%)	47.3%	47.3%		47.3%	47.3%		52.7%	52.7%		52.7%	52.7%	
Maximum Green (s)	19.5	19.5		19.5	19.5		23.0	23.0		23.0	23.0	
Yellow Time (s)	4.5	4.5		4.5	4.5		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.5	6.5		6.5	6.5		6.0	6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)	19.5	19.5		19.5	19.5		23.0	23.0		23.0	23.0	
Actuated g/C Ratio	0.35	0.35		0.35	0.35		0.42	0.42		0.42	0.42	
v/c Ratio	0.31	0.40		0.47	0.37		0.67	0.31		0.23	0.27	
Control Delay (s/veh)	16.3	6.3		20.2	9.8		23.7	7.7		12.4	9.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay (s/veh)	16.3	6.3		20.2	9.8		23.7	7.7		12.4	9.6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	B	A		C	A		C	A		B	A	
Approach Delay (s/veh)		7.8			12.1			13.6			10.1	
Approach LOS		A			B			B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 55			
Actuated Cycle Length: 55			
Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green			
Natural Cycle: 55			
Control Type: Pretimed			
Maximum v/c Ratio: 0.67			
Intersection Signal Delay (s/veh): 11.1		Intersection LOS: B	
Intersection Capacity Utilization 72.3%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 47: Crismon Rd & Pecos Rd



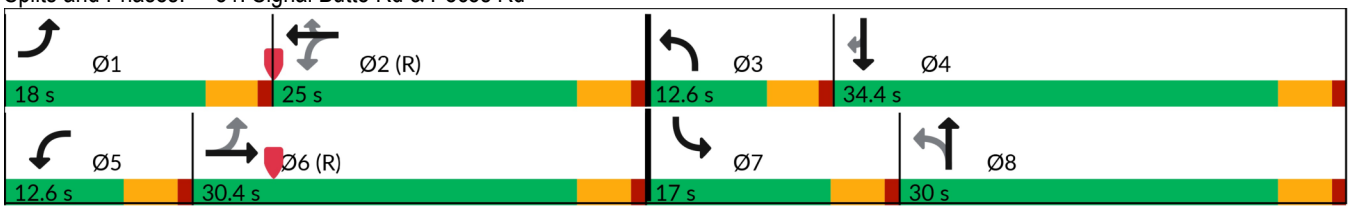


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	250	150	20	50	430	250	40	900	250	310	980	100
Future Volume (vph)	250	150	20	50	430	250	40	900	250	310	980	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	200		200	200		0	200		200
Storage Lanes	1		0	1		1	1		0	2		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.91	0.91	0.97	0.91	1.00
Frt		0.982				0.850		0.967				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	3476	0	1770	3539	1583	1770	4917	0	3433	5085	1583
Flt Permitted	0.271			0.635			0.179			0.950		
Satd. Flow (perm)	505	3476	0	1183	3539	1583	333	4917	0	3433	5085	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16				262		78				182
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		503			539			1349			1309	
Travel Time (s)		11.4			12.3			30.7			29.8	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	272	163	22	54	467	272	43	978	272	337	1065	109
Shared Lane Traffic (%)												
Lane Group Flow (vph)	272	185	0	54	467	272	43	1250	0	337	1065	109
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA		Prot	NA	Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6			2		2	8					4
Minimum Split (s)	12.5	22.5		12.5	22.5	22.5	12.5	22.5		12.5	22.5	22.5
Total Split (s)	18.0	30.4		12.6	25.0	25.0	12.6	30.0		17.0	34.4	34.4
Total Split (%)	20.0%	33.8%		14.0%	27.8%	27.8%	14.0%	33.3%		18.9%	38.2%	38.2%
Maximum Green (s)	13.5	25.9		8.1	20.5	20.5	8.1	25.5		12.5	29.9	29.9
Yellow Time (s)	3.5	3.5		3.5	3.5	3.5	3.5	3.5		3.5	3.5	3.5
All-Red Time (s)	1.0	1.0		1.0	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Act Effct Green (s)	38.5	25.9		28.6	20.5	20.5	33.6	25.5		12.5	29.9	29.9
Actuated g/C Ratio	0.43	0.29		0.32	0.23	0.23	0.37	0.28		0.14	0.33	0.33
v/c Ratio	0.67	0.18		0.13	0.58	0.48	0.17	0.86		0.71	0.63	0.17
Control Delay (s/veh)	26.7	22.5		16.6	34.3	7.7	15.1	36.1		46.1	27.4	1.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay (s/veh)	26.7	22.5		16.6	34.3	7.7	15.1	36.1		46.1	27.4	1.0

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	C	C		B	C	A	B	D		D	C	A
Approach Delay (s/veh)		25.0			24.0			35.4			29.7	
Approach LOS		C			C			D			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green			
Natural Cycle: 80			
Control Type: Pretimed			
Maximum v/c Ratio: 0.86			
Intersection Signal Delay (s/veh): 29.9		Intersection LOS: C	
Intersection Capacity Utilization 73.2%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 51: Signal Butte Rd & Pecos Rd



Appendix D
VISSIM Analysis Outputs

PIRATE and Phoenix Subdivision Support Tracks Project - Node Evaluation

Existing 2025 AM Scenario

Delay/ LOS

Intersection	Approach Direction	Movement	From Link	To Link	Delay (All Veh) by movement (sec)	Volume (Output) (All Veh) by (vph)	Approach Volume (Output) (vph)	Approach Volume (Input) (vph)	Output / Input	Intersection (vph)	Mvmt. % Approach Volume	Approach % Total Volume	Mvmt. Delay Weighted by Volume	Delay (All Veh) by movement (sec)	Weighted Delay by Approach	Approach LOS	Intersection Delay	Intersection LOS	Avg Queue (feet)	Max Queue (feet)
Sossaman and Pecos	SB	R	69	10	23.2	20					9%		2.05	23.2					31.5	211.1
		T	69	6	36.2	133	227	227	100%		59%	9%	21.19	36.2	32.1	C			25.3	182.8
		L	5	15	27.2	74					33%		8.88	27.2					8.1	101.9
	WB	R	76	3	16.4	164					19%		3.07	16.4					12.2	130.8
		T	13	10	44.0	551	878	882	100%		63%	34%	27.59	44.0	36.9	D			265.4	1073.8
		L	12	6	33.7	163					19%		6.25	33.7					23.5	193.3
	NB	R	1	15	46.7	97				2569	10%		4.63	46.7			38.1	D	2120.5	2585.1
		T	1	3	52.4	538	979	1173	83%		55%	38%	28.80	52.4	46.4	D			2098.8	2563.4
		L	2	10	37.0	344					35%		13.02	37.0					2030.1	2561.6
	EB	R	10036	6	6.4	73					15%		0.96	6.4					1.8	126.8
		T	8	15	30.3	380	485	488	99%		78%	19%	23.72	30.3	26.1	C			63.8	380.8
		L	11	3	22.0	32					7%		1.45	22.0					8.9	100.2
Ellsworth and Pecos (South)	SB	R	20	27	14.2	429					27%		3.82	14.2					42.3	314.7
		T	67	22	24.8	1131	1590	1595	100%		71%	37%	17.65	24.8	22.5	C			90.5	533.5
		L	141	266	56.3	30					2%		1.06	56.3					-	-
	WB	R	74	17	15.6	58					59%		9.25	15.6					-	-
		T	74	27	43.6	20	98	99	99%		20%	2%	8.89	43.6	28.2	C			10.1	85.3
		L	74	22	49.3	20					20%		10.06	49.3					10.1	85.3
	NB	R	265	266	2.6	27				4290	-		-	2.6			21.5	C	-	-
		T	139	17	13.0	1724	2122	2129	100%		81%	49%	10.57	13.0	18.5	B			69.4	461.4
		L	23	27	45.3	371					17%		7.93	45.3					100.9	431.5
	EB	R	25	22	12.3	252					53%		6.46	12.3					24.4	165.3
		T	140	266	46.4	35	480	480	100%		-	11%	-	46.4	29.6	C			-	-
		L	24	17	49.1	193					40%		19.76	49.1					51.5	248.5
Ellsworth and Pecos (North)	SB	R	-	-	-	-					-		-	-					-	-
		T	32	18	4.0	1506	1606	1606	100%		94%	41%	3.71	4.0	4.8	A			12.9	242.0
		L	33	19	18.0	100					6%		1.12	18.0					2.8	83.4
	WB	R	71	31	16.5	241					75%		12.33	16.5					51.0	215.7
		T	-	-	-	-	323	323	100%	3901	-	8%	-	-	26.0	C	8.2	A	-	-
		L	71	18	53.8	82					25%		13.66	53.8					27.5	166.9
	NB	R	66	19	6.9	35					2%		0.12	6.9					49.4	666.8
		T	66	31	8.0	1937	1972	1982	99%		98%	51%	7.86	8.0	8.0	A			50.2	623.8
		L	-	-	-	-					-		-	-					-	-
Crismon and Pecos	WB	R	-	-	-	-					-		-	-					-	-
		T	161	37	29.9	95	150	152	99%		63%	26%	18.95	29.9	30.4	C			21.3	201.3
		L	161	38	31.1	55					37%		11.42	31.1					21.3	201.3
	NB	R	82	43	3.0	66					22%		0.67	3.0					0.9	112.3
		T	-	-	-	-	298	295	101%	580	-	51%	-	-	6.1	A	15.2	B	-	-
		L	39	37	6.9	232					78%		5.39	6.9					6.4	145.8
	EB	R	36	38	11.6	71					54%		6.26	11.6					24.4	170.9
		T	36	43	27.1	61	132	131	101%		46%	23%	12.53	27.1	18.8	B			10.0	119.6
		L	-	-	-	-					-		-	-					-	-

PIRATE and Phoenix Subdivision Support Tracks Project - Node Evaluation

Existing 2025 AM Scenario

Delay/ LOS

Intersection	Approach Direction	Movement	From Link	To Link	Delay (All Veh) by movement (sec)	Volume (Output) (All Veh) by (vph)	Approach Volume (Output) (vph)	Approach Volume (Input) (vph)	Output / Input	Intersection (vph)	Mvmt. % Approach Volume	Approach % Total Volume	Mvmt. Delay Weighted by Volume	Delay (All Veh) by movement (sec)	Weighted Delay by Approach	Approach LOS	Intersection Delay	Intersection LOS	Avg Queue (feet)	Max Queue (feet)
Signal Butte and Pecos	SB	R	271	41	3.5	60					9%		0.32	3.5					0.1	48.4
		T	44	47	18.2	515	646	647	100%		80%	34%	14.55	18.2	17.2	B			49.8	377.3
		L	55	49	21.2	71					11%		2.34	21.2					2.9	77.4
	WB	R	75	53	5.0	38					21%		1.06	5.0					2.1	92.2
		T	166	41	45.3	84	178	177	101%		47%	9%	21.37	45.3	33.0	C			18.3	135.7
		L	51	47	33.6	56					31%		10.56	33.6					9.1	101.9
	NB	R	45	49	7.4	32				1907	3%		0.25	7.4			21.4	C	0.0	22.3
		T	62	53	20.7	917	957	955	100%		96%	50%	19.81	20.7	20.1	C			203.5	1060.7
		L	48	41	10.1	8					1%		0.08	10.1					0.2	23.0
	EB	R	159	47	20.9	15					12%		2.49	20.9					0.2	92.0
		T	159	49	43.0	50	126	127	99%		40%	7%	17.07	43.0	36.4	D			11.2	109.4
		L	52	53	34.7	61					48%		16.82	34.7					10.1	97.9
Sossaman and Germann	SB	R	-	-	-	-					-		-	-					-	-
		T	94	84	2.1	369	369	371	99%		100%	23%	2.06	2.1	2.1	A			3.3	213.0
		L	-	-	-	-					-		-	-					-	-
	WB	R	92	158	294.7	196					100%		294.70	294.7					1936.7	2598.4
		T	-	-	-	-	196	391	50%	1608	-	12%	-	-	294.7	F	294.7	F	-	-
		L	-	-	-	-					-		-	-					-	-
	NB	R	81	10099	8.0	260					25%		1.99	8.0					85.3	1047.7
		T	81	158	16.5	783	1043	1044	100%		75%	65%	12.35	16.5	14.3	B			85.3	1047.7
		L	-	-	-	-					-		-	-					-	-
Ellsworth and Germann	SB	R	138	105	8.3	69					5%		0.41	8.3					4.0	95.1
		T	22	104	28.9	1169	1409	1405	100%		83%	33%	23.99	28.9	27.8	C			112.2	527.3
		L	99	110	27.8	171					12%		3.38	27.8					20.8	204.4
	WB	R	108	21	23.6	351					53%		12.59	23.6					62.8	302.4
		T	107	105	66.4	234	658	661	100%		36%	15%	23.61	66.4	40.8	D			88.0	344.7
		L	109	104	41.4	73					11%		4.59	41.4					14.9	116.1
	NB	R	101	110	3.2	60				4259	3%		0.10	3.2			25.8	C	1.8	94.8
		T	77	21	18.8	1719	1941	1942	100%		89%	46%	16.62	18.8	17.8	B			128.3	733.6
		L	100	105	13.0	162					8%		1.08	13.0					6.2	115.8
	EB	R	46	104	12.6	71					28%		3.57	12.6					5.8	92.3
		T	46	110	47.8	126	251	251	100%		50%	6%	23.99	47.8	37.0	D			23.5	119.6
		L	103	21	43.8	54					22%		9.42	43.8					11.5	98.7
Crismon and Germann	SB	R	57	106	10.5	14					11%		1.16	10.5					0.2	51.6
		T	57	116	18.6	109	127	128	99%		86%	9%	15.99	18.6	17.5	B			8.6	120.0
		L	114	123	10.8	4					3%		0.34	10.8					0.2	23.2
	WB	R	121	10044	3.8	21					5%		0.18	3.8					0.7	81.8
		T	42	106	16.7	407	453	448	101%		90%	31%	14.98	16.7	15.9	B			31.8	278.1
		L	122	116	13.0	25					6%		0.72	13.0					1.2	53.0
	NB	R	40	123	8.4	42				1476	8%		0.66	8.4			14.5	B	26.3	210.9
		T	40	34	13.5	258	539	542	99%		48%	37%	6.48	13.5	13.3	B			15.3	171.4
		L	118	106	13.8	239					44%		6.11	13.8					14.0	162.3
	EB	R	115	116	4.6	83					23%		1.07	4.6					3.0	104.2
		T	111	123	16.6	258	357	355	101%		72%	24%	12.01	16.6	13.8	B			18.8	211.9
		L	112	34	15.7	16					4%		0.70	15.7					0.9	37.4

PIRATE and Phoenix Subdivision Support Tracks Project - Node Evaluation

Existing 2025 AM Scenario

Delay/ LOS

Intersection	Approach Direction	Movement	From Link	To Link	Delay (All Veh) by movement (sec)	Volume (Output) (All Veh) by (vph)	Approach Volume (Output) (vph)	Approach Volume (Input) (vph)	Output / Input	Intersection (vph)	Mvmt. % Approach Volume	Approach % Total Volume	Mvmt. Delay Weighted by Volume	Delay (All Veh) by movement (sec)	Weighted Delay by Approach	Approach LOS	Intersection Delay	Intersection LOS	Avg Queue (feet)	Max Queue (feet)
Signal Butte and Germann	SB	R	63	127	13.9	37					6%		0.88	13.9					58.4	479.2
		T	63	135	17.6	487	585	586	100%		83%	27%	14.68	17.6	17.5	B			48.7	446.4
		L	125	130	18.4	61					10%		1.92	18.4					3.4	76.2
	WB	R	133	35	11.5	150					31%		3.54	11.5					10.5	117.2
		T	165	127	30.7	330	489	489	100%		67%	23%	20.72	30.7	24.7	C			51.9	282.6
		L	132	135	24.1	9					2%		0.44	24.1					0.8	27.9
	NB	R	134	130	14.0	3				2167	0%		0.05	14.0			20.0	C	100.1	611.0
		T	134	35	17.9	743	830	830	100%		90%	38%	15.98	17.9	17.5	B			82.1	577.1
		L	136	127	14.3	84					10%		1.45	14.3					3.4	79.1
	EB	R	159	47	20.9	15					6%		1.19	20.9					0.2	92.0
		T	124	130	25.0	187	263	294	89%		71%	12%	17.78	25.0	25.0	C			22.3	199.0
		L	128	35	25.9	61					23%		6.01	25.9					6.9	88.1
Power and Pecos	SB	R	154	149	51.6	87					9%		4.76	51.6					92.8	389.9
		T	154	148	50.4	755	943	940	100%		80%	20%	40.35	50.4	47.9	D			92.8	389.9
		L	155	144	25.9	101					11%		2.78	25.9					9.6	119.7
	WB	R	151	153	10.3	304					33%		3.41	10.3					22.3	206.7
		T	152	149	24.1	490	916	981	93%		53%	20%	12.90	24.1	18.9	B			26.7	143.8
		L	156	148	19.6	122					13%		2.61	19.6					10.4	131.0
	NB	R	147	144	58.3	79				4660	4%		2.33	58.3			37.7	D	288.3	1073.3
		T	147	153	52.2	1497	1978	1986	100%		76%	42%	39.48	52.2	49.1	D			288.3	1073.3
		L	147	149	35.8	402					20%		7.27	35.8					288.3	1073.3
	EB	R	79	148	8.8	360					44%		3.87	8.8					24.9	199.7
		T	143	144	30.0	307	823	824	100%		37%	18%	11.18	30.0	19.4	B			27.3	162.5
		L	270	153	23.0	156					19%		4.35	23.0					16.4	153.9

PIRATE and Phoenix Subdivision Support Tracks Project - Node Evaluation

Existing 2025 PM Scenario

Delay/ LOS

Intersection	Approach Direction	Movement	From Link	To Link	Delay (All Veh) by movement (sec)	Volume (Output) (All Veh) by (vph)	Approach Volume (Output) (vph)	Approach Volume (Input) (vph)	Output / Input	Intersection (vph)	Mvmt. % Approach Volume	Approach % Total Volume	Mvmt. Delay Weighted by Volume	Delay (All Veh) by movement (sec)	Weighted Delay by Approach	Approach LOS	Intersection Delay	Intersection LOS	Avg Queue (feet)	Max Queue (feet)
Sossaman and Pecos	SB	R	69	10	61.1	36					5%		3.35	61.1					524.7	1333.6
		T	69	6	67.8	456	658	664	99%		69%	26%	46.97	67.8	64.1	E			498.9	1305.3
		L	5	15	54.6	166					25%		13.78	54.6					63.9	543.5
	WB	R	76	3	5.3	54					8%		0.44	5.3					1.7	65.1
		T	13	10	25.5	400	654	652	100%		61%	26%	15.61	25.5	23.3	C			52.2	325.5
		L	12	6	23.8	200					31%		7.28	23.8					20.4	168.0
	NB	R	1	15	27.6	81				2556	14%		3.80	27.6			38.5	D	76.1	416.8
		T	1	3	35.8	273	588	588	100%		46%	23%	16.62	35.8	42.6	D			64.9	395.1
		L	2	10	55.7	234					40%		22.15	55.7					72.0	331.0
	EB	R	10036	6	10.5	153					23%		2.45	10.5					8.7	175.2
		T	8	15	29.0	488	656	652	101%		74%	26%	21.60	29.0	24.4	C			85.2	475.4
		L	11	3	17.6	15					2%		0.40	17.6					3.8	85.8
Ellsworth and Pecos (South)	SB	R	20	27	6.8	323					15%		1.00	6.8					18.9	186.3
		T	67	22	19.1	1869	2213	2214	100%		84%	49%	16.10	19.1	17.6	B			151.8	764.6
		L	141	266	50.4	21					1%		0.48	50.4					-	-
	WB	R	74	17	17.3	82					58%		10.08	17.3					-	-
		T	74	27	47.4	23	141	141	100%		16%	3%	7.73	47.4	29.9	C			15.3	112.4
		L	74	22	47.2	36					26%		12.05	47.2					15.3	112.4
	NB	R	265	266	3.4	7				4494	-		-	3.4			23.5	C	-	-
		T	139	17	15.9	1260	1460	1465	100%		86%	32%	13.69	15.9	26.6	C			61.6	455.1
		L	23	27	97.4	193					13%		12.87	97.4					127.2	405.0
	EB	R	25	22	23.7	376					55%		13.08	23.7					62.6	322.4
		T	140	266	44.6	81	680	678	100%		-	15%	-	44.6	35.1	D			-	-
		L	24	17	51.1	223					33%		16.75	51.1					62.8	285.2
Ellsworth and Pecos (North)	SB	R	-	-	-	-					-		-	-					-	-
		T	32	18	5.9	2134	2385	2383	100%		89%	57%	5.24	5.9	6.9	A			39.1	575.9
		L	33	19	16.2	251					11%		1.70	16.2					10.7	152.4
	WB	R	71	31	11.2	159					68%		7.65	11.2					32.5	169.1
		T	-	-	-	-	233	234	100%	4184	-	6%	-	-	23.8	C	9.2	A	-	-
		L	71	18	50.9	74					32%		16.18	50.9					19.8	120.4
	NB	R	66	19	9.8	60					4%		0.38	9.8					45.4	598.8
		T	66	31	10.5	1506	1566	1564	100%		96%	37%	10.12	10.5	10.5	B			49.4	555.8
		L	-	-	-	-					-		-	-					-	-
Crismon and Pecos	WB	R	-	-	-	-					-		-	-					-	-
		T	161	37	32.3	142	271	266	102%		52%	38%	16.94	32.3	32.3	C			42.9	276.5
		L	161	38	32.3	129					48%		15.37	32.3					42.9	276.5
	NB	R	82	43	3.3	40					30%		1.00	3.3					0.6	98.1
		T	-	-	-	-	133	135	99%	714	-	19%	-	-	6.5	A	22.7	C	-	-
		L	39	37	7.9	93					70%		5.51	7.9					2.8	78.8
	EB	R	36	38	18.1	211					68%		12.31	18.1					55.5	275.8
		T	36	43	28.0	99	310	310	100%		32%	43%	8.93	28.0	21.2	C			28.7	224.5
		L	-	-	-	-					-		-	-					-	-

PIRATE and Phoenix Subdivision Support Tracks Project - Node Evaluation

Existing 2025 PM Scenario

Delay/ LOS

Intersection	Approach Direction	Movement	From Link	To Link	Delay (All Veh) by movement (sec)	Volume (Output) (All Veh) by (vph)	Approach Volume (Output) (vph)	Approach Volume (Input) (vph)	Output / Input	Intersection (vph)	Mvmt. % Approach Volume	Approach % Total Volume	Mvmt. Delay Weighted by Volume	Delay (All Veh) by movement (sec)	Weighted Delay by Approach	Approach LOS	Intersection Delay	Intersection LOS	Avg Queue (feet)	Max Queue (feet)
Signal Butte and Pecos	SB	R	271	41	4.9	75					8%		0.41	4.9					0.2	76.3
		T	44	47	26.3	772	907	908	100%		85%	50%	22.37	26.3	23.7	C			152.7	705.2
		L	55	49	13.8	60					7%		0.91	13.8					2.8	67.0
	WB	R	75	53	5.0	54					21%		1.06	5.0					3.1	96.5
		T	166	41	33.9	171	257	256	100%		67%	14%	22.56	33.9	26.2	C			27.8	180.1
		L	51	47	20.7	32					12%		2.58	20.7					2.8	54.9
	NB	R	45	49	3.8	46				1825	9%		0.33	3.8			21.2	C	0.0	30.3
		T	62	53	13.4	451	521	523	100%		87%	29%	11.59	13.4	12.8	B			25.4	328.9
		L	48	41	18.6	24					5%		0.86	18.6					0.6	31.4
	EB	R	159	47	18.3	8					6%		1.04	18.3					0.2	83.0
		T	159	49	29.9	74	140	140	100%		53%	8%	15.78	29.9	26.6	C			10.3	95.9
		L	52	53	23.6	58					41%		9.77	23.6					6.0	89.9
Sossaman and Germann	SB	R	-	-	-	-					-		-	-					-	-
		T	94	84	2.6	809	809	814	99%		100%	48%	2.56	2.6	2.6	A			11.1	494.8
		L	-	-	-	-					-	-	-	-					-	-
	WB	R	92	158	11.4	249					100%		11.38	11.4					17.4	150.5
		T	-	-	-	-	249	247	101%	1695	-	15%	-	-	11.4	B	11.4	B	-	-
		L	-	-	-	-					-		-	-					-	-
	NB	R	81	10099	2.3	296					46%		1.07	2.3					9.8	449.8
		T	81	158	3.2	341	637	637	100%		54%	38%	1.71	3.2	2.8	A			9.8	449.8
		L	-	-	-	-					-		-	-					-	-
Ellsworth and Germann	SB	R	138	105	3.4	84					4%		0.12	3.4					1.9	80.3
		T	22	104	14.9	1894	2284	2291	100%		83%	51%	12.38	14.9	14.9	B			118.7	740.6
		L	99	110	17.8	306					13%		2.39	17.8					23.0	242.1
	WB	R	108	21	11.5	170					47%		5.46	11.5					17.5	174.5
		T	107	105	52.2	114	359	357	101%		32%	8%	16.59	52.2	31.0	C			29.5	166.7
		L	109	104	42.8	75					21%		8.94	42.8					15.7	121.2
	NB	R	101	110	3.7	47				4474	4%		0.13	3.7			21.3	C	1.6	91.0
		T	77	21	18.7	1190	1336	1337	100%		89%	30%	16.67	18.7	18.4	B			67.4	417.2
		L	100	105	22.0	99					7%		1.63	22.0					5.6	89.7
	EB	R	46	104	35.7	124					25%		8.94	35.7					40.9	210.3
		T	46	110	61.8	269	495	493	100%		54%	11%	33.58	61.8	51.5	D			64.2	237.6
		L	103	21	43.4	102					21%		8.94	43.4					22.4	146.6
Crismon and Germann	SB	R	57	106	13.4	17					5%		0.67	13.4					0.0	26.7
		T	57	116	18.7	316	338	337	100%		93%	24%	17.46	18.7	18.3	B			27.6	235.5
		L	114	123	10.5	5					1%		0.16	10.5					0.2	18.8
	WB	R	121	10044	4.0	21					7%		0.28	4.0					0.8	84.3
		T	42	106	14.9	263	300	298	101%		88%	21%	13.05	14.9	14.0	B			17.0	196.9
		L	122	116	12.5	16					5%		0.67	12.5					0.7	33.4
	NB	R	40	123	6.3	17				1429	10%		0.65	6.3			13.9	B	6.9	112.7
		T	40	34	12.9	72	166	168	99%		43%	12%	5.59	12.9	12.5	B			3.7	73.5
		L	118	106	13.5	77					46%		6.25	13.5					3.9	70.1
	EB	R	115	116	7.0	245					39%		2.74	7.0					11.9	180.1
		T	111	123	15.2	342	625	629	99%		55%	44%	8.33	15.2	11.8	B			23.2	264.6
		L	112	34	12.2	38					6%		0.74	12.2					1.7	56.2

PIRATE and Phoenix Subdivision Support Tracks Project - Node Evaluation

Existing 2025 PM Scenario

Delay/ LOS

Intersection	Approach Direction	Movement	From Link	To Link	Delay (All Veh) by movement (sec)	Volume (Output) (All Veh) by (vph)	Approach Volume (Output) (vph)	Approach Volume (Input) (vph)	Output / Input	Intersection (vph)	Mvmt. % Approach Volume	Approach % Total Volume	Mvmt. Delay Weighted by Volume	Delay (All Veh) by movement (sec)	Weighted Delay by Approach	Approach LOS	Intersection Delay	Intersection LOS	Avg Queue (feet)	Max Queue (feet)
Signal Butte and Germann	SB	R	63	127	4.8	18					2%		0.11	4.8					28.6	529.3
		T	63	135	6.7	754	808	817	99%		93%	43%	6.25	6.7	6.6	A			24.8	496.6
		L	125	130	5.2	36					4%		0.23	5.2					0.2	32.5
	WB	R	133	35	5.7	83					25%		1.42	5.7					3.0	83.7
		T	165	127	29.2	229	332	335	99%		69%	18%	20.14	29.2	22.9	C			32.9	210.9
		L	132	135	22.0	20					6%		1.33	22.0					1.8	45.0
	NB	R	134	130	7.6	6				1884	1%		0.10	7.6			14.0	B	28.5	239.2
		T	134	35	10.8	391	449	449	100%		87%	24%	9.37	10.8	11.1	B			18.2	205.3
		L	136	127	14.0	52					12%		1.63	14.0					1.9	56.3
	EB	R	159	47	18.3	8					3%		0.50	18.3					0.2	83.0
		T	124	130	29.8	243	295	358	82%		82%	16%	24.52	29.8	28.9	C			36.5	256.8
		L	128	35	26.0	44					15%		3.87	26.0					5.1	85.6
Power and Pecos	SB	R	154	149	66.4	84					5%		3.57	66.4					279.7	892.7
		T	154	148	65.2	1347	1563	1549	101%		86%	34%	56.18	65.2	63.2	E			279.7	892.7
		L	155	144	41.5	132					8%		3.50	41.5					27.0	219.3
	WB	R	151	153	6.8	150					22%		1.52	6.8					8.1	133.5
		T	152	149	31.1	407	672	669	100%		61%	15%	18.85	31.1	24.1	C			29.6	151.4
		L	156	148	21.9	115					17%		3.75	21.9					10.5	119.2
	NB	R	147	144	32.9	56				4615	5%		1.55	32.9			40.3	D	77.7	448.3
		T	147	153	33.5	857	1188	1189	100%		72%	26%	24.15	33.5	36.8	D			77.7	448.3
		L	147	149	47.9	275					23%		11.08	47.9					77.7	448.3
	EB	R	79	148	16.9	596					50%		8.43	16.9					71.2	427.9
		T	143	144	30.6	477	1192	1186	101%		40%	26%	12.24	30.6	22.7	C			42.5	219.6
		L	270	153	20.0	119					10%		2.00	20.0					10.4	116.1

PIRATE and Phoenix Subdivision Support Tracks Project - Node Evaluation

2050 AM No Build Scenario

Delay/ LOS

Intersection	Approach Direction	Movement	From Link	To Link	Delay (All Veh) by movement (sec)	Volume (Output) (All Veh) by (vph)	Approach Volume (Output) (vph)	Approach Volume (Input) (vph)	Output / Input	Intersection (vph)	Mvmt. % Approach Volume	Approach % Total Volume	Mvmt. Delay Weighted by Volume	Delay (All Veh) by movement (sec)	Weighted Delay by Approach	Approach LOS	Intersection Delay	Intersection LOS	Avg Queue (feet)	Max Queue (feet)
Sossaman and Pecos	SB	R	71	10	8.4	53					12%		1.04	8.4					2.6	72.4
		T	69	6	31.7	300	431	430	100%		70%	10%	22.06	31.7	26.9	C			28.0	132.3
		L	5	15	21.3	78					18%		3.85	21.3					6.0	90.3
	WB	R	76	3	12.4	362					22%		2.68	12.4					25.9	248.9
		T	13	10	28.8	888	1675	1680	100%		53%	38%	15.26	28.8	27.1	C			76.6	422.8
		L	12	6	35.9	425					25%		9.11	35.9					92.2	464.4
	NB	R	77	15	11.5	229					14%		1.64	11.5					12.5	138.4
		T	1	3	32.9	889	1608	1610	100%		55%	36%	18.17	32.9	31.5	C			91.6	460.0
		L	2	10	38.4	490					30%		11.69	38.4					56.9	219.0
	EB	R	70	6	8.5	151					21%		1.78	8.5					9.9	154.4
		T	8	15	37.7	536	726	720	101%		74%	16%	27.83	37.7	30.7	C			59.7	294.1
		L	11	3	20.4	39					5%		1.09	20.4					2.5	62.3
Ellsworth and Pecos (South)	SB	R	20	27	11.5	774					30%		3.43	11.5					33.6	252.1
		T	67	22	31.5	1779	2595	2620	99%		69%	37%	21.58	31.5	25.5	C			142.3	661.5
		L	141	266	30.9	42					-		-	30.9					4.4	73.7
	WB	R	268	17	15.1	91					-		-	15.1					8.9	110.2
		T	267	27	41.1	98	241	240	100%		41%	3%	16.73	41.1	32.6	C			24.0	148.1
		L	267	22	47.2	52					22%		10.18	47.2					24.0	148.1
	NB	R	101	110	7.0	126					-		-	7.0					2.8	97.4
		T	98	21	19.4	2721	3044	3280	93%		89%	43%	17.38	19.4	19.2	B			190.9	859.9
		L	100	105	23.0	197					6%		1.49	23.0					14.5	180.7
	EB	R	25	22	32.4	662					55%		17.69	32.4					177.1	769.6
		T	140	266	44.9	119	1211	1200	101%		-	17%	-	44.9	40.0	D			25.9	177.8
		L	24	17	50.4	430					36%		17.89	50.4					64.6	246.0
Ellsworth and Pecos (North)	SB	R	-	-	-	-					-		-	-					#N/A	#N/A
		T	32	18	9.3	2419	2663	2640	101%		91%	42%	8.46	9.3	13.3	B			48.1	457.7
		L	33	19	53.0	244					9%		4.85	53.0					61.9	374.4
	WB	R	29	31	29.5	399					65%		19.27	29.5					108.0	360.8
		T	-	-	-	-	610	620	98%	6412	-	10%	-	-	36.6	D	16.6	B	-	-
		L	29	18	50.0	211					35%		17.31	50.0					80.1	323.6
	NB	R	74	19	7.3	229					7%		0.53	7.3					0.5	56.5
		T	66	31	16.2	2910	3139	3110	101%		93%	49%	15.03	16.2	15.6	B			182.2	927.6
		L	-	-	-	-					-		-	-					-	-
Crismon and Pecos	SB	R	44	37	4.5	141					29%		1.30	4.5					9.1	131.0
		T	44	38	9.9	253	490	490	100%		52%	24%	5.09	9.9	8.7	A			7.4	103.5
		L	46	43	12.0	96					20%		2.35	12.0					4.1	82.9
	WB	R	161	45	9.9	196					41%		4.09	9.9					19.4	176.1
		T	161	37	15.6	183	474	470	101%		39%	23%	6.02	15.6	14.4	B			15.3	156.9
		L	42	38	21.5	95					20%		4.32	21.5					7.8	98.3
	NB	R	64	43	5.3	76					13%		0.68	5.3					5.6	100.9
		T	64	45	9.2	211	592	590	100%		36%	29%	3.29	9.2	11.7	B			6.2	91.2
		L	39	37	15.0	305					52%		7.75	15.0					20.4	226.6
	EB	R	36	38	9.5	121					26%		2.44	9.5					23.5	169.8
		T	36	43	16.0	295	470	470	100%		63%	23%	10.02	16.0	14.5	B			16.1	132.8
		L	40	45	18.0	54					11%		2.07	18.0					3.3	64.0

PIRATE and Phoenix Subdivision Support Tracks Project - Node Evaluation

2050 AM No Build Scenario

Delay/ LOS

Intersection	Approach Direction	Movement	From Link	To Link	Delay (All Veh) by movement (sec)	Volume (Output) (All Veh) by (vph)	Approach Volume (Output) (vph)	Approach Volume (Input) (vph)	Output / Input	Intersection (vph)	Mvmt. % Approach Volume	Approach % Total Volume	Mvmt. Delay Weighted by Volume	Delay (All Veh) by movement (sec)	Weighted Delay by Approach	Approach LOS	Intersection Delay	Intersection LOS	Avg Queue (feet)	Max Queue (feet)
Signal Butte and Pecos	SB	R	271	41	4.0	160					10%		0.40	4.0					5.4	99.6
		T	54	47	21.2	1050	1610	1610	100%		65%	38%	13.84	21.2	23.4	C			44.7	221.9
		L	55	49	36.8	400					25%		9.14	36.8					46.9	181.4
	WB	R	75	53	9.4	308					41%		3.84	9.4					21.8	172.3
		T	166	41	30.0	260	750	750	100%		35%	18%	10.39	30.0	19.9	B			24.6	121.3
		L	51	47	23.3	182					24%		5.66	23.3					19.3	170.0
	NB	R	62	49	17.6	58				4205	4%		0.74	17.6			22.9	C	76.4	347.3
		T	62	53	22.9	1263	1374	1360	101%		92%	33%	21.00	22.9	22.2	C			63.8	313.1
		L	48	41	11.2	53					4%		0.43	11.2					1.5	48.8
	EB	R	159	47	16.1	46					10%		1.57	16.1					43.1	205.0
		T	159	49	32.0	334	471	480	98%		71%	11%	22.67	32.0	28.5	C			33.7	164.1
		L	52	53	21.9	91					19%		4.23	21.9					8.5	106.6
Sossaman and Germann	SB	R	10100	88	18.3	47					5%		0.25	18.3					1.0	54.8
		T	94	84	22.1	676	881	870	101%		77%	22%	16.00	22.1	22.7	C			38.7	208.9
		L	95	89	26.8	158					18%		3.75	26.8					11.6	116.7
	WB	R	92	10101	12.8	553					51%		5.91	12.8					41.7	326.1
		T	91	88	23.8	393	1093	1100	99%		36%	27%	6.88	23.8	17.8	B			17.1	96.6
		L	90	84	20.3	147					13%		1.97	20.3					8.1	104.1
	NB	R	82	89	32.8	405				4035	28%		2.31	32.8			23.7	C	20.5	187.5
		T	81	93	28.8	1001	1456	1450	100%		69%	36%	17.35	28.8	29.5	C			70.5	299.0
		L	83	88	16.4	50					3%		0.48	16.4					2.3	58.7
	EB	R	86	84	5.3	50					8%		0.43	5.3					1.5	51.3
		T	85	89	24.3	497	605	610	99%		82%	15%	16.17	24.3	22.0	C			20.6	108.8
		L	87	93	16.1	58					10%		1.19	16.1					2.7	62.1
Ellsworth and Germann	SB	R	138	105	6.8	103					4%		0.28	6.8					1.4	68.6
		T	22	104	16.0	2202	2501	2500	100%		88%	34%	14.12	16.0	19.8	B			118.1	721.2
		L	99	110	69.5	196					8%		5.44	69.5					83.9	654.2
	WB	R	108	21	32.1	439					42%		13.39	32.1					96.2	467.8
		T	107	105	53.7	487	1051	1060	99%		46%	14%	24.90	53.7	47.3	D			80.4	363.1
		L	109	104	75.9	125					12%		9.02	75.9					33.6	121.8
	NB	R	101	110	7.0	126				7453	4%		0.29	7.0			27.1	C	2.8	97.4
		T	98	21	19.4	2721	3044	3040	100%		89%	41%	17.38	19.4	19.2	B			190.9	859.9
		L	100	105	23.0	197					6%		1.49	23.0					14.5	180.7
	EB	R	102	104	11.9	144					17%		2.00	11.9					10.9	120.1
		T	97	110	57.7	603	857	855	100%		70%	11%	40.60	57.7	51.8	D			73.1	243.8
		L	103	21	71.4	110					13%		9.16	71.4					29.0	119.1
Crismon and Germann	SB	R	113	106	5.7	125					27%		1.50	5.7					5.2	102.9
		T	65	116	22.8	210	471	460	102%		45%	15%	10.17	22.8	15.8	B			14.2	96.0
		L	114	123	14.2	136					29%		4.09	14.2					7.5	117.4
	WB	R	121	34	5.1	141					14%		0.70	5.1					4.0	101.3
		T	120	106	19.2	614	1018	1030	99%		60%	32%	11.55	19.2	19.1	B			25.0	147.8
		L	122	116	26.5	263					26%		6.86	26.5					34.6	235.9
	NB	R	119	123	4.4	116				3220	14%		0.64	4.4			19.7	B	3.6	88.8
		T	117	34	19.0	373	801	800	100%		47%	25%	8.86	19.0	15.7	B			19.6	133.0
		L	118	106	16.0	312					39%		6.22	16.0					21.8	206.5
	EB	R	115	116	6.7	134					14%		0.96	6.7					7.5	123.7
		T	111	123	29.7	717	930	920	101%		77%	29%	22.91	29.7	25.7	C			61.4	287.6
		L	112	34	21.8	79					8%		1.85	21.8					7.7	103.0

PIRATE and Phoenix Subdivision Support Tracks Project - Node Evaluation

2050 AM No Build Scenario

Delay/ LOS

Intersection	Approach Direction	Movement	From Link	To Link	Delay (All Veh) by movement (sec)	Volume (Output) (All Veh) by (vph)	Approach Volume (Output) (vph)	Approach Volume (Input) (vph)	Output / Input	Intersection (vph)	Mvmt. % Approach Volume	Approach % Total Volume	Mvmt. Delay Weighted by Volume	Delay (All Veh) by movement (sec)	Weighted Delay by Approach	Approach LOS	Intersection Delay	Intersection LOS	Avg Queue (feet)	Max Queue (feet)
Signal Butte and Germann	SB	R	126	127	3.6	182					14%		0.52	3.6					0.5	74.9
		T	63	135	15.7	994	1274	1280	100%		78%	29%	12.23	15.7	13.9	B			32.6	242.3
		L	125	130	15.4	98					8%		1.19	15.4					4.8	95.9
	WB	R	133	35	5.2	202					26%		1.34	5.2					1.3	79.3
		T	165	127	30.3	513	778	780	100%		66%	17%	19.96	30.3	23.1	C			45.9	207.9
		L	132	135	22.4	63					8%		1.81	22.4					5.6	79.7
	NB	R	137	130	5.5	119				4455	8%		0.45	5.5			19.2	B	3.2	84.5
		T	134	35	15.9	1000	1439	1440	100%		69%	32%	11.04	15.9	16.2	B			44.6	306.5
		L	136	127	20.9	320					22%		4.66	20.9					29.9	262.8
	EB	R	124	135	11.0	80					8%		0.92	11.0					66.2	289.7
		T	124	130	29.2	714	964	950	101%		74%	22%	21.63	29.2	27.4	C			59.6	271.4
		L	128	35	27.3	170					18%		4.82	27.3					21.8	180.7
Power and Pecos	SB	R	154	149	41.8	165					10%		4.14	41.8					138.7	645.1
		T	154	148	38.8	1326	1665	1660	100%		80%	26%	30.88	38.8	37.7	D			138.7	645.1
		L	155	144	25.8	174					10%		2.69	25.8					15.4	165.1
	WB	R	151	153	21.9	417					29%		6.35	21.9					71.9	317.8
		T	152	149	53.2	859	1437	1430	100%		60%	22%	31.79	53.2	43.1	D			99.1	344.9
		L	156	148	44.0	161					11%		4.93	44.0					35.5	202.3
	NB	R	147	144	28.0	124				6446	6%		1.58	28.0			35.2	D	145.2	864.9
		T	147	153	27.7	1421	2194	2200	100%		65%	34%	17.95	27.7	32.8	C			145.2	864.9
		L	147	149	44.9	649					30%		13.28	44.9					145.2	864.9
	EB	R	79	148	14.7	505					44%		6.44	14.7					55.0	355.4
		T	143	144	32.6	424	1150	1150	100%		37%	18%	12.03	32.6	26.1	C			31.5	144.4
		L	270	153	39.6	221					19%		7.62	39.6					43.0	279.0

PIRATE and Phoenix Subdivision Support Tracks Project - Node Evaluation

2050 AM No Build Scenario - Delay/LOS

Intersection	Direction	Average Queue Length	Max Queue Length
Pecos Crossing	EB	0.00	0.00
	WB	0.00	0.00
Sossaman Crossing	SB	0.00	0.00
	NB	0.00	0.00
Ellsworth Crossing	SB	0.00	4.68
	NB	0.10	50.36
Crismon Crossing	SB	0.00	0.00
	NB	0.00	0.00
Signal Butte Crossing	SB	0.00	0.00
	NB	0.00	0.00

PIRATE and Phoenix Subdivision Support Tracks Project - Node Evaluation

2050 PM No Build Scenario

Delay/ LOS

Intersection	Approach Direction	Movement	From Link	To Link	Delay (All Veh) by movement (sec)	Volume (Output) (All Veh) by (vph)	Approach Volume (Output) (vph)	Approach Volume (Input) (vph)	Output / Input	Intersection (vph)	Mvmt. % Approach Volume	Approach % Total Volume	Mvmt. Delay Weighted by Volume	Delay (All Veh) by movement (sec)	Weighted Delay by Approach	Approach LOS	Intersection Delay	Intersection LOS	Avg Queue (feet)	Max Queue (feet)
Sossaman and Pecos	SB	R	71	10	9.6	47					4%		0.41	9.6					1.8	67.6
		T	69	6	30.6	848	1109	1110	100%		76%	26%	23.43	30.6	28.0	C			79.6	382.3
		L	5	15	21.6	214					19%		4.17	21.6					19.3	221.0
	WB	R	76	3	5.1	125					11%		0.59	5.1					3.3	83.7
		T	13	10	26.5	607	1089	1090	100%		56%	26%	14.74	26.5	27.2	C			44.6	239.4
		L	12	6	36.1	357					33%		11.84	36.1					70.6	325.7
	NB	R	77	15	6.6	193				4261	20%		1.32	6.6			30.8	C	8.4	105.3
		T	1	3	24.2	409	968	970	100%		42%	23%	10.21	24.2	28.1	C			28.2	137.9
		L	2	10	43.8	366					38%		16.55	43.8					49.4	185.7
	EB	R	70	6	23.4	345					32%		7.38	23.4					65.0	371.5
		T	8	15	47.6	731	1095	1080	101%		67%	26%	31.80	47.6	39.7	D			111.5	357.1
		L	11	3	30.3	19					2%		0.53	30.3					1.4	42.1
Ellsworth and Pecos (South)	SB	R	20	27	6.3	588					21%		1.33	6.3					16.8	139.6
		T	67	22	24.8	2164	2784	2780	100%		78%	46%	19.26	24.8	20.8	C			133.1	614.8
		L	141	266	16.8	32					-		-	16.8					1.7	57.1
	WB	R	268	17	7.4	130					-		-	7.4					7.5	114.1
		T	267	27	31.6	108	379	380	100%		28%	#DIV/0!	9.02	31.6	27.8	C			35.4	181.0
		L	267	22	43.6	141					37%		16.22	43.6					35.4	181.0
	NB	R	265	266	3.4	112				6058	-		-	3.4			22.2	C	0.2	47.1
		T	139	17	16.9	1559	1919	1910	100%		81%	32%	13.71	16.9	20.4	C			55.5	406.6
		L	23	27	50.2	248					13%		6.49	50.2					40.3	154.0
	EB	R	25	22	16.9	394					40%		6.81	16.9					44.4	275.5
		T	140	266	30.7	211	976	980	100%		-	16%	-	30.7	27.4	C			32.3	201.7
		L	24	17	36.7	371					38%		13.95	36.7					40.2	175.7
Ellsworth and Pecos (North)	SB	R	-	-	-	-					-		-	-					#N/A	#N/A
		T	32	18	9.1	2553	2938	2940	100%		87%	53%	7.95	9.1	11.4	B			46.0	397.9
		L	33	19	26.1	385					13%		3.42	26.1					43.7	353.0
	WB	R	29	31	15.7	393					64%		10.13	15.7					73.7	281.5
		T	-	-	-	-	610	610	100%	5590	-	11%	-	-	22.8	C	15.5	B	-	-
		L	29	18	35.6	217					36%		12.67	35.6					49.0	244.3
	NB	R	74	19	7.9	189					9%		0.73	7.9					1.1	84.2
		T	66	31	20.5	1853	2042	2050	100%		91%	37%	18.57	20.5	19.3	B			87.4	507.4
		L	-	-	-	-					-		-	-					-	-
Crismon and Pecos	SB	R	44	37	4.8	59					13%		0.64	4.8					8.0	117.5
		T	44	38	9.8	306	439	440	100%		70%	20%	6.85	9.8	9.5	A			7.7	90.0
		L	46	43	12.2	74					17%		2.05	12.2					3.0	69.5
	WB	R	161	45	9.3	139					24%		2.24	9.3					17.1	189.9
		T	161	37	12.1	303	574	570	101%		53%	26%	6.41	12.1	12.6	B			14.1	170.7
		L	42	38	17.1	132					23%		3.94	17.1					9.1	128.8
	NB	R	64	43	5.8	139				2175	24%		1.40	5.8			11.0	B	7.0	137.7
		T	64	45	9.6	188	581	580	100%		32%	27%	3.09	9.6	11.5	B			6.9	128.0
		L	39	37	15.9	254					44%		6.96	15.9					17.6	178.1
	EB	R	36	38	6.8	286					49%		3.34	6.8					20.0	182.8
		T	36	43	12.1	199	581	580	100%		34%	27%	4.13	12.1	10.0	A			12.0	145.8
		L	40	45	15.0	96					17%		2.48	15.0					4.7	89.0

PIRATE and Phoenix Subdivision Support Tracks Project - Node Evaluation

2050 PM No Build Scenario

Delay/ LOS

Intersection	Approach Direction	Movement	From Link	To Link	Delay (All Veh) by movement (sec)	Volume (Output) (All Veh) by (vph)	Approach Volume (Output) (vph)	Approach Volume (Input) (vph)	Output / Input	Intersection (vph)	Mvmt. % Approach Volume	Approach % Total Volume	Mvmt. Delay Weighted by Volume	Delay (All Veh) by movement (sec)	Weighted Delay by Approach	Approach LOS	Intersection Delay	Intersection LOS	Avg Queue (feet)	Max Queue (feet)
Signal Butte and Pecos	SB	R	271	41	4.0	99					7%		0.29	4.0					3.4	83.3
		T	54	47	24.9	977	1390	1390	100%		70%	37%	17.49	24.9	26.2	C			49.0	214.2
		L	55	49	37.3	314					23%		8.44	37.3					38.3	156.2
	WB	R	75	53	7.0	249					34%		2.37	7.0					13.9	128.7
		T	166	41	31.3	431	731	730	100%		59%	20%	18.46	31.3	22.0	C			40.1	178.0
		L	51	47	17.0	51					7%		1.19	17.0					3.7	74.5
	NB	R	62	49	25.5	249				3733	21%		5.28	25.5			26.2	C	98.0	352.5
		T	62	53	31.9	910	1201	1190	101%		76%	32%	24.18	31.9	30.0	C			78.2	318.3
		L	48	41	16.7	42					3%		0.59	16.7					2.6	63.8
	EB	R	159	47	7.9	18					4%		0.35	7.9					13.5	138.3
		T	159	49	25.3	148	411	420	98%		36%	11%	9.11	25.3	22.7	C			12.9	97.7
		L	52	53	22.3	245					60%		13.27	22.3					25.7	208.8
Sossaman and Germann	SB	R	10100	88	9.3	40					3%		0.09	9.3					0.4	43.7
		T	94	84	16.0	1250	1550	1540	101%		81%	37%	11.23	16.0	14.7	B			53.7	418.1
		L	95	89	9.4	260					17%		1.27	9.4					4.2	100.9
	WB	R	92	10101	13.3	522					47%		5.84	13.3					42.8	281.6
		T	91	88	38.4	500	1119	1120	100%		45%	26%	13.93	38.4	26.1	C			34.5	143.1
		L	90	84	31.9	97					9%		2.10	31.9					10.3	101.9
	NB	R	82	89	26.3	453				4230	44%		3.51	26.3			22.1	C	22.3	234.9
		T	81	93	21.3	398	1031	1030	100%		39%	24%	7.46	21.3	24.1	C			21.8	132.6
		L	83	88	24.8	180					17%		3.53	24.8					13.0	143.6
	EB	R	86	84	9.6	80					15%		1.43	9.6					4.3	71.6
		T	85	89	35.8	403	530	530	100%		76%	13%	22.98	35.8	31.4	C			27.2	119.8
		L	87	93	30.4	47					9%		2.11	30.4					4.7	65.4
Ellsworth and Germann	SB	R	138	105	11.1	396					15%		1.63	11.1					15.8	304.5
		T	22	104	20.9	1863	2696	2700	100%		69%	41%	14.45	20.9	21.2	C			130.0	741.7
		L	99	110	31.4	437					16%		5.08	31.4					103.3	699.6
	WB	R	108	21	9.7	156					18%		1.75	9.7					10.5	130.9
		T	107	105	53.4	500	861	860	100%		58%	13%	31.00	53.4	48.2	D			79.5	319.4
		L	109	104	64.9	205					24%		15.44	64.9					44.1	151.3
	NB	R	101	110	5.1	196				6538	10%		0.51	5.1			28.7	C	6.9	123.3
		T	98	21	21.3	1492	1967	1965	100%		76%	30%	16.17	21.3	20.1	C			66.1	365.4
		L	100	105	24.1	279					14%		3.41	24.1					24.8	229.5
	EB	R	102	104	11.9	213					21%		2.49	11.9					17.0	144.4
		T	97	110	48.5	552	1014	1010	100%		54%	16%	26.39	48.5	49.0	D			56.7	191.4
		L	103	21	81.8	249					25%		20.08	81.8					65.6	192.7
Crismon and Germann	SB	R	113	106	4.6	40					5%		0.25	4.6					1.3	66.9
		T	65	116	20.9	612	732	720	102%		84%	21%	17.48	20.9	19.3	B			34.3	205.1
		L	114	123	14.1	80					11%		1.54	14.1					4.2	76.3
	WB	R	121	34	5.9	117					13%		0.74	5.9					4.1	90.5
		T	120	106	20.7	613	934	910	103%		66%	27%	13.60	20.7	22.4	C			27.6	139.1
		L	122	116	36.8	204					22%		8.05	36.8					38.7	223.5
	NB	R	119	123	4.2	30				3486	5%		0.19	4.2			20.1	C	0.8	62.8
		T	117	34	17.0	424	654	650	101%		65%	19%	11.00	17.0	17.9	B			19.2	137.1
		L	118	106	21.8	200					31%		6.67	21.8					18.0	150.7
	EB	R	115	116	8.9	289					25%		2.20	8.9					18.6	231.4
		T	111	123	24.3	832	1166	1190	98%		71%	33%	17.33	24.3	20.1	C			58.7	308.6
		L	112	34	14.6	45					4%		0.56	14.6					2.5	64.1

PIRATE and Phoenix Subdivision Support Tracks Project - Node Evaluation

2050 PM No Build Scenario

Delay/ LOS

Intersection	Approach Direction	Movement	From Link	To Link	Delay (All Veh) by movement (sec)	Volume (Output) (All Veh) by (vph)	Approach Volume (Output) (vph)	Approach Volume (Input) (vph)	Output / Input	Intersection (vph)	Mvmt. % Approach Volume	Approach % Total Volume	Mvmt. Delay Weighted by Volume	Delay (All Veh) by movement (sec)	Weighted Delay by Approach	Approach LOS	Intersection Delay	Intersection LOS	Avg Queue (feet)	Max Queue (feet)
Signal Butte and Germann	SB	R	126	127	5.5	103					10%		0.54	5.5					1.0	77.1
		T	63	135	22.6	849	1051	1050	100%		81%	25%	18.25	22.6	20.6	C			39.3	220.3
		L	125	130	19.4	99					9%		1.83	19.4					7.7	121.1
	WB	R	133	35	4.3	163					19%		0.82	4.3					0.5	58.0
		T	165	127	18.9	627	856	810	106%		73%	20%	13.81	18.9	15.9	B			32.9	191.0
		L	132	135	16.1	66					8%		1.24	16.1					3.8	71.4
	NB	R	137	130	5.6	198				4180	15%		0.84	5.6			16.0	B	5.9	103.4
		T	134	35	18.0	908	1314	1310	100%		69%	31%	12.43	18.0	16.1	B			44.4	262.8
		L	136	127	17.8	208					16%		2.82	17.8					14.9	168.6
	EB	R	124	135	6.0	221					23%		1.39	6.0					20.4	187.3
		T	124	130	10.8	599	959	950	101%		62%	23%	6.73	10.8	10.7	B			20.3	169.0
		L	128	35	17.9	139					14%		2.60	17.9					10.4	136.5
Powers and Pecos	SB	R	154	149	35.9	93					6%		2.00	35.9					131.6	707.7
		T	154	148	35.3	1436	1674	1670	100%		86%	28%	30.30	35.3	34.1	C			131.6	707.7
		L	155	144	20.8	145					9%		1.80	20.8					9.9	128.6
	WB	R	151	153	6.9	33					3%		0.22	6.9					1.9	80.0
		T	152	149	42.2	758	1022	1025	100%		74%	17%	31.32	42.2	39.1	D			69.2	287.3
		L	156	148	33.2	231					23%		7.51	33.2					36.5	260.2
	NB	R	147	144	29.4	86				5947	5%		1.48	29.4			33.7	C	103.7	552.3
		T	147	153	27.6	1221	1706	1710	100%		72%	29%	19.79	27.6	31.8	C			103.7	552.3
		L	147	149	45.1	399					23%		10.54	45.1					103.7	552.3
	EB	R	79	148	15.7	494					32%		5.02	15.7					58.2	329.7
		T	143	144	41.8	860	1545	1540	100%		56%	26%	23.27	41.8	31.8	C			75.5	276.8
		L	270	153	28.8	191					12%		3.56	28.8					25.5	199.5

PIRATE and Phoenix Subdivision Support Tracks Project - Node Evaluation

2050 PM No Build Scenario - Delay/LOS

Intersection	Direction	Average Queue Length	Max Queue Length
Pecos Crossing	EB	0.00	0.00
	WB	0.00	0.00
Sossaman Crossing	SB	0.00	0.00
	NB	0.00	0.00
Ellsworth Crossing	SB	0.06	38.73
	NB	0.09	47.67
Crismon Crossing	SB	0.00	0.00
	NB	0.00	0.00
Signal Butte Crossing	SB	0.00	0.00
	NB	0.00	0.00

PIRATE and Phoenix Subdivision Support Tracks Project - Node Evaluation

2050 AM Build Scenario

Delay/ LOS

Intersection	Approach Direction	Movement	From Link	To Link	Delay (All Veh) by movement (sec)	Volume (Output) (All Veh) by (vph)	Approach Volume (Output) (vph)	Approach Volume (Input) (vph)	Output / Input	Intersection (vph)	Mvmt. % Approach Volume	Approach % Total Volume	Mvmt. Delay Weighted by Volume	Delay (All Veh) by movement (sec)	Weighted Delay by Approach	Approach LOS	Intersection Delay	Intersection LOS	Avg Queue (feet)	Max Queue (feet)
Sossaman and Pecos	SB	R	71	10	9.2	53					12%		1.13	9.2					2.7	74.6
		T	69	6	31.5	300	431	430	100%		70%	10%	21.93	31.5	26.8	C			28.0	201.8
		L	5	15	20.9	78					18%		3.78	20.9					5.8	86.4
	WB	R	76	3	14.9	362					22%		3.23	14.9					39.3	531.8
		T	13	10	33.4	888	1675	1680	100%		53%	38%	17.72	33.4	31.7	C			146.7	1006.8
		L	12	6	42.3	425					25%		10.74	42.3					138.3	840.1
	NB	R	77	15	13.3	229					14%		1.90	13.3					13.1	139.3
		T	1	3	37.0	889	1608	1610	100%		55%	36%	20.43	37.0	35.8	D			122.8	842.8
		L	2	10	44.3	490					30%		13.49	44.3					69.4	418.7
	EB	R	70	6	10.8	151					21%		2.24	10.8					11.7	273.7
		T	8	15	40.3	536	726	720	101%		74%	16%	29.77	40.3	33.5	C			69.8	527.1
		L	11	3	27.2	39					5%		1.46	27.2					3.1	70.9
Ellsworth and Pecos (South)	SB	R	20	27	11.9	774					30%		3.54	11.9					34.6	260.2
		T	67	22	31.3	1778	2594	2620	99%		69%	37%	21.44	31.3	25.5	C			187.0	1246.3
		L	141	266	33.5	42					-		-	33.5					4.8	76.1
	WB	R	268	17	18.7	91					-		-	18.7					9.9	113.4
		T	267	27	41.2	98	241	240	100%		41%	3%	16.74	41.2	34.0	C			24.0	148.1
		L	267	22	47.2	52					22%		10.18	47.2					24.0	148.1
	NB	R	101	110	7.0	126					-		-	7.0					2.9	97.4
		T	98	21	19.5	2721	3044	3280	93%		89%	43%	17.44	19.5	19.3	B			190.4	841.8
		L	100	105	24.7	197					6%		1.60	24.7					16.2	198.0
	EB	R	25	22	32.9	662					55%		18.01	32.9					186.0	817.2
		T	140	266	45.3	119	1211	1200	101%		-	17%	-	45.3	43.4	D			26.0	171.8
		L	24	17	58.9	430					36%		20.91	58.9					76.6	378.6
Ellsworth and Pecos (North)	SB	R	-	-	-	-					-		-	-					#N/A	#N/A
		T	32	18	11.8	2419	2662	2640	101%		91%	42%	10.68	11.8	16.5	B			96.2	1211.4
		L	33	19	63.3	243					9%		5.78	63.3					81.2	532.9
	WB	R	29	31	32.9	399					65%		21.52	32.9					120.3	401.2
		T	-	-	-	-	610	620	98%	6406	-	10%	-	-	40.9	D	19.5	B	-	-
		L	29	18	56.1	211					35%		19.39	56.1					91.6	364.0
	NB	R	74	19	9.3	228					7%		0.68	9.3					2.8	164.8
		T	66	31	18.7	2906	3134	3110	101%		93%	49%	17.32	18.7	18.0	B			298.2	1087.1
		L	-	-	-	-					-		-	-					-	-
Crismon and Pecos	SB	R	44	37	4.5	141					29%		1.30	4.5					9.1	131.0
		T	44	38	9.9	253	490	490	100%		52%	24%	5.09	9.9	8.8	A			7.4	103.5
		L	46	43	12.1	96					20%		2.36	12.1					4.1	84.0
	WB	R	161	45	10.1	196					41%		4.16	10.1					19.8	172.9
		T	161	37	15.7	183	474	470	101%		39%	23%	6.07	15.7	14.5	B			15.5	153.7
		L	42	38	21.3	95					20%		4.26	21.3					7.8	99.5
	NB	R	64	43	6.2	76					13%		0.80	6.2					8.0	287.7
		T	64	45	10.1	211	592	590	100%		36%	29%	3.61	10.1	13.3	B			8.4	278.1
		L	39	37	17.3	305					52%		8.90	17.3					28.0	478.0
	EB	R	36	38	9.5	121					26%		2.44	9.5					23.5	169.8
		T	36	43	16.0	295	470	470	100%		63%	23%	10.02	16.0	14.5	B			16.1	132.8
		L	40	45	18.0	54					11%		2.07	18.0					3.3	64.0

PIRATE and Phoenix Subdivision Support Tracks Project - Node Evaluation

2050 AM Build Scenario

Delay/ LOS

Intersection	Approach Direction	Movement	From Link	To Link	Delay (All Veh) by movement (sec)	Volume (Output) (All Veh) by (vph)	Approach Volume (Output) (vph)	Approach Volume (Input) (vph)	Output / Input	Intersection (vph)	Mvmt. % Approach Volume	Approach % Total Volume	Mvmt. Delay Weighted by Volume	Delay (All Veh) by movement (sec)	Weighted Delay by Approach	Approach LOS	Intersection Delay	Intersection LOS	Avg Queue (feet)	Max Queue (feet)
Signal Butte and Pecos	SB	R	271	41	4.0	160					10%		0.40	4.0					5.4	99.6
		T	54	47	21.2	1050	1610	1610	100%		65%	38%	13.85	21.2	23.4	C			44.7	221.9
		L	55	49	36.8	400					25%		9.14	36.8					46.9	181.4
	WB	R	75	53	9.5	308					41%		3.92	9.5					22.1	180.2
		T	166	41	30.0	260	750	750	100%		35%	18%	10.39	30.0	20.0	C			24.6	122.0
		L	51	47	23.6	182					24%		5.72	23.6					19.5	165.1
	NB	R	62	49	22.1	58				4206	4%		0.93	22.1			24.2	C	111.8	886.0
		T	62	53	26.9	1263	1375	1360	101%		92%	33%	24.69	26.9	26.1	C			98.5	851.9
		L	48	41	12.8	54					4%		0.50	12.8					2.0	71.7
	EB	R	159	47	16.0	46					10%		1.56	16.0					42.5	208.3
		T	159	49	31.8	334	471	480	98%		71%	11%	22.59	31.8	28.4	C			33.4	167.4
		L	52	53	21.9	91					19%		4.24	21.9					8.5	107.1
Sossaman and Germann	SB	R	10100	88	19.1	47					5%		0.25	19.1					1.0	49.4
		T	94	84	24.3	676	881	870	101%		77%	22%	16.39	24.3	25.6	C			39.9	232.6
		L	95	89	32.7	158					18%		3.90	32.7					12.4	130.4
	WB	R	92	10101	14.0	553					51%		5.91	14.0					41.7	325.8
		T	91	88	29.7	393	1093	1100	99%		36%	27%	6.88	29.7	21.0	C			17.1	96.6
		L	90	84	24.1	147					13%		1.97	24.1					8.1	104.1
	NB	R	82	89	36.1	405				4035	28%		2.31	36.1			27.4	C	20.5	187.5
		T	81	93	32.7	1001	1456	1450	100%		69%	36%	17.35	32.7	33.2	C			70.5	299.0
		L	83	88	20.9	50					3%		0.47	20.9					2.3	58.7
	EB	R	86	84	5.4	50					8%		0.43	5.4					1.5	51.0
		T	85	89	31.1	497	605	610	99%		82%	15%	16.17	31.1	27.9	C			20.6	108.8
		L	87	93	19.2	58					10%		1.19	19.2					2.7	62.1
Ellsworth and Germann	SB	R	138	105	7.0	103					4%		0.29	7.0					1.4	76.2
		T	22	104	16.1	2202	2502	2500	100%		88%	34%	14.15	16.1	20.1	C			115.1	719.5
		L	99	110	71.8	197					8%		5.66	71.8					89.3	672.2
	WB	R	108	21	33.5	439					42%		13.99	33.5					101.0	494.7
		T	107	105	54.4	487	1051	1060	99%		46%	14%	25.19	54.4	48.2	D			82.4	391.8
		L	109	104	75.7	125					12%		9.01	75.7					34.1	116.0
	NB	R	101	110	7.0	126				7454	4%		0.29	7.0			27.4	C	2.9	97.4
		T	98	21	19.5	2721	3044	3040	100%		89%	41%	17.44	19.5	19.3	B			190.4	841.8
		L	100	105	24.7	197					6%		1.60	24.7					16.2	198.0
	EB	R	102	104	12.9	144					17%		2.16	12.9					11.7	131.2
		T	97	110	57.7	603	857	855	100%		70%	11%	40.60	57.7	51.9	D			73.1	244.3
		L	103	21	71.2	110					13%		9.14	71.2					28.8	119.1
Crismon and Germann	SB	R	113	106	6.6	125					27%		1.75	6.6					5.8	161.0
		T	65	116	23.4	210	471	460	102%		45%	15%	10.43	23.4	16.7	B			14.9	167.2
		L	114	123	15.7	136					29%		4.55	15.7					9.6	238.2
	WB	R	121	34	5.0	141					14%		0.69	5.0					4.0	101.4
		T	120	106	18.9	614	1018	1030	99%		60%	32%	11.43	18.9	18.9	B			24.9	154.2
		L	122	116	26.4	263					26%		6.82	26.4					34.3	232.8
	NB	R	119	123	4.3	116				3217	14%		0.63	4.3			19.7	B	3.6	88.8
		T	117	34	18.7	373	801	800	100%		47%	25%	8.73	18.7	15.5	B			19.2	130.6
		L	118	106	15.8	312					39%		6.15	15.8					21.6	200.6
	EB	R	115	116	6.7	134					14%		0.97	6.7					7.6	125.1
		T	111	123	29.7	715	927	920	101%		77%	29%	22.91	29.7	25.7	C			61.2	282.4
		L	112	34	21.8	78					8%		1.84	21.8					7.8	102.8

PIRATE and Phoenix Subdivision Support Tracks Project - Node Evaluation

2050 AM Build Scenario

Delay/ LOS

Intersection	Approach Direction	Movement	From Link	To Link	Delay (All Veh) by movement (sec)	Volume (Output) (All Veh) by (vph)	Approach Volume (Output) (vph)	Approach Volume (Input) (vph)	Output / Input	Intersection (vph)	Mvmt. % Approach Volume	Approach % Total Volume	Mvmt. Delay Weighted by Volume	Delay (All Veh) by movement (sec)	Weighted Delay by Approach	Approach LOS	Intersection Delay	Intersection LOS	Avg Queue (feet)	Max Queue (feet)
Signal Butte and Germann	SB	R	126	127	4.9	182					14%		0.70	4.9					1.2	104.2
		T	63	135	19.4	994	1274	1280	100%		78%	29%	15.14	19.4	17.2	B			48.7	656.6
		L	125	130	17.9	98					8%		1.38	17.9					5.9	121.5
	WB	R	133	35	5.1	202					26%		1.33	5.1					1.3	79.3
		T	165	127	30.1	513	778	780	100%		66%	17%	19.88	30.1	23.0	C			45.7	207.1
		L	132	135	22.2	63					8%		1.80	22.2					5.6	79.7
	NB	R	137	130	5.5	119				4455	8%		0.46	5.5			20.1	C	3.3	85.3
		T	134	35	16.0	1000	1439	1440	100%		69%	32%	11.14	16.0	16.4	B			45.1	305.1
		L	136	127	21.6	320					22%		4.79	21.6					31.2	264.4
	EB	R	124	135	11.2	80					8%		0.93	11.2					65.6	290.3
		T	124	130	28.8	714	964	950	101%		74%	22%	21.34	28.8	27.0	C			58.8	272.0
		L	128	35	27.1	170					18%		4.78	27.1					21.6	176.3
Power and Pecos	SB	R	154	149	41.8	165					10%		4.14	41.8					138.6	645.1
		T	154	148	38.8	1326	1665	1660	100%		80%	26%	30.89	38.8	37.8	D			138.6	645.1
		L	155	144	26.0	174					10%		2.72	26.0					15.6	165.1
	WB	R	151	153	23.5	417					29%		6.82	23.5					78.2	426.8
		T	152	149	54.3	859	1437	1430	100%		60%	22%	32.49	54.3	44.3	D			101.7	390.1
		L	156	148	44.4	161					11%		4.97	44.4					35.8	218.4
	NB	R	147	144	28.0	124				6446	6%		1.58	28.0			35.4	D	145.1	866.2
		T	147	153	27.7	1421	2194	2200	100%		65%	34%	17.95	27.7	32.8	C			145.1	866.2
		L	147	149	44.9	649					30%		13.29	44.9					145.1	866.2
	EB	R	79	148	14.6	505					44%		6.42	14.6					54.9	355.7
		T	143	144	32.6	424	1150	1150	100%		37%	18%	12.03	32.6	26.0	C			31.5	144.4
		L	270	153	39.5	221					19%		7.59	39.5					42.7	276.5

PIRATE and Phoenix Subdivision Support Tracks Project - Node Evaluation

2050 AM Build Scenario - Delay/LOS

Intersection	Direction	Average Queue Length	Max Queue Length
Pecos Crossing	EB	24.18	627.24
	WB	51.60	981.83
Sossaman Crossing	SB	11.09	302.18
	NB	47.02	957.91
Ellsworth Crossing	SB	54.22	955.96
	NB	123.24	1494.99
Crismon Crossing	SB	12.44	358.34
	NB	18.69	492.10
Signal Butte Crossing	SB	27.94	703.18
	NB	34.08	816.29

PIRATE and Phoenix Subdivision Support Tracks Project - Node Evaluation

2050 PM Build Scenario

Delay/ LOS

Intersection	Approach Direction	Movement	From Link	To Link	Delay (All Veh) by movement (sec)	Volume (Output) (All Veh) by (vph)	Approach Volume (Output) (vph)	Approach Volume (Input) (vph)	Output / Input	Intersection (vph)	Mvmt. % Approach Volume	Approach % Total Volume	Mvmt. Delay Weighted by Volume	Delay (All Veh) by movement (sec)	Weighted Delay by Approach	Approach LOS	Intersection Delay	Intersection LOS	Avg Queue (feet)	Max Queue (feet)
Sossaman and Pecos	SB	R	71	10	14.1	47					4%		0.60	14.1					1.7	67.2
		T	69	6	36.3	848	1109	1110	100%		76%	26%	27.79	36.3	33.8	C			152.0	1044.3
		L	5	15	28.0	214					19%		5.41	28.0					79.9	982.4
	WB	R	76	3	5.1	125					11%		0.59	5.1					3.3	83.7
		T	13	10	26.5	607	1089	1090	100%		56%	26%	14.79	26.5	27.7	C			44.8	239.4
		L	12	6	37.6	357					33%		12.34	37.6					74.0	334.3
	NB	R	77	15	6.8	193				4261	20%		1.35	6.8			34.1	C	8.5	105.5
		T	1	3	24.2	409	968	970	100%		42%	23%	10.21	24.2	28.3	C			28.1	137.9
		L	2	10	44.4	366					38%		16.79	44.4					50.1	185.7
	EB	R	70	6	29.1	345					32%		9.15	29.1					102.9	802.1
		T	8	15	54.2	731	1095	1080	101%		67%	26%	36.15	54.2	45.9	D			170.2	844.4
		L	11	3	35.5	19					2%		0.62	35.5					1.5	40.0
Ellsworth and Pecos (South)	SB	R	20	27	7.3	588					21%		1.55	7.3					19.6	160.5
		T	67	22	27.2	2163	2783	2780	100%		78%	46%	21.14	27.2	22.9	C			312.6	1552.2
		L	141	266	17.0	32					1%		0.20	17.0					1.8	60.5
	WB	R	268	17	7.4	130					34%		2.53	7.4					7.5	115.1
		T	267	27	31.8	108	379	380	100%		28%	6%	9.05	31.8	27.7	C			35.4	181.0
		L	267	22	43.3	141					37%		16.12	43.3					35.4	181.0
	NB	R	265	266	3.5	112				6056	6%		0.20	3.5			23.3	C	0.2	49.4
		T	139	17	17.0	1559	1919	1910	100%		81%	32%	13.85	17.0	20.6	C			55.7	423.6
		L	23	27	50.8	248					13%		6.57	50.8					41.0	150.9
	EB	R	25	22	17.7	393					40%		7.13	17.7					45.7	290.8
		T	140	266	30.7	211	975	980	99%		22%	16%	6.65	30.7	28.1	C			32.3	201.7
		L	24	17	37.6	371					38%		14.31	37.6					41.2	188.1
Ellsworth and Pecos (North)	SB	R	-	-	-	-					-		-	-					#N/A	#N/A
		T	32	18	12.4	2554	2939	2940	100%		87%	53%	10.75	12.4	14.6	B			162.0	1516.5
		L	33	19	29.2	385					13%		3.83	29.2					90.1	1020.2
	WB	R	29	31	19.1	393					65%		12.30	19.1					90.7	362.0
		T	-	-	-	-	609	610	100%	5590	-	11%	-	-	28.2	C	18.1	B	-	-
		L	29	18	44.9	216					35%		15.92	44.9					64.6	324.8
	NB	R	74	19	8.5	189					9%		0.79	8.5					1.1	92.1
		T	66	31	21.3	1853	2042	2050	100%		91%	37%	19.36	21.3	20.1	C			122.3	1068.9
		L	-	-	-	-					-		-	-					-	-
Crismon and Pecos	SB	R	44	37	4.8	59					13%		0.64	4.8					8.0	117.5
		T	44	38	9.8	306	439	440	100%		70%	20%	6.85	9.8	9.6	A			7.7	90.0
		L	46	43	12.5	74					17%		2.12	12.5					3.1	70.5
	WB	R	161	45	9.2	139					24%		2.24	9.2					17.2	189.3
		T	161	37	12.2	303	574	570	101%		53%	26%	6.42	12.2	12.6	B			14.2	170.1
		L	42	38	17.1	132					23%		3.94	17.1					9.1	128.7
	NB	R	64	43	6.7	138				2174	24%		1.60	6.7			11.7	B	9.8	278.8
		T	64	45	10.8	188	580	580	100%		32%	27%	3.51	10.8	14.0	B			9.6	269.1
		L	39	37	20.3	254					44%		8.91	20.3					26.2	375.8
	EB	R	36	38	6.8	286					49%		3.34	6.8					20.1	182.8
		T	36	43	12.1	199	581	580	100%		34%	27%	4.13	12.1	10.0	A			12.0	145.8
		L	40	45	15.1	96					17%		2.49	15.1					4.7	89.0

PIRATE and Phoenix Subdivision Support Tracks Project - Node Evaluation

2050 PM Build Scenario

Delay/ LOS

Intersection	Approach Direction	Movement	From Link	To Link	Delay (All Veh) by movement (sec)	Volume (Output) (All Veh) by (vph)	Approach Volume (Output) (vph)	Approach Volume (Input) (vph)	Output / Input	Intersection (vph)	Mvmt. % Approach Volume	Approach % Total Volume	Mvmt. Delay Weighted by Volume	Delay (All Veh) by movement (sec)	Weighted Delay by Approach	Approach LOS	Intersection Delay	Intersection LOS	Avg Queue (feet)	Max Queue (feet)
Signal Butte and Pecos	SB	R	271	41	4.0	99					7%		0.29	4.0					3.4	83.3
		T	54	47	24.9	977	1390	1390	100%		70%	37%	17.49	24.9	26.2	C			49.0	214.2
		L	55	49	37.3	314					23%		8.44	37.3					38.3	156.2
	WB	R	75	53	7.0	249					34%		2.38	7.0					14.0	128.6
		T	166	41	31.3	431	731	730	100%		59%	20%	18.46	31.3	22.0	C			40.0	178.0
		L	51	47	16.9	51					7%		1.18	16.9					3.7	74.2
	NB	R	62	49	30.6	249				3733	21%		6.35	30.6			27.6	C	123.5	764.0
		T	62	53	35.8	910	1201	1190	101%		76%	32%	27.15	35.8	34.2	C			103.6	729.9
		L	48	41	18.6	42					3%		0.65	18.6					3.0	71.3
	EB	R	159	47	8.5	18					4%		0.37	8.5					13.0	145.4
		T	159	49	25.1	148	411	420	98%		36%	11%	9.04	25.1	22.8	C			12.8	104.8
		L	52	53	22.5	245					60%		13.43	22.5					26.0	217.5
Sossaman and Germann	SB	R	10100	88	9.7	40					3%		0.10	9.7					0.4	43.3
		T	94	84	16.4	1250	1550	1540	101%		81%	37%	11.67	16.4	15.2	B			59.8	494.4
		L	95	89	10.5	260					17%		1.40	10.5					4.9	99.6
	WB	R	92	10101	13.3	522					47%		5.84	13.3					42.8	281.6
		T	91	88	38.4	500	1119	1120	100%		45%	26%	13.93	38.4	26.1	C			34.5	143.1
		L	90	84	31.9	97					9%		2.10	31.9					10.3	101.9
	NB	R	82	89	26.2	453				4230	44%		3.51	26.2			22.3	C	22.3	234.9
		T	81	93	21.3	398	1031	1030	100%		39%	24%	7.46	21.3	24.2	C			21.8	132.6
		L	83	88	25.6	180					17%		3.72	25.6					14.1	148.1
	EB	R	86	84	9.3	80					15%		1.41	9.3					4.3	74.0
		T	85	89	35.7	403	530	530	100%		76%	13%	22.98	35.7	31.3	C			27.2	119.8
		L	87	93	30.4	47					9%		2.11	30.4					4.7	65.4
Ellsworth and Germann	SB	R	138	105	11.4	396					15%		1.67	11.4					16.6	362.0
		T	22	104	22.2	1862	2695	2700	100%		69%	41%	15.37	22.2	22.5	C			170.1	951.9
		L	99	110	33.5	437					16%		5.42	33.5					139.7	874.2
	WB	R	108	21	9.8	156					18%		1.77	9.8					10.6	132.5
		T	107	105	53.4	499	860	860	100%		58%	13%	30.99	53.4	48.1	D			79.4	316.3
		L	109	104	64.2	205					24%		15.31	64.2					44.0	142.9
	NB	R	101	110	5.2	196				6536	10%		0.51	5.2			29.7	C	7.0	125.4
		T	98	21	21.4	1492	1967	1965	100%		76%	30%	16.23	21.4	20.4	C			66.4	363.3
		L	100	105	25.5	279					14%		3.62	25.5					27.0	242.2
	EB	R	102	104	11.9	213					21%		2.50	11.9					17.0	138.3
		T	97	110	48.5	552	1014	1010	100%		54%	16%	26.40	48.5	51.2	D			56.7	191.4
		L	103	21	90.7	249					25%		22.28	90.7					72.9	203.5
Crismon and Germann	SB	R	113	106	5.6	40					5%		0.31	5.6					1.3	67.0
		T	65	116	23.1	611	731	720	102%		84%	21%	19.29	23.1	21.3	C			42.8	432.4
		L	114	123	15.8	80					11%		1.73	15.8					4.6	94.3
	WB	R	121	34	6.1	117					13%		0.77	6.1					4.3	89.3
		T	120	106	21.6	613	934	910	103%		66%	27%	14.19	21.6	23.2	C			28.6	142.8
		L	122	116	37.8	204					22%		8.25	37.8					40.2	230.8
	NB	R	119	123	4.2	30				3485	5%		0.19	4.2			20.7	C	0.8	62.7
		T	117	34	16.9	424	654	650	101%		65%	19%	10.99	16.9	18.0	B			19.2	137.1
		L	118	106	22.5	200					31%		6.87	22.5					19.0	157.0
	EB	R	115	116	8.9	289					25%		2.21	8.9					18.8	238.6
		T	111	123	23.9	832	1166	1190	98%		71%	33%	17.06	23.9	19.9	B			58.1	325.3
		L	112	34	15.2	45					4%		0.59	15.2					2.6	59.4

PIRATE and Phoenix Subdivision Support Tracks Project - Node Evaluation

2050 PM Build Scenario

Delay/ LOS

Intersection	Approach Direction	Movement	From Link	To Link	Delay (All Veh) by movement (sec)	Volume (Output) (All Veh) by (vph)	Approach Volume (Output) (vph)	Approach Volume (Input) (vph)	Output / Input	Intersection (vph)	Mvmt. % Approach Volume	Approach % Total Volume	Mvmt. Delay Weighted by Volume	Delay (All Veh) by movement (sec)	Weighted Delay by Approach	Approach LOS	Intersection Delay	Intersection LOS	Avg Queue (feet)	Max Queue (feet)
Signal Butte and Germann	SB	R	126	127	6.7	103					10%		0.66	6.7					1.2	86.2
		T	63	135	25.9	849	1051	1050	100%		81%	25%	20.94	25.9	23.5	C			49.8	522.3
		L	125	130	20.4	99					9%		1.92	20.4					8.1	127.0
	WB	R	133	35	4.4	163					19%		0.83	4.4					0.6	58.6
		T	165	127	19.3	627	856	810	106%		73%	20%	14.12	19.3	16.2	B			33.7	193.2
		L	132	135	16.2	66					8%		1.25	16.2					3.9	70.7
	NB	R	137	130	5.6	198				4178	15%		0.84	5.6			16.8	B	5.9	102.3
		T	134	35	18.0	908	1314	1310	100%		69%	31%	12.44	18.0	16.1	B			44.4	262.8
		L	136	127	17.9	208					16%		2.83	17.9					15.0	168.6
	EB	R	124	135	6.1	220					23%		1.41	6.1					20.4	171.5
		T	124	130	10.6	598	957	950	101%		62%	23%	6.63	10.6	10.8	B			20.0	153.2
		L	128	35	19.0	139					15%		2.75	19.0					10.9	123.1
Powers and Pecos	SB	R	154	149	47.9	93					6%		2.66	47.9					259.0	1301.5
		T	154	148	46.7	1436	1674	1670	100%		86%	28%	40.04	46.7	45.2	D			259.0	1301.5
		L	155	144	29.1	145					9%		2.52	29.1					19.1	243.3
	WB	R	151	153	6.7	33					3%		0.22	6.7					1.9	80.3
		T	152	149	42.9	758	1022	1025	100%		74%	17%	31.85	42.9	43.5	D			71.2	413.6
		L	156	148	50.5	231					23%		11.41	50.5					68.0	488.6
	NB	R	147	144	35.3	86				5947	5%		1.78	35.3			41.3	D	159.7	1031.8
		T	147	153	36.1	1221	1706	1710	100%		72%	29%	25.82	36.1	40.3	D			159.7	1031.8
		L	147	149	54.4	399					23%		12.73	54.4					159.7	1031.8
	EB	R	79	148	16.7	494					32%		5.33	16.7					62.1	348.1
		T	143	144	47.4	860	1545	1540	100%		56%	26%	26.40	47.4	36.8	D			87.6	439.1
		L	270	153	41.1	191					12%		5.08	41.1					39.5	318.6

PIRATE and Phoenix Subdivision Support Tracks Project - Node Evaluation

2050 PM Build Scenario - Delay/LOS

Intersection	Direction	Average Queue Length	Max Queue Length
Pecos Crossing	EB	36.21	795.53
	WB	33.80	873.94
Sossaman Crossing	SB	44.28	1024.54
	NB	13.62	389.87
Ellsworth Crossing	SB	73.75	943.02
	NB	66.95	1363.30
Crismon Crossing	SB	20.40	547.24
	NB	14.09	411.28
Signal Butte Crossing	SB	17.09	497.04
	NB	23.13	662.74

Appendix E
Grade Separation Warrants

The tables in this appendix summarize the data used to evaluate the Arizona Corporation Commission (ACC) and Federal Highway Administration (FHWA) grade separation warrants for each proposed PIRATE crossing under the 2050 Build scenario.

Table E-1. ACC Warrant 1 – Interstate Highway System

Railroad Crossing	Design Year (2050)
Sossaman Road	No
Pecos Road (south)	No
Ellsworth Road	No
Crismon Road	No
Signal Butte Road	No

Table E-2. ACC Warrant 2 – Full Controlled Access

Railroad Crossing	Design Year (2050)
Sossaman Road	No
Pecos Road (south)	No
Ellsworth Road	No
Crismon Road	No
Signal Butte Road	No

Table E-3. ACC Warrant 3 and FHWA Warrant 1 – Posted Highway Speed (mph)

Railroad Crossing	Design Year (2050)
Sossaman Road	45
Pecos Road (south)	45
Ellsworth Road	45
Crismon Road	45
Signal Butte Road	45

Table E-4. ACC Warrant 4 and FHWA Warrant 2 – ADT (vehicles per day)

Railroad Crossing	Design Year (2050)
Sossaman Road	22,600
Pecos Road (south)	31,100
Ellsworth Road	47,800
Crismon Road	22,800
Signal Butte Road	33,400

Table E-5. ACC Warrant 5 and FHWA Warrant 3 – Authorized Train Speed (mph)

Railroad Crossing	Design Year (2050)
Sossaman Road	20
Pecos Road (south)	20
Ellsworth Road	20
Crismon Road	20
Signal Butte Road	20

Table E-6. ACC Warrant 6 and FHWA Warrant 4 – Number of Trains per Day

Railroad Crossing	Design Year (2050)
Sossaman Road	2
Pecos Road (south)	2
Ellsworth Road	2
Crismon Road	2
Signal Butte Road	2

Table E-7. FHWA Warrant 5 – Number of Passenger Trains per Day

Railroad Crossing	Design Year (2050)
Sossaman Road	0
Pecos Road (south)	0
Ellsworth Road	0
Crismon Road	0
Signal Butte Road	0

Table E-8. FHWA Warrant 6 – Number of Transit Trains per Day

Railroad Crossing	Design Year (2050)
Sossaman Road	0
Pecos Road (south)	0
Ellsworth Road	0
Crismon Road	0
Signal Butte Road	0

Table E-9. ACC Warrant 7 and FHWA Warrant 7 – Crossing Exposure (ADT x Trains per Day)

Railroad Crossing	Design Year (2050)
Sossaman Road	45,200
Pecos Road (south)	62,200
Ellsworth Road	95,600
Crismon Road	45,600
Signal Butte Road	66,800

Table E-10. FHWA Warrant 8 – Transit Train Exposure (ADT x Transit Trains per Day)

Railroad Crossing	Design Year (2050)
Sossaman Road	0
Pecos Road (south)	0
Ellsworth Road	0
Crismon Road	0
Signal Butte Road	0

Table E-11. ACC Warrant 9 and FHWA Warrant 10 – Vehicle Delay (vehicle-hours per day)

Railroad Crossing	Design Year (2050)
Sossaman Road	9.01
Pecos Road (south)	11.33
Ellsworth Road	26.83
Crismon Road	6.33
Signal Butte Road	13.03

Daily Vehicle-Hours of Delay

ACC Warrant 9 and FHWA Warrant 10 address vehicle delay at rail crossings. This section presents the calculation of vehicle-hours of delay, which quantifies the cumulative delay experienced by vehicles when a train passes through each crossing (2 trains per day per crossing).

For this analysis, the vehicle-hours of delay were estimated using A.M. and P.M. peak-hour traffic volumes, an average train speed of 20 miles per hour, a train length of 4,500 feet, and a crossing time of approximately 153.4 seconds. An additional 20 seconds of warning time prior to train arrival and 12 seconds after the train has passed results in a total crossing time of about 191.6 seconds, the sum of warning time plus train crossing time.

Warning time (gates up + gates down) = 20 seconds + 12 seconds = 32 seconds

4,500 ft train length / (29.33 ft/sec) = 153.4 seconds

Where 20 mph is equivalent to 29.33 ft/s

The number of delayed vehicles per train crossing was calculated based on hourly traffic volumes and vehicle arrival rates at each crossing. Total vehicle-seconds of delay were then converted to daily vehicle-hours of delay considering one train crossing during each AM and PM peak period.

Given the low train frequency and relatively short activation time (185.4 seconds), the analysis conservatively assumes that all vehicles arriving during activation experience the full delay. In practice, actual delays are typically shorter. Vehicles arriving at the start of activation would encounter the full delay, while those arriving just before deactivation would only be delayed as the queue clears. Even under this conservative assumption, none of the crossings exceed the thresholds established by ACC and FHWA warrants for grade separation.

Per ACC Decision No. 79186, within 30 days of reaching 24 vehicle-hours of delay per day, which is 80 percent of FHWA's delay threshold of 30 hours, UP must file an application with ACC for the construction of a grade-separated crossing at Ellsworth Road.[3] However, the Ellsworth Road crossing would have 26.83 vehicle-hours of delay per day by 2050, which exceeds 24 vehicle-hours of delay per day.

[3] Arizona Corporation Commission. 2023. Decision No. 79186—Opinion and Order. Docket No. RR-03639A-22-0287. December 12. https://docket.images.azcc.gov/0000210355.pdf?i=1771233743801.

Table E-12. Vehicle Delay Calculations for ACC Warrant No. 9 and FHWA Warrant No. 10

Crossing	Time of Day	Trains/ Day	Train Warning Time per Crossing (sec) [1]	Max Train Length (ft)	Max Train Speed (mph)	Max Train Speed (ft/sec)	Sec/ Crossing	Peak Hour Vehicles/ Hour	Vehicles/ sec	Peak Hour Vehicles Arriving During Train Crossing	Average Train Delay/ Vehicle (sec/hr)[2]	Vehicle-Sec of Delay	Vehicle-Hours of Delay	Vehicle-Hours of Delay per Crossing (Daily)
Sossaman Road	AM peak	1	32	4,500	20	29.33	185.41	1,727	0.480	89	185.41	16,501	4.58	9.01
	PM peak	1	32	4,500	20	29.33	185.41	1,662	0.462	86	185.41	15,945	4.43	
East Pecos Road (south)	AM peak	1	32	4,500	20	29.33	185.41	2,153	0.598	111	185.41	20,580	5.72	11.33
	PM peak	1	32	4,500	20	29.33	185.41	2,114	0.587	109	185.41	20,210	5.61	
Ellsworth Road	AM peak	1	32	4,500	20	29.33	185.41	5,265	1.463	272	185.41	50,431	14.01	26.83
	PM peak	1	32	4,500	20	29.33	185.41	4,824	1.340	249	185.41	46,167	12.82	
Crismon Road	AM peak	1	32	4,500	20	29.33	185.41	1,058	0.294	55	185.41	10,197	2.83	6.33
	PM peak	1	32	4,500	20	29.33	185.41	1,302	0.362	68	185.41	12,608	3.50	
Signal Butte Road	AM peak	1	32	4,500	20	29.33	185.41	2,643	0.734	137	185.41	15,401	7.06	13.03
	PM peak	1	32	4,500	20	29.33	185.41	2,246	0.624	116	185.41	21,507	5.97	

[1] The values in this column are referencing the 20-second requirement for warning lights to flash and gate arms to lower before the train arrives and 12-second requirement for gate arms to rise after the train has passed per FHWA standards (FHWA 2023).

[2] The values in this column are the maximum delay for the PIRATE train for the entire hourly period applied for each vehicle throughout the hour. In comparison, the intersection delays described in the traffic analysis in Section 3.3.4 of this report are the average delays across the entire peak hour (those values are lower).

ACC Warrant 8, FHWA Warrant 9, and AASHTO Warrant - Crash Frequency Prediction

The USDOT Accident Prediction Formula, which is laid out in the FHWA Railroad Highway Grade Crossing Handbook, Second Edition, is used to determine the initial collision prediction at all the railroad crossings. The accident prediction factor values calculated for crossing with warning devices.

$$a = KxElxMTxDTxHPxMSxHTxHL$$

Where:

a = initial collision prediction, collisions per year at the crossing

K = formula constant = 0.001088

El = factor for exposure index based on product of highway and train traffic

MT = factor for number of main tracks

DT = factor for number of through trains per day during daylight

HP = factor for highway paved (yes-1 or no-0)

MS = factor for maximum timetable speed

HT = factor for highway type

HL = factor for number of highway lanes

Table E-13. Collision Prediction Per Year for Each Crossing

Railroad Crossing	K	EI	MT	DT	HP	MS	HT	HL	a
Sossaman Road	0.001088	46.6	1.34	1	1	1	1	1.36	0.0924
Pecos Road (south)	0.001088	51.5	1.34	1	1	1	1	1.36	0.1021
Ellsworth Road	0.001088	58.8	1.34	1	1	1	1	1.68	0.1441
Crismon Road	0.001088	46.7	1.34	1	1	1	1	1.36	0.0926
Signal Butte Road	0.001088	52.6	1.34	1	1	1	1	1.36	0.1043

Appendix C
Air Quality Report

AIR QUALITY REPORT

PECOS INDUSTRIAL RAIL ACCESS AND TRAIN EXTENSION (PIRATE) PROJECT

Docket No. FD 36501 – Union Pacific Railroad Company
Construction and Operation Exemption - In Maricopa County, Ariz.

February 2026~~May 2023~~

Summary

The Union Pacific Railroad Company (UP) is seeking authority from the Surface Transportation Board to construct and operate approximately 6.0 miles of new rail line in Maricopa County, Arizona (Docket No. FD 36501) to transport raw materials and commercial freight. The proposed rail line, referred to as the Pecos Industrial Rail Access and Train Extension (PIRATE), would connect UP's Phoenix Subdivision main line (Phoenix Subdivision) to industrial properties south of the Mesa Gateway Airport (formerly Phoenix-Mesa Gateway Airport) via a single-track rail line. UP also proposes to construct and operate approximately 2.5 miles of planned support tracks along the Phoenix Subdivision between Power Road and Ellsworth Road. The Surface Transportation Board's Office of Environmental Analysis identified two reasonable alternatives that meet the purpose and need for PIRATE: Alternative 1 and Alternative 2.

This air quality analysis and report is an update to the previous report published in May 2023[1] and was developed as supplemental material to the ~~Draft~~Final Environmental Assessment. The air quality analysis in this report uses updated project construction and operations information, as well as information from the 2026 updated traffic study. The Office of Environmental Analysis performed an air quality analysis to evaluate the potential short- and long-term impacts of the project on air quality due to emissions of criteria pollutants, mobile source air toxics (MSAT), and greenhouse gases (GHG) from construction and operations and to demonstrate compliance with the general conformity requirements. Table S-1 provides a summary of air quality impacts for the No-Action and Action Alternatives.

Construction of either alternative and the planned Phoenix Subdivision support tracks would cause temporary emissions. Construction emissions would be below the general conformity de minimis thresholds; therefore, project emissions are not anticipated to cause violations of National Ambient Air Quality Standards (NAAQS).

Locomotives on the proposed rail line would cause operational emissions of criteria pollutants. However, PIRATE would reduce truck emissions in the region when industrial facilities in the Pecos Advanced Manufacturing Zone switch from shipping raw materials and products using trucks to using rail. Overall, the project is anticipated to result in a net decrease of air pollutants emissions and have a beneficial impact on the region's air quality. Localized violations of NAAQS are not expected during project operations. The MSAT effects to nearby receptors would be minor, and the effects would be partially offset by the reduction of MSAT emissions due to reduced diesel truck trips.

Construction and operation of the project would cause GHG emissions. GHG emissions from locomotives would be offset by the GHG emission reduction due to the reduced diesel truck trips, resulting in a long-term net decrease of GHG emissions.

[1] Surface Transportation Board. 2023. *Pecos Industrial Rail Access and Train Extension (PIRATE) Project Air Quality Report*. May.

Table S-1. Comparison of Impacts by Alternative

Impact Type	No-Action Alternative	Alternatives 1 and 2 and the Planned Phoenix Subdivision Support Tracks
Short-term Construction Emissions of Criteria Pollutants	No effect	Temporary, minor effects; emissions would not cause violations of NAAQS. Meets general conformity requirements.
Long-term Operation Emissions of Criteria Pollutants	No effect	Beneficial effect from PIRATE; emission reductions from the reduced diesel truck trips would offset emissions from train operations, resulting in net emission decreases. Criteria pollutants emissions would not cause violations of NAAQS.
Localized Carbon Monoxide Impacts at Intersections	No effect	Minor effect at ~~three~~one intersection~~s~~. Vehicles at the intersections would not cause violations of carbon monoxide NAAQS.
Mobile Source Air Toxics	No effect	Minor effect
Greenhouse Gases	No effect	Beneficial effect; emission reductions from the reduced diesel truck trips would offset emissions from train operations, resulting in net emission decreases.

Contents

Summary ..... **ii**
Tables ..... **vi**
Appendices ..... **vii**
Acronyms and Abbreviations ..... **viii**
Chapter 1 Introduction **1-1**
Chapter 2 Studies and Coordination **2-1**
2.1 Study Methods 2-1
2.2 Regulatory Context 2-2
2.2.1 Federal Regulation 2-2
2.2.2 State and Local Regulations 2-6
Chapter 3 Affected Environment **3-1**
3.1 Topography and Climate 3-1
3.2 Existing Air Quality 3-1
3.2.1 Attainment Status 3-1
3.2.2 Air Monitoring Data 3-2
3.2.3 Mobile Source Air Toxics 3-5
3.2.4 Greenhouse Gases 3-5
3.2.5 Sensitive Receptors 3-6
Chapter 4 Environmental Effect Assessment **4-1**
4.1 Short-term Construction Emissions 4-1
4.1.1 No-Action Alternative 4-1
4.1.2 Alternative 1 4-1
4.1.3 Alternative 2 4-3
4.2 Long-term Operation Emissions 4-3
4.2.1 No-Action Alternative 4-3
4.2.2 Alternative 1 4-3
4.2.3 Alternative 2 4-8
4.3 General Conformity Applicability Analysis 4-9
4.3.1 No-Action Alternative 4-9
4.3.2 Alternative 1 4-9
4.3.3 Alternative 2 4-10
4.4 Mobile Source Air Toxics 4-10
4.4.1 No-Action Alternative 4-10
4.4.2 Alternative 1 4-10
4.4.3 Alternative 2 4-11
4.5 Greenhouse Gases 4-11
4.5.1 No-Action Alternative 4-11

4.5.2 Alternative 1 4-12
4.5.3 Alternative 2 4-12
Chapter 5 Mitigation 5-1
Chapter 6 References 6-1
6.1 References Cited in the 2026 *Air Quality Report* 6-1
6.2 References Cited in the 2023 *Air Quality Report* 6-3

Tables

Table 2-1. National Ambient Air Quality Standards 2-2
Table 3-1. Monitored Pollutant Concentrations Near the Project 3-3
Table 4-1. Construction Emissions from Alternative 1 and the Planned Phoenix Subdivision Support Tracks 4-2
Table 4-2. Alternative 1 Operational Emissions 4-5
Table 4-3. CO Modeling - CAL3QHC Input Parameters 4-7
Table 4-4. Maximum Predicted CO Concentrations[1] 4-7
Table 4-5. Comparison of Project Emissions Increases to General Conformity De Minimis Thresholds 4-9
Table 4-6. Project GHG Emissions as CO_2e 4-11

Appendices

Appendix A. Project Construction Emissions
Appendix B. Project Operational Emissions
Appendix C. Traffic Information for Carbon Monoxide Hot Spot Modeling

Acronyms and Abbreviations

CHEMICALS

CH_4	methane
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
GHG	greenhouse gas
NO_2	nitrogen dioxide
NO_x	nitrogen oxide
PM	particulate matter
$PM_{2.5}$	particulate matter less than 2.5 micrometers in aerodynamic diameter
PM_{10}	particulate matter less than 10 micrometers in aerodynamic diameter
SO_2	sulfur dioxide
SO_x	sulfur oxide
VOC	volatile organic compound

GENERAL TERMS

ADEQ	Arizona Department of Environmental Quality
Board	Surface Transportation Board
CAA	Clean Air Act
C.F.R.	Code of Federal Regulations
CEQ	Council on Environmental Quality
EO	Executive Order
EPA	U.S. Environmental Protection Agency
Jacobs	Jacobs Engineering Group Inc.
LOS	level of service
MAG	Maricopa Association of Governments
MCAQD	Maricopa County Air Quality Department
Mesa	City of Mesa
MOVES5	Motor Vehicle Emission Simulator Version 5
MSAT	mobile source air toxics

N/A	not applicable or information is not available
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHTSA	National Highway Traffic Safety Administration
OEA	Office of Environmental Analysis
PAMZ	Pecos Advanced Manufacturing Zone
Phoenix Subdivision	Phoenix Subdivision main line
PIRATE	Pecos Industrial Rail Access and Train Extension
SIP	State Implementation Plan
UP	Union Pacific Railroad Company
U.S.C.	United States Code

MEASUREMENTS

°F	degrees Fahrenheit
µg/m^3	micrograms per cubic meter
mph	miles per hour
ppb	parts per billion (by volume)
ppm	parts per million (by volume)

Chapter 1
Introduction

The Union Pacific Railroad Company (UP) is seeking authority from the Surface Transportation Board (Board) to construct and operate approximately 6.0 miles of new rail line in Maricopa County, Arizona (Docket No. FD 36501) for purposes of transporting raw materials and commercial freight. The proposed rail line, referred to as the Pecos Industrial Rail Access and Train Extension (PIRATE), would connect UP's Phoenix Subdivision main line (Phoenix Subdivision) to industrial properties southeast of the Mesa Gateway Airport (formerly Phoenix-Mesa Gateway Airport) via a single-track rail line. UP also proposes to construct and operate approximately 2.5 miles of planned support tracks along the Phoenix Subdivision between Power Road and Ellsworth Road.

The purpose of PIRATE is to meet the transportation and logistics needs of existing and future manufacturing businesses within the Pecos Advanced Manufacturing Zone (PAMZ) and adjacent areas. The Board's Office of Environmental Analysis (OEA) identified two reasonable alternatives that meet the purpose and need for PIRATE. The two Action Alternatives (Alternative 1 and Alternative 2), the No-Action Alternative, and the planned Phoenix Subdivision support tracks are described in detail in Chapter 2 of the ~~Draft~~Final Environmental Assessment.

This air quality report is an update to the previous report published in 2023 and was developed as supplemental material to the Final Environmental Assessment. The air quality analysis in this report uses updated project construction and operations information, as well as information from the 2026 updated traffic study. This report evaluates the potential air quality impacts due to emissions of criteria pollutants, mobile source air toxics (MSAT), and greenhouse gases (GHG) from project construction and operations and demonstrates compliance with the general conformity requirements for construction-related emissions.

Chapter 2
Studies and Coordination

2.1 Study Methods

OEA based its air quality analysis on the requirements of the Clean Air Act (CAA) and the National Environmental Policy Act (NEPA). Pollutants of concern for mobile sources typically include criteria pollutants such as carbon monoxide (CO); particulate matter with an aerodynamic diameter equal to or smaller than 10 micrometers (PM_{10}) and 2.5 micrometers ($PM_{2.5}$); ozone and its precursors, including nitrogen oxides (NO_x) and volatile organic compounds (VOCs); MSATs; and GHG. OEA calculated project construction and operational emissions of criteria pollutants and GHG using the following methods:

- Construction equipment and vehicle emission factors were modeled using the U.S. Environmental Protection Agency's (EPA) Motor Vehicle Emission Simulator Version 5 (MOVES5)~~3~~ program (EPA 2026~~2021b~~).
- Locomotive emission factors were derived using EPA's guidance on locomotive emission estimates (EPA 2009).
- EPA AP-42 compilation of Air Emission Factors (EPA 1998, 2006, 2011) were reviewed to estimate dust emissions from earthmoving activities and re-entrained dust from paved and unpaved roads.

The project is located in an area that is in nonattainment for ozone and PM_{10} ~~and is in maintenance for CO~~ under the National Ambient Air Quality Standards (NAAQS); therefore, the project is subject to general conformity requirements for these two pollutants. OEA performed a general conformity applicability analysis for PM_{10} and ozone's precursors of NO_x~~,~~ and VOCs~~, PM_{10}, and CO~~ from project construction. Short-term project construction emissions were compared to the general conformity de minimis thresholds to demonstrate conformity.

Operational emissions from the project would be due to the train trips on the proposed rail line. Unlike construction emissions, locomotive emissions during rail operations are not subject to the General Conformity Rule because the Board does not exercise continuing program control over rail operations and would not exercise such control over the operation of the proposed rail line or the planned Phoenix Subdivision support tracks. Based on the number of diesel truck trips to be eliminated once the proposed rail line starts operations and average diesel truck trip distances, OEA evaluated the corresponding reduction in emissions.

The project is located in the former Phoenix CO maintenance area. The area has met the 20-year maintenance plan requirements, and the maintenance period ended in April 2025. Therefore, the project is no longer subject to conformity requirements for CO. Nonetheless, to address comments on the Draft Environmental Assessment regarding vehicles idling when queued for a passing train, ~~L~~localized impacts of CO at intersections were evaluated using the EPA's CAL3QHC modeling program (EPA 1995) for the intersections that would have deteriorated traffic conditions due to the project. CO concentrations modeled at the affected intersections were compared to the NAAQS to determine if the project would cause localized violations of the NAAQS.

2.2 Regulatory Context

2.2.1 Federal Regulation

Clean Air Act and National Ambient Air Quality Standards

Federal air quality policies are regulated through the federal CAA. The United States Congress adopted the CAA in 1970 and its amendments in 1977 and 1990. Pursuant to the CAA, the EPA established national air quality standards to protect public health and welfare with an adequate margin of safety. These federal standards, known as the NAAQS, were developed for criteria pollutants, including ozone, nitrogen dioxide (NO_2), CO, PM_{10}, $PM_{2.5}$, sulfur dioxide (SO_2), and lead (EPA 2025b~~2022a~~).

The NAAQS represent safe levels of each pollutant to avoid specific adverse effects on human health and the environment. The EPA established two types of NAAQS: primary and secondary standards. Primary standards set limits to protect public health, especially that of sensitive populations such as asthmatics, children, and seniors. Secondary standards set limits to protect public welfare, including protection against decreased visibility and damage to animals, crops, and buildings. Table 2-1 summarizes the NAAQS.

Table 2-1. National Ambient Air Quality Standards

Pollutant	Averaging Time	Primary Standards	Secondary Standards	Standard Form
Ozone	8 hours	0.070 ppm	0.070 ppm[1]	Annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years
PM_{10}	24 hours	150 µg/m^3	150 µg/m^3	Not to be exceeded more than once per year on average over 3 years
$PM_{2.5}$	Annual arithmetic mean	~~12~~ 9 µg/m^3 [2]	15 µg/m^3	Annual mean, averaged over 3 years
$PM_{2.5}$	24 hours	35 µg/m^3	35 µg/m^3	98th percentile, averaged over 3 years
CO	8 hours	9 ppm	No standard	Not to be exceeded more than once per year
CO	1 hour	35 ppm	No standard	Not to be exceeded more than once per year
NO_2	Annual arithmetic mean	0.053 ppm	0.053 ppm	Annual mean
NO_2	1 hour	100 ppb	No standard	98th percentile of 1-hour daily maximum concentrations, averaged over 3 years

Pollutant	Averaging Time	Primary Standards	Secondary Standards	Standard Form
SO_2	3 hours	No standard	0.5 ppm	Not to be exceeded more than once per year
SO_2	1 hour	0.075 ppm[3~~2~~]	No standard	99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
Lead	Calendar quarter	1.5 µg/m^3 (certain areas)	1.5 µg/m^3[4~~3~~]	Not to be exceeded
Lead	Rolling 3-month average	0.15 µg/m^3	No standard	Not to be exceeded

Source: EPA 2025b~~2022a~~.

[1] Final rule signed October 1, 2015, and effective December 28, 2015. The previous (2008) ozone standards also remain in effect in some areas.

[2] The new, primary $PM_{2.5}$ annual standard was published in the *Federal Register* on March 6, 2024 (89 FR 16202) and it took effect on May 6, 2024.

[3~~2~~] The previous SO_2 standards (0.14 ppm 24-hour and 0.03 ppm annual) will remain in effect in certain areas: (a) any area for which it is not yet 1 year since the effective date of designation under the current (2010) standards, and (b) any area for which an implementation plan providing for attainment of the current (2010) standard has not been submitted and approved and which is designated nonattainment under the previous SO_2 standards or does not meet the requirements of a State Implementation Plan (SIP) call under the previous SO_2 standards (40 C.F.R. § 50.4[3]). A SIP call is an EPA action requiring a state to resubmit all or part of its SIP to demonstrate attainment of the required NAAQS.

[4~~3~~] In areas designated nonattainment for the lead standards prior to the promulgation of the current (2008) standards, and for which implementation plans to attain or maintain the current (2008) standards have not been submitted and approved, the previous standards (1.5 µg/m^3 as a calendar quarter average) also remain in effect.

µg/m^3 = micrograms per cubic meter; ppb = parts per billion (by volume); ppm = parts per million (by volume)

The EPA classifies regions with respect to each criteria pollutant, depending on whether the area's monitored air quality meets the NAAQS. A region that is meeting the air quality standard for a given pollutant is designated as being in "attainment" for that pollutant. If the region does not meet the air quality standard, it is designated as being in "nonattainment" for that pollutant. An area that was designated as nonattainment and has been redesignated to attainment and has a federally approved maintenance plan is in "maintenance" for that pollutant.

The 1977 CAA Amendments require each state to develop and maintain a SIP for each criteria pollutant that violates the applicable NAAQS. The SIP serves as a tool to avoid and minimize pollutant emissions that would exceed ambient threshold criteria and to achieve compliance with the NAAQS. In 1990, the CAA was amended to strengthen regulation of both stationary and mobile emission sources for criteria pollutants.

General Conformity

Federal actions located in nonattainment and maintenance areas are subject to conformity requirements. Under the conformity provisions of the CAA, no federal agency can approve or undertake a federal action or project unless it has been demonstrated to conform to the applicable SIP. The EPA Final Conformity Rule implements Section 176(c) of the CAA, as amended in 42 U.S.C. § 7506(c). This rule was originally published in the *Federal Register* on November 30, 1993, and took effect on January 31, 1994. In March 2010, the EPA revised the Final Conformity Rule and published it in the *Federal Register* in April 2010 (75 FR 17253). The revised rule, which took effect in July 2010, improves the process federal entities use to demonstrate that their actions would not contribute to a violation of any NAAQS.

These conformity provisions were enacted so that federal agencies would not interfere with efforts to attain the NAAQS. The EPA has issued two conformity regulations: one is the transportation conformity rules that apply to transportation plans and projects, and the other is the general conformity rules that apply to all other federal actions. Because the proposed project is not a Federal Highway Administration or Federal Transit Administration transportation project, the project is subject to general conformity requirements.

Applicable only in areas designated as nonattainment or maintenance for NAAQS, the general conformity rule prohibits any federal action that does not conform to the applicable air quality attainment plan or SIP. The purpose of the rule is to ensure that federal actions do not cause or contribute to the following:

- New violations of the NAAQS
- Worsening of existing violations of the NAAQS
- Delays in attaining the NAAQS

Mobile Source Air Toxics

In addition to the criteria pollutants, the EPA also regulates air toxic emissions. Controlling air toxic emissions became a national priority with the CAA Amendments of 1990. Congress mandated that the EPA regulate 188 air toxics, also known as hazardous air pollutants. The EPA has assessed this expansive list in its rule on the "Control of Hazardous Air Pollutants from Mobile Sources" (72 FR 8427) and identified a group of 93 compounds emitted from mobile sources that are listed in EPA's Integrated Risk Information System (EPA 2018). In addition, the EPA identified nine compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risk drivers from EPA's *National Air Toxics Assessment* (EPA 2014). These are priority MSATs that include 1,3-butadiene, acetaldehyde, acrolein, benzene, diesel PM, ethylbenzene, formaldehyde, naphthalene, and polycyclic organic matter. Unlike the criteria pollutants, MSATs do not have ambient air quality standards.

Greenhouse Gases

GHGs include both naturally occurring and human-caused gases, such as carbon dioxide (CO_2), methane (CH_4), nitrous oxide, hydro-chlorofluorocarbons, perfluorocarbons, and sulfur hexafluoride. These gases trap the energy from the sun and help maintain the temperature of the Earth's surface, creating a process known as the greenhouse effect. The accumulation of GHGs in the atmosphere influences the long-term range of average atmospheric temperatures.

The EPA's authority to regulate GHG emissions stems from the U.S. Supreme Court decision in *Massachusetts v. EPA*, 415 F.3d 50 (2007). The Supreme Court ruled that GHGs meet the definition of air pollutants under the existing CAA and must be regulated if these gases could be reasonably anticipated to endanger public health or welfare. Responding to the Court's ruling, the EPA finalized an endangerment finding in December 2009. Based on the endangerment finding, the EPA and the National Highway Traffic Safety Administration (NHTSA) took coordinated steps to enable the production of a new generation of clean vehicles with reduced GHG emissions and improved fuel efficiency from on-road vehicles and engines.

The EPA, in conjunction with the NHTSA, issued the first of a series of GHG emission standards for new cars and light-duty vehicles in April 2010 and substantially increased the fuel economy standards for all new passenger cars and light trucks sold in the country. In April 2020, the NHTSA and EPA issued the Safer Affordable Fuel-Efficient Vehicles Rule to amend the corporate average fuel economy and tailpipe CO_2 emissions standards for passenger cars and light trucks covering model years 2021 to 2026 (85 FR 24174). The updated standards will result in avoiding more than 3 billion tons of GHG emissions through 2050 (86 FR 74434).

In October 2016, the NHTSA and EPA issued a Final Rule for "Phase 2" for medium- and heavy-duty vehicles to improve fuel efficiency and cut carbon pollution (that is, GHG emissions). The agencies estimate that the standards will save up to 2 billion barrels of oil and reduce CO_2 emissions by up to 1.1 billion metric tons over the lifetimes of model year 2018 to 2027 vehicles.

In March 2017, Executive Order (EO) 13783, "Promoting Energy Independence and Economic Growth," was signed (82 FR 16093). EO 13783 orders all federal agencies to apply cost-benefit analyses to regulations of GHG emissions and evaluations of the social cost of carbon, N_2O, and CH_4.

GHGs, climate change, and the associated effects are being addressed through various efforts at the federal level to improve fuel economy and energy efficiency, manage GHG emissions, and mitigate climate change impacts. Upon taking office on January 20, 2021, President Biden rescinded President Trump's EO 13783 and issued EO 13990, "Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis" (86 FR 7037). EO 13990 calls for all federal agencies to review climate-related regulations and actions taken in the past 4 years and tasks the Council on Environmental Quality (CEQ) to update its final guidance entitled, "Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews," (81 FR 51866). Pursuant to EO 13990, CEQ rescinded the draft GHG-related NEPA guidance issued in 2019 and reviewed the 2016 final guidance for revision and update (CEQ 2021). On January 9, 2023, CEQ issued the interim *National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions and Climate Change*; the public comment period

ended April 10, 2023 (88 FR 10097). ~~CEQ intends to revise the guidance in response to public comments or finalize the interim guidance.~~ The Draft Environmental Assessment and supporting technical analysis for this project did not consider the interim guidance due to the timing of issuance relative to preparation of the~~is~~ 2023 air quality report. As of February 18, 2026, all federal regulations or guidance related to GHG have been rescinded (91 FR 7686). Nevertheless, to avoid delays in the NEPA process and to ensure that the information contained in this report is accurate, OEA has retained and updated the analysis.

2.2.2 State and Local Regulations

Air Quality Jurisdiction and Regulations

The Arizona Department of Environmental Quality (ADEQ) administers air quality programs throughout the state. ADEQ directly administers two programs in Maricopa County: vehicle emissions inspection and nonattainment area SIPs. The other air quality programs are authorized to and administered by Maricopa County.

The Maricopa County Air Quality Department (MCAQD) is the air pollution control agency for Maricopa County. MCAQD has statutory authority (Arizona Revised Statutes § 49-402.B) for air quality programs and receives direct delegation/authority from the EPA for certain air quality programs. In addition, the department has responsibility through a formal agreement with ADEQ and the Maricopa Association of Governments (MAG) for emission inventories, air quality monitoring data, and its Travel Reduction Program.

MCAQD administers the permitting of stationary sources and oversees regulatory compliance, air quality monitoring, and the Maricopa County air pollution control program. Regulations applicable to the project include Rule 310 and 310.1, which limit the emissions of PM into the ambient air from any property, operation, or activity that may serve as a fugitive dust source.

Greenhouse Gases

Currently the state of Arizona or Maricopa County have not adopted a climate action plan. UP's updated 2022~~2021~~ Climate Action Plan outlines UP's framework to reduce GHG impact (UP 2022~~2021~~). The Climate Action Plan established a target to reduce direct and energy-related indirect GHG emissions and GHG emissions on a well-to-wheel basis from locomotive operations by 26 percent from a 2018 baseline by 2030. The plan also has a goal to achieve net zero GHG emissions by 2050.

The City of Mesa (Mesa) created the Mesa Climate Action Plan (2022) that sets forth community-focused goals that will contribute to the overall climate impact for Mesa. Mesa's goals include achieving carbon neutrality by 2050 and prioritizing the use of renewable, resilient energy to achieve 100 percent renewable energy by 2050.

Chapter 3
Affected Environment

3.1 Topography and Climate

The project is in the city of Mesa and the town of Queen Creek in Maricopa County, Arizona. Arizona has great climatic diversity, ranging from scorching lowland desert to cool mountain forests. Its diverse and rugged topography, mountain ranges, and narrow valleys vary in elevation from about 2,000 to more than 10,000 feet above sea level. Maricopa County, which lies in the Sonoran Desert, has four well-defined seasons.

Summers display the classic characteristics of the desert: daily high temperatures in the lower elevations often exceed 100 degrees Fahrenheit (°F), with lows in the 70s. The summer heat usually is tempered by low relative humidity, which may increase for several weeks during July and August in association with moist monsoonal wind flows from the south. In the Phoenix area, the average lowest and highest temperatures in the past 20 years ~~during summer months~~ ranged between 71°F to 115°F during June to August and between 36°F to ~~78~~83°F ~~in winter months~~during December to February (National Weather Service 2025~~2022~~).Generally, temperatures during the spring and fall are moderate.

3.2 Existing Air Quality

3.2.1 Attainment Status

The project is within the Phoenix-Mesa Area, which is designated as being in moderate nonattainment for 2008 ozone NAAQS, marginal nonattainment for 2012 ozone NAAQS, and serious nonattainment for PM10~~, and maintenance for CO~~. The area is in attainment/unclassified for other criteria pollutants (EPA 2025c~~2022b~~).

The project is located in an area that was previously designated as nonattainment for CO; the former Phoenix CO maintenance area was redesignated as attainment with a maintenance plan in April 2005. The maintenance period for CO ended in April 2025, and the area has met the 20-year maintenance plan requirements.

The CAA Amendments require a state to develop and maintain a SIP for each criteria pollutant that violates the applicable NAAQS. The MAG was designated by the governor of Arizona in 1978 and recertified by the Arizona Legislature in 1992 to serve as the Regional Air Quality Planning Agency to develop plans to address air pollution problems (Arizona Revised Statutes Section 49-406 A). The latest nonattainment and maintenance plans for ozone and~~,~~ PM10~~, and CO~~ for Maricopa County are listed below:

- *MAG 2012 Five Percent Plan for PM-10 for the Maricopa County Nonattainment Area* (MAG 2012)
- *MAG 2014 Eight Hour Ozone Plan* (MAG 2014)
- ~~*MAG 2013 Carbon Monoxide Maintenance Plan for the Maricopa County Area* (MAG 2013)~~

- *MAG 2017 Eight-Hour Ozone Moderate Area Plan for the Maricopa Nonattainment Area* (MAG 2016)
- *MAG 2020 Eight-Hour Ozone Plan - Submittal of Marginal Area Requirements for the Maricopa Nonattainment Area* (MAG 2020)
- *MAG 2025 Eight-Hour Ozone Plan - Submittal of Applicable Moderate Area Requirements for the Maricopa Nonattainment Area* (MAG 2025)

3.2.2 Air Monitoring Data

ADEQ and MCAQD maintain a network of monitoring stations in the Phoenix-Mesa area that measure pollutant concentrations in the ambient air. These stations provide data to assess compliance with the NAAQS and evaluate the effectiveness of pollution control strategies. Several air monitoring stations are located near the project, which includes both the proposed rail line and the planned Phoenix Subdivision support tracks. Air monitoring data from the last 5 years were obtained from these stations and summarized in Table 3-1 as described below:

- Higley station at 2207 South Higley Road in Gilbert, approximately 3 miles northwest of the project. Monitors PM_{10} only.
- West Chandler station at 275 South Ellis in Chandler, approximately 12 miles west of the project. Monitors ozone, CO, and PM_{10}.
- Eastwood station at 4135 South 36th Street in Phoenix, approximately 20 miles northwest of the project. Monitors ~~NOx~~NO_2, starting in 2021.
- ~~Diablo station at 1919 West Fairmont Drive in Tempe, approximately 18 miles northwest of the project. Monitored NOx_2 before 2020.~~
- Central Phoenix station at 1645 East Roosevelt Street in Phoenix, approximately 24.3 miles northwest of the project. Monitors NO_2.
- Mesa station at 310 South Brooks in the city of Mesa, approximately 14 miles northwest of the project. Monitors $PM_{2.5}$.
- Durango Complex station at 2702 RC Esterbrooks Boulevard in Phoenix, approximately 27 miles northwest of the project. Monitors SO_2.

Table 3-1 summarizes the monitored pollutant concentrations and the numbers of days each year that the measured concentrations were greater than the NAAQS from 2020 to 2024~~2017 to 2021~~. The 24-hour average PM_{10} concentration exceeded NAAQS in ~~2~~ 3 out of the 5 years, and the 8-hour ozone concentrations exceeded NAAQS in all 5 years. NAAQS were not exceeded for other pollutants and averaging time periods.

Table 3-1. Monitored Pollutant Concentrations Near the Project

Pollutant	Parameter	~~2017~~	~~2018~~	~~2019~~	2020	2021	2022	2023	2024
CO	Maximum 1-hour concentration (ppm)	~~1.8~~	~~2.4~~	~~1.3~~	1.5	1.4	1.3	2.0	1.7
CO	Maximum 8-hour concentration (ppm)	~~1.5~~	~~1.7~~	~~1.0~~	1.3	1.2	1.1	1.1	1.2
CO	Number of days over 1-hour standard of 35 ppm	~~0~~	~~0~~	~~0~~	0	0	0	0	0
CO	Number of days over 8-hour standard of 9 ppm	~~0~~	~~0~~	~~0~~	0	0	0	0	0
Ozone	4th maximum 8-hour concentration (ppm)	~~0.074~~	~~0.069~~	~~0.073~~	0.075	0.073	0.071	0.069	0.073
Ozone	Number of days over 8-hour standard of 0.070 ppm	~~8~~	~~2~~	~~6~~	5	8	4	2	5
NO_x	98th percentile 1-hour concentration (ppb)	~~64~~	~~56~~	~~50~~	54 ~~N/A~~	52	47	47	51
NO_x	Annual average (ppm)	~~0.02171~~	~~0.01893~~	~~0.01683~~	0.0159 ~~N/A~~	0.016	0.0152	0.0143	0.0142
NO_x	Number of days over 1-hour standard of 100 ppb	~~0~~	~~0~~	~~0~~	0 ~~N/A~~	0	0	0	0
PM_{10}	2nd maximum 24-hour concentration (µg/m3)	~~114~~	~~196~~	~~91~~	107	207	99	143	110
PM_{10}	Number of days over 24-hour standard of 150 µg/m3	~~0~~	~~5~~	~~0~~	0	2	1	1	0
$PM_{2.5}$	98th percentile 24-hour concentration (µg/m3)	~~19~~	~~19~~	~~11~~	17	18	17	15	19

Pollutant	Parameter	~~2017~~	~~2018~~	~~2019~~	2020	2021	2022	2023	2024
$PM_{2.5}$	Annual average (µg/m3)	~~8.1~~	~~7.4~~	~~5.2~~	7.3	6.8	6.3	6.5	7.0
$PM_{2.5}$	Number of days over 24-hour standard of 35 µg/m3	~~N/A~~	~~N/A~~	~~N/A~~	N/A	N/A	N/A	N/A	N/A
SO_2	99th percentile 1-hour concentration (ppb)	~~10~~	~~8~~	~~5~~	7	6	4	4	6
SO_2	Number of days over 1-hour standard of 75 ppb	~~0~~	~~0~~	~~0~~	0	0	0	0	0

Source: EPA 2025a~~2022c~~.
N/A = Information is not available.
CO and ozone data from West Chandler station.
NOx data in 2021 to 2024~~2021~~ from Eastwood station.
NOx data in ~~2017 to 2019 from Diablo~~2020 from Central Phoenix station.
PM_{10} data from Higley station.
$PM_{2.5}$ data from Mesa station.
SO_2 data from Durango Complex station.

3.2.3 Mobile Source Air Toxics

MSATs are hazardous air pollutants emitted from on-road and non-road vehicles that can cause cancer and noncancer health risks. Rail operation projects may affect the regional or local air toxic concentrations due to the MSAT emissions from locomotives. Nationwide MSAT emissions are expected to be lower than present levels in future years as a result of the EPA's national emissions control programs and fuel economy standards. EPA regulations for vehicle engines and fuels will cause overall MSAT emissions to decline significantly over the next several decades. Based on regulations now in effect, an analysis of national trends with the EPA MOVES3 model forecasts a combined reduction of over 76 percent in the total annual emissions rate for the priority MSAT from 2020 to 2060 while vehicle-miles of travel are projected to increase by 31 percent (Federal Highway Administration 2023). ~~Estimated emissions using the EPA's MOVES2014a model indicate that even if vehicle miles traveled increase by 45 percent from 2010 to 2050 as forecasted, a combined reduction of 91 percent in the total annual emissions for the priority MSATs is projected for the same time period. Diesel PM is the dominant component of mobile source air toxics emissions, making up 50 to 70 percent of all priority mobile source air toxics pollutants by mass, depending on calendar year (Federal Highway Administration 2016).~~

3.2.4 Greenhouse Gases

Each GHG's effect on global warming is a combination of its emission volume and 100-year global warming potential. Global warming potential indicates how much a given GHG could contribute to global warming relative to how much warming would be caused by the same mass of CO_2. CH_4 and NO_x are substantially more potent than CO_2. In emissions inventories, GHG emissions typically are reported in terms of carbon dioxide equivalents (CO_2e), which are calculated as the product of the mass emitted of a given GHG and its specific global warming potential.

The majority of GHG emissions from transportation are CO_2 resulting from the combustion of petroleum-based products, like gasoline and diesel fuel, in internal combustion engines. In ~~2020~~2022, the GHG emissions from transportation accounted for about ~~27~~28 percent of total United States GHG emissions, making it the largest contributor of U.S. GHG emissions (EPA 2024b~~2022d~~).

GHG emissions from UP's operations, including the direct, energy indirect, and the well-to-tank and other indirect emissions, are ~~15.29~~13.05 million metric tons CO_2e (UP 2022~~2021~~). Locomotive operations represent the greatest source of GHG emissions. In 2018, GHG emissions from locomotives comprised ~~85.4~~83.4 percent of the total calculated GHG emissions for UP (UP 2022).

In ~~2018~~2020, the Maricopa County community generated approximately ~~51.27~~46.8 million metric tons of CO2e (MCAQD 2023~~2020~~). The two largest sources of GHG emissions are ~~electricity generation and~~ mobile sources and electricity generation, which represent ~~42.6~~45.9 percent and ~~40.7~~40.8 percent of GHGs generated by the Maricopa County community, respectively. ~~In 2018, electricity use exceeded mobile sources and was the county's largest sector of GHGs.~~ The dominant GHG emitted is CO_2, primarily from fossil fuel combustion.

3.2.5 Sensitive Receptors

The project limits and adjacent areas include mixed industrial, commercial, and agricultural land use. ~~Several~~Multiple industrial facilities are located ~~in~~ across the PAMZ and in adjacent areas near the east end of the proposed rail line. ~~Although much of the area is agricultural land use, the~~The PAMZ is rapidly being built out according to its commercial and industrial zoning designations. The ~~Phoenix~~ Mesa Gateway Airport~~)~~ is located north of the proposed rail line, near Ellsworth Road. There are residential areas approximately 2,400 feet south of the proposed rail line, north of Germann Road and west of Ellsworth Road. Dense residential areas are also located to the west of UP's Phoenix Subdivision and are being developed north of State Route 24 near the eastern end of the PAMZ. The closest school is Benjamin Franklin High School, located west of the junction of the proposed rail line and the Phoenix Subdivision.

Chapter 4
Environmental Effect Assessment

This section discusses the potential air quality impacts associated with emissions from project construction and operation. The analysis was performed based upon the requirements of NEPA and the conformity provisions of the CAA.

4.1 Short-term Construction Emissions

4.1.1 No-Action Alternative

Under the No-Action Alternative, UP would not construct and operate the proposed rail line or the planned Phoenix Subdivision support tracks. Therefore, no construction activities would occur, and no emissions or air quality impacts would occur.

4.1.2 Alternative 1

Construction is anticipated to last approximately 9 months and is assumed to start in 2027 ~~starting in year 2023 for the project~~. Emissions during construction of the proposed rail line would include engine exhaust from vehicle trips traveled by construction workers and haul trucks, off-road construction equipment, and the locomotive use. These emissions would primarily consist of CO, NO_x, PM_{10}, $PM_{2.5}$, SO_2, VOC, and GHGs. In addition, earth-moving activities and re-entrained dust from vehicle travel on paved and unpaved roads would result in fugitive dust emissions.

OEA estimated emissions from off-road construction equipment and on-road vehicles during construction using emission factors from EPA's MOVES5 ~~Motor Vehicle Emission Simulator Version 3 (MOVES3)~~ program (EPA 2026~~2021b~~):

- For off-road equipment, emissions were calculated based on projected construction durations, hours of equipment operation, and estimated numbers and types of equipment for each year. Project-specific equipment information has been used when available, supplemented with default settings and parameters, such as horsepower ratings and load factors.
- For on-road vehicles, including haul trucks and worker commute vehicles, emissions were calculated based on the anticipated number of trips and trip distances. All haul trucks were assumed to be heavy-duty diesel vehicles and worker commute vehicles were assumed to be gasoline-powered, light-duty auto and light-duty trucks.

Locomotive emission factors come from the EPA's 2009 "Technical Highlights: Emission Factors for Locomotives." Emission factors of Tier 0 switch locomotives were used for the construction emission estimates.

Project construction would result in fugitive dust emissions from earthmoving activities, demolition, material handling, and re-entrained road dust from vehicle travel on paved and unpaved roads. Fugitive dust emission factors were obtained from EPA's AP-42 Fifth Edition Compilation of Air Pollutant Emissions Factors (EPA 1998, 2006, 2011).

Table 4-1 lists the updated construction emissions from Alternative 1 and the planned Phoenix Subdivision support tracks. The construction emissions changed because the emission factors changed between 2023 and 2027, and the model OEA used changed from MOVES3 to MOVES5. Appendix A provides detailed construction information and emission calculations.

Table 4-1. Construction Emissions from Alternative 1 and the Planned Phoenix Subdivision Support Tracks

Pollutants	VOC (ton/year)	NOx (ton/year)	CO (ton/year)	SO_x (ton/year)	PM_{10} (ton/year)	$PM_{2.5}$ (ton/year)
Nonroad Construction Equipment	1.18 ~~1.29~~	13.89 ~~15.39~~	2.48 ~~3.12~~	0.013	0.55 ~~0.64~~	0.53 ~~0.62~~
On-road Vehicles	0.50 ~~0.93~~	11.86 ~~18.82~~	8.74 ~~11.27~~	0.011 ~~0.013~~	1.00 ~~1.30~~	0.54 ~~0.75~~
Fugitive Dust	N/A	N/A	N/A	N/A	15.48 ~~18.56~~	2.65 ~~3.00~~
Total Construction Emissions	**1.68** ~~**2.22**~~	**25.75** ~~**34.21**~~	**11.22** ~~**14.39**~~	**0.024** ~~**0.026**~~	**17.02** ~~**20.51**~~	**3.73** ~~**4.37**~~

Construction emissions would be short term, occurring only while construction work is in progress. Potential air quality impacts during project construction would be temporary. Construction equipment and vehicles used for the project would comply with the EPA's emissions standards for on-road vehicles and off-road construction equipment. In addition, the project would comply with applicable dust-control requirements in MCAQD regulations and implement best management practices to reduce emissions, which may include but are not limited to the following:

- Apply water or stabilizers to disturbed areas and unpaved access roads.
- Maintain areas in a stabilized condition by restricting vehicle access.
- Install wind barriers, if necessary. During high winds, cease outdoor activities that disturb the soil.
- Keep bulk materials sufficiently saturated when handling. When storing bulk materials, apply water to the surface or cover the storage pile with a tarp.
- Load haul trucks with freeboard no less than 3 inches and cover haul trucks with a tarp or other suitable cover or wet the top of the load enough to limit visible dust emissions.
- Clean the interior of cargo compartments on emptied haul trucks prior to leaving a site.
- Prevent track-out by installing a track-out control device.
- Limit vehicle speed to less than 15 miles per hour (mph) on the work site and on unpaved roads
- Minimize unnecessary construction vehicle trips and idling time

- Maintain construction equipment in good operating condition, according to manufacturer's specifications

4.1.3 Alternative 2

The construction schedule and activities of Alternative 2 and the planned Phoenix Subdivision support tracks would be similar to Alternative 1. Therefore, short-term construction emissions and impacts from Alternative 2 and the planned Phoenix Subdivision support tracks would be similar to Alternative 1.

4.2 Long-term Operation Emissions

4.2.1 No-Action Alternative

Under the No-Action Alternative, UP would not construct and operate PIRATE or the planned Phoenix Subdivision support tracks. Current and future businesses in the PAMZ would continue to receive raw materials and trucks would ship finished product. Therefore, there would be no new emissions from proposed rail line operations under the No-Action Alternative. Emissions from the truck trips would continue to increase as industrial and commercial development intensifies.

4.2.2 Alternative 1

Operational Emissions

Operation of the proposed rail line would not affect the number of trips on the Phoenix Subdivision. Therefore, operation of the planned Phoenix Subdivision support tracks would not cause emissions to increase, and this part of the project is not addressed further in this Operational Emissions section.

Operation of the proposed rail line would cause emissions from locomotives due to daily train trips coming in and out of the PAMZ and locomotive operations in the PIRATE yard. However, operation of the proposed rail line would reduce the diesel truck trips to and from the PAMZ. The reduced diesel truck trips would reduce emissions in the region, benefiting the region's air quality.

Locomotive Emissions

Operation activities on the proposed rail line would use locomotives to pick up and drop off the railcars between the Phoenix Subdivision and the PAMZ. The locomotives would also sort and assemble the railcars at the PIRATE yard. Operational emissions from the locomotives were quantified using locomotive emission factors from the EPA's 2009 "Technical Highlights: Emission Factors for Locomotives." The following operational assumptions were used as the basis for the emissions analysis:

- Two locomotives would use the proposed rail line between the PAMZ and the Phoenix Subdivision. The locomotives are anticipated to be rated at 3,800 horsepower each at full power; however, only one locomotive would operate at any given time. The second locomotive would only be used if there is a failure of the first locomotive or if required to move the load of cars that exceeds the capabilities of a single locomotive. Emission factors for Tier 0 line haul locomotives, which are locomotives 30 years or older in 2023, were used for the locomotive operational emission estimates at the first year of the operation.

- The locomotive would operate 6.5 hours per day during an 8-hour shift on weekdays.
- Because the locomotives would operate in multiple modes, from idling to traveling at various speeds with different numbers of full or empty railcars, they would not operate at full power throughout the 8-hour workday. An average load factor of 0.127 (12.7 percent of full power) was used to calculate the locomotive emissions.
- The load factor was estimated using a Rail Traffic Controller model to simulate locomotive operations on PIRATE and on a short section of the Phoenix Subdivision. UP provided or agreed to a set of operational assumptions for PIRATE. These assumptions included PIRATE yard operations with some switching that accounted for blocking inbound rail cars for the industries, picking up rail cars from the industries delivered to the planned Phoenix Subdivision support tracks, dropping rail cars at the industries, and then back to exit PIRATE for other areas.
- The model provides the locomotive run time and the corresponding percentages of full power needs at each throttle notch position during a typical working day. Load factor at each throttle notch position over the course of a working day was calculated by multiplying the percentage of full power needed by the percentage of operating time at each throttle notch. Overall locomotive load factor during a working day was derived based on the weighted average of the load factors at each throttle notch. Attachment B provides details of the percentages of operating time in each notch, the corresponding percentages of full power needed, and the calculation of the overall locomotive load factor.

Table 4-2 summarizes the operational emissions from the locomotives. Appendix B provides detailed operational emission calculations.

Emission Reduction from Eliminated Truck Trips

Currently, over 6,100 trucks travel to and from the PAMZ monthly. This includes over 400 trucks per month that travel over 80 miles round trip to and from the downtown Phoenix transload facility (Mesa 2021). Providing direct rail access within the PAMZ area would remove approximately 30,000 truck trips off public roadways in its first year of operation (Mesa 2021). Emission reductions due to the reduced truck trips were calculated for the reduced trips in the area (30,000 round trips per year) during the first year of operation.

Table 4-2 summarizes updated vehicle emission reductions due to PIRATE. The operational emissions from the reduced truck trips changed because the emission factors changed between 2023 and 2027, and the model OEA used changed from MOVES3 to MOVES5. Locomotive emission increases would be offset by the emission reductions due to reduced truck trips, resulting in net decreases of emissions of all criteria pollutants starting the first year of project operation. Locomotive operations and the anticipated truck trip reduction at full build-out are not yet available, thus the emissions at full PIRATE build-out were not quantified in this study. However, the trend of net emissions decreases due to the truck trip reduction, and the associated benefits to air quality are anticipated to remain valid for future year operation of PIRATE.

Table 4-2. Alternative 1 Operational Emissions

Pollutants	VOC (ton/year)	NO_x (ton/year)	CO (ton/year)	SO_x (ton/year)	PM_{10} (ton/year)	$PM_{2.5}$ (ton/year)
Emission Increase from Locomotives	0.46	7.76	1.16	0.00	0.29	0.28
Emission Reduction - Reduced Truck Trips Overall	-0.58 ~~-0.92~~	-15.46 ~~-20.71~~	-6.55 ~~-7.16~~	-0.01	-1.16 ~~-1.24~~	-0.68 ~~-0.80~~
Net Change in Emissions	**-0.13** **~~-0.46~~**	**-7.70** **~~-12.95~~**	**-5.40** **~~-6.00~~**	**-0.01**	**-0.87** **~~-0.95~~**	**-0.40** **~~-0.52~~**

Localized CO and PM Impacts

OEA analyzed localized CO and PM impacts in the area around the entire project, which includes both PIRATE and the planned Phoenix Subdivision support tracks.

CO Hot Spot Analysis

CO emissions tend to accumulate in areas where a large number of vehicles are idling or traveling on low speeds at intersections. According to the PIRATE traffic report (Board 2026~~2022~~), the following intersections would have a ~~deteriorated~~ Level of Service (LOS) D or worse ~~due to project operations~~.[2]

- Power Road and Pecos Road (south) – Build scenario (morning and afternoon peak hours)
- Power Road and Pecos Road (south) – No Build scenario (morning peak hours)
- ~~Sossaman Road and Pecos Road (morning and afternoon peak hours)~~
- ~~Sossaman Road and Germann Road (morning and afternoon peak hours)~~
- ~~Ellsworth Road and Germann Road (morning peak hour)~~

Microscale CO modeling was performed for the project using EPA's ~~2021~~ MOVES5~~3~~ emissions model and EPA's 1995 CAL3QHC air quality dispersion model to estimate future (2050) CO levels at the ~~Sossaman and Pecos Roads~~Power Road and Pecos Road (south) intersection. The analysis follows the EPA's *Guideline for Modeling Carbon Monoxide from Roadway Intersections* (EPA 1992) and *Using MOVES3 in Project-Level Carbon Monoxide Analyses* (EPA 2021b).

Vehicle emission factors were obtained for both free-flow speeds and idle periods for the analysis year of 2050 for all vehicle and fuel type combinations. ~~Speeds between 5 and 75 mph were used to represent free-flow speeds for the intersections based on intersection-specific average progression data to the nearest 5 mph.~~ Link-specific speed data in the Synchro output

[2] LOS D indicates traffic conditions where speeds are considerably lower due to congestion, high traffic densities restrict vehicles' ability to maneuver, and the road's volume is near capacity.

file were used at each approach and departure at the intersection. A speed of 0 mph was used to calculate an idle emission factor. The MOVES53 (EPA 2026) default data for Maricopa County were used for this analysis except for the meteorological data, which were developed for the project from the Phoenix Sky Harbor International Airport for the years 2020 through 20242014 through 2018 to develop monthly and hourly averages for the region. The link source type fractions were developed using the MOVES53 national level default source type hour totals.

A project-level MOVES53 analysis was used to develop the emission factors for a winter morning hour (a day in January from 7 a.m. to 8 a.m.) and a summer afternoon hour (a day in July from 4 p.m. to 5 p.m.) to capture the worst-case CO emissions. Both running exhaust and crankcase running exhaust emission processes were included in calculating the emission factors. Appendix C provides traffic data used for the modeling, including the intersection vehicle volumes, LOS, and Synchro output files.

The CAL3QHC air dispersion model (EPA 1995) was used to estimate the 1-hour CO concentrations in the vicinity of the affected intersections. Vehicle turning movements at intersections used in the CAL3QHC model were obtained from the Synchro 1110 outputs provided in the traffic study (Board 20262022). The 8-hour CO concentrations were obtained by multiplying the highest 1-hour CO concentrations by a persistence factor of 0.7 (EPA 1992). The persistence factor accounts for the fact that over 8 hours (as distinct from a single hour), vehicle volumes will fluctuate downward from the peak hour, vehicle speeds may vary, and meteorological conditions (including wind speed and wind direction) will vary compared to the conservative assumptions used for the single hour.

~~Mesa, the Town of Queen Creek, and Maricopa County are planning on expanding the intersection at Sossaman Road and Germann Road (Town of Queen Creek 2021). The CO modeling for the Sossaman Road and Germann Road intersection assumed that the intersection would have been expanded as planned and used a standard intersection geometry with the expected number of lanes after the expansion.~~

~~For the Build scenario for all intersections, a conservative cycle time of 600 seconds was used to account for the worst-case 10-minute delay that would occur with a train crossing, leading to additional vehicle queueing.~~

The CO modeling for the Power Road and Pecos Road (south) intersection assumes that the intersection would have been expanded by 2050, according to the programmed roadway projects included in the 2050 MAG travel demand model and other capital improvement projects listed by agencies within the study area (Board 2026).

The Power Road and Pecos Road (south) intersection includes the Phoenix Subdivision crossing in both the No Build and Build scenarios. The CO hot spot modeling evaluated the worst-case scenarios during the train crossing. The time it would take for a train to cross this intersection is approximately 1.2 minutes for the No Build scenario and 2.6 minutes for the Build scenario. The additional crossing time under the Build scenario is due to an increased delay at the intersection because trains turning off PIRATE and heading northwest on the Phoenix Subdivision would travel at slower speeds than trains already on the Phoenix Subdivision. The train crossing time was used in the model to account for vehicle delays while waiting for a train to pass through the intersection.

Receptors were placed around the intersections at distances of 0, 25, and 50 meters along each approach. The receptors were placed 3 meters from the edge of the roadway to ensure that they were not within the mixing zone of the travel lanes (EPA 1992). Table 4-3 summarizes the input values used in the CAL3QHC modeling. While the EPA guidance recommends using atmospheric stability Class D[3] for urban conditions, the CO hot spot modeling used a more conservative stability Class E to account for the stable conditions during inversions.

Table 4-3. CO Modeling - CAL3QHC Input Parameters

Parameter	Value[1]
Surface roughness	0.75 centimeter
Wind speed	1 meter per second
Stability class	E
Mixing height	1,000 meters
Wind direction increment	10 degrees
Receptor height	1.8 meters
Source height	0 meter
Signal type	Actuated
Intersection arrival rate	Average progression

[1] EPA 1992.

The background CO concentrations were added to the respective modeled 1- and 8-hour CO concentrations to establish the design values for each modeled intersection. The background concentrations were obtained from the West Chandler Station. The maximum 1- and 8-hour CO concentrations are 2.0 ppm and 1.3 ppm~~2.4 and 1.7 ppm~~, respectively, from 2020 to 2024~~2017 to 2021~~. Table 4-4 lists the predicted 1- and 8-hour CO design value concentrations at the modeled intersections.

Table 4-4. Maximum Predicted CO Concentrations [1]

Intersection	2050 No Build Scenario		2050 Build Scenario	
	1 hour (ppm)	8 hour (ppm)	1 hour (ppm)	8 hour (ppm)
(NAAQS for CO)	**35**	**9**	**35**	**9**
Power Road and Pecos Road (morning peak hour)	2.5	1.7	2.6	1.7
Power Road and Pecos Road (afternoon peak hour)	N/A	N/A	2.5	1.7
~~Sossaman Road and Pecos (morning peak hour)~~	~~2.7~~	~~2.0~~	~~2.9~~	~~2.2~~

[3] Property of ambient air that either enhances (unstable) or suppresses (stable) vertical motion of air parcels; depends on the vertical temperature profile or sounding of the ambient air and whether air parcels are saturated (cloudy) or unsaturated (clear).

Intersection	2050 No Build Scenario		2050 Build Scenario	
	1 hour (ppm)	8 hour (ppm)	1 hour (ppm)	8 hour (ppm)
~~Sossaman Road and Pecos Road (afternoon peak hour)~~	~~2.8~~	~~2.1~~	~~2.9~~	~~2.2~~
~~Sossaman Road and Germann Road (morning peak hour)~~	~~2.7~~	~~2.0~~	~~2.8~~	~~2.1~~
~~Sossaman Road and Germann Road (afternoon peak hour)~~	~~2.7~~	~~2.0~~	~~2.8~~	~~2.1~~
~~Ellsworth Road and Germann Road (morning peak hour)~~	~~2.9~~	~~2.2~~	~~3.0~~	~~2.3~~

[1] The above results include the maximum 1- and 8-hour background concentrations of ~~2.4 ppm and 1.7 ppm~~2.0 ppm and 1.3 ppm, respectively, measured during 2020 to 2024~~2019 to 2021~~ at the EPA monitoring station located at 275 South Ellis Street, Chandler, AZ (ID: 04-013-4004). This monitoring station is housed at the City of Chandler's Fire Station No. 283, about 12 miles west of the project limits.

The modeling results in Table 4-4 demonstrate that the CO concentrations at the intersections with the worst-case traffic conditions would not cause exceedances of the 1- or 8-hour CO NAAQS in 2050. Other intersections near the project would have LOS C or better under the No Build scenario and the Build scenario (which assumes construction of PIRATE and the planned Phoenix Subdivision support tracks) and thus would not cause CO hot spots.[4] Therefore, the project would not cause new violations of the NAAQS for CO within the project limits.

PM Hot Spots

Localized accumulation of $PM_{10}/PM_{2.5}$ emissions tend to occur at locations where multiple diesel vehicles are aggregating. Rail operations would reduce the diesel vehicle trips going to and leaving the PAMZ, and locomotive idling would not occur at one single location for extended periods of time. Therefore, accumulation of $PM_{10}/PM_{2.5}$ emissions from locomotives or on-road vehicles are not anticipated during project operations.

4.2.3 Alternative 2

Operation of Alternative 2 and the planned Phoenix Subdivision support tracks would be similar to Alternative 1. Therefore, operational emissions and impacts from Alternative 2 and the planned Phoenix Subdivision support tracks would be similar to Alternative 1.

[4] LOS C indicates traffic conditions where speeds and maneuverability are somewhat affected by higher traffic volumes, but are more free-flowing than LOS D.

4.3 General Conformity Applicability Analysis

4.3.1 No-Action Alternative

Under the No-Action Alternative, UP would not construct and operate the proposed rail line or the planned Phoenix Subdivision support tracks. Current and future businesses in the PAMZ would continue to receive raw materials and trucks would ship finished product. General conformity does not apply to the No-Action Alternative because no emission increases would occur.

4.3.2 Alternative 1

The project is located in a nonattainment area for 8-hour ozone and PM_{10} under NAAQS.~~and in a maintenance area for PM_{10} and CO under NAAQS.~~ As a result, the project is subject to general conformity requirements for these two pollutants unless exempt under 40 CFR 93.153. To determine if a detailed conformity demonstration is needed for the project, a General Conformity Applicability Analysis was performed for the project.

General conformity applicability analysis requires quantification of direct and indirect construction and operational emissions for the project in tons per year and comparison of those emission levels to baseline emission levels. An action is exempt from further general conformity analysis (i.e., the action is presumed to conform) if the total net project-related emissions (construction and operations) would be less than the de minimis thresholds as in 40 CFR 93.153(b). If the net emissions increases associated with the project exceed the applicable general conformity de minimis levels for the peak year or any milestone year for attainment of

NAAQS, a formal general conformity demonstration is required. An action that would produce emissions that exceed conformity thresholds is required to demonstrate conformity with the SIP through mitigation or other accepted practices.

In accordance with the conformity requirements of 40 CFR Sections 51.853 and 93.153(b)(1), the general conformity de minimis threshold for a federal action in a moderate ozone nonattainment area is 100 ton per year for each ozone precursor pollutant (NOx and VOC). The de minimis threshold for PM_{10} is 70 tons per year for serious nonattainment areas.~~, and CO is 100 tons per year for a maintenance area.~~

Table 4-5 compares the project's updated construction emissions to the applicable general conformity de minimis thresholds. The analysis results indicate that none of the applicable general conformity de minimis thresholds would be exceeded. Therefore, the project would not cause new violations of the NAAQS, worsening of existing violations of the NAAQS, or delays in attaining the NAAQS. The project construction is exempt from further conformity determination requirements under the federal General Conformity Rule.

Table 4-5. Comparison of Project Emissions Increases to General Conformity De Minimis Thresholds

Pollutants	VOC (ton/year)	NO_x (ton/year)	CO (ton/year)	SO_x (ton/year)	PM_{10} (ton/year)	$PM_{2.5}$ (ton/year)
Construction 2027~~2023~~	1.68 ~~2.22~~	25.75 ~~34.21~~	11.22 ~~14.39~~	0.024 ~~0.026~~	17.02 ~~20.51~~	3.73 ~~4.37~~
General Conformity De Minimis Thresholds	100	100	N/A~~100~~	N/A	70	N/A

Unlike construction emissions, locomotive emissions during rail operations are not subject to the General Conformity Rule because the Board does not exercise continuing program control over rail operations and would not exercise such control over the operation of the proposed rail line or the planned Phoenix Subdivision support tracks.

4.3.3 Alternative 2

Construction and operational activities of Alternative 2 and the planned Phoenix Subdivision support tracks would be similar to Alternative 1. Therefore, construction and operational emissions from Alternative 2 and the planned Phoenix Subdivision support tracks would be similar to Alternative 1. General conformity applicability analysis for Alternative 2 and the planned Phoenix Subdivision support tracks is the same as discussed in Section 4.3.2, Alternative 1.

Operation of Alternative 2 and the planned Phoenix Subdivision support tracks is not subject to the General Conformity Rule because the Board does not exercise continuing program control over rail operations and would not exercise such control over project operations.

4.4 Mobile Source Air Toxics

4.4.1 No-Action Alternative

Under the No-Action Alternative, UP would not construct and operate the proposed rail line or the planned Phoenix Subdivision support tracks. Current and future businesses in the PAMZ would continue to receive raw materials and trucks would ship finished product. There would be no change to the MSAT emissions or to the effects from No-Action Alternative.

4.4.2 Alternative 1

As discussed in Section 4.2, the project would not cause increased train trips on the Phoenix Subdivision. The project would cause MSAT emissions, such as diesel PM, from locomotives traveling on the Phoenix Subdivision, traveling on the proposed rail line to and from the PAMZ, and operations in the PIRATE yard. Locomotives would not idle on the proposed rail line or the planned Phoenix Subdivision support tracks for extended periods of time during normal operations to cause accumulation of MSAT emissions that would affect the nearby residents and other sensitive receptors. Locomotives working in the PIRATE yard may need to keep the

engine running during winter when the temperature is lower than 35˚F. However, historically in the Phoenix-Mesa area, temperatures below 35˚F are rare. In addition, PIRATE would reduce the heavy-duty diesel truck trips to and from the PAMZ, which would reduce MSAT emissions from truck travel.

The land use surrounding the proposed rail line is mostly industrial, commercial, and agricultural~~, and open space~~. Residential areas and the Benjamin Franklin High School are located west of the wye junction between PIRATE and the Phoenix Subdivision. No sensitive receptors are located immediately adjacent to the proposed rail line. The closest residential areas are approximately 2,400 feet from the proposed rail line. MSAT emissions from the locomotives on the proposed rail line are not anticipated to cause substantial effects to ~~these~~ residences or other sensitive receptors due to the infrequent train trips and the distance between PIRATE and the residences. In addition, project operations would not cause train trips on the Phoenix Subdivision to increase; therefore, project operations would have minimal MSAT effects to the dense residential areas along the Phoenix Subdivision.

Because the project would not have a large number of locomotives operating or idling at a single location and the project is expected to reduce diesel truck emissions in the region, high levels of MSAT impacts to nearby receptors are unlikely. There may be localized areas where ambient concentrations of MSATs under Alternative 1 would be higher than under the No-Action Alternative, such as in the areas along the proposed rail line. However, the magnitude and the duration of these potential effects cannot be reliably quantified due to incomplete or unavailable information in forecasting project-specific health impacts. Also, on a region-wide basis, the EPA's vehicle and fuel regulations, coupled with fleet turnover, will cause substantial reductions over time such that in almost all areas MSAT levels in the future will be substantially lower than today. Local conditions may differ from these national projections in terms of fleet mix and turnover, vehicle-miles-traveled growth rates, and local control measures. However, the EPA-projected reductions are so substantial (even after accounting for vehicle-miles-traveled growth) that MSATs in the project limits are likely to be lower in the future as well.

4.4.3 Alternative 2

Operation of Alternative 2 and the planned Phoenix Subdivision support tracks would be similar to Alternative 1. Therefore, MSAT effects of Alternative 2 and the planned Phoenix Subdivision support tracks would be the same as for Alternative 1.

4.5 Greenhouse Gases

4.5.1 No-Action Alternative

Under the No-Action Alternative, UP would not construct and operate the proposed rail line or the planned Phoenix Subdivision support tracks. Current and future businesses in the PAMZ would continue to receive raw materials and trucks would ship finished product. Therefore, there would be no emissions of GHG from the project. GHG emissions from the truck trips would remain and GHG emissions would not change under the No-Action Alternative.

4.5.2 Alternative 1

Currently, no national standards have been established regarding GHGs, nor has the EPA established criteria or thresholds for ambient GHG concentrations pursuant to its authority to establish motor vehicle emission standards for CO_2 under the CAA.

GHG emissions of the project were estimated using EPA's ~~2021 MOVES3~~ MOVES5 program and the same methodology as described in Sections 4.1 and 4.2 for criteria pollutants. Table 4-6 summarizes the project GHG emissions for construction activities and operations.

Table 4-6. Project GHG Emissions as CO_2e

Emission Sources	Alternative 1 CO_2e (metric tons/year)
Construction 2027~~2023~~	5,897.35 ~~6,553.55~~
Locomotive Operation (~~2023~~2027 and beyond)	401.80
Truck Trip Reduction (~~2023~~2027 and beyond)	-3,928.22 ~~-3,908.59~~

As shown in Table 4-6, while the locomotive operations would cause GHG emissions from the construction and operation of the proposed rail line and the planned Phoenix Subdivision support tracks, the emission increase from the project would be offset by the reduced truck trips that would otherwise occur without the project. The project would reduce GHG emissions compared to the No-Action Alternative.

4.5.3 Alternative 2

Construction and operational activities of Alternative 2 and the planned Phoenix Subdivision support tracks would be similar to Alternative 1. Therefore, construction and operational emissions from Alternative 2 and the planned Phoenix Subdivision support tracks would be similar to Alternative 1.

Chapter 5
Mitigation

Based on the analysis discussed in Section 4, the project's construction and operations are not expected to cause substantial adverse effects on air quality. The project would comply with applicable dust control requirements in the MCAQD's Rule 310 and Rule 310 and would include implementation of best management practices to reduce emissions, as discussed in Section 4.1.2. Additional mitigation measures beyond what is included in the best management practices and what is required by state and regional regulations are not required.

Chapter 6
References

6.1 References Cited in the 2026 *Air Quality Report*

City of Mesa. 2021. *Pecos Industrial Rail Access and Train Extension Project, 2021 RAISE Grant Project Narrative*.

City of Mesa. 2022. *City of Mesa Climate Action Plan for a Sustainable Community*. June. https://issuu.com/cityofmesa/docs/mesa_climate_action_plan-compressed?fr=sNGQ0OTIxODIxOTA.

Council on Environmental Quality. 2016. "Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews." *Federal Register.* Vol. 81, No. 151, August 5.

Council on Environmental Quality. 2021. "Guidance on Consideration of Greenhouse Gases." https://ceq.doe.gov/guidance/ceq_guidance_nepa-ghg.html. Accessed August 5, 2021.

Executive Order 13783 of March 28, 2017. "Promoting Energy Independence and Economic Growth." *Federal Register*. No 2017-06578 (March 31, 2017).

Executive Order 13990 of January 20, 2021. "Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis." *Federal Register*. No. 2021-01765 (January 25, 2021).

Federal Highway Administration. 2023. "Updated Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents." January 18. https://www.fhwa.dot.gov/environMent/air_quality/air_toxics/policy_and_guidance/msat//fhwa_nepa_msat_memorandum_2023.pdf.

Maricopa Association of Governments. 2012. *MAG 2012 Five Percent Plan for PM-10 for the Maricopa County Nonattainment Area*. May. https://azmag.gov/portals/0/Documents/EP_2012-06-06_FINAL-MAG-2012-Five-Percent-Plan-for-PM10-for-the-Maricopa-County-Nonattainment-Area.pdf.

Maricopa Association of Governments. 2014. *MAG 2014 Eight Hour Ozone Plan – Submittal of Marginal Area Requirements for the Maricopa Nonattainment Area.* June. https://azmag.gov/portals/0/Documents/EP_2014-06-30_MAG-2014-Eight-Hour-Ozone-Plan_Submittal-of-Marginal-Area-Requirements-for-the-Maricopa-Nonattainment-Area.pdf.

Maricopa Association of Governments. 2016. *MAG 2017 Eight-Hour Ozone Moderate Area Plan for the Maricopa Nonattainment Area*. December. https://static.azdeq.gov/aqd/2017_maricopa_o3_mod_pln.pdf.

Maricopa Association of Governments. 2020. *MAG 2020 Eight-Hour Ozone Plan - Submittal of Marginal Area Requirements for the Maricopa Nonattainment Area*. June. https://static.azdeq.gov/aqd/2020_maricopa_o3_marg_pln.pdf.

Maricopa Association of Governments. 2025. *MAG 2025 Eight-Hour Ozone Plan - Submittal of Applicable Moderate Area Requirements for the Maricopa Nonattainment Area.* April. https://azmag.gov/portals/0/Environmental/Air-Quality/2025/Final-MAG-2025-Eight-Hour-Ozone-Plan-4-23-25.pdf.

Maricopa County Air Quality Department. 2023. *Maricopa County 2020 Community Greenhouse Gas Emissions Inventory*. September. https://www.maricopa.gov/DocumentCenter/View/62545/GHG_Inventory_Report_FINAL-PDF?bidId=.

National Highway Traffic Safety Administration. 2021. Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule. https://www.nhtsa.gov/corporate-average-fuel-economy/safe. Accessed August 5, 2021.

National Weather Service. 2025. Monthly Highest Max. and Min. Temperature for Phoenix Area, AZ. https://www.weather.gov/wrh/climate?wfo=psr.

Surface Transportation Board. 2026. *Pecos Industrial Rail Access and Train Extension (PIRATE) Project Traffic Report.*

Union Pacific Railroad Company. 2022. *Union Pacific 2022 Climate Action Plan* https://www.up.com/cs/groups/public/@uprr/@corprel/documents/up_pdf_nativedocs/pdf_up_2022_climate_action_pln.pdf.

U.S. Environmental Protection Agency. 1992. *Guideline for Modeling Carbon Monoxide from Roadway Intersections.* EPA-454/R-92-005. November.

U.S. Environmental Protection Agency. 1995. *User's Guide to CAL3QHC Version 2.0: A Modeling Methodology for Predicting Pollutant Concentrations Near Roadway Intersections (Revised).* EPA-454/R-92-006R. Office of Air Quality Planning and Standards, Research Triangle Park, NC.

U.S. Environmental Protection Agency. 1998. "Western Surface Coal Mining." Chapter 11.9 of *AP-42 Fifth Edition Compilation of Air Pollutant Emissions Factors*.

U.S. Environmental Protection Agency. 2006. "Unpaved Roads." Chapter 13.2.2 of *AP-42 Fifth Edition Compilation of Air Pollutant Emissions Factors*.

U.S. Environmental Protection Agency. 2009. "Technical Highlights: Emission Factors for Locomotives." EPA-420-F-09-025, Office of Transportation and Air Quality. April. https://nepis.epa.gov/Exe/ZyPDF.cgi/P100500B.PDF?Dockey=P100500B.PDF.

U.S. Environmental Protection Agency. 2007. "Control of Hazardous Air Pollutants from Mobile Sources." *Federal Register.* Vol. 72, No. 37, February 26.

U.S. Environmental Protection Agency. 2010. "Revisions to the General Conformity Regulations." *Federal Register.* Vol. 75, No. 64, April 5.

U.S. Environmental Protection Agency. 2011. "Paved Roads." Chapter 13.2.1 of *AP-42 Fifth Edition Compilation of Air Pollutant Emissions Factors*.

U.S. Environmental Protection Agency. 2014. *National Air Toxics Assessment.* *https://www.epa.gov/national-air-toxics-assessment.*

U.S. Environmental Protection Agency. 2018. Integrated Risk Information System. https://iris.epa.gov/AtoZ/?list_type=alpha.

U.S. Environmental Protection Agency. 2021a. "Revised 2023 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions Standards." *Federal Register.* Vol. 86, No. 151, April 5.

U.S. Environmental Protection Agency. 2021b. *Using MOVES3 in Project-Level Carbon Monoxide Analyses*. EPA-420-B-21-047. December. https://nepis.epa.gov/Exe/ZyPDF.cgi/P1013NP8.PDF?Dockey=P1013NP8.PDF.

U.S. Environmental Protection Agency. 2024a. "Reconsideration of the National Ambient Air Quality Standards for Particulate Matter." *Federal Register*. Vol. 89, No. 45, March 6.

U.S. Environmental Protection Agency. 2024b. Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990-2022. April. https://www.epa.gov/system/files/documents/2024-04/us-ghg-inventory-2024-main-text_04-18-2024.pdf.

U.S. Environmental Protection Agency. 2025a. "Outdoor Air Quality Data, Monitor Values Report." March 28. https://www.epa.gov/outdoor-air-quality-data/monitor-values-report. Accessed November 20, 2025.

U.S. Environmental Protection Agency. 2025b. "NAAQS Table." November 4. https://www.epa.gov/criteria-air-pollutants/naaqs-table.

U.S. Environmental Protection Agency. 2025c. "Greenbook: Arizona Nonattainment/Maintenance Status for Each County by Year for All Criteria Pollutants." November 30. https://www3.epa.gov/airquality/greenbook/anayo_az.html.

U.S. Environmental Protection Agency. 2026. "MOVES5: Latest Version of Motor Vehicle Emission Simulator." Office of Transportation and Air Quality. Ann Arbor, MI. January 8. November. https://www.epa.gov/moves/latest-version-motor-vehicle-emission-simulator-moves.

U.S. Environmental Protection Agency and National Highway Traffic Safety Administration. 2020. "Safer Affordable Fuel-Efficient Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks." *Federal Register.* Vol. 85, No. 84, April 30.

6.2 References Cited in the 2023 *Air Quality Report*

Maricopa Association of Governments. 2013. *MAG 2013 Carbon Monoxide Maintenance Plan for the Maricopa County Area*. March. https://static.azdeq.gov/aqd/aqd_co_maricopa_plan.pdf.

Maricopa County Air Quality Department. 2020. *Maricopa County 2018 Community Greenhouse Gas Emissions Inventory*. August. https://www.maricopa.gov/DocumentCenter/View/62545/GHG_Inventory_Report_Draft_v9-PDF.

Town of Queen Creek. 2021. "Germann/Sossaman/UPRR, Possible IGA between the Town of Queen Creek, City of Mesa, and Maricopa County." Troy White, Public Works Director. November 17. https://www.queencreekaz.gov/home/showpublisheddocument/35829/637726781142830000.

Union Pacific Railroad Company. 2021. *Union Pacific 2021 Climate Action Plan*. https://www.up.com/cs/groups/public/@uprr/@corprel/documents/up_pdf_nativedocs/pdf_up_2021_climate_action_pln.pdf.

U.S. Environmental Protection Agency. 2022d. "Sources of Greenhouse Gas Emissions." https://19january2021snapshot.epa.gov/ghgemissions/sources-greenhouse-gas-emissions_.html.

Appendix A
Project Construction Emissions

Construction Emissions - Summary

Construction Emissions Summary

	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$	CO_2e
	tons/year	tons/year	tons/year	tons/year	tons/year	tons/year	metric tons/year
Construction 2027							
Nonroad Construction Equipment	1.18	13.89	2.48	0.013	0.55	0.53	2905.55
Onroad Vehicles	0.50	11.86	8.74	0.011	1.00	0.54	2991.80
Fugitive Dust	-	-	-	-	15.48	2.65	-
Subtotal	*1.68*	*25.75*	*11.22*	*0.024*	*17.02*	*3.73*	*5897.35*
Total Project Construction Emissions 2027	**1.68**	**25.75**	**11.22**	**0.024**	**17.02**	**3.73**	**5897.35**
General Conformity De Minimis Thresholds [1]	**100**	**100**	**NA**	**NA**	**70**	**NA**	**NA**
Over Threshold? (Yes/No)	**No**	**No**	**No**	**NA**	**No**	**NA**	**NA**

Notes:

NA = not applicable

1. General Conformity De Minimis Thresholds are from 40 CFR 93.153 (b)(1) and (b)(2) and apply to non-attainment and maintenance areas. Maricopa County, AZ is in non-attainment and maintenance status as follows:

- Moderate non-attainment for Ozone and serious nonattainment for PM_{10}

Construction Emissions - Offroad Construction Equipment

Offroad Construction Equipment Emissions

Construction Equipment Name	Fuel Type [2]	Horsepower	Number of Equipment	Hours per Day	Number of Days [3]	Total Hours	Year	Emission Factors [1]							Emissions						
								VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$	CO_2e	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$	CO_2e
								g/hr	g/hr	g/hr	g/hr	g/hr	g/hr	g/hr	tons/year	tons/year	tons/year	tons/year	tons/year	tons/year	metric tons/year
Construction 2027																					
D6 Dozer	Diesel	215	4	9	154	5544	2027	1.582	20.943	4.570	0.197	1.210	1.173	74587.230	0.010	0.128	0.028	0.001	0.007	0.007	413.512
330 Trackhoe	Diesel	273	2	9	154	2772	2027	1.378	16.503	3.113	0.195	0.951	0.923	73890.363	0.004	0.050	0.010	0.001	0.003	0.003	204.824
352 Trackhoe	Diesel	424	3	9	110	2970	2027	3.350	44.924	13.325	0.346	3.017	2.926	130044.308	0.011	0.147	0.044	0.001	0.010	0.010	386.232
140 Motor Grader	Diesel	179	3	9	154	4158	2027	1.510	19.585	4.165	0.193	1.134	1.100	73225.270	0.007	0.090	0.019	0.001	0.005	0.005	304.471
815 Compactor	Diesel	249	3	9	110	2970	2027	1.582	20.943	4.570	0.197	1.210	1.173	74587.230	0.005	0.069	0.015	0.001	0.004	0.004	221.524
CS12 GC compactor	Diesel	121	1	9	110	990	2027	1.184	21.325	7.637	0.112	1.885	1.828	41870.663	0.001	0.023	0.008	0.000	0.002	0.002	41.452
966 Wheel Loader	Diesel	321	2	9	198	3564	2027	8.086	150.615	49.448	0.366	7.261	7.043	132826.470	0.032	0.592	0.194	0.001	0.029	0.028	473.394
262D3 Skid Steer	Diesel	74	2	9	176	3168	2027	11.035	59.547	58.789	0.028	8.431	8.178	8409.270	0.039	0.208	0.205	0.000	0.029	0.029	26.641
35 Ton Crane	Diesel	164	2	9	66	1188	2027	1.013	17.477	5.398	0.089	1.312	1.273	33155.292	0.001	0.023	0.007	0.000	0.002	0.002	39.388
AP1000F Paver	Diesel	225	1	9	44	396	2027	1.654	22.544	5.430	0.185	1.342	1.302	70026.528	0.001	0.010	0.002	0.000	0.001	0.001	27.731
TLM (UPRR)	Diesel	845	1	9	22	198	2027	65.181	710.479	247.750	0.341	39.218	38.041	111700.172	0.014	0.155	0.054	0.000	0.009	0.008	22.117
963 Track Loader (UPRR)	Diesel	202	1	9	22	198	2027	8.977	56.600	24.499	0.076	4.836	4.691	26302.689	0.002	0.012	0.005	0.000	0.001	0.001	5.208
6700 Tamper (UPRR)	Diesel	280	2	9	44	792	2027	13.534	89.297	48.902	0.092	9.460	9.176	30767.596	0.012	0.078	0.043	0.000	0.008	0.008	24.368
966 Wheel Loader	Diesel	321	2	9	44	792	2027	8.086	150.615	49.448	0.366	7.261	7.043	132826.470	0.007	0.131	0.043	0.000	0.006	0.006	105.199
4600 Regulator (UPRR)	Diesel	250	2	9	44	792	2027	13.534	89.297	48.902	0.092	9.460	9.176	30767.596	0.012	0.078	0.043	0.000	0.008	0.008	24.368
Locomotive (UPRR)	Diesel	2200	1	9	44	396	2027	2339.766	27720.000	4026.000	13.895	968.000	938.960	1477585.234	1.021	12.100	1.757	0.006	0.423	0.410	585.124
														Total 2027	**1.179**	**13.895**	**2.478**	**0.013**	**0.547**	**0.530**	**2905.550**

Notes:

1. Emission factors were obtained from a MOVES5 Nonroad Module run for Maricopa County, AZ, weekdays only. Emission factors are 12-month averages based on MOVES5 defaults. The only exception is the "Locomotive (UPRR)" construction equipment, where emission factors came from the Environmental Protection Agency Technical Highlights Emission Factors for Locomotives, April 2009. To be conservative, it was assumed that this locomotive is rated Tier 0 and uses diesel fuel with 15 ppm sulfur content.

2. All equipment were provided to be diesel-fueled.

3. Equipment usage duration was provided by month, and it was assumed that there would be 22 working days per month (5 days a week).

Construction Emissions - Onroad Vehicles

Onroad Vehicles Emissions

Vehicles	Vehicle Type	Fuel Type	Number of Vehicles	Number of Roundtrips per Day per Vehicle	Miles per Roundtrip	Number of Days [7]	Total Vehicle Miles	Year	Emission Factors [1,4]							Emissions						
									VOC	NO_x	CO	SO_x	PM_{10} [3]	$PM_{2.5}$ [3]	CO_2e	VOC	NO_x	CO	SO_x	PM_{10} [3]	$PM_{2.5}$ [3]	CO_2e
									g/mile	g/mile	g/mile	g/mile	g/mile	g/mile	g/mile	tons/year	tons/year	tons/year	tons/year	tons/year	tons/year	metric tons/year
Construction 2027																						
Worker Commute [2]	Passenger Car or Truck [1]	Gasoline	70	1	30	198	415,800	2027	0.045	0.207	4.420	0.001	0.025	0.007	398.489	0.020	0.095	2.026	0.001	0.012	0.003	165.692
Pickup Trucks [5]	Light Commercial Truck	Gasoline	8	1	180	198	285,120	2027	0.054	0.205	3.878	0.002	0.027	0.009	447.468	0.017	0.064	1.219	0.001	0.009	0.003	127.582
Pickup Trucks (UPRR) [5]	Light Commercial Truck	Gasoline	6	1	180	44	47,520	2027	0.054	0.205	3.878	0.002	0.027	0.009	447.468	0.003	0.011	0.203	0.000	0.001	0.000	21.264
730 Articulated Truck [5]	Combination Short-haul Truck	Diesel	18	1	90	154	249,480	2027	0.458	11.010	5.452	0.008	1.052	0.536	2337.610	0.126	3.028	1.499	0.002	0.289	0.148	583.187
Tractor Trailer [5]	Combination Short-haul Truck	Diesel	18	1	90	88	142,560	2027	0.458	11.010	5.452	0.008	1.052	0.536	2337.610	0.072	1.730	0.857	0.001	0.165	0.084	333.250
Haul Trucks (Earthwork) [6]	Combination Short-haul Truck	Diesel	9,050	1	80	1	724,000	2027	0.221	5.846	2.477	0.005	0.439	0.257	1636.760	0.176	4.665	1.977	0.004	0.350	0.205	1185.014
Haul Trucks (Aggregate Base) [6]	Combination Short-haul Truck	Diesel	7,036	1	50	1	351,800	2027	0.221	5.846	2.477	0.005	0.439	0.257	1636.760	0.086	2.267	0.961	0.002	0.170	0.100	575.812
															Total 2027	**0.501**	**11.860**	**8.741**	**0.011**	**0.996**	**0.543**	**2991.801**

Notes:

1. Emission factors were obtained from a MOVES5 Onroad Module run at the Project Scale for Maricopa County, AZ. Emission factors represent the maximum emission rate between winter morning and summer afternoon. For worker commute vehicles, the maximum emission factors between the passenger car and passenger truck MOVES5 vehicle classes were chosen for each pollutant.

2. Passenger vehicles included gasoline cars and gasoline trucks. Emission factors represent the higher emission rate of the two types of vehicles.

3. PM emission factors includes tirewear and brakewear.

4. Emission factors are at an average vehicle speed of 40 mph for the worker commute, pickup truck, and haul truck vehicles. Average vehicle speed of 15 mph are used for the 730 Articulated Truck and Tractor Trailer vehicles.

5. It was assumed that the pickup trucks would drive 20 miles for each hour worked and that the 730 Articulated Trucks and Tractor Trailers would drive 10 miles for each hour worked.

6. For haul trucks, the "Number of Vehicles" represents the number of total haul truck trips for the entire project. The Number of Roundtrips per Day per Vehicle and Number of Days were set to 1 to appropriately calculate emissions from haul truck trips. Haul trucks for earthwork movement trips and aggregate base movement trips were assumed to be 80 miles and 50 miles per roundtrip, respectively.

7. Vehicle usage duration was provided by month, and it was assumed that there would be 22 working days per month (5 days a week).

Construction Emissions - Fugitive Dust Emissions

A) Bulldozing

Fugitive Dust Emissions from Bulldozing [1]

Activity	Equipment	Number of Equipment	Daily Hours	Number of Days [2]	Emission Factor PM_{10} lbs/hr	Emission Factor $PM_{2.5}$ lbs/hr	Daily Emissions PM_{10} lbs/day	Daily Emissions $PM_{2.5}$ lbs/day	Annual Emissions PM_{10} tons/year	Annual Emissions $PM_{2.5}$ tons/year
Construction 2027	Dozer or Similar	4	9	147	0.753	0.414	27.10	14.90	1.99	1.09
								Total	**1.99**	**1.09**

Notes:

1. PM emissions were calculated using the following equation and parameters (AP-42 Table 11.9-1 for Bulldozing, Overburden):
   Emission Factor (lb/hr)= k x $(s)^{1.5}$ / $(M)^{1.4}$ For PM10 and k x 5.7 x $(s)^{1.2}$ / $(M)^{1.3}$ for PM2.5
   k = Scaling Constant (0.75 for PM10 and 0.105 for PM2.5)
   s = Silt Content (6.9% per AP-42 Table 11.9-3 default for overburden)
   M = Moisture Content (7.9% per AP-42 Table 11.9-3 default for overburden)
2. Equipment usage duration was provided by month, and it was assumed that there would be 21 working days per month (5 days a week).

B) Grading

Fugitive Dust Emissions from Grading [1]

Activity	Equipment	Number of Grading Equipment	# acres/equipment-day	Acreage Graded/Day	Total Acres Graded [3]	Number of Days [2]	Grader/Scraper VMT miles/day	Grader/Scraper VMT miles/year	Emission Factors PM_{10} lbs/VMT	Emission Factors $PM_{2.5}$ lbs/VMT	Daily Emissions PM_{10} lbs/day	Daily Emissions $PM_{2.5}$ lbs/day	Annual Emissions PM_{10} tons/year	Annual Emissions $PM_{2.5}$ tons/year
Construction 2027	Grader	3	0.5	1.5	100	67	1.03	68.75	1.54	0.167	1.59	0.17	0.05	0.01
												Total	**0.05**	**0.01**

Notes:

1. PM emissions were calculated using the following equation and parameters:
   Emission factor (lb/VMT) = k x 0.051 x $(S)^{2.0}$ for PM10 and k x 0.040 x $(S)^{2.5}$ for PM2. (AP-42 Table 11.9-1)
   k = Scaling Constant (0.60 for PM10 and 0.031 for PM2.5)
   S = Mean Vehicle Speed, default = 7.1 miles/hour per AP-42 Table 11.9-3
   VMT = As / Wb X 43,560 (sqft/acre) /5280 (ft/mile)
   VMT: vehicle miles traveled
   As: the acreage of the grading site (Assumes 0.5 acres graded per grader per day, 0.5 acres graded per scraper per day)
   Wb: blade width of the grader. Assumed Wb = 12 ft.
2. Number of days calculated from the total acres graded and acres graded per day (which assumed 0.5 acres graded per grader per day).
3. Total acreage graded was assumed to be the total acreage disturbed.

C) Earth Material Loading/Handling

Fugitive Dust Emissions from Material Loading [1,2]

Activity	Total Amount Handled	Material Amount		Material Amount		Emission Factors		Daily Emissions		Annual Emissions	
						PM_{10}	$PM_{2.5}$	PM_{10}	$PM_{2.5}$	PM_{10}	$PM_{2.5}$
	cy	cy/day	cy/year	tons/day	tons/year	lbs/ton	lbs/ton	lbs/day	lbs/day	tons/year	tons/year
Construction 2027 - Material Export (Earthwork)	181,000	1,231	181,000	1,847	271,500	0.00029	0.000044	1.07	0.16	0.0787	0.0119
Construction 2027 - Material Import (Aggregate Base)	86,000	585	86,000	1,053	154,800	0.00029	0.000044	0.61	0.09	0.0449	0.0068
									Total	**0.12**	**0.02**

Notes:

1. Fugitive dust from materials unloading from trains and/or trucks are calculated using the following equations and parameters:

   Emission factor (lb/ton) = $(k)(0.0032)[(U/5)^{1.3}]/[(M/2)^{1.4}]$ (AP-42 13.2.4)

   k = Particle Size Constant (0.35 for PM_{10} and 0.053 for $PM_{2.5}$)

   U = average wind speed = 3.13 m/s (7.0 mph) for Mesa, AZ (Source: https://weatherspark.com/y/2610/Average-Weather-in-Mesa-Arizona-United-States-Year-Round)

   M = moisture content = 3.4% (AP-42 Table 13.2.4-1 for Exposed Ground)

   Earthwork material density: 1.5 tons/cy (typical soil density)

   Aggregate Base material density: 1.8 tons/cy (provided in data)

2. Emissions include those from loading and unloading (handling of the material twice).
3. Earthwork and aggregate base material loading and handling was given to last approximately 7 months, and it was assumed that there would be 21 working days per month (5 days a week).

D) Re-entrained Fugitive Dust Emissions from Vehicle Travel on Paved Roads

Paved Road Fugitive Dust Emissions [1]

Activity	Total VMT	Percent Miles on Paved Road [2]	PM_{10}	$PM_{2.5}$
	VMT/year	%	tons/year	tons/year
Construction 2027	2,216,280	99.5	1.34	0.34
		Total 2027	**1.34**	**0.34**

Notes:

Emission factor (g/VMT) = k X (sL)^0.91 X W^1.02 X (1-P/4N)

		PM_{10}	$PM_{2.5}$
k		1.0	0.25
sL	g/m^2	0.20	0.20
W	tons	2.4	2.4
EF	g/VMT	0.553	0.138

Notes:

1. Equation from: AP-42 13.2.1

   k (particle size multipliers) is from EPA AP-42 Table 13.2.1-1

   sL (silt loading) of 0.2 is from EPA AP-42 Table 13.2.1-2 for ADT category 500 - 5000. This is a conservative assumption since the roadways would have higher ADT and lower sL value.

   W (mean vehicle weight) of 2.4 tons per California Air Resources Board's data at https://ww3.arb.ca.gov/ei/areasrc/fullpdf/2021_paved_roads_7_9.pdf

   P = number of days in a year with at least 0.01 inch of precipitation, 30 days used for the calculation per EPA AP-42 Figure 13.2.1-2.

   N = number of days in the annual average period (default 365).

2. Assumption that vehicles would travel on paved roads 99.5% of the time and unpaved roads 0.5% of the time.

Unpaved Road Fugitive Dust Emissions [1]

Activity	Total VMT VMT/year	Percent Miles on Unpaved Road [2] %	PM_{10} tons/year	$PM_{2.5}$ tons/year
Construction 2027	2,216,280	0.5	11.96	1.20
		Total	**11.96**	**1.20**

Notes:
Emission factor (g/VMT) = k X (s/12)^a X (W/3)^b * 453.6

		PM_{10}	$PM_{2.5}$
k	lb/VMT	1.5	0.15
a		0.90	0.90
b		0.45	0.45
s	%	8.3	8.3
W	tons	14	14
EF	g/VMT	979.455	97.945

Notes:

1. Equation from: AP-42 13.2.2
   k (particle size multipliers) is from EPA AP-42 Table 13.2.2-2
   a (constant) is from EPA AP-42 Table 13.2.2-2
   b (constant) is from EPA AP-42 Table 13.2.2-2

   s (surface material silt content) is taken for haul trucks from http://www.aqmd.gov/docs/default-source/planning/annual-emission-reporting/particulate-matter-emission-factors-for-processes-equipment-at-asphalt-cement-concrete-and-aggragate-product-plants.pdf

   W (mean vehicle weight) is calculated using the weighted average of vehicles used during the project, excluding worker commute vehicles which would rarely travel on unpaved road, based on typical vehicle weight and miles traveled.

2. Assumption that vehicles would travel on paved roads 99.5% of the time and unpaved roads 0.5% of the time.

Summary of Fugitive Dust Emissions

Year	Annual Emissions PM_{10} tons/year	 $PM_{2.5}$ tons/year
2027	15.48	2.65

Appendix B
Project Operational Emissions

Operation Emissions - Locomotive Operation Emissions

Operating hours	6.5	hours/day	(out of 8-hour shift)
Operating days	260	days/year	(5 days per week, 52 weeks per year)
locomotive horsepower	3800	hp	(2 locomotives onsite, only one operating at any given time, rated at 3800 hp each)
Load factor switching/traveling	0.127		(based on simulation by the Rail Traffic Controller Software)

Locomotive Line Haul Emission Factors Locomotives [1,2,3,4]

	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$	CO_2e	HC	CO_2	CH_4
	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr	g/hp-hr
Line Haul (Tier 0)	0.51	8.60	1.28	0.00	0.32	0.31	490.83	0.48	490.77	0.0020

Notes:

1. Locomotive emission factors come from the Environmental Protection Agency Technical Highlights Emission Factors for Locomotives, April 2009. Tier 0 emission factors are used. Per this guidance, VOC emissions can be assumed to be equal to 1.053 times the HC emissions. $PM_{2.5}$ emissions can be estimated as 0.97 times the PM_{10} emissions.

2. Per the guidance, the conversion factor from bhp-hr to gal for the locomotive are:

Line Haul	1 gal =	20.8	bhp-hr
Switching	1 gal =	15.2	bhp-hr

3. Per the guidance, SO_x and CO_2 calculations for fuel are as follows.

Per guidance, the fraction of fuel sulfur emitted as SO_2 may be as low as 95 percent while the rest of the sulfur is oxidized even further. Thus, SO_x is calculated assuming 95% of SO_x is SO_2. Fuel density for diesel is assumed to be 3,200 g/gal. S content of fuel is assumed to be 15 ppm. C content of fuel assumed to be 87 percent by mass.

SO_2 (g/gal) = (fuel density) × (conversion factor) × (64 g SO_2/32 g S) × (S content of fuel)

[Modified Equation] SO_x (g/gal) = (fuel density) × (64 g SO_2/32 g S) × (S content of fuel)

Locomotive Operation Emissions

	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$	CO_2e
	ton/year	ton/year	ton/year	ton/year	ton/year	ton/year	MT/year
Locomotives	0.46	7.76	1.16	0.00	0.29	0.28	401.8

Locomotive load factor from the Rail Traffic Controller model simulation

Throttle Notch	% of Full Power in Notch	Actual Operating Time in Notch	% of Operating Time in Notch	Average Operating Time	% Full Power X % Operating Time
Dynamic Braking	2.1%	1:08:35	17.8%	6:25:00	0.004
Idle	0.4%	2:24:50	37.6%		0.002
1	5.0%	1:12:52	18.9%		0.009
2	11.4%	0:25:52	6.7%		0.008
3	23.5%	0:14:58	3.9%		0.009
4	34.3%	0:15:55	4.1%		0.014
5	48.1%	0:11:11	2.9%		0.014
6	64.3%	0:07:26	1.9%		0.012
7	86.6%	0:03:54	1.0%		0.009
8	102.5%	0:17:31	4.5%		0.047
			Average Op Time Load Factor =		0.127

Note:

1. The load factor was determined through the use of an Rail Traffic Controller model to simulate the locomotive operation on the PIRATE industrial lead and a short section of the UP Phoenix subdivision mainline (the mainline was only included where the PIRATE local occupied the main track).
2. The dynamic braking settings account for all 8 DB notches, since the fuel/energy uses are the same for all DB notches. This may dynamic braking usage based on the setup time required for shift from power to braking (approximately 10 seconds). This may al when using the automatic or independent brakes, the throttle will in idle (this would not be applicable with Power braking)

Operation Emissions - Emission Reductions from Reduced Haul Truck Trips

Trip Reduction

	Reduced Trips	Reduced Trips	Roundtrip distance	Reduced VMT
	Roundtrip/Month	Roundtrip/year	Miles/roundtrip	Miles/year
Trips reductions	2,500	30,000	80	2,400,000

Note:

An average distance of 80 miles per round trip for truck trips to all destinations were estimated based on the average travel distance to Phoenix, AZ.

Haul Truck Emission Factors

	VOC	**NO_x**	**CO**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**	**CO_2e**
	g/mile	**g/mile**	**g/mile**	**g/mile**	**g/mile**	**g/mile**	**g/mile**
Emission factors	0.22	5.85	2.48	0.01	0.44	0.26	1636.76

Notes:

Emission factors are from MOVES5. Emission factors for combination short haul trucks are used in the emission calculation.

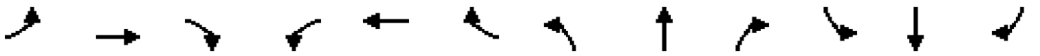
Haul Truck Emissions Reduction

	VOC	**NO_x**	**CO**	**SO_x**	**PM_{10}**	**$PM_{2.5}$**	**CO_2e**
	ton/year	**ton/year**	**ton/year**	**ton/year**	**ton/year**	**ton/year**	**MT/year**
Emission Reduction	0.58	15.46	6.55	0.01	1.16	0.68	3928.22

Appendix C
Traffic Information for Carbon Monoxide Hot Spot Modeling

PIRATE and Phoenix Subdivision Support Tracks Project - Node Evaluation

Intersection	Movement	2050 PM No Build Scenario - Delay/LOS				2050 PM Build Scenario - Delay/LOS			
		Approach Delay (sec/veh)	Approach LOS	Intersection Delay (sec/veh)	Intersection LOS	Approach Delay (sec/veh)	Approach LOS	Intersection Delay (sec/veh)	Intersection LOS
Sossaman and Pecos	SB	28.0	C	30.8	C	33.8	C	34.1	C
	WB	27.2	C			27.7	C		
	NB	28.1	C			28.3	C		
	EB	39.7	D			45.9	D		
Sossaman and Germann	SB	12.6	B	17.3	B	13.2	B	17.5	B
	WB	21.9	C			21.9	C		
	NB	14.5	B			14.7	B		
	EB	26.5	C			26.5	C		
Ellsworth and Pecos (South)	SB	20.8	C	22.2	C	22.9	C	23.3	C
	NB	20.4	C			20.6	C		
	EB	27.4	C			28.1	C		
Ellsworth and Pecos (North)	SB	11.4	B	15.5	B	14.6	B	18.1	B
	WB	22.8	C			28.2	C		
	NB	19.3	B			20.1	C		
Crismon and Pecos	SB	9.5	A	11.0	B	9.6	A	11.7	B
	WB	12.6	B			12.6	B		
	NB	11.5	B			14.0	B		
	EB	10.0	A			10.0	A		
Signal Butte and Pecos	SB	26.2	C	26.2	C	26.2	C	27.6	C
	WB	22.0	C			22.0	C		
	NB	30.0	C			34.2	C		
	EB	22.7	C			22.8	C		
Ellsworth and Germann	SB	21.2	C	28.7	C	22.5	C	29.7	C
	WB	48.2	D			48.1	D		
	NB	20.1	C			20.4	C		
	EB	49.0	D			51.2	D		
Crismon and Germann	SB	19.3	B	20.1	C	21.3	C	20.7	C
	WB	22.4	C			23.2	C		
	NB	17.9	B			18.0	B		
	EB	20.1	C			19.9	B		
Signal Butte and Germann	SB	20.6	C	16.0	B	23.5	C	16.8	B
	WB	15.9	B			16.2	B		
	NB	16.1	B			16.1	B		
	EB	10.7	B			10.8	B		
Power and Pecos	SB	34.1	C	33.7	C	45.2	D	41.3	D
	WB	39.1	D			43.5	D		
	NB	31.8	C			40.3	D		
	EB	31.8	C			36.8	D		

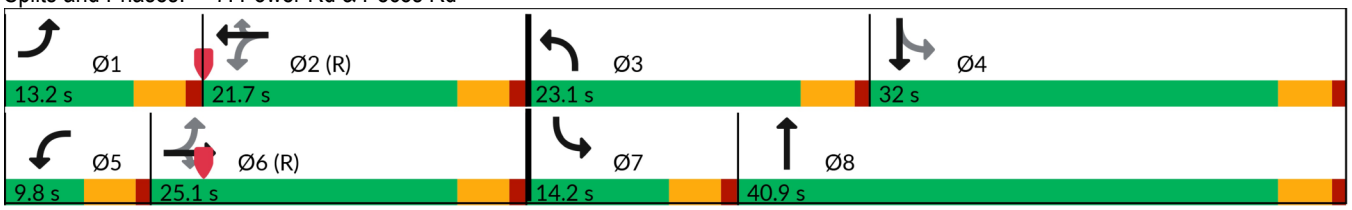


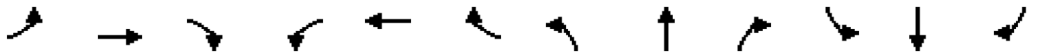
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	220	420	510	160	850	420	660	1410	130	170	1320	170
Future Volume (vph)	220	420	510	160	850	420	660	1410	130	170	1320	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		225	260		275	175		0	185		0
Storage Lanes	1		1	1		1	2		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.97	0.91	0.91	1.00	0.91	0.91
Frt			0.850			0.850		0.987			0.983	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	3433	5019	0	1770	4999	0
Flt Permitted	0.194			0.479			0.950			0.145		
Satd. Flow (perm)	361	5085	1583	892	5085	1583	3433	5019	0	270	4999	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			357			243		20			26	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1340			1066			1058			1257	
Travel Time (s)		30.5			24.2			24.0			28.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	239	457	554	174	924	457	717	1533	141	185	1435	185
Shared Lane Traffic (%)												
Lane Group Flow (vph)	239	457	554	174	924	457	717	1674	0	185	1620	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA		pm+pt	NA	
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6		6	2		2				4		
Minimum Split (s)	9.5	22.0	22.0	9.5	21.0	21.0	9.5	22.5		9.5	22.5	
Total Split (s)	13.2	25.1	25.1	9.8	21.7	21.7	23.1	40.9		14.2	32.0	
Total Split (%)	14.7%	27.9%	27.9%	10.9%	24.1%	24.1%	25.7%	45.4%		15.8%	35.6%	
Maximum Green (s)	8.7	20.6	20.6	5.3	17.2	17.2	18.6	36.4		9.7	27.5	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Act Effct Green (s)	29.3	20.6	20.6	22.5	17.2	17.2	18.6	36.4		37.2	27.5	
Actuated g/C Ratio	0.33	0.23	0.23	0.25	0.19	0.19	0.21	0.40		0.41	0.31	
v/c Ratio	0.94	0.39	0.87	0.64	0.95	0.92	1.01	0.82		0.68	1.05	
Control Delay (s/veh)	71.6	30.6	27.9	13.9	31.2	31.6	73.6	27.7		30.7	68.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	71.6	30.6	27.9	13.9	31.2	31.6	73.6	27.7		30.7	68.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	E	C	C	B	C	C	E	C		C	E	
Approach Delay (s/veh)		37.2			29.4			41.5			64.2	
Approach LOS		D			C			D			E	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 52 (58%), Referenced to phase 2:WBTL and 6:EBTL, Start of Green			
Natural Cycle: 100			
Control Type: Pretimed			
Maximum v/c Ratio: 1.05			
Intersection Signal Delay (s/veh): 43.9		Intersection LOS: D	
Intersection Capacity Utilization 91.7%		ICU Level of Service F	
Analysis Period (min) 15			

Splits and Phases: 7: Power Rd & Pecos Rd





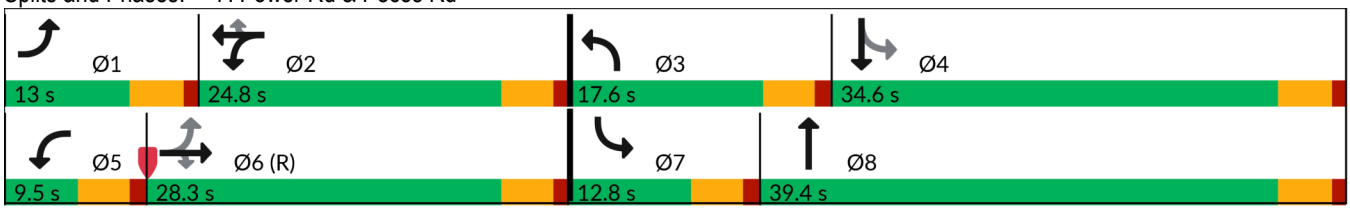
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	190	850	500	230	765	30	410	1210	90	140	1430	100
Future Volume (vph)	190	850	500	230	765	30	410	1210	90	140	1430	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	225		225	260		275	175		0	185		0
Storage Lanes	1		1	1		1	2		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	0.97	0.91	0.91	1.00	0.91	0.91
Frt			0.850			0.850		0.990			0.990	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	5085	1583	1770	5085	1583	3433	5034	0	1770	5034	0
Flt Permitted	0.168			0.950			0.950			0.133		
Satd. Flow (perm)	313	5085	1583	1770	5085	1583	3433	5034	0	248	5034	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			255			182		15			13	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1340			1066			1058			1257	
Travel Time (s)		30.5			24.2			24.0			28.6	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	207	924	543	250	832	33	446	1315	98	152	1554	109
Shared Lane Traffic (%)												
Lane Group Flow (vph)	207	924	543	250	832	33	446	1413	0	152	1663	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			24			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA		pm+pt	NA	
Protected Phases	1	6!		2 5!	2		3	8		7	4	
Permitted Phases	6		6			2				4		
Minimum Split (s)	9.5	22.0	22.0		9.5	9.5	9.5	22.5		9.5	22.5	
Total Split (s)	13.0	28.3	28.3		24.8	24.8	17.6	39.4		12.8	34.6	
Total Split (%)	14.4%	31.4%	31.4%		27.6%	27.6%	19.6%	43.8%		14.2%	38.4%	
Maximum Green (s)	8.5	23.8	23.8		20.3	20.3	13.1	34.9		8.3	30.1	
Yellow Time (s)	3.5	3.5	3.5		3.5	3.5	3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0	1.0		1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Lead/Lag	Lead	Lag	Lag		Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes		Yes	Yes	Yes	Yes		Yes	Yes	
Act Effct Green (s)	32.3	23.8	23.8	25.3	20.3	20.3	13.1	34.9		38.4	30.1	
Actuated g/C Ratio	0.36	0.26	0.26	0.28	0.23	0.23	0.15	0.39		0.43	0.33	
v/c Ratio	0.83	0.69	0.90	0.50	0.73	0.07	0.89	0.72		0.62	0.98	
Control Delay (s/veh)	50.2	32.9	36.5	28.7	37.7	0.7	60.0	25.7		26.4	48.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay (s/veh)	50.2	32.9	36.5	28.7	37.7	0.7	60.0	25.7		26.4	48.6	

Lane Group	Ø5
Lane Configurations	
Traffic Volume (vph)	
Future Volume (vph)	
Ideal Flow (vphpl)	
Storage Length (ft)	
Storage Lanes	
Taper Length (ft)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Peak Hour Factor	
Adj. Flow (vph)	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Enter Blocked Intersection	
Lane Alignment	
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	
Turning Speed (mph)	
Turn Type	
Protected Phases	5
Permitted Phases	
Minimum Split (s)	9.5
Total Split (s)	9.5
Total Split (%)	11%
Maximum Green (s)	5.0
Yellow Time (s)	3.5
All-Red Time (s)	1.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	Lead
Lead-Lag Optimize?	Yes
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay (s/veh)	
Queue Delay	
Total Delay (s/veh)	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	D	C	D	C	D	A	E	C		C	D	
Approach Delay (s/veh)		36.2			34.6			34.0			46.7	
Approach LOS		D			C			C			D	

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 6:EBTL, Start of Green	
Natural Cycle: 90	
Control Type: Pretimed	
Maximum v/c Ratio: 0.98	
Intersection Signal Delay (s/veh): 38.2	Intersection LOS: D
Intersection Capacity Utilization 85.7%	ICU Level of Service E
Analysis Period (min) 15	
! Phase conflict between lane groups.	

Splits and Phases: 7: Power Rd & Pecos Rd



Lane Group	Ø5
LOS	
Approach Delay (s/veh)	
Approach LOS	

Intersection Summary

Appendix D
Noise and Vibration Analysis

NOISE AND VIBRATION ANALYSIS

PECOS INDUSTRIAL RAIL ACCESS AND TRAIN EXTENSION (PIRATE) PROJECT

Docket No. FD 36501 - Union Pacific Railroad Company
Construction and Operation Exemption - In Maricopa County, Ariz.

February 2026~~May 2023~~

Summary

The Union Pacific Railroad Company (UP) is seeking authority from the Surface Transportation Board to construct and operate approximately 6.0 miles of new rail line in Maricopa County, Arizona (Docket No. FD 36501) to transport raw materials and commercial freight. The proposed rail line, referred to as Pecos Industrial Rail Access and Train Extension (PIRATE), would connect UP's Phoenix Subdivision main line (Phoenix Subdivision) to industrial properties south of the ~~Phoenix~~ Mesa Gateway Airport (formerly Phoenix-Mesa Gateway Airport) via a single-track rail line. UP also proposes to construct and operate approximately 2.5 miles of planned support tracks along the Phoenix Subdivision between Power Road and Ellsworth Road. The Surface Transportation Board's Office of Environmental Analysis identified two reasonable alternatives that meet the purpose and need for PIRATE: Alternative 1 and Alternative 2.

This noise and vibration analysis and report was developed as supplemental material to the ~~Draft~~Final Environmental Assessment. The purpose of this analysis is to evaluate the potential impact of PIRATE and the planned Phoenix Subdivision support tracks on the existing noise and vibration environment and to determine potential impacts, if any. This analysis and report update the results and conclusions in the previous analysis and report published in May 2023, which assessed operational noise from train activity reported by UP and surface street traffic from the 2022 traffic report. The previous traffic report results and conclusions have been updated to reflect population growth and development expansion in this region. This noise and vibration analysis and report incorporate updated surface street traffic volumes in the updated traffic report (STB 2026). It also accounts for new development that has occurred since May 2023 in the noise and vibration study areas established by Federal Transit Administration (FTA) screening procedures.

Neither the No-Action Alternative, Alternative 1, Alternative 2, nor the planned Phoenix Subdivision support tracks would impact any FTA or Federal Railroad Administration (FRA)-defined land use Category 2 (residential) or land use Category 3 (institutional) locations within the noise and vibration study areas.

As shown in Table S-1, the No-Action Alternative, Alternative 1, Alternative 2, and the planned Phoenix Subdivision support tracks would not result in operational noise or vibration impacts. Project-generated noise is not likely to cause community annoyance as defined by FTA/FRA and operational mitigation is not required. No project construction vibration impacts were identified, but temporary construction noise impacts could occur, and the daily project construction schedule must adhere to local time restrictions that limit nighttime construction.

Table S-1. Comparison of Operational Impacts by Alternative

Impact Type	No-Action Alternative	Alternative 1 and the Planned Phoenix Subdivision support tracks	Alternative 2 and the Planned Phoenix Subdivision support tracks
No Impact (number of receptors by type)	West of Power Road and South of Pecos Road Residential: 28 Institutional: 1 East of Power Road and West of Phoenix Subdivision Residential: 44~~39~~ Institutional: 6 East of Phoenix Subdivision, South of Fulton Parkway~~Mesquite Drive~~ Residential: 55~~30~~ Institutional: 0 ~~West~~ East of Phoenix Subdivision, North of Fulton Parkway Residential: 88 Institutional: 0 Residential Total: 215~~185~~ Institutional Total: 7	West of Power Road and South of Pecos Road Residential: 28 Institutional: 1 East of Power Road and West of Phoenix Subdivision Residential: 44~~39~~ Institutional: 6 East of Phoenix Subdivision, South of Fulton Parkway~~Mesquite Drive~~ Residential: 55~~30~~ Institutional: 0 ~~West~~ East of Phoenix Subdivision, North of Fulton Parkway Residential: 88 Institutional: 0 Residential Total: 215~~185~~ Institutional Total: 7	West of Power Road and South of Pecos Road Residential: 28 Institutional: 1 East of Power Road and West of Phoenix Subdivision Residential: 44~~39~~ Institutional: 6 East of Phoenix Subdivision, South of Fulton Parkway~~Mesquite Drive~~ Residential: 55~~30~~ Institutional: 0 ~~West~~ East of Phoenix Subdivision, North of Fulton Parkway Residential: 88 Institutional: 0 Residential Total: 215~~185~~ Institutional Total: 7
Moderate[1] and Severe Noise[2]	None	None	None
Ground-Borne Noise and Vibration[3]	None	None	None

[1] Project noise not likely to cause community annoyance.
[2] The threshold at which the percentage of people highly annoyed by project noise becomes measurable.
[3] FTA has established standards for categories of buildings with varying sensitivity to ground-borne noise and ground-born vibration.[1]

[1] Federal Transit Administration. 2018. *Transit Noise and Vibration Impact Assessment Manual*. https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf. ~~Accessed June 16, 2022.~~

Contents

Summary ii
Figures vi
Tables vii
Appendices viii
Acronyms and Abbreviations ix
Chapter 1 Introduction 1-1
Chapter 2 Studies and Coordination 2-1
2.1 Regulatory Context 2-1
2.1.1 Fundamentals of Noise 2-1
2.1.2 Fundamentals of Vibration 2-5
2.2 Study Methods 2-7
2.2.1 Determining the Noise Analysis Level 2-7
2.2.2 Determining the Vibration Analysis Level 2-13
Chapter 3 Affected Environment 3-1
3.1 Noise Characteristics of the Study Area 3-1
3.1.1 Noise-Sensitive Land Uses 3-1
3.1.2 Existing Noise Levels 3-1
3.2 Vibration Characteristics of the Study Area 3-5
3.2.1 Vibration-Sensitive Land Uses 3-5
3.2.2 Existing Vibration Levels 3-6
Chapter 4 Environmental Effect Assessment 4-1
4.1 Operational Noise Impacts 4-1
4.1.1 No-Action Alternative 4-5
4.1.2 Alternatives 1 and 2 4-7
4.2 Operational Vibration Impacts 4-10
4.2.1 No-Action Alternative 4-11
4.2.2 Alternatives 1 and 2 4-11
4.3 Construction Noise Impacts 4-13
4.3.1 No-Action Alternative 4-16
4.3.2 Alternatives 1 and 2 4-16
4.4 Construction Vibration Impacts 4-17
4.4.1 Damage and Annoyance Assessment 4-19
4.4.2 No-Action Alternative 4-19
4.4.3 Alternatives 1 and 2 4-19

Chapter 5 Recommended Mitigation 5-1
5.1 Operational Mitigation 5-1
5.2 Construction Mitigation 5-1
Chapter 6 References 6-1
6.1 References Cited in the 2026 *Noise Report* 6-1
6.2 References Cited in the 2023 *Noise Report* 6-3

Figures

Figure 2-1. FTA/FRA Allowable Noise Increase Land Use Categories 1 and 2 2-4
Figure 2-2. FTA/FRA Allowable Noise Increase Land Use Category 3 2-4
Figure 2-3. Noise Study Area 2-10
Figure 2-4. Generalized Ground Surface Vibration Curves 2-14
Figure 2-5. Vibration Study Area 2-16
Figure 3-1. Existing Noise Environment 3-2
Figure 3-2. Existing Vibration Environment 3-2
Figure 4-1. Phoenix Subdivision Noise Environment 4-2
Figure 4-2. Action Alternatives Noise Environment PIRATE West 4-3
Figure 4-3. Action Alternatives Noise Environment PIRATE East 4-4

Tables

Table 2-1. Land Use Categories and Metrics for Rail Noise Impact Criteria 2-3
Table 2-2. Ground-Borne Vibration and Ground-Borne Noise Impact Criteria 2-6
Table 2-3. Screening Distance for Noise Assessments 2-8
Table 2-4. Train Operational Activity Summary 2-12
Table 2-5. Screening Distance for Vibration Assessments 2-15
Table 3-1. Affected Environment, Noise-Sensitive Land Uses 3-1
Table 3-2. Existing Noise Levels in the Study Area 3-3
Table 3-3. Affected Environment, Vibration-Sensitive Land Uses 3-6
Table 3-4. Existing Vibration Levels in the Study Area 3-8
Table 4-1. No-Action Alternative Noise Levels in the Study Area 4-5
Table 4-2. No-Action Alternative Noise Impact Evaluation 4-7
Table 4-3. Phoenix Subdivision Noise Levels in the Study Area 4-8
Table 4-4. Phoenix Subdivision Noise Impact Evaluation 4-10
Table 4-5. No-Action Alternative Vibration Levels in the Study Area 4-11
Table 4-6. Phoenix Subdivision Vibration Levels in the Study Area 4-12
Table 4-7. FTA General Assessment Construction Noise Criteria 4-14
Table 4-8. Project Construction Equipment and Usage Profile 4-15
Table 4-9. Loudest Construction Equipment 50-Foot Reference Noise Levels by Phase 4-16
Table 4-10. Estimated Construction Noise at Closest ~~Unsheilded~~ Noise Receptor 4-17
Table 4-11. FTA General Assessment Vibration Damage Criteria 4-18
Table 4-12. Vibration Source Levels for Construction Equipment 4-19
Table 4-13. Project Construction Vibration Assessment West of Ellsworth Road 4-20
Table 4-14. ~~Project~~Alternative 1 Construction Vibration Assessment East of Ellsworth Road 4-21
Table 4-15. Alternative 2 Construction Vibration Assessment East of Ellsworth Road 4-22

Appendices

Appendix A. Roadway Traffic Data
Appendix B. Phoenix-Mesa Gateway Airport 2017 Noise Contours
Appendix C. FRA CREATE and Grade Crossing Horn Noise Model Data
Appendix D. FTA Operational, Construction Vibration Damage, and Annoyance Assessment Equations

Acronyms and Abbreviations

Board	Surface Transportation Board
C.F.R.	Code of Federal Regulations
dB	decibel
dBA	A-weighted decibel
EA	Environmental Assessment
FRA	Federal Railroad Administration
FTA	Federal Transit Authority
GBN	ground-borne noise
GBV	ground-borne vibration
Gilbert	Town of Gilbert
hp	horsepower
HUD	U.S. Department of Housing and Urban Development
Jacobs	Jacobs Engineering Group Inc.
Ldn	day-night noise level
Leq	equivalent noise level
Leq(1hr)	1-hour equivalent noise level
Lmax	maximum noise or sound level
Lv	root-mean-square velocity in decibels
Mesa	City of Mesa
mph	miles per hour
OEA	Office of Environmental Analysis
PAMZ	Pecos Advanced Manufacturing Zone
Phoenix Subdivision	Phoenix Subdivision main line
PIRATE	Pecos Industrial Rail Access and Train Extension
PPV	peak particle velocity
Queen Creek	Town of Queen Creek
RCNM	Roadway Construction Noise Model
RMS	root-mean-square
UP	Union Pacific Railroad Company
VdB	vibration decibels

This page intentionally left blank

Chapter 1
Introduction

The Union Pacific Railroad Company (UP) is seeking authority from the Surface Transportation Board (Board) to construct and operate approximately 6.0 miles of new rail line in Maricopa County, Arizona (Docket No. FD 36501) for purposes of transporting raw materials and commercial freight. The proposed rail line, referred to as Pecos Industrial Rail Access and Train Extension (PIRATE), would connect UP's Phoenix Subdivision main line (Phoenix Subdivision) to industrial properties southeast of the ~~Phoenix~~ Mesa Gateway Airport (formerly Phoenix-Mesa Gateway Airport) via a single-track rail line. UP also proposes to construct and operate approximately 2.5 miles of planned support tracks along the Phoenix Subdivision between Power Road and Ellsworth Road.

The purpose of PIRATE is to meet the transportation and logistics needs of existing and future manufacturing businesses within the Pecos Advanced Manufacturing Zone (PAMZ) and adjacent areas. The Board's Office of Environmental Analysis (OEA) identified two reasonable alternatives that meet the purpose and need for PIRATE. The two Action Alternatives (Alternative 1 and Alternative 2), the No-Action Alternative, and the planned Phoenix Subdivision support tracks are described in detail in Chapter 2 of the ~~Draft~~Final Environmental Assessment (EA).

This noise and vibration analysis and report was developed as supplemental material to the Final EA. This analysis and report update the results and conclusions in the previous analysis and report published in 2023, which assessed operational noise from train activity reported by UP and surface street traffic from the 2022 traffic report. The previous traffic report results and conclusions have been updated to reflect population growth and development expansion in this region. This noise and vibration analysis and report incorporate updated surface street traffic volumes in the updated traffic report.

This report evaluates the potential impact of the No-Action Alternative, Alternative 1, Alternative 2, and the planned Phoenix Subdivision support tracks on the existing noise and vibration environment within the study area (defined in Section 2.2.1). Scenarios evaluated include the following:

- The existing noise and vibration environment at noise-sensitive locations in the study area with 2025~~2022~~ as the baseline year.
- The impact of the No-Action Alternative on the existing noise and vibration environment, including planned rail traffic on the Phoenix Subdivision, which is scheduled to increase by ~~one~~2 trains daily (1 in each direction) beginning ~~in 5 years or~~ in the year 2027.
- The impact of Alternative 1, Alternative 2, and the planned Phoenix Subdivision support tracks on the existing noise and vibration environment, which includes ~~one~~2 additional daily trains (1 in each direction) on the Phoenix Subdivision beginning in the year 2027, extension of the existing Phoenix Subdivision Germann siding, a planned Phoenix Subdivision support track, and ~~two~~2 trains per day on either PIRATE alternative.

Chapter 2
Studies and Coordination

The Board's regulations at 49 C.F.R. § 1105.7(e)(6) include two specific thresholds for noise analysis:

- An increase in noise exposure as measured by a day-night average noise level
- 3 A-weighted decibels (dBA) or more

If the thresholds are exceeded, OEA identifies the receptors in the study area and quantifies the noise increase for these receptors. An adverse noise impact occurs when the noise level at a receptor increases by 3 dBA or more and reaches or exceeds a noise level of 65 dBA when combined with the existing background noise.[1]

The study methods used were also guided by the Federal Transit Authority's (FTA) *Transit Noise and Vibration Impact Assessment Manual* (2018) and the Federal Railroad Administration's (FRA) *High-Speed Ground Transportation Noise and Vibration Impact Assessment* (2012) technical guidance manuals. These manuals define noise-sensitive land use categories and establish metrics for determining potential project impacts for locations within each category. The manuals also provide methods for defining the study area, establishing the existing noise and vibration environment within the study area, and identifying future impacts at sensitive locations within the study area through assessing existing noise and vibration sources and project design elements and rail traffic within the study area. A discussion of the regulatory context and application of the FTA and FRA methods for this project follows.

2.1 Regulatory Context

2.1.1 Fundamentals of Noise

Sound is created when an object vibrates and radiates part of its energy as acoustic pressure or waves through a medium, such as air, water, or a solid object. Noise is generally defined as any loud or undesired sound. Noise is measured in terms of sound pressure, is expressed in decibels (dB), and is based on a logarithmic scale used to measure sound intensity. Because the human ear perceives loudness logarithmically, the dB scale compresses a wide range of sound levels into a manageable scale. An increase of 10 dB represents a tenfold increase in sound intensity (typically perceived by humans as a doubling of noise levels), while a 3 dB increase is approximately a doubling of sound energy (but barely perceived by most listeners).

Since the human ear does not respond equally to all frequencies (or pitches), measured noise levels (in dB at standard frequency bands) are often adjusted or weighted to correspond to the frequency of human hearing and the human perception of loudness. The weighted noise level is designated a dBA.

[1] Although the Surface Transportation Board's regulations at 49 C.F.R. § 1105.7(e)(6) indicate that *either* an increase of 3 dBA *or* an increase to an Ldn of 65 dBA would be an adverse impact, research indicates that *both* conditions must be met or exceeded for an adverse noise impact from rail operations to occur (Surface Transportation Board 1998; Coate 1999).

The descriptors Leq (equivalent noise level), Ldn (day-night noise level), and Lmax (maximum sound level) correlate with the human perception of noise levels. The Leq is the level of a constant sound in dBA with the same sound energy as the time-varying sound over the same period, typically 1 hour. One-hour equivalent noise levels measured every hour over a continuous 24-hour period are sometimes used to calculate a composite 24-hour noise exposure measure called the Ldn, which adds 10 dBA to nighttime levels between the hours of 10:00 p.m. and 7:00 a.m. to account for the increased noise sensitivity of people during sleeping hours. For trains and roadway vehicles, Lmax is the maximum pass by sound level.

Use of Leq and Ldn is appropriate for transportation noise analysis because these levels are sensitive to both the frequency of occurrence and duration of noise events, including freight and commuter rail operations that may be characterized by infrequent noise. Typical Ldn noise levels at a 50-foot setback range from 50 to 90 dBA for non-freight sources and 70 to 95 dBA for trains, including freight and commuter rail pass by events or up to 114 dBA with a warning horn blowing (FRA 2020).

The ability of an average individual to perceive changes in noise levels is well documented. Generally, changes in noise levels of 3 dBA will be barely perceived by most listeners, whereas a 10 dBA change normally is perceived as a doubling of noise levels. Typical sound levels experienced by people range from about 40 dBA, the daytime level in a typical quiet living room, to 85 dBA, the approximate level occurring near the sidewalk adjacent to heavy traffic.

The U.S. Department of Housing and Urban Development (HUD) has developed noise standards, criteria, and guidelines to ensure that housing projects supported by HUD achieve the goal of a suitable living environment. The HUD acceptability standards (24 C.F.R. Part 51, Subpart B) define 65 dB (Ldn) as the threshold for a normally unacceptable living environment and 75 dB (Ldn) as the threshold for an unacceptable living environment, or "threshold of annoyance." These standards are equivalent to the impact standards established by FTA and FRA in their guidance documents, as explained below, and have been adopted in their guidance documents.

Noise Impact Standards

Part 210 of Title 49 of the *Code of Federal Regulations* (49 C.F.R. Part 210) contains the Railroad Noise Emission Compliance Regulations implemented by the FTA and the FRA to comply with U.S. Environmental Protection Agency Noise Emission Standards for Interstate Rail Carriers. Both agencies have established criteria for noise and vibration impacts. The FTA first published the *Transit Noise and Vibration Impact Assessment Manual* guidance document in 1995 with subsequent revisions (FTA 2018). The FRA first published the *High-Speed Ground Transportation Noise and Vibration Impact Assessment* guidance document in 2005 with subsequent revisions (FRA 2012), establishing criteria for noise and vibration impacts that are identical to those established by the FTA.

The FTA/FRA noise criteria are based on a comparison of the rail (or freight) system noise with the outdoor ambient noise from other sources in the surrounding community. They incorporate both absolute criteria, which consider annoyance caused by the system alone, and relative criteria, which consider annoyance due to the change in noise environment caused by the system. The criteria evaluate noise impacts on the basis of cumulative, dBA noise exposure, in terms of either Leq or Ldn. Ldn is applied to residences and other buildings where people normally sleep, and Leq is applied to all other noise-sensitive land use categories. Table 2-1 lists the noise

impact metrics for three land use categories and provides a description of land uses in each category.

Table 2-1. Land Use Categories and Metrics for Rail Noise Impact Criteria

Land Use Category	Land Use Type	Noise Metric, dBA	Description of Land Use Category
1	High Sensitivity	Outdoor Leq(1hr)[1]	Land where quiet is an essential element of its intended purpose. Example land uses include preserved land for serenity and quiet, outdoor amphitheaters and concert pavilions, and national historic landmarks with considerable outdoor use. Recording studios and concert halls are also included in this category.
2	Residential	Outdoor Ldn	This category is applicable to all residential land uses and buildings where people normally sleep, such as hotels and hospitals.
3	Institutional	Outdoor Leq(1hr)[1]	This category is applicable to institutional land uses, primarily with daytime and evening use. Example land uses include schools, libraries, theaters, and churches where it is important to avoid interference with such activities as speech, meditation, and concentration on reading material. Places for meditation or study associated with cemeteries, monuments, museums, campgrounds, and recreational facilities are also included in this category.

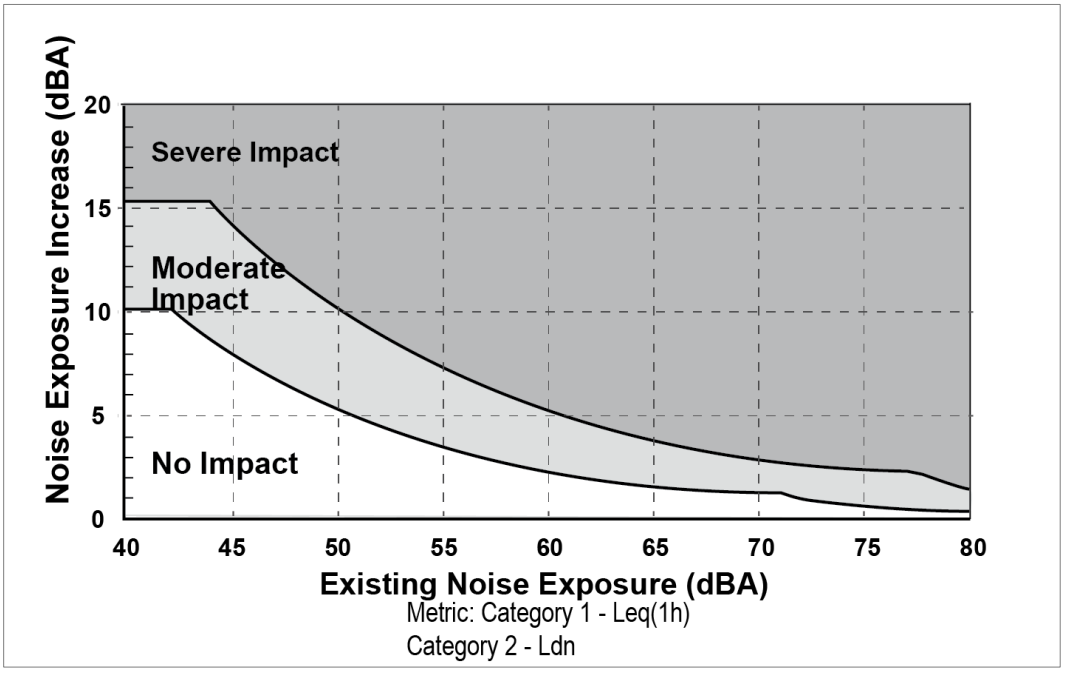
Source: FTA 2018.
[1] Leq(1hr) for the loudest hour of project-related activity during hours of noise sensitivity.

The FTA/FRA noise impact criteria are established by two curves, representing severe and moderate noise impacts, defined as follows:

- No Impact: Project-generated noise is not likely to cause community annoyance. Noise projections in this range are considered acceptable by the FTA/FRA and mitigation is not required.
- Moderate Impact: The threshold at which the percentage of people highly annoyed by project noise becomes measurable. The magnitude of the project impact and need for mitigation will depend upon other factors, such as existing noise levels, the predicted future increase in noise levels, and the types and number of land uses affected.
- Severe Impact: The percentage of people highly annoyed by project noise increases significantly. Noise mitigation must be considered if it is not practical to change the location of the project or under extenuating circumstances that prevent it (a practical mitigation method does not exist).

Figure 2-1 illustrates the increase above existing noise levels before a moderate or severe noise impact occurs. The curves shown on Figure 2-1 apply to land use Categories 1 and 2. Category 1 land uses include amphitheaters, concert pavilions, and National Historic Landmarks; Category 2 land uses include residential areas.

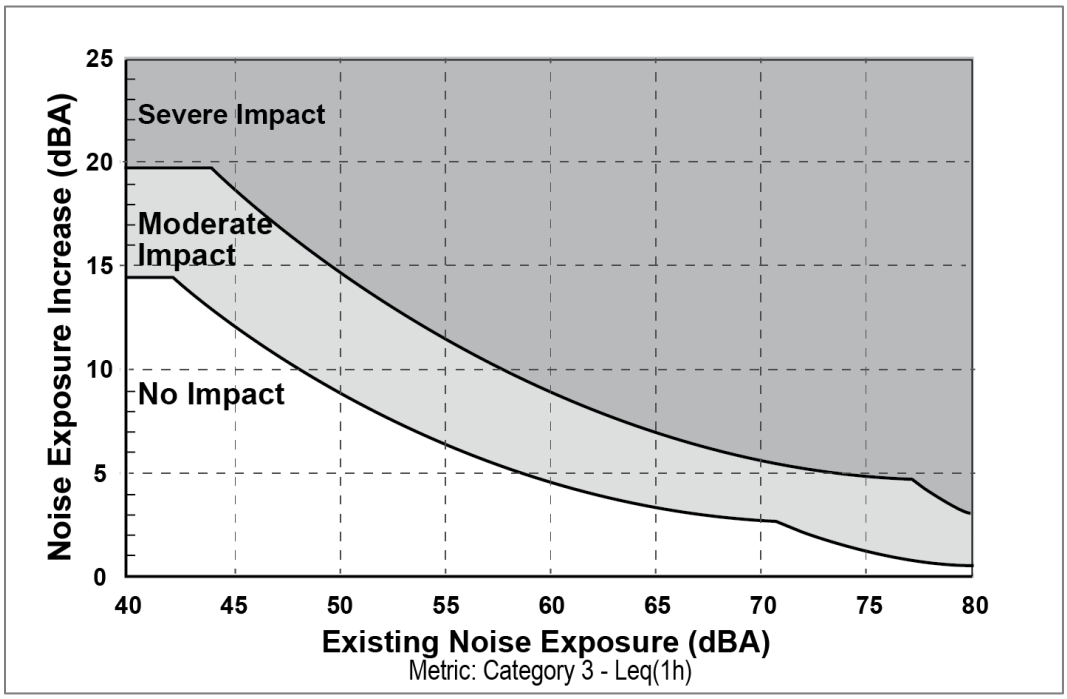
Figure 2-1. FTA/FRA Allowable Noise Increase Land Use Categories 1 and 2



Source: FTA 2018.

Figure 2-2 illustrates this relationship for land use Category 3. Category 3 land uses are comprised of institutional activities, such as schools, libraries, and churches.

Figure 2-2. FTA/FRA Allowable Noise Increase Land Use Category 3



Source: FTA 2018.

2.1.2 Fundamentals of Vibration

In addition to airborne noise, the operation of transportation facilities is a potential source of ground-borne vibration (GBV). GBV describes rapidly fluctuating motions through the ground and is described in vibration decibels (VdB), which measure the velocity of moving particles in the ground in inches per second. In contrast to airborne noise, GBV is not a phenomenon experienced by most people on a daily basis. A typical background vibration velocity level in residential areas is 50 root-mean-square VdB or lower, below the threshold of perception for humans, which is around 65 VdB. In addition, the vibration of the building structure and room surfaces can radiate a low-frequency rumble called ground-borne noise (GBN). This analysis evaluates airborne noise, GBV, and GBN of the proposed freight rail facilities consistent with FTA and FRA guidance. Noise and vibration receptors, or locations potentially affected by airborne noise, GBV, and GBN, include residences, businesses, parks, schools, recreation areas, churches, libraries, and hospitals.

Vibration Impact Standards

The FRA's ~~2018~~ guidance (2021) ~~document implements~~ references vibration impact criteria established by FTA (2018). Impact criteria are defined by three land use categories that vary slightly from those considered for noise impacts. The categories are defined as follows:

- Vibration Category 1 – High Sensitivity: Buildings where vibration would interfere with the operations taking place there, including levels well below those of normal human annoyance. These include vibration-sensitive research and manufacturing, hospitals with vibration-sensitive equipment, and university research operations.
- Vibration Category 2 – Residential: Includes all residential land uses and buildings where people sleep, such as hotels and hospitals.
- Vibration Category 3 – Institutional: Includes schools, churches, and other institutions and quiet offices, except office space located in areas zoned for industrial use.

The criteria for acceptable GBV are expressed in terms of VdB in units of 1-micro-inch/second and the criteria for acceptable GBN are expressed in terms of dBA in units of 20 micropascals. Table 2-2 identifies the relevant impact criteria for each land use category.

Table 2-2. Ground-Borne Vibration and Ground-Borne Noise Impact Criteria

Land Use Category	GBV Impact Levels Frequent Events[1]	GBV Impact Levels Occasional Events[2]	GBV Impact Levels Infrequent Events[3]	GBN Impact Levels Frequent Events[1]	GBN Impact Levels Occasional Events[2]	GBN Impact Levels Infrequent Events[3]
Category 1: Buildings where vibration would interfere with interior operations	65 VdB[4]	65 VdB[4]	65 VdB[4]	Not applicable [4][5]	Not applicable [4][5]	Not applicable [4][5]
Category 2: Residences and buildings where people normally sleep	72 VdB	75 VdB	80 VdB	35 dBA ~~VdB~~	38 dBA ~~VdB~~	43 dBA ~~VdB~~
Category 3: Institutional land uses with primarily daytime use.	75 VdB	78 VdB	83 VdB	40 dBA ~~VdB~~	43 dBA ~~VdB~~	48 dBA ~~VdB~~

Source: FTA 2018.

[1] A frequent event is defined as more than 70 vibration events of the same source per day. Most rapid transit projects fall into this category.

[2] An occasional event is defined as between 30 and 70 vibration events of the same source per day. Most commuter trunk lines have these many operations.

[3] An infrequent event is defined as fewer than 30 vibration events of the same kind per day. This category includes most commuter rail branch lines.

[4] This criterion limit is based on levels that are acceptable for most moderately sensitive equipment, such as optical microscopes. Vibration-sensitive manufacturing or research will require detailed evaluation to define the acceptable vibration levels. Ensuring lower vibration levels in a building often requires special design of the heating, ventilation, and air conditioning systems and stiffened floors.

[5] Vibration-sensitive equipment is generally not sensitive to GBN.

2.2 Study Methods

The previous noise and vibration evaluation was completed in May 2023, and was based on traffic data, traffic assumptions, and land use in 2022. Unauthorized disturbance within the UP right-of-way resulted in the delay of the Final EA. This required a reassessment of the original noise and vibration study results because of changes in surface street traffic activity and land use. This reevaluation was conducted according to the same methods used in the 2023 report and described in this section.

2.2.1 Determining the Noise Analysis Level

Three levels of analysis are used to evaluate noise on a rail project based on the type and scale of the project, stage of project development, and environmental setting. These levels, described below, are the noise screening procedure, the general noise assessment, and the detailed noise analysis.

Noise Screening Procedure

The noise screening procedure is a simplified method of identifying study area receptors or locations where a rail project may have the potential for noise impacts. This procedure accounts for impact criteria, the type of project, and noise-sensitive land uses. For screening purposes, all receptors are considered to be in a single category, typically land use Category 2 as residential use impacts are of primary concern. If no noise-sensitive land uses or receptors are present in the analysis area, then no further assessment is needed. If noise-sensitive receptors are identified, the next step is to conduct a general assessment and/or a detailed analysis, depending on the project development stage and available data.

General Noise Assessment

The general noise assessment is used to characterize potentially impacted areas identified in the screening procedure by examining the location and estimated severity of noise impacts, if any. The assessment is based upon noise sources and land use information. Estimates are made of project noise levels and existing noise conditions to model the location of a noise impact contour that defines the outer limit of an impact corridor or area. This modeling method uses rail or transit-specific noise and adjustment data (in tabular and graphical form) for the noise computations. A detailed review of the general noise assessment procedure is provided in the FTA (2018) and FRA (2020) guidance manuals.

The FRA developed the CREATE Rail Noise Model (CREATE), an Excel spreadsheet that simplifies the general noise assessment and is available on FRA's website at https://railroads.dot.gov/elibrary/create-freight-noise-and-vibration-model-ms-excelc-spreadsheet-model. Similarly, FTA has developed a Noise Impact Assessment Spreadsheet to conduct the general noise assessment for transit projects. It is on FTA's website at https://www.transit.dot.gov/regulations-and-guidance/environmental-programs/noise-impact-assessment-spreadsheet. The FRA has also developed the Grade Crossing Horn Noise Model (Horn Noise) tool for estimating potential noise impacts for at-grade crossing where sounding of a horn is required per the FRA "Horns Rule" (49 C.F.R. Parts 222 and 229) occurs.

Detailed Noise Analysis

The detailed noise analysis procedure is a comprehensive assessment method that produces the most accurate estimates of noise impacts for a project. Use of the detailed noise analysis methods will not provide more accurate results than the general noise assessment unless more detailed and case-specific input data are used. The project must be defined to the extent that location, alignment, transit mode, day and nighttime hourly operational schedules, speed profiles, plan and profiles of tracks or guideways, locations of access roads, and landform topography

(including terrain and building features) are determined. A detailed noise analysis may be warranted as part of the development of an EA if there are potentially severe impacts due to the proximity of noise-sensitive land uses.

Project-Level Noise Screening

On behalf of OEA, Jacobs, OEA's third-party contractor, completed noise screenings of PIRATE and the planned Phoenix Subdivision support tracks in May 2023 and December 2025 to establish the noise study area, followed by ~~a~~ general noise assessments. The need for a detailed noise analysis for PIRATE and the planned Phoenix Subdivision support tracks is merited if the general noise assessment identifies the potential for one or more severe impacts or numerous moderate impacts. As presented later in this report, no severe or even moderate project impacts were identified in either general noise assessment for the project; therefore, a detailed noise analysis for the project was not completed.

Impacts due to project-related noise require avoidance and minimization measures, whereas impacts due to non-project sources would not.

Table 2-3 lists the appropriate screening distances for various project types and was adapted from Table 4-7 in the FTA guidance manual (2018), which focuses on commuter rail systems including rapid rail transit and light rail transit. The FRA guidance document (2020) establishes screening distances that are more appropriately applied to trains operating at speeds in excess of the existing and projected UP freight traffic in the study area; therefore, the FTA guidelines were referenced.

Table 2-3. Screening Distance for Noise Assessments

Fixed Guideway Systems	Screening Distance, feet Unobstructed	Screening Distance, feet Intervening Buildings
Commuter Rail Main Line	750	375
Commuter Rail Station with Horn Blowing	1,600	1,200
Commuter Rail Station without Horn Blowing	250	200
Commuter Railroad Crossing with Horns and Bells	1,600	1,200
Rapid Rail Transit	700	350
Rail Rapid Station	200	100
Light Rail Transit	350	175
Streetcar	200	100
Yards and Shops	1,000	650

Source: Adapted from Table 4-7 of the FTA guidance manual (FTA 2018).

The distances used to develop the noise and vibration study area were measured from specific elements of the existing Phoenix Subdivision and the proposed PIRATE alternatives. These elements are shown in Chapter 2 of the Draft EA and are referenced by name in this noise analysis.

- Main line track – existing Phoenix Subdivision track
- Germann siding – 1.6 miles of existing track adjacent and parallel to the Phoenix Subdivision main line track
- Germann siding extension and planned working track – 2.5 miles of planned support tracks adjacent and parallel to the Phoenix Subdivision main line track
- Wye – two tracks that connect the Phoenix Subdivision and PIRATE
- Industrial lead – approximately 6.0 miles of PIRATE track between the Phoenix Subdivision and the eastern PIRATE terminus in the PAMZ
- PIRATE yard – two to five, 2,500-foot-long yard tracks north of the PIRATE industrial lead and east of Sossaman Road that would house rail cars, locomotives, and/or trains waiting to move back on the proposed rail line or on the Phoenix Subdivision
- Run-around track – a second, 5,100-foot-long track south of the PIRATE industrial lead generally between Crismon and Signal Butte Roads that would allow trains to change directions by shifting off of the proposed rail line, moving the locomotive from one end to the other, and shifting back onto the proposed rail line in the opposite direction

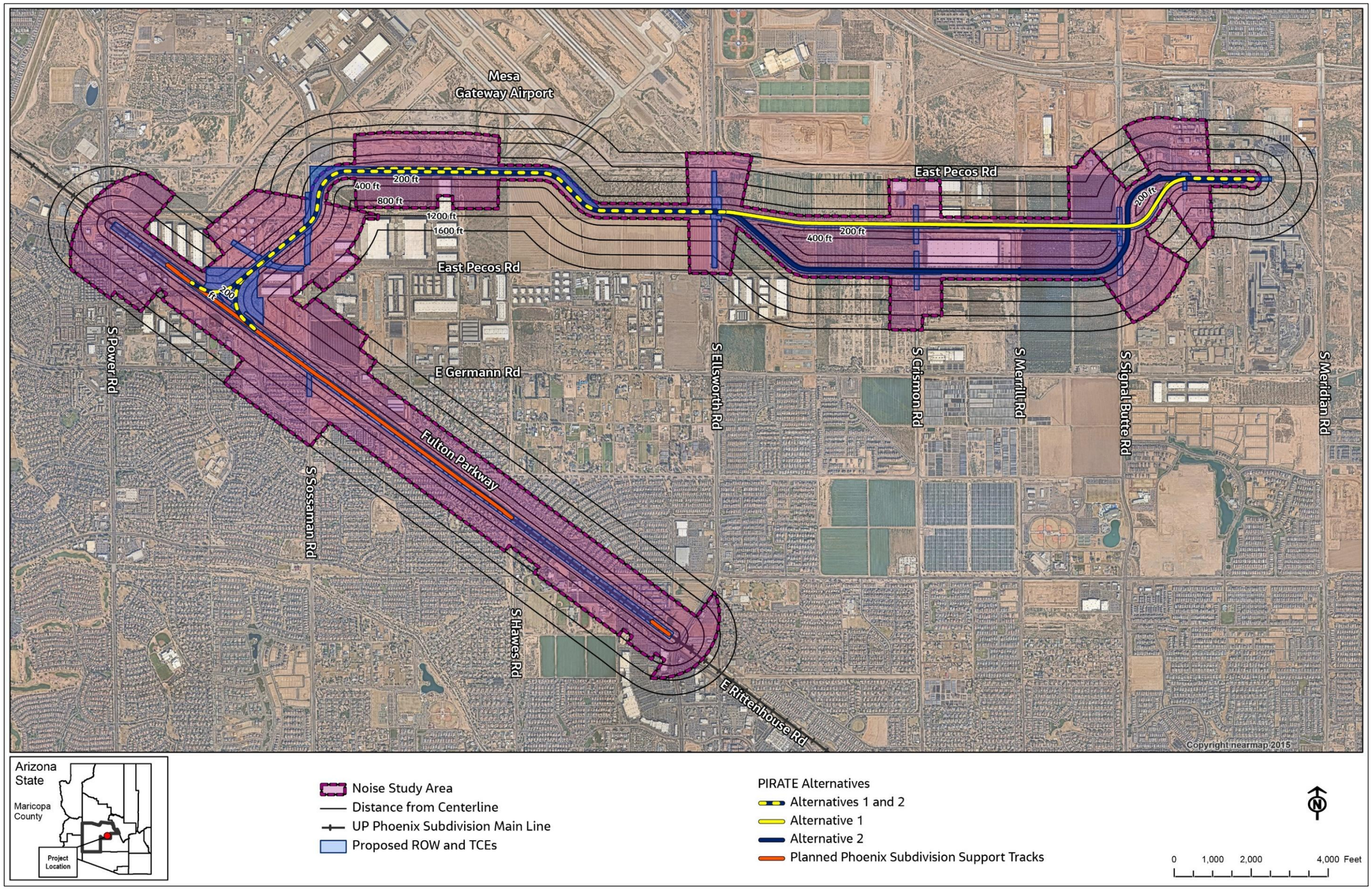
Based on these defined project elements, the study area for identifying noise ~~and vibration~~ impacts is defined as follows:

- Noise - Phoenix Subdivision all tracks: 375 feet to 750 feet, depending on the presence of shielding from buildings
- Noise - PIRATE wye, industrial lead, and run-around tracks: 100 feet to 200 feet, depending on the presence of shielding from buildings
- Noise - PIRATE yard: 650 feet to 1,000 feet, depending on the presence of shielding from buildings
- Noise - At-grade crossings existing and future: 1,200 feet shielded to 1,600 feet unshielded
- ~~Vibration - 120 feet for PIRATE all tracks to 200 feet for Phoenix Subdivision all tracks~~

As a worst-case scenario for establishing the noise study area, the commuter rail line screening distances were selected for the Phoenix Subdivision main line track. For the PIRATE industrial lead and run-around tracks, FTA's unobstructed streetcar screening distances were selected based on similar operational speeds. Finally, for the PIRATE yard, FTA's yards and shops screening distance was selected.

Figure 2-3 shows the selected noise screening distances along the Phoenix Subdivision and the PIRATE alternatives, which establish the study area for the noise impact analysis. Variation in screening distances reflects the presence or lack of intervening buildings to adjacent noise receptors. The noise receptors closest to the potential noise-generating elements of the project were included in the general assessment rather than all noise receptors within the study area.

Figure 2-3. Noise Study Area



Note: This graphic was revised in the 2026 Noise Report.

Project-Level General Noise Assessment

The general noise assessment for the project evaluated the existing scenario and three operational scenarios: Alternatives 1 and 2, each with the planned Phoenix Subdivision support tracks, and the No-Action Alternative, as described in Chapter 1.

Table 2-4 details the existing and future train activity for each of the scenarios analyzed. On March 17, 2022, UP provided operational details about current and planned train activity on the Phoenix Subdivision and planned train activity on PIRATE (UP 2022). On November 21, 2025, UP clarified the operational details of future train activity to include 3 trains per day comprised of 3 passes in each direction on the Phoenix Subdivision (UP 2025). One nighttime train operating between the hours of 10:00 p.m. and 7:00 a.m. on the Phoenix Subdivision was assumed as a worst -case for each operational scenario.

Non-project noise sources include surface street traffic and plane takeoff and landing activity at the ~~Phoenix-~~Mesa Gateway Airport (formerly Phoenix-Mesa Gateway Airport and Williams Gateway Airport). Appendix A shows updated hourly traffic volumes for surface streets in and around the noise study area. These volumes were developed from field counts completed in August 2025~~March to June of 2022~~ (United Civil Group 2025~~2022~~) and modeled with Highway Capacity Manual Synchro traffic analysis software to determine hourly flow rates (Jacobs 2025~~2022~~). Future traffic volumes were estimated based on a 2 percent annual growth rate. The noise contours from the airport are shown in Appendix B (~~Phoenix-Mesa Gateway Airport Authority~~Ricondo & Associates, Inc. 2017).

The FRA CREATE and Horn Noise tools were used to generate a 65 dBA Ldn noise contour for the existing scenario and the future Alternative 1, Alternative 2, and Phoenix Subdivision noise environments using the project and non-project data inputs described above. The graphical representation of the distance from existing and proposed rail facilities to receptors was used to illustrate where moderate noise impacts might occur.

The evaluated receptors do not represent all similar uses in the study area. Rather, they represent the noise-sensitive locations closest to the 65 dBA Ldn contour for each operational scenario. Noise-sensitive uses located within the study area but farther outside this contour did not need to be evaluated.

Noise levels at each receptor were then calculated to determine potential noise impacts from PIRATE and the planned Phoenix Subdivision support tracks. A potential project impact would create a future noise environment at the receptors such that it would be perceived as moderately or even severely annoying, relative to existing levels. The methodology consists of using the impact curves presented on Figures 2-1 and 2-2 and noting where the intersection of the existing noise level on the x-axis of the figure with the moderate and severe impact curves yield the minimum project-related noise level increase on the y-axis sufficient to produce a noise impact.

Appendix C shows the model input data and analysis results used to generate the 65 Ldn dBA noise contour and noise level calculations at receptors representing noise-sensitive locations in the study area. To generate the noise contour, noise levels were calculated at every 100 feet along the Phoenix Subdivision and at representative locations between the planned at-grade crossings on each PIRATE alternative.

Table 2-4. Train Operational Activity Summary

Project Element	Existing (2022)	No-Action Alternative (2027)	Alternatives 1 and 2 and the Planned Phoenix Subdivision support tracks (2027)
Phoenix Subdivision Main Line Track	4 trains per day (2 in and 2 out) 4 locomotives per 100 freight cars per train at 60 mph	~~5~~6 trains per day (3 in and ~~2~~3 out) 4 locomotives per 100 freight cars per train at 60 mph	~~5~~6 trains per day (3 in and ~~2~~3 out) 4 locomotives per 123 freight cars per train at 60 mph
Phoenix Subdivision Germann Siding	1 train per day, 4 locomotives per 100 freight cars per train at 10 mph	2 trains per day, 4 locomotives per 100 freight cars per train at 10 mph	2 trains per day, 4 locomotives per 135 freight cars per train at 10 mph
Phoenix Subdivision Germann Siding Extension	Not Applicable	Not Applicable	2 trains per day 4 locomotives per 135 freight cars per train at 10 to 30 mph
Planning Phoenix Subdivision Working Track	Not Applicable	Not Applicable	2 trains per day 2 locomotives per 35 freight cars at 20 mph
PIRATE Wye	Not Applicable	Not Applicable	2 trains per day 2 locomotives per 35 freight cars at 20 mph
PIRATE Industrial Lead	Not Applicable	Not Applicable	~~1~~2 trains per day (1 in and 1 out) 4 locomotives per 70 cars per train at ~~20~~ 5 to 30 mph
PIRATE Yard	Not Applicable	Not Applicable	Specific movements unknown 6 trains per day, 2 locomotives per 12 car trains per day
PIRATE Run-around Track	Not Applicable	Not Applicable	6 trains per day 2 locomotives per 12 rail cars

Source: Developed from data provided by UP 2022, 2025.
mph = miles per hour

2.2.2 Determining the Vibration Analysis Level

Three levels of analysis are used to evaluate vibration on a rail project based on the type and scale of the project, stage of project development, and environmental setting. These levels, described below, are the vibration screening procedure, the general vibration assessment, and the detailed vibration analysis.

Vibration Screening Procedure

Similar to the screening procedure for project noise, the vibration screening procedure is a simplified methodology for identifying study area receptors or locations where vibration impacts from rail projects are likely to occur and takes into account impact criteria, project type, and vibration-sensitive land uses. As with project noise screening, all receptors are considered a single category and are most commonly land use Category 2 (residential). If no vibration-sensitive land uses or receptors are present in the study area, then no further assessment is needed. If vibration-sensitive receptors are identified, the next step is to conduct a general assessment and/or a detailed analysis, depending on the project development stage and available data.

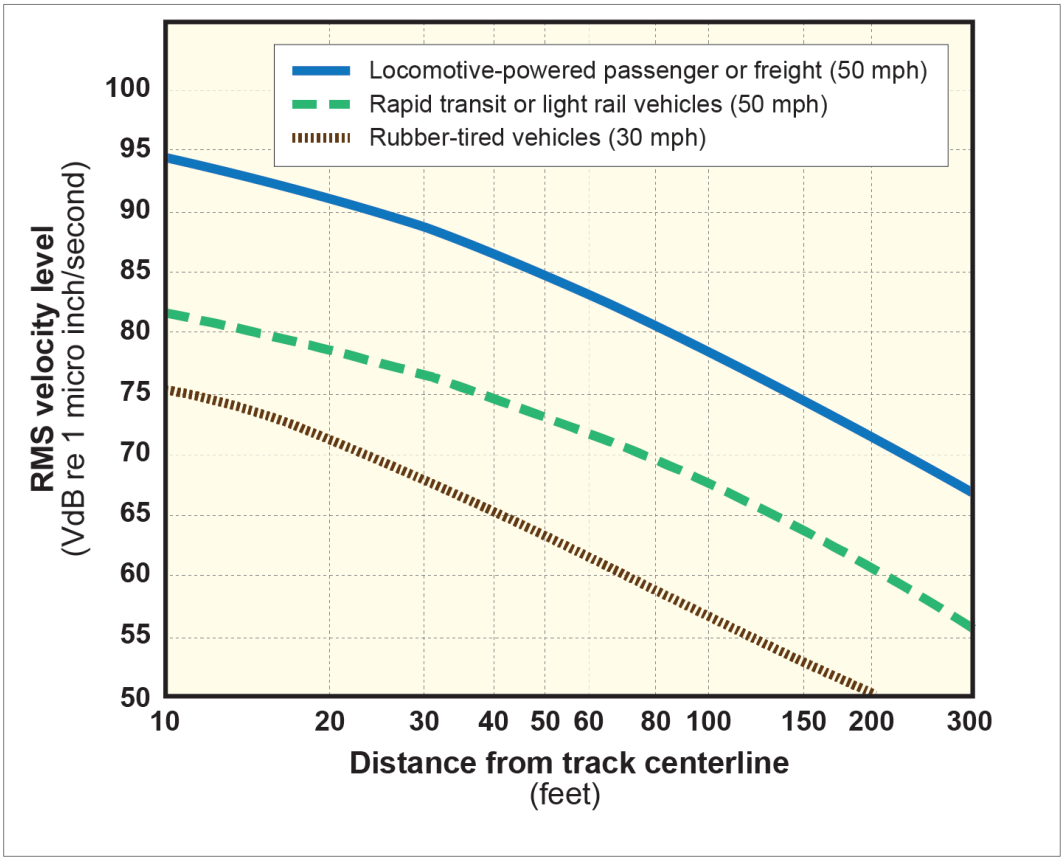
General Vibration Assessment

The FRA and FTA guidance documents provide procedures for conducting a general vibration assessment. As with the general noise assessment, it is used to characterize potentially impacted areas identified in the screening procedure by examining the location and estimated severity of impacts but for vibration rather than noise. The basic approach is to conduct the following:

- Determine the appropriate vibration impact criteria, as shown in Table 2-2.
- Select a curve that predicts the overall GBV as a function of distance from the source.
- Apply adjustments to the curve to account for factors such as vehicle speed, geologic conditions, building type, and receptor location within the building.
- Inventory the project vibration impact.

Figure 2-4 presents curves developed from measurements of GBV at representative North American transit systems (FTA 2018) and can be used to represent vibration characteristics for standard transportation systems in the general vibration assessment. When the vehicle type is not covered by these curves, it is necessary to define an appropriate curve, either by extrapolating from existing information or performing measurements at an existing facility. The FRA has developed two curves for steel wheel at-grade, high-speed rail and Maglev facilities, which vary in terms of intensity and distance to impact.

Figure 2-4. Generalized Ground Surface Vibration Curves



Source: FTA 2018.

Detailed Vibration Analysis

A detailed vibration analysis requires developing estimates of the frequency components of the vibration signal generated by the transportation source, usually in terms of one-third octave-band spectra. The analytical techniques for solving vibration problems are complex, with the technology continually advancing. The basic steps for these analyses include the following:

- Characterizing the existing vibration conditions through measurements.
- Estimating the vibration impact based on site-specific tests of vibration propagation conducted by FTA and FRA.
- Assess vibration impact by comparison to the impact standards presented in Table 2-2.
- Determine vibration mitigation measures.

Similar to a detailed analysis of project noise, a detailed vibration analysis may be warranted as part of the development of an EA if there are potentially severe impacts due to the proximity of vibration-sensitive land uses.

Project-Level Vibration Screening

Table 2-5 lists the appropriate screening distances for various project types. This table was adapted from Table 6-8 in the FTA guidance manual (2018), which focuses on commuter rail systems, including rapid rail transit and light rail transit. The FRA guidance document (2020) establishes screening distances that are more appropriately applied to trains operating at speeds in excess of the existing and projected UP freight traffic in the study area; therefore, the FTA guidelines were referenced.

Table 2-5. Screening Distance for Vibration Assessments

Type of Project	Critical Distance, feet Land Use Category 1	Critical Distance, feet Land Use Category 2	Critical Distance, feet Land Use Category 3
Conventional Commuter Railroad	600	200	120
Rapid Rail Transit	600	200	120
Light Rail Transit and Streetcars	450	150	100
Intermediate Capacity Transit	200	100	50
Bus Projects	100	50	Not applicable

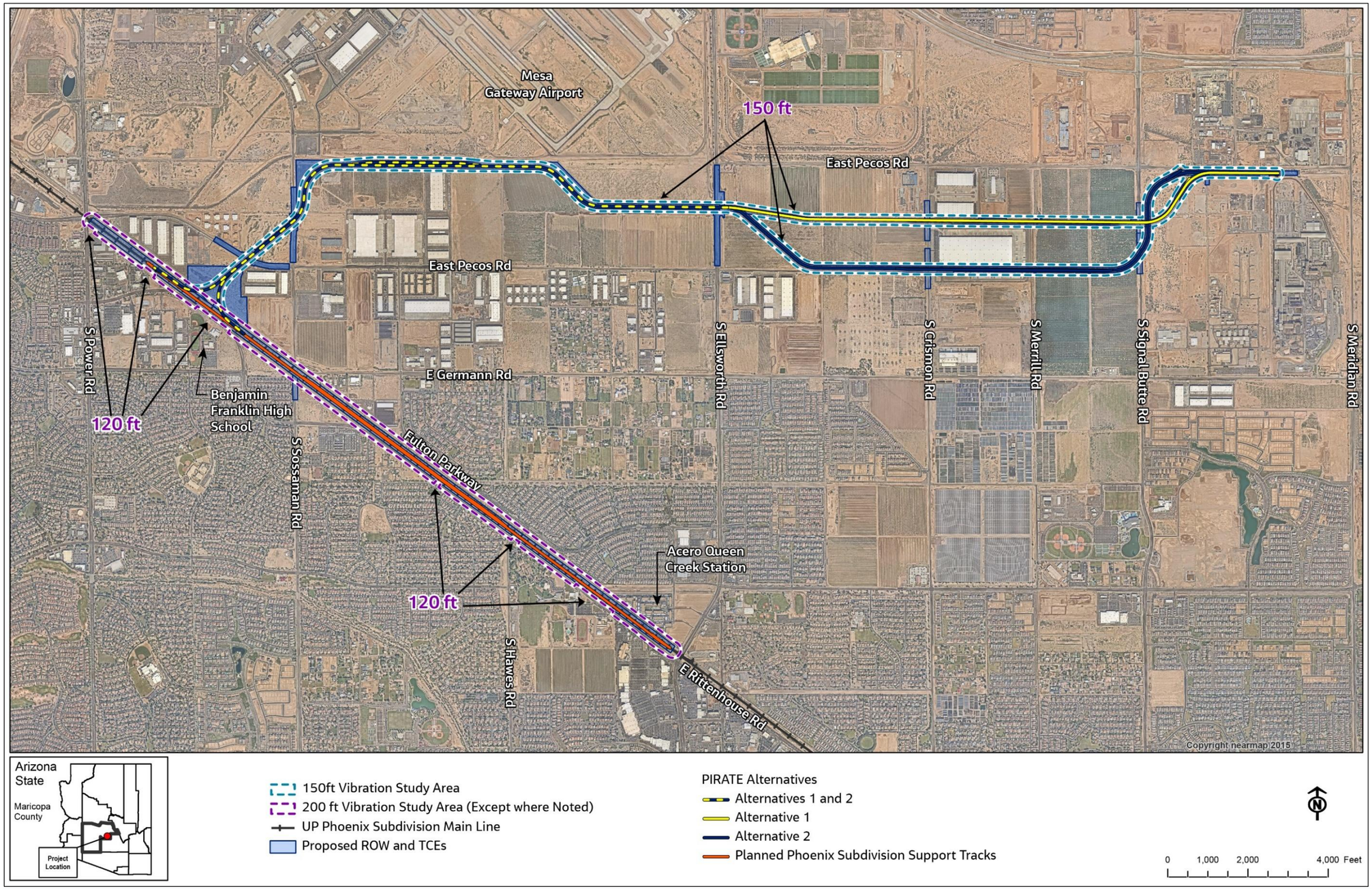
Source: Adapted from Table 6-8 of the FTA guidance manual (2018).

As a worst-case scenario for establishing the vibration study area, the commuter rail line screening distances were selected for the Phoenix Subdivision. For a commuter rail line, FTA has determined screening distances of 120 feet for land use Category 3 and 200 feet for land use Category 2 from the track alignment. For the existing Germann siding, proposed Germann siding extension, and planned working track, the FTA streetcar screening distance of 100 feet for land use Category 3 and 150 feet for land use Category 2 apply; however, these lie within the larger 120- to 200-foot screening distance for the Phoenix Subdivision. There are no land use Category 1 locations in this study subarea.

For the PIRATE industrial lead, yard, and run-around tracks, the FTA streetcar screening distances of 100 feet for land use Category 3 and 150 feet for land use Category 2 apply, based on similar operational speeds. There are no land use Category 1 locations in this study subarea. As a worst-case scenario, the 150-foot screening distance was applied.~~These screening distances were also applied to the Phoenix Subdivision existing Germann siding, proposed Germann siding extension, and planned working track, as shown in Chapter 2 of the Draft EA.~~

Figure 2-5 shows the selected vibration screening distances along the Phoenix Subdivision and the PIRATE alternatives, which establish the study area for the vibration impact analysis.

Figure 2-5. Vibration Study Area



Note: This graphic was revised in the 2026 Noise Report.

Project-Level General Vibration Assessment

The general vibration assessment for this project evaluates the three operational scenarios: Alternatives 1 and 2, each with the planned Phoenix Subdivision support tracks, and the No-Action Alternative. The appropriate impact criteria from Table 2-2 for the project are listed below.

Ground-borne Vibration:

- Land use Category 1 – 65 VdB
- Land use Category 2 – 72 VdB
- Land use Category 3 – 75 VdB

Ground-borne Noise:

- Land use Category 1 – Not applicable as GBN does not interfere with the operation of the highly vibration-sensitive equipment
- Land use Category 2 – 43 dBA
- Land use Category 3 – 48 dBA

~~As shown in the Figure 2-5, no~~ Three receptors representing 19 vibration-sensitive locations in the recently constructed Acero Queen Creek Station apartments exist within the screening distances listed in Table 2-5. This does not include~~s~~ the fine arts auditorium for Benjamin Franklin High School, receptor R1-A, which is located outside the screening distance for land use Category 3 (institutional) uses (refer to Figure 2-5). Therefore, a general vibration assessment was completed to determine the potential for project impacts and the need for a detailed vibration analysis and mitigation recommendations.~~Therefore, a general vibration assessment and a detailed vibration analysis are not required for this project.~~

Chapter 3
Affected Environment

3.1 Noise Characteristics of the Study Area

The study area is characterized by medium-density residential areas and commercial uses located west of the existing Phoenix Subdivision and a combination of low- to medium-density residential, undeveloped parcels, and industrial uses within the PAMZ. New industrial development has occurred, including The Cubes at Mesa Gateway and Lowe's Pro Warehouse located east of Crismon Road and north of PIRATE Alternative 1 and Alternative 2, respectively. The ambient noise environment can range between 50 to 55 dBA Ldn in the less densely populated areas within the PAMZ and up to 65 dBA Ldn or more closer to the existing roadway and rail noise sources. Areas with a higher ambient noise level are less likely to be impacted by additional rail traffic, whereas impacts are more likely in areas with a lower ambient noise level.

3.1.1 Noise-Sensitive Land Uses

Residences represented by land use Category 2 comprise most of the noise-sensitive locations within the study area developed by the noise screening procedure. Table 3-1 lists the number of receptors in land use Category 2 and land use Category 3 that were included in the noise analysis for PIRATE and the planned Phoenix Subdivision support tracks. No land use Category 1 receptors are in the study area. The new development occurring within the PAMZ, which consists of light-industrial warehouse and commercial uses, is not included in the FTA land use Categories 1 through 3.

Table 3-1. Affected Environment, Noise-Sensitive Land Uses

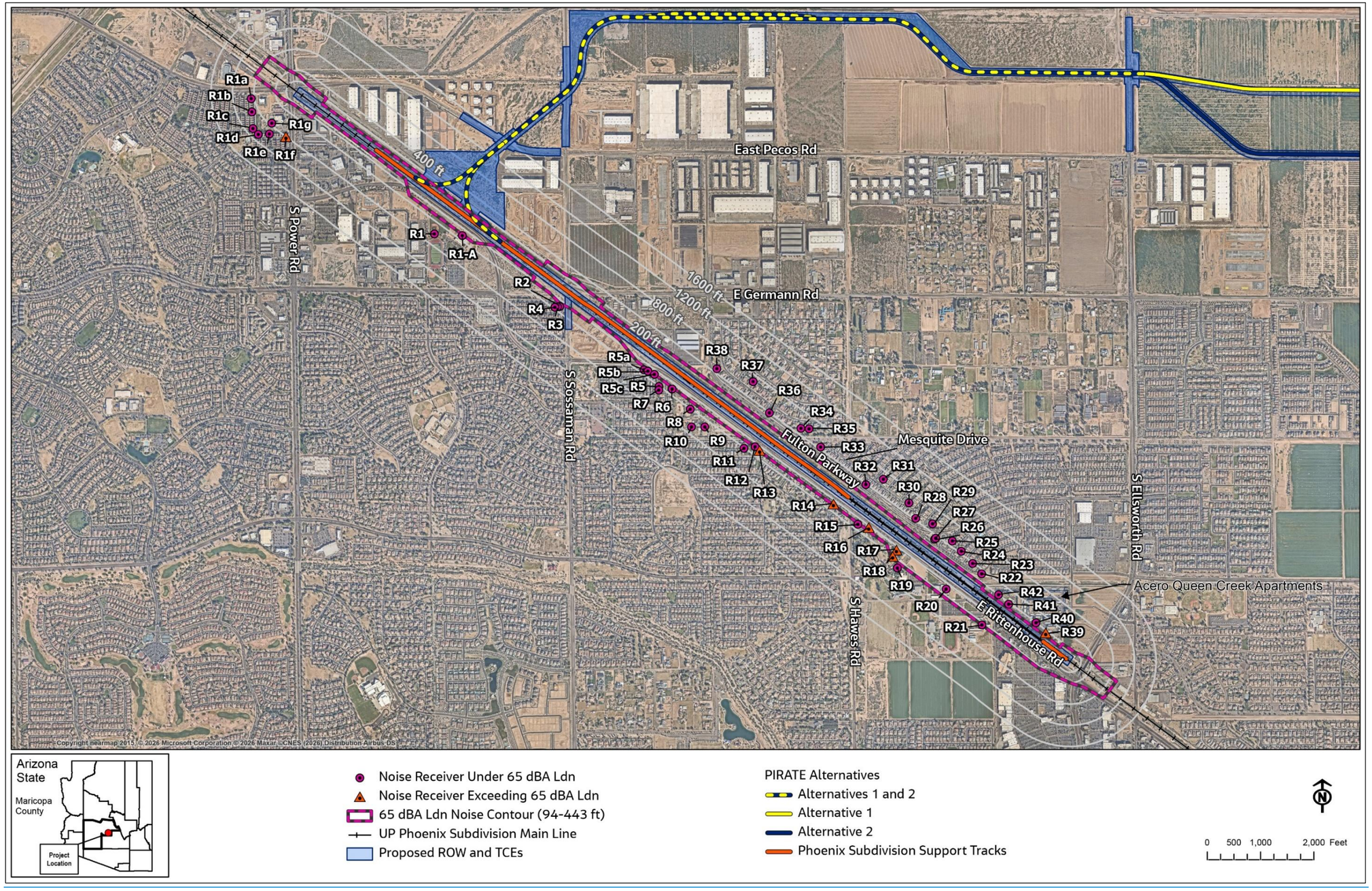
Land Use Category	Phoenix Subdivision All Scenarios[1] Modeled Receptors (Locations Represented)	PIRATE Alternative 1 Modeled Receptors	PIRATE Alternative 2 Modeled Receptors
Category 1	0 (0)	0 Receptors	0 Receptors
Category 2	46 (215) ~~38 (185)~~	0 Receptors	0 Receptors
Category 3	7 (7)	0 Receptors	0 Receptors

[1] Includes the existing scenario and No-Action Alternative.

3.1.2 Existing Noise Levels

Figure 3-1 shows the existing 65 dBA Ldn contour and receptor locations in the study area. This contour was calculated only along the existing Phoenix Subdivision main line track and Germann siding as no existing noise-sensitive land uses would be represented by receptors located along either PIRATE alternative.

Figure 3-1. Existing Noise Environment



Note: This graphic was revised in the 2026 Noise Report.

Table 3-2 shows existing noise levels at receptors in the vicinity of the 65 dBA Ldn contour. These same receptor locations were evaluated for the No-Action Alternative, Alternatives 1 and 2, and the planned Phoenix Subdivision support tracks, and then compared to the existing noise levels to identify future impacts for each of these scenarios.

Table 3-2. Existing Noise Levels in the Study Area

Receptor	Land Use Category	Number of Locations Represented	Distance to Phoenix Subdivision Main Line Track (feet)	Shielding[1]	Existing Ldn (Leq [h])[2]
R1a	2	5	862	Wall	64~~58~~
R1b	2	5	923	Wall	57~~54~~
R1c	2	3	1,077	Wall	56~~54~~
R1d	2	7	1,075	Wall	55~~51~~
R1e	2	6	950	Wall	56~~53~~
R1f	2	2	860	Wall	**68~~66~~**[3]
R1g	3	1	758	Building row	(56)~~(55)~~
R1	3	1	617	None	(49)
R1-A	3	1	334	None	(55)
R2	2	1	317	Wall	63~~60~~
R3	2	2	348	Wall and building	62~~58~~
R4	2	2	385	Wall and building	59~~56~~
R5	2	1	423	Wall	60
R5a	2	1	352	Wall	64
R5b	2	2	316	Wall	64
R5c	2	2	291	Wall	64
R6	2	1	312	Wall	64~~63~~
R7	2	2	483	Wall and building	59
R8	2	1	416	Wall	60
R9	2	1	522	None	63
R10	2	1	668	None	61
R11	2	2	408	Wall	60
R12	3	1	258	None	(65)~~(63)~~
R13	2	7	260	Wall	**66**[3]
R14	2	10	259	Wall	**67**[3]
R15	3	1	304	Building row	(60)~~(57)~~
R16	2	2	222	Wall	**69~~70~~**[3]
R17	2	2	251	Wall	**67**[3]
R18	2	1	390	None	**66**[3]

Receptor	Land Use Category	Number of Locations Represented	Distance to Phoenix Subdivision Main Line Track (feet)	Shielding[1]	Existing Ldn (Leq [h])[2]
R19	2	3	523	None	6464
R20	3	1	296	None	(65)(62)
R21	3	1	441	Building row	(56)(53)
R22	2	4	329	Wall	58
R23	2	4	385	Wall and building	5756
R24	2	7	442	Wall and building	5453
R25	2	7	493	Wall and building	5353
R26	2	4	324	Wall	57
R27	2	4	352	Wall and building	57
R28	2	8	429	Wall	56
R29	2	3	535	Wall	5555
R30	2	12	587	Wall and building	54
R31	2	14	661	Wall and building	5352
R32	2	8	384	Wall	5756
R33	2	14	438	Wall	5655
R34	2	5	526	Wall	55
R35	2	1	604	Wall	54
R36	2	6	409	Wall	56
R37	2	12	698	Wall and building	5352
R38	2	5	492	Wall	5655
R39	2	2	125	None	**67**[3]
R40	2	11	194	Wall	61
R41	2	6	185	Wall	61
R42	2	6	203	Wall	60

[1] The locations represented by the noise receptor are shielded from existing transportation noise sources by a wall, one or more rows of buildings, or both.
[2] Land use Category 3 noise levels are expressed in hourly Leq(1hr).
[3] Bolded noise levels exceed the 65 Ldn dBA, indicating general "annoyance" at these locations.

As shown in Table 3-2, existing noise levels at ~~6~~7 receptors (R1f, R13, R14, R16 through R18, and R39) representing ~~24~~26 residential properties in land use Category 2 exceed the 65 Ldn "threshold of annoyance." This does not indicate impacts at these locations, which is determined by future project noise relative to the existing noise environment. Rather, it indicates that existing noise sources, such as roadway traffic and current train activity, may already be causing annoyance at these properties.

Receptor R1f is located adjacent to Power Road, where current hourly traffic volumes are as high as approximately ~~3,500~~3,250 vehicles during daytime hours (7:00 a.m. to 10:00 p.m.) and ~~1,800~~3,225 vehicles during nighttime hours (10:00 p.m. to 7:00 a.m.).[3] Traffic is the primary noise source at this location. Similarly, traffic on Rittenhouse Road is the primary noise source for receptors R13, R14, and R16 through R18, in addition to existing Phoenix Subdivision train activity. R39 is a second-story apartment that is not shielded from surface street and train traffic noise by the 6-foot-tall perimeter wall surrounding the Acero Queen Creek Station apartments.

3.2 Vibration Characteristics of the Study Area

Vibration travels from the source through the ballast and other railway structures, if present, and excites the adjacent ground. This creates vibration waves that propagate through soil layers and rock strata to the foundations of nearby buildings. The vibration then propagates from the foundation throughout the remainder of the building structure, creating a low-frequency rumble that produces GBN. Soil and subsurface conditions have a strong influence on GBV levels. The stiffness and internal damping of the soil and the depth to bedrock are among the most important factors (FTA 2018).

As discussed in further detail in the Geology and Soils section of the Draft EA, soil types in the study area include type Qyc, or modern channel deposits composed of moderately sorted to poorly sorted sand, gravel, pebbles, and cobbles, and type Qy, or Holocene alluvium composed of well-sorted, fine-grained clay loam (Arizona Geological Survey 2022). These soil types are characterized as tending toward loose sandy soil, which attenuates or dampens vibration more readily compared to stiffer clay-type soils. ~~The b~~Buildings outside~~closest to~~ the limits of the vibration study area include single-story, single-family residential and some two-story and multi-story commercial and institutional structures (schools and ancillary facilities). Heavier building foundations are more effective in decoupling from vibration propagating through the ground into a building.

3.2.1 Vibration-Sensitive Land Uses

The land use categories used throughout Section 3.2 refer to vibration land use categories, which are different than noise land use categories and described in Table 2-1. Residences represented by land use Category 2 comprise the vibration-sensitive locations within the vibration study area developed by the vibration screening procedure. Table 3-3 lists the number

[3] The previous report version indicated 1,800 vehicles per hour on Power Road during nighttime hours (10:00 pm to 7:00 am). This value should have been 3,117 vehicles per hour. So, the updated traffic increases slightly but not as dramatically as indicated in the tracked changes edit.

of receptors in land use Category 2 that were included in the vibration analysis for PIRATE and the planned Phoenix Subdivision support tracks. No land use Category 1 or land use Category 3 receptors are located in the vibration study area.

Table 3-3. Affected Environment, Vibration-Sensitive Land Uses

Land Use Category	Phoenix Subdivision All Scenarios[1] Modeled Receptors (Locations Represented)	PIRATE Alternative 1 Modeled Receptors	PIRATE Alternative 2 Modeled Receptors
Category 1	0 (0)	0 Receptors	0 Receptors
Category 2	3 (19)	0 Receptors	0 Receptors
Category 3	0 (0)	0 Receptors	0 Receptors

[1] Includes the existing scenario and No-Action Alternative.

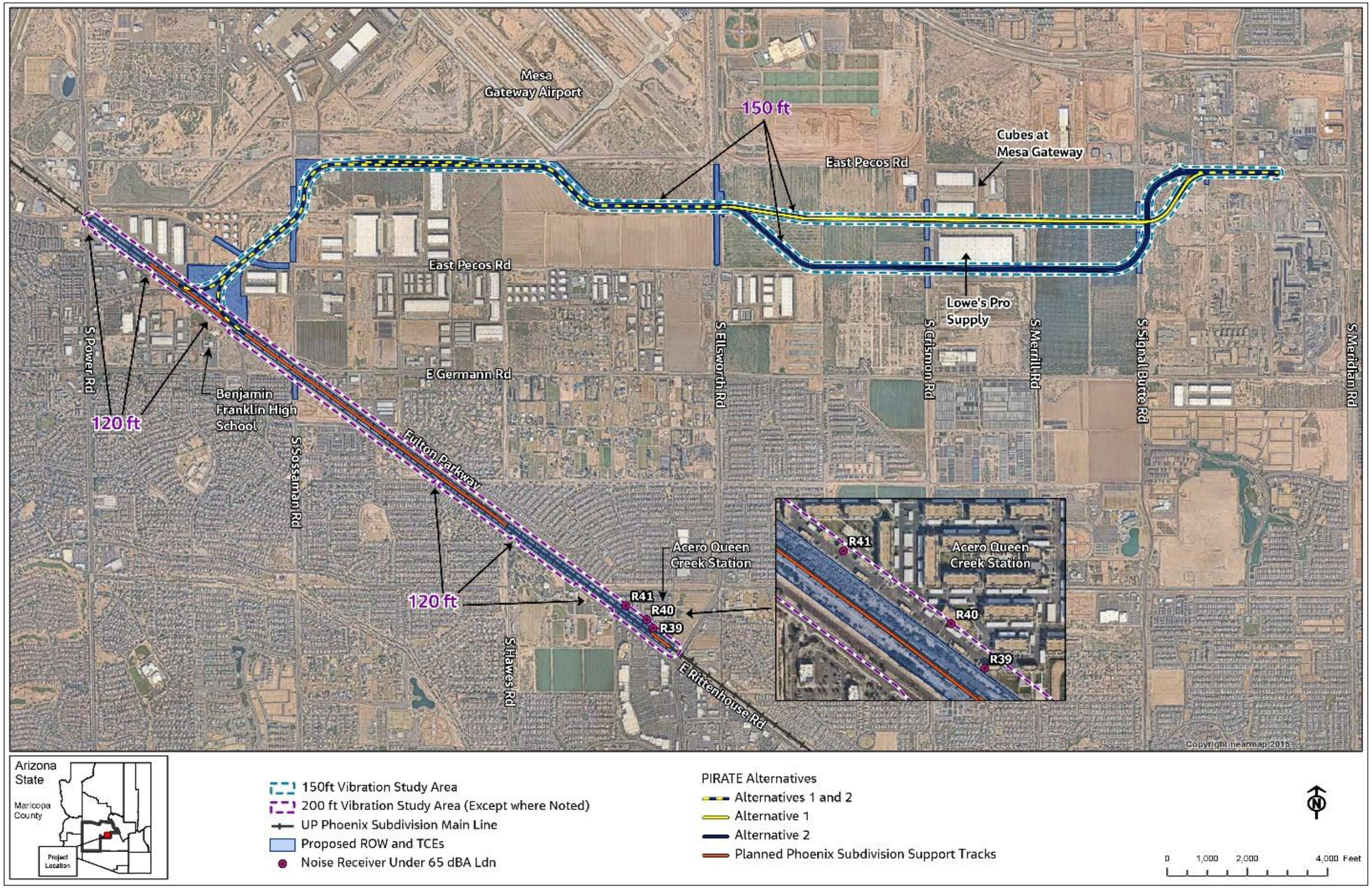
As shown on Figure 3-2, 19 units in three apartment buildings of the Acero Queen Creek Station apartment complex are located within the 200-foot screening distance defining the vibration study area along the Phoenix Subdivision north of Rittenhouse Road and west of Ellsworth Road. Therefore, a general vibration assessment was completed for these receptors.

3.2.2 Existing Vibration Levels

Appendix D provides the FTA equation for estimating generalized ground surface vibrations for locomotive-powered freight used to develop the curves shown on Figure 2-4 (FTA 2018). The equations provide a more precise method of estimating GBV than can be determined using the figure.

Table 3-4 shows the estimated vibration at each receptor based on current rail activity, which can be categorized as infrequent (5 events per day or less) on the existing Phoenix Subdivision per train operation data presented in Table 2-4. Receptor 39 represents second-story apartments above garages. Table 3-4 includes adjustment factors applied to the calculated vibration levels that account for train speed, building materials, soil type in the area, floor-to-floor attenuation, and wall resonance. These adjustment factors are explained in detail in Chapter 6 of the FTA guidance (FTA 2018).

Figure 3-2. Existing Vibration Environment



As shown in Table 3-4, estimated existing vibration levels do not exceed the 72 VdB GBV or 35 dBA GBN impact criteria (refer to Table 2-2), respectively, for FTA land use Category 2 (residential) uses.

Table 3-4. Existing Vibration Levels in the Study Area

	R39	R40	R41
Distance to Phoenix Subdivision (feet)	131	194	170
Unadjusted Vibration Level			
GBV (VdB)[1]	77.8	73.4	74.7
Train Speed (dB)[2]	1.6	1.6	1.6
Soil (dB)[3]	0	0	0
Building Coupling (dB)[4]	-7	-7	-7
Floor to Floor (dB)[5]	-2	0	0
Walls (dB)[6]	3	3	3
Net Vibration Level			
Net GBV (VdB)[1]	71.8	69.4	70.7
GBN (dBA)[7]	21.8	19.4	20.7

[1] GBV expressed in VdB (re: 1 micro inch/second).

[2] Adjustment of freight curve on Figure 2-4 for a 60-mph operational speed.

[3] Vibration factor for efficient soil propagation. Soil in the project area does not exhibit any of the features of efficient soil (shallow bedrock, stiff clayey soils, consolidated sand, gravel and glacial till, etc.).

[4] A -7 dB adjustment was applied for buildings that incorporate masonry elements. The apartments include wood, steel, and masonry elements.

[5] A -2 dB/floor adjustment was applied for dispersion and attenuation of vibration energy across the first to second floor.

[6] A +3 dB adjustment was applied to approximate interior amplification due to resonances of floors, walls, and ceilings.

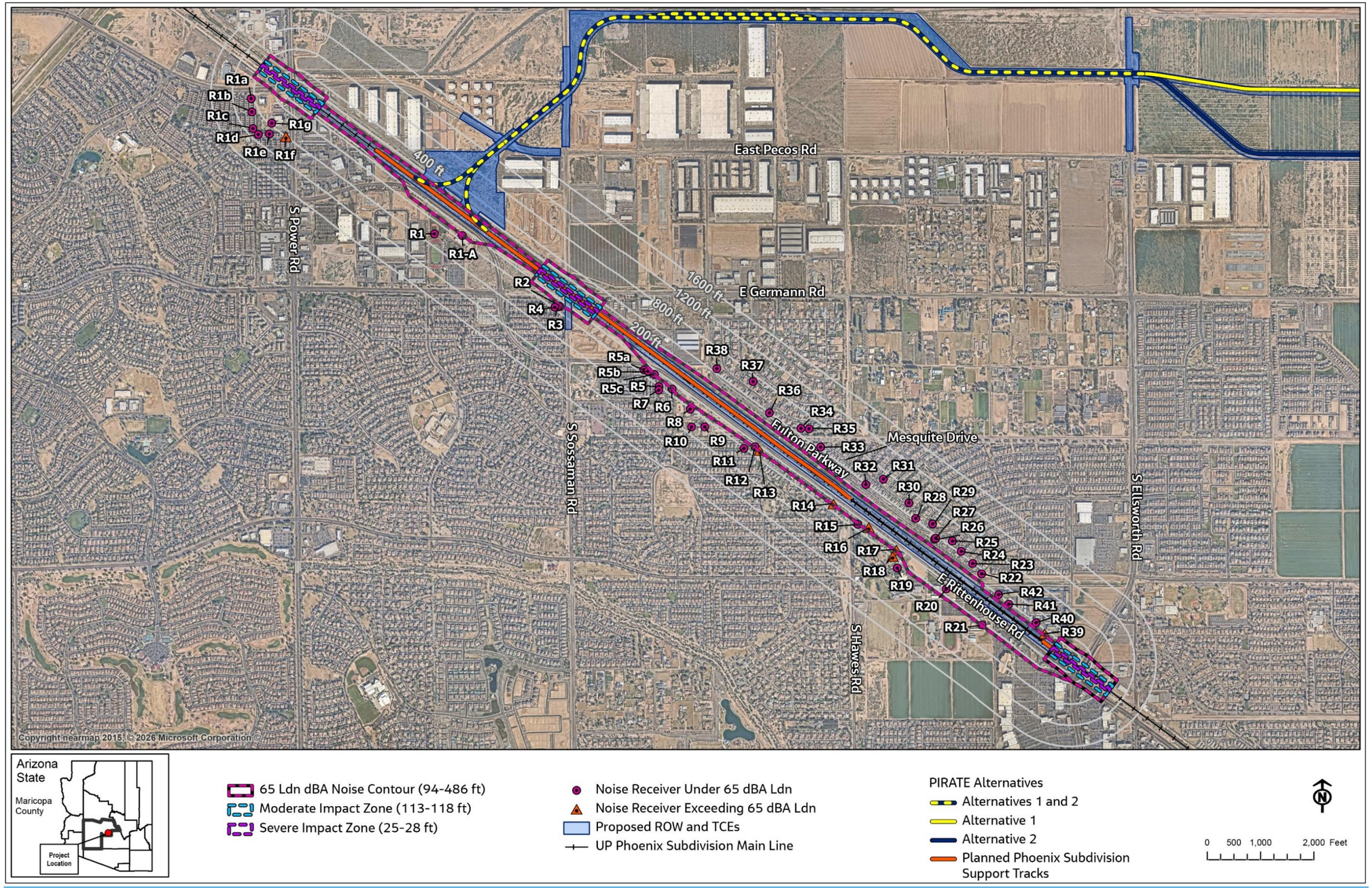
[7] GBN expressed in dBA. Conversion to GBN assumes a -50 dB adjustment for low-frequency (<30 hertz) noise associated with most surface track.

Chapter 4
Environmental Effect Assessment

4.1 Operational Noise Impacts

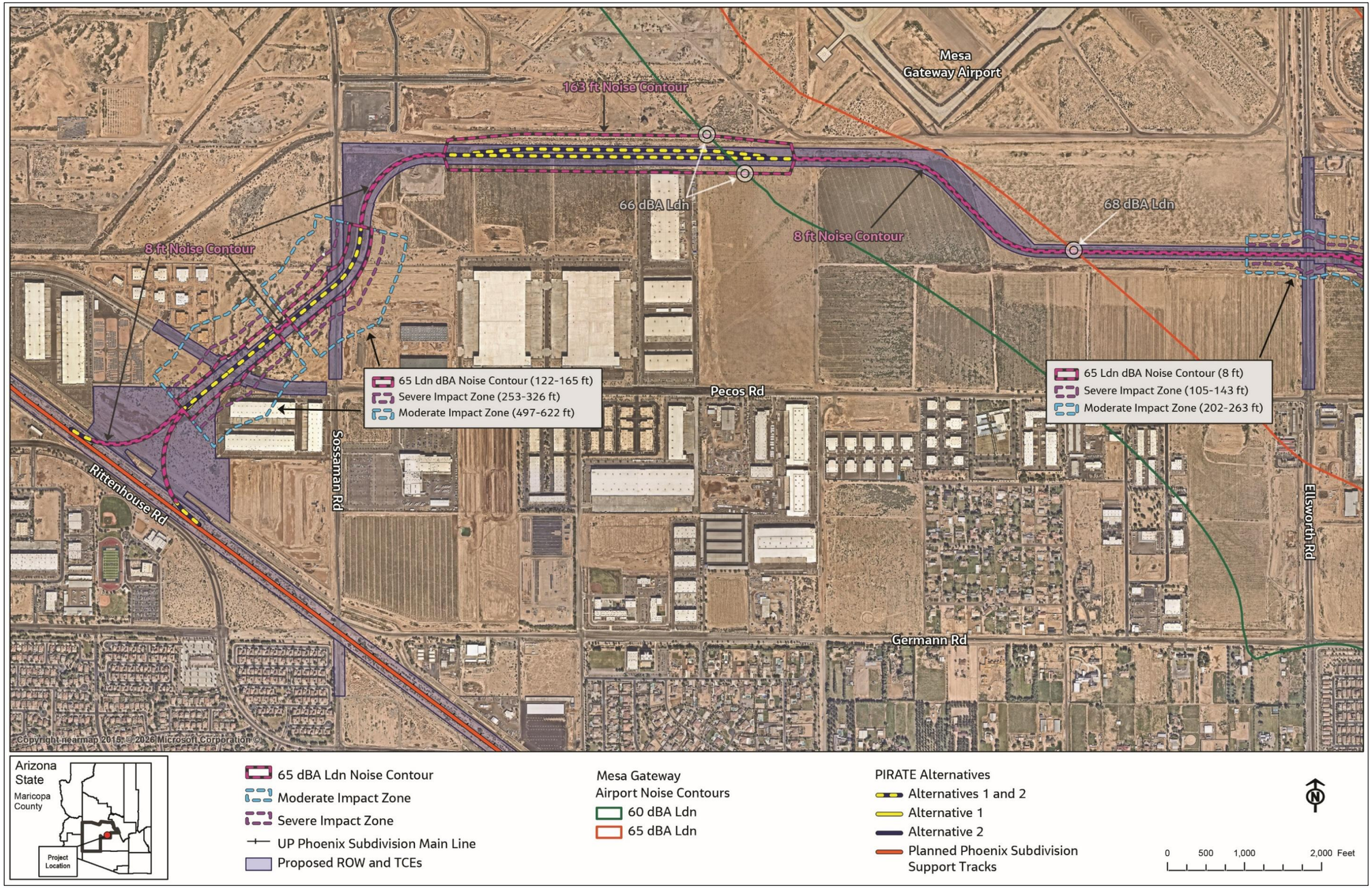
A 65 dBA Ldn noise contour was generated for Alternatives 1 and 2 and for the planned Phoenix Subdivision support tracks. Figure 4-1 shows the 65 dBA Ldn contour along the Phoenix Subdivision. Figure 4-2 shows the 65 dBA Ldn contour west of Ellsworth Road along PIRATE, and Figure 4-3 shows the contour east of Ellsworth Road along PIRATE. The contours identify a setback distance from the project where exceedance of the FTA/FRA-adopted HUD 65 Ldn threshold is expected from future rail operations, which is a preliminary indication of potential noise impacts. As shown on Figures 4-1, 4-2, and 4-3, sensitive receptors are not located within the moderate or severe impact zones.

Figure 4-1. Phoenix Subdivision Noise Environment



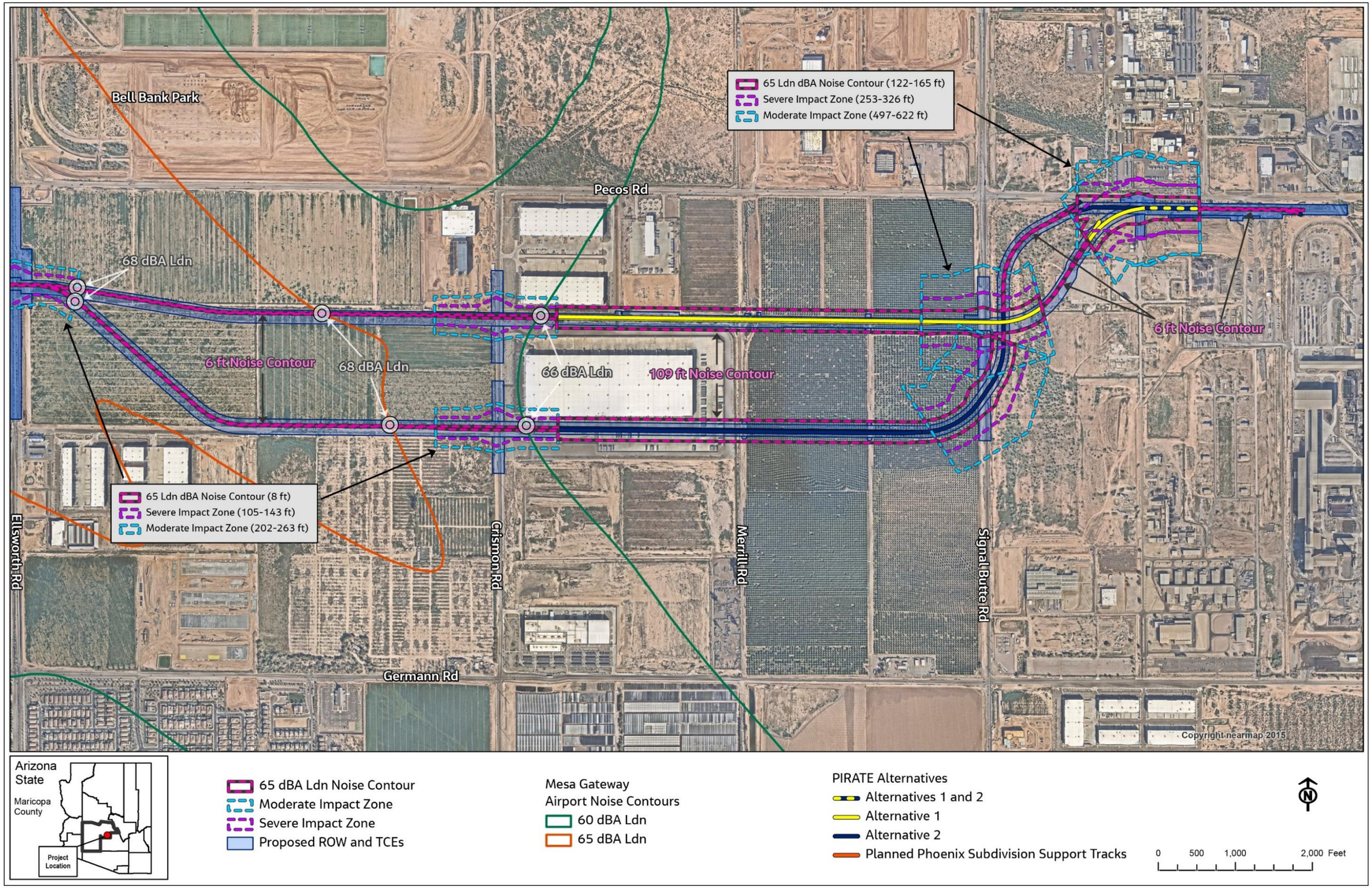
Note: This graphic was revised in the 2026 Noise Report.

Figure 4-2. Action Alternatives Noise Environment PIRATE West



Note: This graphic was revised in the 2026 Noise Report.

Figure 4-3. Action Alternatives Noise Environment PIRATE East



Note: This graphic was revised in the 2026 Noise Report.

4.1.1 No-Action Alternative

Noise levels for the No-Action Alternative were calculated to support the comparison of potential impacts relative to Alternatives 1 and 2 and the planned Phoenix Subdivision support tracks. Based on anticipated train and roadway traffic activity, a No-Action Alternative noise contour would fall somewhere between the contours for the existing condition and Alternatives 1 and 2 or somewhere between the contours for the existing condition and the planned Phoenix Subdivision support tracks. A noise contour was not developed for the No-Action Alternative since it would not affect the assessment of potential impacts at the noise receptors.

Table 4-1 shows noise levels that were calculated at the same receptor locations. Existing condition noise levels are also presented for reference in the project impact determination.

Table 4-1. No-Action Alternative Noise Levels in the Study Area

Receptor	Number of Locations Represented	Existing dBA Ldn (Leq[1hr])[1]	No-Action Alternative dBA Ldn (Leq[1hr])[1]	Increase dBA Ldn (Leq[1hr])[1]
R1a	5	64~~58~~	65~~58~~	1~~0~~
R1b	5	57~~54~~	58~~54~~	1~~0~~
R1c	3	56~~54~~	57~~54~~	1~~0~~
R1d	7	55~~51~~	56~~52~~	1
R1e	6	56~~53~~	58~~53~~	2~~0~~
R1f	2	**68~~66~~**[2]	**69~~66~~**[2]	1~~0~~
R1g	1	(56)~~(55)~~	(57)~~(55)~~	1~~0~~
R1	1	(49)	(51)~~(50)~~	2~~0~~
R1-A	1	(55)	(56)~~(55)~~	1~~0~~
R2	1	63~~60~~	64~~60~~	1~~0~~
R3	2	62~~58~~	63~~58~~	1~~0~~
R4	2	59~~56~~	61~~57~~	2~~1~~
R5	1	60	61	1
R5a	1	64	64	0
R5b	2	64	65	1
R5c	2	64	64	0
R6	1	64~~63~~	64	0~~1~~
R7	2	59	60~~59~~	1~~0~~
R8	1	60	61	1
R9	1	63	64	1
R10	1	61	62~~61~~	1~~0~~
R11	2	60	61	1
R12	1	(65)~~(63)~~	**(66)~~(64)~~**	1
R13	7	**66**[2]	**67~~66~~**[2]	1~~0~~

Receptor	Number of Locations Represented	Existing dBA Ldn (Leq[1hr])[1]	No-Action Alternative dBA Ldn (Leq[1hr])[1]	Increase dBA Ldn (Leq[1hr])[1]
R14	10	**67**[2]	**67**[2]	0
R15	1	(60)~~(57)~~	(61)~~(57)~~	1~~0~~
R16	2	**69~~70~~**[2]	**70**[2]	1~~0~~
R17	2	**67**[2]	**68**[2]	1
R18	1	**66**[2]	**67**[2]	1
R19	3	64~~64~~	64	0
R20	1	(65)~~(62)~~	(65)~~(63)~~	0~~1~~
R21	1	(56)~~(53)~~	(57)~~(54)~~	1
R22	4	58	58	0
R23	4	57~~56~~	58~~57~~	1
R24	7	53	54	1
R25	7	53~~53~~	54~~53~~	1~~0~~
R26	4	57	58~~57~~	1~~0~~
R27	4	57	58~~59~~	1~~2~~
R28	8	56	57~~56~~	1~~0~~
R29	3	55~~55~~	56~~55~~	1~~0~~
R30	12	54	55~~54~~	1~~0~~
R31	14	53~~52~~	53	0~~1~~
R32	8	57~~56~~	57	0~~1~~
R33	14	56~~55~~	57~~56~~	1
R34	5	55	55	0
R35	1	54	55~~54~~	1~~0~~
R36	6	56	57~~56~~	1~~0~~
R37	12	53~~52~~	53	0~~1~~
R38	5	56~~55~~	56	0~~1~~
R39	2	**67**[2]	**68**[2]	1
R40	11	61	61	0
R41	6	61	61	0
R42	6	60	60	0

[1] Land use Category 3 noise levels are hourly and expressed in Leq(1hr).
[2] Bolded noise levels exceed the 65 Ldn dBA, indicating general "annoyance" at these locations.

As shown in Table 4-1, noise at ~~6~~8 receptors representing ~~24~~26 residential properties in land use Category 2 and 1 residential common area in land use Category 3 would exceed the HUD 65 dBA Ldn annoyance threshold for the No-Action Alternative. As with the existing condition evaluation, this does not necessarily indicate noise impacts at these locations. To determine noise impacts, the increase in noise relative to the existing noise environment must be determined.

Table 4-2 shows the noise level increases above existing that would trigger a moderate or severe impact at these ~~6~~8 receptors using the impact curves on Figure 2-1. As shown in Table 4-2, no impacts would occur with the No-Action Alternative. The noise increases shown in the table are relative to the existing condition and were determined by referencing impact curves on Figure 2-1.

Table 4-2. No-Action Alternative Noise Impact Evaluation

Receptor	Number of Locations Represented	Existing dBA Ldn	No-Action Alternative Increase dBA Ldn	Moderate Impact Increase dBA Ldn	Severe Impact Threshold dBA Ldn	Noise Impact (Yes/No)
R1f	2	68~~66~~	1~~0~~	>1	>3	No
R12	1	65	1	>3	>7	No
R13	7	66	0	>1	>3	No
R14	10	67	0	>1	>3	No
R16	1	69~~70~~	0	>1	>2	No
R17	2	67	1	>1	>3	No
R18	2	66	1	>1	>3	No
R39	2	67	1	>1	>3	No

4.1.2 Alternatives 1 and 2

No noise-sensitive land use Category 1, 2, or 3 uses (receptors) are located along Alternative 1 or Alternative 2. Therefore, the following discussion focuses only on impacts to receptors~~noise-sensitive land uses~~ from train activity on the existing Phoenix Subdivision and the planned Phoenix Subdivision support tracks.

West of Ellsworth Road

Noise levels associated with the ~~planned~~ existing Phoenix Subdivision and the planned Phoenix Subdivision support tracks were calculated to compare to existing noise levels at the same receptors evaluated for the existing condition. Table 4-3 shows calculated noise levels at each receptor for both future scenarios and the existing condition for reference in the project impact determination.

Table 4-3. Phoenix Subdivision Noise Levels in the Study Area

Receptor	Number of Locations Represented	Existing dBA Ldn (Leq[1hr])[1]	~~Planned~~ Phoenix Subdivision and Planned Support Tracks dBA Ldn (Leq[1hr])[1]	Increase dBA Ldn (Leq[1hr])[1]
R1a	5	64~~58~~	65~~58~~	1~~0~~
R1b	5	57~~54~~	58~~54~~	1~~0~~
R1c	3	56~~54~~	57~~54~~	1~~0~~
R1d	7	55~~51~~	56~~52~~	1
R1e	6	56~~53~~	58~~53~~	2~~0~~
R1f	2	**68~~66~~**[2]	**69~~66~~**[2]	1~~0~~
R1g	1	(56)~~(55)~~	(57)~~(55)~~	1~~0~~
R1	1	(50)~~(49)~~	(51)	1~~2~~
R1-A	1	(55)	(56)	1
R2	1	63~~60~~	64~~60~~	1~~0~~
R3	2	62~~58~~	63~~59~~	1
R4	2	59~~56~~	61~~58~~	2
R5	1	60	62~~61~~	2~~1~~
R5a	1	64	65	1
R5b	2	64	65	1
R5c	2	64	65	1
R6	1	64~~63~~	65~~64~~	1
R7	2	59	60~~59~~	1~~0~~
R8	1	60	62~~61~~	2~~1~~
R9	1	63	64	1
R10	1	61	62	1
R11	2	60	62~~61~~	2~~1~~
R12	1	(65)~~(63)~~	**(67)**~~(64)~~[2]	2~~1~~
R13	7	**66**[2]	**67~~66~~**[2]	1~~0~~
R14	10	**67**[2]	**68~~67~~**[2]	1~~0~~
R15	1	(60)~~(57)~~	(60)~~(57)~~	0
R16	2	**69~~70~~**[2]	**70**[2]	1~~0~~
R17	2	**67**[2]	**68**[2]	1
R18	1	**66**[2]	**67**[2]	1
R19	3	64~~64~~	65~~64~~	1~~0~~
R20	1	(65)~~(62)~~	**(66)**~~(63)~~[2]	1
R21	1	(56)~~(53)~~	(57)~~(54)~~	1
R22	4	58	59~~58~~	1~~0~~
R23	4	57~~56~~	58~~57~~	1

Receptor	Number of Locations Represented	Existing dBA Ldn (Leq[1hr])[1]	~~Planned~~ Phoenix Subdivision and Planned Support Tracks dBA Ldn (Leq[1hr])[1]	Increase dBA Ldn (Leq[1hr])[1]
R24	7	54~~53~~	56~~55~~	2
R25	7	53~~53~~	54~~53~~	1~~0~~
R26	4	57	58~~57~~	1~~0~~
R27	4	57	58~~59~~	1~~2~~
R28	8	56	57~~56~~	1~~0~~
R29	3	55~~55~~	56~~55~~	1~~0~~
R30	12	54	55	1
R31	14	53~~52~~	54~~53~~	1
R32	8	57~~56~~	58~~57~~	1
R33	14	56~~55~~	57~~56~~	1
R34	5	55	56~~55~~	1~~0~~
R35	1	54	55	1
R36	6	56	57~~56~~	1~~0~~
R37	12	53~~52~~	54~~53~~	1
R38	5	56~~55~~	57~~56~~	1
R39	2	**67**[2]	**68**[2]	1
R40	11	61	61	0
R41	6	61	61	0
R42	6	60	61	1

[1] Land use Category 3 noise levels are hourly expressed in Leq(1hr).
[2] Bolded noise levels exceed the 65 Ldn dBA, indicating general "annoyance" at these locations.

As shown in Table 4-3, noise at ~~6~~9 receptors representing ~~24~~26 residential properties in land use Category 2 and 1 residential common area in land use Category 3 would exceed the HUD 65 dBA Ldn annoyance threshold from train activity on the ~~planned~~ Phoenix Subdivision and planned Phoenix Subdivision support tracks. As with the evaluation of the existing condition and No-Action Alternative, this does not indicate noise impacts at these locations. To determine that, the increase in noise relative to the existing noise environment must be determined.

Table 4-4 shows the noise level increases above existing that would trigger a moderate or severe impact at these ~~6~~9 receptors using the impact curves on Figure 2-1. As shown in Table 4-4, the Phoenix Subdivision and planned Phoenix Subdivision support tracks would have no noise impacts west of Ellsworth Road. The noise increases shown in Table 4-4 are relative to the existing condition and were determined by referencing impact curves on Figure 2-1. Operational noise levels would not exceed the Board's threshold for an adverse impact.

Table 4-4. Phoenix Subdivision Noise Impact Evaluation

Receptor	Existing All Sources dBA Ldn	~~Planned~~ Phoenix Subdivision and Planned Support Tracks Increase dBA Ldn	Moderate Impact Increase dBA Ldn	Severe Impact Increase dBA Ldn	Noise Impact (Yes/No)
R1f	68~~66~~	1~~0~~	>1	>3	No
R12	65	2	>3	>7	No
R13	66	1~~0~~	>1	>3	No
R14	67	1~~0~~	>1	>3	No
R16	69~~70~~	1~~0~~	->1	>3~~2~~	No
R17	67	1	>1	>3	No
R18	66	1	>1	>3	No
R20	65	1	>3	>7	No
R39	67	1	>1	>3	No

East of Ellsworth Road

As discussed in Chapter 3, Affected Environment, and shown in Table 3-1 of this report, no noise receptors in land use Categories 1, 2, or 3 are located within the noise study area east of Ellsworth Road. Therefore, noise impacts would not occur east of Ellsworth Road for Alternatives 1 and 2. The 65 dBA Ldn noise contour shown on Figure 4-2 and Figure 4-3 can be referenced to avoid potential future noise impacts specifically for any planned development of land use Category 2 (residential) uses.

4.2 Operational Vibration Impacts

~~Per the vibration screening procedure discussed in the Section 2.2.2 of this report, no vibration-sensitive locations exist within the study area. Therefore, no project impacts are predicted to occur. However, the vibration screening procedure can be useful in guiding future development to ensure that vibration-sensitive uses are located outside the setback distances developed for land use Category 1 (120 feet) and land use Category 2 (200 feet) from the planned Phoenix Subdivision support tracks and from PIRATE.~~

Future freight train activity on the existing Phoenix Subdivision can be characterized as moderately used (5 to 12 trains per day) at 60 mph. With 2 trains per day at 10 mph to 30 mph, future freight train activity on the planned Phoenix Subdivision support tracks can be characterized as infrequent (<5 trains per day). These tracks are located 15 feet farther from the vibration receptors (Acero Queen Creek Station apartment units) located within the vibration study area.

4.2.1 No-Action Alternative

Per FTA guidance, because existing vibration levels do not exceed the Category 2 (residential) standard vibration criteria at receptors R39–R41 and the existing Phoenix Subdivision main line can be characterized as infrequently used (<5 trains per day), the standard vibration impact criteria also apply to the No-Action Alternative.[4] The same equation and adjustment factors used to determine existing vibration levels (refer to Appendix D) were used to evaluate the No-Action Alternative. Table 4-5 shows the analysis results. The location of freight trains using the Phoenix Subdivision would be the same as existing conditions for receptors R39–R41 in the Acero Queen Creek Station apartments. Although the number of trains is anticipated to increase by 2 per day (1 in each direction), vibration impacts are not cumulative or averaged over a 24-hour period as they are for noise. Therefore, the No-Action Alternative vibration levels at these receptors would not change relative to the existing condition.

As shown in Table 4-5, the No-Action Alternative vibration levels from freight train activity would not exceed the 72 VdB GBV or 35 dBA GBV impact criteria at the listed receptors.

Table 4-5. No-Action Alternative Vibration Levels in the Study Area

Receptor	Existing Train Activity	No-Action Train Activity	Net GBV (VdB)[1]	GBN (dBA)[2]	Impact
R39	Infrequently Used	Moderately Used	71.8	21.8	No
R40			69.4	19.4	No
R41			70.7	20.7	No

[1] GBV expressed in VdB (re: 1 micro inch/second). Similar adjustment factors applied to the existing scenario and detailed in Chapter 6 of the FTA guidance (FTA 2018) were applied to the No-Action analysis.

[2] GBN express in dBA. Conversion to GBN assumes a -50 dB adjustment for low-frequency noise associated with most surface track.

4.2.2 Alternatives 1 and 2

No vibration-sensitive land use Category 1, 2, or 3 uses (receptors) are located along the Alternative 1 or Alternative 2 PIRATE industrial lead, yard and run-around track alignments; therefore, vibration impacts were not evaluated for this study subarea. Future freight train activity on the existing Phoenix Subdivision main line can be characterized as moderately used

[4] Appendix D includes Table 6-5, Impact Criteria Considering Existing Conditions, from the FTA guidance (FTA 2018). The table summarizes operational scenarios that trigger the use of the standard vibration criteria listed in Table 2-2 of this report, and scenarios under which project-related impacts would not occur. For this project, the existing conditions necessitate a comparison of operational vibration levels for the No-Action Alternative and Action Alternatives to the standard vibration criteria at receptor locations located within the vibration study area.

(5 to 12 trains per day) at 60 mph. With 2 trains per day at 10 to 30 mph, future freight train activity on the planned Phoenix Subdivision support tracks can be characterized as infrequent (<5 trains per day).

West of Ellsworth Road

Per FTA guidance, because existing vibration levels do not exceed the Category 2 (residential) standard vibration criteria at receptors R39–R41 and the existing Phoenix Subdivision can be characterized as infrequently used (<5 trains per day), the standard vibration impact criteria also apply to the existing Phoenix Subdivision and planned Phoenix Subdivision support tracks.

The same equation and adjustment factors used to determine existing vibration levels (refer to Appendix D) were used to evaluate the existing Phoenix Subdivision. Table 4-6 shows the analysis results. The location of freight trains using the Phoenix Subdivision would be the same as the existing conditions and No-Action Alternative for receptors R39–R41 in the Acero Queen Creek Station apartments. Although the number of trains is anticipated to increase by 2 per day (1 in each direction), vibration impacts are not cumulative or averaged over a 24-hour period as they are for noise. Therefore, the calculated vibration levels at these receptors would not change relative to the existing condition.

As shown in Table 4-6, the existing Phoenix Subdivision and planned Phoenix Subdivision support track vibration levels from freight activity do not exceed the 72 VdB GBV or 35 dBA GBN impact criteria at the listed receptors. The 200-foot screening distance shown on Figure 2-5 can be referenced to avoid potential vibration impacts, specifically for any planned development of land use Category 2 (residential) uses.

Table 4-6. Phoenix Subdivision Vibration Levels in the Study Area

Phoenix Subdivision	Receptor	Existing Train Activity	Future Train Activity	Net GBV (VdB)[1]	GBN (dBA)[2]	Impact
Main line	R39	Infrequently Used	Moderately Used	71.4	21.4	No
	R40			69.4	19.4	No
	R41			70.7	20.7	No
Planned Support Tracks	R39	Infrequently Used	Infrequently Used	64.2	14.2	No
	R40			62.5	12.5	No
	R41			63.8	13.8	No

[1] GBV expressed in VdB (re: 1 micro inch/second). Similar adjustment factors applied to the existing scenario and detailed in Chapter 6 of the FTA guidance (FTA 2018) were applied to the No-Action Alternative analysis.

[2] GBN express in dBA. Conversion to GBN assumes a -50 dB adjustment for low-frequency noise associated with most surface track.

East of Ellsworth Road

As discussed in Chapter 3, *Affected Environment*, and shown in Table 3-3 of this report, no receptors in vibration land use Categories 1, 2, or 3 are located within the vibration study area east of Ellsworth Road. Therefore, vibration impacts would not occur east of Ellsworth Road for Alternatives 1 and 2. The 200-foot screening distance shown on Figure 2-5 can be referenced to avoid potential vibration impacts, specifically for any planned development of land use Category 2 (residential) uses.

4.3 Construction Noise Impacts

Local ordinances regulating construction noise in the municipalities surrounding the noise study area set time restrictions but do not establish noise thresholds.

- Town of Gilbert, Arizona (Gilbert) – Municipal Code Section 42-63 Noise Ordinance
  - Residential and Commercial Zones – Construction work limited to 5:00 a.m. to 10:00 p.m.
  - Weekends and Holidays – Construction work limited to 7:00 a.m. to 7:00 p.m., concrete pouring limited to 6:00 a.m. to 7:00 p.m.

- City of Mesa, Arizona (Mesa) – Municipal Code Section 6-12-6(G), General Exemptions
  - The following activities are exempted: construction, repair, remodeling, demolition, drilling, landscape maintenance, landscaping, lawn or yard work, wood cutting, including crafts and hobbies, or excavation work conducted between 6:00 a.m. through 8:00 p.m. Mondays through Fridays.
  - Application for an AfterHours Work permit and inspection detailing dates, times and specific locations, schedule of hours and days, scope of work to be performed and the anticipated noise generated during construction can be requested via email at permitservices@mesaaz.gov (Mesa 2025~~2022~~).

- Town of Queen Creek, Arizona (Queen Creek) – Ordinance 867-25, amending Municipal Code Section 9-3-3, Regulations during Nighttime and Holiday Construction~~282-04, Construction Start Time~~
  - Prior to 6:00 a.m. and after 7:00 p.m. Monday through Friday from ~~September~~October 16 through April 30~~May 14~~.
  - Prior to 5:00 a.m. and after 7:00 p.m. Monday through Friday from May 1~~5~~ through ~~September~~October 15.
  - Prior to 7:00 a.m. and after 5:00 p.m. on Saturdays from October 16 through April 30~~throughout the year~~.
  - Prior to 7:00 a.m. and after 7:00 p.m. on Saturdays from May 1 through October 15.
  - At all times on Sundays and legal holidays as defined by Queen Creek from October 16 through May 1 (Queen Creek 2025).

Thresholds for construction noise are typically set at the property line of the adjacent noise-sensitive land use; however, these municipalities have not established thresholds in their ordinances. Table 4-7~~5~~ lists suggested limits as a general guideline for assessing potential construction noise impacts, although its guidance document expressly states these are not standardized criteria.

Table 4-75. FTA General Assessment Construction Noise Criteria

Land Use	Day Lmax	Night Lmax
Residential	90	80
Commercial	100	100
Industrial	100	100

Table 4-86 shows a list of equipment that would be used for project construction and a general summary of activities provided by UP. The project would be constructed over a period of 9 months, with 10-hour workdays and equipment running 9 of the 10 hours. The time of usage restrictions established by each of the municipalities listed above would allow sufficient time to accommodate the planned daily construction activities.

A general assessment of construction noise was completed to estimate typical construction noise at noise receptors located in the proximity of construction activities for the project. The receptor closest to the construction activities is R39, a second-story apartment in the Acero Queen Creek Station apartments located 125 feet northeast of the existing Phoenix Subdivision (Figure 4-1) and 131 feet from the closest construction area. The neighborhood property line adjacent to this apartment unit is 96 feet from the construction area.~~R16, living quarters on the Canyon State Academy campus located 222 feet southwest of the Phoenix Subdivision (Figure 4-1); however, this location is shielded by a privacy wall. The closest unshielded location is Receptor R12, a gazebo in the Emperor Estates neighborhood that is located 258 feet southwest of the Phoenix Subdivision main line track (Figure 4-1). The neighborhood property line adjacent to the gazebo is 219 feet southwest of the main line tracks.~~ The property line location was analyzed to identify the potential maximum noise impact from project construction.

No noise-sensitive land use Category 1, 2, or 3 uses are located near either PIRATE alternative. However, FTA guidance suggests limits for construction noise near industrial uses, which are located within the PAMZ that would be served by PIRATE. As a worst-case scenario, the commercial/industrial facilities that would be located closest to construction activities of the proposed Alternative 1 and Alternative 2 lead tracks were evaluated. The construction area for the Alternative 1 lead track would be 46 feet from the property line of The Cubes at Mesa Gateway industrial park at 6935 South Crismon Road. The construction area for the Alternative 2 lead track would be 66 feet from the property line of the Lowe's Pro Supply at 7111 South Crismon Road.~~As a worst-case, a hypothetical industrial facility located within 50 feet of the future lead tracks was evaluated.~~

Table 4-86. Project Construction Equipment and Usage Profile

Equipment	Quantity	Fuel	HP	Hours/Day	Duration (months)	Construction Phase and Usage Notes
D6 Dozer	4	Diesel	215	9	7	Earthwork and Subballast
330 Trackhoe	2	Diesel	273	9	7	Earthwork and Culverts
352 Trackhoe	3	Diesel	424	9	5	Earthwork
730 Articulated Truck	18	Diesel	370	9	7	Earthwork, this could be tractors and pans, scrapers, or road haul trucks depending on means and methods
140 Motor Grader	3	Diesel	179	9	7	Earthwork and Subballast
815 Compactor	3	Diesel	249	9	5	Earthwork
CS12 GC compactor	1	Diesel	121	9	5	Subballast and Paving
AP1000F Paver	1	Diesel	225	9	2	Road work
Tractor Trailer	18	Diesel	400	9	4	Aggregate base hauling
966 Wheel Loader	2	Diesel	321	9	9	Culverts, Box Culverts and Misc.
262D3 Skid Steer	2	Diesel	74	9	8	Miscellaneous
35 Ton Crane	2	Diesel	164	9	3	Box Culverts
Pickup	8	Gas	300	9	9	Contractor Supervision
Track Laying Machine (UP)	1	Diesel~~Not applicable~~	845~~Not applicable~~	9	1	Track
963 Track Loader (UP)	1	Diesel	202	9	1	Track, to pull the track laying machine
6700 Tamper (UP)	2	Diesel	280	9	2	Track
966 Wheel Loader	2	Diesel	321	9	2	Track
4600 Regulator (UP)	2	Diesel	250	9	2	Track
Locomotive (UP)	1	Diesel	2,200	9	2	Track, Moving ballast cars
Pickup (UP)	6	Gas	300	9	2	Track Supervision

Source: UP 2022, 2025.
hp = horsepower

The Federal Highway Administration Roadway Construction Noise Model (RCNM) was used to estimate noise generated by the various construction activities. As shown in Table 4-94~~-7~~, there are five phases to the construction in no particular order: earthwork, paving, hauling, miscellaneous (culvert installation, supervision activities), and track installation.

Per FTA guidance (2018), the two loudest pieces of equipment for each construction phase were analyzed in RCNM to determine the Lmax for each phase. The Lmax values for each phase were then added using rules of dB addition to determine a single Lmax for a typical hour of construction. Table 4-9~~7~~ lists the loudest equipment by construction phase. The updated construction noise analysis includes a track laying machine. Additionally, a worst-case approach to the analysis has been taken to estimate vibration from construction within the entire construction footprint, bringing activities closer to buildings than was evaluated previously.

Table 4-9~~7~~. Loudest Construction Equipment 50-Foot Reference Noise Levels by Phase

Construction Phase	Equipment	Manufacturer Specification dBA Lmax	Actual dBA Lmax
Earthwork	352 Trackhoe	85	Not applicable
Earthwork	815 Compactor	80	83.2
Paving	CS12 GC compactor	80	83.2
Paving	AP1000F Paver	85	77.2
Hauling	Tractor Trailer	84	74.3
Misc., Culvert	966 Wheel Loader	80	79.1
Misc., Culvert	35 Ton Crane	85	80.6
Track Installation	Track Laying Machine	90	Not applicable
Track Installation	4600 Regulator	85	Not applicable
Track Installation	Locomotive	90	Not applicable

Source: ~~RCNM (~~Federal Highway Administration 2008~~)~~.

4.3.1 No-Action Alternative

No construction activities are associated with the No-Action Alternative; therefore, no construction noise impacts would occur at receptors located in the noise study area.

4.3.2 Alternatives 1 and 2

West of Ellsworth Road

Table 4-10~~8~~ shows the estimated noise level at R39~~R12~~, assuming simultaneous activity for all five phases of project construction. Although unlikely, this approach provides a worst-case scenario for assessing potential project impacts from construction noise.

Table 4-108. Estimated Construction Noise at Closest ~~Unshielded~~ Noise Receptor

Location	Land Use	Earthwork Noise dBA Lmax	Paving Noise dBA Lmax	Hauling Noise dBA Lmax	Misc. Activity Noise dBA Lmax	Track Placement Noise dBA Lmax	Total Noise dBA Lmax
R39~~R12~~ property line	Residential	74.3 ~~72.2~~	72.6 ~~70.4~~	62.8 ~~61.4~~	74.3 ~~72.2~~	84.6 ~~77.5~~	85.6 ~~80.1~~
Alternative 1 ~~Facility~~Buildings in PAMZ	Industrial/ Commercial	85.7 ~~85.0~~	84.0 ~~83.2~~	75.0 ~~74.3~~	85.7 ~~85.0~~	91.0 ~~90.3~~	93.6 ~~92.9~~
Alternative 2 Buildings in PAMZ	Industrial/ Commercial	82.6	80.8	71.8	82.6	87.9	90.5

As shown in Table 4-108, project construction noise levels for each phase or under a worst-case scenario with all phases overlapping would not exceed the 90 dBA daytime limit suggested by FTA for residential and institutional uses or 100 dBA for industrial uses. Total project construction noise for all phases overlapping would exceed the FTA suggested nighttime limit of 80 Lmax for residential properties. Project construction noise would exceed the Board's threshold for an adverse impact by increasing noise levels by 3 dBA or more and exceeding a noise level of 65 dBA if the maximum values shown for any phase except hauling or with all phases simultaneously occurred during the entire 9-hour construction day. This adverse impact would be temporary. Adherence to local nighttime restrictions on construction would avoid a potential impact at the Receptor R39~~R12~~ property line. This location is within the town of Queen Creek; therefore, a Mesa AfterHours Work permit would not be available for construction activities at this location.

East of Ellsworth Road

As shown in Table 4-108, maximum construction noise levels for the planned Phoenix Subdivision support tracks and either PIRATE alternative would be below the suggested FTA limits for daytime and nighttime construction adjacent to industrial uses. However, project construction noise would exceed the Board's threshold for an adverse impact by increasing noise levels by 3 dBA or more and exceeding a noise level of 65 dBA if the maximum values shown for any phase except hauling or with all phases simultaneously occurred during the entire 9-hour construction day. This adverse impact would be temporary.

4.4 Construction Vibration Impacts

Construction activity can cause ground vibration of varying intensity depending on the equipment and methods employed. Operation of construction equipment creates vibrations that spread through the ground and diminish in strength with distance. Buildings with foundations on the soil near the construction site respond to these vibrations with varying results, ranging from no perceptible effects at the lowest levels, low rumbling sounds and perceptible vibrations at moderate levels, and slight damage at the highest levels.

While ground vibrations from construction activities do not often reach levels that can damage structures, some buildings must receive special consideration because of age and fragility. The construction vibration criteria include consideration of the building condition. No buildings that would be categorized as receiving special consideration were identified in the vibration study area.

West of Ellsworth Road, a general assessment was completed to estimate typical construction vibration at a vibration-sensitive receptor~~noise receptors~~ located in the proximity of construction activities. Rather than the property line, the building shell is the relevant location for assessing impacts. Receptor R39, a second-story apartment in the Acero Queen Creek Station apartments, is the closest structure, with the building shell located 131 feet northeast of the existing Phoenix Subdivision main line track and 137 feet from the main line and planned support track. Construction in this area would occur within the existing UP right-of-way, which is as close as 96 feet from the building shell at R39 (Figure 3-2). ~~Receptor R15, a church on the Canyon State Academy campus, is the closest structure with the building shell located 219 feet southwest of the existing Phoenix Subdivision main line track and 204 feet southwest of the existing Germann siding (Figure 4-1).~~

East of Ellsworth Road, the closest commercial/industrial facilities to the proposed Alternative 1 and Alternative 2 industrial lead tracks were evaluated. The Alternative 1 lead track would be 135 feet from the building shell of The Cubes at Mesa Gateway industrial park at 6935 South Crismon Road. Construction in this area would occur within the proposed PIRATE right-of-way, which is as close as 46 feet from the building shell. The Alternative 2 lead track would be 131 feet from the building shell of the Lowe's Pro Supply at 7111 South Crismon Road. Construction in this area would occur within the proposed PIRATE right-of-way, which is as close as 66 feet from the building shell. These buildings are shown on Figure 3-2.

The three municipalities—Gilbert, Mesa, and Queen Creek—have not established vibration thresholds in their ordinances. Table 4-11~~9~~ lists suggested limits as a general guideline for assessing potential damage to structures from construction vibration, although the FTA guidance document (2018) expressly states these are not standardized criteria.

Table 4-11~~9~~. FTA General Assessment Vibration Damage Criteria

Building/Structural Category	PPV[1] at 25 feet, inches/second	Approximate Lv[2] at 25 feet
I. Reinforced-concrete, steel or timber (no plaster)	0.5	102
II. ~~Non-e~~Engineered timber and masonry buildings (no plaster)	0.3	98
III. Non-Engineered timber and masonry buildings~~Buildings extremely susceptible to vibration damage~~	0.2	94
IV. Buildings extremely susceptible to vibration damage	0.12	90

Source: FTA guidance manual Table 7-5 (FTA 2018).
[1]Peak particle velocity
[2]Lv = Root-mean-square (RMS) velocity in dB, VdB re: 1 micro-inches/second

Table 4-1210 shows average vibration source levels in terms of speed (inches/second or micro-inches/second) for fourfive types of vibration-generating construction equipment that would be used during project construction, according to UP. The listed vibration source levels are measured under a wide range of construction activities. Although only single values are listed for each piece of equipment, considerable variation in measured vibration levels from construction activities has been reported. The PPV metric provides a means of assessing potential building damage whereas the Lv metric is an indication of annoyance. Of the types of equipment listed in Table 4-12, large and small bulldozers and the loaded trucks would be most similar to equipment used during project construction. The updated vibration analysis includes a track laying machine. Additionally, a worst-case approach to the analysis has been taken to estimate vibration from construction within the entire construction footprint, bringing activities closer to buildings than was evaluated previously.

Table 4-1210. Vibration Source Levels for Construction Equipment

Equipment	PPV[1] at 25 feet, inches/second	Approximate Lv[2] at 25 feet
Vibratory roller[3]	0.017	75
Large bulldozer[4]	0.089	87
Loaded trucks[5]	0.076	86
Small bulldozer[4]	0.003	58
Track laying machine[6]	0.202	94

Source: Developed from FTA guidance manual Table 7-4 (2018).
[1] Peak particle velocity
[2] Lv = RMS velocity in dB, VdB re: 1 micro-inches/second
[3] Same type of equipment as CS12 GC Compactor in Table 4-84-6.
[4] Same type of equipment as D6 Dozer in Table 4-84-6.
[5] Same type of equipment as Tractor Trailer in Table 4-84-6.
[6]Clam shovel drop as worst-case (non-pile driver) proxy for track laying machine in Table 4-8.

4.4.1 Damage and Annoyance Assessment

Building damage can be assessed by applying a propagation adjustment to the PPV values shown in Table 4-1210. The assessment is done for each piece of equipment individually. The equation for adjusting the values is shown in Appendix D. The assessment of annoyance from construction vibration is done separately for each piece of equipment. The equation for estimating GBV related to human annoyance in VdB is shown in Appendix D.

4.4.2 No-Action Alternative

No construction activities are associated with the No-Action Alternative; therefore, no construction vibration impacts would occur at receptors located in the noise study area.

4.4.3 Alternatives 1 and 2

Three Category 2 (residential) vibration-sensitive locations were identified within the vibration study area established by the general vibration screening for train activity associated with Alternatives 1 and 2 and the planned Phoenix Subdivision support tracks. No vibration-sensitive

locations were identified within the vibration study area established by the general vibration screening for train activity associated with Alternatives 1 and 2; however, the screening methodology does not apply to construction activities. Therefore, a damage and annoyance assessment of construction activities was completed for the project. For a construction vibration damage and annoyance assessment, impact criteria have been established for the building Categories I, II, III, and IV shown in Table 4-11. Construction activities will occur closest to Category II (engineered timber and masonry; no plaster) and Category III (non-engineered timber and masonry) buildings.

West of Ellsworth Road

Table 4-1311 compares estimated vibration at the Receptor R39~~R12~~ building shell, which would be located as close as 96 feet from the ~~four~~ five pieces of project construction equipment listed in Table 4-124~~4-10~~.

Table 4-1311. Project Construction Vibration Assessment West of Ellsworth Road

Equipment	Estimated PPV,[1] inches/second	Category IIII PPV[1] Criteria, inches/second	Potential Impact	Estimated Lv[2]	Approximate Lv[2] Criteria	Potential Impact
Vibratory Roller	0.002 ~~0.0007~~	0.2~~0.3~~	None	57.47 ~~46.72~~	94	None
Large Bulldozer	0.012 ~~0.0030~~	0.2~~0.3~~	None	69.47 ~~58.72~~	94	None
Small Bulldozer	0.010 ~~0.0002~~	0.2~~0.3~~	None	68.47 ~~29.72~~	94	None
Loaded Truck	0.0003 ~~0.0030~~	0.2~~0.3~~	None	40.47 ~~57.72~~	94	None
Track Laying Machine	0.026	0.2	None	76.47	94	None

[1] Peak particle velocity
[2] Lv = RMS velocity in dB, VdB re: 1 micro-inches/second
[3] The column header and PPV values shown in the third column of the table were modified from the previous version of the report because a different building that is located closer to construction activities was evaluated. This new building, constructed after completion of the 2023 report, is inbuilding/structural Category III, whereas the previous building analyzed was in Category II, which has a different PPV impact threshold.

The analysis takes a worst-case approach as not all of the listed equipment would operate up to the limits of the existing UP right-of-way. As shown in Table 4-1311, the estimated PPV of the ~~four~~ five listed pieces of equipment is below the building Category IIII damage criteria. Similarly, the estimated Lv of the ~~four~~ five pieces of equipment is below the approximate threshold of annoyance.

East of Ellsworth Road

Table 4-1412 compares estimated vibration from the ~~four~~five pieces of project construction equipment listed in Table 4-1210 at The Cubes at Mesa Gateway industrial park that would be located within 46 feet of the proposed Alternative 1 construction.~~a hypothetical industrial facility located within 50 feet of either PIRATE alternative.~~ As shown in Table 4-1412, the estimated PPV of the ~~four~~five listed pieces of equipment is below the building Category II (engineered timber and masonry) buildings damage criteria. Similarly, the estimated Lv of the ~~four~~five pieces of equipment is below the approximate threshold of annoyance.

Table 4-1412. ~~Project~~ Alternative 1 Construction Vibration Assessment East of Ellsworth Road

Equipment	Estimated PPV,[1] inches/second	Category II PPV[1] Criteria, inches/second	Potential Impact	Estimated Lv^2	Approximate Lv^2 Criteria	Potential Impact
Vibratory Roller	0.007 ~~0.006~~	0.3	None	67.05 ~~65.97~~	9894	None
Large Bulldozer	0.036 ~~0.030~~	0.3	None	79.06 ~~77.97~~	9894	None
Small Bulldozer	0.030 ~~0.001~~	0.3	None	50.06 ~~48.97~~	9894	None
Loaded Truck	0.001 ~~0.030~~	0.3	None	78.05 ~~76.97~~	9894	None
Track Laying Machine	0.081	0.3	None	86.06	98	None

[1] Peak particle velocity
[2] Lv = RMS velocity in dB, VdB re: 1 inches/second

Table 4-15 compares estimated vibration from the five pieces of project construction equipment listed in Table 4-12 at the Lowe's Pro Supply Building, which would be within 66 feet of the proposed Alternative 2 construction. As shown in Table 4-15, the estimated PPV of the five listed pieces of equipment is below the building Category II damage criteria. Similarly, the estimated Lv of the five pieces of equipment are below the approximate threshold of annoyance. The analysis takes a worst-case approach as not all of the listed equipment would operate up to the limits of the existing UP right-of-way.

Table 4-15. Alternative 2 Construction Vibration Assessment East of Ellsworth Road

Equipment	Estimated PPV,[1] inches/second	Category II PPV[1] Criteria, inches/second	Potential Impact	Estimated Lv^2	Approximate Lv^2 Criteria	Potential Impact
Vibratory Roller	0.004	0.3	None	62.35	98	None
Large Bulldozer	0.021	0.3	None	74.35	98	None
Small Bulldozer	0.018	0.3	None	43.35	98	None
Loaded Truck	0.001	0.3	None	73.35	98	None
Track Laying Machine	0.047	0.3	None	81.35	98	None

[1] Peak particle velocity
[2] Lv = RMS velocity in dB, VdB re: 1 inches/second

Chapter 5
Recommended Mitigation

5.1 Operational Mitigation

Because the general noise assessment did not identify operational noise or vibration impacts for the project, no additional mitigation measures are recommended for operation of PIRATE or the planned Phoenix Subdivision support tracks. However, the 200-foot screening distance shown on Figure 2-5 can be referenced to avoid potential vibration impacts, specifically for any planned development of land use Category 2 (residential) uses.

5.2 Construction Mitigation

The general assessment of construction noise for PIRATE and the planned Phoenix Subdivision support tracks identified a possible exceedance of the FTA-suggested 80 dBA Lmax nighttime noise threshold and the Board's thresholds for an adverse noise impact. Gilbert, Mesa, and Queen Creek do not establish thresholds for construction noise; however, the daily project construction schedule must adhere to local time restrictions that limit nighttime construction (refer to Section 4.3). Within city of Mesa limits, if UP intends to perform project-related construction activities outside of these local time restrictions, UP must apply for a special use permit to allow nighttime construction.

The general assessment of construction vibration for PIRATE and the planned Phoenix Subdivision support tracks did not identify exceedances of the FTA-suggested criteria for assessing building damage or annoyance at the building likely to be closest to construction activities; therefore, no mitigation measures are required and implementation of any of the measures listed below can be considered best practices.

If implemented, the following recommended mitigation measures would reduce potential noise and vibration during project-related construction:

- Design and layout considerations:
  - Construct temporary noise barriers from excavated materials.
  - Reroute construction truck traffic away from residential streets.
  - Idle construction equipment as far away from receptors as possible.
  - Operate earthmoving equipment on the construction site as far away as possible.
  - Construct walled enclosures around especially noise activities.
- Sequence operations:
  - Combine noisy operations to occur in the same time period. The total noise level produced will not be significantly greater than the level produced by operations performed separately.
  - For vibration generating activities, phase demolition, earthmoving, and ground-impacting operations so as not to occur simultaneously.
  - Avoid nighttime activities. Sensitivity to noise increases during the nighttime hours in residential neighborhoods.
- Alternative construction methods: Use specially quieted equipment, including quieted and enclosed air compressors and properly working mufflers on all engines.

Chapter 6
References

6.1 References Cited in the 2026 *Noise Report*

Arizona Geological Survey. 2022. Browse Graphic of Geologic Data for the Southeast Phoenix Metropolitan Area, Maricopa County, Arizona. http://repository.azgs.az.gov//. Accessed August 23, 2022.

City of Mesa. 2009. Title 6, Chapter 12 Offensive, Excessive, and Prohibited Noises, Section 6 General Exemptions, Municipal Code 6-12-6. December 14. https://library.municode.com/az/mesa/codes/code_of_ordinances?nodeId=COOR_TIT6PORE_CH12OFEXPRNO. Accessed August 24, 2022.

City of Mesa. 2025. Commercial Construction, Other Types of Permits. https://www.mesaaz.gov/business/development-services/commercial-construction. Accessed December 9, 2025.

Coate, D. 1999. *Annoyance Due to Locomotive Warning Horns*. Transportation Research Board, Transportation Noise and Vibration Subcommittee A1FO4. San Diego, CA. August 1-4, 1999.

Code of Federal Regulations. Housing and Urban Development, Noise Abatement and Control (1984). https://www.ecfr.gov/current/title-24/subtitle-A/part-51/subpart-B. Accessed August 31, 2022.

Code of Federal Regulations. Railroad Locomotive Safety Standards. https://www.ecfr.gov/current/title-49/subtitle-B/chapter-II/part-229?toc=1. Accessed June 16, 2022.

Code of Federal Regulations. Railroad Noise Emission Compliance Regulations. https://www.ecfr.gov/current/title-49/subtitle-B/chapter-II/part-210. Accessed June 16, 2022.

Code of Federal Regulations. Use of Locomotive Horns at Public Highway-Rail Grade Crossings. https://www.ecfr.gov/current/title-49/subtitle-B/chapter-II/part-222. Accessed June 16, 2022.

Federal Highway Administration. 2008. Roadway Construction Noise Model. Version 1.1. https://www.fhwa.dot.gov/environment/noise/construction_noise/rcnm/. Accessed May 4, 2022.

Federal Railroad Administration. 2012. *High-Speed Ground Transportation Noise and Vibration Impact Assessment*. DOT/FRA/ORD-12/15. September. https://railroads.dot.gov/elibrary/high-speed-ground-transportation-noise-and-vibration-impact-assessment.

Federal Railroad Administration. 2020. "Horn Noise FAQ." https://railroads.dot.gov/environment/noise-vibration/horn-noise-faq. Accessed June 16, 2022.

Federal Railroad Administration. 2021. "Guidance on Assessing Noise and Vibration Impacts." August 6. https://railroads.dot.gov/environment/noise-vibration/guidance-assessing-noise-and-vibration-impacts.

Federal Transit Administration. 2018. *Transit Noise and Vibration Impact Assessment Manual*. FTA Report No. 0123. September. https://www.transit.dot.gov/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf.

Jacobs. 2025. Highway Capacity Manual Synchro Hourly Traffic Data. August 27, 2025.

Ricondo & Associates, Inc. 2017. *Airport Land Use Compatibility Plan Update*. Prepared for Phoenix-Mesa Gateway Airport Authority. January. https://www.gatewayairport.com/documents/documentlibrary/current%20planning%20studies/airport%20land%20use%20compatibility%20plan%20update.pdf.

Surface Transportation Board. 1998. *Final Environmental Impact Statement No. 980194, Conrail Acquisition* (Finance Docket No. 33388) by CSX Corporation and CSX Transportation Inc., and Norfolk Southern Corporation and Norfolk Southern Railway Company. July.

Surface Transportation Board. 2026. *Pecos Industrial Rail Access and Train Extension (PIRATE) Project Traffic Report (Docket No. 36501)*. February.

Town of Gilbert. Municipal Code Section 42-63, Noise Ordinance. https://www.gilbertaz.gov/home/showdocument?id=6007. Accessed August 24, 2022.

Town of Queen Creek. Municipal Code 9-3-3, Regulations During Nighttime and Holiday Construction. https://queencreek.municipalcodeonline.com/book?type=ordinances#name=9-3-3_Regulations_During_Nighttime_And_Holiday_Construction. Accessed December 9, 2025.

Town of Queen Creek. 2025. "Allowable Times for Construction Work." https://www.queencreekaz.gov/government/development-services/building-safety/construction-start-time.

Union Pacific Railroad. 2022. PIRATE Train Operational Activity Summary. Obtained during a videoconference with Kevin Rice, Sr. Manager, to Maggie Buckley, Sr. NEPA Planner, Jacobs. March 17, 2022.

Union Pacific Railroad. 2025. Re: STB Docket No. FD 36501, Union Pacific Railroad (UPRR) – Responses to information requests. Obtained via email from Kevin Rice, Sr. Manager, to Danielle Gosslein, Director, Office of Environmental Analysis, Surface Transportation Board. November 21, 2025.

United Civil Group. 2025. *Daily Traffic Counts - 24 Hour Classifications on Ellsworth Road, Germann Road, Pecos Road, Power Road and Sossaman Road*.

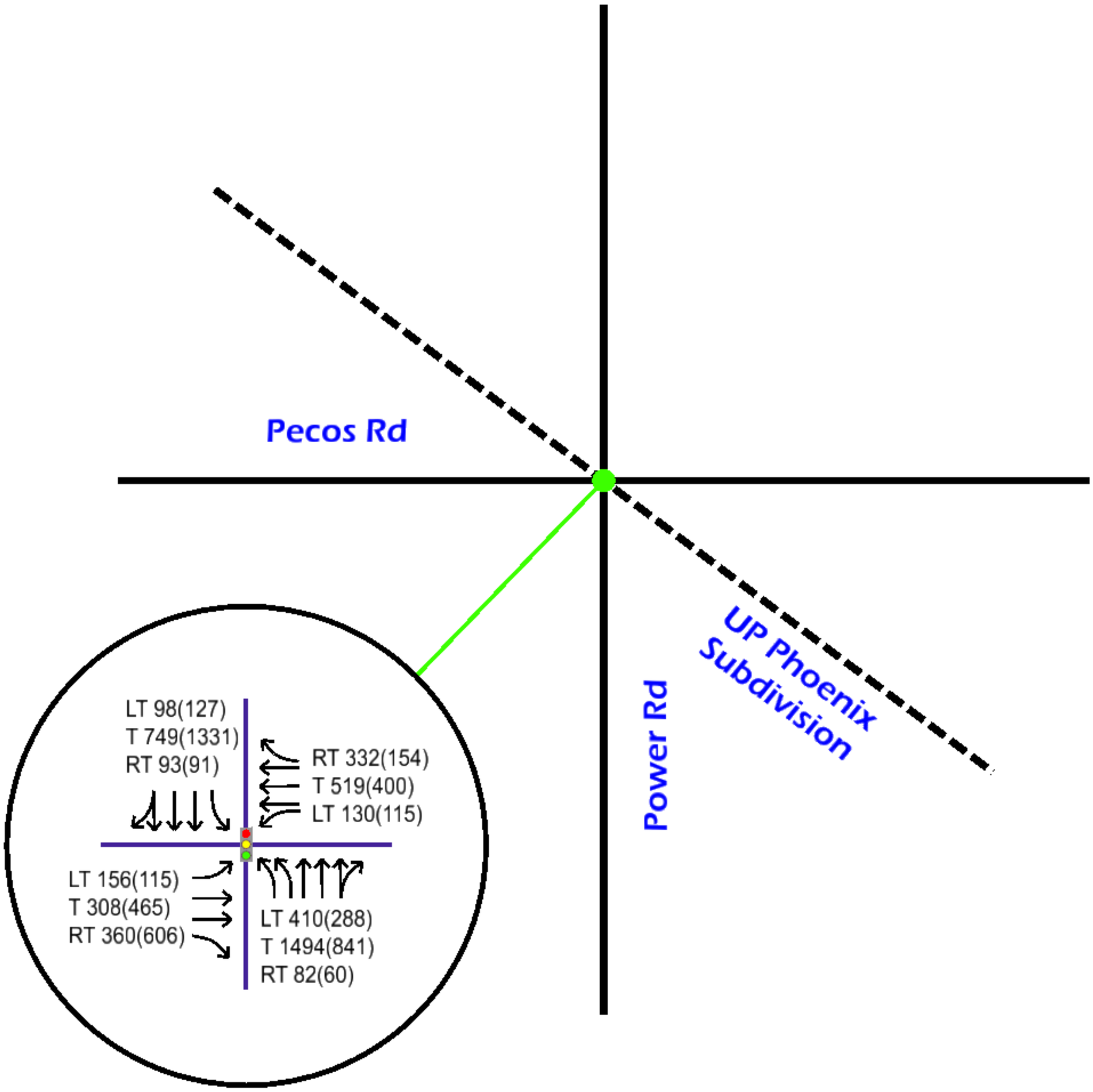
6.2 References Cited in the 2023 *Noise Report*

Queen Creek Fire Department. 2019. Railroad Quiet Zones presentation. March 20. https://www.queencreekaz.gov/home/showpublisheddocument?id=29407.

Queen Creek Town Council. 2019. March 20, 2019, meeting minutes. https://www.queencreekaz.gov/home/showpublisheddocument/29799/636958608022900000.

Town of Queen Creek. Ordinance 282-04, Construction Start Time. https://www.queencreekaz.gov/departments/community-development/building-safety/construction-start-time#:~:text=The%20time%20restriction%20does%20not,from%20May%2015%20through%20Sept. Accessed August 24, 2022.

Appendix A
Roadway Traffic Data



LEGEND

Signalized Intersection

Un-signalized Intersection

XXX(YYY) Peak Hour Volumes AM(PM)

NTS

Power Road & Pecos Road

Existing Year 2025
Turning Movement Volumes

Pecos Rd

LT 79(168)
T 131(460)
RT 17(36)

RT 166(54)
T 552(398)
LT 164(200)

LT 32(15)
T 380(483)
RT 76(154)

LT 412(235)
T 642(271)
RT 119(82)

Sossaman Rd

T 371(814)

RT 391(247)

STOP

T 782(341)
RT 262(296)

Germann Rd

UP Phoenix Subdivision

LEGEND

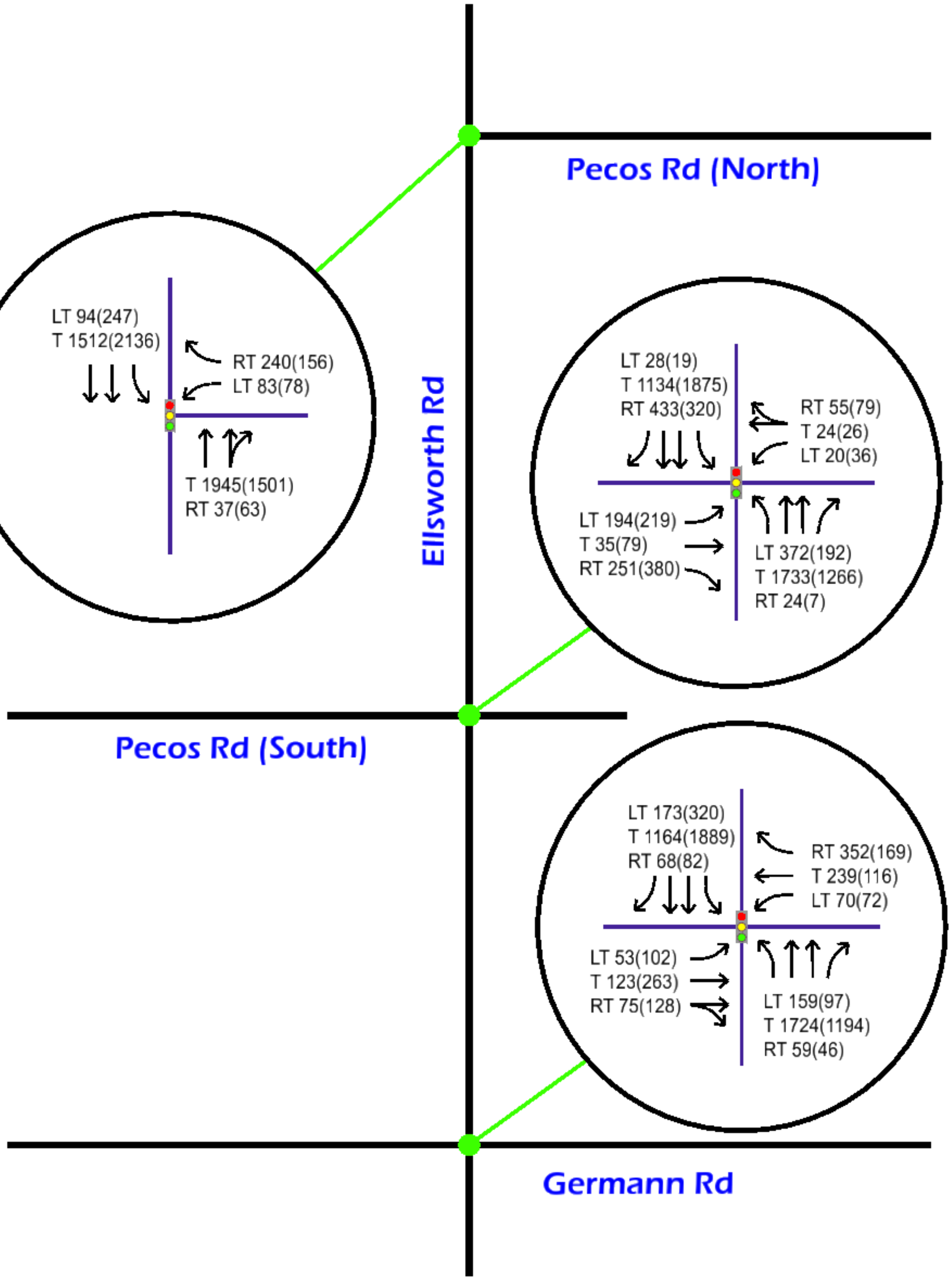
Signalized Intersection XXX(YYY) Peak Hour Volumes AM(PM)

Un-signalized Intersection

NTS

Sossaman Road

Existing Year 2025
Turning Movement Volumes



LEGEND

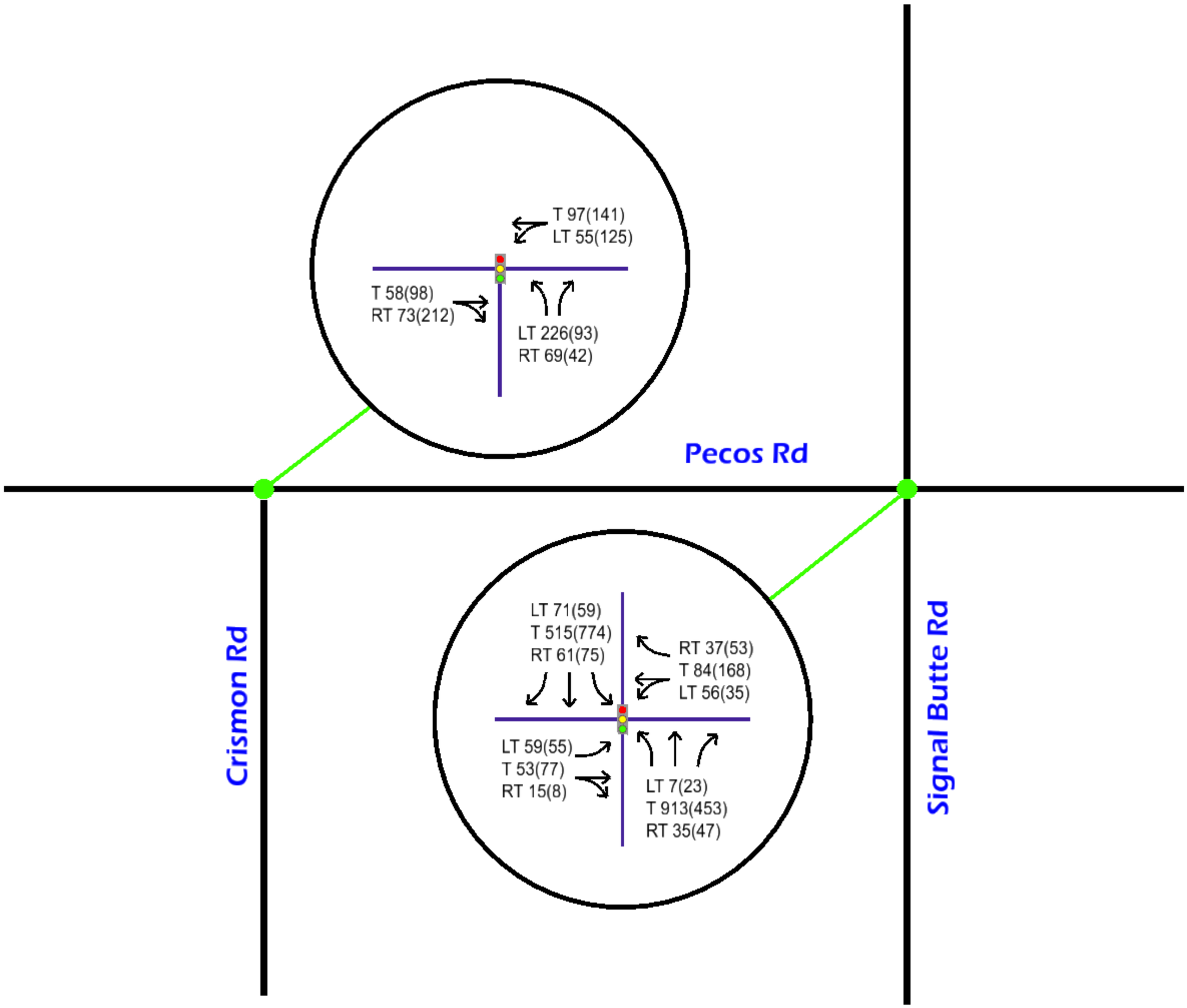
Signalized Intersection XXX(YYY) Peak Hour Volumes AM(PM)

Un-signalized Intersection

NTS

Ellsworth Road

Existing Year 2025
Turning Movement Volumes



LEGEND

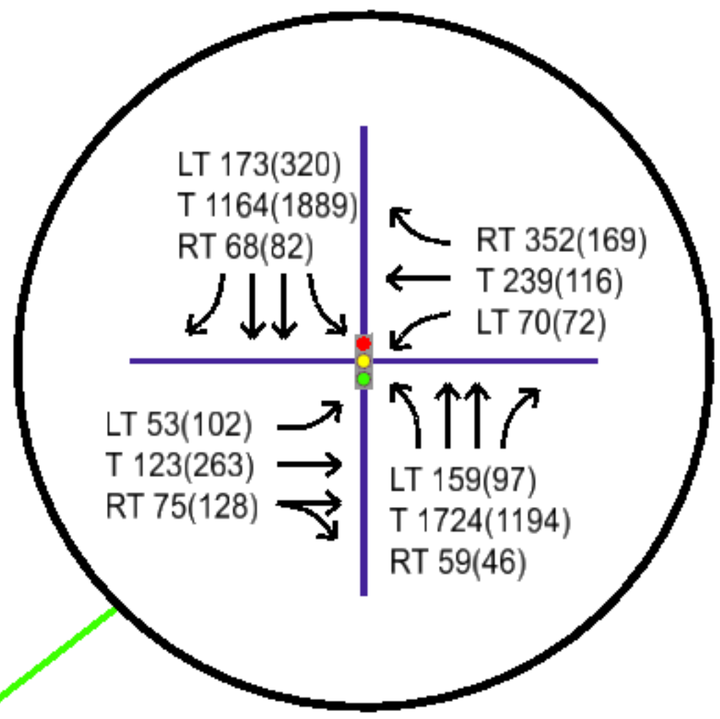
Signalized Intersection XXX(YYY) Peak Hour Volumes AM(PM)

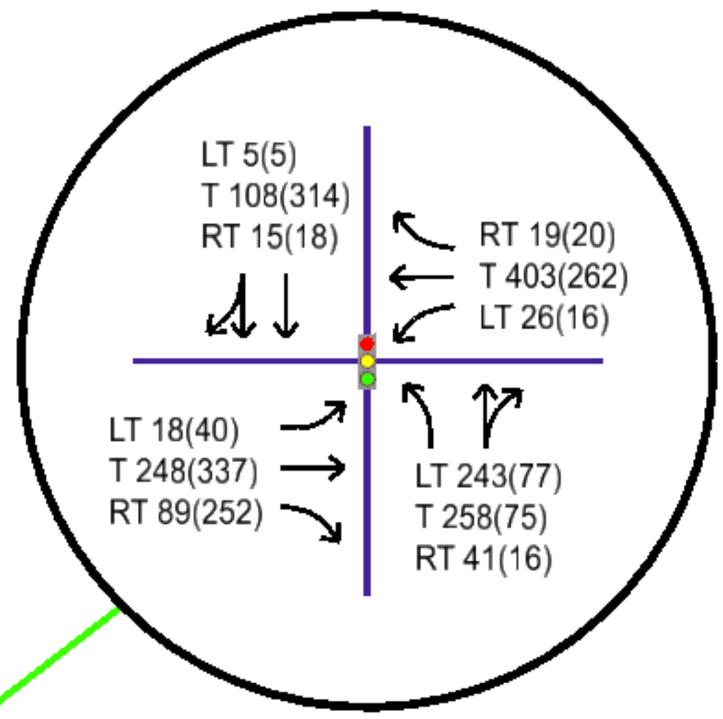
Un-signalized Intersection

NTS

Pecos Road

Existing Year 2025
Turning Movement Volumes



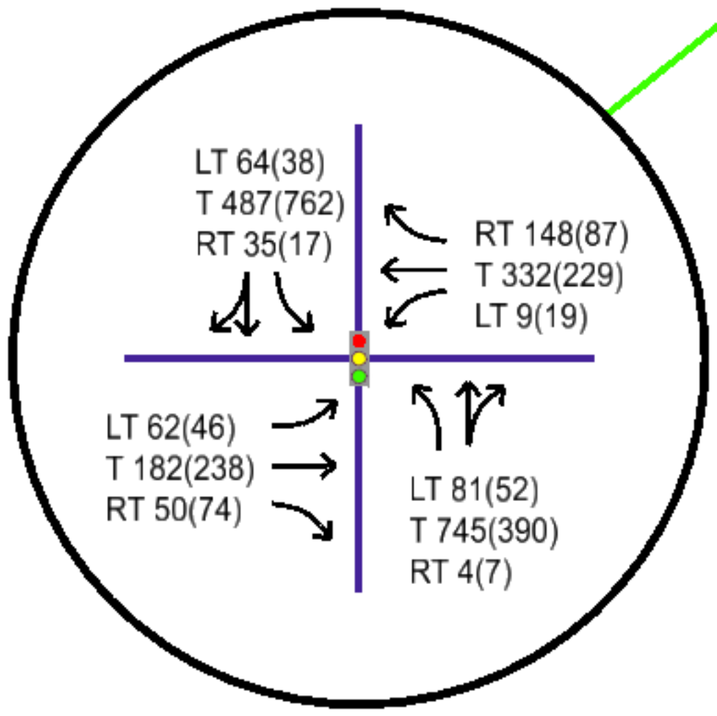


Germann Rd

Ellsworth Rd

Crismon Rd

Signal Butte Rd



LEGEND

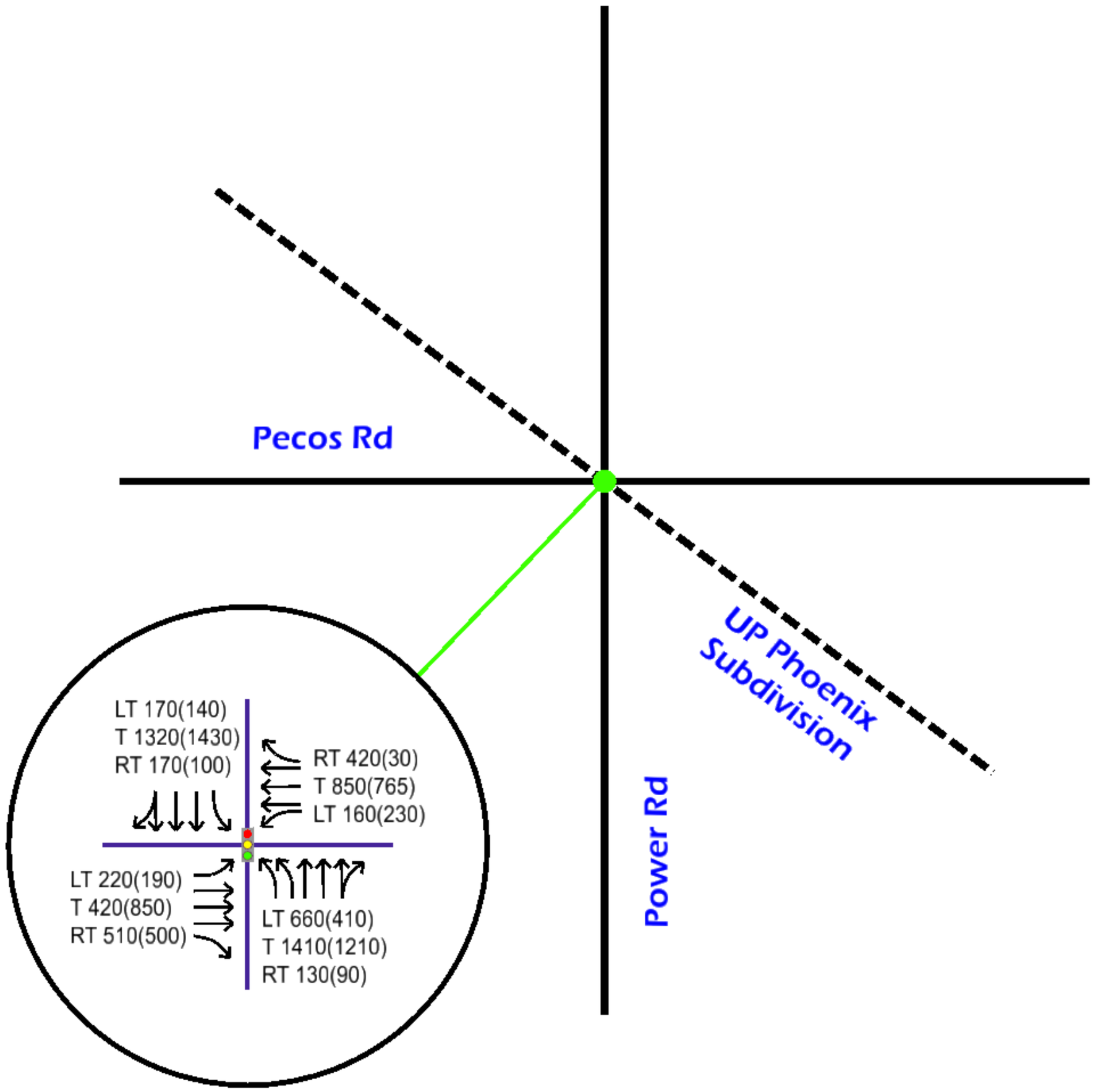
Signalized Intersection XXX(YYY) Peak Hour Volumes AM(PM)

Un-signalized Intersection

NTS

Germann Road

Existing Year 2025
Turning Movement Volumes



LEGEND

Signalized Intersection XXX(YYY) Peak Hour Volumes AM(PM)

Un-signalized Intersection

NTS

Power Road & Pecos Road

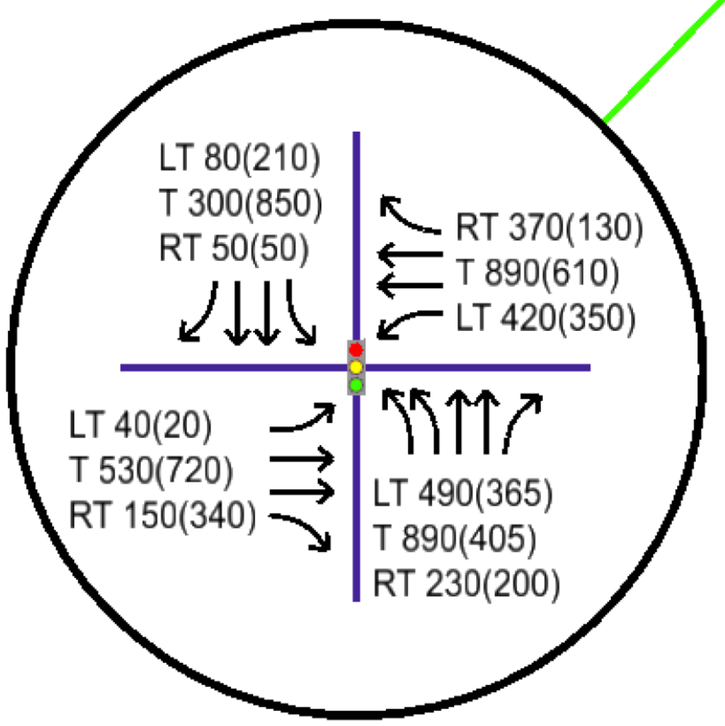
No Build Year 2050 Turning Movement Volumes

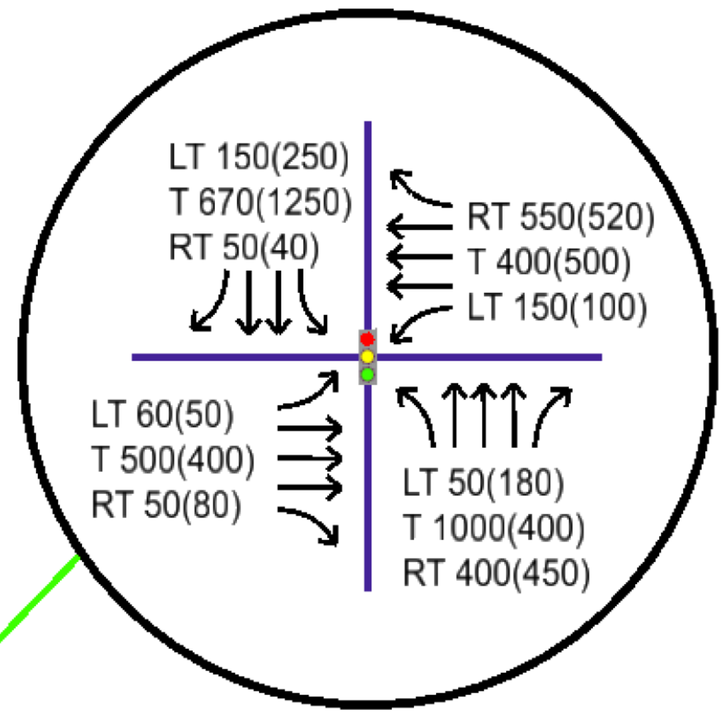
Pecos Rd

Sossaman Rd

Germann Rd

UP Phoenix Subdivision





LEGEND

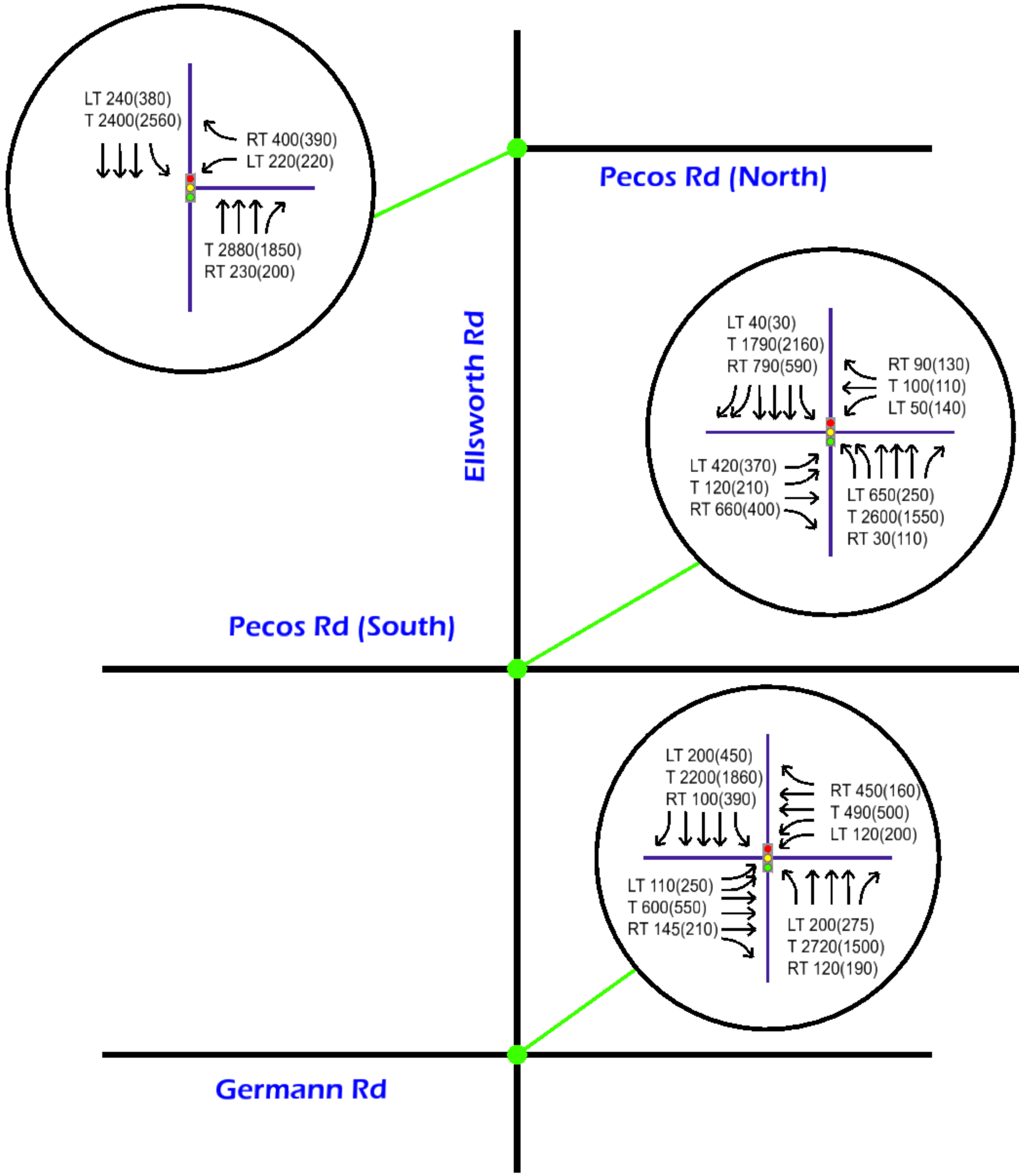
Signalized Intersection XXX(YYY) Peak Hour Volumes AM(PM)

Un-signalized Intersection

NTS

Sossaman Road

No Build Year 2050
Turning Movement Volumes



LEGEND

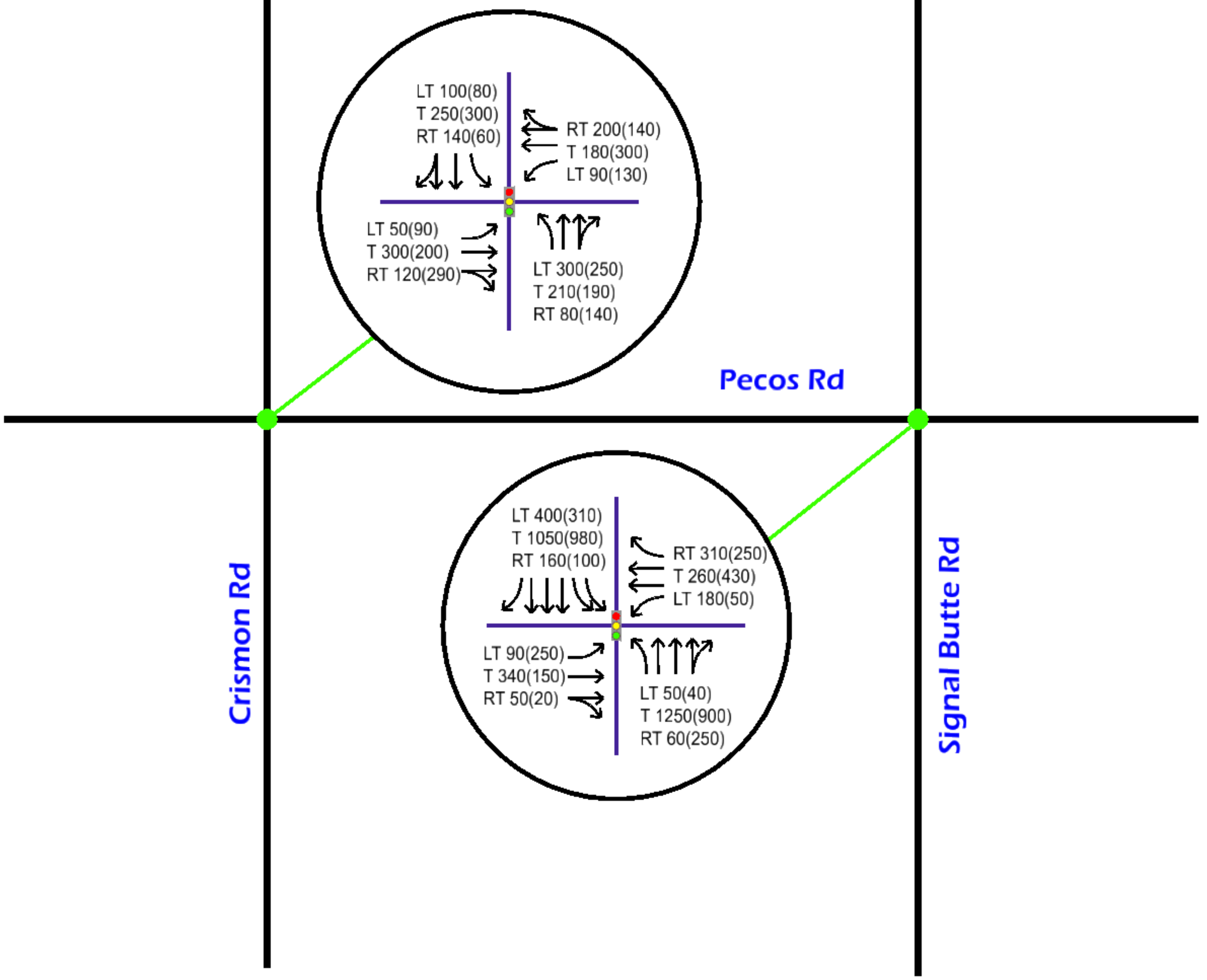
Signalized Intersection XXX(YYY) Peak Hour Volumes AM(PM)

Un-signalized Intersection

NTS

Ellsworth Road

No Build Year 2050
Turning Movement Volumes



LEGEND

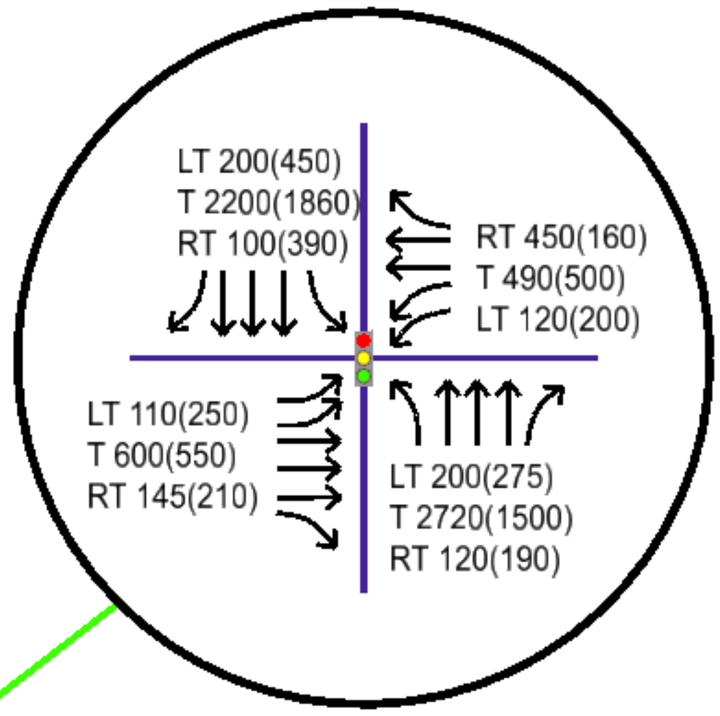
Signalized Intersection XXX(YYY) Peak Hour Volumes AM(PM)

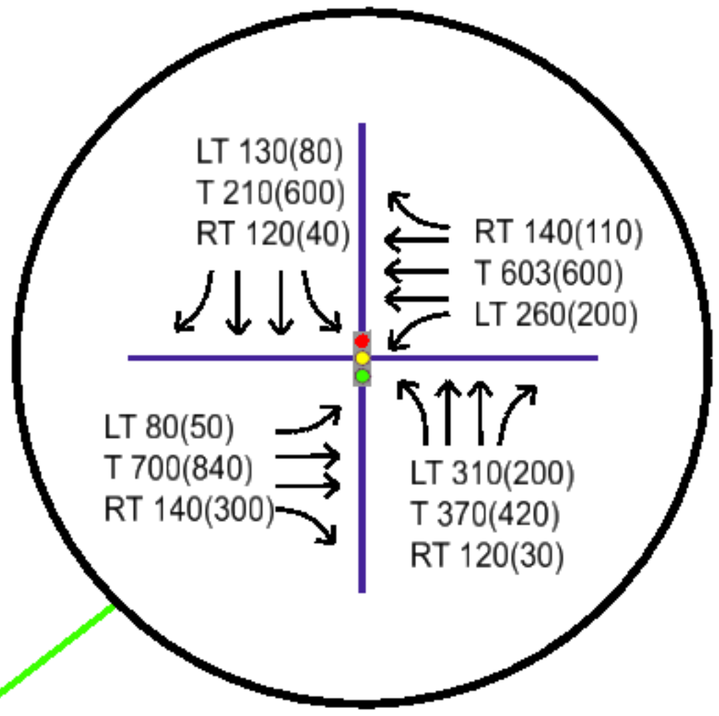
Un-signalized Intersection

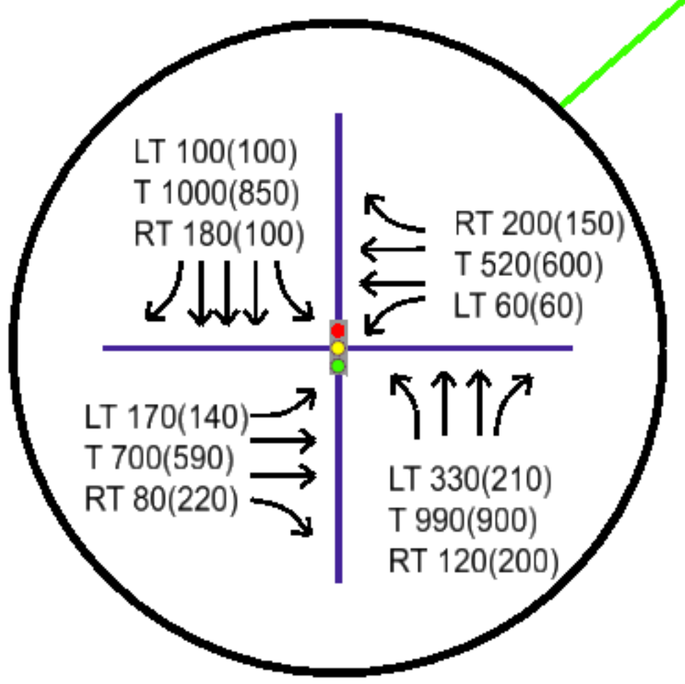
NTS

Pecos Road

No Build Year 2050
Turning Movement Volumes







Germann Rd

Ellsworth Rd

Crismon Rd

Signal Butte Rd

LEGEND

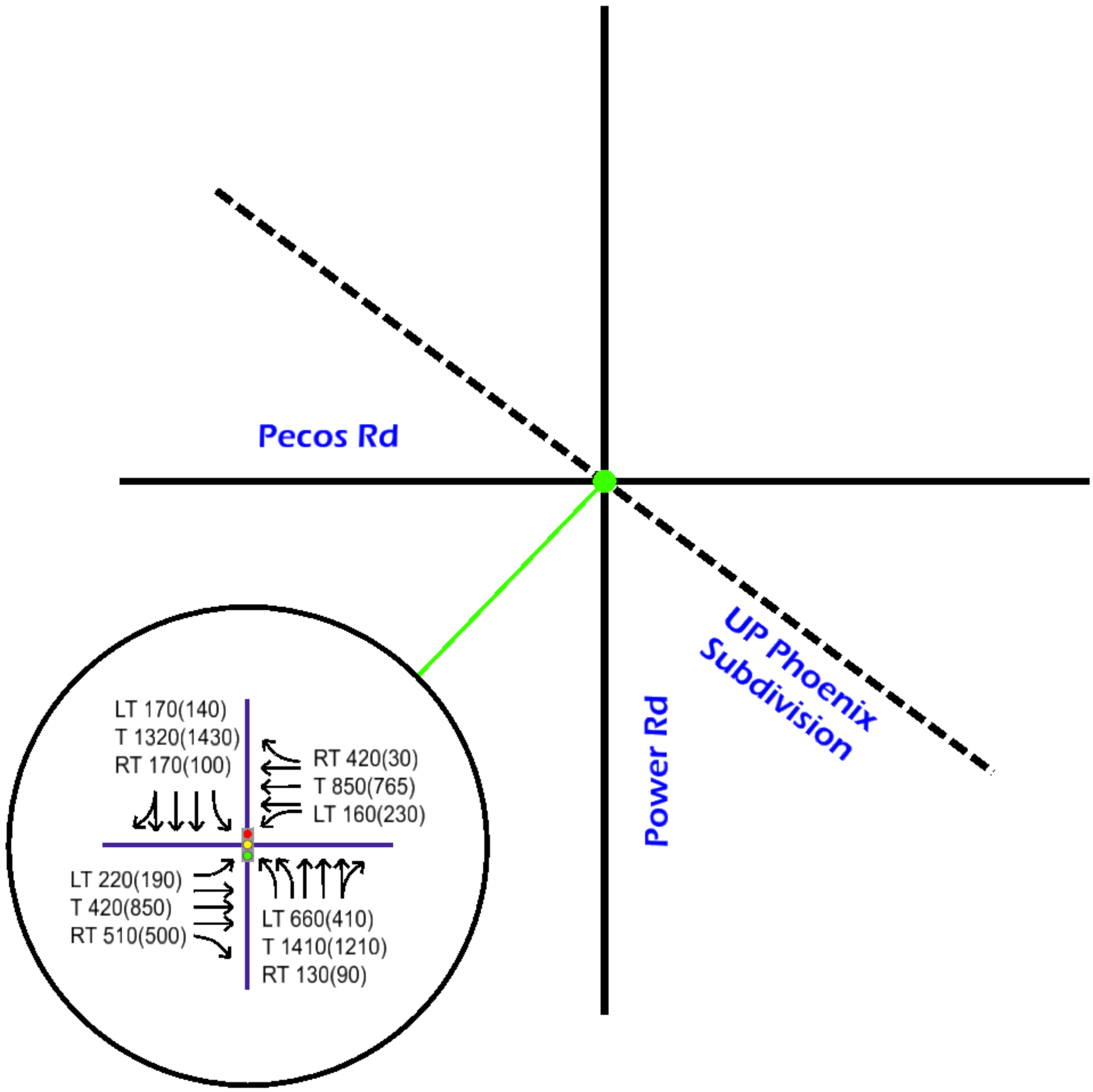
Signalized Intersection XXX(YYY) Peak Hour Volumes AM(PM)

Un-signalized Intersection

NTS

Germann Road

No Build Year 2050
Turning Movement Volumes



LEGEND

Signalized Intersection XXX(YYY) Peak Hour Volumes AM(PM)

Un-signalized Intersection

NTS

Power Road & Pecos Road

Build Year 2050
Turning Movement Volumes

UP Pirate

Pecos Rd

LT 80(210)
T 300(850)
RT 50(50)

RT 370(130)
T 890(610)
LT 420(350)

LT 40(20)
T 530(720)
RT 150(340)

LT 490(365)
T 890(405)
RT 230(200)

Sossaman Rd

LT 150(250)
T 670(1250)
RT 50(40)

RT 550(520)
T 400(500)
LT 150(100)

LT 60(50)
T 500(400)
RT 50(80)

LT 50(180)
T 1000(400)
RT 400(450)

Germann Rd

UP Phoenix Subdivision

LEGEND

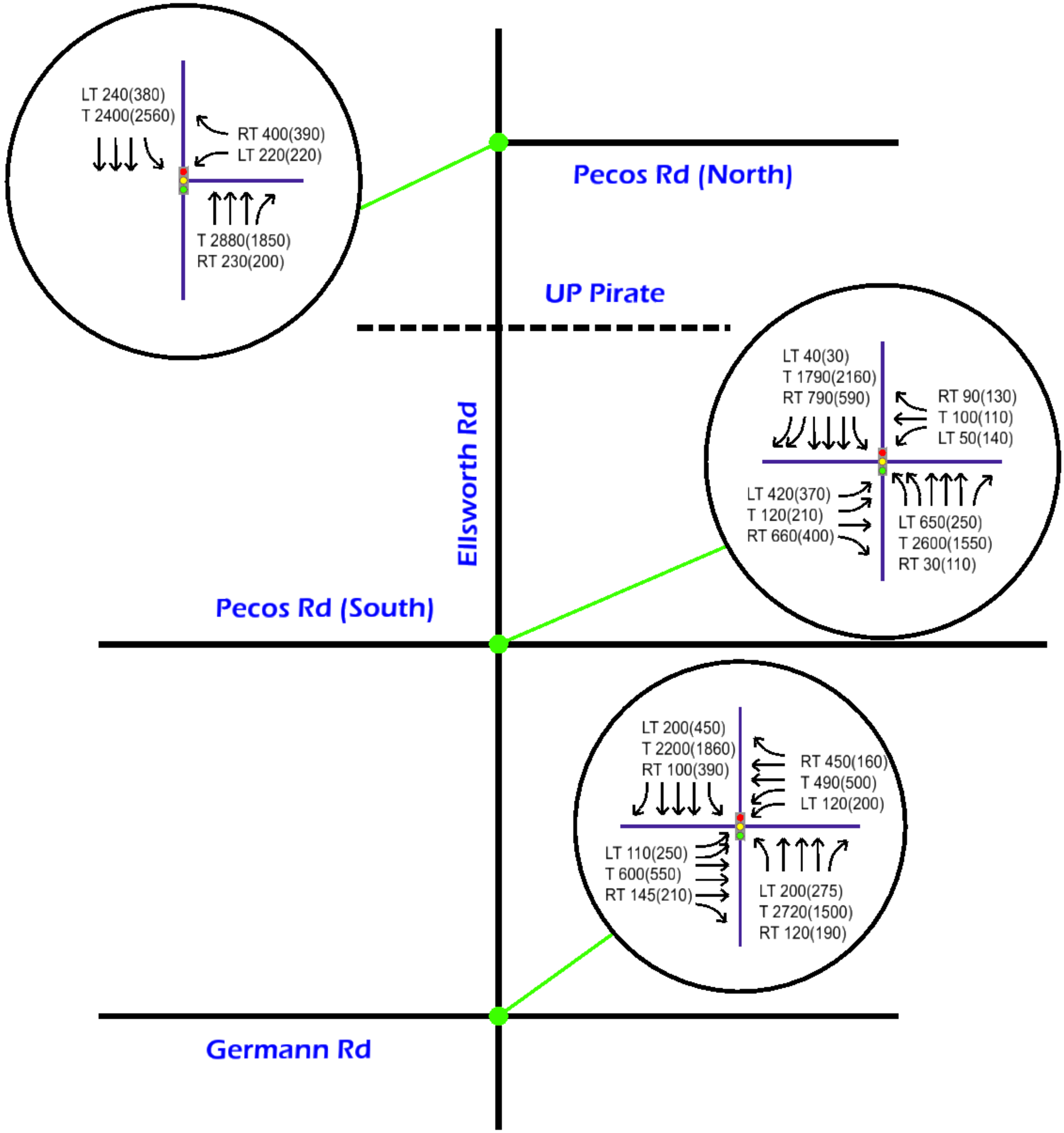
Signalized Intersection XXX(YYY) Peak Hour Volumes AM(PM)

Un-signalized Intersection

NTS

Sossaman Road

Build Year 2050
Turning Movement Volumes



LEGEND

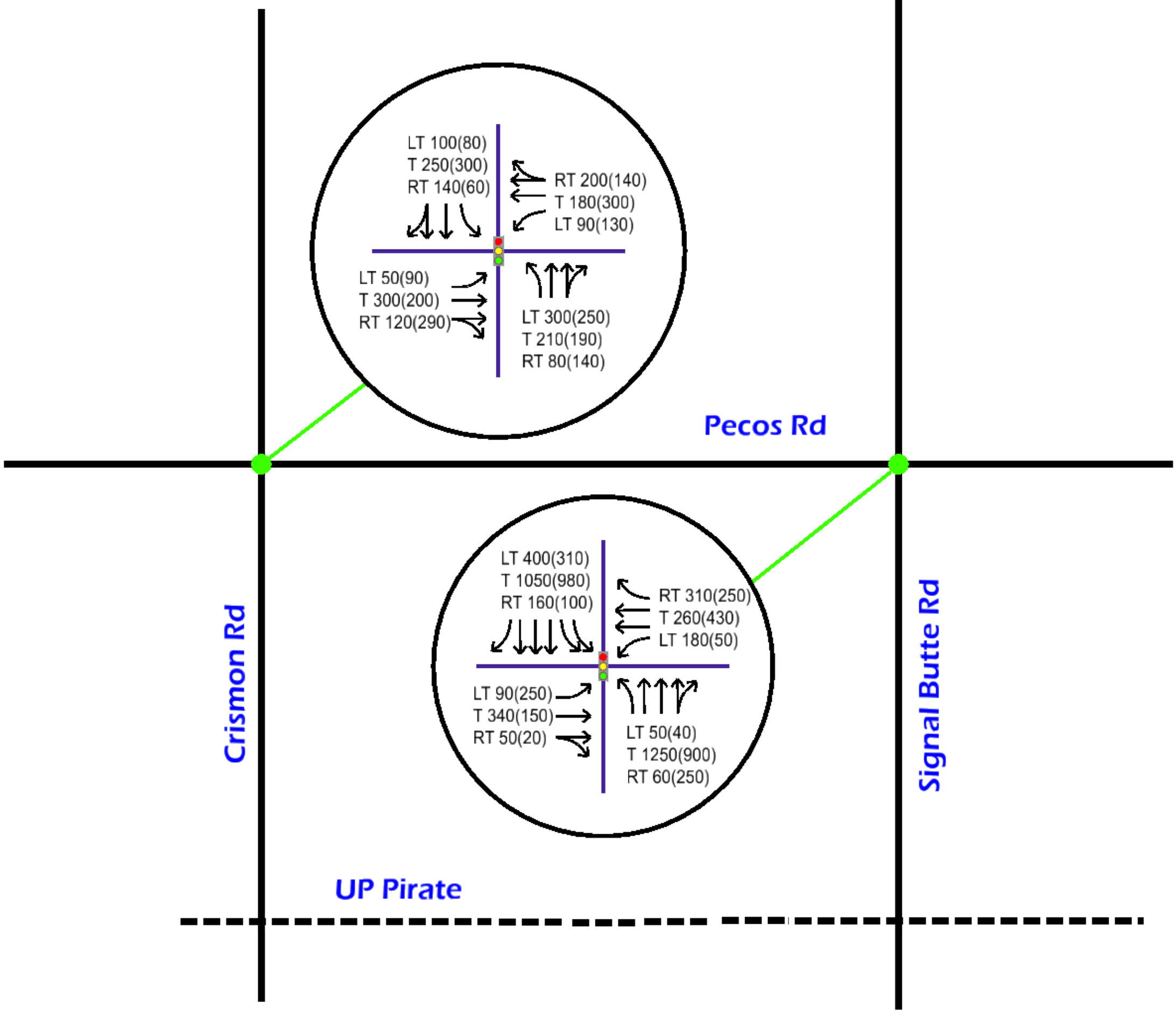
Signalized Intersection XXX(YYY) Peak Hour Volumes AM(PM)

Un-signalized Intersection

NTS

Ellsworth Road

Build Year 2050
Turning Movement Volumes



LEGEND

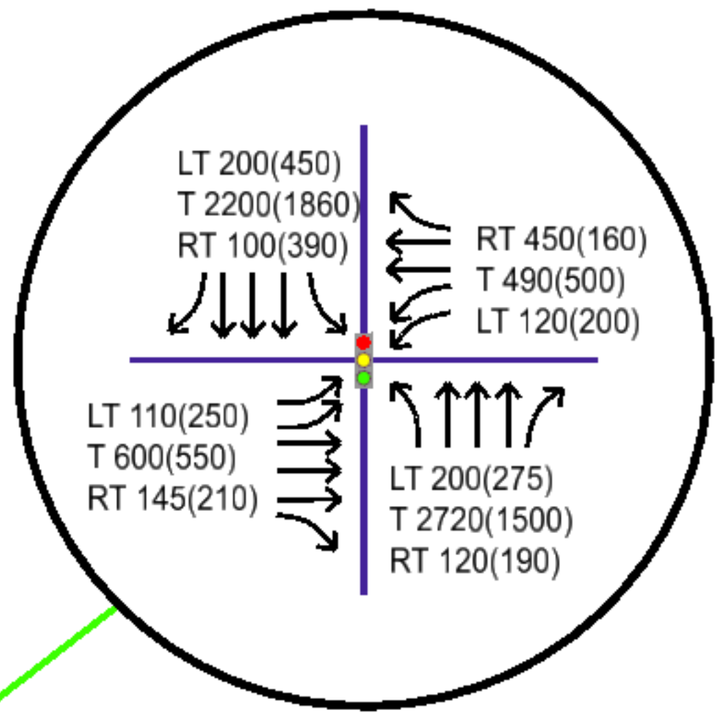
Signalized Intersection XXX(YYY) Peak Hour Volumes AM(PM)

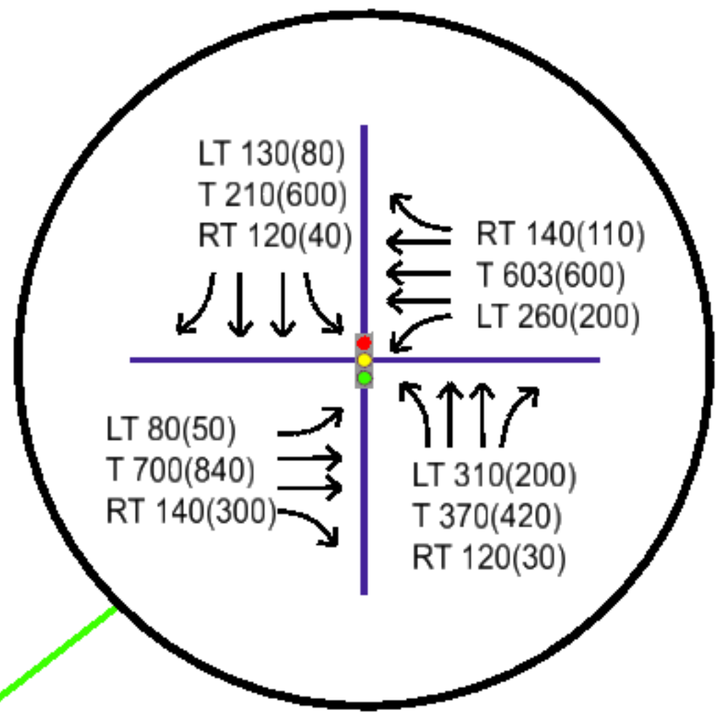
Un-signalized Intersection

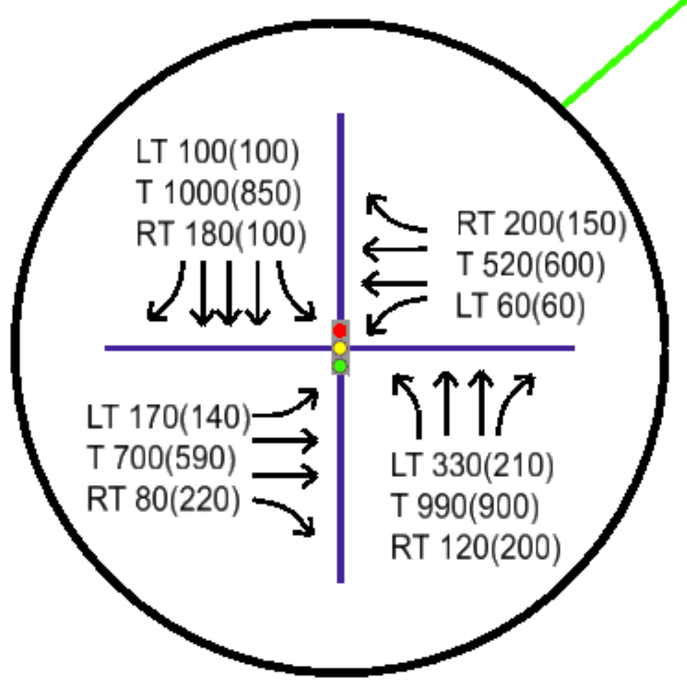
NTS

Pecos Road

Build Year 2050
Turning Movement Volumes







Germann Rd

Ellsworth Rd

Crismon Rd

Signal Butte Rd

LEGEND

Signalized Intersection XXX(YYY) Peak Hour Volumes AM(PM)

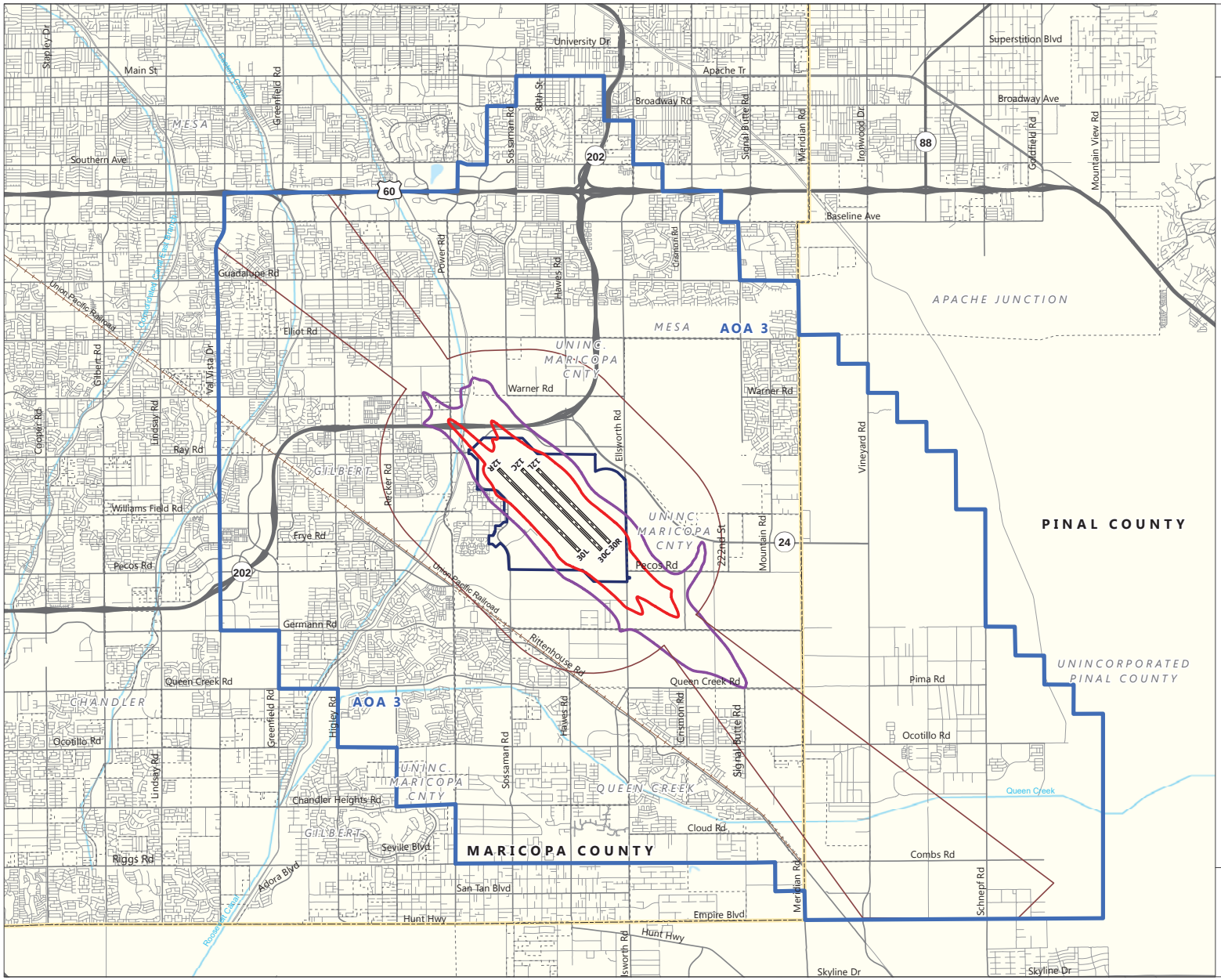
Un-signalized Intersection

NTS

Germann Road

Build Year 2050
Turning Movement Volumes

Appendix B
Phoenix-Mesa Gateway Airport 2017 Noise Contours



LEGEND

- Existing Airport Boundary
- Municipal Boundary
- County Boundary
- Updated AOA 1
- Updated AOA 2
- Updated AOA 3
- 14 CFR Part 77 Horizontal and Outer Approach Surfaces
- Highway
- Arterial Street
- Local Street
- Railroad
- Waterways

NORTH 0 8,800 ft.

SOURCES: Phoenix-Mesa Gateway Airport Layout Plan, April 8, 2015 (airport property boundary); Airport Airspace Drawing, April 2015 (14 Part 77); Maricopa County Department of Transportation, 2012 (streets and highways); U.S. Census Bureau, 2014 (municipal boundaries, railroad); Ricondo & Associates, based upon a review of aircraft flight tracks and noise complaint location data, August 2014 (Study Area); Ricondo & Associates, based upon a review of aircraft flight tracks and noise complaint location data, October 2016 (Potential New AOA)

PREPARED BY: Ricondo & Associates, Inc., January 20167

Exhibit 1

Updated Airport Planning Area and Overlay Zones

W:\Projects\WA\Land Use Compatibility\MXD\Exhibit_1_Proposed Updated Airport Planning Area and Overlay Zones with Park77.mxd

Appendix C
FRA CREATE and Grade Crossing Horn Noise Model Data

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: E1 @ STA 1481 (65 dBA contour)

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	57	59
Source 1	65	56	59
Source 2	48	40	42
Source 3	51	44	44
Source 4	56	49	49
Source 5	0	0	0
Source 6	0	0	0
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14								
Distance (source to receiver)	distance (ft)	94	distance (ft)	94	distance (ft)	865	distance (ft)	1437								
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	415	vehicles/hour	3241								
	locos/train	4	length of cars (ft) / train	60												
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	471	vehicles/hour	3225								
	locos/train	4	length of cars (ft) / train	60												
Wheel Flats?			% of cars w/ wheel flats													
Jointed Track?	Y/N	N	Y/N	N												
Embedded Track?	Y/N	N	Y/N	N												
Aerial Structure?	Y/N	N	Y/N	N												
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N								
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0								

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: E2 @ STA 1491 (65 dBA contour)

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	57	59
Source 1	64	56	58
Source 2	48	39	42
Source 3	56	49	50
Source 4	53	47	47
Source 5	0	0	0
Source 6	0	0	0
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14								
Distance (source to receiver)	distance (ft)	101	distance (ft)	101	distance (ft)	373	distance (ft)	2195								
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	415	vehicles/hour	3241								
	locos/train	4	length of cars (ft) / train	60												
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	471	vehicles/hour	3225								
	locos/train	4	length of cars (ft) / train	60												
Wheel Flats?			% of cars w/ wheel flats													
Jointed Track?	Y/N	N	Y/N	N												
Embedded Track?	Y/N	N	Y/N	N												
Aerial Structure?	Y/N	N	Y/N	N												
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N								
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0								

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: E3 @ STA 1501 (65 dBA contour)

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	57	59
Source 1	64	55	58
Source 2	47	39	41
Source 3	59	52	52
Source 4	51	44	44
Source 5	0	0	0
Source 6	0	0	0
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14								
Distance (source to receiver)	distance (ft)	108	distance (ft)	108	distance (ft)	252	distance (ft)	3076								
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	415	vehicles/hour	3241								
	locos/train	4	length of cars (ft) / train	60												
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	471	vehicles/hour	3225								
	locos/train	4	length of cars (ft) / train	60												
Wheel Flats?			% of cars w/ wheel flats													
Jointed Track?	Y/N	N	Y/N	N												
Embedded Track?	Y/N	N	Y/N	N												
Aerial Structure?	Y/N	N	Y/N	N												
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N								
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0								

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: E4 @ STA 1511 (65 dBA contour)

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	57	59
Source 1	65	56	58
Source 2	48	40	42
Source 3	57	50	51
Source 4	49	43	43
Source 5	0	0	0
Source 6	0	0	0
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14								
Distance (source to receiver)	distance (ft)	96	distance (ft)	96	distance (ft)	324	distance (ft)	3902								
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	415	vehicles/hour	3241								
	locos/train	4	length of cars (ft) / train	60												
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	471	vehicles/hour	3225								
	locos/train	4	length of cars (ft) / train	60												
Wheel Flats?			% of cars w/ wheel flats													
Jointed Track?	Y/N	N	Y/N	N												
Embedded Track?	Y/N	N	Y/N	N												
Aerial Structure?	Y/N	N	Y/N	N												
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N								
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0								

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: E5 @ STA 1521 (65 dBA contour)

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	58	59
Source 1	64	55	57
Source 2	47	39	41
Source 3	58	51	51
Source 4	58	51	51
Source 5	0	0	0
Source 6	0	0	0
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14								
Distance (source to receiver)	distance (ft)	111	distance (ft)	111	distance (ft)	357	distance (ft)	620								
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	543	vehicles/hour	1451								
	locos/train	4	length of cars (ft) / train	60												
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	653	vehicles/hour	1415								
	locos/train	4	length of cars (ft) / train	60												
Wheel Flats?			% of cars w/ wheel flats													
Jointed Track?	Y/N	N	Y/N	N												
Embedded Track?	Y/N	N	Y/N	N												
Aerial Structure?	Y/N	N	Y/N	N												
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N								
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0								

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: E7 @ STA 1541 (65 dBA contour)

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	58	59
Source 1	64	55	57
Source 2	47	39	41
Source 3	60	55	53
Source 4	53	47	47
Source 5	0	0	0
Source 6	0	0	0
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14								
Distance (source to receiver)	distance (ft)	111	distance (ft)	111	distance (ft)	562	distance (ft)	1245								
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	2773	vehicles/hour	1451								
	locos/train	4	length of cars (ft) / train	60												
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1971	vehicles/hour	1415								
	locos/train	4	length of cars (ft) / train	60												
Wheel Flats?			% of cars w/ wheel flats													
Jointed Track?	Y/N	N	Y/N	N												
Embedded Track?	Y/N	N	Y/N	N												
Aerial Structure?	Y/N	N	Y/N	N												
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N								
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0								

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: E8 @ STA 1551 (65 dBA contour)

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	59	59
Source 1	60	52	54
Source 2	44	35	37
Source 3	63	58	56
Source 4	54	48	47
Source 5	0	0	0
Source 6	0	0	0
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14								
Distance (source to receiver)	distance (ft)	191	distance (ft)	191	distance (ft)	367	distance (ft)	1106								
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	2773	vehicles/hour	1451								
	locos/train	4	length of cars (ft) / train	60												
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1971	vehicles/hour	1415								
	locos/train	4	length of cars (ft) / train	60												
Wheel Flats?			% of cars w/ wheel flats													
Jointed Track?	Y/N	N	Y/N	N												
Embedded Track?	Y/N	N	Y/N	N												
Aerial Structure?	Y/N	N	Y/N	N												
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N								
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0								

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: E9 @ STA 1561 (65 dBA contour)

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	59	58
Source 1	60	51	54
Source 2	43	35	37
Source 3	63	58	56
Source 4	51	45	45
Source 5	42	43	29
Source 6	22	22	12
Source 7	15	17	-38
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**			
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Crossover	13				
Distance (source to receiver)	distance (ft)	200	distance (ft)	200	distance (ft)	360	distance (ft)	1654	distance (ft)	215	distance (ft)	215	distance (ft)	587				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	trains/hour	0.066667				
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	2773	vehicles/hour	1451	trains/hour	0.066667	trains/hour	0.066667	duration of one train (sec)	425.1818				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60						
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	0	speed (mph)	10	trains/hour	0				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1971	vehicles/hour	1415	trains/hour	0	trains/hour	0	duration of one train (sec)	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0						
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats							
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N							
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N					
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: E10 @ STA 1571 (65 dBA contour)

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	59	58
Source 1	60	51	54
Source 2	43	35	37
Source 3	63	58	56
Source 4	49	43	43
Source 5	42	43	29
Source 6	22	22	12
Source 7	4	6	-48
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Crossover	13		
Distance (source to receiver)	distance (ft)	200	distance (ft)	200	distance (ft)	363	distance (ft)	2305	distance (ft)	226	distance (ft)	226	distance (ft)	1557		
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	trains/hour	0.066667		
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	2773	vehicles/hour	1451	trains/hour	0.066667	trains/hour	0.066667	duration of one train (sec)	425.1818		
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	trains/hour	0		
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1971	vehicles/hour	1415	trains/hour	0	trains/hour	0	duration of one train (sec)	0		
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N			
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N			
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N		
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0		

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: E11 @ STA 1581 (65 dBA contour)

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	59	58
Source 1	60	51	54
Source 2	43	35	37
Source 3	63	58	56
Source 4	48	42	41
Source 5	44	45	31
Source 6	24	24	14
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	200	distance (ft)	200	distance (ft)	353	distance (ft)	2794	distance (ft)	164	distance (ft)	164				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	2773	vehicles/hour	1451	trains/hour	0.066667	trains/hour	0.066667				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1971	vehicles/hour	1415	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: E12 @ STA 1591 (65 dBA contour)

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	59	58
Source 1	60	51	54
Source 2	43	35	37
Source 3	63	58	56
Source 4	46	40	40
Source 5	44	45	31
Source 6	24	24	14
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	200	distance (ft)	200	distance (ft)	359	distance (ft)	3477	distance (ft)	164	distance (ft)	164				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	2773	vehicles/hour	1451	trains/hour	0.066667	trains/hour	0.066667				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1971	vehicles/hour	1415	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: E13 @ STA 1601 (65 dBA contour)

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	59	58
Source 1	60	51	54
Source 2	43	35	37
Source 3	63	58	56
Source 4	46	39	39
Source 5	44	45	30
Source 6	23	23	13
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	200	distance (ft)	200	distance (ft)	363	distance (ft)	3992	distance (ft)	169	distance (ft)	169				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	2773	vehicles/hour	1451	trains/hour	0.066667	trains/hour	0.066667				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1971	vehicles/hour	1415	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: E14 @ STA 1611 (65 dBA contour)

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	59	58
Source 1	60	51	54
Source 2	43	35	37
Source 3	63	58	56
Source 4	49	40	43
Source 5	42	43	29
Source 6	22	22	12
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	200	distance (ft)	200	distance (ft)	366	distance (ft)	3890	distance (ft)	215	distance (ft)	215				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	2773	vehicles/hour	1619	trains/hour	0.066667	trains/hour	0.066667				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1971	vehicles/hour	3251	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: E15 @ STA 1621 (65 dBA contour)

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	59	59
Source 1	61	52	55
Source 2	44	36	38
Source 3	63	58	57
Source 4	51	42	45
Source 5	44	45	31
Source 6	24	24	14
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	170	distance (ft)	170	distance (ft)	339	distance (ft)	2640	distance (ft)	161	distance (ft)	161				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	2773	vehicles/hour	1619	trains/hour	0.066667	trains/hour	0.066667				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1971	vehicles/hour	3251	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: E16 @ STA 1631 (65 dBA contour)

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	63	56	56
Source 1	59	51	53
Source 2	43	35	37
Source 3	60	54	53
Source 4	49	40	43
Source 5	41	42	28
Source 6	21	21	11
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	97	distance (ft)	97	distance (ft)	274	distance (ft)	1723	distance (ft)	112	distance (ft)	112				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	2773	vehicles/hour	1619	trains/hour	0.066667	trains/hour	0.066667				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1971	vehicles/hour	3251	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: E17 @ STA 1641 (65 dBA contour)

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	63	57	57
Source 1	59	51	53
Source 2	43	35	37
Source 3	60	54	53
Source 4	55	46	49
Source 5	41	42	28
Source 6	21	21	11
Source 7	12	14	-40
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**			
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Crossover	13				
Distance (source to receiver)	distance (ft)	97	distance (ft)	97	distance (ft)	279	distance (ft)	715	distance (ft)	112	distance (ft)	112	distance (ft)	452				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	trains/hour	0.066667				
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	2773	vehicles/hour	1619	trains/hour	0.066667	trains/hour	0.066667	duration of one train (sec)	425.1818				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60						
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	trains/hour	0				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1971	vehicles/hour	3251	trains/hour	0	trains/hour	0	duration of one train (sec)	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0						
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats							
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N							
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: W1 @ STA 1481 (65 dBA contour)

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	57	59
Source 1	65	56	58
Source 2	48	40	42
Source 3	52	45	45
Source 4	56	50	50
Source 5	0	0	0
Source 6	0	0	0
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14								
Distance (source to receiver)	distance (ft)	95	distance (ft)	95	distance (ft)	735	distance (ft)	1327								
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	415	vehicles/hour	3241								
	locos/train	4	length of cars (ft) / train	60												
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	471	vehicles/hour	3225								
	locos/train	4	length of cars (ft) / train	60												
Wheel Flats?			% of cars w/ wheel flats													
Jointed Track?	Y/N	N	Y/N	N												
Embedded Track?	Y/N	N	Y/N	N												
Aerial Structure?	Y/N	N	Y/N	N												
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N								
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0								

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: W2 @ STA 1491 (65 dBA contour)

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	58	59
Source 1	63	55	57
Source 2	47	38	41
Source 3	61	54	54
Source 4	53	47	47
Source 5	0	0	0
Source 6	0	0	0
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14								
Distance (source to receiver)	distance (ft)	117	distance (ft)	117	distance (ft)	189	distance (ft)	2038								
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	415	vehicles/hour	3241								
	locos/train	4	length of cars (ft) / train	60												
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	471	vehicles/hour	3225								
	locos/train	4	length of cars (ft) / train	60												
Wheel Flats?			% of cars w/ wheel flats													
Jointed Track?	Y/N	N	Y/N	N												
Embedded Track?	Y/N	N	Y/N	N												
Aerial Structure?	Y/N	N	Y/N	N												
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N								
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0								

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: W3 @ STA 1501 (65 dBA contour)

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	58	59
Source 1	57	49	51
Source 2	41	32	34
Source 3	64	58	58
Source 4	53	47	47
Source 5	0	0	0
Source 6	0	0	0
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14								
Distance (source to receiver)	distance (ft)	305	distance (ft)	305	distance (ft)	103	distance (ft)	2156								
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	415	vehicles/hour	3241								
	locos/train	4	length of cars (ft) / train	60												
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	471	vehicles/hour	3225								
	locos/train	4	length of cars (ft) / train	60												
Wheel Flats?			% of cars w/ wheel flats													
Jointed Track?	Y/N	N	Y/N	N												
Embedded Track?	Y/N	N	Y/N	N												
Aerial Structure?	Y/N	N	Y/N	N												
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N								
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0								

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: W4 @ STA 1511 (65 dBA contour)

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	58	59
Source 1	63	55	57
Source 2	47	38	41
Source 3	61	54	54
Source 4	53	47	47
Source 5	0	0	0
Source 6	0	0	0
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14								
Distance (source to receiver)	distance (ft)	117	distance (ft)	117	distance (ft)	189	distance (ft)	2156								
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	415	vehicles/hour	3241								
	locos/train	4	length of cars (ft) / train	60												
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	471	vehicles/hour	3225								
	locos/train	4	length of cars (ft) / train	60												
Wheel Flats?			% of cars w/ wheel flats													
Jointed Track?	Y/N	N	Y/N	N												
Embedded Track?	Y/N	N	Y/N	N												
Aerial Structure?	Y/N	N	Y/N	N												
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N								
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0								

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: W5 @ STA 1521 (65 dBA contour)

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	58	59
Source 1	62	53	56
Source 2	45	37	39
Source 3	51	44	45
Source 4	63	56	56
Source 5	0	0	0
Source 6	0	0	0
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14								
Distance (source to receiver)	distance (ft)	148	distance (ft)	148	distance (ft)	802	distance (ft)	491								
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	415	vehicles/hour	3241								
	locos/train	4	length of cars (ft) / train	60												
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	471	vehicles/hour	3225								
	locos/train	4	length of cars (ft) / train	60												
Wheel Flats?			% of cars w/ wheel flats													
Jointed Track?	Y/N	N	Y/N	N												
Embedded Track?	Y/N	N	Y/N	N												
Aerial Structure?	Y/N	N	Y/N	N												
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N								
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0								

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: W7 @ STA 1541 (65 dBA contour)

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	59	59
Source 1	62	54	56
Source 2	46	37	39
Source 3	62	57	55
Source 4	54	48	48
Source 5	0	0	0
Source 6	0	0	0
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14								
Distance (source to receiver)	distance (ft)	141	distance (ft)	141	distance (ft)	406	distance (ft)	1081								
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	2773	vehicles/hour	1451								
	locos/train	4	length of cars (ft) / train	60												
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1971	vehicles/hour	1415								
	locos/train	4	length of cars (ft) / train	60												
Wheel Flats?			% of cars w/ wheel flats													
Jointed Track?	Y/N	N	Y/N	N												
Embedded Track?	Y/N	N	Y/N	N												
Aerial Structure?	Y/N	N	Y/N	N												
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N								
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0								

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: W8 @ STA 1551 (65 dBA contour)

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	59	58
Source 1	58	49	51
Source 2	41	33	35
Source 3	64	58	57
Source 4	44	37	38
Source 5	0	0	0
Source 6	0	0	0
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14								
Distance (source to receiver)	distance (ft)	278	distance (ft)	278	distance (ft)	94	distance (ft)	1365								
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	35	speed (mph)	45								
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	2773	vehicles/hour	543								
	locos/train	4	length of cars (ft) / train	60												
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	35	speed (mph)	45								
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1971	vehicles/hour	653								
	locos/train	4	length of cars (ft) / train	60												
Wheel Flats?			% of cars w/ wheel flats													
Jointed Track?	Y/N	N	Y/N	N												
Embedded Track?	Y/N	N	Y/N	N												
Aerial Structure?	Y/N	N	Y/N	N												
Barrier Present?	Y/N	N	Y/N	N	Y/N	Y	Y/N	Y								
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0								

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: W9 @ STA 1561 (65 dBA contour)

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	60	59
Source 1	53	44	46
Source 2	36	28	30
Source 3	65	60	59
Source 4	42	34	35
Source 5	36	37	23
Source 6	16	16	6
Source 7	8	10	-44
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Crossover	13		
Distance (source to receiver)	distance (ft)	277	distance (ft)	277	distance (ft)	117	distance (ft)	2008	distance (ft)	262	distance (ft)	262	distance (ft)	658		
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	trains/hour	0.066667		
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	2773	vehicles/hour	543	trains/hour	0.066667	trains/hour	0.066667	duration of one train (sec)	425.1818		
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	trains/hour	0		
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1971	vehicles/hour	653	trains/hour	0	trains/hour	0	duration of one train (sec)	0		
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N			
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N			
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y		
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0		

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: W10 @ STA 1571 (65 dBA contour)

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	60	59
Source 1	53	44	46
Source 2	36	28	30
Source 3	65	60	59
Source 4	40	32	33
Source 5	37	38	24
Source 6	17	17	7
Source 7	-2	0	-54
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Crossover	13		
Distance (source to receiver)	distance (ft)	277	distance (ft)	277	distance (ft)	117	distance (ft)	2691	distance (ft)	220	distance (ft)	220	distance (ft)	1638		
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	trains/hour	0.066667		
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	2773	vehicles/hour	543	trains/hour	0.066667	trains/hour	0.066667	duration of one train (sec)	425.1818		
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	trains/hour	0		
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1971	vehicles/hour	653	trains/hour	0	trains/hour	0	duration of one train (sec)	0		
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N			
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N			
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y		
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0		

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: W11 @ STA 1579 (65 dBA contour)

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	60	59
Source 1	53	44	46
Source 2	36	28	30
Source 3	65	60	59
Source 4	44	36	37
Source 5	35	37	22
Source 6	15	15	5
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	277	distance (ft)	277	distance (ft)	117	distance (ft)	3169	distance (ft)	271	distance (ft)	271				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	2773	vehicles/hour	543	trains/hour	0.066667	trains/hour	0.066667				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1971	vehicles/hour	653	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	N	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: W12 @ STA 1591 (65 dBA contour)

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	60	59
Source 1	53	44	46
Source 2	36	28	30
Source 3	65	60	59
Source 4	42	35	36
Source 5	36	37	23
Source 6	16	16	6
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	277	distance (ft)	277	distance (ft)	116	distance (ft)	3758	distance (ft)	261	distance (ft)	261				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	2773	vehicles/hour	517	trains/hour	0.066667	trains/hour	0.066667				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1971	vehicles/hour	608	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	N	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: W13 @ STA 1601 (65 dBA contour)

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	60	59
Source 1	53	44	46
Source 2	36	28	30
Source 3	65	60	59
Source 4	41	34	35
Source 5	36	37	23
Source 6	16	16	6
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	277	distance (ft)	277	distance (ft)	117	distance (ft)	4385	distance (ft)	262	distance (ft)	262				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	2773	vehicles/hour	517	trains/hour	0.066667	trains/hour	0.066667				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1971	vehicles/hour	608	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	N	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: W14 @ STA 1611 (65 dBA contour)

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	60	59
Source 1	55	46	49
Source 2	38	30	32
Source 3	65	60	58
Source 4	49	40	43
Source 5	40	42	27
Source 6	20	20	10
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	428	distance (ft)	428	distance (ft)	260	distance (ft)	3881	distance (ft)	271	distance (ft)	271				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	2773	vehicles/hour	1619	trains/hour	0.066667	trains/hour	0.066667				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1971	vehicles/hour	3251	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: W15 @ STA 1621 (65 dBA contour)

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	60	59
Source 1	55	46	49
Source 2	38	30	32
Source 3	65	60	58
Source 4	47	38	41
Source 5	38	39	25
Source 6	18	18	8
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	433	distance (ft)	433	distance (ft)	258	distance (ft)	2775	distance (ft)	418	distance (ft)	418				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	2773	vehicles/hour	1619	trains/hour	0.066667	trains/hour	0.066667				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1971	vehicles/hour	3251	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	1	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: W16 @ STA 1631 (65 dBA contour)

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	60	59
Source 1	55	46	48
Source 2	38	30	32
Source 3	65	60	58
Source 4	50	40	43
Source 5	38	39	24
Source 6	17	17	7
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	443	distance (ft)	443	distance (ft)	260	distance (ft)	1786	distance (ft)	428	distance (ft)	428				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	2773	vehicles/hour	1619	trains/hour	0.066667	trains/hour	0.066667				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1971	vehicles/hour	3251	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	1	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: W17 @ STA 1641 (65 dBA contour)

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	60	59
Source 1	55	46	49
Source 2	38	30	32
Source 3	65	60	58
Source 4	53	44	47
Source 5	38	39	25
Source 6	18	18	8
Source 7	-1	1	-54
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**			
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Crossover	13				
Distance (source to receiver)	distance (ft)	436	distance (ft)	436	distance (ft)	266	distance (ft)	834	distance (ft)	421	distance (ft)	421	distance (ft)	1638				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	trains/hour	0.066667				
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	2773	vehicles/hour	1619	trains/hour	0.066667	trains/hour	0.066667	duration of one train (sec)	425.1818				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60						
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	trains/hour	0				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1971	vehicles/hour	3251	trains/hour	0	trains/hour	0	duration of one train (sec)	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0						
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats							
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N							
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N					
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	2	number of rows	0	number of rows	0	number of rows	1				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

FRA Grade Crossing Noise Model

User Input	
Noise Situation (Pick from List)	1
Horn Lmax (dBA) @ 100 feet	104
Horn Location on Locomotive(Pick from List)	1
Non Train Noise Environment (pick from list)	2
Shielding (Pick from List)	3
Length of Impact Area (pick from list)	1
Existing Train Speed (mph)	60
Future Train Speed (mph)	60
Number of Existing Trains in one Direction	2
Number of Future Trains in one Direction	3
Existing Number of Day Trains (7 am to 10 p.m.)	1
Future Number of Day Trains (7 am to 10 p.m.)	2
Existing Number of Night Trains (10 p.m. to 7 am)	1
Future Number of Night Trains (10 p.m. to 7 am)	1
Existing Average Number of Cars	100
Future Average Number of Cars	100
Existing Average Number of Locomotives	4
Future Average Number of Locomotives	4

Noise Situation	
Horns Existing and Future	1
Horns in Future Only	2
No Horns Existing and Future	3

Horn Location on Locomotive			
National Average (50% front, 50% middle)			1
All Front Mounted			2
All Middle Mounted			3
User Defined	80	% front mounted horns	4

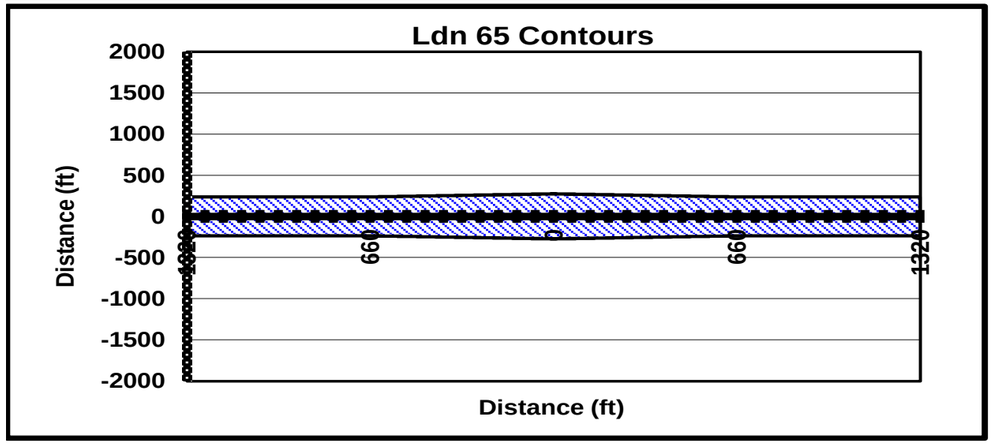
Non Train Noise Environment			
Urban			1
Suburban			2
Rural			3
User Defined Ldn =	50	dBA	4

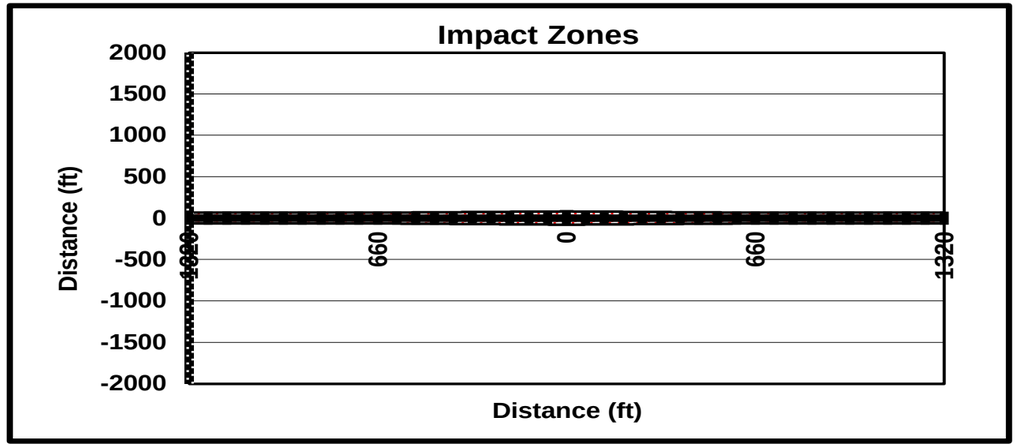
Shielding	
Dense Urban	1
Light Urban	2
Dense Suburban	3
Light Suburban	4
Rural	5
No Shielding	6

Length of Impact Area	
1/4 mile	1
20 seconds	2
15 seconds	3

Ldn 65 Contours Numeric Output (in feet)	
Existing 65 Ldn Contour at X-ing	269
Future 65 Ldn Contour at X-ing	279
Existing 65 Ldn Contour at 1/2 zone length	232
Future 65 Ldn Contour at 1/2 zone length	241
Zone Length	1320
1/2 Zone Length	660

Impact Zones Numeric Output (in feet)	
Impact Distance at X-ing	80
Severe Impact Distance at X-ing	15
Impact Distance at 1/2 zone length	65
Severe Impact Distance at 1/2 zone length	11
Zone Length	1320
1/2 Zone Length	660





Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: W1 @ STA 1481 (65 dBA contour)

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	60	59
Source 1	65	59	59
Source 2	49	43	42
Source 3	50	45	44
Source 4	32	33	19
Source 5	12	12	2
Source 6	40	42	23
Source 7	21	22	6
Source 8	12	14	-39

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Freight Locomotive	9	Freight Cars	10	Crossover	13
Distance (source to receiver)	distance (ft)	92	distance (ft)	92	distance (ft)	1328	distance (ft)	998	distance (ft)	998	distance (ft)	565	distance (ft)	565	distance (ft)	658
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	20	speed (mph)	20	speed (mph)	30	speed (mph)	30	trains/hour	0.133333
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3870	trains/hour	0.066667	trains/hour	0.066667	trains/hour	0.133333	trains/hour	0.133333	duration of one train (sec)	141.7273
	locos/train	4	length of cars (ft) / train	60			locos/train	4	length of cars (ft) / train	60	locos/train	4	length of cars (ft) / train	60		
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	0	speed (mph)	0	speed (mph)	0	speed (mph)	0	trains/hour	0
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	3250	trains/hour	0	trains/hour	0	trains/hour	0	trains/hour	0	duration of one train (sec)	0
	locos/train	4	length of cars (ft) / train	60			locos/train	0	length of cars (ft) / train	0	locos/train	0	length of cars (ft) / train	0		
Wheel Flats?			% of cars w/ wheel flats						% of cars w/ wheel flats				% of cars w/ wheel flats			
Jointed Track?	Y/N	N	Y/N	N			Y/N		Y/N		Y/N		Y/N			
Embedded Track?	Y/N	N	Y/N	N			Y/N		Y/N		Y/N		Y/N		Y/N	
Aerial Structure?	Y/N	N	Y/N	N			Y/N		Y/N		Y/N		Y/N		Y/N	
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	2	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: W2 @ STA 1491 (65 dBA contour)

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	60	59
Source 1	61	56	55
Source 2	45	39	38
Source 3	63	56	57
Source 4	46	47	33
Source 5	26	26	16
Source 6	52	54	35
Source 7	33	35	18
Source 8	23	25	-28

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Freight Locomotive	9	Freight Cars	10	Crossover	13
Distance (source to receiver)	distance (ft)	169	distance (ft)	169	distance (ft)	161	distance (ft)	111	distance (ft)	111	distance (ft)	82	distance (ft)	82	distance (ft)	231
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	20	speed (mph)	20	speed (mph)	30	speed (mph)	30	trains/hour	0.133333
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	565	trains/hour	0.066667	trains/hour	0.066667	trains/hour	0.133333	trains/hour	0.133333	duration of one train (sec)	141.7273
	locos/train	4	length of cars (ft) / train	60			locos/train	4	length of cars (ft) / train	60	locos/train	4	length of cars (ft) / train	60		
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	0	speed (mph)	0	speed (mph)	0	speed (mph)	0	trains/hour	0
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	642	trains/hour	0	trains/hour	0	trains/hour	0	trains/hour	0	duration of one train (sec)	0
	locos/train	4	length of cars (ft) / train	60			locos/train	0	length of cars (ft) / train	0	locos/train	0	length of cars (ft) / train	0		
Wheel Flats?			% of cars w/ wheel flats						% of cars w/ wheel flats				% of cars w/ wheel flats			
Jointed Track?	Y/N	N	Y/N	N			Y/N		Y/N		Y/N		Y/N			
Embedded Track?	Y/N	N	Y/N	N			Y/N		Y/N		Y/N		Y/N		Y/N	
Aerial Structure?	Y/N	N	Y/N	N			Y/N		Y/N		Y/N		Y/N		Y/N	
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: W3 @ STA 1501 (65 dBA contour)

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	59	59
Source 1	57	51	51
Source 2	41	35	34
Source 3	65	58	58
Source 4	36	38	23
Source 5	17	18	6
Source 6	45	47	28
Source 7	26	28	11
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**			
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	315	distance (ft)	315	distance (ft)	123	distance (ft)	540	distance (ft)	540	distance (ft)	241	distance (ft)	241				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	20	speed (mph)	20	speed (mph)	30	speed (mph)	30				
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	565	trains/hour	0.1	trains/hour	0.1	trains/hour	0.133333	trains/hour	0.133333				
	locos/train	4	length of cars (ft) / train	60			locos/train	3	length of cars (ft) / train	60	locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	0	speed (mph)	0	speed (mph)	0	speed (mph)	0				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	642	trains/hour	0	trains/hour	0	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60			locos/train	0	length of cars (ft) / train	0	locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats						% of cars w/ wheel flats				% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N			Y/N		Y/N		Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N			Y/N		Y/N		Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N			Y/N		Y/N		Y/N		Y/N					
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: W4 @ STA 1511 (65 dBA contour)

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	61	59
Source 1	63	57	56
Source 2	46	40	40
Source 3	61	54	55
Source 4	45	46	32
Source 5	27	28	15
Source 6	54	56	36
Source 7	35	36	19
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**			
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	135	distance (ft)	135	distance (ft)	212	distance (ft)	134	distance (ft)	134	distance (ft)	67	distance (ft)	67				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	20	speed (mph)	20	speed (mph)	30	speed (mph)	30				
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	565	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333				
	locos/train	4	length of cars (ft) / train	60			locos/train	2	length of cars (ft) / train	60	locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	0	speed (mph)	0	speed (mph)	0	speed (mph)	0				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	642	trains/hour	0	trains/hour	0	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60			locos/train	0	length of cars (ft) / train	0	locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats						% of cars w/ wheel flats				% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N			Y/N		Y/N		Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N			Y/N		Y/N		Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N			Y/N		Y/N		Y/N		Y/N					
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: W5 @ STA 1521 (65 dBA contour)

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	61	59
Source 1	64	58	57
Source 2	47	41	41
Source 3	52	46	46
Source 4	58	52	52
Source 5	32	33	19
Source 6	14	15	2
Source 7	54	56	37
Source 8	35	37	20

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Freight Locomotive	9	Freight Cars	10
Distance (source to receiver)	distance (ft)	116	distance (ft)	116	distance (ft)	806	distance (ft)	478	distance (ft)	1031	distance (ft)	1031	distance (ft)	61	distance (ft)	61
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	20	speed (mph)	20	speed (mph)	30	speed (mph)	30
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	565	vehicles/hour	1250	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333
	locos/train	4	length of cars (ft) / train	60					locos/train	2	length of cars (ft) / train	60	locos/train	4	length of cars (ft) / train	60
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	0	speed (mph)	0	speed (mph)	0	speed (mph)	0
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	642	vehicles/hour	1110	trains/hour	0	trains/hour	0	trains/hour	0	trains/hour	0
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0	locos/train	0	length of cars (ft) / train	0
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats				% of cars w/ wheel flats	
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: W7 @ STA 1541 (65 dBA contour)

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	60	59
Source 1	59	53	52
Source 2	42	37	36
Source 3	62	57	55
Source 4	60	52	54
Source 5	47	48	34
Source 6	29	30	17
Source 7	51	52	33
Source 8	31	33	16

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Freight Locomotive	9	Freight Cars	10
Distance (source to receiver)	distance (ft)	243	distance (ft)	243	distance (ft)	494	distance (ft)	602	distance (ft)	95	distance (ft)	95	distance (ft)	109	distance (ft)	109
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	20	speed (mph)	20	speed (mph)	30	speed (mph)	30
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3781	vehicles/hour	1530	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333
	locos/train	4	length of cars (ft) / train	60					locos/train	2	length of cars (ft) / train	60	locos/train	4	length of cars (ft) / train	60
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	0	speed (mph)	0	speed (mph)	0	speed (mph)	0
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2687	vehicles/hour	2320	trains/hour	0	trains/hour	0	trains/hour	0	trains/hour	0
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0	locos/train	0	length of cars (ft) / train	0
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats				% of cars w/ wheel flats	
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: W8 @ STA 1551 (65 dBA contour)

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	60	59
Source 1	53	47	47
Source 2	37	31	30
Source 3	65	60	59
Source 4	44	39	38
Source 5	35	36	22
Source 6	17	18	5
Source 7	40	42	23
Source 8	21	22	6

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Freight Locomotive	9	Freight Cars	10
Distance (source to receiver)	distance (ft)	273	distance (ft)	273	distance (ft)	90	distance (ft)	1605	distance (ft)	288	distance (ft)	288	distance (ft)	258	distance (ft)	258
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	35	speed (mph)	45	speed (mph)	20	speed (mph)	20	speed (mph)	30	speed (mph)	30
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3781	vehicles/hour	1061	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333
	locos/train	4	length of cars (ft) / train	60					locos/train	2	length of cars (ft) / train	60	locos/train	4	length of cars (ft) / train	60
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	35	speed (mph)	45	speed (mph)	0	speed (mph)	0	speed (mph)	0	speed (mph)	0
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2687	vehicles/hour	865	trains/hour	0	trains/hour	0	trains/hour	0	trains/hour	0
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0	locos/train	0	length of cars (ft) / train	0
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats				% of cars w/ wheel flats	
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: W9 @ STA 1561 (65 dBA contour)

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	60	59
Source 1	53	47	46
Source 2	36	30	30
Source 3	65	60	58
Source 4	47	41	40
Source 5	38	39	22
Source 6	17	18	5
Source 7	40	41	26
Source 8	22	22	9

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Freight Locomotive	9	Freight Cars	10
Distance (source to receiver)	distance (ft)	299	distance (ft)	299	distance (ft)	150	distance (ft)	2336	distance (ft)	284	distance (ft)	284	distance (ft)	314	distance (ft)	314
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	speed (mph)	20	speed (mph)	20
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3781	vehicles/hour	1061	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60	locos/train	2	length of cars (ft) / train	60
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	speed (mph)	0	speed (mph)	0
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2687	vehicles/hour	865	trains/hour	0	trains/hour	0	trains/hour	0	trains/hour	0
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0	locos/train	0	length of cars (ft) / train	0
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats				% of cars w/ wheel flats	
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	N	Y/N	Y	Y/N	Y	Y/N	N	Y/N	N
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: W10 @ STA 1571 (65 dBA contour)

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	59	58
Source 1	52	46	45
Source 2	35	30	29
Source 3	64	59	58
Source 4	45	39	38
Source 5	37	39	21
Source 6	16	17	4
Source 7	39	40	26
Source 8	21	22	9

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Freight Locomotive	9	Freight Cars	10
Distance (source to receiver)	distance (ft)	333	distance (ft)	333	distance (ft)	167	distance (ft)	3270	distance (ft)	318	distance (ft)	318	distance (ft)	348	distance (ft)	348
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	speed (mph)	20	speed (mph)	20
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3781	vehicles/hour	1061	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60	locos/train	2	length of cars (ft) / train	60
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	speed (mph)	0	speed (mph)	0
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2687	vehicles/hour	865	trains/hour	0	trains/hour	0	trains/hour	0	trains/hour	0
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0	locos/train	0	length of cars (ft) / train	0
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats				% of cars w/ wheel flats	
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	N	Y/N	Y	Y/N	Y	Y/N	N	Y/N	N
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: W11 @ STA 1579 (65 dBA contour)

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	60	59
Source 1	53	47	46
Source 2	36	30	29
Source 3	65	60	59
Source 4	44	38	37
Source 5	38	39	22
Source 6	17	18	5
Source 7	40	41	26
Source 8	22	22	9

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Freight Locomotive	9	Freight Cars	10
Distance (source to receiver)	distance (ft)	300	distance (ft)	300	distance (ft)	143	distance (ft)	3903	distance (ft)	285	distance (ft)	285	distance (ft)	315	distance (ft)	315
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	speed (mph)	20	speed (mph)	20
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3781	vehicles/hour	1061	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60	locos/train	2	length of cars (ft) / train	60
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	speed (mph)	0	speed (mph)	0
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2687	vehicles/hour	865	trains/hour	0	trains/hour	0	trains/hour	0	trains/hour	0
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0	locos/train	0	length of cars (ft) / train	0
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats				% of cars w/ wheel flats	
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	N	Y/N	Y	Y/N	Y	Y/N	N	Y/N	N
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: W12 @ STA 1591 (65 dBA contour)

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	60	59
Source 1	53	47	46
Source 2	36	30	29
Source 3	65	60	59
Source 4	42	36	36
Source 5	38	39	22
Source 6	17	18	5
Source 7	40	41	26
Source 8	22	22	9

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Freight Locomotive	9	Freight Cars	10
Distance (source to receiver)	distance (ft)	300	distance (ft)	300	distance (ft)	143	distance (ft)	4930	distance (ft)	285	distance (ft)	285	distance (ft)	315	distance (ft)	315
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	speed (mph)	20	speed (mph)	20
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3781	vehicles/hour	1061	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60	locos/train	2	length of cars (ft) / train	60
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	speed (mph)	0	speed (mph)	0
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2687	vehicles/hour	865	trains/hour	0	trains/hour	0	trains/hour	0	trains/hour	0
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0	locos/train	0	length of cars (ft) / train	0
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats				% of cars w/ wheel flats	
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	N	Y/N	Y	Y/N	Y	Y/N	N	Y/N	N
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: W13 @ STA 1601 (65 dBA contour)

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	60	59
Source 1	52	47	46
Source 2	36	30	29
Source 3	65	60	59
Source 4	47	41	40
Source 5	38	40	22
Source 6	17	18	5
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	301	distance (ft)	301	distance (ft)	144	distance (ft)	3871	distance (ft)	276	distance (ft)	276				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3781	vehicles/hour	2175	trains/hour	0.133333	trains/hour	0.133333				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2687	vehicles/hour	1645	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	N	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: W14 @ STA 1611 (65 dBA contour)

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	60	59
Source 1	54	49	48
Source 2	38	32	31
Source 3	65	60	58
Source 4	45	39	38
Source 5	40	41	24
Source 6	19	20	7
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	484	distance (ft)	484	distance (ft)	318	distance (ft)	5007	distance (ft)	469	distance (ft)	469				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3781	vehicles/hour	2175	trains/hour	0.133333	trains/hour	0.133333				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2687	vehicles/hour	1645	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: W15 @ STA 1621 (65 dBA contour)

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	60	59
Source 1	54	49	48
Source 2	38	32	31
Source 3	65	60	58
Source 4	48	39	42
Source 5	38	40	22
Source 6	18	18	5
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	486	distance (ft)	486	distance (ft)	320	distance (ft)	2826	distance (ft)	288	distance (ft)	288				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3781	vehicles/hour	2208	trains/hour	0.133333	trains/hour	0.133333				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2687	vehicles/hour	4433	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	1	number of rows	1	number of rows	1				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: W16 @ STA 1631 (65 dBA contour)

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	60	59
Source 1	54	48	48
Source 2	38	32	31
Source 3	65	60	58
Source 4	48	38	41
Source 5	39	41	24
Source 6	19	20	7
Source 7	4	6	-51
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**			
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Crossover	13				
Distance (source to receiver)	distance (ft)	500	distance (ft)	500	distance (ft)	325	distance (ft)	1867	distance (ft)	485	distance (ft)	485	distance (ft)	1334				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	trains/hour	0.133333				
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3781	vehicles/hour	2208	trains/hour	0.133333	trains/hour	0.133333	duration of one train (sec)	425.1818				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60						
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	trains/hour	0				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2687	vehicles/hour	4433	trains/hour	0	trains/hour	0	duration of one train (sec)	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0						
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats							
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N							
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N					
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	3	number of rows	0	number of rows	0	number of rows	1				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: W17 @ STA 1641 (65 dBA contour)

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	60	59
Source 1	54	48	47
Source 2	38	32	31
Source 3	65	60	58
Source 4	54	45	48
Source 5	39	41	23
Source 6	19	19	6
Source 7	13	15	-42
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**			
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Crossover	13				
Distance (source to receiver)	distance (ft)	514	distance (ft)	514	distance (ft)	332	distance (ft)	857	distance (ft)	499	distance (ft)	499	distance (ft)	592				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	trains/hour	0.133333				
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3781	vehicles/hour	2208	trains/hour	0.133333	trains/hour	0.133333	duration of one train (sec)	425.1818				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60						
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	trains/hour	0				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2687	vehicles/hour	4433	trains/hour	0	trains/hour	0	duration of one train (sec)	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0						
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats							
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N							
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N					
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	2	number of rows	0	number of rows	0	number of rows	1				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: E1 @ STA 1481 (65 dBA contour)

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	60	59
Source 1	65	59	59
Source 2	49	43	42
Source 3	51	45	44
Source 4	32	33	19
Source 5	12	12	2
Source 6	39	41	22
Source 7	20	22	5
Source 8	20	22	-31

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Freight Locomotive	9	Freight Cars	10	Crossover	13
Distance (source to receiver)	distance (ft)	92	distance (ft)	92	distance (ft)	1306	distance (ft)	979	distance (ft)	979	distance (ft)	613	distance (ft)	613	distance (ft)	311
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	20	speed (mph)	20	speed (mph)	30	speed (mph)	30	trains/hour	0.133333
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3870	trains/hour	0.066667	trains/hour	0.066667	trains/hour	0.133333	trains/hour	0.133333	duration of one train (sec)	141.7273
	locos/train	4	length of cars (ft) / train	60			locos/train	4	length of cars (ft) / train	60	locos/train	4	length of cars (ft) / train	60		
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	0	speed (mph)	0	speed (mph)	0	speed (mph)	0	trains/hour	0
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	3250	trains/hour	0	trains/hour	0	trains/hour	0	trains/hour	0	duration of one train (sec)	0
	locos/train	4	length of cars (ft) / train	60			locos/train	0	length of cars (ft) / train	0	locos/train	0	length of cars (ft) / train	0		
Wheel Flats?			% of cars w/ wheel flats						% of cars w/ wheel flats				% of cars w/ wheel flats			
Jointed Track?	Y/N	N	Y/N	N			Y/N		Y/N		Y/N		Y/N			
Embedded Track?	Y/N	N	Y/N	N			Y/N		Y/N		Y/N		Y/N		Y/N	
Aerial Structure?	Y/N	N	Y/N	N			Y/N		Y/N		Y/N		Y/N		Y/N	
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	2	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: E2 @ STA 1491 (65 dBA contour)

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	60	59
Source 1	64	58	58
Source 2	48	42	41
Source 3	58	51	51
Source 4	48	49	34
Source 5	27	27	17
Source 6	50	52	33
Source 7	31	32	16
Source 8	24	26	-27

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Freight Locomotive	9	Freight Cars	10	Crossover	13
Distance (source to receiver)	distance (ft)	107	distance (ft)	107	distance (ft)	353	distance (ft)	92	distance (ft)	92	distance (ft)	122	distance (ft)	122	distance (ft)	208
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	20	speed (mph)	20	speed (mph)	30	speed (mph)	30	trains/hour	0.133333
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	565	trains/hour	0.066667	trains/hour	0.066667	trains/hour	0.133333	trains/hour	0.133333	duration of one train (sec)	141.7273
	locos/train	4	length of cars (ft) / train	60			locos/train	4	length of cars (ft) / train	60	locos/train	4	length of cars (ft) / train	60		
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	0	speed (mph)	0	speed (mph)	0	speed (mph)	0	trains/hour	0
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	642	trains/hour	0	trains/hour	0	trains/hour	0	trains/hour	0	duration of one train (sec)	0
	locos/train	4	length of cars (ft) / train	60			locos/train	0	length of cars (ft) / train	0	locos/train	0	length of cars (ft) / train	0		
Wheel Flats?			% of cars w/ wheel flats						% of cars w/ wheel flats				% of cars w/ wheel flats			
Jointed Track?	Y/N	N	Y/N	N			Y/N		Y/N		Y/N		Y/N			
Embedded Track?	Y/N	N	Y/N	N			Y/N		Y/N		Y/N		Y/N		Y/N	
Aerial Structure?	Y/N	N	Y/N	N			Y/N		Y/N		Y/N		Y/N		Y/N	
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: E3 @ STA 1501 (65 dBA contour)

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	60	59
Source 1	64	58	57
Source 2	47	42	41
Source 3	60	53	53
Source 4	40	42	27
Source 5	22	22	11
Source 6	51	53	34
Source 7	32	33	17
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**			
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	114	distance (ft)	114	distance (ft)	269	distance (ft)	296	distance (ft)	264	distance (ft)	99	distance (ft)	99				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	20	speed (mph)	20	speed (mph)	30	speed (mph)	30				
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	565	trains/hour	0.1	trains/hour	0.1	trains/hour	0.133333	trains/hour	0.133333				
	locos/train	4	length of cars (ft) / train	60			locos/train	3	length of cars (ft) / train	60	locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	0	speed (mph)	0	speed (mph)	0	speed (mph)	0				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	642	trains/hour	0	trains/hour	0	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60			locos/train	0	length of cars (ft) / train	0	locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats						% of cars w/ wheel flats				% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N			Y/N		Y/N		Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N			Y/N		Y/N		Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N			Y/N		Y/N		Y/N		Y/N					
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: E4 @ STA 1511 (65 dBA contour)

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	61	59
Source 1	64	58	58
Source 2	48	42	41
Source 3	58	51	52
Source 4	49	50	34
Source 5	30	30	17
Source 6	51	52	33
Source 7	15	17	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**			
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	107	distance (ft)	107	distance (ft)	342	distance (ft)	92	distance (ft)	92	distance (ft)	108	distance (ft)	1324				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	20	speed (mph)	20	speed (mph)	30	speed (mph)	30				
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	565	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333				
	locos/train	4	length of cars (ft) / train	60			locos/train	3	length of cars (ft) / train	60	locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	0	speed (mph)	0	speed (mph)	0	speed (mph)	0				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	642	trains/hour	0	trains/hour	0	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60			locos/train	0	length of cars (ft) / train	0	locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats						% of cars w/ wheel flats				% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N			Y/N		Y/N		Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N			Y/N		Y/N		Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N			Y/N		Y/N		Y/N		Y/N					
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: E5 @ STA 1521 (65 dBA contour)

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	60	59
Source 1	64	58	58
Source 2	48	42	41
Source 3	52	45	46
Source 4	58	52	52
Source 5	34	36	20
Source 6	9	10	-3
Source 7	50	51	32
Source 8	30	32	15

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Freight Locomotive	9	Freight Cars	10
Distance (source to receiver)	distance (ft)	110	distance (ft)	110	distance (ft)	813	distance (ft)	496	distance (ft)	893	distance (ft)	2218	distance (ft)	125	distance (ft)	125
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	20	speed (mph)	20	speed (mph)	30	speed (mph)	30
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	565	vehicles/hour	1250	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333
	locos/train	4	length of cars (ft) / train	60					locos/train	3	length of cars (ft) / train	60	locos/train	4	length of cars (ft) / train	60
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	0	speed (mph)	0	speed (mph)	0	speed (mph)	0
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	642	vehicles/hour	1110	trains/hour	0	trains/hour	0	trains/hour	0	trains/hour	0
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0	locos/train	0	length of cars (ft) / train	0
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats				% of cars w/ wheel flats	
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: E7 @ STA 1541 (65 dBA contour)

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	61	59
Source 1	63	57	56
Source 2	46	40	40
Source 3	60	55	53
Source 4	57	51	50
Source 5	46	47	31
Source 6	26	27	14
Source 7	50	52	33
Source 8	31	32	16

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Freight Locomotive	9	Freight Cars	10
Distance (source to receiver)	distance (ft)	135	distance (ft)	135	distance (ft)	683	distance (ft)	601	distance (ft)	150	distance (ft)	150	distance (ft)	120	distance (ft)	120
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	20	speed (mph)	20	speed (mph)	30	speed (mph)	30
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3781	vehicles/hour	1250	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333
	locos/train	4	length of cars (ft) / train	60					locos/train	3	length of cars (ft) / train	60	locos/train	4	length of cars (ft) / train	60
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	0	speed (mph)	0	speed (mph)	0	speed (mph)	0
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2687	vehicles/hour	1110	trains/hour	0	trains/hour	0	trains/hour	0	trains/hour	0
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0	locos/train	0	length of cars (ft) / train	0
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats				% of cars w/ wheel flats	
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: E8 @ STA 1551 (65 dBA contour)

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	60	59
Source 1	59	54	53
Source 2	43	37	36
Source 3	64	59	57
Source 4	53	47	46
Source 5	45	46	30
Source 6	25	26	13
Source 7	47	48	29
Source 8	27	29	12

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Freight Locomotive	9	Freight Cars	10
Distance (source to receiver)	distance (ft)	227	distance (ft)	227	distance (ft)	384	distance (ft)	1155	distance (ft)	174	distance (ft)	174	distance (ft)	205	distance (ft)	205
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	20	speed (mph)	20	speed (mph)	30	speed (mph)	30
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3781	vehicles/hour	1250	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333
	locos/train	4	length of cars (ft) / train	60					locos/train	3	length of cars (ft) / train	60	locos/train	4	length of cars (ft) / train	60
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	0	speed (mph)	0	speed (mph)	0	speed (mph)	0
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2687	vehicles/hour	1110	trains/hour	0	trains/hour	0	trains/hour	0	trains/hour	0
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0	locos/train	0	length of cars (ft) / train	0
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats				% of cars w/ wheel flats	
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: E9 @ STA 1561 (65 dBA contour)

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	60	59
Source 1	59	53	53
Source 2	43	37	36
Source 3	64	59	57
Source 4	50	44	44
Source 5	45	46	29
Source 6	24	25	12
Source 7	43	45	30
Source 8	25	26	13

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Freight Locomotive	9	Freight Cars	10
Distance (source to receiver)	distance (ft)	237	distance (ft)	237	distance (ft)	389	distance (ft)	1690	distance (ft)	206	distance (ft)	206	distance (ft)	174	distance (ft)	174
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	speed (mph)	20	speed (mph)	20
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3781	vehicles/hour	1250	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60	locos/train	2	length of cars (ft) / train	60
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	0	speed (mph)	10	speed (mph)	0	speed (mph)	0
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2687	vehicles/hour	1110	trains/hour	0	trains/hour	0	trains/hour	0	trains/hour	0
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0	locos/train	0	length of cars (ft) / train	0
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats				% of cars w/ wheel flats	
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: E10 @ STA 1571 (65 dBA contour)

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	60	59
Source 1	59	54	53
Source 2	43	37	36
Source 3	64	59	57
Source 4	48	42	41
Source 5	44	45	28
Source 6	23	24	11
Source 7	42	43	29
Source 8	24	25	12

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Freight Locomotive	9	Freight Cars	10
Distance (source to receiver)	distance (ft)	224	distance (ft)	224	distance (ft)	371	distance (ft)	2359	distance (ft)	239	distance (ft)	239	distance (ft)	209	distance (ft)	209
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	speed (mph)	20	speed (mph)	20
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3781	vehicles/hour	1250	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60	locos/train	2	length of cars (ft) / train	60
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	speed (mph)	0	speed (mph)	0
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2687	vehicles/hour	1110	trains/hour	0	trains/hour	0	trains/hour	0	trains/hour	0
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0	locos/train	0	length of cars (ft) / train	0
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats				% of cars w/ wheel flats	
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: E11 @ STA 1581 (65 dBA contour)

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	60	59
Source 1	59	54	53
Source 2	43	37	36
Source 3	64	59	57
Source 4	46	40	40
Source 5	44	45	28
Source 6	23	24	11
Source 7	42	43	29
Source 8	24	25	12

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Freight Locomotive	9	Freight Cars	10
Distance (source to receiver)	distance (ft)	223	distance (ft)	223	distance (ft)	369	distance (ft)	3071	distance (ft)	238	distance (ft)	238	distance (ft)	218	distance (ft)	218
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	speed (mph)	20	speed (mph)	20
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3781	vehicles/hour	1250	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60	locos/train	2	length of cars (ft) / train	60
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	speed (mph)	0	speed (mph)	0
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2687	vehicles/hour	1110	trains/hour	0	trains/hour	0	trains/hour	0	trains/hour	0
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0	locos/train	0	length of cars (ft) / train	0
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats				% of cars w/ wheel flats	
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: E12 @ STA 1591 (65 dBA contour)

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	60	59
Source 1	60	54	53
Source 2	43	38	37
Source 3	64	59	57
Source 4	49	42	43
Source 5	44	46	29
Source 6	24	25	12
Source 7	43	44	29
Source 8	25	25	12

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Freight Locomotive	9	Freight Cars	10
Distance (source to receiver)	distance (ft)	213	distance (ft)	213	distance (ft)	381	distance (ft)	5301	distance (ft)	228	distance (ft)	228	distance (ft)	198	distance (ft)	198
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	speed (mph)	20	speed (mph)	20
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3781	vehicles/hour	4235	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60	locos/train	2	length of cars (ft) / train	60
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	speed (mph)	0	speed (mph)	0
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2687	vehicles/hour	5505	trains/hour	0	trains/hour	0	trains/hour	0	trains/hour	0
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0	locos/train	0	length of cars (ft) / train	0
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats				% of cars w/ wheel flats	
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: E13 @ STA 1601 (65 dBA contour)

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	60	59
Source 1	60	54	53
Source 2	43	38	37
Source 3	64	59	57
Source 4	50	43	44
Source 5	45	47	29
Source 6	25	25	12
Source 7	10	12	-43
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**			
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Crossover	13				
Distance (source to receiver)	distance (ft)	213	distance (ft)	213	distance (ft)	380	distance (ft)	4681	distance (ft)	198	distance (ft)	198	distance (ft)	913				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	trains/hour	0.133333				
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3781	vehicles/hour	4235	trains/hour	0.133333	trains/hour	0.133333	duration of one train (sec)	212.5909				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60						
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	trains/hour	0				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2687	vehicles/hour	5505	trains/hour	0	trains/hour	0	duration of one train (sec)	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0						
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats							
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N							
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N					
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: E14 @ STA 1611 (65 dBA contour)

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	60	59
Source 1	60	54	53
Source 2	43	37	37
Source 3	64	59	57
Source 4	52	44	46
Source 5	45	47	29
Source 6	24	25	12
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	216	distance (ft)	216	distance (ft)	383	distance (ft)	3669	distance (ft)	201	distance (ft)	201				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3781	vehicles/hour	4235	trains/hour	0.133333	trains/hour	0.133333				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2687	vehicles/hour	5505	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: E15 @ STA 1621 (65 dBA contour)

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	60	59
Source 1	60	54	53
Source 2	43	38	37
Source 3	64	59	57
Source 4	50	42	43
Source 5	45	47	30
Source 6	25	26	13
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	207	distance (ft)	207	distance (ft)	382	distance (ft)	2571	distance (ft)	192	distance (ft)	192				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3781	vehicles/hour	4235	trains/hour	0.133333	trains/hour	0.133333				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2687	vehicles/hour	5505	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	1	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: E16 @ STA 1631 (65 dBA contour)

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	64	59	57
Source 1	60	54	53
Source 2	43	38	37
Source 3	61	56	55
Source 4	52	44	45
Source 5	44	45	28
Source 6	23	24	11
Source 7	4	6	-52
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**			
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Crossover	13				
Distance (source to receiver)	distance (ft)	97	distance (ft)	97	distance (ft)	266	distance (ft)	1742	distance (ft)	112	distance (ft)	112	distance (ft)	1352				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	trains/hour	0.133333				
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3781	vehicles/hour	4235	trains/hour	0.133333	trains/hour	0.133333	duration of one train (sec)	425.1818				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60						
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	trains/hour	0				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2687	vehicles/hour	5505	trains/hour	0	trains/hour	0	duration of one train (sec)	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0						
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats							
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N							
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	1				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: E17 @ STA 1641 (65 dBA contour)

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	59	58
Source 1	60	54	53
Source 2	43	37	37
Source 3	61	56	54
Source 4	58	50	51
Source 5	44	45	28
Source 6	23	24	11
Source 7	16	18	-40
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**			
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Crossover	13				
Distance (source to receiver)	distance (ft)	100	distance (ft)	100	distance (ft)	269	distance (ft)	706	distance (ft)	115	distance (ft)	115	distance (ft)	446				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	trains/hour	0.133333				
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3781	vehicles/hour	4235	trains/hour	0.133333	trains/hour	0.133333	duration of one train (sec)	425.1818				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60						
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	trains/hour	0				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2687	vehicles/hour	5505	trains/hour	0	trains/hour	0	duration of one train (sec)	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0						
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats							
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N							
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

FRA Grade Crossing Noise Model

User Input	
Noise Situation (Pick from List)	1
Horn Lmax (dBA) @ 100 feet	104
Horn Location on Locomotive(Pick from List)	1
Non Train Noise Environment (pick from list)	2
Shielding (Pick from List)	3
Length of Impact Area (pick from list)	1
Existing Train Speed (mph)	60
Future Train Speed (mph)	60
Number of Existing Trains in one Direction	2
Number of Future Trains in one Direction	3
Existing Number of Day Trains (7 am to 10 p.m.)	1
Future Number of Day Trains (7 am to 10 p.m.)	2
Existing Number of Night Trains (10 p.m. to 7 am)	1
Future Number of Night Trains (10 p.m. to 7 am)	1
Existing Average Number of Cars	100
Future Average Number of Cars	123
Existing Average Number of Locomotives	4
Future Average Number of Locomotives	4

Noise Situation	
Horns Existing and Future	1
Horns in Future Only	2
No Horns Existing and Future	3

Horn Location on Locomotive			
National Average (50% front, 50% middle)			1
All Front Mounted			2
All Middle Mounted			3
User Defined	80	% front mounted horns	4

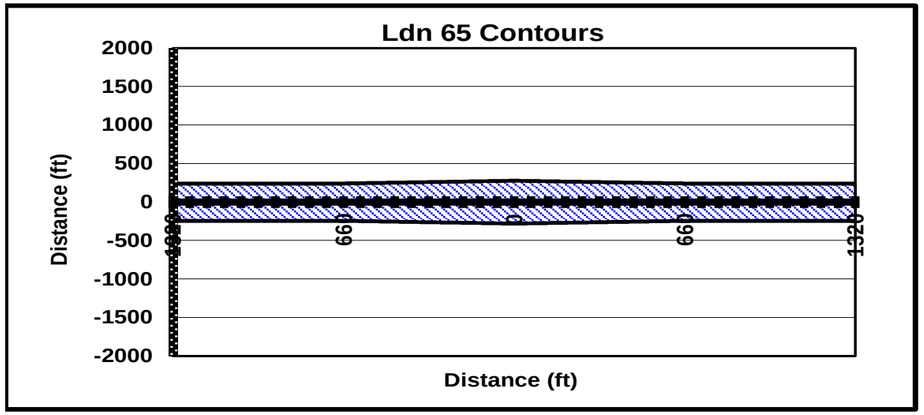
Non Train Noise Environment			
Urban			1
Suburban			2
Rural			3
User Defined Ldn =	50	dBA	4

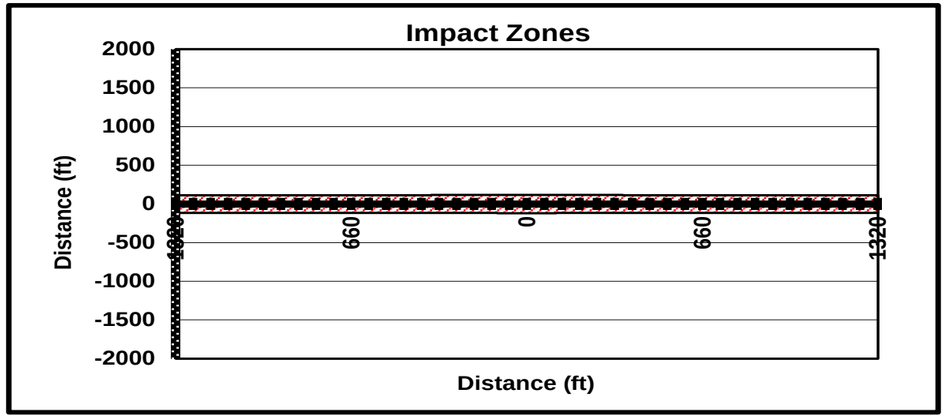
Shielding	
Dense Urban	1
Light Urban	2
Dense Suburban	3
Light Suburban	4
Rural	5
No Shielding	6

Length of Impact Area	
1/4 mile	1
20 seconds	2
15 seconds	3

Ldn 65 Contours Numeric Output (in feet)	
Existing 65 Ldn Contour at X-ing	269
Future 65 Ldn Contour at X-ing	288
Existing 65 Ldn Contour at 1/2 zone length	232
Future 65 Ldn Contour at 1/2 zone length	253
Zone Length	1320
1/2 Zone Length	660

Impact Zones Numeric Output (in feet)	
Impact Distance at X-ing	118
Severe Impact Distance at X-ing	28
Impact Distance at 1/2 zone length	113
Severe Impact Distance at 1/2 zone length	25
Zone Length	1320
1/2 Zone Length	660





Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R1 existing noise level

RESULTS			
Noise Source	**Leq - 1-hr (dB)**		
All Sources	49		
Source 1	44		
Source 2	28		
Source 3	48		
Source 4	0		
Source 5	0		
Source 6	0		
Source 7	0		
Source 8	0		

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	3

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14										
Distance (source to receiver)	distance (ft)	617	distance (ft)	617	distance (ft)	468										
Noisiest Hour of	speed (mph)	60	speed (mph)	60	speed (mph)	45										
Activity During	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	415										
Sensitive Hours	locos/train	4	length of cars (ft) / train	60												
		60		60		45										
		0.222222		0.222222		471										
		4		60												
Wheel Flats?			% of cars w/ wheel flats													
Jointed Track?	Y/N	N	Y/N	N												
Embedded Track?	Y/N	N	Y/N	N												
Aerial Structure?	Y/N	N	Y/N	N												
Barrier Present?	Y/N	N	Y/N	N	Y/N	N										
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0										

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R1a existing noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	64	57	57
Source 1	45	37	39
Source 2	29	20	23
Source 3	63	57	56
Source 4	55	49	49
Source 5	0	0	0
Source 6	0	0	0
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14								
Distance (source to receiver)	distance (ft)	862	distance (ft)	862	distance (ft)	156	distance (ft)	732								
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	1965	vehicles/hour	3154								
	locos/train	4	length of cars (ft) / train	60												
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1846	vehicles/hour	3225								
	locos/train	4	length of cars (ft) / train	60												
Wheel Flats?			% of cars w/ wheel flats													
Jointed Track?	Y/N	N	Y/N	N												
Embedded Track?	Y/N	N	Y/N	N												
Aerial Structure?	Y/N	N	Y/N	N												
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y								
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0								

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R1-A existing noise level

RESULTS			
Noise Source	**Leq - 1-hr (dB)**		
All Sources	55		
Source 1	48		
Source 2	32		
Source 3	54		
Source 4	0		
Source 5	0		
Source 6	0		
Source 7	0		
Source 8	0		

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	3

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14										
Distance (source to receiver)	distance (ft)	334	distance (ft)	334	distance (ft)	182										
Noisiest Hour of	speed (mph)	60	speed (mph)	60	speed (mph)	45										
Activity During	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	415										
Sensitive Hours	locos/train	4	length of cars (ft) / train	60												
		60		60		45										
		0.222222		0.222222		471										
		4		60												
Wheel Flats?			% of cars w/ wheel flats													
Jointed Track?	Y/N	N	Y/N	N												
Embedded Track?	Y/N	N	Y/N	N												
Aerial Structure?	Y/N	N	Y/N	N												
Barrier Present?	Y/N	N	Y/N	N	Y/N	N										
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0										

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R1b existing noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	57	50	51
Source 1	45	36	39
Source 2	28	20	22
Source 3	52	45	45
Source 4	55	49	49
Source 5	0	0	0
Source 6	0	0	0
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14								
Distance (source to receiver)	distance (ft)	923	distance (ft)	923	distance (ft)	409	distance (ft)	736								
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	1965	vehicles/hour	3154								
	locos/train	4	length of cars (ft) / train	60												
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1846	vehicles/hour	3225								
	locos/train	4	length of cars (ft) / train	60												
Wheel Flats?			% of cars w/ wheel flats													
Jointed Track?	Y/N	N	Y/N	N												
Embedded Track?	Y/N	N	Y/N	N												
Aerial Structure?	Y/N	N	Y/N	N												
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y								
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	5	number of rows	0								

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R1c existing noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	56	50	50
Source 1	44	35	38
Source 2	27	19	21
Source 3	48	42	41
Source 4	55	49	49
Source 5	0	0	0
Source 6	0	0	0
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14								
Distance (source to receiver)	distance (ft)	1077	distance (ft)	1077	distance (ft)	721	distance (ft)	728								
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	1965	vehicles/hour	3154								
	locos/train	4	length of cars (ft) / train	60												
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1846	vehicles/hour	3225								
	locos/train	4	length of cars (ft) / train	60												
Wheel Flats?			% of cars w/ wheel flats													
Jointed Track?	Y/N	N	Y/N	N												
Embedded Track?	Y/N	N	Y/N	N												
Aerial Structure?	Y/N	N	Y/N	N												
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y								
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	11	number of rows	0								

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R1d existing noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	55	48	49
Source 1	44	35	38
Source 2	27	19	21
Source 3	52	46	46
Source 4	51	45	45
Source 5	0	0	0
Source 6	0	0	0
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14								
Distance (source to receiver)	distance (ft)	1075	distance (ft)	1075	distance (ft)	824	distance (ft)	626								
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	1965	vehicles/hour	3154								
	locos/train	4	length of cars (ft) / train	60												
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1846	vehicles/hour	3225								
	locos/train	4	length of cars (ft) / train	60												
Wheel Flats?			% of cars w/ wheel flats													
Jointed Track?	Y/N	N	Y/N	N												
Embedded Track?	Y/N	N	Y/N	N												
Aerial Structure?	Y/N	N	Y/N	N												
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y								
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	12								

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R1e existing noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	56	50	50
Source 1	45	36	38
Source 2	28	20	22
Source 3	52	46	45
Source 4	54	47	47
Source 5	0	0	0
Source 6	0	0	0
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14								
Distance (source to receiver)	distance (ft)	950	distance (ft)	950	distance (ft)	831	distance (ft)	419								
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	1965	vehicles/hour	3154								
	locos/train	4	length of cars (ft) / train	60												
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1846	vehicles/hour	3225								
	locos/train	4	length of cars (ft) / train	60												
Wheel Flats?			% of cars w/ wheel flats													
Jointed Track?	Y/N	N	Y/N	N												
Embedded Track?	Y/N	N	Y/N	N												
Aerial Structure?	Y/N	N	Y/N	N												
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y								
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	7								

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R1f existing noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	68	61	61
Source 1	45	37	39
Source 2	29	20	23
Source 3	51	45	45
Source 4	68	61	61
Source 5	0	0	0
Source 6	0	0	0
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14								
Distance (source to receiver)	distance (ft)	860	distance (ft)	860	distance (ft)	913	distance (ft)	108								
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	1965	vehicles/hour	3241								
	locos/train	4	length of cars (ft) / train	60												
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1846	vehicles/hour	3225								
	locos/train	4	length of cars (ft) / train	60												
Wheel Flats?			% of cars w/ wheel flats													
Jointed Track?	Y/N	N	Y/N	N												
Embedded Track?	Y/N	N	Y/N	N												
Aerial Structure?	Y/N	N	Y/N	N												
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y								
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0								

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R1g existing noise level

RESULTS			
Noise Source	**Leq - 1-hr (dB)**		
All Sources	56		
Source 1	38		
Source 2	22		
Source 3	52		
Source 4	54		
Source 5	0		
Source 6	0		
Source 7	0		
Source 8	0		

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	3

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14								
Distance (source to receiver)	distance (ft)	758	distance (ft)	758	distance (ft)	644	distance (ft)	373								
Noisiest Hour of	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
Activity During	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	1965	vehicles/hour	3154								
Sensitive Hours	locos/train	4	length of cars (ft) / train	60												
		60		60		45		45								
		0.222222		0.222222		1846		3225								
		4		60												
Wheel Flats?			% of cars w/ wheel flats													
Jointed Track?	Y/N	N	Y/N	N												
Embedded Track?	Y/N	N	Y/N	N												
Aerial Structure?	Y/N	N	Y/N	N												
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N								
Intervening Rows of of Buildings	number of rows	1	number of rows	1	number of rows	0	number of rows	1								

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R2 existing noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	63	56	56
Source 1	52	43	46
Source 2	35	27	29
Source 3	46	39	40
Source 4	62	56	56
Source 5	0	0	0
Source 6	0	0	0
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14								
Distance (source to receiver)	distance (ft)	317	distance (ft)	317	distance (ft)	443	distance (ft)	147								
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	543	vehicles/hour	1451								
	locos/train	4	length of cars (ft) / train	60												
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	653	vehicles/hour	1415								
	locos/train	4	length of cars (ft) / train	60												
Wheel Flats?			% of cars w/ wheel flats													
Jointed Track?	Y/N	N	Y/N	N												
Embedded Track?	Y/N	N	Y/N	N												
Aerial Structure?	Y/N	N	Y/N	N												
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y								
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	6	number of rows	0								

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R3 existing noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	62	55	55
Source 1	51	43	45
Source 2	35	26	29
Source 3	46	39	40
Source 4	61	55	54
Source 5	0	0	0
Source 6	0	0	0
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14								
Distance (source to receiver)	distance (ft)	348	distance (ft)	348	distance (ft)	457	distance (ft)	174								
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	543	vehicles/hour	1451								
	locos/train	4	length of cars (ft) / train	60												
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	653	vehicles/hour	1415								
	locos/train	4	length of cars (ft) / train	60												
Wheel Flats?			% of cars w/ wheel flats													
Jointed Track?	Y/N	N	Y/N	N												
Embedded Track?	Y/N	N	Y/N	N												
Aerial Structure?	Y/N	N	Y/N	N												
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y								
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	6	number of rows	1								

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R4 existing noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	59	52	52
Source 1	51	42	44
Source 2	34	26	28
Source 3	46	39	39
Source 4	58	51	51
Source 5	0	0	0
Source 6	0	0	0
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14								
Distance (source to receiver)	distance (ft)	385	distance (ft)	385	distance (ft)	489	distance (ft)	243								
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	543	vehicles/hour	1451								
	locos/train	4	length of cars (ft) / train	60												
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	653	vehicles/hour	1415								
	locos/train	4	length of cars (ft) / train	60												
Wheel Flats?			% of cars w/ wheel flats													
Jointed Track?	Y/N	N	Y/N	N												
Embedded Track?	Y/N	N	Y/N	N												
Aerial Structure?	Y/N	N	Y/N	N												
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y								
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	6	number of rows	2								

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R5 existing noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	60	55	54
Source 1	50	42	44
Source 2	33	25	27
Source 3	60	55	53
Source 4	43	37	36
Source 5	0	0	0
Source 6	0	0	0
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14								
Distance (source to receiver)	distance (ft)	423	distance (ft)	423	distance (ft)	271	distance (ft)	1718								
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	2773	vehicles/hour	778								
	locos/train	4	length of cars (ft) / train	60												
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1971	vehicles/hour	634								
	locos/train	4	length of cars (ft) / train	60												
Wheel Flats?			% of cars w/ wheel flats													
Jointed Track?	Y/N	N	Y/N	N												
Embedded Track?	Y/N	N	Y/N	N												
Aerial Structure?	Y/N	N	Y/N	N												
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y								
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0								

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R5a existing noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	64	58	57
Source 1	51	43	45
Source 2	35	26	28
Source 3	63	58	57
Source 4	44	38	37
Source 5	0	0	0
Source 6	0	0	0
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14								
Distance (source to receiver)	distance (ft)	352	distance (ft)	352	distance (ft)	98	distance (ft)	1404								
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	35	speed (mph)	45								
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	2773	vehicles/hour	778								
	locos/train	4	length of cars (ft) / train	60												
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	35	speed (mph)	45								
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1971	vehicles/hour	634								
	locos/train	4	length of cars (ft) / train	60												
Wheel Flats?			% of cars w/ wheel flats													
Jointed Track?	Y/N	N	Y/N	N												
Embedded Track?	Y/N	N	Y/N	N												
Aerial Structure?	Y/N	N	Y/N	N												
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y								
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0								

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R5b existing noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	64	58	57
Source 1	52	43	46
Source 2	35	27	29
Source 3	63	58	57
Source 4	44	38	37
Source 5	0	0	0
Source 6	0	0	0
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14								
Distance (source to receiver)	distance (ft)	316	distance (ft)	316	distance (ft)	97	distance (ft)	1498								
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	35	speed (mph)	45								
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	2773	vehicles/hour	778								
	locos/train	4	length of cars (ft) / train	60												
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	35	speed (mph)	45								
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1971	vehicles/hour	634								
	locos/train	4	length of cars (ft) / train	60												
Wheel Flats?			% of cars w/ wheel flats													
Jointed Track?	Y/N	N	Y/N	N												
Embedded Track?	Y/N	N	Y/N	N												
Aerial Structure?	Y/N	N	Y/N	N												
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y								
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0								

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R5c existing noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	64	58	57
Source 1	52	44	46
Source 2	36	27	30
Source 3	63	58	56
Source 4	43	37	36
Source 5	0	0	0
Source 6	0	0	0
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14								
Distance (source to receiver)	distance (ft)	291	distance (ft)	291	distance (ft)	100	distance (ft)	1627								
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	35	speed (mph)	45								
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	2773	vehicles/hour	778								
	locos/train	4	length of cars (ft) / train	60												
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	35	speed (mph)	45								
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1971	vehicles/hour	634								
	locos/train	4	length of cars (ft) / train	60												
Wheel Flats?			% of cars w/ wheel flats													
Jointed Track?	Y/N	N	Y/N	N												
Embedded Track?	Y/N	N	Y/N	N												
Aerial Structure?	Y/N	N	Y/N	N												
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y								
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0								

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R6 existing noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	64	58	57
Source 1	52	44	46
Source 2	35	27	29
Source 3	63	58	57
Source 4	42	36	35
Source 5	0	0	0
Source 6	0	0	0
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14								
Distance (source to receiver)	distance (ft)	312	distance (ft)	312	distance (ft)	159	distance (ft)	1961								
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	2773	vehicles/hour	778								
	locos/train	4	length of cars (ft) / train	60												
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1971	vehicles/hour	634								
	locos/train	4	length of cars (ft) / train	60												
Wheel Flats?			% of cars w/ wheel flats													
Jointed Track?	Y/N	N	Y/N	N												
Embedded Track?	Y/N	N	Y/N	N												
Aerial Structure?	Y/N	N	Y/N	N												
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y								
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0								

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R7 existing noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	59	54	52
Source 1	49	41	43
Source 2	33	24	26
Source 3	58	53	52
Source 4	43	37	36
Source 5	0	0	0
Source 6	0	0	0
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14								
Distance (source to receiver)	distance (ft)	483	distance (ft)	483	distance (ft)	330	distance (ft)	1710								
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	2773	vehicles/hour	778								
	locos/train	4	length of cars (ft) / train	60												
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1971	vehicles/hour	634								
	locos/train	4	length of cars (ft) / train	60												
Wheel Flats?			% of cars w/ wheel flats													
Jointed Track?	Y/N	N	Y/N	N												
Embedded Track?	Y/N	N	Y/N	N												
Aerial Structure?	Y/N	N	Y/N	N												
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y								
Intervening Rows of of Buildings	number of rows	1	number of rows	1	number of rows	1	number of rows	0								

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R8 existing noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	60	55	54
Source 1	50	42	44
Source 2	34	25	27
Source 3	60	55	53
Source 4	46	40	39
Source 5	33	34	20
Source 6	13	13	3
Source 7	8	10	-44
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**			
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Crossover	13				
Distance (source to receiver)	distance (ft)	416	distance (ft)	416	distance (ft)	266	distance (ft)	2313	distance (ft)	403	distance (ft)	403	distance (ft)	658				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	trains/hour	0.066667				
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	2773	vehicles/hour	778	trains/hour	0.066667	trains/hour	0.066667	duration of one train (sec)	425.1818				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60						
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	trains/hour	0				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1971	vehicles/hour	634	trains/hour	0	trains/hour	0	duration of one train (sec)	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0						
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats							
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N							
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	N	Y/N	Y	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R9 existing noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	63	58	57
Source 1	54	45	47
Source 2	37	29	31
Source 3	63	57	56
Source 4	45	39	38
Source 5	36	38	23
Source 6	16	16	6
Source 7	9	11	-44
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**			
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Crossover	13				
Distance (source to receiver)	distance (ft)	522	distance (ft)	522	distance (ft)	372	distance (ft)	2570	distance (ft)	507	distance (ft)	507	distance (ft)	1010				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	trains/hour	0.066667				
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	2773	vehicles/hour	778	trains/hour	0.066667	trains/hour	0.066667	duration of one train (sec)	425.1818				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60						
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	trains/hour	0				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1971	vehicles/hour	634	trains/hour	0	trains/hour	0	duration of one train (sec)	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0						
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats							
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N							
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N					
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R10 existing noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	61	56	55
Source 1	52	44	46
Source 2	35	27	29
Source 3	60	55	54
Source 4	46	40	39
Source 5	36	38	23
Source 6	16	16	6
Source 7	10	12	-43
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**			
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Crossover	13				
Distance (source to receiver)	distance (ft)	668	distance (ft)	668	distance (ft)	524	distance (ft)	2303	distance (ft)	509	distance (ft)	509	distance (ft)	907				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	trains/hour	0.066667				
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	2773	vehicles/hour	778	trains/hour	0.066667	trains/hour	0.066667	duration of one train (sec)	425.1818				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60						
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	trains/hour	0				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1971	vehicles/hour	634	trains/hour	0	trains/hour	0	duration of one train (sec)	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0						
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats							
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N							
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N					
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R11 existing noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	60	55	54
Source 1	50	42	44
Source 2	34	25	27
Source 3	60	55	53
Source 4	33	28	27
Source 5	33	34	20
Source 6	13	13	3
Source 7	-2	0	-55
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**			
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Crossover	13				
Distance (source to receiver)	distance (ft)	408	distance (ft)	408	distance (ft)	262	distance (ft)	3273	distance (ft)	393	distance (ft)	393	distance (ft)	1740				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	trains/hour	0.066667				
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	2773	vehicles/hour	778	trains/hour	0.066667	trains/hour	0.066667	duration of one train (sec)	425.1818				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60						
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	trains/hour	0				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1971	vehicles/hour	634	trains/hour	0	trains/hour	0	duration of one train (sec)	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0						
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats							
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N							
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	32	number of rows	0	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R12 existing noise level

RESULTS			
Noise Source	**Leq - 1-hr (dB)**		
All Sources	65		
Source 1	50		
Source 2	33		
Source 3	65		
Source 4	27		
Source 5	42		
Source 6	21		
Source 7	5		
Source 8	0		

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	3

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**			
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Crossover	13				
Distance (source to receiver)	distance (ft)	258	distance (ft)	258	distance (ft)	112	distance (ft)	3491	distance (ft)	248	distance (ft)	248	distance (ft)	1786				
Noisiest Hour of	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	trains/hour	0.066667				
Activity During	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	2773	vehicles/hour	778	trains/hour	0.066667	trains/hour	0.066667	duration of one train (sec)	425.1818				
Sensitive Hours	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60						
		60		60		45		45		10		10		0				
		0.222222		0.222222		1971		634		0		0		0				
		4		60						0		0						
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats							
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N							
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N					
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	32	number of rows	0	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R13 existing noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	66	61	59
Source 1	53	45	47
Source 2	37	28	30
Source 3	66	60	59
Source 4	33	27	26
Source 5	36	37	23
Source 6	16	16	6
Source 7	-4	-2	-56
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**			
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Crossover	13				
Distance (source to receiver)	distance (ft)	260	distance (ft)	260	distance (ft)	109	distance (ft)	3572	distance (ft)	246	distance (ft)	246	distance (ft)	2001				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	trains/hour	0.066667				
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	2773	vehicles/hour	778	trains/hour	0.066667	trains/hour	0.066667	duration of one train (sec)	425.1818				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60						
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	trains/hour	0				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1971	vehicles/hour	634	trains/hour	0	trains/hour	0	duration of one train (sec)	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0						
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats							
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N							
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	32	number of rows	0	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R14 existing noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	67	61	60
Source 1	53	45	47
Source 2	37	28	30
Source 3	66	61	60
Source 4	31	25	24
Source 5	36	37	23
Source 6	16	16	6
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	259	distance (ft)	259	distance (ft)	97	distance (ft)	4917	distance (ft)	246	distance (ft)	246				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	2773	vehicles/hour	778	trains/hour	0.066667	trains/hour	0.066667				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1971	vehicles/hour	634	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	32	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R15 existing noise level

RESULTS			
Noise Source	**Leq - 1-hr (dB)**		
All Sources	60		
Source 1	44		
Source 2	28		
Source 3	59		
Source 4	34		
Source 5	36		
Source 6	15		
Source 7	0		
Source 8	0		

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	3

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	304	distance (ft)	304	distance (ft)	139	distance (ft)	5090	distance (ft)	288	distance (ft)	288				
Noisiest Hour of	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
Activity During	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	2773	vehicles/hour	1619	trains/hour	0.066667	trains/hour	0.066667				
Sensitive Hours	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
		60		60		45		45		10		10				
		0.222222		0.222222		1971		3251		0		0				
		4		60						0		0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	1	number of rows	1	number of rows	1	number of rows	1	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R16 existing noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	69	64	63
Source 1	54	46	48
Source 2	38	29	31
Source 3	69	64	62
Source 4	42	33	36
Source 5	36	38	23
Source 6	16	16	6
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	222	distance (ft)	222	distance (ft)	65	distance (ft)	4880	distance (ft)	237	distance (ft)	237				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	2773	vehicles/hour	1619	trains/hour	0.066667	trains/hour	0.066667				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1971	vehicles/hour	3251	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R17 existing noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	67	62	61
Source 1	53	45	47
Source 2	37	28	31
Source 3	67	62	60
Source 4	38	29	32
Source 5	36	37	23
Source 6	16	16	6
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	251	distance (ft)	251	distance (ft)	89	distance (ft)	4180	distance (ft)	239	distance (ft)	239				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	2773	vehicles/hour	1619	trains/hour	0.066667	trains/hour	0.066667				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1971	vehicles/hour	3251	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	32	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R18 existing noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	66	61	60
Source 1	55	47	49
Source 2	39	31	33
Source 3	66	61	59
Source 4	38	29	32
Source 5	38	39	25
Source 6	18	18	8
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	390	distance (ft)	390	distance (ft)	229	distance (ft)	4203	distance (ft)	377	distance (ft)	377				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	2773	vehicles/hour	1619	trains/hour	0.066667	trains/hour	0.066667				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1971	vehicles/hour	3251	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	5	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R19 existing noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	64	58	57
Source 1	54	45	47
Source 2	37	29	31
Source 3	63	58	56
Source 4	39	30	33
Source 5	38	39	25
Source 6	18	18	8
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	523	distance (ft)	523	distance (ft)	352	distance (ft)	4020	distance (ft)	377	distance (ft)	377				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	2813	vehicles/hour	1619	trains/hour	0.066667	trains/hour	0.066667				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1971	vehicles/hour	3251	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	5	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R20 existing noise level

RESULTS			
Noise Source	**Leq - 1-hr (dB)**		
All Sources	65		
Source 1	49		
Source 2	32		
Source 3	64		
Source 4	31		
Source 5	41		
Source 6	20		
Source 7	0		
Source 8	0		

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	3

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	296	distance (ft)	296	distance (ft)	130	distance (ft)	3032	distance (ft)	284	distance (ft)	284				
Noisiest Hour of	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
Activity During	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	2813	vehicles/hour	1619	trains/hour	0.066667	trains/hour	0.066667				
Sensitive Hours	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
		60		60		45		45		10		10				
		0.222222		0.222222		1971		3251		0		0				
		4		60						0		0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	5	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R21 existing noise level

RESULTS			
Noise Source	**Leq - 1-hr (dB)**		
All Sources	56		
Source 1	42		
Source 2	25		
Source 3	55		
Source 4	34		
Source 5	34		
Source 6	13		
Source 7	0		
Source 8	0		

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	3

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	441	distance (ft)	441	distance (ft)	262	distance (ft)	2132	distance (ft)	426	distance (ft)	426				
Noisiest Hour of	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
Activity During	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	2773	vehicles/hour	1619	trains/hour	0.066667	trains/hour	0.066667				
Sensitive Hours	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
		60		60		45		45		10		10				
		0.222222		0.222222		1971		3251		0		0				
		4		60						0		0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N				
Intervening Rows of of Buildings	number of rows	1	number of rows	1	number of rows	1	number of rows	5	number of rows	1	number of rows	1				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R22 existing noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	58	52	52
Source 1	52	43	45
Source 2	35	27	29
Source 3	56	50	49
Source 4	52	43	46
Source 5	34	35	21
Source 6	14	14	4
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	329	distance (ft)	329	distance (ft)	504	distance (ft)	2531	distance (ft)	344	distance (ft)	344				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	2773	vehicles/hour	1619	trains/hour	0.066667	trains/hour	0.066667				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1971	vehicles/hour	3251	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	N	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R23 existing noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	57	51	50
Source 1	51	42	44
Source 2	34	26	28
Source 3	55	50	48
Source 4	46	37	40
Source 5	33	35	20
Source 6	13	13	3
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	385	distance (ft)	385	distance (ft)	554	distance (ft)	2771	distance (ft)	370	distance (ft)	370				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	2773	vehicles/hour	1619	trains/hour	0.066667	trains/hour	0.066667				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1971	vehicles/hour	3251	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	1	number of rows	1	number of rows	1	number of rows	1	number of rows	1	number of rows	1				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R24 existing noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	54	48	47
Source 1	47	39	41
Source 2	31	22	24
Source 3	52	47	45
Source 4	41	32	35
Source 5	30	31	16
Source 6	9	9	-1
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	442	distance (ft)	442	distance (ft)	607	distance (ft)	3082	distance (ft)	457	distance (ft)	457				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	2773	vehicles/hour	1619	trains/hour	0.066667	trains/hour	0.066667				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1971	vehicles/hour	3251	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	3	number of rows	3	number of rows	3	number of rows	4	number of rows	3	number of rows	3				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R25 existing noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	53	47	46
Source 1	46	38	40
Source 2	30	22	24
Source 3	51	46	45
Source 4	40	31	34
Source 5	29	30	16
Source 6	9	9	-1
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	493	distance (ft)	493	distance (ft)	660	distance (ft)	3314	distance (ft)	508	distance (ft)	508				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	2773	vehicles/hour	1619	trains/hour	0.066667	trains/hour	0.066667				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1971	vehicles/hour	3251	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	3	number of rows	3	number of rows	3	number of rows	5	number of rows	3	number of rows	3				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R26 existing noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	57	52	51
Source 1	52	43	45
Source 2	35	27	29
Source 3	56	51	49
Source 4	39	30	33
Source 5	34	35	21
Source 6	14	14	4
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	324	distance (ft)	324	distance (ft)	490	distance (ft)	3618	distance (ft)	339	distance (ft)	339				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	2773	vehicles/hour	1619	trains/hour	0.066667	trains/hour	0.066667				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1971	vehicles/hour	3251	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	7	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R27 existing noise level

RESULTS

Noise Source	Ldn (dB)	Leq - daytime (dB)	Leq - nighttime (dB)
All Sources	57	51	50
Source 1	51	43	45
Source 2	35	26	28
Source 3	55	50	49
Source 4	39	30	33
Source 5	34	35	21
Source 6	14	14	4
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS

Parameter	Source 1		Source 2		Source 3		Source 4		Source 5		Source 6		Source 7		Source 8	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	352	distance (ft)	352	distance (ft)	520	distance (ft)	3613	distance (ft)	339	distance (ft)	339				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	2773	vehicles/hour	1619	trains/hour	0.066667	trains/hour	0.066667				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1971	vehicles/hour	3251	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	1	number of rows	1	number of rows	1	number of rows	7	number of rows	1	number of rows	1				

SOURCE REFERENCE LIST

Source	Number
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R28 existing noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	56	50	49
Source 1	50	41	44
Source 2	33	25	27
Source 3	55	49	48
Source 4	39	29	32
Source 5	32	33	19
Source 6	12	12	2
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	429	distance (ft)	429	distance (ft)	593	distance (ft)	4145	distance (ft)	444	distance (ft)	444				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	2773	vehicles/hour	1619	trains/hour	0.066667	trains/hour	0.066667				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1971	vehicles/hour	3251	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	7	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R29 existing noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	55	49	48
Source 1	48	40	42
Source 2	32	24	26
Source 3	53	48	47
Source 4	39	30	33
Source 5	29	30	16
Source 6	9	9	-1
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	535	distance (ft)	535	distance (ft)	707	distance (ft)	3807	distance (ft)	703	distance (ft)	703				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	2773	vehicles/hour	1619	trains/hour	0.066667	trains/hour	0.066667				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1971	vehicles/hour	3251	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	8	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R30 existing noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	54	49	48
Source 1	48	39	42
Source 2	31	23	25
Source 3	53	48	46
Source 4	32	25	26
Source 5	30	31	17
Source 6	10	10	0
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	587	distance (ft)	587	distance (ft)	750	distance (ft)	3890	distance (ft)	602	distance (ft)	602				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	2773	vehicles/hour	543	trains/hour	0.066667	trains/hour	0.066667				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1971	vehicles/hour	653	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	N	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	1	number of rows	1	number of rows	1	number of rows	9	number of rows	1	number of rows	1				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R31 existing noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	53	47	46
Source 1	46	38	40
Source 2	29	21	23
Source 3	51	46	45
Source 4	33	26	27
Source 5	29	30	15
Source 6	8	8	-2
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	661	distance (ft)	661	distance (ft)	832	distance (ft)	3450	distance (ft)	676	distance (ft)	676				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	2773	vehicles/hour	543	trains/hour	0.066667	trains/hour	0.066667				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1971	vehicles/hour	653	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	2	number of rows	2	number of rows	2	number of rows	15	number of rows	2	number of rows	2				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R32 existing noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	57	51	50
Source 1	51	42	44
Source 2	34	26	28
Source 3	55	50	48
Source 4	33	26	26
Source 5	39	40	26
Source 6	19	19	9
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	384	distance (ft)	384	distance (ft)	550	distance (ft)	3547	distance (ft)	164	distance (ft)	164				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	2773	vehicles/hour	543	trains/hour	0.066667	trains/hour	0.066667				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1971	vehicles/hour	653	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	24	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R33 existing noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	56	50	49
Source 1	50	41	44
Source 2	33	25	27
Source 3	54	49	48
Source 4	34	27	28
Source 5	32	33	19
Source 6	12	12	2
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	438	distance (ft)	438	distance (ft)	613	distance (ft)	2836	distance (ft)	453	distance (ft)	453				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	2773	vehicles/hour	543	trains/hour	0.066667	trains/hour	0.066667				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1971	vehicles/hour	653	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	30	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R34 existing noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	55	49	48
Source 1	48	40	42
Source 2	32	24	26
Source 3	54	49	47
Source 4	35	28	29
Source 5	31	32	18
Source 6	11	11	1
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	526	distance (ft)	526	distance (ft)	676	distance (ft)	2482	distance (ft)	541	distance (ft)	541				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	2773	vehicles/hour	543	trains/hour	0.066667	trains/hour	0.066667				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1971	vehicles/hour	653	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	30	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R35 existing noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	54	49	48
Source 1	48	39	41
Source 2	31	23	25
Source 3	53	48	46
Source 4	35	28	29
Source 5	30	31	17
Source 6	10	10	0
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	604	distance (ft)	604	distance (ft)	759	distance (ft)	2500	distance (ft)	619	distance (ft)	619				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	2773	vehicles/hour	543	trains/hour	0.066667	trains/hour	0.066667				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1971	vehicles/hour	653	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	30	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R36 existing noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	56	51	50
Source 1	50	42	44
Source 2	34	25	27
Source 3	55	50	48
Source 4	36	29	30
Source 5	33	34	19
Source 6	12	12	2
Source 7	-2	0	-55
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Crossover	13		
Distance (source to receiver)	distance (ft)	409	distance (ft)	409	distance (ft)	561	distance (ft)	2202	distance (ft)	424	distance (ft)	424	distance (ft)	1782		
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	trains/hour	0.066667		
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	2773	vehicles/hour	543	trains/hour	0.066667	trains/hour	0.066667	duration of one train (sec)	425.1818		
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	trains/hour	0		
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1971	vehicles/hour	653	trains/hour	0	trains/hour	0	duration of one train (sec)	0		
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N			
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N			
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y		
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	12	number of rows	0	number of rows	0	number of rows	0		

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R37 existing noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	53	47	46
Source 1	46	37	39
Source 2	29	21	23
Source 3	51	46	45
Source 4	40	33	34
Source 5	28	29	15
Source 6	8	8	-2
Source 7	0	2	-53
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Crossover	13		
Distance (source to receiver)	distance (ft)	698	distance (ft)	698	distance (ft)	851	distance (ft)	1622	distance (ft)	713	distance (ft)	713	distance (ft)	1323		
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	trains/hour	0.066667		
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	2773	vehicles/hour	543	trains/hour	0.066667	trains/hour	0.066667	duration of one train (sec)	425.1818		
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	trains/hour	0		
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1971	vehicles/hour	653	trains/hour	0	trains/hour	0	duration of one train (sec)	0		
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N			
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N			
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y		
Intervening Rows of of Buildings	number of rows	2	number of rows	2	number of rows	2	number of rows	3	number of rows	2	number of rows	2	number of rows	2		

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R38 existing noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	56	50	49
Source 1	49	41	43
Source 2	32	24	26
Source 3	54	49	47
Source 4	44	37	38
Source 5	31	33	18
Source 6	11	11	1
Source 7	8	10	-44
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**			
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Crossover	13				
Distance (source to receiver)	distance (ft)	492	distance (ft)	492	distance (ft)	640	distance (ft)	1382	distance (ft)	507	distance (ft)	507	distance (ft)	677				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	trains/hour	0.066667				
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	2773	vehicles/hour	543	trains/hour	0.066667	trains/hour	0.066667	duration of one train (sec)	425.1818				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60						
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	0	speed (mph)	10	trains/hour	0				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1971	vehicles/hour	653	trains/hour	0	trains/hour	0	duration of one train (sec)	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0						
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats							
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N							
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R39 existing noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	67	61	61
Source 1	63	54	57
Source 2	46	38	40
Source 3	64	59	57
Source 4	58	49	52
Source 5	44	45	31
Source 6	24	24	14
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	125	distance (ft)	125	distance (ft)	308	distance (ft)	935	distance (ft)	151	distance (ft)	151				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	2773	vehicles/hour	1619	trains/hour	0.066667	trains/hour	0.066667				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1971	vehicles/hour	3251	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R40 existing noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	61	55	55
Source 1	55	47	49
Source 2	38	30	32
Source 3	58	52	51
Source 4	57	48	51
Source 5	37	38	24
Source 6	17	17	7
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	194	distance (ft)	194	distance (ft)	375	distance (ft)	1150	distance (ft)	218	distance (ft)	218				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	2773	vehicles/hour	1619	trains/hour	0.066667	trains/hour	0.066667				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1971	vehicles/hour	3251	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	N	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R41 existing noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	61	55	55
Source 1	55	47	49
Source 2	39	30	33
Source 3	58	53	51
Source 4	54	45	48
Source 5	38	39	25
Source 6	18	18	8
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	185	distance (ft)	185	distance (ft)	345	distance (ft)	1777	distance (ft)	188	distance (ft)	188				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	2773	vehicles/hour	1619	trains/hour	0.066667	trains/hour	0.066667				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1971	vehicles/hour	3251	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	N	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R42 existing noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	60	54	54
Source 1	55	46	49
Source 2	38	30	32
Source 3	58	52	51
Source 4	53	44	47
Source 5	37	38	24
Source 6	17	17	7
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	203	distance (ft)	203	distance (ft)	375	distance (ft)	2029	distance (ft)	218	distance (ft)	218				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.133333	trains/hour	0.133333	vehicles/hour	2773	vehicles/hour	1619	trains/hour	0.066667	trains/hour	0.066667				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1971	vehicles/hour	3251	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	N	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R1 no build noise level

RESULTS			
Noise Source	**Leq - 1-hr (dB)**		
All Sources	51		
Source 1	47		
Source 2	31		
Source 3	49		
Source 4	0		
Source 5	0		
Source 6	0		
Source 7	0		
Source 8	0		

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	3

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14										
Distance (source to receiver)	distance (ft)	617	distance (ft)	617	distance (ft)	468										
Noisiest Hour of	speed (mph)	60	speed (mph)	60	speed (mph)	45										
Activity During	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	509										
Sensitive Hours	locos/train	4	length of cars (ft) / train	60												
		60		60		45										
		0.222222		0.222222		579										
		4		60												
Wheel Flats?			% of cars w/ wheel flats													
Jointed Track?	Y/N	N	Y/N	N												
Embedded Track?	Y/N	N	Y/N	N												
Aerial Structure?	Y/N	N	Y/N	N												
Barrier Present?	Y/N	N	Y/N	N	Y/N	N										
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0										

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R1a no build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	59	59
Source 1	46	40	39
Source 2	29	23	23
Source 3	65	58	58
Source 4	56	50	50
Source 5	0	0	0
Source 6	0	0	0
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14								
Distance (source to receiver)	distance (ft)	862	distance (ft)	862	distance (ft)	156	distance (ft)	732								
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	2815	vehicles/hour	3870								
	locos/train	4	length of cars (ft) / train	60												
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2830	vehicles/hour	4190								
	locos/train	4	length of cars (ft) / train	60												
Wheel Flats?			% of cars w/ wheel flats													
Jointed Track?	Y/N	N	Y/N	N												
Embedded Track?	Y/N	N	Y/N	N												
Aerial Structure?	Y/N	N	Y/N	N												
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y								
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0								

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R1-A no build noise level

RESULTS			
Noise Source	**Leq - 1-hr (dB)**		
All Sources	56		
Source 1	51		
Source 2	35		
Source 3	55		
Source 4	0		
Source 5	0		
Source 6	0		
Source 7	0		
Source 8	0		

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	3

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14										
Distance (source to receiver)	distance (ft)	334	distance (ft)	334	distance (ft)	182										
Noisiest Hour of	speed (mph)	60	speed (mph)	60	speed (mph)	45										
Activity During	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	509										
Sensitive Hours	locos/train	4	length of cars (ft) / train	60												
		60		60		45										
		0.222222		0.222222		579										
		4		60												
Wheel Flats?			% of cars w/ wheel flats													
Jointed Track?	Y/N	N	Y/N	N												
Embedded Track?	Y/N	N	Y/N	N												
Aerial Structure?	Y/N	N	Y/N	N												
Barrier Present?	Y/N	N	Y/N	N	Y/N	N										
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0										

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R1b no build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	58	52	52
Source 1	45	39	39
Source 2	29	23	22
Source 3	53	47	47
Source 4	56	49	50
Source 5	0	0	0
Source 6	0	0	0
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14								
Distance (source to receiver)	distance (ft)	923	distance (ft)	923	distance (ft)	409	distance (ft)	736								
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	2815	vehicles/hour	3870								
	locos/train	4	length of cars (ft) / train	60												
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2830	vehicles/hour	4190								
	locos/train	4	length of cars (ft) / train	60												
Wheel Flats?			% of cars w/ wheel flats													
Jointed Track?	Y/N	N	Y/N	N												
Embedded Track?	Y/N	N	Y/N	N												
Aerial Structure?	Y/N	N	Y/N	N												
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y								
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	5	number of rows	0								

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R1c no build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	57	51	51
Source 1	44	38	38
Source 2	28	22	21
Source 3	50	43	43
Source 4	56	50	50
Source 5	0	0	0
Source 6	0	0	0
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14								
Distance (source to receiver)	distance (ft)	1077	distance (ft)	1077	distance (ft)	721	distance (ft)	728								
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	2815	vehicles/hour	3870								
	locos/train	4	length of cars (ft) / train	60												
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2830	vehicles/hour	4190								
	locos/train	4	length of cars (ft) / train	60												
Wheel Flats?			% of cars w/ wheel flats													
Jointed Track?	Y/N	N	Y/N	N												
Embedded Track?	Y/N	N	Y/N	N												
Aerial Structure?	Y/N	N	Y/N	N												
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y								
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	11	number of rows	0								

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R1d no build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	56	50	50
Source 1	44	38	38
Source 2	28	22	21
Source 3	54	47	47
Source 4	52	46	46
Source 5	0	0	0
Source 6	0	0	0
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14								
Distance (source to receiver)	distance (ft)	1075	distance (ft)	1075	distance (ft)	824	distance (ft)	626								
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	2815	vehicles/hour	3870								
	locos/train	4	length of cars (ft) / train	60												
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2830	vehicles/hour	4190								
	locos/train	4	length of cars (ft) / train	60												
Wheel Flats?			% of cars w/ wheel flats													
Jointed Track?	Y/N	N	Y/N	N												
Embedded Track?	Y/N	N	Y/N	N												
Aerial Structure?	Y/N	N	Y/N	N												
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y								
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	12								

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R1e no build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	58	51	51
Source 1	45	39	38
Source 2	29	23	22
Source 3	54	47	47
Source 4	55	48	48
Source 5	0	0	0
Source 6	0	0	0
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14								
Distance (source to receiver)	distance (ft)	950	distance (ft)	950	distance (ft)	831	distance (ft)	419								
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	2815	vehicles/hour	3870								
	locos/train	4	length of cars (ft) / train	60												
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2830	vehicles/hour	4190								
	locos/train	4	length of cars (ft) / train	60												
Wheel Flats?			% of cars w/ wheel flats													
Jointed Track?	Y/N	N	Y/N	N												
Embedded Track?	Y/N	N	Y/N	N												
Aerial Structure?	Y/N	N	Y/N	N												
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y								
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	7								

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R1f no build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	69	62	62
Source 1	46	40	39
Source 2	29	23	23
Source 3	53	47	47
Source 4	69	62	62
Source 5	0	0	0
Source 6	0	0	0
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14								
Distance (source to receiver)	distance (ft)	860	distance (ft)	860	distance (ft)	913	distance (ft)	108								
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	2815	vehicles/hour	3870								
	locos/train	4	length of cars (ft) / train	60												
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2830	vehicles/hour	4190								
	locos/train	4	length of cars (ft) / train	60												
Wheel Flats?			% of cars w/ wheel flats													
Jointed Track?	Y/N	N	Y/N	N												
Embedded Track?	Y/N	N	Y/N	N												
Aerial Structure?	Y/N	N	Y/N	N												
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y								
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0								

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R1g no build noise level

RESULTS			
Noise Source	**Leq - 1-hr (dB)**		
All Sources	57		
Source 1	41		
Source 2	25		
Source 3	54		
Source 4	54		
Source 5	0		
Source 6	0		
Source 7	0		
Source 8	0		

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	3

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14								
Distance (source to receiver)	distance (ft)	758	distance (ft)	758	distance (ft)	644	distance (ft)	373								
Noisiest Hour of	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
Activity During	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	2815	vehicles/hour	3870								
Sensitive Hours	locos/train	4	length of cars (ft) / train	60												
		60		60		45		45								
		0.222222		0.222222		2830		4190								
		4		60												
Wheel Flats?			% of cars w/ wheel flats													
Jointed Track?	Y/N	N	Y/N	N												
Embedded Track?	Y/N	N	Y/N	N												
Aerial Structure?	Y/N	N	Y/N	N												
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N								
Intervening Rows of of Buildings	number of rows	1	number of rows	1	number of rows	0	number of rows	1								

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R2 no build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	64	58	58
Source 1	52	46	46
Source 2	36	30	29
Source 3	49	43	42
Source 4	64	58	57
Source 5	0	0	0
Source 6	0	0	0
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14								
Distance (source to receiver)	distance (ft)	317	distance (ft)	317	distance (ft)	445	distance (ft)	153								
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	1250	vehicles/hour	2460								
	locos/train	4	length of cars (ft) / train	60												
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1110	vehicles/hour	2320								
	locos/train	4	length of cars (ft) / train	60												
Wheel Flats?			% of cars w/ wheel flats													
Jointed Track?	Y/N	N	Y/N	N												
Embedded Track?	Y/N	N	Y/N	N												
Aerial Structure?	Y/N	N	Y/N	N												
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y								
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	6	number of rows	0								

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R3 no build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	63	57	57
Source 1	51	45	44
Source 2	34	28	28
Source 3	49	43	42
Source 4	63	57	57
Source 5	0	0	0
Source 6	0	0	0
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14								
Distance (source to receiver)	distance (ft)	348	distance (ft)	348	distance (ft)	457	distance (ft)	174								
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	1250	vehicles/hour	2460								
	locos/train	4	length of cars (ft) / train	60												
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1110	vehicles/hour	2320								
	locos/train	4	length of cars (ft) / train	60												
Wheel Flats?			% of cars w/ wheel flats													
Jointed Track?	Y/N	N	Y/N	N												
Embedded Track?	Y/N	N	Y/N	N												
Aerial Structure?	Y/N	N	Y/N	N												
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y								
Intervening Rows of of Buildings	number of rows	2	number of rows	2	number of rows	6	number of rows	1								

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R4 no build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	61	54	54
Source 1	50	44	43
Source 2	33	28	27
Source 3	48	42	42
Source 4	60	54	53
Source 5	0	0	0
Source 6	0	0	0
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14								
Distance (source to receiver)	distance (ft)	385	distance (ft)	385	distance (ft)	489	distance (ft)	243								
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	1250	vehicles/hour	2460								
	locos/train	4	length of cars (ft) / train	60												
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1110	vehicles/hour	2320								
	locos/train	4	length of cars (ft) / train	60												
Wheel Flats?			% of cars w/ wheel flats													
Jointed Track?	Y/N	N	Y/N	N												
Embedded Track?	Y/N	N	Y/N	N												
Aerial Structure?	Y/N	N	Y/N	N												
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y								
Intervening Rows of of Buildings	number of rows	2	number of rows	2	number of rows	6	number of rows	2								

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R5 no build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	61	56	54
Source 1	50	45	44
Source 2	34	28	27
Source 3	61	55	54
Source 4	44	38	37
Source 5	0	0	0
Source 6	0	0	0
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14								
Distance (source to receiver)	distance (ft)	423	distance (ft)	423	distance (ft)	271	distance (ft)	1718								
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3402	vehicles/hour	955								
	locos/train	4	length of cars (ft) / train	60												
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2419	vehicles/hour	779								
	locos/train	4	length of cars (ft) / train	60												
Wheel Flats?			% of cars w/ wheel flats													
Jointed Track?	Y/N	N	Y/N	N												
Embedded Track?	Y/N	N	Y/N	N												
Aerial Structure?	Y/N	N	Y/N	N												
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y								
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0								

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R5a no build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	64	59	58
Source 1	51	46	45
Source 2	35	29	28
Source 3	64	59	57
Source 4	45	39	38
Source 5	0	0	0
Source 6	0	0	0
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14								
Distance (source to receiver)	distance (ft)	352	distance (ft)	352	distance (ft)	98	distance (ft)	1404								
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	35	speed (mph)	45								
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3402	vehicles/hour	955								
	locos/train	4	length of cars (ft) / train	60												
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	35	speed (mph)	45								
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2419	vehicles/hour	779								
	locos/train	4	length of cars (ft) / train	60												
Wheel Flats?			% of cars w/ wheel flats													
Jointed Track?	Y/N	N	Y/N	N												
Embedded Track?	Y/N	N	Y/N	N												
Aerial Structure?	Y/N	N	Y/N	N												
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y								
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0								

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R5b no build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	59	58
Source 1	52	46	46
Source 2	36	30	29
Source 3	64	59	58
Source 4	44	39	38
Source 5	0	0	0
Source 6	0	0	0
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14								
Distance (source to receiver)	distance (ft)	316	distance (ft)	316	distance (ft)	97	distance (ft)	1498								
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	35	speed (mph)	45								
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3402	vehicles/hour	955								
	locos/train	4	length of cars (ft) / train	60												
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	35	speed (mph)	45								
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2419	vehicles/hour	779								
	locos/train	4	length of cars (ft) / train	60												
Wheel Flats?			% of cars w/ wheel flats													
Jointed Track?	Y/N	N	Y/N	N												
Embedded Track?	Y/N	N	Y/N	N												
Aerial Structure?	Y/N	N	Y/N	N												
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y								
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0								

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R5c no build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	64	59	58
Source 1	53	47	46
Source 2	36	30	30
Source 3	64	59	57
Source 4	44	38	37
Source 5	0	0	0
Source 6	0	0	0
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14								
Distance (source to receiver)	distance (ft)	291	distance (ft)	291	distance (ft)	103	distance (ft)	1627								
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	35	speed (mph)	45								
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3402	vehicles/hour	955								
	locos/train	4	length of cars (ft) / train	60												
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	35	speed (mph)	45								
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2419	vehicles/hour	779								
	locos/train	4	length of cars (ft) / train	60												
Wheel Flats?			% of cars w/ wheel flats													
Jointed Track?	Y/N	N	Y/N	N												
Embedded Track?	Y/N	N	Y/N	N												
Aerial Structure?	Y/N	N	Y/N	N												
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y								
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0								

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R6 no build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	64	59	58
Source 1	52	47	46
Source 2	36	30	29
Source 3	64	59	57
Source 4	43	37	36
Source 5	0	0	0
Source 6	0	0	0
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14								
Distance (source to receiver)	distance (ft)	312	distance (ft)	312	distance (ft)	164	distance (ft)	1961								
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3402	vehicles/hour	955								
	locos/train	4	length of cars (ft) / train	60												
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2419	vehicles/hour	779								
	locos/train	4	length of cars (ft) / train	60												
Wheel Flats?			% of cars w/ wheel flats													
Jointed Track?	Y/N	N	Y/N	N												
Embedded Track?	Y/N	N	Y/N	N												
Aerial Structure?	Y/N	N	Y/N	N												
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y								
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0								

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R7 no build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	60	55	53
Source 1	49	44	43
Source 2	33	27	26
Source 3	59	54	53
Source 4	44	38	37
Source 5	0	0	0
Source 6	0	0	0
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14								
Distance (source to receiver)	distance (ft)	483	distance (ft)	483	distance (ft)	330	distance (ft)	1710								
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3402	vehicles/hour	955								
	locos/train	4	length of cars (ft) / train	60												
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2419	vehicles/hour	779								
	locos/train	4	length of cars (ft) / train	60												
Wheel Flats?			% of cars w/ wheel flats													
Jointed Track?	Y/N	N	Y/N	N												
Embedded Track?	Y/N	N	Y/N	N												
Aerial Structure?	Y/N	N	Y/N	N												
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y								
Intervening Rows of of Buildings	number of rows	1	number of rows	1	number of rows	1	number of rows	0								

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R8 no build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	61	56	55
Source 1	50	45	44
Source 2	34	28	27
Source 3	61	56	54
Source 4	47	41	40
Source 5	33	34	20
Source 6	13	13	3
Source 7	8	10	-44
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**			
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Crossover	13				
Distance (source to receiver)	distance (ft)	416	distance (ft)	416	distance (ft)	266	distance (ft)	2313	distance (ft)	403	distance (ft)	403	distance (ft)	658				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	trains/hour	0.066667				
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3402	vehicles/hour	955	trains/hour	0.066667	trains/hour	0.066667	duration of one train (sec)	425.1818				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60						
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	trains/hour	0				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2419	vehicles/hour	779	trains/hour	0	trains/hour	0	duration of one train (sec)	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0						
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats							
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N							
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	N	Y/N	Y	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R9 no build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	64	59	57
Source 1	54	48	47
Source 2	37	32	31
Source 3	64	58	57
Source 4	46	40	39
Source 5	39	41	23
Source 6	18	19	6
Source 7	12	14	-44
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**			
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Crossover	13				
Distance (source to receiver)	distance (ft)	522	distance (ft)	522	distance (ft)	372	distance (ft)	2570	distance (ft)	507	distance (ft)	507	distance (ft)	1010				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	trains/hour	0.133333				
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3402	vehicles/hour	955	trains/hour	0.133333	trains/hour	0.133333	duration of one train (sec)	425.1818				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60						
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	trains/hour	0				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2419	vehicles/hour	779	trains/hour	0	trains/hour	0	duration of one train (sec)	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0						
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats							
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N							
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N					
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R10 no build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	62	57	55
Source 1	52	47	46
Source 2	36	30	29
Source 3	61	56	55
Source 4	47	41	40
Source 5	39	41	23
Source 6	18	19	6
Source 7	13	15	-43
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**			
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Crossover	13				
Distance (source to receiver)	distance (ft)	668	distance (ft)	668	distance (ft)	524	distance (ft)	2303	distance (ft)	509	distance (ft)	509	distance (ft)	907				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	trains/hour	0.133333				
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3402	vehicles/hour	955	trains/hour	0.133333	trains/hour	0.133333	duration of one train (sec)	425.1818				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60						
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	trains/hour	0				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2419	vehicles/hour	779	trains/hour	0	trains/hour	0	duration of one train (sec)	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0						
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats							
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N							
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N					
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R11 no build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	61	56	55
Source 1	51	45	44
Source 2	34	28	27
Source 3	61	56	54
Source 4	34	29	28
Source 5	36	37	20
Source 6	15	16	3
Source 7	1	3	-55
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**			
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Crossover	13				
Distance (source to receiver)	distance (ft)	408	distance (ft)	408	distance (ft)	262	distance (ft)	3273	distance (ft)	393	distance (ft)	393	distance (ft)	1740				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	trains/hour	0.133333				
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3402	vehicles/hour	955	trains/hour	0.133333	trains/hour	0.133333	duration of one train (sec)	425.1818				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60						
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	trains/hour	0				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2419	vehicles/hour	779	trains/hour	0	trains/hour	0	duration of one train (sec)	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0						
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats							
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N							
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	32	number of rows	0	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R12 no build noise level

RESULTS			
Noise Source	**Leq - 1-hr (dB)**		
All Sources	66		
Source 1	53		
Source 2	36		
Source 3	66		
Source 4	28		
Source 5	45		
Source 6	24		
Source 7	8		
Source 8	0		

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	3

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**			
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Crossover	13				
Distance (source to receiver)	distance (ft)	258	distance (ft)	258	distance (ft)	112	distance (ft)	3491	distance (ft)	248	distance (ft)	248	distance (ft)	1786				
Noisiest Hour of	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	trains/hour	0.133333				
Activity During	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3402	vehicles/hour	955	trains/hour	0.133333	trains/hour	0.133333	duration of one train (sec)	425.1818				
Sensitive Hours	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60						
		60		60		45		45		10		10		0				
		0.222222		0.222222		2419		779		0		0		0				
		4		60						0		0						
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats							
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N							
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N					
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	32	number of rows	0	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R13 no build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	67	62	60
Source 1	53	48	47
Source 2	37	31	30
Source 3	67	61	60
Source 4	34	28	27
Source 5	39	40	23
Source 6	18	19	6
Source 7	-1	1	-56
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**			
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Crossover	13				
Distance (source to receiver)	distance (ft)	260	distance (ft)	260	distance (ft)	109	distance (ft)	3572	distance (ft)	246	distance (ft)	246	distance (ft)	2001				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	trains/hour	0.133333				
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3402	vehicles/hour	955	trains/hour	0.133333	trains/hour	0.133333	duration of one train (sec)	425.1818				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60						
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	trains/hour	0				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2419	vehicles/hour	779	trains/hour	0	trains/hour	0	duration of one train (sec)	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0						
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats							
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N							
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	32	number of rows	0	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R14 no build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	67	62	61
Source 1	53	48	47
Source 2	37	31	30
Source 3	67	62	61
Source 4	32	26	25
Source 5	39	40	23
Source 6	18	19	6
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	259	distance (ft)	259	distance (ft)	97	distance (ft)	4917	distance (ft)	246	distance (ft)	246				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3402	vehicles/hour	955	trains/hour	0.133333	trains/hour	0.133333				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2419	vehicles/hour	779	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	32	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R15 no build noise level

RESULTS			
Noise Source	**Leq - 1-hr (dB)**		
All Sources	61		
Source 1	47		
Source 2	31		
Source 3	60		
Source 4	42		
Source 5	39		
Source 6	18		
Source 7	0		
Source 8	0		

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	3

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	304	distance (ft)	304	distance (ft)	139	distance (ft)	5090	distance (ft)	289	distance (ft)	289				
Noisiest Hour of	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
Activity During	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3402	vehicles/hour	3911	trains/hour	0.133333	trains/hour	0.133333				
Sensitive Hours	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
		60		60		45		45		10		10				
		0.222222		0.222222		2419		3990		0		0				
		4		60						0		0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	1	number of rows	1	number of rows	1	number of rows	0	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R16 no build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	70	65	63
Source 1	54	49	48
Source 2	38	32	31
Source 3	70	65	63
Source 4	44	37	37
Source 5	39	41	23
Source 6	18	19	6
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	222	distance (ft)	222	distance (ft)	65	distance (ft)	4880	distance (ft)	237	distance (ft)	237				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3402	vehicles/hour	3911	trains/hour	0.133333	trains/hour	0.133333				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2419	vehicles/hour	3990	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R17 no build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	68	63	61
Source 1	54	48	47
Source 2	37	31	31
Source 3	68	63	61
Source 4	40	33	33
Source 5	39	41	23
Source 6	18	19	6
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	251	distance (ft)	251	distance (ft)	89	distance (ft)	4180	distance (ft)	236	distance (ft)	236				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3402	vehicles/hour	3911	trains/hour	0.133333	trains/hour	0.133333				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2419	vehicles/hour	3990	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	32	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R18 no build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	67	62	60
Source 1	56	50	49
Source 2	39	34	33
Source 3	67	62	60
Source 4	40	33	33
Source 5	41	42	25
Source 6	20	21	8
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	390	distance (ft)	390	distance (ft)	228	distance (ft)	4203	distance (ft)	377	distance (ft)	377				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3402	vehicles/hour	3911	trains/hour	0.133333	trains/hour	0.133333				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2419	vehicles/hour	3990	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	5	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R19 no build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	64	59	58
Source 1	54	48	47
Source 2	37	32	31
Source 3	64	59	57
Source 4	40	33	34
Source 5	39	41	23
Source 6	18	19	6
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	523	distance (ft)	523	distance (ft)	352	distance (ft)	4020	distance (ft)	508	distance (ft)	508				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3402	vehicles/hour	3911	trains/hour	0.133333	trains/hour	0.133333				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2419	vehicles/hour	3990	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	5	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R20 no build noise level

RESULTS			
Noise Source	**Leq - 1-hr (dB)**		
All Sources	65		
Source 1	52		
Source 2	35		
Source 3	65		
Source 4	35		
Source 5	44		
Source 6	23		
Source 7	0		
Source 8	0		

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	3

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	296	distance (ft)	296	distance (ft)	131	distance (ft)	3032	distance (ft)	284	distance (ft)	284				
Noisiest Hour of	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
Activity During	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3402	vehicles/hour	3911	trains/hour	0.133333	trains/hour	0.133333				
Sensitive Hours	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
		60		60		45		45		10		10				
		0.222222		0.222222		2419		3990		0		0				
		4		60						0		0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	5	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R21 no build noise level

RESULTS			
Noise Source	**Leq - 1-hr (dB)**		
All Sources	57		
Source 1	45		
Source 2	28		
Source 3	56		
Source 4	38		
Source 5	37		
Source 6	16		
Source 7	0		
Source 8	0		

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	3

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	441	distance (ft)	441	distance (ft)	263	distance (ft)	2130	distance (ft)	426	distance (ft)	426				
Noisiest Hour of	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
Activity During	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3402	vehicles/hour	3911	trains/hour	0.133333	trains/hour	0.133333				
Sensitive Hours	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
		60		60		45		45		10		10				
		0.222222		0.222222		2419		3990		0		0				
		4		60						0		0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N				
Intervening Rows of of Buildings	number of rows	1	number of rows	1	number of rows	1	number of rows	5	number of rows	1	number of rows	1				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R22 no build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	58	53	52
Source 1	52	46	45
Source 2	35	30	29
Source 3	57	51	50
Source 4	48	41	42
Source 5	37	38	21
Source 6	16	17	4
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	329	distance (ft)	329	distance (ft)	504	distance (ft)	2531	distance (ft)	344	distance (ft)	344				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3402	vehicles/hour	3911	trains/hour	0.133333	trains/hour	0.133333				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2419	vehicles/hour	3990	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R23 no build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	58	52	51
Source 1	51	45	44
Source 2	34	29	28
Source 3	56	51	49
Source 4	47	41	41
Source 5	36	37	20
Source 6	15	16	3
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	385	distance (ft)	385	distance (ft)	554	distance (ft)	2771	distance (ft)	400	distance (ft)	400				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3402	vehicles/hour	3911	trains/hour	0.133333	trains/hour	0.133333				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2419	vehicles/hour	3990	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	1	number of rows	1	number of rows	1	number of rows	1	number of rows	1	number of rows	1				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R24 no build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	54	49	48
Source 1	47	42	41
Source 2	31	25	24
Source 3	53	48	46
Source 4	43	36	36
Source 5	34	35	18
Source 6	13	14	1
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	442	distance (ft)	442	distance (ft)	607	distance (ft)	3082	distance (ft)	457	distance (ft)	457				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3402	vehicles/hour	3911	trains/hour	0.133333	trains/hour	0.133333				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2419	vehicles/hour	3990	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	3	number of rows	3	number of rows	3	number of rows	4	number of rows	2	number of rows	2				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R25 no build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	54	48	47
Source 1	47	41	40
Source 2	30	25	24
Source 3	52	47	46
Source 4	41	35	35
Source 5	31	33	16
Source 6	11	12	-1
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	493	distance (ft)	493	distance (ft)	660	distance (ft)	3314	distance (ft)	508	distance (ft)	508				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3402	vehicles/hour	3911	trains/hour	0.133333	trains/hour	0.133333				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2419	vehicles/hour	3990	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	3	number of rows	3	number of rows	3	number of rows	5	number of rows	3	number of rows	3				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R26 no build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	58	53	51
Source 1	52	46	45
Source 2	36	30	29
Source 3	57	52	50
Source 4	41	34	34
Source 5	37	38	21
Source 6	16	17	4
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	324	distance (ft)	324	distance (ft)	490	distance (ft)	3618	distance (ft)	339	distance (ft)	339				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3402	vehicles/hour	3911	trains/hour	0.133333	trains/hour	0.133333				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2419	vehicles/hour	3990	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	7	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R27 no build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	58	53	51
Source 1	51	46	45
Source 2	35	29	28
Source 3	56	51	50
Source 4	41	34	34
Source 5	36	38	20
Source 6	16	16	3
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	352	distance (ft)	352	distance (ft)	520	distance (ft)	3613	distance (ft)	367	distance (ft)	367				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3402	vehicles/hour	3911	trains/hour	0.133333	trains/hour	0.133333				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2419	vehicles/hour	3990	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	1	number of rows	1	number of rows	1	number of rows	7	number of rows	1	number of rows	1				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R28 no build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	57	52	50
Source 1	50	44	44
Source 2	34	28	27
Source 3	55	50	49
Source 4	40	33	33
Source 5	35	36	19
Source 6	14	15	2
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	429	distance (ft)	429	distance (ft)	593	distance (ft)	4145	distance (ft)	444	distance (ft)	444				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3402	vehicles/hour	3911	trains/hour	0.133333	trains/hour	0.133333				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2419	vehicles/hour	3990	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	7	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R29 no build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	56	50	49
Source 1	49	43	42
Source 2	32	27	26
Source 3	54	49	48
Source 4	40	34	34
Source 5	33	35	18
Source 6	13	14	1
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	535	distance (ft)	535	distance (ft)	707	distance (ft)	3807	distance (ft)	550	distance (ft)	550				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3402	vehicles/hour	3911	trains/hour	0.133333	trains/hour	0.133333				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2419	vehicles/hour	3990	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	8	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R30 no build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	55	50	48
Source 1	48	42	42
Source 2	32	26	25
Source 3	54	49	47
Source 4	34	27	27
Source 5	33	34	17
Source 6	12	13	0
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	587	distance (ft)	587	distance (ft)	752	distance (ft)	4397	distance (ft)	602	distance (ft)	602				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3402	vehicles/hour	950	trains/hour	0.133333	trains/hour	0.133333				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2419	vehicles/hour	1110	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	1	number of rows	1	number of rows	1	number of rows	9	number of rows	1	number of rows	1				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R31 no build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	53	48	47
Source 1	46	41	40
Source 2	30	24	23
Source 3	52	47	46
Source 4	35	28	29
Source 5	31	33	15
Source 6	11	11	-2
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	661	distance (ft)	661	distance (ft)	832	distance (ft)	3450	distance (ft)	676	distance (ft)	676				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3402	vehicles/hour	950	trains/hour	0.133333	trains/hour	0.133333				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2419	vehicles/hour	1110	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	2	number of rows	2	number of rows	2	number of rows	15	number of rows	2	number of rows	2				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R32 no build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	57	52	51
Source 1	51	45	44
Source 2	34	29	28
Source 3	56	51	49
Source 4	35	28	29
Source 5	36	37	20
Source 6	15	16	3
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	384	distance (ft)	384	distance (ft)	550	distance (ft)	3547	distance (ft)	399	distance (ft)	399				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3402	vehicles/hour	950	trains/hour	0.133333	trains/hour	0.133333				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2419	vehicles/hour	1110	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	24	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R33 no build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	57	51	50
Source 1	50	44	44
Source 2	34	28	27
Source 3	55	50	49
Source 4	37	30	30
Source 5	35	36	19
Source 6	14	15	2
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	438	distance (ft)	438	distance (ft)	613	distance (ft)	2836	distance (ft)	453	distance (ft)	453				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3402	vehicles/hour	950	trains/hour	0.133333	trains/hour	0.133333				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2419	vehicles/hour	1110	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	30	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R34 no build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	55	50	49
Source 1	49	43	42
Source 2	32	27	26
Source 3	54	49	48
Source 4	37	30	31
Source 5	34	35	18
Source 6	13	14	1
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	526	distance (ft)	526	distance (ft)	714	distance (ft)	2482	distance (ft)	541	distance (ft)	541				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3402	vehicles/hour	950	trains/hour	0.133333	trains/hour	0.133333				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2419	vehicles/hour	1110	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	30	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R35 no build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	55	50	48
Source 1	48	42	41
Source 2	31	26	25
Source 3	54	49	47
Source 4	37	30	31
Source 5	33	34	17
Source 6	12	13	0
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	604	distance (ft)	604	distance (ft)	759	distance (ft)	2500	distance (ft)	619	distance (ft)	619				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3402	vehicles/hour	950	trains/hour	0.133333	trains/hour	0.133333				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2419	vehicles/hour	1110	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	30	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R36 no build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	57	52	50
Source 1	50	45	44
Source 2	34	28	27
Source 3	56	51	49
Source 4	38	31	32
Source 5	35	37	19
Source 6	15	15	2
Source 7	-1	1	-57
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Crossover	13		
Distance (source to receiver)	distance (ft)	409	distance (ft)	409	distance (ft)	561	distance (ft)	2202	distance (ft)	424	distance (ft)	424	distance (ft)	2089		
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	trains/hour	0.133333		
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3402	vehicles/hour	950	trains/hour	0.133333	trains/hour	0.133333	duration of one train (sec)	425.1818		
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	trains/hour	0		
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2419	vehicles/hour	1110	trains/hour	0	trains/hour	0	duration of one train (sec)	0		
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N			
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N			
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y		
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	14	number of rows	0	number of rows	0	number of rows	0		

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R37 no build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	53	48	47
Source 1	46	40	39
Source 2	30	24	23
Source 3	52	47	45
Source 4	43	36	36
Source 5	31	32	15
Source 6	10	11	-2
Source 7	3	5	-53
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**			
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Crossover	13				
Distance (source to receiver)	distance (ft)	698	distance (ft)	698	distance (ft)	866	distance (ft)	1622	distance (ft)	713	distance (ft)	713	distance (ft)	1323				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	trains/hour	0.133333				
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3402	vehicles/hour	950	trains/hour	0.133333	trains/hour	0.133333	duration of one train (sec)	425.1818				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60						
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	trains/hour	0				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2419	vehicles/hour	1110	trains/hour	0	trains/hour	0	duration of one train (sec)	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0						
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats							
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N							
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	2	number of rows	2	number of rows	2	number of rows	3	number of rows	2	number of rows	2	number of rows	2				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R38 no build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	56	51	50
Source 1	49	44	43
Source 2	33	27	26
Source 3	55	50	48
Source 4	46	39	40
Source 5	34	36	18
Source 6	13	14	1
Source 7	11	13	-44
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**			
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Crossover	13				
Distance (source to receiver)	distance (ft)	492	distance (ft)	492	distance (ft)	651	distance (ft)	1382	distance (ft)	507	distance (ft)	507	distance (ft)	677				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	trains/hour	0.133333				
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3402	vehicles/hour	950	trains/hour	0.133333	trains/hour	0.133333	duration of one train (sec)	425.1818				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60						
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	0	speed (mph)	10	trains/hour	0				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2419	vehicles/hour	1110	trains/hour	0	trains/hour	0	duration of one train (sec)	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0						
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats							
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N							
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R39 no build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	68	62	61
Source 1	63	57	57
Source 2	47	41	40
Source 3	65	60	58
Source 4	59	50	53
Source 5	44	45	31
Source 6	24	24	14
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	125	distance (ft)	125	distance (ft)	308	distance (ft)	935	distance (ft)	151	distance (ft)	151				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3402	vehicles/hour	1987	trains/hour	0.066667	trains/hour	0.066667				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2419	vehicles/hour	3990	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R40 no build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	61	55	54
Source 1	55	50	49
Source 2	39	33	32
Source 3	58	53	52
Source 4	53	44	47
Source 5	37	38	24
Source 6	17	17	7
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	194	distance (ft)	194	distance (ft)	375	distance (ft)	1150	distance (ft)	218	distance (ft)	218				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3402	vehicles/hour	1987	trains/hour	0.066667	trains/hour	0.066667				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2419	vehicles/hour	3990	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R41 no build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	61	56	54
Source 1	56	50	49
Source 2	39	33	33
Source 3	59	54	52
Source 4	50	41	44
Source 5	38	39	25
Source 6	18	18	8
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	185	distance (ft)	185	distance (ft)	345	distance (ft)	1777	distance (ft)	188	distance (ft)	188				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3402	vehicles/hour	1987	trains/hour	0.066667	trains/hour	0.066667				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2419	vehicles/hour	3990	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R42 no build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	60	55	54
Source 1	55	49	49
Source 2	39	33	32
Source 3	58	53	52
Source 4	49	40	43
Source 5	37	38	24
Source 6	17	17	7
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	203	distance (ft)	203	distance (ft)	375	distance (ft)	2029	distance (ft)	218	distance (ft)	218				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3402	vehicles/hour	1987	trains/hour	0.066667	trains/hour	0.066667				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2419	vehicles/hour	3990	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R1 build noise level

RESULTS			
Noise Source	**Leq - 1-hr (dB)**		
All Sources	51		
Source 1	47		
Source 2	31		
Source 3	49		
Source 4	0		
Source 5	0		
Source 6	0		
Source 7	0		
Source 8	0		

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	3

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14										
Distance (source to receiver)	distance (ft)	617	distance (ft)	617	distance (ft)	468										
Noisiest Hour of	speed (mph)	60	speed (mph)	60	speed (mph)	45										
Activity During	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	509										
Sensitive Hours	locos/train	4	length of cars (ft) / train	60												
		60		60		45										
		0.222222		0.222222		579										
		4		60												
Wheel Flats?			% of cars w/ wheel flats													
Jointed Track?	Y/N	N	Y/N	N												
Embedded Track?	Y/N	N	Y/N	N												
Aerial Structure?	Y/N	N	Y/N	N												
Barrier Present?	Y/N	N	Y/N	N	Y/N	N										
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0										

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R1a build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	59	59
Source 1	46	40	39
Source 2	29	23	23
Source 3	65	58	58
Source 4	56	50	50
Source 5	0	0	0
Source 6	0	0	0
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14								
Distance (source to receiver)	distance (ft)	862	distance (ft)	862	distance (ft)	156	distance (ft)	732								
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	2815	vehicles/hour	3870								
	locos/train	4	length of cars (ft) / train	60												
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2830	vehicles/hour	4190								
	locos/train	4	length of cars (ft) / train	60												
Wheel Flats?			% of cars w/ wheel flats													
Jointed Track?	Y/N	N	Y/N	N												
Embedded Track?	Y/N	N	Y/N	N												
Aerial Structure?	Y/N	N	Y/N	N												
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y								
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0								

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R1-A build noise level

RESULTS			
Noise Source	**Leq - 1-hr (dB)**		
All Sources	56		
Source 1	51		
Source 2	35		
Source 3	55		
Source 4	0		
Source 5	0		
Source 6	0		
Source 7	0		
Source 8	0		

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	3

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14										
Distance (source to receiver)	distance (ft)	334	distance (ft)	334	distance (ft)	182										
Noisiest Hour of	speed (mph)	60	speed (mph)	60	speed (mph)	45										
Activity During	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	509										
Sensitive Hours	locos/train	4	length of cars (ft) / train	60												
		60		60		45										
		0.222222		0.222222		579										
		4		60												
Wheel Flats?			% of cars w/ wheel flats													
Jointed Track?	Y/N	N	Y/N	N												
Embedded Track?	Y/N	N	Y/N	N												
Aerial Structure?	Y/N	N	Y/N	N												
Barrier Present?	Y/N	N	Y/N	N	Y/N	N										
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0										

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R1b build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	58	52	52
Source 1	45	39	39
Source 2	29	23	22
Source 3	53	47	47
Source 4	56	49	50
Source 5	0	0	0
Source 6	0	0	0
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14								
Distance (source to receiver)	distance (ft)	923	distance (ft)	923	distance (ft)	409	distance (ft)	736								
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	2815	vehicles/hour	3870								
	locos/train	4	length of cars (ft) / train	60												
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2830	vehicles/hour	4190								
	locos/train	4	length of cars (ft) / train	60												
Wheel Flats?			% of cars w/ wheel flats													
Jointed Track?	Y/N	N	Y/N	N												
Embedded Track?	Y/N	N	Y/N	N												
Aerial Structure?	Y/N	N	Y/N	N												
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y								
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	5	number of rows	0								

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R1c build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	57	51	51
Source 1	44	38	38
Source 2	28	22	21
Source 3	50	43	43
Source 4	56	50	50
Source 5	0	0	0
Source 6	0	0	0
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14								
Distance (source to receiver)	distance (ft)	1077	distance (ft)	1077	distance (ft)	721	distance (ft)	728								
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	2815	vehicles/hour	3870								
	locos/train	4	length of cars (ft) / train	60												
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2830	vehicles/hour	4190								
	locos/train	4	length of cars (ft) / train	60												
Wheel Flats?			% of cars w/ wheel flats													
Jointed Track?	Y/N	N	Y/N	N												
Embedded Track?	Y/N	N	Y/N	N												
Aerial Structure?	Y/N	N	Y/N	N												
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y								
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	11	number of rows	0								

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R1d build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	56	50	50
Source 1	44	38	38
Source 2	28	22	21
Source 3	54	47	47
Source 4	52	46	46
Source 5	0	0	0
Source 6	0	0	0
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14								
Distance (source to receiver)	distance (ft)	1075	distance (ft)	1075	distance (ft)	824	distance (ft)	626								
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	2815	vehicles/hour	3870								
	locos/train	4	length of cars (ft) / train	60												
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2830	vehicles/hour	4190								
	locos/train	4	length of cars (ft) / train	60												
Wheel Flats?			% of cars w/ wheel flats													
Jointed Track?	Y/N	N	Y/N	N												
Embedded Track?	Y/N	N	Y/N	N												
Aerial Structure?	Y/N	N	Y/N	N												
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y								
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	12								

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R1e build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	58	51	51
Source 1	45	39	38
Source 2	29	23	22
Source 3	54	47	47
Source 4	55	48	48
Source 5	0	0	0
Source 6	0	0	0
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14								
Distance (source to receiver)	distance (ft)	950	distance (ft)	950	distance (ft)	831	distance (ft)	419								
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	2815	vehicles/hour	3870								
	locos/train	4	length of cars (ft) / train	60												
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2830	vehicles/hour	4190								
	locos/train	4	length of cars (ft) / train	60												
Wheel Flats?			% of cars w/ wheel flats													
Jointed Track?	Y/N	N	Y/N	N												
Embedded Track?	Y/N	N	Y/N	N												
Aerial Structure?	Y/N	N	Y/N	N												
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y								
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	7								

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R1f build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	69	62	62
Source 1	46	40	39
Source 2	29	23	23
Source 3	53	47	47
Source 4	69	62	62
Source 5	0	0	0
Source 6	0	0	0
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14								
Distance (source to receiver)	distance (ft)	860	distance (ft)	860	distance (ft)	913	distance (ft)	108								
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	2815	vehicles/hour	3870								
	locos/train	4	length of cars (ft) / train	60												
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2830	vehicles/hour	4190								
	locos/train	4	length of cars (ft) / train	60												
Wheel Flats?			% of cars w/ wheel flats													
Jointed Track?	Y/N	N	Y/N	N												
Embedded Track?	Y/N	N	Y/N	N												
Aerial Structure?	Y/N	N	Y/N	N												
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y								
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0								

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R1g build noise level

RESULTS			
Noise Source	**Leq - 1-hr (dB)**		
All Sources	57		
Source 1	41		
Source 2	25		
Source 3	54		
Source 4	54		
Source 5	0		
Source 6	0		
Source 7	0		
Source 8	0		

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	3

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14								
Distance (source to receiver)	distance (ft)	758	distance (ft)	758	distance (ft)	644	distance (ft)	373								
Noisiest Hour of	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45								
Activity During	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	2815	vehicles/hour	3870								
Sensitive Hours	locos/train	4	length of cars (ft) / train	60												
		60		60		45		45								
		0.222222		0.222222		2830		4190								
		4		60												
Wheel Flats?			% of cars w/ wheel flats													
Jointed Track?	Y/N	N	Y/N	N												
Embedded Track?	Y/N	N	Y/N	N												
Aerial Structure?	Y/N	N	Y/N	N												
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N								
Intervening Rows of of Buildings	number of rows	1	number of rows	1	number of rows	0	number of rows	1								

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R2 build noise

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	64	57	58
Source 1	51	45	45
Source 2	35	29	28
Source 3	49	43	42
Source 4	64	57	58
Source 5	30	31	17
Source 6	12	13	0
Source 7	39	41	22
Source 8	20	21	5

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Freight Locomotive	9	Freight Cars	10
Distance (source to receiver)	distance (ft)	317	distance (ft)	317	distance (ft)	443	distance (ft)	147	distance (ft)	607	distance (ft)	607	distance (ft)	303	distance (ft)	303
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	20	speed (mph)	20	speed (mph)	30	speed (mph)	30
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	1250	vehicles/hour	1750	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333
	locos/train	4	length of cars (ft) / train	60					locos/train	2	length of cars (ft) / train	60	locos/train	4	length of cars (ft) / train	60
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	0	speed (mph)	0	speed (mph)	0	speed (mph)	0
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1110	vehicles/hour	2320	trains/hour	0	trains/hour	0	trains/hour	0	trains/hour	0
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0	locos/train	0	length of cars (ft) / train	0
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats				% of cars w/ wheel flats	
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y
Intervening Rows of of Buildings	number of rows	2	number of rows	2	number of rows	6	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R3 build noise

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	63	57	57
Source 1	51	45	44
Source 2	34	28	28
Source 3	49	43	42
Source 4	63	57	57
Source 5	30	31	17
Source 6	12	13	0
Source 7	38	40	21
Source 8	19	21	4

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Freight Locomotive	9	Freight Cars	10
Distance (source to receiver)	distance (ft)	348	distance (ft)	348	distance (ft)	457	distance (ft)	174	distance (ft)	602	distance (ft)	602	distance (ft)	331	distance (ft)	331
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	20	speed (mph)	20	speed (mph)	30	speed (mph)	30
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	1250	vehicles/hour	2460	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333
	locos/train	4	length of cars (ft) / train	60					locos/train	2	length of cars (ft) / train	60	locos/train	4	length of cars (ft) / train	60
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	0	speed (mph)	0	speed (mph)	0	speed (mph)	0
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1110	vehicles/hour	2320	trains/hour	0	trains/hour	0	trains/hour	0	trains/hour	0
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0	locos/train	0	length of cars (ft) / train	0
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats				% of cars w/ wheel flats	
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y
Intervening Rows of of Buildings	number of rows	2	number of rows	2	number of rows	6	number of rows	1	number of rows	1	number of rows	1	number of rows	1	number of rows	1

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R4 build noise

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	61	55	54
Source 1	50	44	43
Source 2	33	28	27
Source 3	48	42	42
Source 4	60	54	53
Source 5	29	30	16
Source 6	11	12	-1
Source 7	37	38	19
Source 8	17	19	2

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Freight Locomotive	9	Freight Cars	10
Distance (source to receiver)	distance (ft)	385	distance (ft)	385	distance (ft)	489	distance (ft)	243	distance (ft)	655	distance (ft)	655	distance (ft)	370	distance (ft)	370
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	20	speed (mph)	20	speed (mph)	30	speed (mph)	30
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	1250	vehicles/hour	2460	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333
	locos/train	4	length of cars (ft) / train	60					locos/train	2	length of cars (ft) / train	60	locos/train	4	length of cars (ft) / train	60
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	0	speed (mph)	0	speed (mph)	0	speed (mph)	0
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	1110	vehicles/hour	2320	trains/hour	0	trains/hour	0	trains/hour	0	trains/hour	0
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0	locos/train	0	length of cars (ft) / train	0
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats				% of cars w/ wheel flats	
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y
Intervening Rows of of Buildings	number of rows	2	number of rows	2	number of rows	20	number of rows	2	number of rows	2	number of rows	2	number of rows	2	number of rows	2

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R5 build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	62	56	55
Source 1	50	45	44
Source 2	34	28	27
Source 3	61	56	54
Source 4	44	38	37
Source 5	32	34	19
Source 6	14	15	2
Source 7	37	39	20
Source 8	18	19	3

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Freight Locomotive	9	Freight Cars	10
Distance (source to receiver)	distance (ft)	423	distance (ft)	423	distance (ft)	271	distance (ft)	1718	distance (ft)	438	distance (ft)	438	distance (ft)	408	distance (ft)	408
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	20	speed (mph)	20	speed (mph)	30	speed (mph)	30
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3781	vehicles/hour	1061	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333
	locos/train	4	length of cars (ft) / train	60					locos/train	2	length of cars (ft) / train	60	locos/train	4	length of cars (ft) / train	60
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	0	speed (mph)	0	speed (mph)	0	speed (mph)	0
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2687	vehicles/hour	865	trains/hour	0	trains/hour	0	trains/hour	0	trains/hour	0
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0	locos/train	0	length of cars (ft) / train	0
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats				% of cars w/ wheel flats	
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R5a build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	60	58
Source 1	51	46	45
Source 2	35	29	28
Source 3	65	59	58
Source 4	45	40	39
Source 5	32	34	19
Source 6	16	17	3
Source 7	37	39	20
Source 8	18	19	3

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Freight Locomotive	9	Freight Cars	10
Distance (source to receiver)	distance (ft)	352	distance (ft)	352	distance (ft)	98	distance (ft)	1404	distance (ft)	438	distance (ft)	408	distance (ft)	408	distance (ft)	408
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	35	speed (mph)	45	speed (mph)	20	speed (mph)	30	speed (mph)	30	speed (mph)	30
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3781	vehicles/hour	1061	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333
	locos/train	4	length of cars (ft) / train	60					locos/train	2	length of cars (ft) / train	4	locos/train	4	length of cars (ft) / train	60
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	35	speed (mph)	45	speed (mph)	0	speed (mph)	0	speed (mph)	0	speed (mph)	0
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2687	vehicles/hour	865	trains/hour	0	trains/hour	0	trains/hour	0	trains/hour	0
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0	locos/train	0	length of cars (ft) / train	0
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats				% of cars w/ wheel flats	
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R5b build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	60	58
Source 1	52	46	46
Source 2	36	30	29
Source 3	65	60	58
Source 4	45	39	38
Source 5	34	35	21
Source 6	18	19	5
Source 7	39	41	22
Source 8	20	21	5

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Freight Locomotive	9	Freight Cars	10
Distance (source to receiver)	distance (ft)	316	distance (ft)	316	distance (ft)	97	distance (ft)	1498	distance (ft)	335	distance (ft)	305	distance (ft)	305	distance (ft)	305
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	35	speed (mph)	45	speed (mph)	20	speed (mph)	30	speed (mph)	30	speed (mph)	30
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3781	vehicles/hour	1061	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333
	locos/train	4	length of cars (ft) / train	60					locos/train	2	length of cars (ft) / train	4	locos/train	4	length of cars (ft) / train	60
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	35	speed (mph)	45	speed (mph)	0	speed (mph)	0	speed (mph)	0	speed (mph)	0
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2687	vehicles/hour	865	trains/hour	0	trains/hour	0	trains/hour	0	trains/hour	0
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0	locos/train	0	length of cars (ft) / train	0
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats				% of cars w/ wheel flats	
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R5c build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	60	58
Source 1	53	47	46
Source 2	36	30	30
Source 3	64	59	58
Source 4	44	39	38
Source 5	37	39	24
Source 6	22	23	8
Source 7	43	44	25
Source 8	23	25	8

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Freight Locomotive	9	Freight Cars	10
Distance (source to receiver)	distance (ft)	291	distance (ft)	291	distance (ft)	100	distance (ft)	1627	distance (ft)	200	distance (ft)	170	distance (ft)	170	distance (ft)	170
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	35	speed (mph)	45	speed (mph)	20	speed (mph)	30	speed (mph)	30	speed (mph)	30
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3781	vehicles/hour	1061	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333
	locos/train	4	length of cars (ft) / train	60					locos/train	2	length of cars (ft) / train	4	locos/train	4	length of cars (ft) / train	60
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	35	speed (mph)	45	speed (mph)	0	speed (mph)	0	speed (mph)	0	speed (mph)	0
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2687	vehicles/hour	865	trains/hour	0	trains/hour	0	trains/hour	0	trains/hour	0
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0	locos/train	0	length of cars (ft) / train	0
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats				% of cars w/ wheel flats	
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R6 build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	60	58
Source 1	52	47	46
Source 2	36	30	29
Source 3	65	59	58
Source 4	43	37	37
Source 5	34	35	21
Source 6	16	17	4
Source 7	39	41	22
Source 8	20	21	5

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Freight Locomotive	9	Freight Cars	10
Distance (source to receiver)	distance (ft)	312	distance (ft)	312	distance (ft)	159	distance (ft)	1961	distance (ft)	329	distance (ft)	329	distance (ft)	299	distance (ft)	299
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	20	speed (mph)	20	speed (mph)	30	speed (mph)	30
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3781	vehicles/hour	1061	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333
	locos/train	4	length of cars (ft) / train	60					locos/train	2	length of cars (ft) / train	60	locos/train	4	length of cars (ft) / train	60
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	0	speed (mph)	0	speed (mph)	0	speed (mph)	0
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2687	vehicles/hour	865	trains/hour	0	trains/hour	0	trains/hour	0	trains/hour	0
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0	locos/train	0	length of cars (ft) / train	0
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats				% of cars w/ wheel flats	
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y
Intervening Rows of of Buildings	number of rows	1	number of rows	1	number of rows	1	number of rows	1	number of rows	1	number of rows	1	number of rows	1	number of rows	0

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R7 build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	60	55	54
Source 1	49	44	43
Source 2	33	27	26
Source 3	60	55	53
Source 4	44	38	37
Source 5	32	33	18
Source 6	14	14	1
Source 7	36	38	19
Source 8	17	18	2

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Freight Locomotive	9	Freight Cars	10
Distance (source to receiver)	distance (ft)	483	distance (ft)	483	distance (ft)	330	distance (ft)	1710	distance (ft)	497	distance (ft)	497	distance (ft)	467	distance (ft)	467
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	20	speed (mph)	20	speed (mph)	30	speed (mph)	30
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3781	vehicles/hour	1061	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333
	locos/train	4	length of cars (ft) / train	60					locos/train	2	length of cars (ft) / train	60	locos/train	4	length of cars (ft) / train	60
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	0	speed (mph)	0	speed (mph)	0	speed (mph)	0
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2687	vehicles/hour	865	trains/hour	0	trains/hour	0	trains/hour	0	trains/hour	0
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0	locos/train	0	length of cars (ft) / train	0
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats				% of cars w/ wheel flats	
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y
Intervening Rows of of Buildings	number of rows	1	number of rows	1	number of rows	1	number of rows	1	number of rows	1	number of rows	1	number of rows	1	number of rows	1

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R8 build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	62	57	55
Source 1	50	45	44
Source 2	34	28	27
Source 3	61	56	55
Source 4	47	41	41
Source 5	35	37	20
Source 6	15	16	3
Source 7	32	34	19
Source 8	14	15	2

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Freight Locomotive	9	Freight Cars	10
Distance (source to receiver)	distance (ft)	416	distance (ft)	416	distance (ft)	266	distance (ft)	2313	distance (ft)	403	distance (ft)	403	distance (ft)	433	distance (ft)	433
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	speed (mph)	20	speed (mph)	20
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3781	vehicles/hour	1061	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60	locos/train	2	length of cars (ft) / train	60
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	speed (mph)	0	speed (mph)	0
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2687	vehicles/hour	865	trains/hour	0	trains/hour	0	trains/hour	0	trains/hour	0
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0	locos/train	0	length of cars (ft) / train	0
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats				% of cars w/ wheel flats	
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	N	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R9 build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	64	59	58
Source 1	54	48	47
Source 2	37	32	31
Source 3	64	59	57
Source 4	46	41	40
Source 5	39	41	23
Source 6	18	19	6
Source 7	36	37	23
Source 8	18	19	6

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Freight Locomotive	9	Freight Cars	10
Distance (source to receiver)	distance (ft)	522	distance (ft)	522	distance (ft)	372	distance (ft)	2570	distance (ft)	506	distance (ft)	506	distance (ft)	536	distance (ft)	536
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	speed (mph)	20	speed (mph)	20
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3781	vehicles/hour	1061	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60	locos/train	2	length of cars (ft) / train	60
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	speed (mph)	0	speed (mph)	0
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2687	vehicles/hour	865	trains/hour	0	trains/hour	0	trains/hour	0	trains/hour	0
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0	locos/train	0	length of cars (ft) / train	0
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats				% of cars w/ wheel flats	
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R10 build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	62	57	56
Source 1	52	47	46
Source 2	36	30	29
Source 3	62	57	55
Source 4	47	41	41
Source 5	39	41	23
Source 6	18	19	6
Source 7	33	34	20
Source 8	16	17	4

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Freight Locomotive	9	Freight Cars	10
Distance (source to receiver)	distance (ft)	668	distance (ft)	668	distance (ft)	524	distance (ft)	2303	distance (ft)	509	distance (ft)	509	distance (ft)	907	distance (ft)	686
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	speed (mph)	20	speed (mph)	20
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3781	vehicles/hour	1061	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60	locos/train	2	length of cars (ft) / train	60
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	speed (mph)	0	speed (mph)	0
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2687	vehicles/hour	865	trains/hour	0	trains/hour	0	trains/hour	0	trains/hour	0
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0	locos/train	0	length of cars (ft) / train	0
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats				% of cars w/ wheel flats	
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R11 build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	62	56	55
Source 1	51	45	44
Source 2	34	28	27
Source 3	61	56	55
Source 4	35	29	28
Source 5	36	37	20
Source 6	15	16	3
Source 7	33	34	19
Source 8	15	15	2

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Freight Locomotive	9	Freight Cars	10
Distance (source to receiver)	distance (ft)	408	distance (ft)	408	distance (ft)	262	distance (ft)	3273	distance (ft)	395	distance (ft)	395	distance (ft)	425	distance (ft)	425
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	speed (mph)	20	speed (mph)	20
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3781	vehicles/hour	1061	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60	locos/train	2	length of cars (ft) / train	60
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	speed (mph)	0	speed (mph)	0
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2687	vehicles/hour	865	trains/hour	0	trains/hour	0	trains/hour	0	trains/hour	0
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0	locos/train	0	length of cars (ft) / train	0
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats				% of cars w/ wheel flats	
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	32	number of rows	0	number of rows	0	number of rows	0	number of rows	0

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R12 build noise level

RESULTS			
Noise Source	**Leq - 1-hr (dB)**		
All Sources	67		
Source 1	53		
Source 2	36		
Source 3	67		
Source 4	29		
Source 5	45		
Source 6	24		
Source 7	41		
Source 8	23		

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	3

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Freight Locomotive	9	Freight Cars	10
Distance (source to receiver)	distance (ft)	258	distance (ft)	258	distance (ft)	112	distance (ft)	3491	distance (ft)	248	distance (ft)	248	distance (ft)	278	distance (ft)	278
Noisiest Hour of	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	speed (mph)	20	speed (mph)	20
Activity During	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3781	vehicles/hour	1061	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333
Sensitive Hours	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60	locos/train	2	length of cars (ft) / train	60
		60		60		45		45		10		10		0		0
		0.222222		0.222222		2687		865		0		0		0		0
		4		60						0		0		0		0
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats				% of cars w/ wheel flats	
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	32	number of rows	0	number of rows	0	number of rows	0	number of rows	0

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R13 build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	67	62	61
Source 1	53	48	47
Source 2	37	31	30
Source 3	67	62	60
Source 4	34	29	28
Source 5	39	40	23
Source 6	18	19	6
Source 7	35	37	22
Source 8	17	18	5

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Freight Locomotive	9	Freight Cars	10
Distance (source to receiver)	distance (ft)	260	distance (ft)	260	distance (ft)	109	distance (ft)	3572	distance (ft)	244	distance (ft)	244	distance (ft)	274	distance (ft)	274
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	speed (mph)	20	speed (mph)	20
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3781	vehicles/hour	1061	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60	locos/train	2	length of cars (ft) / train	60
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	speed (mph)	0	speed (mph)	0
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2687	vehicles/hour	865	trains/hour	0	trains/hour	0	trains/hour	0	trains/hour	0
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0	locos/train	0	length of cars (ft) / train	0
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats				% of cars w/ wheel flats	
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	34	number of rows	0	number of rows	0	number of rows	0	number of rows	0

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R14 build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	68	63	61
Source 1	53	48	47
Source 2	37	31	30
Source 3	68	63	61
Source 4	37	32	31
Source 5	38	40	22
Source 6	17	18	5
Source 7	36	37	23
Source 8	18	19	6

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Freight Locomotive	9	Freight Cars	10
Distance (source to receiver)	distance (ft)	259	distance (ft)	259	distance (ft)	96	distance (ft)	4839	distance (ft)	275	distance (ft)	275	distance (ft)	245	distance (ft)	245
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	speed (mph)	20	speed (mph)	20
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3781	vehicles/hour	1061	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60	locos/train	2	length of cars (ft) / train	60
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	speed (mph)	0	speed (mph)	0
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2687	vehicles/hour	865	trains/hour	0	trains/hour	0	trains/hour	0	trains/hour	0
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0	locos/train	0	length of cars (ft) / train	0
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats				% of cars w/ wheel flats	
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R15 build noise level

RESULTS			
Noise Source	**Leq - 1-hr (dB)**		
All Sources	60		
Source 1	47		
Source 2	30		
Source 3	60		
Source 4	29		
Source 5	39		
Source 6	18		
Source 7	0		
Source 8	0		

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	3

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	304	distance (ft)	304	distance (ft)	141	distance (ft)	5063	distance (ft)	289	distance (ft)	289				
Noisiest Hour of	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
Activity During	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3781	vehicles/hour	2208	trains/hour	0.133333	trains/hour	0.133333				
Sensitive Hours	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
		60		60		45		45		10		10				
		0.222222		0.222222		2687		4433		0		0				
		4		60						0		0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	N	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	1	number of rows	1	number of rows	1	number of rows	5	number of rows	1	number of rows	1				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R16 build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	70	65	64
Source 1	54	49	48
Source 2	38	32	31
Source 3	70	65	64
Source 4	39	30	33
Source 5	40	41	24
Source 6	19	20	7
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	222	distance (ft)	222	distance (ft)	65	distance (ft)	4880	distance (ft)	207	distance (ft)	207				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3781	vehicles/hour	2208	trains/hour	0.133333	trains/hour	0.133333				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2687	vehicles/hour	4433	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	N	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	5	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R17 build noise

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	68	63	62
Source 1	54	48	47
Source 2	37	31	31
Source 3	68	63	62
Source 4	40	31	34
Source 5	39	41	23
Source 6	18	19	6
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	251	distance (ft)	251	distance (ft)	89	distance (ft)	4180	distance (ft)	236	distance (ft)	236				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3781	vehicles/hour	2208	trains/hour	0.133333	trains/hour	0.133333				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2687	vehicles/hour	4433	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	5	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R18 build noise

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	67	62	61
Source 1	56	50	49
Source 2	39	34	33
Source 3	67	62	60
Source 4	40	31	34
Source 5	41	43	25
Source 6	20	21	8
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	390	distance (ft)	390	distance (ft)	229	distance (ft)	4203	distance (ft)	375	distance (ft)	375				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3781	vehicles/hour	2208	trains/hour	0.133333	trains/hour	0.133333				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2687	vehicles/hour	4433	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	5	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R19 build noise

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	65	60	58
Source 1	54	48	47
Source 2	37	32	31
Source 3	64	59	58
Source 4	40	31	34
Source 5	39	41	23
Source 6	18	19	6
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	523	distance (ft)	523	distance (ft)	352	distance (ft)	4020	distance (ft)	508	distance (ft)	508				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3781	vehicles/hour	2208	trains/hour	0.133333	trains/hour	0.133333				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2687	vehicles/hour	4433	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	5	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R20 build noise level

RESULTS			
Noise Source	**Leq - 1-hr (dB)**		
All Sources	66		
Source 1	52		
Source 2	35		
Source 3	66		
Source 4	43		
Source 5	44		
Source 6	23		
Source 7	0		
Source 8	0		

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	3

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	296	distance (ft)	296	distance (ft)	131	distance (ft)	3032	distance (ft)	281	distance (ft)	281				
Noisiest Hour of	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
Activity During	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3781	vehicles/hour	2208	trains/hour	0.133333	trains/hour	0.133333				
Sensitive Hours	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
		60		60		45		45		10		10				
		0.222222		0.222222		2687		4433		0		0				
		4		60						0		0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R21 build noise level

RESULTS			
Noise Source	**Leq - 1-hr (dB)**		
All Sources	57		
Source 1	45		
Source 2	28		
Source 3	57		
Source 4	35		
Source 5	37		
Source 6	16		
Source 7	3		
Source 8	0		

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	3

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**			
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Crossover	13				
Distance (source to receiver)	distance (ft)	441	distance (ft)	441	distance (ft)	263	distance (ft)	2130	distance (ft)	426	distance (ft)	426	distance (ft)	1752				
Noisiest Hour of	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	trains/hour	0.133333				
Activity During	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3781	vehicles/hour	2208	trains/hour	0.133333	trains/hour	0.133333	duration of one train (sec)	425.1818				
Sensitive Hours	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60						
		60		60		45		45		10		10		0				
		0.222222		0.222222		2687		4433		0		0		0				
		4		60						0		0						
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats							
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N							
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N					
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N				
Intervening Rows of of Buildings	number of rows	1	number of rows	1	number of rows	1	number of rows	5	number of rows	1	number of rows	1	number of rows	1				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R22 build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	59	53	52
Source 1	52	46	45
Source 2	35	30	29
Source 3	57	52	50
Source 4	48	39	42
Source 5	37	38	21
Source 6	16	17	4
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	329	distance (ft)	329	distance (ft)	504	distance (ft)	2531	distance (ft)	344	distance (ft)	344				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3781	vehicles/hour	2208	trains/hour	0.133333	trains/hour	0.133333				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2687	vehicles/hour	4433	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R23 build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	58	52	51
Source 1	51	45	44
Source 2	34	29	28
Source 3	56	51	50
Source 4	47	37	40
Source 5	36	37	20
Source 6	15	16	3
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	385	distance (ft)	385	distance (ft)	554	distance (ft)	2771	distance (ft)	400	distance (ft)	400				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3781	vehicles/hour	2208	trains/hour	0.133333	trains/hour	0.133333				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2687	vehicles/hour	4433	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	2	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R24 build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	56	51	49
Source 1	49	43	42
Source 2	32	27	26
Source 3	55	50	48
Source 4	43	34	37
Source 5	34	35	18
Source 6	13	14	1
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	442	distance (ft)	442	distance (ft)	607	distance (ft)	3082	distance (ft)	457	distance (ft)	457				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3781	vehicles/hour	2208	trains/hour	0.133333	trains/hour	0.133333				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2687	vehicles/hour	4433	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	2	number of rows	2	number of rows	2	number of rows	4	number of rows	2	number of rows	2				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R25 build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	54	49	47
Source 1	47	41	40
Source 2	30	25	24
Source 3	53	48	46
Source 4	41	32	35
Source 5	31	33	16
Source 6	11	12	-1
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	493	distance (ft)	493	distance (ft)	660	distance (ft)	3314	distance (ft)	508	distance (ft)	508				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3781	vehicles/hour	2208	trains/hour	0.133333	trains/hour	0.133333				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2687	vehicles/hour	4433	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	3	number of rows	3	number of rows	3	number of rows	5	number of rows	3	number of rows	3				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R26 build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	58	53	52
Source 1	52	46	45
Source 2	36	30	29
Source 3	57	52	51
Source 4	41	32	35
Source 5	37	38	21
Source 6	16	17	4
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	324	distance (ft)	324	distance (ft)	490	distance (ft)	3618	distance (ft)	339	distance (ft)	339				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3781	vehicles/hour	2208	trains/hour	0.133333	trains/hour	0.133333				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2687	vehicles/hour	4433	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	7	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R27 build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	58	53	51
Source 1	51	46	45
Source 2	35	29	28
Source 3	57	52	50
Source 4	41	32	35
Source 5	36	38	20
Source 6	16	16	3
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	352	distance (ft)	352	distance (ft)	520	distance (ft)	3613	distance (ft)	367	distance (ft)	367				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3781	vehicles/hour	2208	trains/hour	0.133333	trains/hour	0.133333				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2687	vehicles/hour	4433	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	1	number of rows	1	number of rows	1	number of rows	7	number of rows	1	number of rows	1				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R28 build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	57	52	50
Source 1	50	44	44
Source 2	34	28	27
Source 3	56	51	49
Source 4	40	31	34
Source 5	35	36	19
Source 6	14	15	2
Source 7	-11	-9	-63
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**			
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Crossover	13				
Distance (source to receiver)	distance (ft)	429	distance (ft)	429	distance (ft)	593	distance (ft)	4145	distance (ft)	444	distance (ft)	444	distance (ft)	3909				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	trains/hour	0.133333				
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3781	vehicles/hour	2208	trains/hour	0.133333	trains/hour	0.133333	duration of one train (sec)	212.5909				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60						
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	trains/hour	0				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2687	vehicles/hour	4433	trains/hour	0	trains/hour	0	duration of one train (sec)	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0						
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats							
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N							
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	8	number of rows	0	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R27 build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	56	51	49
Source 1	49	43	42
Source 2	32	27	26
Source 3	55	50	48
Source 4	40	31	34
Source 5	33	35	18
Source 6	13	14	1
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	535	distance (ft)	535	distance (ft)	707	distance (ft)	3807	distance (ft)	550	distance (ft)	550				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3781	vehicles/hour	2208	trains/hour	0.133333	trains/hour	0.133333				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2687	vehicles/hour	4433	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	8	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R30 build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	55	50	49
Source 1	48	42	42
Source 2	32	26	25
Source 3	54	49	48
Source 4	39	33	32
Source 5	33	34	17
Source 6	12	13	0
Source 7	5	7	-48
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**			
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Crossover	13				
Distance (source to receiver)	distance (ft)	587	distance (ft)	587	distance (ft)	752	distance (ft)	4397	distance (ft)	602	distance (ft)	602	distance (ft)	913				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	trains/hour	0.133333				
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3781	vehicles/hour	1250	trains/hour	0.133333	trains/hour	0.133333	duration of one train (sec)	212.5909				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60						
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	trains/hour	0				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2687	vehicles/hour	1110	trains/hour	0	trains/hour	0	duration of one train (sec)	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0						
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats							
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N							
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	1	number of rows	1	number of rows	1	number of rows	0	number of rows	1	number of rows	1	number of rows	1				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R31 build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	54	49	47
Source 1	46	41	40
Source 2	30	24	23
Source 3	53	48	46
Source 4	35	30	29
Source 5	31	33	15
Source 6	11	11	-2
Source 7	33	34	20
Source 8	15	16	3

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Freight Locomotive	9	Freight Cars	10
Distance (source to receiver)	distance (ft)	661	distance (ft)	661	distance (ft)	832	distance (ft)	3450	distance (ft)	676	distance (ft)	676	distance (ft)	885	distance (ft)	885
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	speed (mph)	20	speed (mph)	20
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3781	vehicles/hour	1250	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60	locos/train	2	length of cars (ft) / train	60
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	speed (mph)	0	speed (mph)	0
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2687	vehicles/hour	1110	trains/hour	0	trains/hour	0	trains/hour	0	trains/hour	0
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0	locos/train	0	length of cars (ft) / train	0
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats				% of cars w/ wheel flats	
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	N	Y/N	N
Intervening Rows of of Buildings	number of rows	2	number of rows	2	number of rows	2	number of rows	15	number of rows	2	number of rows	2	number of rows	0	number of rows	0

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R32 build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	58	52	51
Source 1	51	45	44
Source 2	34	29	28
Source 3	56	51	50
Source 4	35	29	29
Source 5	36	37	20
Source 6	15	16	3
Source 7	31	32	18
Source 8	13	14	1

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Freight Locomotive	9	Freight Cars	10
Distance (source to receiver)	distance (ft)	384	distance (ft)	384	distance (ft)	550	distance (ft)	3547	distance (ft)	399	distance (ft)	399	distance (ft)	531	distance (ft)	531
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	speed (mph)	20	speed (mph)	20
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3781	vehicles/hour	1250	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60	locos/train	2	length of cars (ft) / train	60
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	speed (mph)	0	speed (mph)	0
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2687	vehicles/hour	1110	trains/hour	0	trains/hour	0	trains/hour	0	trains/hour	0
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0	locos/train	0	length of cars (ft) / train	0
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats				% of cars w/ wheel flats	
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	24	number of rows	0	number of rows	0	number of rows	0	number of rows	0

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R33 build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	57	52	50
Source 1	50	44	44
Source 2	34	28	27
Source 3	56	51	49
Source 4	37	31	30
Source 5	35	36	19
Source 6	14	15	2
Source 7	33	34	19
Source 8	15	15	2

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Freight Locomotive	9	Freight Cars	10
Distance (source to receiver)	distance (ft)	438	distance (ft)	438	distance (ft)	613	distance (ft)	2836	distance (ft)	453	distance (ft)	453	distance (ft)	423	distance (ft)	423
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	speed (mph)	20	speed (mph)	20
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3781	vehicles/hour	1250	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60	locos/train	2	length of cars (ft) / train	60
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	speed (mph)	0	speed (mph)	0
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2687	vehicles/hour	1110	trains/hour	0	trains/hour	0	trains/hour	0	trains/hour	0
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0	locos/train	0	length of cars (ft) / train	0
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats				% of cars w/ wheel flats	
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	37	number of rows	0	number of rows	0	number of rows	0	number of rows	0

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R34 build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	56	51	49
Source 1	49	43	42
Source 2	32	27	26
Source 3	55	50	48
Source 4	38	32	31
Source 5	34	35	18
Source 6	13	14	1
Source 7	31	33	18
Source 8	13	14	1

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Freight Locomotive	9	Freight Cars	10
Distance (source to receiver)	distance (ft)	526	distance (ft)	526	distance (ft)	714	distance (ft)	2482	distance (ft)	541	distance (ft)	541	distance (ft)	511	distance (ft)	511
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	speed (mph)	20	speed (mph)	20
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3781	vehicles/hour	1250	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60	locos/train	2	length of cars (ft) / train	60
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	speed (mph)	0	speed (mph)	0
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2687	vehicles/hour	1110	trains/hour	0	trains/hour	0	trains/hour	0	trains/hour	0
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0	locos/train	0	length of cars (ft) / train	0
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats				% of cars w/ wheel flats	
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	30	number of rows	0	number of rows	0	number of rows	0	number of rows	0

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R35 build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	55	50	49
Source 1	48	42	41
Source 2	31	26	25
Source 3	54	49	48
Source 4	38	32	31
Source 5	33	34	17
Source 6	12	13	0
Source 7	30	32	17
Source 8	12	13	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Freight Locomotive	9	Freight Cars	10
Distance (source to receiver)	distance (ft)	604	distance (ft)	604	distance (ft)	759	distance (ft)	2500	distance (ft)	619	distance (ft)	619	distance (ft)	589	distance (ft)	589
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	speed (mph)	20	speed (mph)	20
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3781	vehicles/hour	1250	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60	locos/train	2	length of cars (ft) / train	60
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	speed (mph)	0	speed (mph)	0
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2687	vehicles/hour	1110	trains/hour	0	trains/hour	0	trains/hour	0	trains/hour	0
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0	locos/train	0	length of cars (ft) / train	0
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats				% of cars w/ wheel flats	
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	30	number of rows	0	number of rows	0	number of rows	0	number of rows	0

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R36 build noise

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	57	52	51
Source 1	50	45	44
Source 2	34	28	27
Source 3	56	51	50
Source 4	38	32	32
Source 5	35	37	19
Source 6	15	15	2
Source 7	33	34	20
Source 8	15	16	3

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Freight Locomotive	9	Freight Cars	10
Distance (source to receiver)	distance (ft)	409	distance (ft)	409	distance (ft)	561	distance (ft)	2202	distance (ft)	424	distance (ft)	424	distance (ft)	394	distance (ft)	394
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	speed (mph)	20	speed (mph)	20
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3781	vehicles/hour	1250	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60	locos/train	2	length of cars (ft) / train	60
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	speed (mph)	0	speed (mph)	0
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2687	vehicles/hour	1110	trains/hour	0	trains/hour	0	trains/hour	0	trains/hour	0
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0	locos/train	0	length of cars (ft) / train	0
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats				% of cars w/ wheel flats	
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	14	number of rows	0	number of rows	0	number of rows	0	number of rows	0

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R37 build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	54	49	47
Source 1	46	40	39
Source 2	30	24	23
Source 3	52	47	46
Source 4	43	37	36
Source 5	31	32	15
Source 6	10	11	-2
Source 7	29	30	15
Source 8	10	11	-2

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Freight Locomotive	9	Freight Cars	10
Distance (source to receiver)	distance (ft)	698	distance (ft)	698	distance (ft)	866	distance (ft)	1622	distance (ft)	713	distance (ft)	713	distance (ft)	674	distance (ft)	683
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	speed (mph)	20	speed (mph)	20
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3781	vehicles/hour	1250	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60	locos/train	2	length of cars (ft) / train	60
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	0	speed (mph)	10	speed (mph)	0	speed (mph)	0
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2687	vehicles/hour	1110	trains/hour	0	trains/hour	0	trains/hour	0	trains/hour	0
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0	locos/train	0	length of cars (ft) / train	0
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats				% of cars w/ wheel flats	
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y
Intervening Rows of of Buildings	number of rows	2	number of rows	2	number of rows	2	number of rows	3	number of rows	2	number of rows	2	number of rows	2	number of rows	2

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R38 build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	57	52	50
Source 1	49	44	43
Source 2	33	27	26
Source 3	55	50	49
Source 4	46	40	40
Source 5	34	36	18
Source 6	13	14	1
Source 7	32	33	19
Source 8	14	15	2

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																		
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10	Freight Locomotive	9	Freight Cars	10
Distance (source to receiver)	distance (ft)	492	distance (ft)	492	distance (ft)	651	distance (ft)	1382	distance (ft)	507	distance (ft)	507	distance (ft)	477	distance (ft)	477
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10	speed (mph)	20	speed (mph)	20
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3781	vehicles/hour	1250	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333	trains/hour	0.133333
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60	locos/train	2	length of cars (ft) / train	60
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	0	speed (mph)	10	speed (mph)	0	speed (mph)	0
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2687	vehicles/hour	1110	trains/hour	0	trains/hour	0	trains/hour	0	trains/hour	0
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0	locos/train	0	length of cars (ft) / train	0
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats				% of cars w/ wheel flats	
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N		Y/N		Y/N	
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R39 build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	68	62	62
Source 1	63	57	57
Source 2	47	41	40
Source 3	65	60	59
Source 4	60	50	54
Source 5	47	48	31
Source 6	26	27	14
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	125	distance (ft)	125	distance (ft)	308	distance (ft)	935	distance (ft)	151	distance (ft)	151				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3781	vehicles/hour	2208	trains/hour	0.133333	trains/hour	0.133333				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2687	vehicles/hour	4433	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N	Y/N	N				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R40 build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	61	56	55
Source 1	55	50	49
Source 2	39	33	32
Source 3	59	54	52
Source 4	53	44	47
Source 5	39	41	24
Source 6	19	20	7
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	194	distance (ft)	194	distance (ft)	375	distance (ft)	1150	distance (ft)	218	distance (ft)	218				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3781	vehicles/hour	2208	trains/hour	0.133333	trains/hour	0.133333				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2687	vehicles/hour	4433	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R41 build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	61	56	55
Source 1	56	50	49
Source 2	39	33	33
Source 3	59	54	53
Source 4	50	41	44
Source 5	40	42	25
Source 6	20	21	8
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	185	distance (ft)	185	distance (ft)	345	distance (ft)	1777	distance (ft)	188	distance (ft)	188				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3781	vehicles/hour	2208	trains/hour	0.133333	trains/hour	0.133333				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2687	vehicles/hour	4433	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Noise Model Based on Federal Transit Adminstration General Transit Noise Assessment
Developed for Chicago Create Project
Copyright 2006, HMMH Inc.
Case: R42 build noise level

RESULTS			
Noise Source	**Ldn (dB)**	**Leq - daytime (dB)**	**Leq - nighttime (dB)**
All Sources	61	55	54
Source 1	55	49	49
Source 2	39	33	32
Source 3	59	54	52
Source 4	50	40	43
Source 5	39	41	24
Source 6	19	20	7
Source 7	0	0	0
Source 8	0	0	0

Enter noise receiver land use category below.

LAND USE CATEGORY	
Noise receiver land use category (1, 2 or 3)	2

Enter data for up to 8 noise sources below - see reference list for source numbers.

NOISE SOURCE PARAMETERS																
Parameter	**Source 1**		**Source 2**		**Source 3**		**Source 4**		**Source 5**		**Source 6**		**Source 7**		**Source 8**	
Source Num.	Freight Locomotive	9	Freight Cars	10	Automobiles	14	Automobiles	14	Freight Locomotive	9	Freight Cars	10				
Distance (source to receiver)	distance (ft)	203	distance (ft)	203	distance (ft)	375	distance (ft)	2029	distance (ft)	218	distance (ft)	218				
Daytime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(7 AM - 10 PM)	trains/hour	0.266667	trains/hour	0.266667	vehicles/hour	3781	vehicles/hour	2208	trains/hour	0.133333	trains/hour	0.133333				
	locos/train	4	length of cars (ft) / train	60					locos/train	4	length of cars (ft) / train	60				
Nighttime Hours	speed (mph)	60	speed (mph)	60	speed (mph)	45	speed (mph)	45	speed (mph)	10	speed (mph)	10				
(10 PM - 7 AM)	trains/hour	0.222222	trains/hour	0.222222	vehicles/hour	2687	vehicles/hour	4433	trains/hour	0	trains/hour	0				
	locos/train	4	length of cars (ft) / train	60					locos/train	0	length of cars (ft) / train	0				
Wheel Flats?			% of cars w/ wheel flats								% of cars w/ wheel flats					
Jointed Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Embedded Track?	Y/N	N	Y/N	N					Y/N		Y/N					
Aerial Structure?	Y/N	N	Y/N	N					Y/N		Y/N					
Barrier Present?	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y	Y/N	Y				
Intervening Rows of of Buildings	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0	number of rows	0				

SOURCE REFERENCE LIST	
Source	**Number**
Commuter Electric Locomotive	1
Commuter Diesel Locomotive	2
Commuter Rail Cars	3
RRT/LRT	4
AGT, Steel Wheel	5
AGT, Rubber Tire	6
Monorail	7
Maglev	8
Freight Locomotive	9
Freight Cars	10
Hopper Cars (empty)	11
Hopper Cars (full)	12
Crossover	13
Automobiles	14
City Buses	15
Commuter Buses	16
Rail Yard or Shop	17
Layover Tracks	18
Bus Storage Yard	19
Bus Op. Facility	20
Bus Transit Center	21
Parking Garage	22
Park & Ride Lot	23

Appendix D
FTA Operational, Construction Vibration Damage, and Annoyance Assessment Equations

Generalized Ground Surface Vibration Equation[1]

Ground surface vibration can be estimated by selecting a base curve from Figure 2-4 in Section 2.2.2 of this report. The equations used to develop these curves are provided in the Federal Transit Administration guidance (FTA 2018). Operational vibration levels were determined by using the following equation for locomotive-powered passenger or freight rail:

$L_v = 92.28 + 14.81 \log(D) - 14.17 \log(D)^2$

where:

Lv = velocity level, VdB

D = distance from the vibration source (operating train engines and cars)

Construction Vibration Damage Assessment Method[2~~1~~]

Building damage from construction vibration can be assessed by applying a propagation adjustment to peak particle velocity (PPV) values for each type of equipment used. The assessment should be done for each piece of equipment individually. The equation for adjusting the values is:

$PPVequip = PPVref \times (25/D)^{1.5}$

where:

PPVequip = the peak particle velocity of the equipment adjusted for distance, inches per second

PPVref = the source reference vibration level at 25 feet, inches per second

D = distance from the equipment to the receptor, feet

Construction Vibration Annoyance Assessment Method[3~~2~~]

The assessment of annoyance from construction vibration should be done separately for each piece of equipment. The equation for estimating ground-borne vibration related to human annoyance in VdB is:

$Lv,distance = Lvref - 30\log(D/25)$

where:

Lv,distance = the root-mean-square velocity level adjusted for distance, VdB

Lvref = the source reference vibration level at 25 feet, VdB

D = distance from the equipment to the receptor, feet

---

[1] Federal Transit Administration. 2018. *Transit Noise and Vibration Impact Assessment Manual*. https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf. Accessed June 16, 2022.

[2~~1~~] Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual*.

[3~~2~~] Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual*.

Appendix E
Environmental Data Resources Area/Corridor Report

UPRR Pirate
UPRR Pirate
Mesa, AZ 85634

Inquiry Number: 8225728.5s
January 16, 2026

EDR Area / Corridor Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

TABLE OF CONTENTS

LIGHTBOX LIVE

Open LightBox Live to access data, tools, and advanced analytics in one online platform.

http://www.web.edrnet.com/ordering/switchboard/login.aspx?s=goto_lightbox&pguid=424DA389-5CC6-4FF6-8E7E-42437027F6FC

SECTION	PAGE
Executive Summary	ES1
Mapped Sites Summary	2
Key Map	3
Map Findings Summary	4
Focus Maps	8
Map Findings	36
Orphan Summary	OR-1
Government Records Searched/Data Currency Tracking	GR-1

Disclaimer - Copyright and Trademark Notice

This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, LLC. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. This Report is provided on an "AS IS", "AS AVAILABLE" basis. **NO WARRANTY EXPRESS OR IMPLIED IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, LLC AND ITS SUBSIDIARIES, AFFILIATES AND THIRD PARTY SUPPLIERS DISCLAIM ALL WARRANTIES, OF ANY KIND OR NATURE, EXPRESS OR IMPLIED, ARISING OUT OF OR RELATED TO THIS REPORT OR ANY OF THE DATA AND INFORMATION PROVIDED IN THIS REPORT, INCLUDING WITHOUT LIMITATION, ANY WARRANTIES REGARDING ACCURACY, QUALITY, CORRECTNESS, COMPLETENESS, COMPREHENSIVENESS, SUITABILITY, MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE, NON-INFRINGEMENT, MISAPPROPRIATION, OR OTHERWISE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, LLC OR ITS SUBSIDIARIES, AFFILIATES OR THIRD PARTY SUPPLIERS BE LIABLE TO ANYONE FOR ANY DIRECT, INCIDENTAL, INDIRECT, SPECIAL, CONSEQUENTIAL OR OTHER DAMAGES OF ANY TYPE OR KIND (INCLUDING BUT NOT LIMITED TO LOSS OF PROFITS, LOSS OF USE, OR LOSS OF DATA) INFORMATION PROVIDED IN THIS REPORT.** Any analyses, estimates, ratings, environmental risk levels, or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only an assessment performed by a qualified environmental professional can provide findings, opinions or conclusions regarding the environmental risk or conditions in, on or at any property.

Copyright 2026 by Environmental Data Resources, LLC. All rights reserved. Reproduction in any media or format, in whole or in part, of any report or map of Environmental Data Resources, LLC, or its affiliates, is prohibited without prior written permission.

EDR and its logos (including Sanborn and Sanborn Map) are trademarks of Environmental Data Resources, LLC or its affiliates. All other trademarks used herein are the property of their respective owners.

EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E1527 - 21), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E2247 - 23), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E1528 - 22) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

SUBJECT PROPERTY INFORMATION

ADDRESS

UPRR PIRATE
MESA, AZ 85142

TARGET PROPERTY SEARCH RESULTS

The Target Property was identified in the following databases.

Page Numbers and Map Identifcations refer to the EDR Area/Corridor Report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

STANDARD ENVIRONMENTAL RECORDS

Lists of Federal NPL (Superfund) sites

NPL: National Priority List

A review of the NPL list, as provided by EDR, and dated 09/29/2025 has revealed that there is 1 NPL site within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
WILLIAMS AIR FORCE B Cerclis ID:: 900890 EPA Id: AZ7570028582	***WILLIAMS AFB***	***Region / 2,3,1***	***46***

Lists of Federal sites subject to CERCLA removals and CERCLA orders

SEMS: Superfund Enterprise Management System

A review of the SEMS list, as provided by EDR, and dated 09/29/2025 has revealed that there is 1 SEMS site within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
WILLIAMS AIR FORCE B Site ID: 0900890 EPA Id: AZ7570028582	***WILLIAMS AFB***	***Region / 2,3,1***	***46***

EXECUTIVE SUMMARY

Lists of Federal RCRA facilities undergoing Corrective Action

CORRACTS: Corrective Action Report

A review of the CORRACTS list, as provided by EDR, and dated 11/30/2025 has revealed that there is 1 CORRACTS site within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
WILLIAMS AIR FORCE B EPA ID:: AZ7570028582	***WILLIAMS AFB***	***Region / 2,3,1***	***46***

Lists of Federal RCRA TSD facilities

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

A review of the RCRA-TSDF list, as provided by EDR, and dated 11/30/2025 has revealed that there is 1 RCRA-TSDF site within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
WILLIAMS AIR FORCE B EPA ID:: AZ7570028582	***WILLIAMS AFB***	***Region / 2,3,1***	***46***

Lists of Federal RCRA generators

RCRA-VSQG: RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

A review of the RCRA-VSQG list, as provided by EDR, and dated 11/30/2025 has revealed that there is 1 RCRA-VSQG site within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
WILLIAMS AIR FORCE B EPA ID:: AZ7570028582	***WILLIAMS AFB***	***Region / 2,3,1***	***46***

Federal institutional controls / engineering controls registries

US ENG CONTROLS: Engineering Controls Sites List

A review of the US ENG CONTROLS list, as provided by EDR, and dated 10/30/2025 has revealed that there is 1 US ENG CONTROLS site within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
WILLIAMS AIR FORCE B EPA ID:: AZ7570028582 EPA ID:: AZ7570028582	***WILLIAMS AFB***	***Region / 2,3,1***	***46***

EXECUTIVE SUMMARY

US INST CONTROLS: Institutional Controls Sites List

A review of the US INST CONTROLS list, as provided by EDR, and dated 10/30/2025 has revealed that there is 1 US INST CONTROLS site within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
WILLIAMS AIR FORCE B EPA ID:: AZ7570028582	***WILLIAMS AFB***	***Region / 2,3,1***	***46***

Lists of state- and tribal (Superfund) equivalent sites

AZ NPL: NPL Detail Listing

A review of the AZ NPL list, as provided by EDR, and dated 03/31/2023 has revealed that there is 1 AZ NPL site within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
WILLIAMS AIR FORCE B		***Region / 2,3,1***	***35***

Lists of state- and tribal hazardous waste facilities

SPL: Superfund Program List

A review of the SPL list, as provided by EDR, and dated 08/25/2004 has revealed that there is 1 SPL site within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
WILLIAMS AIR FORCE B Program Status: ON NPL		***Region / 2,3,1***	***35***

ADDITIONAL ENVIRONMENTAL RECORDS

Other Ascertainable Records

ROD: Records Of Decision

A review of the ROD list, as provided by EDR, and dated 10/30/2025 has revealed that there is 1 ROD site within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
WILLIAMS AIR FORCE B EPA ID:: AZ7570028582	***WILLIAMS AFB***	***Region / 2,3,1***	***46***

EXECUTIVE SUMMARY

PRP: Potentially Responsible Parties

A review of the PRP list, as provided by EDR, and dated 06/26/2025 has revealed that there is 1 PRP site within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
WILLIAMS AIR FORCE B	***WILLIAMS AFB***	***Region / 2,3,1***	***46***

PFAS NPL: Superfund Sites with PFAS Detections Information

A review of the PFAS NPL list, as provided by EDR, and dated 12/17/2025 has revealed that there is 1 PFAS NPL site within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
WILLIAMS AIR FORCE B	***WILLIAMS AFB***	***Region / 2,3,1***	***46***

EMAP: All Places of Interest Listing

A review of the EMAP list, as provided by EDR, and dated 09/04/2025 has revealed that there are 13 EMAP sites within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
CMC STEEL ARIZONA AN Facility Status: NOT ACTIVE ID Number: 180286		1 / 5	115
OUTFALL NW CORNER ON Facility Status: ACTIVE ID Number: 198670		2 / 5	115
KOMATSU SERVICE AND Facility Status: ACTIVE ID Number: 250184		A3 / 4	116
OUTFALL OUTFALL 2 Facility Status: ACTIVE ID Number: 252556		A4 / 4	116
PECOS POINT INDUSTRI Facility Status: ACTIVE ID Number: 247611		5 / 2	117
PENSKE LOGISTICS Facility Status: ACTIVE ID Number: 223652	7111 S CRISMON RD	B6 / 9	117
LOWE'S PRO SUPPLY #4 Facility Status: ACTIVE ID Number: 247428	7111 S CRISMON RD	B7 / 9	118
THE CUBES AT MESA GA Facility Status: ACTIVE ID Number: 222932		C8 / 9	118
SIGNAL BUTTE BETWEEN Facility Status: ACTIVE ID Number: 214690		D13 / 9	125
OUTFALL MERRIL 1		14 / 9	125

Facility Status: ACTIVE ID Number: 226343		
XPO BUILDING B OUTFA Facility Status: ACTIVE ID Number: 248376	15 / 7	126
XPO BUILDING B OUTFA Facility Status: ACTIVE ID Number: 248374	16 / 7	126
HERITAGE ACADEMY GAT Facility Status: ACTIVE ID Number: 218688	17 / 7	127

MANIFEST: Facility and Manifest Data

A review of the MANIFEST list, as provided by EDR, and dated 12/31/2018 has revealed that there is 1 MANIFEST site within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
WILLIAMS AIR FORCE B EPA Id: AZ7570028582	***WILLIAMS AFB***	***Region / 2,3,1***	***46***

SPDES: NPDES

A review of the SPDES list, as provided by EDR, and dated 10/10/2025 has revealed that there are 4 SPDES sites within the requested target property.

Site	Address	Map ID / Focus Map(s)	Page
Not reported AZNPDES Number: AZCN94971		C9 / 9	119
THE CUBES AT MESA GA Application Status: CLOSED - TERMINATED BY COMPANY Application Status: ISSUED AZNPDES Number: 93131		C10 / 9	119
THE CUBES AT MESA GA Application Status: ISSUED AZNPDES Number: 93560		11 / 9	122
SIGNAL BUTTE BETWEEN Application Status: ISSUED AZNPDES Number: 89422		D12 / 9	123

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

EXECUTIVE SUMMARY

Page Numbers and Map Identifcations refer to the EDR Area/Corridor Report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

Lists of Federal RCRA facilities undergoing Corrective Action

CORRACTS: Corrective Action Report

A review of the CORRACTS list, as provided by EDR, and dated 11/30/2025 has revealed that there is 1 CORRACTS site within approximately1 mile of the requested target property.

Site	Address	Direction / Distance	Map ID / Focus Map(s)	Page
TRW AUTOMOTIVE SYSTE	***11202 E GERMANN RD***	***SE 1/2 - 1 (0.542 mi.)***	***61 / 10***	***320***

Lists of Federal RCRA generators

RCRA-SQG: RCRA - Small Quantity Generators

A review of the RCRA-SQG list, as provided by EDR, and dated 11/30/2025 has revealed that there are 2 RCRA-SQG sites within approximately 0.25 miles of the requested target property.

Site	Address	Direction / Distance	Map ID / Focus Map(s)	Page
MAGNA STEYR USA INC EPA ID:: AZR000531897	7035 E PECOS RD	NE 1/8 - 1/4 (0.171 mi.)	H37 / 1	182
HOME DEPOT #0415 EPA ID:: AZR000048207	***7401 S. POWER RD.***	***SW 1/8 - 1/4 (0.247 mi.)***	***N56 / 6***	***279***

RCRA-VSQG: RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

A review of the RCRA-VSQG list, as provided by EDR, and dated 11/30/2025 has revealed that there are 5 RCRA-VSQG sites within approximately 0.25 miles of the requested target property.

Site	Address	Direction / Distance	Map ID / Focus Map(s)	Page
CALIBER COLLISION - EPA ID:: AZR000522300	***18638 E RITTENHOUSE***	***SW 0 - 1/8 (0.037 mi.)***	***22 / 6***	***132***
MESA AIR SEPARATION EPA ID:: AZR000531624	11530 E PECOS RD	ENE 1/8 - 1/4 (0.172 mi.)	I39 / 5	187
KAIZEN COLLISION - Q EPA ID:: AZR000526483	18583 S. 187TH PLACE	SW 1/8 - 1/4 (0.173 mi.)	40 / 6	190
MGC PURE CHEMICALS A EPA ID:: AZR000002394	***6560 S MOUNTAIN RD***	***N 1/8 - 1/4 (0.198 mi.)***	***K45 / 5***	***200***
HAPPY BEAUTY CO. #10	21227 S ELLSWORTH LO	SE 1/8 - 1/4 (0.246 mi.)	L54 / 13	270

EXECUTIVE SUMMARY

EPA ID:: AZR000527358

Lists of state and tribal landfills and solid waste disposal facilities

SWF/LF: Directory of Solid Waste Facilities

A review of the SWF/LF list, as provided by EDR, has revealed that there are 2 SWF/LF sites within approximately 0.5 miles of the requested target property.

Site	Address	Direction / Distance	Map ID / Focus Map(s)	Page
MARICOPA COUNTY - SO	***11400 E PECOS RD***	***NNE 0 - 1/8 (0.066 mi.)***	***F27 / 5***	***151***
Database: SWF/LF, Date of Government Version: 05/03/2025 Facility Status: ACTIVE				
MESA TRANSFER STATIO	6711 S MOUNTAIN RD	N 1/8 - 1/4 (0.151 mi.)	35 / 5	178
Database: SWF/LF, Date of Government Version: 05/03/2025 Facility Status: ACTIVE				

Lists of state and tribal leaking storage tanks

LUST: Leaking Underground Storage Tank Listing

A review of the LUST list, as provided by EDR, and dated 12/12/2025 has revealed that there is 1 LUST site within approximately 0.5 miles of the requested target property.

Site	Address	Direction / Distance	Map ID / Focus Map(s)	Page
PINTO CREEK MANAGEME	***20820 S OLD ELLSWORT***	***ESE 1/8 - 1/4 (0.180 mi.)***	***J42 / 13***	***195***
Date Closed: 09/27/05 Facility Id: 0-007502 Facility Status: CLOSED				

Lists of state and tribal registered storage tanks

UST: Underground Storage Tank Listing

A review of the UST list, as provided by EDR, and dated 12/12/2025 has revealed that there are 4 UST sites within approximately 0.25 miles of the requested target property.

Site	Address	Direction / Distance	Map ID / Focus Map(s)	Page
ARIZONA BOYS RANCH	20061 E RITTENHOUSE	SW 0 - 1/8 (0.028 mi.)	E20 / 7	131
Closure Type: Removal Facility Id: 0-004074 Date Closed: 05/08/1992 Date Closed: 11/07/2008				
COBBLESTONE EXPRESS	***7215 S ELLSWORTH RD***	***SSE 0 - 1/8 (0.037 mi.)***	***23 / 8***	***146***
Facility Id: 0-010782				
SPEEDWAY #1509		***SSW 0 - 1/8 (0.059 mi.)***	***24 / 8***	***148***

Facility Id: 0-010717

PINTO CREEK MANAGEME	***20820 S OLD ELLSWORT***	***ESE 1/8 - 1/4 (0.180 mi.)***	***J42 / 13***	***195***

Closure Type: Removal
Facility Id: 0-007502
Date Closed: 11/02/1989

AST: List of Aboveground Storage Tanks

A review of the AST list, as provided by EDR, has revealed that there are 8 AST sites within approximately 0.25 miles of the requested target property.

Site	Address	Direction / Distance	Map ID / Focus Map(s)	Page
CANYON STATE ACADEMY	20061 EAST RITTENHOU	SW 0 - 1/8 (0.028 mi.)	E18 / 7	127
Database: AST, Date of Government Version: 12/05/2019 Facility Status: Other				
CRM OF AMERICA	11400 E. PECOS RD	NNE 0 - 1/8 (0.066 mi.)	F26 / 5	150
Database: AST 2, Date of Government Version: 06/26/2025 Cert Status: Open				
CRUM RUBBER MANUFACT	11400 E PECOS RD	NNE 0 - 1/8 (0.066 mi.)	F28 / 5	155
Database: AST 2, Date of Government Version: 06/26/2025 Cert Status: Closed				
PECOS OLD DOMINION F	10233 E. PECOS RD SW	N 1/8 - 1/4 (0.127 mi.)	34 / 4	178
Database: AST 2, Date of Government Version: 06/26/2025 Cert Status: Open				
PINTO CREEK MANAGEME	***20820 S OLD ELLSWORT***	***ESE 1/8 - 1/4 (0.180 mi.)***	***J42 / 13***	***195***
Database: AST 2, Date of Government Version: 06/26/2025 Cert Status: Closed				
TOWN OF GILBERT PUBL	6860 S. POWER RD	NW 1/8 - 1/4 (0.209 mi.)	47 / 1	249
Database: AST 2, Date of Government Version: 06/26/2025 Cert Status: Open				
QUEEN CREEK UNIFIED	20740 S ELLSWORTH RD	ENE 1/8 - 1/4 (0.216 mi.)	M49 / 13	255
Database: AST 2, Date of Government Version: 06/26/2025 Cert Status: Open				
QUEEN CREEK SCHOOL M	20740 SOUTH ELLSWORT	ENE 1/8 - 1/4 (0.216 mi.)	M50 / 13	256
Database: AST, Date of Government Version: 12/05/2019 Facility Status: Permitted				

State and tribal institutional control / engineering control registries

AZURITE: Remediation and DEUR/VEMUR Tracking System

A review of the AZURITE list, as provided by EDR, and dated 11/06/2025 has revealed that there are 3 AZURITE sites within approximately 0.5 miles of the requested target property.

Site	Address	Direction / Distance	Map ID / Focus Map(s)	Page
FORMER WILLIAMS AIR	***6833 E OLD PECOS ROA***	***N 1/8 - 1/4 (0.238 mi.)***	***51 / 1***	***256***
FORMER WILLIAMS AIR	***S OF EAST VELOCITY W***	***N 1/4 - 1/2 (0.413 mi.)***	***O58 / 2***	***316***
FORMER WILLIAMS AIR	***S. OF E. VELOCITY WA***	***N 1/4 - 1/2 (0.413 mi.)***	***O59 / 2***	***316***

AUL: DEUR Database

A review of the AUL list, as provided by EDR, and dated 11/06/2025 has revealed that there are 3 AUL sites within approximately 0.5 miles of the requested target property.

Site	Address	Direction / Distance	Map ID / Focus Map(s)	Page
FORMER WILLIAMS AIR Remediation ID: 31388	***6833 E OLD PECOS ROA***	***N 1/8 - 1/4 (0.238 mi.)***	***51 / 1***	***256***
FORMER WILLIAMS AIR Remediation ID: 29703	***S OF EAST VELOCITY W***	***N 1/4 - 1/2 (0.413 mi.)***	***O58 / 2***	***316***
FORMER WILLIAMS AIR Remediation ID: 29703	***S. OF E. VELOCITY WA***	***N 1/4 - 1/2 (0.413 mi.)***	***O59 / 2***	***316***

ADDITIONAL ENVIRONMENTAL RECORDS

Local Lists of Landfill / Solid Waste Disposal Sites

SWTIRE: Solid Waste Tire Facilities

A review of the SWTIRE list, as provided by EDR, and dated 11/20/2024 has revealed that there are 2 SWTIRE sites within approximately 0.5 miles of the requested target property.

Site	Address	Direction / Distance	Map ID / Focus Map(s)	Page
CRM OF AMERICA, L.L.	***11400 E. PECOS ROAD***	***NNE 0 - 1/8 (0.066 mi.)***	***F29 / 5***	***156***
FIRESTONE COMPLETE A	***21443 S ELLSWORTH RD***	***SE 1/4 - 1/2 (0.490 mi.)***	***60 / 13***	***318***

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

A review of the RCRA NonGen / NLR list, as provided by EDR, and dated 11/30/2025 has revealed that there are 4 RCRA NonGen / NLR sites within approximately 0.25 miles of the requested target property.

Site	Address	Direction / Distance	Map ID / Focus Map(s)	Page
ARIZONA BOYS RANCH EPA ID:: AZD074472382	20061 E RITTENHOUSE	SW 0 - 1/8 (0.028 mi.)	E19 / 7	128
CRM OF AMERICA EPA ID:: AZE060911001	11400 E PECOS RD	NNE 0 - 1/8 (0.066 mi.)	F30 / 5	157
QUEEN CREEK SMILES EPA ID:: AZR000506204	18550 E RITTENHOUSE	SW 1/8 - 1/4 (0.162 mi.)	36 / 6	179
LI-CYCLE, MESA PECOS EPA ID:: AZR000527846	7035 E PECOS RD	NE 1/8 - 1/4 (0.171 mi.)	H38 / 1	185

FUDS: Formerly Used Defense Sites

A review of the FUDS list, as provided by EDR, and dated 10/22/2025 has revealed that there is 1 FUDS site within approximately1 mile of the requested target property.

Site	Address	Direction / Distance	Map ID / Focus Map(s)	Page
PRISONER OF WAR CAMP		ESE 1/4 - 1/2 (0.302 mi.)	57 / 13	315

UXO: Unexploded Ordnance Sites

A review of the UXO list, as provided by EDR, and dated 07/31/2025 has revealed that there are 2 UXO sites within approximately1 mile of the requested target property.

Site	Address	Direction / Distance	Map ID / Focus Map(s)	Page
FORMER SKEET RANGE		NW 1/2 - 1 (0.733 mi.)	62 / 1	390
MUNITIONS BURIAL SIT		NNW 1/2 - 1 (0.909 mi.)	63 / 3	390

PFAS ECHO: Facilities in Industries that May Be Handling PFAS Listing

A review of the PFAS ECHO list, as provided by EDR, and dated 12/17/2025 has revealed that there is 1 PFAS ECHO site within approximately 0.25 miles of the requested target property.

Site	Address	Direction / Distance	Map ID / Focus Map(s)	Page
MESA AIR SEPARATION		E 1/8 - 1/4 (0.192 mi.)	I44 / 5	199

UST FINDER: UST Finder Database

A review of the UST FINDER list, as provided by EDR, and dated 06/08/2023 has revealed that there is 1 UST FINDER site within approximately 0.25 miles of the requested target property.

Site	Address	Direction / Distance	Map ID / Focus Map(s)	Page
PINTO CREEK MANAGEME	***20820 S ELLSWORTH RD***	***ESE 1/8 - 1/4 (0.180 mi.)***	***J43 / 13***	***197***

UST FINDER RELEASE: UST Finder Releases Database

A review of the UST FINDER RELEASE list, as provided by EDR, and dated 06/08/2023 has revealed that there is 1 UST FINDER RELEASE site within approximately 0.5 miles of the requested target property.

Site	Address	Direction / Distance	Map ID / Focus Map(s)	Page
PINTO CREEK MANAGEME	***20820 S ELLSWORTH RD***	***ESE 1/8 - 1/4 (0.180 mi.)***	***J43 / 13***	***197***

E MANIFEST: Hazardous Waste Electronic Manifest System

A review of the E MANIFEST list, as provided by EDR, and dated 11/30/2025 has revealed that there are 10 E MANIFEST sites within approximately 0.25 miles of the requested target property.

Site	Address	Direction / Distance	Map ID / Focus Map(s)	Page
CALIBER COLLISION -	***18638 E RITTENHOUSE***	***SW 0 - 1/8 (0.037 mi.)***	***22 / 6***	***132***
LOWES PRO MSH #4545	7111 SOUTH CRISMON R	NNE 0 - 1/8 (0.076 mi.)	31 / 4	161
PETSMART	21032 S ELLSWORTH LO	SSW 0 - 1/8 (0.093 mi.)	G32 / 13	167

EXECUTIVE SUMMARY

Site	Address	Direction / Distance	Map ID / Focus Map(s)	Page
QUEEN CREEK, BANFIEL	21032 S ELLSWORTH LO	SSW 0 - 1/8 (0.093 mi.)	G33 / 13	174
CHIPOTLE #1163-RITTE	21172 SOUTH ELLSWORT	S 1/8 - 1/4 (0.177 mi.)	41 / 13	193
MGC PURE CHEMICALS A	***6560 S MOUNTAIN RD***	***N 1/8 - 1/4 (0.198 mi.)***	***K45 / 5***	***200***
SPROUTS	21181 S. ELLSWORTH L	SE 1/8 - 1/4 (0.213 mi.)	L48 / 13	250
ULTA BEAUTY	21118 S. ELLSWORTH L	SW 1/8 - 1/4 (0.238 mi.)	52 / 13	257
HAPPY BEAUTY CO. 108	21227 E ELLISWORTH L	SE 1/8 - 1/4 (0.246 mi.)	L53 / 13	266
HOME DEPOT #0415	***7401 S. POWER RD.***	***SW 1/8 - 1/4 (0.247 mi.)***	***N56 / 6***	***279***

PFAS: PFAS Contamination Site Listing

A review of the PFAS list, as provided by EDR, and dated 05/16/2025 has revealed that there is 1 PFAS site within approximately 0.25 miles of the requested target property.

Site	Address	Direction / Distance	Map ID / Focus Map(s)	Page
MESA CITY OF		E 0 - 1/8 (0.031 mi.)	21 / 3	132

MANIFEST: Facility and Manifest Data

A review of the MANIFEST list, as provided by EDR, and dated 12/31/2018 has revealed that there are 4 MANIFEST sites within approximately 0.25 miles of the requested target property.

Site	Address	Direction / Distance	Map ID / Focus Map(s)	Page
MGC PURE CHEMICALS A EPA Id: AZR000002394	***6560 S MOUNTAIN RD***	***N 1/8 - 1/4 (0.198 mi.)***	***K45 / 5***	***200***
MGC PURE CHEMICALS A EPA Id: AZR000002394	***6560 S MOUNTAIN RD***	***N 1/8 - 1/4 (0.198 mi.)***	***K46 / 5***	***241***
HOME DEPOT U.S.A., I EPA Id: AZR000048207	***7401 S POWER RD***	***SW 1/8 - 1/4 (0.247 mi.)***	***N55 / 6***	***273***
HOME DEPOT #0415 EPA Id: AZR000048207	***7401 S. POWER RD.***	***SW 1/8 - 1/4 (0.247 mi.)***	***N56 / 6***	***279***

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR Hist Auto: EDR Exclusive Historical Auto Stations

A review of the EDR Hist Auto list, as provided by EDR, has revealed that there is 1 EDR Hist Auto site within approximately 0.125 miles of the requested target property.

Site	Address	Direction / Distance	Map ID / Focus Map(s)	Page
MOBIL3 STUDIO LLC	19122 E SEAGULL DR	W 0 - 1/8 (0.063 mi.)	25 / 7	150

MAPPED SITES SUMMARY

Target Property:
UPRR PIRATE
MESA, AZ 85634

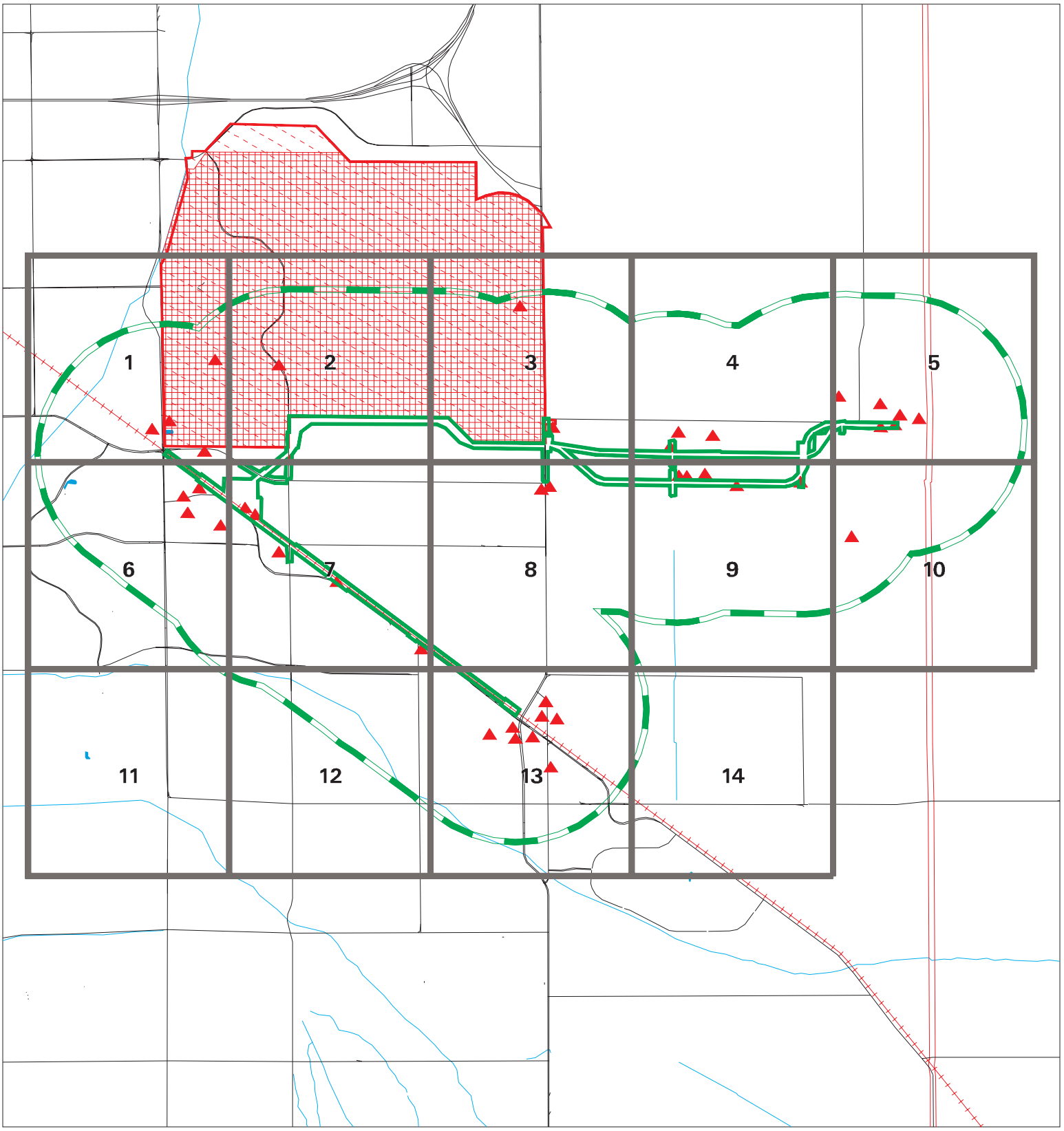
MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION		
Reg / Multiple	WILLIAMS AIR FORCE B		AZ NPL, SPL	TP		
Reg / Multiple	WILLIAMS AIR FORCE B	WILLIAMS AFB	NPL, SEMS, CORRACTS, RCRA-TSDF, RCRA-VSQ,	TP		
1 / 5	CMC STEEL ARIZONA AN		EMAP	TP		
2 / 5	OUTFALL NW CORNER ON		EMAP	TP		
A3 / 4	KOMATSU SERVICE AND		EMAP	TP		
A4 / 4	OUTFALL OUTFALL 2		EMAP	TP		
5 / 2	PECOS POINT INDUSTRI		EMAP	TP		
B6 / 9	PENSKE LOGISTICS	7111 S CRISMON RD	EMAP	TP		
B7 / 9	LOWE'S PRO SUPPLY #4	7111 S CRISMON RD	EMAP	TP		
C8 / 9	THE CUBES AT MESA GA		EMAP	TP		
C9 / 9			SPDES	TP		
C10 / 9	THE CUBES AT MESA GA		SPDES	TP		
11 / 9	THE CUBES AT MESA GA		SPDES	TP		
D12 / 9	SIGNAL BUTTE BETWEEN		SPDES	TP		
D13 / 9	SIGNAL BUTTE BETWEEN		EMAP	TP		
14 / 9	OUTFALL MERRIL 1		EMAP	TP		
15 / 7	XPO BUILDING B OUTFA		EMAP	TP		
16 / 7	XPO BUILDING B OUTFA		EMAP	TP		
17 / 7	HERITAGE ACADEMY GAT		EMAP	TP		
E18 / 7	CANYON STATE ACADEMY	20061 EAST RITTENHOU	AST	148	0.028	SW
E19 / 7	ARIZONA BOYS RANCH	20061 E RITTENHOUSE	RCRA NonGen / NLR	148	0.028	SW
E20 / 7	ARIZONA BOYS RANCH	20061 E RITTENHOUSE	UST	148	0.028	SW
21 / 3	MESA CITY OF		PFAS	165	0.031	East
22 / 6	CALIBER COLLISION -	18638 E RITTENHOUSE	RCRA-VSQG, E MANIFEST	193	0.037	SW
23 / 8	COBBLESTONE EXPRESS	7215 S ELLSWORTH RD	UST, Financial Assurance	197	0.037	SSE
24 / 8	SPEEDWAY #1509		UST, Financial Assurance	311	0.059	SSW
25 / 7	MOBIL3 STUDIO LLC	19122 E SEAGULL DR	EDR Hist Auto	332	0.063	West
F26 / 5	CRM OF AMERICA	11400 E. PECOS RD	AST	351	0.066	NNE
F27 / 5	MARICOPA COUNTY - SO	11400 E PECOS RD	SWF/LF, SPILLS, Enforcement, SPDES	351	0.066	NNE
F28 / 5	CRUM RUBBER MANUFACT	11400 E PECOS RD	AST	351	0.066	NNE
F29 / 5	CRM OF AMERICA, L.L.	11400 E. PECOS ROAD	SWTIRE, EMAP, SPDES	351	0.066	NNE
F30 / 5	CRM OF AMERICA	11400 E PECOS RD	RCRA NonGen / NLR	351	0.066	NNE
31 / 4	LOWES PRO MSH #4545	7111 SOUTH CRISMON R	E MANIFEST	401	0.076	NNE
G32 / 13	PETSMART	21032 S ELLSWORTH LO	E MANIFEST	490	0.093	SSW
G33 / 13	QUEEN CREEK, BANFIEL	21032 S ELLSWORTH LO	E MANIFEST	490	0.093	SSW
34 / 4	PECOS OLD DOMINION F	10233 E. PECOS RD SW	AST	670	0.127	North
35 / 5	MESA TRANSFER STATIO	6711 S MOUNTAIN RD	SWF/LF	796	0.151	North
36 / 6	QUEEN CREEK SMILES	18550 E RITTENHOUSE	RCRA NonGen / NLR	856	0.162	SW
H37 / 1	MAGNA STEYR USA INC	7035 E PECOS RD	RCRA-SQG	902	0.171	NE

MAPPED SITES SUMMARY

Target Property:
UPRR PIRATE
MESA, AZ 85634

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION		
H38 / 1	LI-CYCLE, MESA PECOS	7035 E PECOS RD	RCRA NonGen / NLR	902	0.171	NE
I39 / 5	MESA AIR SEPARATION	11530 E PECOS RD	RCRA-VSQG	908	0.172	ENE
40 / 6	KAIZEN COLLISION - Q	18583 S. 187TH PLACE	RCRA-VSQG	914	0.173	SW
41 / 13	CHIPOTLE #1163-RITTE	21172 SOUTH ELLSWORT	E MANIFEST	934	0.177	South
J42 / 13	PINTO CREEK MANAGEME	20820 S OLD ELLSWORT	LUST, UST, AST, EMAP	953	0.180	ESE
J43 / 13	PINTO CREEK MANAGEME	20820 S ELLSWORTH RD	UST FINDER, UST FINDER RELEASE	953	0.180	ESE
I44 / 5	MESA AIR SEPARATION		PFAS ECHO	1015	0.192	East
K45 / 5	MGC PURE CHEMICALS A	6560 S MOUNTAIN RD	RCRA-VSQG, TSCA, TRIS, FINDS, ECHO, E MA...	1044	0.198	North
K46 / 5	MGC PURE CHEMICALS A	6560 S MOUNTAIN RD	EMAP, MANIFEST, SPDES	1044	0.198	North
47 / 1	TOWN OF GILBERT PUBL	6860 S. POWER RD	AST	1104	0.209	NW
L48 / 13	SPROUTS	21181 S. ELLSWORTH L	E MANIFEST	1127	0.213	SE
M49 / 13	QUEEN CREEK UNIFIED	20740 S ELLSWORTH RD	AST	1138	0.216	ENE
M50 / 13	QUEEN CREEK SCHOOL M	20740 SOUTH ELLSWORT	AST	1138	0.216	ENE
51 / 1	FORMER WILLIAMS AIR	6833 E OLD PECOS ROA	AZURITE, AUL, EMAP	1256	0.238	North
52 / 13	ULTA BEAUTY	21118 S. ELLSWORTH L	E MANIFEST	1258	0.238	SW
L53 / 13	HAPPY BEAUTY CO. 108	21227 E ELLISWORTH L	E MANIFEST	1301	0.246	SE
L54 / 13	HAPPY BEAUTY CO. #10	21227 S ELLSWORTH LO	RCRA-VSQG	1301	0.246	SE
N55 / 6	HOME DEPOT U.S.A., I	7401 S POWER RD	EMAP, MANIFEST	1306	0.247	SW
N56 / 6	HOME DEPOT #0415	7401 S. POWER RD.	RCRA-SQG, E MANIFEST, MANIFEST	1306	0.247	SW
57 / 13	PRISONER OF WAR CAMP		FUDS	1594	0.302	ESE
O58 / 2	FORMER WILLIAMS AIR	S OF EAST VELOCITY W	AZURITE, AUL	2181	0.413	North
O59 / 2	FORMER WILLIAMS AIR	S. OF E. VELOCITY WA	AZURITE, AUL	2181	0.413	North
60 / 13	FIRESTONE COMPLETE A	21443 S ELLSWORTH RD	SWTIRE, Dry Wells, EMAP, SPDES	2588	0.490	SE
61 / 10	TRW AUTOMOTIVE SYSTE	11202 E GERMANN RD	CORRACTS, RCRA-LQG, SPILLS, E MANIFEST, ...	2862	0.542	SE
62 / 1	FORMER SKEET RANGE		UXO	3870	0.733	NW
63 / 3	MUNITIONS BURIAL SIT		UXO	4801	0.909	NNW

Key Map - 8225728.5s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
National Priority List Sites
Dept. Defense Sites
AZ NPL
Water Quality Assurance Revolving
Indian Reservations BIA

0 1 2 Miles

SITE NAME: UPRR Pirate	CLIENT: Jacobs
ADDRESS: UPRR Pirate	CONTACT: Dave Golles
CITY/STATE: Mesa AZ	INQUIRY #: 8225728.5s
ZIP: 85142	DATE: 01/16/26 11:37 AM

Copyright © 2026 EDR, Inc. © 2015 TomTom Rel. 2015.

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Lists of Federal NPL (Superfund) sites								
NPL	1.000	1	0	0	0	0	NR	1
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	1.000		0	0	0	0	NR	0
Lists of Federal Delisted NPL sites								
Delisted NPL	1.000		0	0	0	0	NR	0
Lists of Federal sites subject to CERCLA removals and CERCLA orders								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500	1	0	0	0	NR	NR	1
Lists of Federal CERCLA sites with NFRAP								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
Lists of Federal RCRA facilities undergoing Corrective Action								
CORRACTS	1.000	1	0	0	0	1	NR	2
Lists of Federal RCRA TSD facilities								
RCRA-TSDF	0.500	1	0	0	0	NR	NR	1
Lists of Federal RCRA generators								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	2	NR	NR	NR	2
RCRA-VSQG	0.250	1	1	4	NR	NR	NR	6
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500	1	0	0	0	NR	NR	1
US INST CONTROLS	0.500	1	0	0	0	NR	NR	1
Federal ERNS list								
ERNS	TP		NR	NR	NR	NR	NR	0
Lists of state- and tribal (Superfund) equivalent sites								
AZ NPL	1.000	1	0	0	0	0	NR	1
AZ WQARF	1.000		0	0	0	0	NR	0
Lists of state- and tribal hazardous waste facilities								
SPL	1.000	1	0	0	0	0	NR	1
SHWS	1.000		0	0	0	0	NR	0
Lists of state and tribal landfills and solid waste disposal facilities								
SWF/LF	0.500		1	1	0	NR	NR	2

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
Lists of state and tribal leaking storage tanks								
LUST	0.500		0	1	0	NR	NR	1
INDIAN LUST	0.500		0	0	0	NR	NR	0
Lists of state and tribal registered storage tanks								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		3	1	NR	NR	NR	4
AST	0.250		3	5	NR	NR	NR	8
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal institutional control / engineering control registries								
AZURITE	0.500		0	1	2	NR	NR	3
AUL	0.500		0	1	2	NR	NR	3
Lists of state and tribal voluntary cleanup sites								
INDIAN VCP	0.500		0	0	0	NR	NR	0
VCP	0.500		0	0	0	NR	NR	0
Lists of state and tribal brownfield sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
SWTIRE	0.500		1	0	1	NR	NR	2
INDIAN ODI	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL		TP	NR	NR	NR	NR	NR	0
CDL		TP	NR	NR	NR	NR	NR	0
US CDL		TP	NR	NR	NR	NR	NR	0
Local Land Records								
LIENS 2		TP	NR	NR	NR	NR	NR	0
Records of Emergency Release Reports								
HMIRS		TP	NR	NR	NR	NR	NR	0
SPILLS		TP	NR	NR	NR	NR	NR	0
SPILLS 90		TP	NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		2	2	NR	NR	NR	4

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
FUDS	1.000		0	0	1	0	NR	1
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ROD	1.000	1	0	0	0	0	NR	1
RMP	TP		NR	NR	NR	NR	NR	0
RAATS	TP		NR	NR	NR	NR	NR	0
PRP	TP	1	NR	NR	NR	NR	NR	1
PADS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
DOT OPS	TP		NR	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	TP		NR	NR	NR	NR	NR	0
US AIRS	TP		NR	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
MINES MRDS	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
FINDS	TP		NR	NR	NR	NR	NR	0
ECHO	TP		NR	NR	NR	NR	NR	0
DOCKET HWC	TP		NR	NR	NR	NR	NR	0
UXO	1.000		0	0	0	2	NR	2
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
PFAS NPL	0.250	1	0	0	NR	NR	NR	1
PFAS FEDERAL SITES	0.250		0	0	NR	NR	NR	0
PFAS TRIS	0.250		0	0	NR	NR	NR	0
PFAS TSCA	0.250		0	0	NR	NR	NR	0
PFAS RCRA MANIFEST	0.250		0	0	NR	NR	NR	0
PFAS ATSDR	0.250		0	0	NR	NR	NR	0
PFAS WQP	0.250		0	0	NR	NR	NR	0
PFAS PROJECT	0.250		0	0	NR	NR	NR	0
PFAS NPDES	0.250		0	0	NR	NR	NR	0
PFAS ECHO	0.250		0	1	NR	NR	NR	1
PFAS ECHO FIRE TRAIN	0.250		0	0	NR	NR	NR	0
PFAS PT 139 AIRPORT	0.250		0	0	NR	NR	NR	0
AQUEOUS FOAM NRC	0.250		0	0	NR	NR	NR	0
BIOSOLIDS	TP		NR	NR	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
UST FINDER	0.250		0	1	NR	NR	NR	1
UST FINDER RELEASE	0.500		0	1	0	NR	NR	1
E MANIFEST	0.250		4	6	NR	NR	NR	10
PFAS	0.250		1	0	NR	NR	NR	1
AQUEOUS FOAM	0.250		0	0	NR	NR	NR	0
AIRS	TP		NR	NR	NR	NR	NR	0
Aquifer	TP		NR	NR	NR	NR	NR	0
AZ DOD	0.500		0	0	0	NR	NR	0
Dry Wells	TP		NR	NR	NR	NR	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
EMAP	TP	13	NR	NR	NR	NR	NR	13
Enforcement	TP		NR	NR	NR	NR	NR	0
Financial Assurance	TP		NR	NR	NR	NR	NR	0
MANIFEST	0.250	1	0	4	NR	NR	NR	5
SPDES	TP	4	NR	NR	NR	NR	NR	4
VAPOR	0.500		0	0	0	NR	NR	0
UIC	TP		NR	NR	NR	NR	NR	0
WWFAC	0.500		0	0	0	NR	NR	0
DRYWELLS HIST	TP		NR	NR	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		1	NR	NR	NR	NR	1
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA HWS	TP		NR	NR	NR	NR	NR	0
RGA LF	TP		NR	NR	NR	NR	NR	0
RGA LUST	TP		NR	NR	NR	NR	NR	0
- Totals --		30	17	31	6	3	0	87

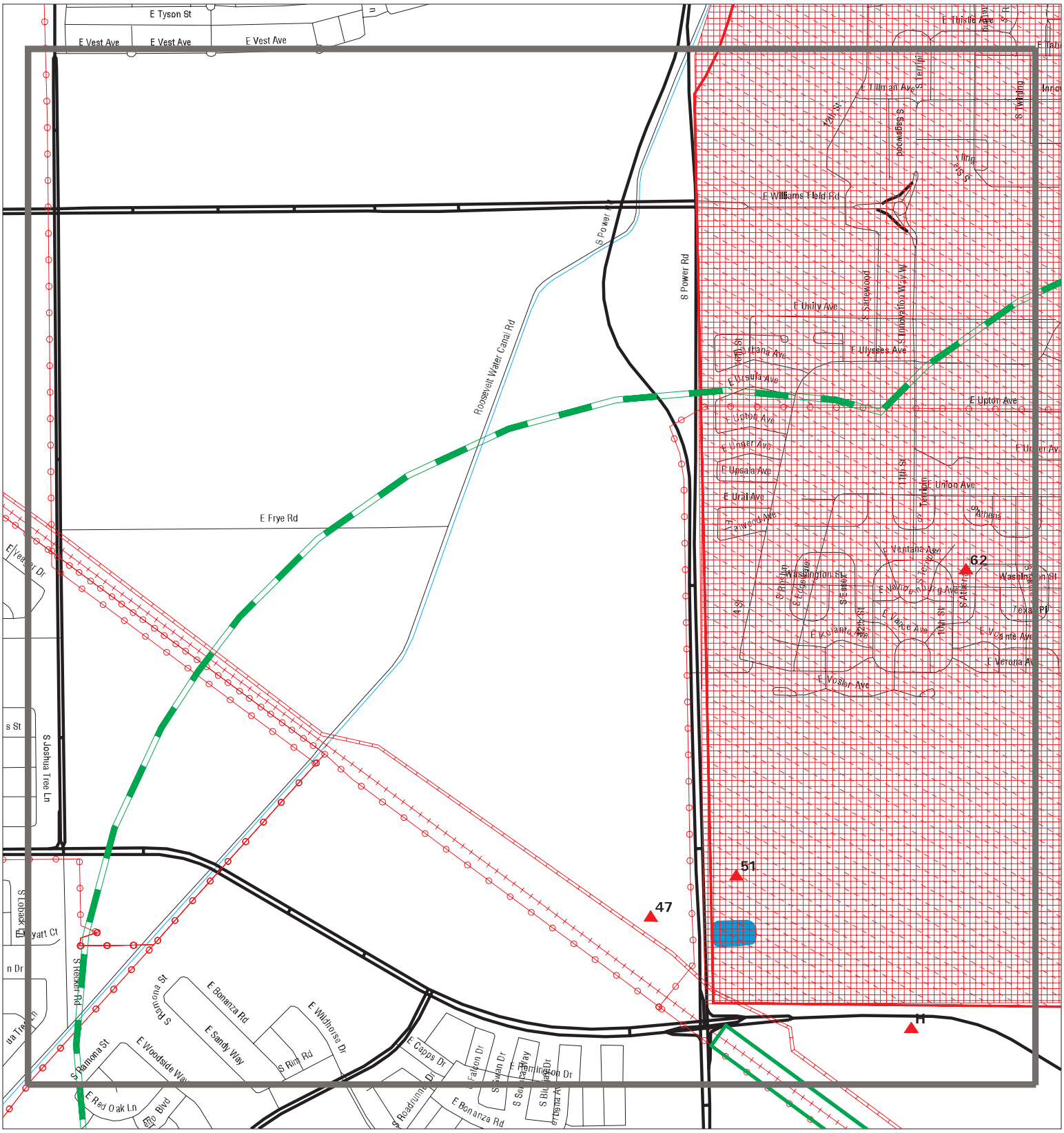
NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

Focus Map - 1 - 8225728.5s



SITE NAME: UPRR Pirate	CLIENT: Jacobs
ADDRESS: UPRR Pirate	CONTACT: Dave Golles
CITY/STATE: Mesa AZ	INQUIRY #: 8225728.5s
ZIP: 85142	DATE: 01/16/26

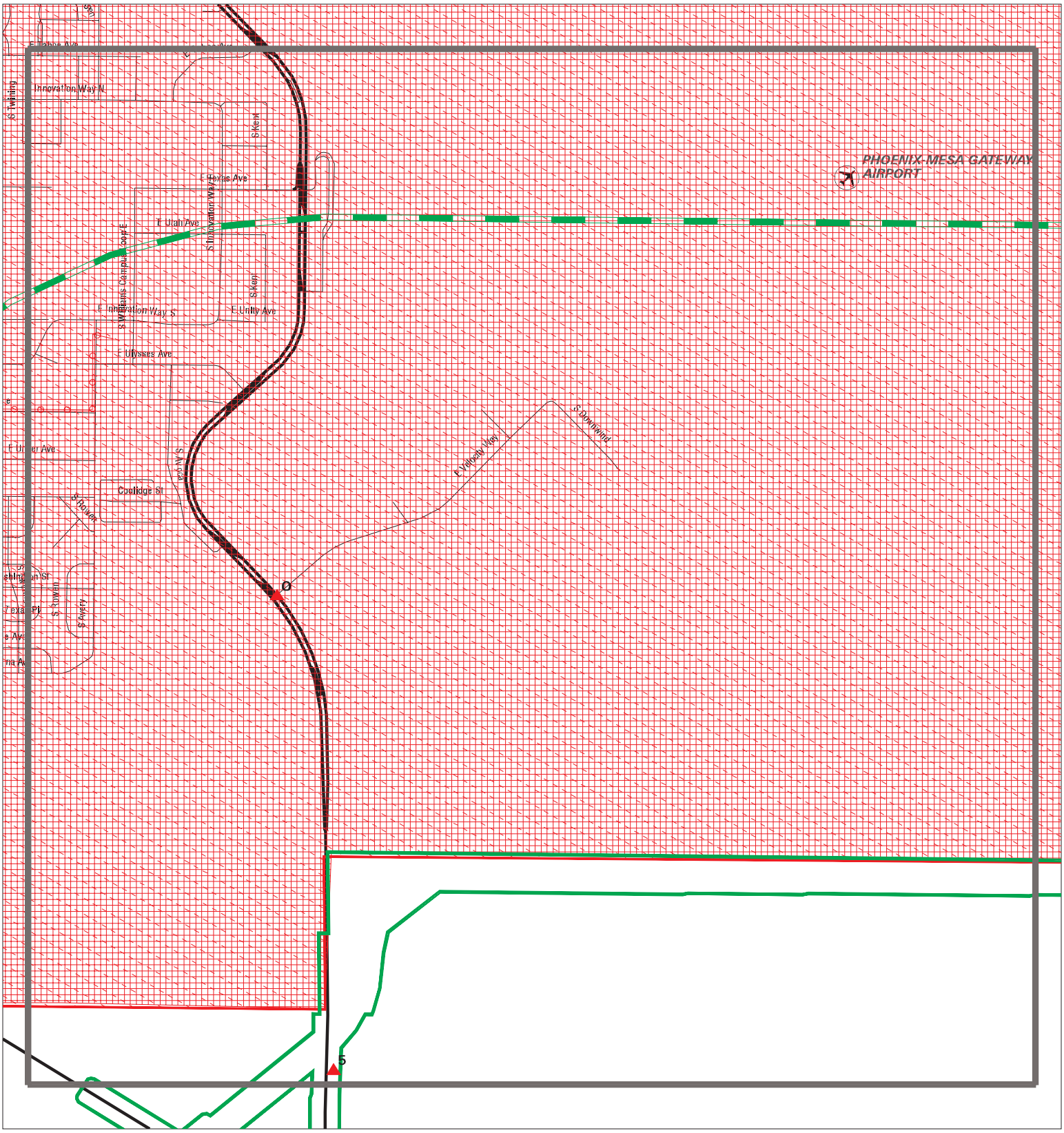
Copyright © 2026 EDR, Inc. © 2015 TomTom Rel. 2015.

MAPPED SITES SUMMARY - FOCUS MAP 1

Target Property:
UPRR PIRATE
MESA, AZ 85634

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
Reg / Multiple	WILLIAMS AIR FORCE B		AZ NPL, SPL	TP
Reg / Multiple	WILLIAMS AIR FORCE B	WILLIAMS AFB	NPL, SEMS, CORRACTS, RCRA-TSDF, RCRA-VSQ,	TP
H37 / 1	MAGNA STEYR USA INC	7035 E PECOS RD	RCRA-SQG	902 0.171 NE
H38 / 1	LI-CYCLE, MESA PECOS	7035 E PECOS RD	RCRA NonGen / NLR	902 0.171 NE
47 / 1	TOWN OF GILBERT PUBL	6860 S. POWER RD	AST	1104 0.209 NW
51 / 1	FORMER WILLIAMS AIR	6833 E OLD PECOS ROA	AZURITE, AUL, EMAP	1256 0.238 North
62 / 1	FORMER SKEET RANGE		UXO	3870 0.733 NW

Focus Map - 2 - 8225728.5s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
Pipe Line
National Priority List Sites
Dept. Defense Sites
AZ NPL
Water Quality Assurance Revolving
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: UPRR Pirate	CLIENT: Jacobs
ADDRESS: UPRR Pirate	CONTACT: Dave Golles
CITY/STATE: Mesa AZ	INQUIRY #: 8225728.5s
ZIP: 85142	DATE: 01/16/26

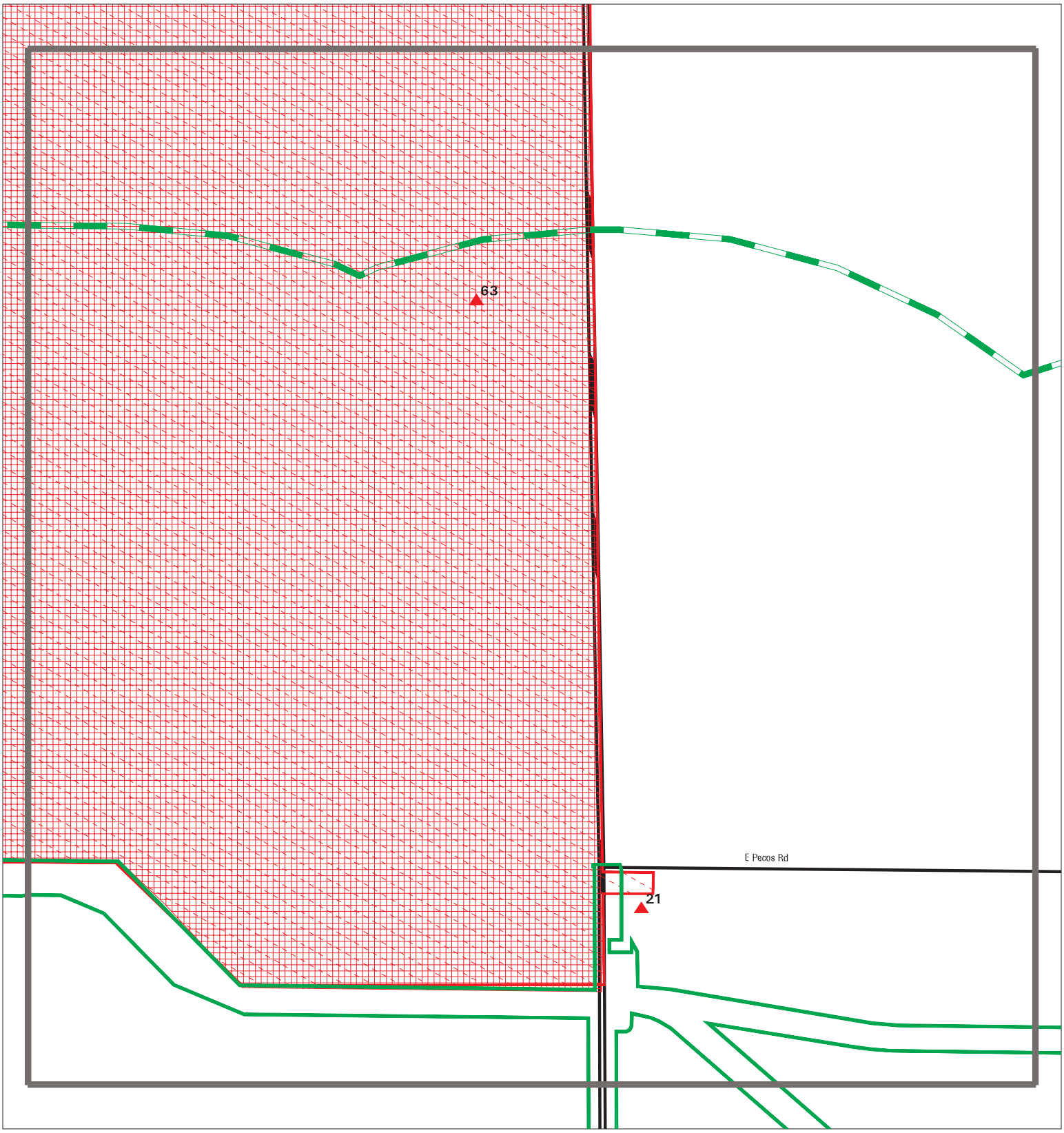
Copyright © 2026 EDR, Inc. © 2015 TomTom Rel. 2015.

MAPPED SITES SUMMARY - FOCUS MAP 2

Target Property:
UPRR PIRATE
MESA, AZ 85634

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
Reg / Multiple	WILLIAMS AIR FORCE B		AZ NPL, SPL	TP
Reg / Multiple	WILLIAMS AIR FORCE B	WILLIAMS AFB	NPL, SEMS, CORRACTS, RCRA-TSDF, RCRA-VSQ,	TP
5 / 2	PECOS POINT INDUSTRI		EMAP	TP
O58 / 2	FORMER WILLIAMS AIR	S OF EAST VELOCITY W	AZURITE, AUL	2181 0.413 North
O59 / 2	FORMER WILLIAMS AIR	S. OF E. VELOCITY WA	AZURITE, AUL	2181 0.413 North

Focus Map - 3 - 8225728.5s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
Pipe Line
National Priority List Sites
Dept. Defense Sites
AZ NPL
Water Quality Assurance Revolving
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: UPRR Pirate	CLIENT: Jacobs
ADDRESS: UPRR Pirate	CONTACT: Dave Golles
CITY/STATE: Mesa AZ	INQUIRY #: 8225728.5s
ZIP: 85142	DATE: 01/16/26

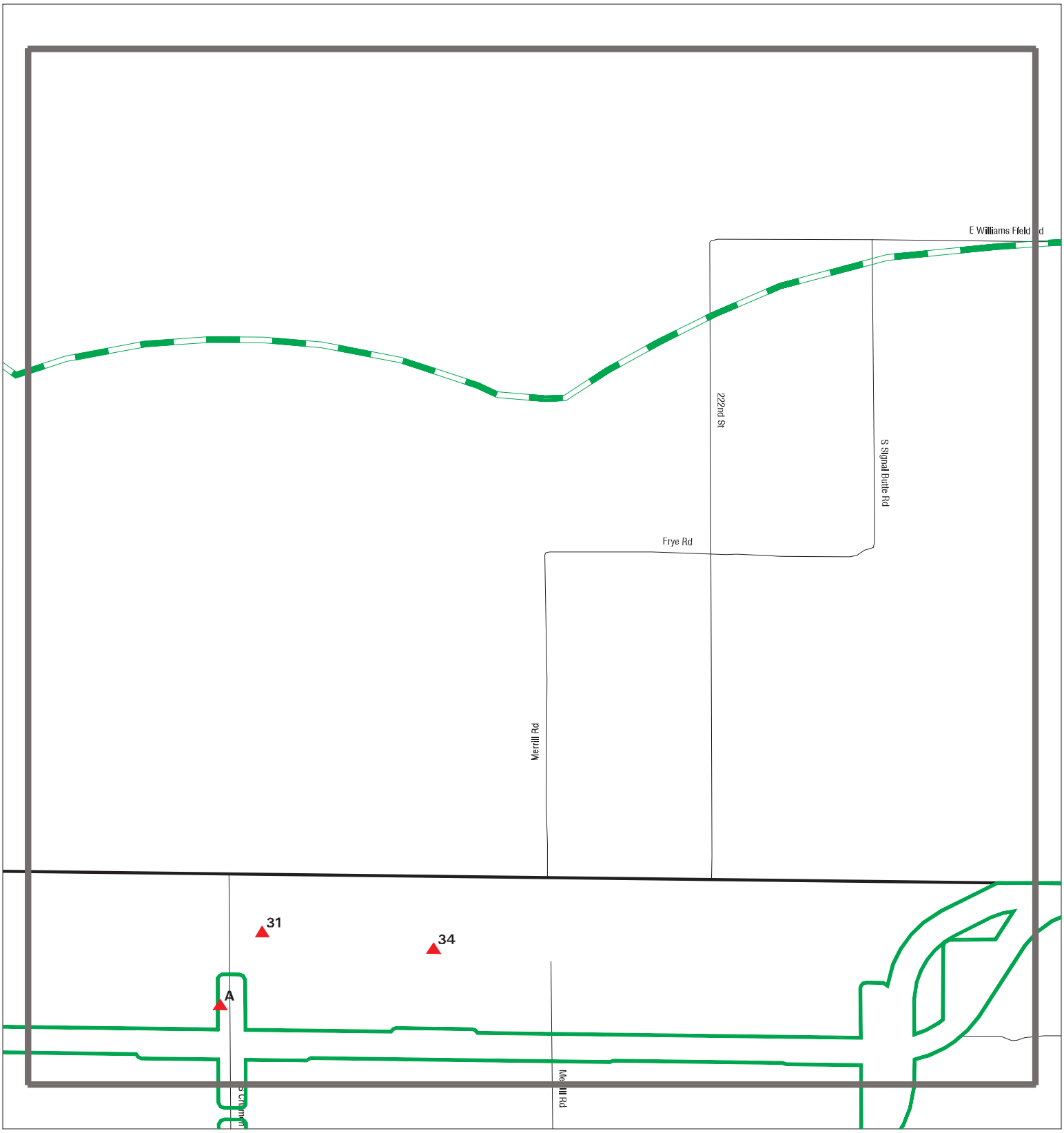
Copyright © 2026 EDR, Inc. © 2015 TomTom Rel. 2015.

MAPPED SITES SUMMARY - FOCUS MAP 3

Target Property:
UPRR PIRATE
MESA, AZ 85634

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
Reg / Multiple	WILLIAMS AIR FORCE B		AZ NPL, SPL	TP
Reg / Multiple	WILLIAMS AIR FORCE B	WILLIAMS AFB	NPL, SEMS, CORRACTS, RCRA-TSDF, RCRA-VSQ,	TP
21 / 3	MESA CITY OF		PFAS	165 0.031 East
63 / 3	MUNITIONS BURIAL SIT		UXO	4801 0.909 NNW

Focus Map - 4 - 8225728.5s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
Pipe Line
National Priority List Sites
Dept. Defense Sites
AZ NPL
Water Quality Assurance Revolving
Indian Reservations BIA

SITE NAME: UPRR Pirate	CLIENT: Jacobs
ADDRESS: UPRR Pirate	CONTACT: Dave Golles
CITY/STATE: Mesa AZ	INQUIRY #: 8225728.5s
ZIP: 85142	DATE: 01/16/26

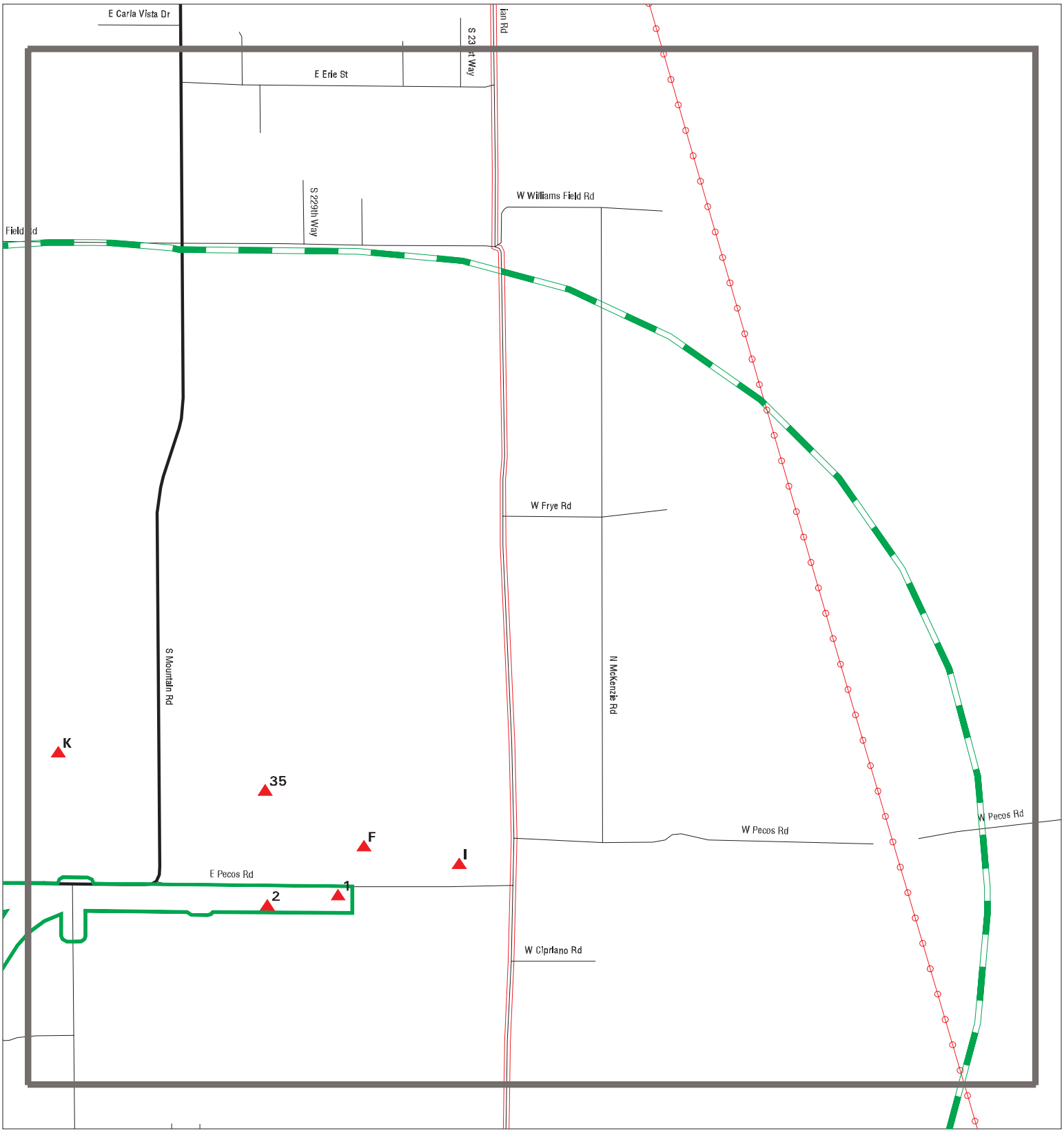
Copyright © 2026 EDR, Inc. © 2015 TomTom Rel. 2015.

MAPPED SITES SUMMARY - FOCUS MAP 4

Target Property:
UPRR PIRATE
MESA, AZ 85634

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION		
A3 / 4	KOMATSU SERVICE AND		EMAP	TP		
A4 / 4	OUTFALL OUTFALL 2		EMAP	TP		
31 / 4	LOWES PRO MSH #4545	7111 SOUTH CRISMON R	E MANIFEST	401	0.076	NNE
34 / 4	PECOS OLD DOMINION F	10233 E. PECOS RD SW	AST	670	0.127	North

Focus Map - 5 - 8225728.5s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
Pipe Line
National Priority List Sites
Dept. Defense Sites
AZ NPL
Water Quality Assurance Revolving
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: UPRR Pirate	CLIENT: Jacobs
ADDRESS: UPRR Pirate	CONTACT: Dave Golles
CITY/STATE: Mesa AZ	INQUIRY #: 8225728.5s
ZIP: 85142	DATE: 01/16/26

Copyright © 2026 EDR, Inc. © 2015 TomTom Rel. 2015.

MAPPED SITES SUMMARY - FOCUS MAP 5

Target Property:
UPRR PIRATE
MESA, AZ 85634

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION		
1 / 5	CMC STEEL ARIZONA AN		EMAP	TP		
2 / 5	OUTFALL NW CORNER ON		EMAP	TP		
F26 / 5	CRM OF AMERICA	11400 E. PECOS RD	AST	351	0.066	NNE
F27 / 5	MARICOPA COUNTY - SO	11400 E PECOS RD	SWF/LF, SPILLS, Enforcement, SPDES	351	0.066	NNE
F28 / 5	CRUM RUBBER MANUFACT	11400 E PECOS RD	AST	351	0.066	NNE
F29 / 5	CRM OF AMERICA, L.L.	11400 E. PECOS ROAD	SWTIRE, EMAP, SPDES	351	0.066	NNE
F30 / 5	CRM OF AMERICA	11400 E PECOS RD	RCRA NonGen / NLR	351	0.066	NNE
35 / 5	MESA TRANSFER STATIO	6711 S MOUNTAIN RD	SWF/LF	796	0.151	North
I39 / 5	MESA AIR SEPARATION	11530 E PECOS RD	RCRA-VSQG	908	0.172	ENE
I44 / 5	MESA AIR SEPARATION		PFAS ECHO	1015	0.192	East
K45 / 5	MGC PURE CHEMICALS A	6560 S MOUNTAIN RD	RCRA-VSQG, TSCA, TRIS, FINDS, ECHO, E MA...	1044	0.198	North
K46 / 5	MGC PURE CHEMICALS A	6560 S MOUNTAIN RD	EMAP, MANIFEST, SPDES	1044	0.198	North

Focus Map - 6 - 8225728.5s



Sites	Focus Map - Sites	Dept. Defense Sites
Target Property	Power Line	AZ NPL
Search Buffer	Pipe Line	Water Quality Assurance Revolving
Focus Map - No Sites	National Priority List Sites	Indian Reservations BIA

SITE NAME: UPRR Pirate	CLIENT: Jacobs
ADDRESS: UPRR Pirate	CONTACT: Dave Golles
CITY/STATE: Mesa AZ	INQUIRY #: 8225728.5s
ZIP: 85142	DATE: 01/16/26

Copyright © 2026 EDR, Inc. © 2015 TomTom Rel. 2015.

MAPPED SITES SUMMARY - FOCUS MAP 6

Target Property:
UPRR PIRATE
MESA, AZ 85634

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
22 / 6	CALIBER COLLISION -	18638 E RITTENHOUSE	RCRA-VSQG, E MANIFEST	193 0.037 SW
36 / 6	QUEEN CREEK SMILES	18550 E RITTENHOUSE	RCRA NonGen / NLR	856 0.162 SW
40 / 6	KAIZEN COLLISION - Q	18583 S. 187TH PLACE	RCRA-VSQG	914 0.173 SW
N55 / 6	HOME DEPOT U.S.A., I	7401 S POWER RD	EMAP, MANIFEST	1306 0.247 SW
N56 / 6	HOME DEPOT #0415	7401 S. POWER RD.	RCRA-SQG, E MANIFEST, MANIFEST	1306 0.247 SW

Focus Map - 7 - 8225728.5s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
Pipe Line
National Priority List Sites
Dept. Defense Sites
AZ NPL
Water Quality Assurance Revolving
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: UPRR Pirate	CLIENT: Jacobs
ADDRESS: UPRR Pirate	CONTACT: Dave Golles
CITY/STATE: Mesa AZ	INQUIRY #: 8225728.5s
ZIP: 85142	DATE: 01/16/26

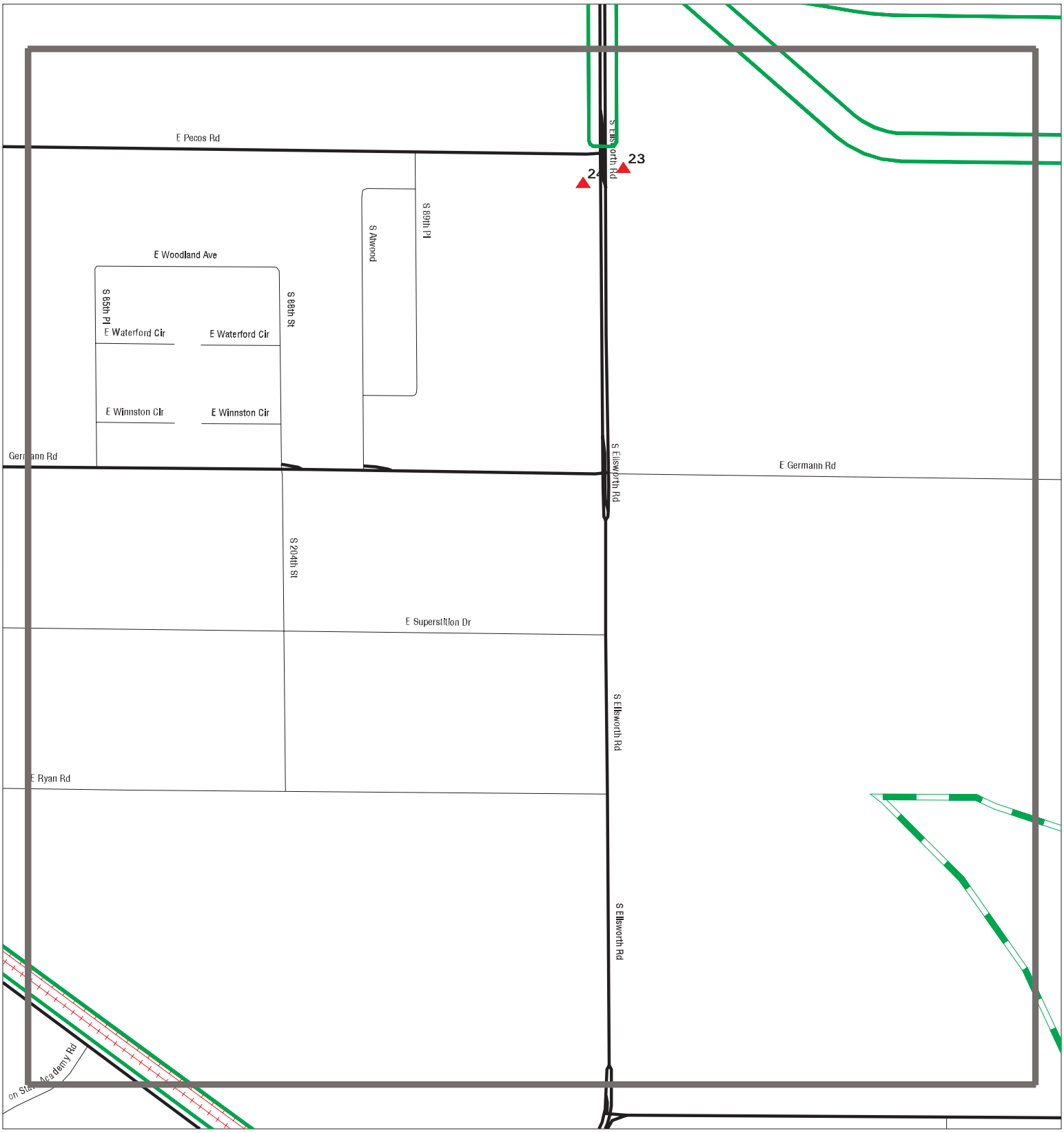
Copyright © 2026 EDR, Inc. © 2015 TomTom Rel. 2015.

MAPPED SITES SUMMARY - FOCUS MAP 7

Target Property:
UPRR PIRATE
MESA, AZ 85634

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION		
15 / 7	XPO BUILDING B OUTFA		EMAP	TP		
16 / 7	XPO BUILDING B OUTFA		EMAP	TP		
17 / 7	HERITAGE ACADEMY GAT		EMAP	TP		
E18 / 7	CANYON STATE ACADEMY	20061 EAST RITTENHOU	AST	148	0.028	SW
E19 / 7	ARIZONA BOYS RANCH	20061 E RITTENHOUSE	RCRA NonGen / NLR	148	0.028	SW
E20 / 7	ARIZONA BOYS RANCH	20061 E RITTENHOUSE	UST	148	0.028	SW
25 / 7	MOBIL3 STUDIO LLC	19122 E SEAGULL DR	EDR Hist Auto	332	0.063	West

Focus Map - 8 - 8225728.5s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
Pipe Line
National Priority List Sites
Dept. Defense Sites
AZ NPL
Water Quality Assurance Revolving
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: UPRR Pirate	CLIENT: Jacobs
ADDRESS: UPRR Pirate	CONTACT: Dave Golles
CITY/STATE: Mesa AZ	INQUIRY #: 8225728.5s
ZIP: 85142	DATE: 01/16/26

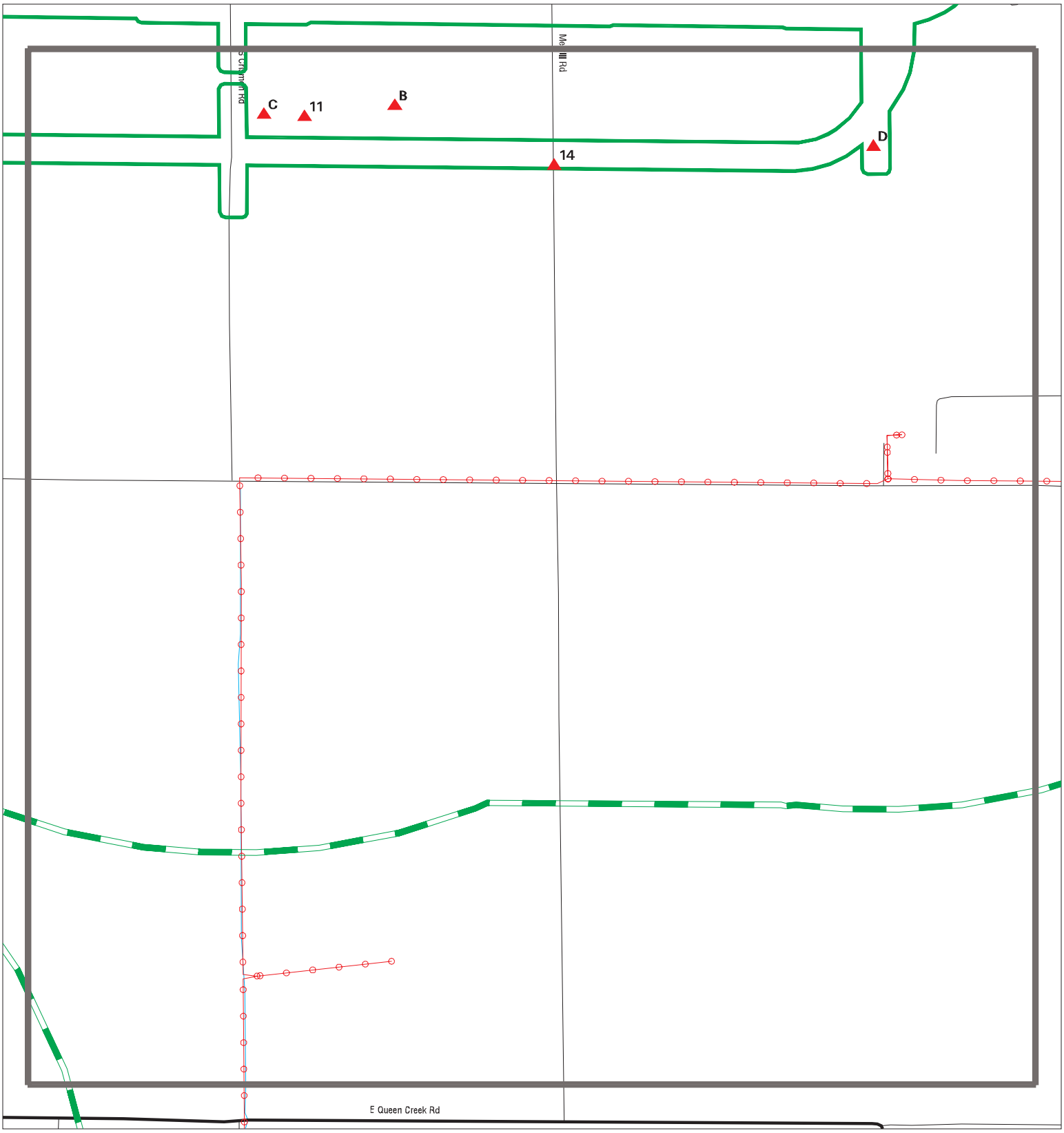
Copyright © 2026 EDR, Inc. © 2015 TomTom Rel. 2015.

MAPPED SITES SUMMARY - FOCUS MAP 8

Target Property:
UPRR PIRATE
MESA, AZ 85634

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION		
23 / 8	COBBLESTONE EXPRESS	7215 S ELLSWORTH RD	UST, Financial Assurance	197	0.037	SSE
24 / 8	SPEEDWAY #1509		UST, Financial Assurance	311	0.059	SSW

Focus Map - 9 - 8225728.5s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
Pipe Line
National Priority List Sites
Dept. Defense Sites
AZ NPL
Water Quality Assurance Revolving
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: UPRR Pirate	CLIENT: Jacobs
ADDRESS: UPRR Pirate	CONTACT: Dave Golles
CITY/STATE: Mesa AZ	INQUIRY #: 8225728.5s
ZIP: 85142	DATE: 01/16/26

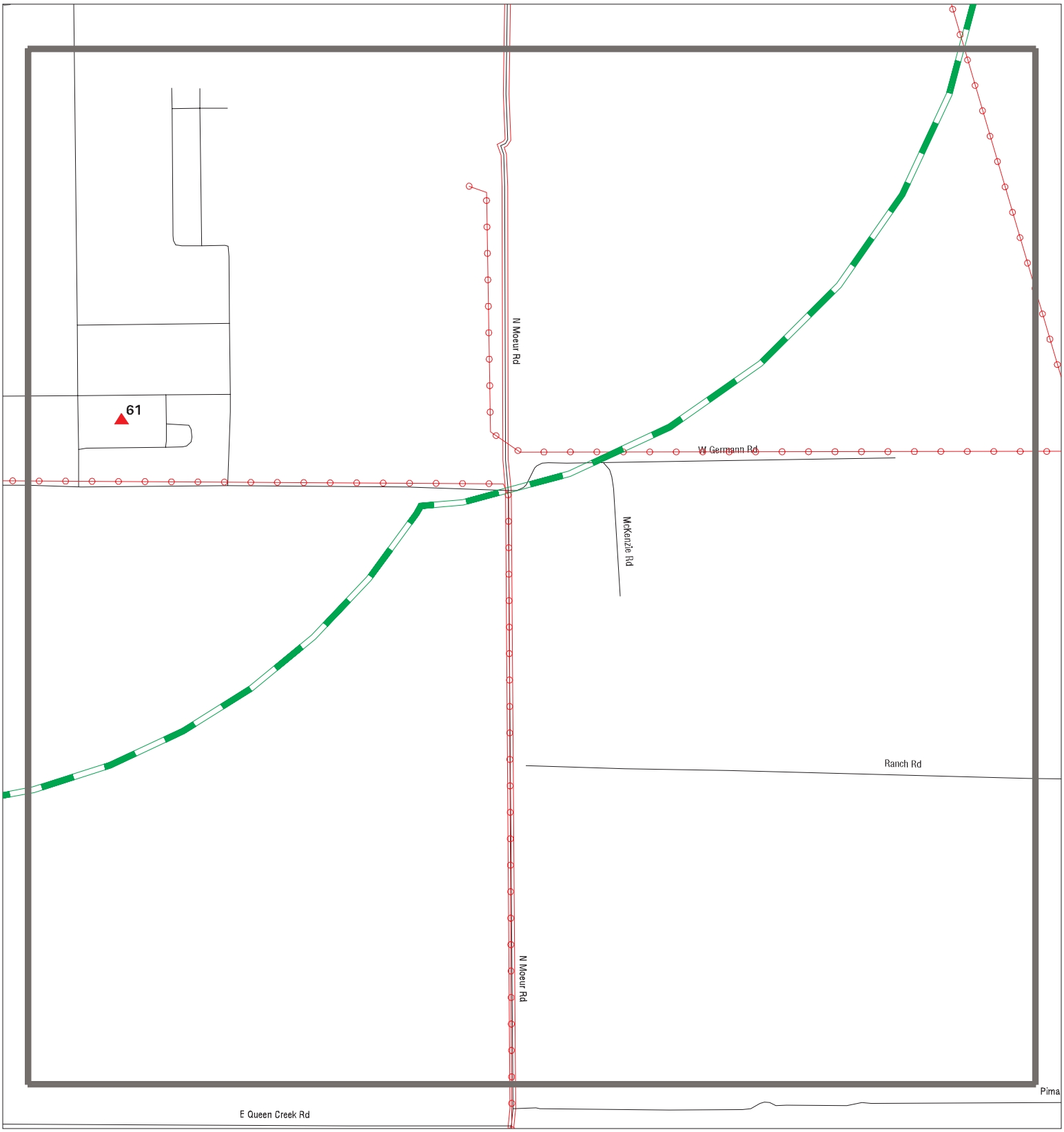
Copyright © 2026 EDR, Inc. © 2015 TomTom Rel. 2015.

MAPPED SITES SUMMARY - FOCUS MAP 9

Target Property:
UPRR PIRATE
MESA, AZ 85634

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
B6 / 9	PENSKE LOGISTICS	7111 S CRISMON RD	EMAP	TP
B7 / 9	LOWE'S PRO SUPPLY #4	7111 S CRISMON RD	EMAP	TP
C8 / 9	THE CUBES AT MESA GA		EMAP	TP
C9 / 9			SPDES	TP
C10 / 9	THE CUBES AT MESA GA		SPDES	TP
11 / 9	THE CUBES AT MESA GA		SPDES	TP
D12 / 9	SIGNAL BUTTE BETWEEN		SPDES	TP
D13 / 9	SIGNAL BUTTE BETWEEN		EMAP	TP
14 / 9	OUTFALL MERRIL 1		EMAP	TP

Focus Map - 10 - 8225728.5s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
Pipe Line
National Priority List Sites
Dept. Defense Sites
AZ NPL
Water Quality Assurance Revolving
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: UPRR Pirate	CLIENT: Jacobs
ADDRESS: UPRR Pirate	CONTACT: Dave Golles
CITY/STATE: Mesa AZ	INQUIRY #: 8225728.5s
ZIP: 85142	DATE: 01/16/26

Copyright © 2026 EDR, Inc. © 2015 TomTom Rel. 2015.

MAPPED SITES SUMMARY - FOCUS MAP 10

Target Property:
UPRR PIRATE
MESA, AZ 85634

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
61 / 10	TRW AUTOMOTIVE SYSTE	11202 E GERMANN RD	CORRACTS, RCRA-LQG, SPILLS, E MANIFEST, ...	2862 0.542 SE

Focus Map - 11 - 8225728.5s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
Pipe Line
National Priority List Sites
Dept. Defense Sites
AZ NPL
Water Quality Assurance Revolving
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: UPRR Pirate	CLIENT: Jacobs
ADDRESS: UPRR Pirate	CONTACT: Dave Golles
CITY/STATE: Mesa AZ	INQUIRY #: 8225728.5s
ZIP: 85142	DATE: 01/16/26

Copyright © 2026 EDR, Inc. © 2015 TomTom Rel. 2015.

MAPPED SITES SUMMARY - FOCUS MAP 11

Target Property:
UPRR PIRATE
MESA, AZ 85634

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION

NO MAPPED SITES FOUND

Focus Map - 12 - 8225728.5s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
Pipe Line
National Priority List Sites
Dept. Defense Sites
AZ NPL
Water Quality Assurance Revolving
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: UPRR Pirate	CLIENT: Jacobs
ADDRESS: UPRR Pirate	CONTACT: Dave Golles
CITY/STATE: Mesa AZ	INQUIRY #: 8225728.5s
ZIP: 85142	DATE: 01/16/26

Copyright © 2026 EDR, Inc. © 2015 TomTom Rel. 2015.

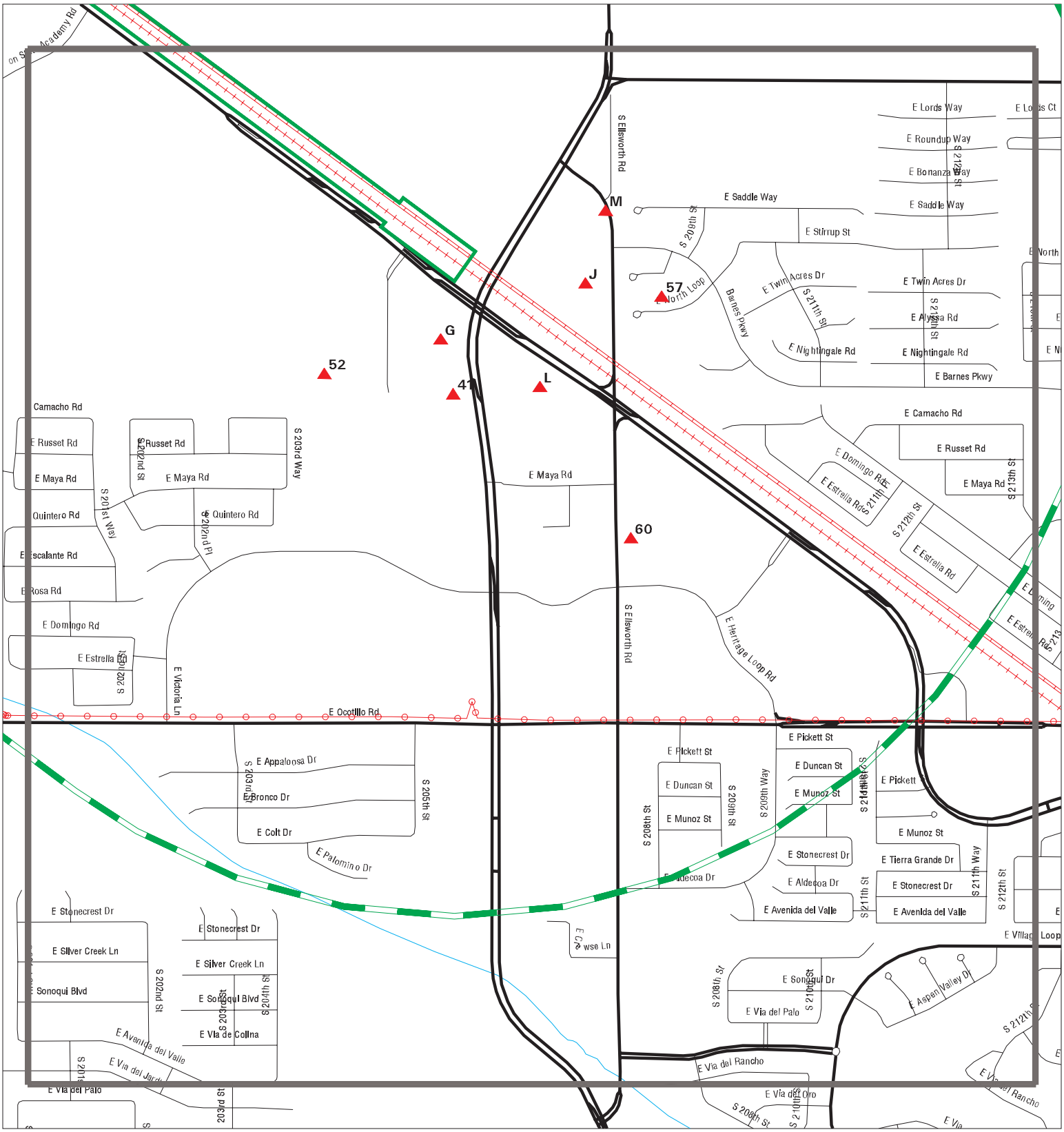
MAPPED SITES SUMMARY - FOCUS MAP 12

Target Property:
UPRR PIRATE
MESA, AZ 85634

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION

NO MAPPED SITES FOUND

Focus Map - 13 - 8225728.5s



Sites
Target Property
Search Buffer
Focus Map - No Sites
Focus Map - Sites
Power Line
Pipe Line
National Priority List Sites
Dept. Defense Sites
AZ NPL
Water Quality Assurance Revolving
Indian Reservations BIA

0 1/8 1/4 Miles

SITE NAME: UPRR Pirate	CLIENT: Jacobs
ADDRESS: UPRR Pirate	CONTACT: Dave Golles
CITY/STATE: Mesa AZ	INQUIRY #: 8225728.5s
ZIP: 85142	DATE: 01/16/26

Copyright © 2026 EDR, Inc. © 2015 TomTom Rel. 2015.

MAPPED SITES SUMMARY - FOCUS MAP 13

Target Property:
UPRR PIRATE
MESA, AZ 85634

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION
G32 / 13	PETSMART	21032 S ELLSWORTH LO	E MANIFEST	490 0.093 SSW
G33 / 13	QUEEN CREEK, BANFIEL	21032 S ELLSWORTH LO	E MANIFEST	490 0.093 SSW
41 / 13	CHIPOTLE #1163-RITTE	21172 SOUTH ELLSWORT	E MANIFEST	934 0.177 South
J42 / 13	PINTO CREEK MANAGEME	20820 S OLD ELLSWORT	LUST, UST, AST, EMAP	953 0.180 ESE
J43 / 13	PINTO CREEK MANAGEME	20820 S ELLSWORTH RD	UST FINDER, UST FINDER RELEASE	953 0.180 ESE
L48 / 13	SPROUTS	21181 S. ELLSWORTH L	E MANIFEST	1127 0.213 SE
M49 / 13	QUEEN CREEK UNIFIED	20740 S ELLSWORTH RD	AST	1138 0.216 ENE
M50 / 13	QUEEN CREEK SCHOOL M	20740 SOUTH ELLSWORT	AST	1138 0.216 ENE
52 / 13	ULTA BEAUTY	21118 S. ELLSWORTH L	E MANIFEST	1258 0.238 SW
L53 / 13	HAPPY BEAUTY CO. 108	21227 E ELLISWORTH L	E MANIFEST	1301 0.246 SE
L54 / 13	HAPPY BEAUTY CO. #10	21227 S ELLSWORTH LO	RCRA-VSQG	1301 0.246 SE
57 / 13	PRISONER OF WAR CAMP		FUDS	1594 0.302 ESE
60 / 13	FIRESTONE COMPLETE A	21443 S ELLSWORTH RD	SWTIRE, Dry Wells, EMAP, SPDES	2588 0.490 SE

Focus Map - 14 - 8225728.5s



Sites	Focus Map - Sites	Dept. Defense Sites	0 1/8 1/4 Miles
Target Property	Power Line	AZ NPL	
Search Buffer	Pipe Line	Water Quality Assurance Revolving	
Focus Map - No Sites	National Priority List Sites	Indian Reservations BIA	

SITE NAME:	UPRR Pirate
ADDRESS:	UPRR Pirate
CITY/STATE:	Mesa AZ
ZIP:	85142
CLIENT:	Jacobs
CONTACT:	Dave Golles
INQUIRY #:	8225728.5s
DATE:	01/16/26

Copyright © 2026 EDR, Inc. © 2015 TomTom Rel. 2015.

MAPPED SITES SUMMARY - FOCUS MAP 14

Target Property:
UPRR PIRATE
MESA, AZ 85634

MAP ID / FOCUS MAP	SITE NAME	ADDRESS	DATABASE ACRONYMS	DIST (ft. & mi.) DIRECTION

NO MAPPED SITES FOUND

SPL **WILLIAMS AIR FORCE BASE** **AZ NPL** **S111026374**
Region **SPL** **N/A**
Target Property **MESA, AZ**

Focus Map: 2,3,1

AZ NPL:

Name:	FORMER WILLIAMS AIR FORCE BASE
Address:	Not reported
City,State,Zip:	AZ
NPL Status:	National Priorities List Sites
AZ NPL Contaminants:	Groundwater contaminants include light non-aqueous phase liquid (LNAPL) or "free product" related to aviation fuel; volatile organic compounds (VOCs) related to fuels and industrial solvents, and pesticide (dieldrin). Soil contaminants include fuel-related hydrocarbons, VOCs, Poly Chlorinated Biphenyls (PCBs), pesticide (dieldrin), metals, and per- and polyfluorinated chemicals (PFAS). Munition debris (generally empty munition casings) have been found in a relatively small, secured area near the south central border. A few, small, empty chemical agent identification set (CAIS) vials have also been found in the munitions debris area. The few, small, empty vials appeared to contain mustard gas (liquid-state) samples (chemical warfare agent vials).
Contact Name A:	EPA Project Manager
Contact Phone A:	415-972-3150
Contact A:	Not reported
Contact Email A:	dAlmeida.carolyn@epa.gov
Contact Name B:	US Air Force Project Manager
Contact Phone B:	315-356-0810
Contact Fax B:	Not reported
Contact Email B:	catherine.jerrard@us.af.mil
Contact Name C:	ADEQ Project Manager
Contact Phone C:	602-771-4121
Contact Fax C:	Not reported
Contact Email C:	miller.wayne@azdeq.gov
Information Repository:	The complete official site file can be reviewed at: EPA Region IX Records Center Mail Stop SFD-7C 95 Hawthorne Street Room 403 San Francisco, CA 94105 P: 415-536-2000 Local Repository: Arizona State University East Library 7001 E. Williams Field Road, Bldg. 20 Mesa, AZ 85212 Additional Reocrds: U.S. Air Force Administrative Record or Interested parties can review site information in person at the ADEQ Record Center
Site Hydrogeology:	Site hydrogeology includes unconsolidated and intermingled clay, silt, sand and gravel layers associated with stream channel and alluvial fan deposition from the surface to about 260 feet below the ground surface (ft bgs). This is locally designated as the Upper Unit. From about 260 ft bgs to nearly 1,000 ft bgs are weakly consolidated silt, silty sand and gravel layers with locally occurring moderately to well-cemented siltstone associated with former playa, alluvial fan and fluvial deposits. This is locally designated as the Middle Unit. A leaky aquitard (layer of low permeability) separates the Upper Unit and Middle Unit near WAFB. Historically, groundwater levels in the vicinity of the former WAFB have fluctuated as groundwater pumping volumes increased and decreased. Static groundwater, circa 1900, was reported to be approximately 80 ft bgs near the former WAFB. By the 1970s, substantial groundwater drawdown was attributed to agriculture and municipal groundwater withdrawal. Since the late 1970s, however,

WILLIAMS AIR FORCE BASE (Continued) **S111026374**

groundwater levels have recovered (risen) 0.5 to 3 ft per year. In 2019, groundwater was encountered 129 ft bgs at Site SS017, and between 126 and 147 ft bgs at Site LF004 (shallow and deeper water zones, respectively). In 2018, groundwater was encountered between 137 and 160 ft bgs at Site ST012. Groundwater flow direction in the Upper Unit is variable, ranging from west-to-east near LF004 and from west to northeasterly near ST012. Groundwater flow direction has shifted when compared to historic data recorded during high-yield extraction well pumping years.

Public Health Impact: There currently are no known exposures to contaminants of concern (COCs) in excess of applicable health-based levels. This includes groundwater, soil (surface and subsurface) and soil vapor studies conducted to date. The City of Mesa supplies drinking water to the site from an off-site source. Irrigation water is drawn from wells generally upgradient from contaminant impacted areas or from potable water sources. Unintended exposure to contaminated soil and groundwater is a potential health hazard. Some sites include soil contaminants left in place. Land-use controls have been placed at those known sites to minimize exposure potential.

Site History: 1941 - 1948 Williams Air Force Base (WAFB) was constructed in 1941 and served as a training facility, primarily pilot training. At the time the base was constructed, the site was surrounded by irrigated farmland and desert. Industrial activities at WAFB included heavy maintenance of aircraft and ground equipment in support of pilot training. WAFB played a strategic role in America's aviation history. Over a span of 52 years, more than 26,500 men and women earned their wings at Williams. Gearing up for the combat pilot demands of World War II, the Army Air Corps broke ground in southeast Mesa for its Advanced Flying School on July 16, 1941. In February 1942, the growing military base's name was changed to Williams Field to honor Charles Linton Williams, an Arizona-born pilot. The facility was re-designated as WAFB in January 1948. WAFB was the U.S. Army Air Corp s foremost pilot training facility, graduating more student pilots and instructors than any other base in the country and supplying 25 percent of the U.S. Air Force (USAF) pilots annually. Contaminants from base activities included organic solvents and paint strippers, petroleum spills and leaks, metal plating wastes, hydraulic fluids, pesticides, and radiological wastes. Discharges and disposals at WAFB have resulted in soil and groundwater contamination. 1983 Site investigations initiated in 1983 under the auspices of the Department of Defense installation restoration program identified thirteen potentially contaminated areas including: two fire training areas, a fuel storage area, two surface storm drainage areas, a hazardous material storage area, a landfill, a pesticide burial pit, a radiological disposal area, and four underground storage tanks. 1989 WAFB was placed on the U.S. Environmental Protection Agency's (EPA's) National Priority List (NPL) on November 21. Remedial Investigations (RIs) initiated under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) discovered several new areas of contamination that were added to the existing list of sites. 1991 - 1993 WAFB was closed in 1993. After the announcement of closure in 1991, the community immediately began work to redevelop the base. Upon closing, WAFB was transferred to the Air Force Base Conversion Agency (AFBCA). AFBCA assumed responsibilities for the restoration and reuse of the base

WILLIAMS AIR FORCE BASE (Continued) **S111026374**

and worked with the Restoration Advisory Board (RAB) and Williams Redevelopment Partnership to maximize reuse of the land. For cleanup purposes, the former base was divided into six operable units, OU-1 through OU-6. Each OU consists of many sites of potential concern; the following lists only the sites of primary interest for each OU: OU-1 contains the main base landfill (LF004) for which a Record of Decision (ROD) was signed in 1994. The remedy specified a permeable cap (soil) and monitor wells. At the time of the ROD, only low levels of contaminants were present in the wells. In 1997, higher levels of contamination were discovered in the landfill monitor wells and a follow-on RI was conducted in 2000. Concentrations of contaminants in some of the monitor wells installed during the follow-on RI are the highest ever seen at the site and indicate that contamination is migrating off of the former base. OU-2 addresses the groundwater and soil contamination at the ST-12. The results of the RI at ST-12 have confirmed that the primary contaminants are JP-4 (a jet fuel) and aviation gas (AVGAS). There is a groundwater plume at ST-12 which resulted from the leakage of an unknown quantity of JP-4 and AVGAS. It is estimated that the groundwater contains 640,000 to 1.4 million gallons of JP-4 and AVGAS. The EPA believes as much as 12 million gallons may be in the soil and groundwater. Rising groundwater in the area, 40 feet over the last ten years, has covered the fuel and smeared it across many feet of deep soil making access to the plume (for remediation) increasingly difficult. The ROD for OU-2 was signed in December 1992. The USAF has yet to implement a groundwater remedy at the site. OU-3 formerly addressed the vadose zone beginning 25 feet below land surface down to the water table at ST012 which is now a part of OU-2. The primary site of concern at OU-3 now is the FT-02. The 25,000 cubic yards of contaminated deep soils at the site were treated in place by enhancing natural bacterial breakdown of contaminants with bioventing. The ROD for OU-3 was signed in late June 1996. The standards agreed to in the ROD have not been achieved. However, the USAF, in accordance with new state rules has conducted a risk assessment which determined that the cleanup levels attained do not pose a risk to human health or environment. OU-4 includes South Desert Village (SDV) which is currently serving as student housing for Arizona State University (ASU) East. Beneath SDV is a former six-station skeet range which was demolished and graded in 1950, prior to construction of SDV. Contamination in the form of lead pellets in soil associated with the former skeet range underlies 85 housing units in SDV. Since complete removal of contaminated soils would have required demolition of this valuable housing, a compromise solution involved removal of the top six inches of contaminated soil and installation of six inches of clean soil. The replacement soil is considered a protective cap over the remaining contamination, and will be subject to repair and maintenance, as well as land use restrictions in the form of a voluntary environmental mitigation and use restriction (VEMUR). The VEMUR defines the affected area as non-residential, and places deed restrictions to bind occupants to maintain the protective cap. OU-5 was set up to address nine soil sites which were closed out through expedited removal fill actions. No groundwater contamination is known to exist at any of the OU-5 sites. The OU-5 ROD was signed in February 1998 OU-6 was established to address three sites requiring additional investigation. The site of primary concern (site SS-17 Old Pesticide/Paint Shop) at OU-6 revealed soil contamination (dieldrin and volatile organic compounds [VOCs]). A removal action of dieldrin contaminated soil was completed

WILLIAMS AIR FORCE BASE (Continued) **S111026374**

and backfilled with clean soil following verification of clean up goals. The dieldrin contaminated soil was transported to a temporary treatment facility constructed near the former base landfill to undergo bioremediation. 1998 - 2004 OU-3 primary concern was the FT-02. Bioventing utilized at the site did not attain residential cleanup levels. The USAF disagreed with the regulatory agencies (ADEQ and EPA) determination that a Declaration of Environmental Use Restrictions (DEUR) was required for the site. Changes (November 2004) in the USAFs policy regarding acceptable risk and reliance on a 1998 USAF receptor evaluation (risk assessment) led to a USAF decision that the site was suitable for unrestricted use. 2004 - 2005 OU-2 addressed groundwater and soil contamination at site ST-12. The USAF and subcontractors completed design of the groundwater and vadose zone remedies. The vadose zone remedy consisted of a full-scale soil vapor extraction (SVE) system. The SVE system began operation in April 2005. The groundwater remedy consisted of a process called Thermal Enhanced Extraction (TEE). As of December 2004 the construction was 90% complete. However, the USAF decided to withdraw the funding for completion of construction and operation of the TEE system. The USAF notified the regulators of the funding withdrawal in February 2005. At that time the USAF had already spent approximately $3,000,000 in the design and construction of the TEE system. EPA and ADEQ issued a formal letter of dispute regarding USAF's failure to implement the remedial action at site ST-12. 2006 OU-1 contains LF-04. Over the past two years numerous monitor wells had shown a marked increase in trichloroethylene (TCE) and tetrachloroethylene (PCE). Contaminants appeared to be moving off-site. 2007 The first phase (soil vapor investigation) of the RI to find the source and extent of VOC's in the groundwater at LF004 was begun. Additionally, three off-site borings were drilled and groundwater samples collected to determine where off-site groundwater monitor wells may be needed. In November, the dieldrin-contaminated soil from the Old Pesticide/Paint Shop (SS-17) was removed northeast of the LF004 following an unsuccessful attempt at bioremediation. A total of approximately 6,000 cubic yards of contaminated soil and amendments were removed from the site and disposed of under an approved work plan. Following removal of the contaminated soil and amendments, confirmation sampling of the underlying soil indicated five hot spots where additional soil removal is required. SVE continued to remove JP-4 from the vadose zone at ST012. Construction continued on the TEE pilot project, which was designed to remove the fuel from the groundwater. The Building 760 site, the site of gasoline releases from the former base service station, was being redeveloped by ASU East. Five groundwater monitor wells were abandoned to make way for building construction. The USAF proposed replacement of the monitor wells, as well as installation of SVE wells and construction of a soil vapor treatment system. [Note: ADEQ s Underground Storage Tank Program (UST) assumed oversight of this project.] DEURs were completed for site SS021, Facility 1013 (a leaking UST [LUST] site). 2008 The schedule for the RI to find the source and extent of VOCs in the groundwater at LF004 was extended. The USAF completed the soil vapor investigation fieldwork. TCE found in soil gas samples and increasing concentrations of TCE in one groundwater monitor well caused the USAF to expand the investigation in the area northeast of the landfill and delay submittal of the RI report. Additional borings to sample deep soil and groundwater were planned. A peer review committee was assembled by the USAF to review

WILLIAMS AIR FORCE BASE (Continued) **S111026374**

the work to date and plans for additional investigation of the site, and to advise the USAF and its contractor regarding data gaps, locations for additional groundwater monitor wells, and potential remedial technologies. Four new monitor wells were installed at the site. SVE to remove JP-4 from the vadose zone continued at the ST012. The TEE pilot project, designed to remove the fuel and fuel components from the groundwater, began operation. Steam injection into the lower saturated zone (the deeper of two water bearing units that are to undergo treatment) began on October 28th, (with steam injection into the upper water bearing zone scheduled to occur approximately two weeks later). The project is scheduled to last approximately one year. Six new groundwater monitor wells were installed at the site. The DEURs were completed for sites FT002, ST012, and SS020 to facilitate dispersal of the property to the Gateway Airport. 2009 Base-wide activities included publishing an update to the Base-wide Sampling and Analysis Plan and a Base-wide Waste Management Plan, and recording a DEUR on site SS016 (Bldg 1085) to complete the ROD requirements. The transfer of SS016 to the Phoenix-Mesa Gateway Airport was completed. The USAF performed the following activities: Conducted and reported semi-annual groundwater monitoring in accordance with the ROD Conducted significant landfill maintenance Conducted a final field effort to supplement the RI, where one area was found to have a surface soil to groundwater contamination connection Installed 31 new groundwater monitor wells at Site LF004 Produced a site LF004 Groundwater Monitoring Work Plan Conducted a bench scale ozone sparging test Conducted operations at site ST012 performing Steps 2 through 5 of the TEE Work Plan Collected post TEE application samples following test operations Conducted and reported four quarters of groundwater monitoring Produced a site ST012 Groundwater Monitoring Work Plan Conducted and reported annual groundwater monitoring at site SS017 Produced a site SS017 Groundwater Monitoring Work Plan Finalized a work plan to conduct step-out excavations at the temporary treatment facility and awarded a contract to conduct the step-out excavations Published the Parcel N Debris Area preliminary assessment/site inspection (PA/SI) work plan and initiated work on it Completed installation of a fence around Parcel N Published a final Interim Parcel N PA report Awarded a contract to complete the Parcel N Debris Area PA/SI Conducted and reported four quarters of groundwater monitoring at site ST035 Produced a site ST035 Groundwater Monitoring Work Plan Installed five new groundwater monitor wells Completed installation of an SVE system Discarded military munitions 2010 Efforts at the former WAFB progressed on many fronts: The completion of a Supplemental RI report for LF004 that included a draft Focused Feasibility Study. Parcel N underwent an investigation searching for munitions constituents as well as sampling and testing at selected locations for CERCLA contaminants. A more detailed investigation is planned for a section of Parcel N that has been identified as one of great concern and is scheduled for 2011. A report evaluating the pilot test of the TEE system at ST012 was submitted for review. The SVE system continues to remove contaminants from soils below the former fuel storage area; A pilot SVE system was constructed at the site of the former automobile gas station. The system was designed and constructed to blend into the surrounding ASU campus and its operation to be non obtrusive. The USAF completed a program to replace groundwater monitor wells that have become submerged by rising groundwater. Additional wells to monitor the different groundwater formations at the site were also

WILLIAMS AIR FORCE BASE (Continued) **S111026374**

set in the various hydrographic layers. New wells were also installed to delineate groundwater contamination. Groundwater monitoring at the site continues to be conducted to evaluate the remedial effort. 2011 The USAF performed the following activities: Hired AMEC Corporation as their performance-based remediation (PBR) contractor. Performed routine groundwater monitoring, inspections, and operation and maintenance of remedial systems Completed work plans, groundwater monitoring reports, operation and maintenance (performance) reports, and inspection reports, as required Completed installation of groundwater monitor wells at sites ST035 and LF004, and abandonment of wells at site FT002 Finalized the OU-6 removal action completion report Finalized the site ST012 containment study work plan Held a public meeting and completed the OU-6 amended proposed plan 2012 The USAF performed the following activities: Performed routine groundwater monitoring, inspections, and operation and maintenance of remedial systems Completed Work Plans, groundwater monitoring reports, operation and maintenance (performance) reports, and inspection reports, as required Installed five off-base groundwater monitor wells south of the landfill site (LF004) to monitor for possible off-site migration of contamination Completed a Five Year Review (FYR) Began operation of the site ST012 groundwater containment system, an interim remedial action designed to operate until the full scale Steam Enhanced Extraction system is designed and constructed Completed a new base-wide Quality Assurance Project Plan and standard operating procedures Performed and reported on the final site inspection and munitions and explosives of concern clearance (Phase 3) munitions response at the site XU403a Completed a Finding of Suitability to Transfer (FOST) for the Air Force Research Laboratory (AFRL), Mesa Research Site Completed the final in-well air stripping and monitor well installation work plan for site ST035 and installed one remediation well and two groundwater monitor wells 2013 The USAF completed several items during this period: LF004 (OU1) A draft ROD Amendment for Operable Unit 1. Well installation as part of Pre-Design Investigation field activities Annual and period specific groundwater monitoring reports A Technical Memorandum for the April 2013 Cap Maintenance An Annual Landfill Inspection Report dated October 10 2012 An Amended Proposed Plan for Operable Unit 1, Landfill 004 A Focused Feasibility Study for Site LF004. An LF004 Off-site Well Inspection and Sampling Report ST012 (OUs=2) A Focused Feasibility Study for OU-2 remedial alternatives A draft Remedial Design and Remedial Action Work Plan A ROD Amendment 2 for OU-2 groundwater Documents discussing select groundwater well installations/modifications A report detailing amendments added to the ST012 groundwater treatment system Annual and period specific groundwater monitoring reports Annual and period specific groundwater containment system reports Annual and period specific SVE system operation and result reports A memorandum documenting research on potential contamination encountered during previous construction work in Avoca Street near Site ST012 FT02 (OU3) One annual Site FT02 DEUR report was submitted The USAF initiated a program to systematically sample its active and closed bases for perfluorinated compounds (PFC's) at fire training areas as the unregulated chemicals gained increasing regulatory attention for their potential risks to human health and the environment. SDV (OU4) Two semi-annual Protective Cap Inspection Reports were released (dated Sept. 19, 2012 and Jan. 3, 2013). OU6 A Revised OU-6 Removal Action Completion Report (RACR). SS017 (OU6) Continued groundwater monitoring A Groundwater Monitoring

WILLIAMS AIR FORCE BASE (Continued) **S111026374**

Report for the 2012 Annual Event A draft Supplemental Risk Assessment for soil removal action ST035 One groundwater monitoring well (MW-21) installation notification Select well modification notifications Annual and period specific groundwater monitoring reports Annual and period specific SVE system operation and result reports Facility 1013 One annual Facility 1013 DEUR report was submitted. Site Wide and Miscellaneous Areas A Site Characterization and Corrective Action Completion report was submitted for UST closure actions completed at the Base s navigation beacon facility A site-wide Groundwater Monitoring Report for August 2012 2014 The USAF completed several items during this period: LF004 (OU1) Initiated a site remedy consisting of SVE, in-well air stripping (IWAS) and chemical oxidation Landfill cover inspections and maintenance Landfill cover drainage pattern maintenance and cover erosion control maintenance Annual and period specific groundwater monitoring reports Final Annual 2013 Groundwater Monitoring Report Remedial Design and Remedial Action Work Plan for Operable Unit 1 Groundwater and Soil Gas Remedies Annual Landfill Cap Inspection and Maintenance Report, September and November 2013 Events Pre-Design Oxidant Test Work Plan (Addendum 1 to the Final Pre-Design Investigation Work Plan, Site LF004) Final ROD Amendment, Operable Unit 1 Technical Memorandum on LF004 Groundwater Monitoring Program Optimization Groundwater Monitoring Report, May 2013 Event Amended Proposed Plan for Operable Unit 1, Landfill 004 An off-site well inspection and sampling report Select well modification notifications Parcel N Debris Area (XU403a) (OU1) Excavation, investigation and removal of: Unexploded ordnance (UXO) Discarded military munitions (DMM) Munitions constituents (MC) Empty chemical weapons (mustard gas oil) training sample vials (ST012 OU2) Installed and initiated a Steam Enhanced Extraction System Remedial Design and Remedial Action Work Plan for Operable Unit 2 Revised Groundwater Remedy SVE System Operation and Maintenance Report, July through September 2013 SVE System Operation and Maintenance Report, April through June 2013 SVE System Operation and Maintenance Report, January through March 2013 Containment System Status and Shutdown Report, July through October 2013 Containment System Status Report, April through June 2013 2012 Annual Containment System Status Report, Containment System Status Report, January through March 2013 Declaration of Environmental Use Restriction (DEUR) for Site ST012 for 2013 Annual 2012 Groundwater Monitoring Report SVE System Operation and Maintenance 2012 Annual Performance Report SVE System Operations and Maintenance, July through September 2012 ROD Amendment 2, Groundwater, Operable Unit 2 Select well modification notifications FT02 (OU3) Installed and re-initiated an SVE system. SDV (OU4) Released Semi-annual Protective Cap Inspection Report conducted July 15, 2014 Released Semi-annual Protective Cap Inspection Report conducted January 21, 2014 Released Semi-annual Protective Cap Inspection Report conducted August 9, 2013 SS17 (and OU6) Continued groundwater monitoring Groundwater Monitoring Report, 2013 Annual Event Groundwater Monitoring Report, 2012 Annual Event A final supplemental risk assessment relating to the Old Pesticide/Paint Shop soil removal action ST035 Annual and period specific groundwater monitoring reports. Annual and period specific SVE system operation and result reports. Groundwater Monitoring Report August 2013 Event Annual 2013 Groundwater Monitoring Report Groundwater Monitoring Report August 2013 Event Groundwater Monitoring Report, May 2013 Event Groundwater Monitoring Report, February 2013 Event Annual 2012 Groundwater Monitoring Report Field

WILLIAMS AIR FORCE BASE (Continued) **S111026374**

Variance Memorandum regarding Monitor Well Installation SVE System Operation and Maintenance Report, July through September 2013 SVE System Operation and Maintenance Report, April through June 2013 SVE System Operation and Maintenance January through March 2013 SVE System Operation and Maintenance 2012 Annual Performance Report SVE System Operation and Maintenance, July through September 2012 SVE System Operation and Maintenance, April through June 2012 Site-Wide and Miscellaneous Areas A site-wide Groundwater Monitoring Report for August 2013 Pages 2015 The USAF completed several items during this period: LF004 (OU1) Continued a site remedy consisting of SVE, IWAS and chemical oxidation Continued landfill cover inspections and maintenance Continued landfill cover drainage pattern maintenance and cover erosion control maintenance Continued annual and period specific groundwater monitoring reports Construction Completion/Start up Report for Operable Unit 1, Groundwater and Soil Gas Remedies Annual Landfill Inspection and Maintenance Report, September and October 2014 Groundwater Monitoring Report, May 2014 Event Parcel N Debris Area (XU403a) (OU1) Continued evaluating prior findings ST012 (OU2) Continued steam enhanced extraction system SVE System Operation and Maintenance Report, July through September 2014 SVE System Operation and Maintenance Report, April through June 2014 SVE System Operation and Maintenance Report, January through March 2014 Annual 2013 Groundwater Monitoring Report SVE System Operation and Maintenance 2013 Annual Performance Report Construction Completion/Start up Report for Operable Unit 2, Revised Groundwater Remedy Revision No. 2 to SVE Operations Maintenance and Monitoring Manual, Post Steam Enhanced Extraction Installation FT02 (OU3) Remediation Construction Complete and Start Up Report Continued SVE system SDV (OU4) Semi-annual Protective Cap Inspection Reports, conducted July and January SS017 (and OU6) Submission of Responses to Comments and Revised Draft Final Amended Proposed Plan for Operable Unit 6 Continued groundwater monitoring Groundwater Monitoring Report, 2014 Annual Event ST035 Continued groundwater monitoring reports. Groundwater Monitoring Report August 2014 Event, Bldg. 760, UST 0-005338, LUST 0293.09 AND .10 Final Groundwater Monitoring Report, May 2014 Event Facility 1013 Closure Report for Building 1013; UST 0-005338, LUST 293.18 Site wide and Miscellaneous areas A site wide Groundwater Monitoring Report Perfluorinated Compounds Preliminary Assessment, former AFRL, Mesa, AZ 2016 The USAF completed several items during this period: LF004 (OU1) Continued site remedy monitoring Continued landfill cover inspections and maintenance Continued annual and period specific groundwater monitoring reports Remedial Action Quarterly Status Report, July Thru September 2015, for Operable Unit 1, Groundwater and Soil Gas Remedies Remedial Action Quarterly Status Report, April Thru June 2015, for Operable Unit 1, Groundwater and Soil Gas Remedies Remedial Action Quarterly Status Report, Jan. Thru Mar. 2015, for Operable Unit 1, Groundwater and Soil Gas Remedies Remedial Action Quarterly Status Report, Startup Thru Dec. 2014, for Operable Unit 1, Groundwater and Soil Gas Remedies Annual Landfill Cap Inspection and Maintenance Report, September, October, and December 2015 Events Parcel N Debris Area (XU403a) (OU1) Site Inspection Report, Chemical Warfare Materiel, and Munitions and Explosives of Concern, Munitions Response Sites XU403A and XU403B ST012 (OU2) Continued Steam Enhanced Extraction system SVE Systems/Steam Enhanced Extraction System, Operation and Maintenance, 2015 Third Quarter Performance Report SVE Systems/Steam Enhanced Extraction System, Operation and Maintenance, 2015 Second Quarter

WILLIAMS AIR FORCE BASE (Continued) **S111026374**

Performance Report SVE Systems/Steam Enhanced Extraction System, Operation and Maintenance, 2015 First Quarter Performance Report SVE System/Steam Enhanced Extraction System, Operation and Maintenance, 2014 Annual Performance Report Annual 2014 Groundwater Monitoring Report Submission of Final Field Variance Memorandum #4 Extraction and Treatment System Construction Submission of Final Field Variance Memorandum #5 Extraction and Treatment System Construction FT02 (OU3) Continued SVE system SVE System, Operation and Maintenance Report, November 2014 Thru June 2015, Fire Protection Training Area SVE System, Operation and Maintenance Report, Aug. Thru Oct. 2014, Fire Protection Training Area SDV (OU4) Semi-annual Protective Cap Inspection Reports, conducted July and January SS017 (and OU6) Continued groundwater monitoring Groundwater Monitoring Report, 2015 Annual Event ST035 Continued groundwater monitoring reports. Groundwater Monitoring Report, February 2015 Event, Bldg. 760, ADEQ LUST File No. 0293-09 AND 0293-10, ADEQ Facility ID # 0-005338, Annual 2014 Groundwater Monitoring Report, UST 0-005338 LUST 0293.09 AND .10 Bldg. 760 Site wide and Miscellaneous areas A site wide groundwater monitoring report Perfluorinated Compounds Preliminary Assessment, Former WAFB, Mesa, AZ 2017 The USAF completed several items during this period: LF004 (OU1) Continued site remedy monitoring Continued landfill cover inspections and maintenance Continued annual and period specific groundwater monitoring reports Operating Properly and Successfully Demonstration, for Operable Unit 1, Groundwater and Soil Gas Remedial Action Remedial Action Quarterly Status Report, April Thru June 2016, for Operable Unit 1, Groundwater and Soil Gas Remedies Remedial Action Quarterly Status Report, January Thru March 2016, for Operable Unit 1, Groundwater and Soil Gas Remedies Remedial Action Quarterly Status Report, Oct. Thru Dec. 2015, And 2015 Annual Summary Report, for Operable Unit 1, Groundwater and Soil Gas Remedies Annual Landfill Cap Inspection and Maintenance Report, September and October 2016 Events Parcel N Debris Area (XU403a) (OU1) Continue evaluation for steps forward ST012 (OU2) Continued extraction, containment, and monitoring Annual 2015 Groundwater Monitoring Report Submission of Final Field Variance Memorandum #5A Extraction and Treatment System Construction FT02 (OU3) Remedial Action Completion Report, Fire Protection Training SDV (OU4) Semi-annual Protective Cap Inspection Reports, conducted July and January SS017 (and OU6) Continued groundwater monitoring Groundwater Monitoring Report, 2016 Annual Event ST035 Continued groundwater monitoring Corrective Action Completion Report Under AAC R18-12- 26, ADEQ LUST File No. 0293-09 and 0293-10, ADEQ Facility ID # 0-005338, (Bldg. 760) Annual 2015 Groundwater Monitoring Report, ADEQ LUST File No. 0293-09 and 0293-10, ADEQ Facility ID # 0-005338, (Bldg. 760) Site wide and Miscellaneous areas A site wide groundwater monitoring report Quality Program Plan For Site Inspection of Potential Perfluorinated Compound Release Areas At Multiple Base Realignment and Closure (BRAC) Installations Fourth Five Year Review Report 2018 The USAF completed several items during this period: LF004 (OU1) Continued site remedy monitoring Continued landfill cover inspections and maintenance Continued annual and period specific groundwater monitoring reports Remedial Action Quarterly Status Report, January Thru March 2017, for Operable Unit 1, Groundwater and Soil Gas Remedies Remedial Action Quarterly Status Report, July Through September 2016, for Operable Unit 1, Groundwater and Soil Gas Remedies Annual Landfill Cap Inspection and Maintenance Report, September and October 2017 Events Parcel N Debris Area (XU403a) (OU1)

WILLIAMS AIR FORCE BASE (Continued) **S111026374**

Continue evaluation for steps forward Site Inspection Addendum Letter Report, Chemical Warfare Materiel, and Munitions and Explosives of Concern, Munitions Response Sites XU403A and XU403B ST012 (OU2) Continued extraction, containment, and monitoring Pilot Study Implementation Work Plan For Operable Unit 2, Revised Groundwater Remedy Appendix F & Appendix H - Pilot Study Implementation Work Plan For Operable Unit 2, Revised Groundwater Remedy SVE Systems/Steam Enhanced Extraction System, Operation and Maintenance, 2016 Third Quarter Performance Report SVE Systems/Steam Enhanced Extraction System, Operation and Maintenance, 2016 Second Quarter Performance Report SVE Systems/Steam Enhanced Extraction System, Operation and Maintenance, 2016 First Quarter Performance Report SVE Systems/Steam Enhanced Extraction System, Operation and Maintenance, 2015 Fourth Quarter Performance Report FT02 (OU3) Remedial Action Completion Report, Fire Protection Training Area SDV (OU4) Semi-annual Protective Cap Inspection Reports, conducted July and January SS017 (and OU6) Continued groundwater monitoring ROD For Operable Unit 6 (OU6) Field Variance Memorandum #1 Quarterly Groundwater Monitoring Groundwater Sampling Work Plan for Quarterly Monitoring Groundwater Monitoring Data Summary Report, January 2018 Groundwater Monitoring Data Summary Report, October 2017 ST035 Undergoing post-closure administration Site wide and Miscellaneous areas A site wide groundwater potentiometric surface map Installation Specific Uniform Federal Policy Quality Assurance Project Plan Addendum, Former WAFB, Site Inspection of Potential Perfluorinated Compound Release Areas At Multiple BRAC Installations 2019 The USAF completed several items during this period: LF004 (OU1) Continued site remedy monitoring Continued landfill cover inspections and maintenance Continued annual and period specific groundwater monitoring reports Remedial Action Quarterly Status Report, July Through September 2017, for Operable Unit 1, Groundwater and Soil Gas Remedies Remedial Action Quarterly Status Report, April Through June 2017, for Operable Unit 1, Groundwater and Soil Gas Remedies Remedial Action Quarterly Status Report, January Through March 2017, for Operable Unit 1, Groundwater and Soil Gas Remedies Remedial Action Quarterly Status Report, October Through December 2016, for Operable Unit 1, Groundwater and Soil Gas Remedies Parcel N Debris Area (XU403a) (OU1) Continue evaluation for steps forward Site Inspection Addendum Letter Report, Chemical Warfare Materiel, and Munitions and Explosives of Concern, Munitions Response Sites XU403A and XU403B ST012 (OU2) Continued extraction, containment, and monitoring SVE System and Other Activities, 2017 First and Second Quarter Performance Report SVE System, Operation and Maintenance, 2016 Annual Performance Report, Volume 1 of 2 SVE System, Operation and Maintenance, 2016 Annual Performance Report, Volume 2 of 2 Annual 2016 Groundwater Monitoring Report FT02 (OU3) Revised Final - Remedial Action Completion Report, Fire Protection Training Area SDV (OU4) Semi-annual Protective Cap Inspection Reports, conducted July and January SS017 (and OU6) Continued groundwater monitoring Groundwater Monitoring Data Summary Report, May 2018, Revision 1.0 Revised Final - Groundwater Monitoring Data Summary Report, January 2018 ST035 Post-closure administration Site wide and Miscellaneous areas A site wide groundwater potentiometric surface map 2020 The USAF completed several items during this period: LF004 (OU1) Continued site remedy monitoring Continued landfill cover inspections and maintenance Continued annual and period specific groundwater monitoring reports Annual Landfill Cap Inspection and Maintenance Report, September and October 2018

WILLIAMS AIR FORCE BASE (Continued) **S111026374**

Events Parcel N Debris Area (XU403a) (OU1) Continue evaluation for steps forward ST012 (OU2) Continued extraction, containment, and monitoring FT02 (OU3) Pending Site Closure SDV (OU4) Semi-annual Protective Cap Inspection Reports, conducted July and January SS017 (and OU6) Continued groundwater monitoring SS017 - FINAL Final Field Variance Memorandum #2 Groundwater Monitoring ST035 Technical Memorandum, Post-Closure Activities, ADEQ LUST File No. 0293-09 & 0293-10, ADEQ Facility ID #0-005338 Site wide and Miscellaneous areas A site wide groundwater potentiometric surface map Pages

Community Involvement Activities: The U.S. Air Force (USAF) periodically presents site activity updates via mailed and internet-posted flyers. Please contact USAF representatives to learn about future information updates. Learn more about this Superfund site on the EPA website

Boundaries: The National Priorities List (NPL) site study area essentially mirrors the former Williams Air Force Base (WAFB) footprint located in Mesa, Maricopa County, Arizona, and encompasses approximately 4,043 acres. The general site boundaries are from Ray Road to the north, Ellsworth Road to the east, Pecos Road to the south, and Power Road to the west. Impacted areas vary, but with one known exception, are contained within the former WAFB footprint. An impacted groundwater plume extends less than one-quarter mile southerly beyond the former base boundary, but is still part of the NPL cleanup action. Not reported

AZ NPL Status: Remedial activities continue at the following sub-sites: LF004 Remedial activities include soil vapor extraction (SVE), In-Well Air Stripping (IWAS) and oxidant injection. SVE has been used to remove potentially harmful vapors (TCE and PCE) from the subsurface in the former above ground storage tank (AST) and Southeast Landfill areas. IWAS employs a combination of technologies to remove contaminants from groundwater and unsaturated soils. Air stripping is used within an IWAS well to aerate the groundwater and transfer contaminants from the dissolved phase into the air, where the contaminants are removed by SVE. Oxidant injection directly into groundwater using permanganate has been used in several areas of the site to supplement SVE and IWAS. At the end of 2019, both SVE and IWAS had removed the vast majority of subsurface contaminants and both systems were shut down pending confirmation soil vapor sampling. Periodic oxidant injections continue to address residual contaminants in groundwater and semi-annual groundwater monitoring will continue until all contaminants are consistently below action levels. ST012 ST012 is the location of the former Liquid Fuel Storage Facility where petroleum fuel storage and distribution options were conducted from 1941 until decommissioning in 1991. SVE, Steam-enhanced Extraction (SEE), and Enhanced Bioremediation (EBR) have been employed to remove fuel contaminants from the soil and groundwater. Cleanup goals for shallow soil above a depth of 25 ft bgs were achieved following implantation of SVE treatment from 1994 to 1996. SVE continues to be operated to remove volatile contaminants from soils deeper than 25 ft bgs. SEE uses multi-phase extraction to remove LNAPL, contaminated groundwater and soil vapor from the aquifer. Steam is generated on site using boilers to provide steam to injection wells. Captured LNAPL is separated and recovered to the extent feasible to power steam generation, while contaminated groundwater is treated using onsite air stripping and granular activated carbon before being discharged

WILLIAMS AIR FORCE BASE (Continued) **S111026374**

to the municipal wastewater treatment plant. Soil vapor extracted during SEE is treated by thermal oxidation. SEE was implemented from September 2014 through April 2016. EBR was initiated in November 2018 to promote biological activity among bacteria that feed off of contamination present at the site. Continuing EBR activities include injection of sulfate into the groundwater and groundwater extraction to assist in circulating the sulfate throughout the contaminant plume. Periodic monitoring of groundwater will continue until attainment of all cleanup levels has been documented. Parcel N The U.S. Army Corps of Engineers (USACE) conducted a Site Inspection (SI) to investigate the potential occurrence of munitions and explosives of concern (MEC) and chemical warfare material (CWM) at the 17-acre Parcel N Debris Area 1. The munitions response included digital geophysical mapping (DGM) surveys and intrusive investigations. No MEC of CWM items were identified during the investigation of geophysical anomalies, or during a surface sweep using metal detectors. Additional investigation is necessary in a portion of the site currently covered by approximately 3-5 acres of asphalt, concrete and construction debris. Monitoring and inspections continue at other sub-sites, as required (see Action Taken section on Page 2 for a list of these sub-sites). PFAS impact is undergoing USAF evaluation. The next phase is a Remedial Investigation that is tentatively scheduled for 2023.

SPL:

Program:	CERCLA
Program Status:	ON NPL
Program Status 2:	ACTIVE
Status Date:	29-NOV-89
Status Date 2:	29-NOV-89
State Comment:	Not reported
Former Name:	Not reported
Program 2:	DOD
Lat:	33.30852509
Long:	-111.66051483
Comments:	THE SITE IS BEING ADDRESSED AS AN NPL SITE

NPL **WILLIAMS AIR FORCE BASE** **NPL 1000880901**
Region **WILLIAMS AFB** **SEMS AZ7570028582**
Target **CHANDLER, AZ 85224** **CORRACTS**
Property **RCRA-TSDF**
RCRA-VSQG
US ENG CONTROLS
US INST CONTROLS
ROD
Focus Map: **PRP**
2,3,1 **PFAS NPL**
MANIFEST

NPL:

EPA Region:	9
EPA ID:	AZ7570028582
Site ID:	900890
Name:	WILLIAMS AIR FORCE BASE
Address:	Williams Afb 6001 South Power Road
City,State,Zip:	CHANDLER, AZ 85224
Federal:	Y

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

Final Date: 1989-11-21 00:00:00
Latitude: 33.30695
Longitude: -111.6519
Site Score: 37.93
NAI: Not reported
Native American Entity: Not reported

Substance as of 08/2019:
NPL Status: Currently on the Final NPL
Substance ID: Not reported
CAS Number: Not reported
Substance: Not reported
Pathway: Not reported
Scoring: Not reported

NPL Status: Currently on the Final NPL
Substance ID: A020
CAS Number: Not reported
Substance: CHROMIUM AND COMPOUNDS
Pathway: GROUND WATER PATHWAY
Scoring: 3

NPL Status: Currently on the Final NPL
Substance ID: C049
CAS Number: 100-41-4
Substance: ETHYLBENZENE
Pathway: NO PATHWAY INDICATED
Scoring: 1

NPL Status: Currently on the Final NPL
Substance ID: C178
CAS Number: Not reported
Substance: COPPER AND COMPOUNDS
Pathway: GROUND WATER PATHWAY
Scoring: 3

NPL Status: Currently on the Final NPL
Substance ID: C247
CAS Number: Not reported
Substance: ZINC AND COMPOUNDS
Pathway: NO PATHWAY INDICATED
Scoring: 1

NPL Status: Currently on the Final NPL
Substance ID: D006
CAS Number: 7440-43-9
Substance: CADMIUM (CD)
Pathway: GROUND WATER PATHWAY
Scoring: 4

NPL Status: Currently on the Final NPL
Substance ID: D008
CAS Number: 7439-92-1
Substance: LEAD (PB)
Pathway: GROUND WATER PATHWAY
Scoring: 4

NPL Status: Currently on the Final NPL

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

Substance ID: U019
CAS Number: 71-43-2
Substance: BENZENE
Pathway: NO PATHWAY INDICATED
Scoring: 1

NPL Status: Currently on the Final NPL
Substance ID: U070
CAS Number: 95-50-1
Substance: DICHLOROBENZENE, 1,2-
Pathway: NO PATHWAY INDICATED
Scoring: 1

NPL Status: Currently on the Final NPL
Substance ID: U071
CAS Number: 541-73-1
Substance: DICHLOROBENZENE, 1,3-
Pathway: NO PATHWAY INDICATED
Scoring: 1

NPL Status: Currently on the Final NPL
Substance ID: U072
CAS Number: 106-46-7
Substance: DICHLOROBENZENE, 1,4-
Pathway: NO PATHWAY INDICATED
Scoring: 1

NPL Status: Currently on the Final NPL
Substance ID: U159
CAS Number: 78-93-3
Substance: METHYL ETHYL KETONE
Pathway: NO PATHWAY INDICATED
Scoring: 1

NPL Status: Currently on the Final NPL
Substance ID: U220
CAS Number: 108-88-3
Substance: TOLUENE
Pathway: NO PATHWAY INDICATED
Scoring: 1

NPL Status: Currently on the Final NPL
Substance ID: U239
CAS Number: 1330-20-7
Substance: XYLENE
Pathway: NO PATHWAY INDICATED
Scoring: 1

Summary Details:

Conditions at proposal July 14, 1989): Williams Air Force Base WAFB) covers 4,127 acres approximately 30 miles southeast of Phoenix, Ari ona, in Maricopa County, near Chandler. The base is surrounded by irrigated farmland or desert. Sincethe base was constructed in 1941, it has served as a training facility, primarily pilot training. Industrial activities at WAFB have included heavy maintenance of aircraft and ground equipment in support of pilot training. WAFB is participating in the Installation Restoration Program IRP), established in 1978. Under this program, the Department of

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

Defense seeks to identify, investigate, and clean up contamination from ha ardous materials. As part of IRP, the Air Force has identified a number of potentially contaminated areas, including Fire Protection Training Area No. 2, which covers approximately 8.5 acres near the southern boundary of the base. Prior to 1948, the area was used as a parking apron. From 1948 until the late 1960s, it was an unlined pit where large quantities of the flammable liquid waste generated at WAFB were burned as part of fire training. Any flammable materials remaining infiltrated the soil or evaporated. These materials included waste fuels, oils, lubricants, cleaning solvents, and some paint stripper. Starting in 1983, a concrete liner was installed under the burn pits; however, overflow is still allowed to seep into the ground. In September 1986, an Air Force contractor found lead in soil, and in March 1987 found lead in monitoring wells on the base. The Southwest Drainage System SWDS) has operated since the base was constructed in 1941. It received plating shop rinse water containing chromium, cadmium, and copper; aircraft washing wastes consisting of methyl ethyl ketone, toluene, polyurethane, paint thinners, and sludges; fuel; lubricants; hydraulic fluid; and spills from flight line and maintenance operations. SWDS soil samplestaken inOctober 1984 contained lead, chromium, and cadmium. SWDS drains into a storm water retention pond in the southwest corner of the base. In 1988, the Air Force installed a concrete lining in part of SWDS. WAFB housing is within 100 feetof SWDS. A 34-acre landfill in the southwest corner of the base operated during 1941-76, accepting primarily trash and garbage. However, unknown quantities of ha ardous waste were dumped along with the household wastes. In April 1987, lead and cadmium were detected in monitoring wells, including one between the landfill and SWDS and adjacent to the pond that received SWDS wastes. WAFB has four wells that supply drinking water to an estimated 3,400 employees. One of thewells is 1,500 feet from the contaminated well at the landfill. The Air Force has completed an initial assessment of the base and is developing a workplan for a remedial investigation/feasibility study RI/FS) to determine the type and extent of contamination and identify alternatives for remedial action. Field investigations are underway. Status November 21, 1989): The Air Force is continuing to develop the RI/FS workplan and has installed a few additional monitoringwells.

Category as of 08/2019:

NPL Status:	Currently on the Final NPL
Category Description:	Depth To Aquifer-<= 10 Feet
Category Value:	10
NPL Status:	Currently on the Final NPL
Category Description:	Distance To Nearest Population-> 0 And <= 1/4 Mile
Category Value:	10

Narratives as of 08/2019:

NPL Name:	WILLIAMS AIR FORCE BASE

Site as of 08/2019:

EPA Region:	09
Site ID:	0900890
Site Status:	F
Federal Site:	Y
Date Deleted:	Not reported
Date Finalized:	11/21/89
Date Proposed:	07/14/89

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

Site Status as of 08/2019:
Proposed Date: 07/14/1989
Final Date: 11/21/1989
Deleted Date: Not reported
NPL Status: Final

Narr:
Site Name: Williams Air Force Base
Site EPA ID: AZ7570028582
Listing Date: 11/21/1989
Site Score: 37.93
Federal Facility Indicator: Yes
Site List URL: https://semspub.epa.gov/src/document/09/2400169
Site Progress URL: https://cumulis.epa.gov/supercpad/cursites/csitinfo.cfm?id=0900890
Federal Register URL: https://semspub.epa.gov/src/document/11/189634
Site Location URL: https://epa.maps.arcgis.com/apps/webappviewer/index.html?id=33cebcdfdd1b4c3a8b51d416956c41f1&query=Superfund_National_Priorities_List__NPL__Sites_with_Status_Information_7557,SITE_EPA_ID=%27AZ7570028582%27

SEMS:
Site ID: 0900890
EPA ID: AZ7570028582
Name: WILLIAMS AIR FORCE BASE
Address: WILLIAMS AFB
Address 2: 6001 SOUTH POWER ROAD
City,State,Zip: CHANDLER, AZ 85224
Cong District: 06,5
FIPS Code: 04013
Latitude: +33.306950
Longitude: -111.651900
FF: Y
NPL: Currently on the Final NPL
Non NPL Status: Not reported

SEMS Detail:
Region: 09
Site ID: 0900890
EPA ID: AZ7570028582
Site Name: WILLIAMS AIR FORCE BASE
NPL: F
FF: Y
OU: 00
Action Code: AR
Action Name: ADMIN REC
SEQ: 1
Start Date: 2000-08-10 04:00:00
Finish Date: Not reported
Qual: Not reported
Current Action Lead: EPA Perf

Region: 09
Site ID: 0900890
EPA ID: AZ7570028582
Site Name: WILLIAMS AIR FORCE BASE
NPL: F

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

FF:	Y
OU:	00
Action Code:	LV
Action Name:	FF RV
SEQ:	1
Start Date:	1990-09-21 04:00:00
Finish Date:	1991-05-31 04:00:00
Qual:	C
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0900890
EPA ID:	AZ7570028582
Site Name:	WILLIAMS AIR FORCE BASE
NPL:	F
FF:	Y
OU:	00
Action Code:	LV
Action Name:	FF RV
SEQ:	2
Start Date:	1990-09-21 04:00:00
Finish Date:	1992-12-20 05:00:00
Qual:	S
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0900890
EPA ID:	AZ7570028582
Site Name:	WILLIAMS AIR FORCE BASE
NPL:	F
FF:	Y
OU:	00
Action Code:	LV
Action Name:	FF RV
SEQ:	3
Start Date:	1994-05-10 04:00:00
Finish Date:	1995-07-28 04:00:00
Qual:	C
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0900890
EPA ID:	AZ7570028582
Site Name:	WILLIAMS AIR FORCE BASE
NPL:	F
FF:	Y
OU:	00
Action Code:	HR
Action Name:	HAZRANK
SEQ:	1
Start Date:	1987-06-01 04:00:00
Finish Date:	1987-06-01 04:00:00
Qual:	Not reported
Current Action Lead:	EPA Perf
Region:	09
Site ID:	0900890

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

EPA ID:	AZ7570028582
Site Name:	WILLIAMS AIR FORCE BASE
NPL:	F
FF:	Y
OU:	00
Action Code:	NF
Action Name:	NPL FINL
SEQ:	1
Start Date:	1989-11-21 05:00:00
Finish Date:	1989-11-21 05:00:00
Qual:	Not reported
Current Action Lead:	EPA Perf

Region:	09
Site ID:	0900890
EPA ID:	AZ7570028582
Site Name:	WILLIAMS AIR FORCE BASE
NPL:	F
FF:	Y
OU:	00
Action Code:	NP
Action Name:	PROPOSED
SEQ:	1
Start Date:	1989-07-14 04:00:00
Finish Date:	1989-07-14 04:00:00
Qual:	Not reported
Current Action Lead:	EPA Perf

Region:	09
Site ID:	0900890
EPA ID:	AZ7570028582
Site Name:	WILLIAMS AIR FORCE BASE
NPL:	F
FF:	Y
OU:	00
Action Code:	PA
Action Name:	PA
SEQ:	1
Start Date:	1985-04-01 06:00:00
Finish Date:	1985-05-01 05:00:00
Qual:	L
Current Action Lead:	Fed Fac

Region:	09
Site ID:	0900890
EPA ID:	AZ7570028582
Site Name:	WILLIAMS AIR FORCE BASE
NPL:	F
FF:	Y
OU:	00
Action Code:	DS
Action Name:	DISCVRY
SEQ:	1
Start Date:	1980-08-01 04:00:00
Finish Date:	1980-08-01 04:00:00
Qual:	Not reported
Current Action Lead:	Fed Fac

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

Region:	09
Site ID:	0900890
EPA ID:	AZ7570028582
Site Name:	WILLIAMS AIR FORCE BASE
NPL:	F
FF:	Y
OU:	00
Action Code:	SI
Action Name:	SI
SEQ:	1
Start Date:	1987-06-01 04:00:00
Finish Date:	1987-06-01 04:00:00
Qual:	H
Current Action Lead:	Fed Fac

Region:	09
Site ID:	0900890
EPA ID:	AZ7570028582
Site Name:	WILLIAMS AIR FORCE BASE
NPL:	F
FF:	Y
OU:	00
Action Code:	MA
Action Name:	ST COOP
SEQ:	1
Start Date:	1990-07-24 04:00:00
Finish Date:	Not reported
Qual:	Not reported
Current Action Lead:	Fed Fac

Region:	09
Site ID:	0900890
EPA ID:	AZ7570028582
Site Name:	WILLIAMS AIR FORCE BASE
NPL:	F
FF:	Y
OU:	01
Action Code:	NI
Action Name:	FF FS
SEQ:	2
Start Date:	2009-10-01 04:00:00
Finish Date:	2012-09-29 05:00:00
Qual:	Not reported
Current Action Lead:	Fed Fac

Region:	09
Site ID:	0900890
EPA ID:	AZ7570028582
Site Name:	WILLIAMS AIR FORCE BASE
NPL:	F
FF:	Y
OU:	01
Action Code:	LY
Action Name:	FF RA
SEQ:	2
Start Date:	1995-03-09 05:00:00
Finish Date:	1995-10-06 04:00:00

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

Qual: Not reported
Current Action Lead: Fed Fac

Region: 09
Site ID: 0900890
EPA ID: AZ7570028582
Site Name: WILLIAMS AIR FORCE BASE
NPL: F
FF: Y
OU: 01
Action Code: LY
Action Name: FF RA
SEQ: 3
Start Date: 2014-09-09 05:00:00
Finish Date: Not reported
Qual: Not reported
Current Action Lead: Fed Fac

Region: 09
Site ID: 0900890
EPA ID: AZ7570028582
Site Name: WILLIAMS AIR FORCE BASE
NPL: F
FF: Y
OU: 01
Action Code: LX
Action Name: FF RD
SEQ: 2
Start Date: 1994-07-25 04:00:00
Finish Date: 1995-02-22 05:00:00
Qual: Not reported
Current Action Lead: Fed Fac

Region: 09
Site ID: 0900890
EPA ID: AZ7570028582
Site Name: WILLIAMS AIR FORCE BASE
NPL: F
FF: Y
OU: 01
Action Code: LX
Action Name: FF RD
SEQ: 6
Start Date: 2014-03-03 05:00:00
Finish Date: 2014-10-01 05:00:00
Qual: Not reported
Current Action Lead: Fed Fac

Region: 09
Site ID: 0900890
EPA ID: AZ7570028582
Site Name: WILLIAMS AIR FORCE BASE
NPL: F
FF: Y
OU: 01
Action Code: LV
Action Name: FF RV

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

SEQ:	4
Start Date:	1990-09-21 04:00:00
Finish Date:	1991-05-31 04:00:00
Qual:	C
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0900890
EPA ID:	AZ7570028582
Site Name:	WILLIAMS AIR FORCE BASE
NPL:	F
FF:	Y
OU:	01
Action Code:	LV
Action Name:	FF RV
SEQ:	5
Start Date:	1990-09-21 04:00:00
Finish Date:	1992-12-20 05:00:00
Qual:	C
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0900890
EPA ID:	AZ7570028582
Site Name:	WILLIAMS AIR FORCE BASE
NPL:	F
FF:	Y
OU:	01
Action Code:	LW
Action Name:	FF RI/FS
SEQ:	3
Start Date:	1990-09-21 04:00:00
Finish Date:	1994-05-18 04:00:00
Qual:	Not reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0900890
EPA ID:	AZ7570028582
Site Name:	WILLIAMS AIR FORCE BASE
NPL:	F
FF:	Y
OU:	01
Action Code:	OM
Action Name:	OM
SEQ:	1
Start Date:	1995-10-06 04:00:00
Finish Date:	Not reported
Qual:	Not reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0900890
EPA ID:	AZ7570028582
Site Name:	WILLIAMS AIR FORCE BASE
NPL:	F
FF:	Y

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

OU:	01
Action Code:	RO
Action Name:	ROD
SEQ:	2
Start Date:	1994-05-18 04:00:00
Finish Date:	1994-05-18 04:00:00
Qual:	Not reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0900890
EPA ID:	AZ7570028582
Site Name:	WILLIAMS AIR FORCE BASE
NPL:	F
FF:	Y
OU:	02
Action Code:	NI
Action Name:	FF FS
SEQ:	3
Start Date:	2012-05-31 05:00:00
Finish Date:	2012-12-28 05:00:00
Qual:	Not reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0900890
EPA ID:	AZ7570028582
Site Name:	WILLIAMS AIR FORCE BASE
NPL:	F
FF:	Y
OU:	02
Action Code:	LY
Action Name:	FF RA
SEQ:	1
Start Date:	1992-12-30 05:00:00
Finish Date:	Not reported
Qual:	Not reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0900890
EPA ID:	AZ7570028582
Site Name:	WILLIAMS AIR FORCE BASE
NPL:	F
FF:	Y
OU:	02
Action Code:	LY
Action Name:	FF RA
SEQ:	4
Start Date:	2014-09-29 05:00:00
Finish Date:	Not reported
Qual:	Not reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0900890
EPA ID:	AZ7570028582

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

Site Name:	WILLIAMS AIR FORCE BASE
NPL:	F
FF:	Y
OU:	02
Action Code:	LX
Action Name:	FF RD
SEQ:	1
Start Date:	1992-12-30 05:00:00
Finish Date:	1994-09-16 04:00:00
Qual:	Not reported
Current Action Lead:	Fed Fac

Region:	09
Site ID:	0900890
EPA ID:	AZ7570028582
Site Name:	WILLIAMS AIR FORCE BASE
NPL:	F
FF:	Y
OU:	02
Action Code:	LX
Action Name:	FF RD
SEQ:	7
Start Date:	2013-06-21 05:00:00
Finish Date:	Not reported
Qual:	Not reported
Current Action Lead:	Fed Fac

Region:	09
Site ID:	0900890
EPA ID:	AZ7570028582
Site Name:	WILLIAMS AIR FORCE BASE
NPL:	F
FF:	Y
OU:	02
Action Code:	LW
Action Name:	FF RI/FS
SEQ:	2
Start Date:	1990-09-21 04:00:00
Finish Date:	1992-12-30 05:00:00
Qual:	Not reported
Current Action Lead:	Fed Fac

Region:	09
Site ID:	0900890
EPA ID:	AZ7570028582
Site Name:	WILLIAMS AIR FORCE BASE
NPL:	F
FF:	Y
OU:	02
Action Code:	RO
Action Name:	ROD
SEQ:	1
Start Date:	1992-12-30 05:00:00
Finish Date:	1992-12-30 05:00:00
Qual:	Not reported
Current Action Lead:	Fed Fac

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

Region:	09
Site ID:	0900890
EPA ID:	AZ7570028582
Site Name:	WILLIAMS AIR FORCE BASE
NPL:	F
FF:	Y
OU:	03
Action Code:	LX
Action Name:	FF RD
SEQ:	3
Start Date:	1996-06-18 04:00:00
Finish Date:	2002-09-24 04:00:00
Qual:	Not reported
Current Action Lead:	Fed Fac

Region:	09
Site ID:	0900890
EPA ID:	AZ7570028582
Site Name:	WILLIAMS AIR FORCE BASE
NPL:	F
FF:	Y
OU:	03
Action Code:	LW
Action Name:	FF RI/FS
SEQ:	4
Start Date:	1993-01-19 05:00:00
Finish Date:	1996-06-18 04:00:00
Qual:	Not reported
Current Action Lead:	Fed Fac

Region:	09
Site ID:	0900890
EPA ID:	AZ7570028582
Site Name:	WILLIAMS AIR FORCE BASE
NPL:	F
FF:	Y
OU:	03
Action Code:	RO
Action Name:	ROD
SEQ:	3
Start Date:	1996-06-18 04:00:00
Finish Date:	1996-06-18 04:00:00
Qual:	Not reported
Current Action Lead:	Fed Fac

Region:	09
Site ID:	0900890
EPA ID:	AZ7570028582
Site Name:	WILLIAMS AIR FORCE BASE
NPL:	F
FF:	Y
OU:	04
Action Code:	LW
Action Name:	FF RI/FS
SEQ:	5
Start Date:	1995-07-31 04:00:00
Finish Date:	2000-04-14 04:00:00

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

Qual:	Not reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0900890
EPA ID:	AZ7570028582
Site Name:	WILLIAMS AIR FORCE BASE
NPL:	F
FF:	Y
OU:	04
Action Code:	OM
Action Name:	OM
SEQ:	4
Start Date:	2000-04-14 04:00:00
Finish Date:	Not reported
Qual:	Not reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0900890
EPA ID:	AZ7570028582
Site Name:	WILLIAMS AIR FORCE BASE
NPL:	F
FF:	Y
OU:	04
Action Code:	RO
Action Name:	ROD
SEQ:	5
Start Date:	2000-04-14 04:00:00
Finish Date:	2000-04-14 04:00:00
Qual:	R
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0900890
EPA ID:	AZ7570028582
Site Name:	WILLIAMS AIR FORCE BASE
NPL:	F
FF:	Y
OU:	05
Action Code:	LW
Action Name:	FF RI/FS
SEQ:	1
Start Date:	1993-09-01 04:00:00
Finish Date:	1997-10-14 04:00:00
Qual:	Not reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0900890
EPA ID:	AZ7570028582
Site Name:	WILLIAMS AIR FORCE BASE
NPL:	F
FF:	Y
OU:	05
Action Code:	RO
Action Name:	ROD

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

SEQ:	4
Start Date:	1997-10-14 04:00:00
Finish Date:	1997-10-14 04:00:00
Qual:	Not reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0900890
EPA ID:	AZ7570028582
Site Name:	WILLIAMS AIR FORCE BASE
NPL:	F
FF:	Y
OU:	06
Action Code:	LV
Action Name:	FF RV
SEQ:	6
Start Date:	2000-11-09 05:00:00
Finish Date:	2010-04-30 04:00:00
Qual:	Not reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0900890
EPA ID:	AZ7570028582
Site Name:	WILLIAMS AIR FORCE BASE
NPL:	F
FF:	Y
OU:	06
Action Code:	NH
Action Name:	FF RI
SEQ:	1
Start Date:	1998-01-01 05:00:00
Finish Date:	2018-02-16 05:00:00
Qual:	Not reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0900890
EPA ID:	AZ7570028582
Site Name:	WILLIAMS AIR FORCE BASE
NPL:	F
FF:	Y
OU:	06
Action Code:	NH
Action Name:	FF RI
SEQ:	2
Start Date:	1997-04-01 05:00:00
Finish Date:	1999-02-18 05:00:00
Qual:	Not reported
Current Action Lead:	Fed Fac
Region:	09
Site ID:	0900890
EPA ID:	AZ7570028582
Site Name:	WILLIAMS AIR FORCE BASE
NPL:	F
FF:	Y

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

OU: 06
Action Code: RO
Action Name: ROD
SEQ: 8
Start Date: 2018-02-16 05:00:00
Finish Date: 2018-02-16 05:00:00
Qual: Not reported
Current Action Lead: Fed Fac

CORRACTS:
Name: WILLIAMS AIR FORCE BASE
Address: 7411 E ULYSSES AVE
Address 2: Not reported
EPA ID: AZ7570028582
Area Name: ENTIRE FACILITY
Corrective Action: LEAD AGENCY DETERMINATION
Actual Date: 19850501
Air Release Indicator: Not reported
Groundwater Release Indicator: Not reported
Soil Release Indicator: Not reported
Surface Water Release Indicator: Not reported

Name: WILLIAMS AIR FORCE BASE
Address: 7411 E ULYSSES AVE
Address 2: Not reported
EPA ID: AZ7570028582
Area Name: ENTIRE FACILITY
Corrective Action: RFA COMPLETED-ASSESSMENT WAS A RFA
Actual Date: 19930301
Air Release Indicator: Not reported
Groundwater Release Indicator: Not reported
Soil Release Indicator: Not reported
Surface Water Release Indicator: Not reported

Name: WILLIAMS AIR FORCE BASE
Address: 7411 E ULYSSES AVE
Address 2: Not reported
EPA ID: AZ7570028582
Area Name: ENTIRE FACILITY
Corrective Action: PA OR CERCLA INSPECTION
Actual Date: 19850501
Air Release Indicator: Not reported
Groundwater Release Indicator: Not reported
Soil Release Indicator: Not reported
Surface Water Release Indicator: Not reported

Name: WILLIAMS AIR FORCE BASE
Address: 7411 E ULYSSES AVE
Address 2: Not reported
EPA ID: AZ7570028582
Area Name: ENTIRE FACILITY
Corrective Action: DETERMINATION OF NEED FOR AN INVESTIGATION-INVESTIGATION IS NECESSARY
Actual Date: 19900101
Air Release Indicator: Not reported
Groundwater Release Indicator: Not reported
Soil Release Indicator: Not reported

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

Surface Water Release Indicator: Not reported

Name: WILLIAMS AIR FORCE BASE
Address: 7411 E ULYSSES AVE
Address 2: Not reported
EPA ID: AZ7570028582
Area Name: ENTIRE FACILITY
Corrective Action: PA OR CERCLA INSPECTION
Actual Date: 19870601
Air Release Indicator: Not reported
Groundwater Release Indicator: Not reported
Soil Release Indicator: Not reported
Surface Water Release Indicator: Not reported

Name: WILLIAMS AIR FORCE BASE
Address: 7411 E ULYSSES AVE
Address 2: Not reported
EPA ID: AZ7570028582
Area Name: ENTIRE FACILITY
Corrective Action: INVESTIGATION IMPOSITION
Actual Date: 19900921
Air Release Indicator: Not reported
Groundwater Release Indicator: Not reported
Soil Release Indicator: Not reported
Surface Water Release Indicator: Not reported

Name: WILLIAMS AIR FORCE BASE
Address: 7411 E ULYSSES AVE
Address 2: Not reported
EPA ID: AZ7570028582
Area Name: ENTIRE FACILITY
Corrective Action: CA PRIORITIZATION-HIGH CA PRIORITY
Actual Date: 19930713
Air Release Indicator: Not reported
Groundwater Release Indicator: Not reported
Soil Release Indicator: Not reported
Surface Water Release Indicator: Not reported

Name: WILLIAMS AIR FORCE BASE
Address: 7411 E ULYSSES AVE
Address 2: Not reported
EPA ID: AZ7570028582
Area Name: OU5
Corrective Action: INVESTIGATION COMPLETE
Actual Date: 19980220
Air Release Indicator: Not reported
Groundwater Release Indicator: Not reported
Soil Release Indicator: Y
Surface Water Release Indicator: Not reported

Name: WILLIAMS AIR FORCE BASE
Address: 7411 E ULYSSES AVE
Address 2: Not reported
EPA ID: AZ7570028582
Area Name: ENTIRE FACILITY
Corrective Action: REFERRED TO A NON-RCRA AUTHORITY-REFERRED TO CERCLA
Actual Date: 19960101

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

Air Release Indicator: Not reported
Groundwater Release Indicator: Not reported
Soil Release Indicator: Not reported
Surface Water Release Indicator: Not reported

Name: WILLIAMS AIR FORCE BASE
Address: 7411 E ULYSSES AVE
Address 2: Not reported
EPA ID: AZ7570028582
Area Name: ENTIRE FACILITY
Corrective Action: CMS IMPOSITION
Actual Date: 19900921
Air Release Indicator: Not reported
Groundwater Release Indicator: Not reported
Soil Release Indicator: Not reported
Surface Water Release Indicator: Not reported

Name: WILLIAMS AIR FORCE BASE
Address: 7411 E ULYSSES AVE
Address 2: Not reported
EPA ID: AZ7570028582
Area Name: OU5
Corrective Action: REMEDY DECISION
Actual Date: 19980220
Air Release Indicator: Not reported
Groundwater Release Indicator: Not reported
Soil Release Indicator: Y
Surface Water Release Indicator: Not reported

Click this hyperlink while viewing on your computer to access
2 additional CORRACTS: record(s) in the EDR Site Report.

RCRA TSDF:
Treatment Storage and Disposal Type: Storage
Full Enforcement Universe: Not reported
Corrective Action Workload Universe: No
Permit Renewals Workload Universe: Not reported
Permit Workload Universe: Not reported
Permit Progress Universe: Storage
Post-Closure Workload Universe: Not reported
Closure Workload Universe: Not reported
Operating TSDF Universe: Not reported
Commercial TSD Indicator: No
Active Site Fed-Reg Treatment Storage and Disposal Facility: Not reported
Active Site Converter Treatment storage and Disposal Facility: Not reported
Active Site State-Reg Treatment Storage and Disposal Facility: Not reported
TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe: No
TSDFs Only Subject to CA under Discretionary Auth Universe: No

RCRA Listings:
Date Form Received by Agency: 20190923
Handler Name: Williams Air Force Base
Handler Address: 7411 E Ulysses Ave
Handler City,State,Zip: MESA, AZ 85206
EPA ID: AZ7570028582

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

Contact Name:		MICHELLE LEWIS
Contact Address:		Not reported
Contact City,State,Zip:		Not reported
Contact Telephone:		210-395-8236
Contact Fax:		Not reported
Contact Email:		Not reported
Contact Title:		Not reported
EPA Region:		09
Land Type:		Other
Federal Waste Generator Description:		Conditionally Exempt Small Quantity Generator
Non-Notifier:		Not reported
Biennial Report Cycle:		Not reported
Accessibility:		Not reported
Active Site Indicator:		Handler Activities
State District Owner:		Not reported
State District:		Not reported
Mailing Address:		3411 OLSON ST
Mailing City,State,Zip:		MCCLELLAN, CA 95652
Owner Name:	Not reported	
Owner Type:		Not reported
Operator Name:	Not reported	
Operator Type:		Not reported
Short-Term Generator Activity:		No
Importer Activity:		No
Mixed Waste Generator:		No
Transporter Activity:		No
Transfer Facility Activity:		No
Recycler Activity with Storage:		No
Small Quantity On-Site Burner Exemption:		No
Smelting Melting and Refining Furnace Exemption:		No
Underground Injection Control:		No
Off-Site Waste Receipt:		No
Universal Waste Indicator:		No
Universal Waste Destination Facility:		No
Federal Universal Waste:		No
Active Site State-Reg Handler:		---
Federal Facility Indicator:		Not reported
Hazardous Secondary Material Indicator:		N
Sub-Part K Indicator:		Not reported
2018 GPRA Permit Baseline:		Not on the Baseline
2018 GPRA Renewals Baseline:		Not on the Baseline
202 GPRA Corrective Action Baseline:		No
Subject to Corrective Action Universe:		Yes
Non-TSDFs Where RCRA CA has Been Imposed Universe:		Yes
Corrective Action Priority Ranking:		High
Environmental Control Indicator:		No
Institutional Control Indicator:		No
Human Exposure Controls Indicator:		N/A
Groundwater Controls Indicator:		N/A
Significant Non-Complier Universe:		No
Unaddressed Significant Non-Complier Universe:		No
Addressed Significant Non-Complier Universe:		No
Significant Non-Complier With a Compliance Schedule Universe:		No
Financial Assurance Required:		Not reported
Handler Date of Last Change:		20190926
Recognized Trader-Importer:		No
Recognized Trader-Exporter:		No

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

Importer of Spent Lead Acid Batteries: No
Exporter of Spent Lead Acid Batteries: No
Recycler Activity Without Storage: No
Manifest Broker: No
Sub-Part P Indicator: No

Handler - Owner Operator:
Owner/Operator Indicator: Operator
Owner/Operator Name: MULTIPLE OPS - ALL USAF COMMANDS
Legal Status: Federal
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 822 FTW/DE
Owner/Operator City,State,Zip: CITY NOT REPORTED, AZ 99999
Owner/Operator Telephone: 602-988-2611
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: HQAF BASE DISPOSAL AGENCY
Legal Status: Federal
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 1700 N MOORE ST STE 2300
Owner/Operator City,State,Zip: ARLINGTON, VA 22209-2802
Owner/Operator Telephone: 703-696-5501
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: HQAF BASE DISPOSAL AGENCY
Legal Status: Federal
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 1700 N MOORE ST STE 2300
Owner/Operator City,State,Zip: ARLINGTON, VA 22209-2802
Owner/Operator Telephone: 703-696-5501
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 20080324
Handler Name: WILLIAMS AIR FORCE BASE
Federal Waste Generator Description: Small Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

Electronic Manifest Broker: Not reported

Receive Date: 20070327
Handler Name: WILLIAMS AIR FORCE BASE
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20090223
Handler Name: WILLIAMS AIR FORCE BASE
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20100126
Handler Name: WILLIAMS AIR FORCE BASE
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20190923
Handler Name: WILLIAMS AIR FORCE BASE
Federal Waste Generator Description: Very Small Quantity Generator (formerly Conditionally-Exempt Small Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 19931104
Handler Name: USAF WILLIAMS AFB AFCEE/ ERB

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

Federal Waste Generator Description:	Very Small Quantity Generator (formerly Conditionally-Exempt Small Quantity Generator
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

Receive Date:	19900615
Handler Name:	WILLIAMS AIR FORCE BASE
Federal Waste Generator Description:	Large Quantity Generator
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

Receive Date:	19920301
Handler Name:	WILLIAMS AIR FORCE BASE
Federal Waste Generator Description:	Large Quantity Generator
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

Receive Date:	19940222
Handler Name:	WILLIAMS AIR FORCE BASE
Federal Waste Generator Description:	Large Quantity Generator
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

Receive Date:	19921006
Handler Name:	U S A F WILLIAMS AFB AFCEE/ ERB
Federal Waste Generator Description:	Large Quantity Generator
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

Receive Date:	20050114
Handler Name: AFRDA / DC-WILLIAMS	
Federal Waste Generator Description:	Very Small Quantity Generator (formerly Conditionally-Exempt Small Quantity Generator
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

Receive Date:	20060302
Handler Name: AFRDA / DC-WILLIAMS	
Federal Waste Generator Description:	Not a generator, verified
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

List of NAICS Codes and Descriptions:

NAICS Code:	56291
NAICS Description:	Remediation Services

NAICS Code:	92811
NAICS Description:	National Security

Has the Facility Received Notices of Violations:

Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	TSD - General
Date Violation was Determined:	19960220
Actual Return to Compliance Date:	19960702
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	19960520
Enforcement Identifier:	010
Date of Enforcement Action:	19960423
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	R9STA
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	TSD - General
Date Violation was Determined:	19950324
Actual Return to Compliance Date:	19950822
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	TSD - General
Date Violation was Determined:	19931221
Actual Return to Compliance Date:	19940928
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	19940321
Enforcement Identifier:	009
Date of Enforcement Action:	19931228
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	R9STA
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - General
Date Violation was Determined:	19930325
Actual Return to Compliance Date:	19930826
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	19930625
Enforcement Identifier:	008
Date of Enforcement Action:	19930621
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	R9STA
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19911220
Actual Return to Compliance Date: 19930826
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 007
Date of Enforcement Action: 19921207
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: R9STA
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD - General
Date Violation was Determined: 19910228
Actual Return to Compliance Date: 19920915
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	TSD - General
Date Violation was Determined:	19891109
Actual Return to Compliance Date:	19920915
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	006
Date of Enforcement Action:	19920817
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	R9STA
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD - General
Date Violation was Determined: 19891109
Actual Return to Compliance Date: 19920915
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: 19901226
Enforcement Identifier: 005
Date of Enforcement Action: 19901126
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number:Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: R9STA
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD - General
Date Violation was Determined: 19891109
Actual Return to Compliance Date: 19920915
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: 19901226
Enforcement Identifier: 004
Date of Enforcement Action: 19900306
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: R9STA
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	TSD - General
Date Violation was Determined:	19880524
Actual Return to Compliance Date:	19880524
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	19871020
Enforcement Identifier:	003
Date of Enforcement Action:	19870905
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	R9STA
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	TSD - General
Date Violation was Determined:	19870623
Actual Return to Compliance Date:	19891109
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	19900416
Enforcement Identifier:	004
Date of Enforcement Action:	19900306
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	R9STA
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD - General
Date Violation was Determined: 19870610
Actual Return to Compliance Date: 19880524
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: 19871020
Enforcement Identifier: 002
Date of Enforcement Action: 19870903
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: R9STA
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: EPA
Violation Short Description: LDR - General
Date Violation was Determined: 19870422
Actual Return to Compliance Date: 19880824
Return to Compliance Qualifier: Observed
Violation Responsible Agency: EPA
Scheduled Compliance Date: 19880824
Enforcement Identifier: 001
Date of Enforcement Action: 19880824
Enforcement Responsible Agency: EPA
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	R9EPA
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	EPA
Violation Short Description:	TSD - Closure/Post-Closure
Date Violation was Determined:	19870422
Actual Return to Compliance Date:	19870610
Return to Compliance Qualifier:	Unverifiable
Violation Responsible Agency:	EPA
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: EPA
Violation Short Description: TSD - General
Date Violation was Determined: 19870422
Actual Return to Compliance Date: 19870610
Return to Compliance Qualifier: Unverifiable
Violation Responsible Agency: EPA
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: EPA
Violation Short Description: LDR - General
Date Violation was Determined: 19870422
Actual Return to Compliance Date: 19880824
Return to Compliance Qualifier: Observed
Violation Responsible Agency: EPA
Scheduled Compliance Date: 19880824
Enforcement Identifier: 001
Date of Enforcement Action: 19880824
Enforcement Responsible Agency: EPA
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	R9EPA
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	TSD - General
Date Violation was Determined:	19860515
Actual Return to Compliance Date:	19891109
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	19900416
Enforcement Identifier:	004
Date of Enforcement Action:	19900306
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	R9STA
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	TSD - General
Date Violation was Determined:	19860312
Actual Return to Compliance Date:	19880524
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	19861015
Enforcement Identifier:	001
Date of Enforcement Action:	19860905
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	R9STA
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Evaluation Action Summary:
Evaluation Date: 19961230
Evaluation Responsible Agency: State
Found Violation: No
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier: R9STA
Evaluation Responsible Sub-Organization: Not reported
Actual Return to Compliance Date: Not reported
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 19960220
Evaluation Responsible Agency: State
Found Violation: Yes
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier: R9STA
Evaluation Responsible Sub-Organization: Not reported
Actual Return to Compliance Date: 19960702
Scheduled Compliance Date: 19960520
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 19950324
Evaluation Responsible Agency: State
Found Violation: Yes
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier: R9STA
Evaluation Responsible Sub-Organization: Not reported

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

Actual Return to Compliance Date:	19950822
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19940928
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	NO LONGER A SIGNIFICANT NON-COMPLIER
Evaluation Responsible Person Identifier:	Not reported
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19931221
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	R9STA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19940928
Scheduled Compliance Date:	19940321
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19931221
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	SIGNIFICANT NON-COMPLIER
Evaluation Responsible Person Identifier:	Not reported
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19930713
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	R9STA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

Former Citation:	Not reported
Evaluation Date:	19930325
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	R9STA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19930826
Scheduled Compliance Date:	19930625
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19911220
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	R9STA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19930826
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19910228
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	R9STA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19920915
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19891109
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	R9STA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19920915
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19891109
Evaluation Responsible Agency:	State
Found Violation:	Yes

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	R9STA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19920915
Scheduled Compliance Date:	19901226
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19891109
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	R9STA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19920915
Scheduled Compliance Date:	19901226
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19880824
Evaluation Responsible Agency:	EPA
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	R9STA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19880623
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	R9STA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19880610
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	R9STA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19880524
Scheduled Compliance Date:	19871020

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19870623
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	R9STA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19891109
Scheduled Compliance Date:	19900416
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19870610
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	R9STA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19880524
Scheduled Compliance Date:	19871020
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19870422
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	R9STA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19880824
Scheduled Compliance Date:	19880824
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19870422
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	R9EPA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19870610
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

Evaluation Date:	19870422
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	R9EPA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19870610
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19870422
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	R9STA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19880824
Scheduled Compliance Date:	19880824
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19860515
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	R9STA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19891109
Scheduled Compliance Date:	19900416
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19860312
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	R9STA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19880524
Scheduled Compliance Date:	19861015
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19850515
Evaluation Responsible Agency:	EPA
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	R9EPA

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

SIte:

Name:	WILLIAMS AIR FORCE BASE
Address:	WILLIAMS AFB
Address 2:	Not reported
City,State,Zip:	CHANDLER, AZ 85224
Event Code:	Not reported
Action Taken Date:	08/18/2022
EPA ID:	AZ7570028582
Action Name:	Explanation of Significant Differences
Action ID:	1
Operable Unit:	03
Contaminated Media:	Soil
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	2022
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	+33.306950
Longitude:	-111.651900

Media:

EPA ID:	AZ7570028582
Contaminated Media:	Groundwater
Action ID:	2
Operable Unit:	01
Action Name:	ROD Amendment
Action Taken Date:	05/13/2014
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	2014
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	+33.306950
Longitude:	-111.651900

EPA ID:	AZ7570028582
Contaminated Media:	Soil Gas
Action ID:	2
Operable Unit:	01
Action Name:	ROD Amendment
Action Taken Date:	05/13/2014
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	2014
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	+33.306950
Longitude:	-111.651900

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

EPA ID:	AZ7570028582
Contaminated Media:	Soil
Action ID:	2
Operable Unit:	01
Action Name:	ROD Amendment
Action Taken Date:	05/13/2014
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	2014
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	+33.306950
Longitude:	-111.651900

EPA ID:	AZ7570028582
Contaminated Media:	Groundwater
Action ID:	3
Operable Unit:	02
Action Name:	ROD Amendment
Action Taken Date:	09/28/2013
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	2013
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	+33.306950
Longitude:	-111.651900

EPA ID:	AZ7570028582
Contaminated Media:	Free-phase NAPL
Action ID:	3
Operable Unit:	02
Action Name:	ROD Amendment
Action Taken Date:	09/28/2013
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	2013
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	+33.306950
Longitude:	-111.651900

EPA ID:	AZ7570028582
Contaminated Media:	Groundwater
Action ID:	1
Operable Unit:	02
Action Name:	Record of Decision
Action Taken Date:	12/30/1992

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	1993
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	+33.306950
Longitude:	-111.651900

EPA ID:	AZ7570028582
Contaminated Media:	Soil
Action ID:	8
Operable Unit:	06
Action Name:	Record of Decision
Action Taken Date:	02/16/2018
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	2018
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	+33.306950
Longitude:	-111.651900

EPA ID:	AZ7570028582
Contaminated Media:	Soil
Action ID:	1
Operable Unit:	03
Action Name:	Explanation of Significant Differences
Action Taken Date:	08/18/2022
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	2022
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	+33.306950
Longitude:	-111.651900

EPA ID:	AZ7570028582
Contaminated Media:	Soil
Action ID:	1
Operable Unit:	02
Action Name:	ROD Amendment
Action Taken Date:	08/16/1996
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	1996

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

NPL Status: Currently on the Final NPL
Superfund Alternative Agreement: N
Latitude: +33.306950
Longitude: -111.651900

EPA ID: AZ7570028582
Contaminated Media: Soil
Action ID: 1
Operable Unit: 02
Action Name: ROD Amendment
Action Taken Date: 08/16/1996
Event Code: Not reported
Contact Name: Not reported
Contact Telephone: Not reported
Event: Not reported
Federal Facility: Y
Fiscal Year: 1996
NPL Status: Currently on the Final NPL
Superfund Alternative Agreement: N
Latitude: +33.306950
Longitude: -111.651900

EPA ID: AZ7570028582
Contaminated Media: Soil
Action ID: 1
Operable Unit: 02
Action Name: ROD Amendment
Action Taken Date: 08/16/1996
Event Code: Not reported
Contact Name: Not reported
Contact Telephone: Not reported
Event: Not reported
Federal Facility: Y
Fiscal Year: 1996
NPL Status: Currently on the Final NPL
Superfund Alternative Agreement: N
Latitude: +33.306950
Longitude: -111.651900

EPA ID: AZ7570028582
Contaminated Media: Soil
Action ID: 1
Operable Unit: 02
Action Name: ROD Amendment
Action Taken Date: 08/16/1996
Event Code: Not reported
Contact Name: Not reported
Contact Telephone: Not reported
Event: Not reported
Federal Facility: Y
Fiscal Year: 1996
NPL Status: Currently on the Final NPL
Superfund Alternative Agreement: N
Latitude: +33.306950
Longitude: -111.651900

EPA ID: AZ7570028582

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

Contaminated Media: Soil
Action ID: 1
Operable Unit: 02
Action Name: ROD Amendment
Action Taken Date: 08/16/1996
Event Code: Not reported
Contact Name: Not reported
Contact Telephone: Not reported
Event: Not reported
Federal Facility: Y
Fiscal Year: 1996
NPL Status: Currently on the Final NPL
Superfund Alternative Agreement: N
Latitude: +33.306950
Longitude: -111.651900

EPA ID: AZ7570028582
Contaminated Media: Soil
Action ID: 1
Operable Unit: 02
Action Name: ROD Amendment
Action Taken Date: 08/16/1996
Event Code: Not reported
Contact Name: Not reported
Contact Telephone: Not reported
Event: Not reported
Federal Facility: Y
Fiscal Year: 1996
NPL Status: Currently on the Final NPL
Superfund Alternative Agreement: N
Latitude: +33.306950
Longitude: -111.651900

EPA ID: AZ7570028582
Contaminated Media: Groundwater
Action ID: 2
Operable Unit: 01
Action Name: ROD Amendment
Action Taken Date: 05/13/2014
Event Code: Not reported
Contact Name: Not reported
Contact Telephone: Not reported
Event: Not reported
Federal Facility: Y
Fiscal Year: 2014
NPL Status: Currently on the Final NPL
Superfund Alternative Agreement: N
Latitude: +33.306950
Longitude: -111.651900

EPA ID: AZ7570028582
Contaminated Media: Groundwater
Action ID: 2
Operable Unit: 01
Action Name: ROD Amendment
Action Taken Date: 05/13/2014
Event Code: Not reported

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

Contact Name: Not reported
Contact Telephone: Not reported
Event: Not reported
Federal Facility: Y
Fiscal Year: 2014
NPL Status: Currently on the Final NPL
Superfund Alternative Agreement: N
Latitude: +33.306950
Longitude: -111.651900

EPA ID: AZ7570028582
Contaminated Media: Soil Gas
Action ID: 2
Operable Unit: 01
Action Name: ROD Amendment
Action Taken Date: 05/13/2014
Event Code: Not reported
Contact Name: Not reported
Contact Telephone: Not reported
Event: Not reported
Federal Facility: Y
Fiscal Year: 2014
NPL Status: Currently on the Final NPL
Superfund Alternative Agreement: N
Latitude: +33.306950
Longitude: -111.651900

EPA ID: AZ7570028582
Contaminated Media: Soil
Action ID: 2
Operable Unit: 01
Action Name: ROD Amendment
Action Taken Date: 05/13/2014
Event Code: Not reported
Contact Name: Not reported
Contact Telephone: Not reported
Event: Not reported
Federal Facility: Y
Fiscal Year: 2014
NPL Status: Currently on the Final NPL
Superfund Alternative Agreement: N
Latitude: +33.306950
Longitude: -111.651900

EPA ID: AZ7570028582
Contaminated Media: Groundwater
Action ID: 2
Operable Unit: 01
Action Name: ROD Amendment
Action Taken Date: 05/13/2014
Event Code: Not reported
Contact Name: Not reported
Contact Telephone: Not reported
Event: Not reported
Federal Facility: Y
Fiscal Year: 2014
NPL Status: Currently on the Final NPL

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

Superfund Alternative Agreement: N
Latitude: +33.306950
Longitude: -111.651900

EPA ID: AZ7570028582
Contaminated Media: Groundwater
Action ID: 2
Operable Unit: 01
Action Name: ROD Amendment
Action Taken Date: 05/13/2014
Event Code: Not reported
Contact Name: Not reported
Contact Telephone: Not reported
Event: Not reported
Federal Facility: Y
Fiscal Year: 2014
NPL Status: Currently on the Final NPL
Superfund Alternative Agreement: N
Latitude: +33.306950
Longitude: -111.651900

EPA ID: AZ7570028582
Contaminated Media: Groundwater
Action ID: 3
Operable Unit: 02
Action Name: ROD Amendment
Action Taken Date: 09/28/2013
Event Code: Not reported
Contact Name: Not reported
Contact Telephone: Not reported
Event: Not reported
Federal Facility: Y
Fiscal Year: 2013
NPL Status: Currently on the Final NPL
Superfund Alternative Agreement: N
Latitude: +33.306950
Longitude: -111.651900

EPA ID: AZ7570028582
Contaminated Media: Groundwater
Action ID: 3
Operable Unit: 02
Action Name: ROD Amendment
Action Taken Date: 09/28/2013
Event Code: Not reported
Contact Name: Not reported
Contact Telephone: Not reported
Event: Not reported
Federal Facility: Y
Fiscal Year: 2013
NPL Status: Currently on the Final NPL
Superfund Alternative Agreement: N
Latitude: +33.306950
Longitude: -111.651900

EPA ID: AZ7570028582
Contaminated Media: Groundwater

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

Action ID:	3
Operable Unit:	02
Action Name:	ROD Amendment
Action Taken Date:	09/28/2013
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	2013
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	+33.306950
Longitude:	-111.651900

EPA ID:	AZ7570028582
Contaminated Media:	Free-phase NAPL
Action ID:	3
Operable Unit:	02
Action Name:	ROD Amendment
Action Taken Date:	09/28/2013
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	2013
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	+33.306950
Longitude:	-111.651900

EPA ID:	AZ7570028582
Contaminated Media:	Groundwater
Action ID:	3
Operable Unit:	02
Action Name:	ROD Amendment
Action Taken Date:	09/28/2013
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	2013
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	+33.306950
Longitude:	-111.651900

EPA ID:	AZ7570028582
Contaminated Media:	Free-phase NAPL
Action ID:	3
Operable Unit:	02
Action Name:	ROD Amendment
Action Taken Date:	09/28/2013
Event Code:	Not reported
Contact Name:	Not reported

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

Contact Telephone: Not reported
Event: Not reported
Federal Facility: Y
Fiscal Year: 2013
NPL Status: Currently on the Final NPL
Superfund Alternative Agreement: N
Latitude: +33.306950
Longitude: -111.651900

EPA ID: AZ7570028582
Contaminated Media: Groundwater
Action ID: 3
Operable Unit: 02
Action Name: ROD Amendment
Action Taken Date: 09/28/2013
Event Code: Not reported
Contact Name: Not reported
Contact Telephone: Not reported
Event: Not reported
Federal Facility: Y
Fiscal Year: 2013
NPL Status: Currently on the Final NPL
Superfund Alternative Agreement: N
Latitude: +33.306950
Longitude: -111.651900

EPA ID: AZ7570028582
Contaminated Media: Groundwater
Action ID: 1
Operable Unit: 02
Action Name: Record of Decision
Action Taken Date: 12/30/1992
Event Code: Not reported
Contact Name: Not reported
Contact Telephone: Not reported
Event: Not reported
Federal Facility: Y
Fiscal Year: 1993
NPL Status: Currently on the Final NPL
Superfund Alternative Agreement: N
Latitude: +33.306950
Longitude: -111.651900

EPA ID: AZ7570028582
Contaminated Media: Soil
Action ID: 1
Operable Unit: 02
Action Name: Record of Decision
Action Taken Date: 12/30/1992
Event Code: Not reported
Contact Name: Not reported
Contact Telephone: Not reported
Event: Not reported
Federal Facility: Y
Fiscal Year: 1993
NPL Status: Currently on the Final NPL
Superfund Alternative Agreement: N

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

Latitude:	+33.306950
Longitude:	-111.651900
EPA ID:	AZ7570028582
Contaminated Media:	Groundwater
Action ID:	1
Operable Unit:	02
Action Name:	Record of Decision
Action Taken Date:	12/30/1992
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	1993
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	+33.306950
Longitude:	-111.651900
EPA ID:	AZ7570028582
Contaminated Media:	Groundwater
Action ID:	1
Operable Unit:	02
Action Name:	Record of Decision
Action Taken Date:	12/30/1992
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	1993
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	+33.306950
Longitude:	-111.651900
EPA ID:	AZ7570028582
Contaminated Media:	Groundwater
Action ID:	1
Operable Unit:	02
Action Name:	Record of Decision
Action Taken Date:	12/30/1992
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	1993
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	+33.306950
Longitude:	-111.651900
EPA ID:	AZ7570028582
Contaminated Media:	Groundwater
Action ID:	1

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

Operable Unit: 02
Action Name: Record of Decision
Action Taken Date: 12/30/1992
Event Code: Not reported
Contact Name: Not reported
Contact Telephone: Not reported
Event: Not reported
Federal Facility: Y
Fiscal Year: 1993
NPL Status: Currently on the Final NPL
Superfund Alternative Agreement: N
Latitude: +33.306950
Longitude: -111.651900

EPA ID: AZ7570028582
Contaminated Media: Free-phase NAPL
Action ID: 1
Operable Unit: 02
Action Name: Record of Decision
Action Taken Date: 12/30/1992
Event Code: Not reported
Contact Name: Not reported
Contact Telephone: Not reported
Event: Not reported
Federal Facility: Y
Fiscal Year: 1993
NPL Status: Currently on the Final NPL
Superfund Alternative Agreement: N
Latitude: +33.306950
Longitude: -111.651900

EPA ID: AZ7570028582
Contaminated Media: Soil
Action ID: 8
Operable Unit: 06
Action Name: Record of Decision
Action Taken Date: 02/16/2018
Event Code: Not reported
Contact Name: Not reported
Contact Telephone: Not reported
Event: Not reported
Federal Facility: Y
Fiscal Year: 2018
NPL Status: Currently on the Final NPL
Superfund Alternative Agreement: N
Latitude: +33.306950
Longitude: -111.651900

EPA ID: AZ7570028582
Contaminated Media: Groundwater
Action ID: 1
Operable Unit: 02
Action Name: Record of Decision
Action Taken Date: 12/30/1992
Event Code: Not reported
Contact Name: Not reported
Contact Telephone: Not reported

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

Event:	Not reported
Federal Facility:	Y
Fiscal Year:	1993
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	+33.306950
Longitude:	-111.651900

EPA ID:	AZ7570028582
Contaminated Media:	Groundwater
Action ID:	1
Operable Unit:	02
Action Name:	Record of Decision
Action Taken Date:	12/30/1992
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	1993
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	+33.306950
Longitude:	-111.651900

EPA ID:	AZ7570028582
Contaminated Media:	Groundwater
Action ID:	1
Operable Unit:	02
Action Name:	Record of Decision
Action Taken Date:	12/30/1992
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	1993
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	+33.306950
Longitude:	-111.651900

EPA ID:	AZ7570028582
Contaminated Media:	Free-phase NAPL
Action ID:	1
Operable Unit:	02
Action Name:	Record of Decision
Action Taken Date:	12/30/1992
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	1993
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	+33.306950

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

Longitude:	-111.651900
EPA ID:	AZ7570028582
Contaminated Media:	Soil
Action ID:	1
Operable Unit:	02
Action Name:	Record of Decision
Action Taken Date:	12/30/1992
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	1993
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	+33.306950
Longitude:	-111.651900
EPA ID:	AZ7570028582
Contaminated Media:	Groundwater
Action ID:	1
Operable Unit:	02
Action Name:	Record of Decision
Action Taken Date:	12/30/1992
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	1993
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	+33.306950
Longitude:	-111.651900
EPA ID:	AZ7570028582
Contaminated Media:	Soil
Action ID:	1
Operable Unit:	02
Action Name:	Record of Decision
Action Taken Date:	12/30/1992
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	1993
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	+33.306950
Longitude:	-111.651900
EPA ID:	AZ7570028582
Contaminated Media:	Groundwater
Action ID:	1
Operable Unit:	02

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

Action Name:	Record of Decision
Action Taken Date:	12/30/1992
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	1993
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	+33.306950
Longitude:	-111.651900

EPA ID:	AZ7570028582
Contaminated Media:	Free-phase NAPL
Action ID:	1
Operable Unit:	02
Action Name:	Record of Decision
Action Taken Date:	12/30/1992
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	1993
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	+33.306950
Longitude:	-111.651900

EPA ID:	AZ7570028582
Contaminated Media:	Groundwater
Action ID:	1
Operable Unit:	02
Action Name:	Record of Decision
Action Taken Date:	12/30/1992
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	1993
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	+33.306950
Longitude:	-111.651900

EPA ID:	AZ7570028582
Contaminated Media:	Soil
Action ID:	1
Operable Unit:	02
Action Name:	Record of Decision
Action Taken Date:	12/30/1992
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

Federal Facility:	Y
Fiscal Year:	1993
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	+33.306950
Longitude:	-111.651900

EPA ID:	AZ7570028582
Contaminated Media:	Soil
Action ID:	2
Operable Unit:	01
Action Name:	Record of Decision
Action Taken Date:	05/18/1994
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	1994
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	+33.306950
Longitude:	-111.651900

EPA ID:	AZ7570028582
Contaminated Media:	Soil
Action ID:	2
Operable Unit:	01
Action Name:	Record of Decision
Action Taken Date:	05/18/1994
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	1994
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	+33.306950
Longitude:	-111.651900

EPA ID:	AZ7570028582
Contaminated Media:	Soil
Action ID:	3
Operable Unit:	03
Action Name:	Record of Decision
Action Taken Date:	06/18/1996
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	1996
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	+33.306950
Longitude:	-111.651900

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

EPA ID:	AZ7570028582
Contaminated Media:	Soil
Action ID:	3
Operable Unit:	03
Action Name:	Record of Decision
Action Taken Date:	06/18/1996
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	1996
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	+33.306950
Longitude:	-111.651900

EPA ID:	AZ7570028582
Contaminated Media:	Soil
Action ID:	4
Operable Unit:	05
Action Name:	Record of Decision
Action Taken Date:	10/14/1997
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	1998
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	+33.306950
Longitude:	-111.651900

EPA ID:	AZ7570028582
Contaminated Media:	Soil
Action ID:	4
Operable Unit:	05
Action Name:	Record of Decision
Action Taken Date:	10/14/1997
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	1998
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	+33.306950
Longitude:	-111.651900

EPA ID:	AZ7570028582
Contaminated Media:	Soil
Action ID:	5
Operable Unit:	04
Action Name:	Record of Decision
Action Taken Date:	04/14/2000

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	2000
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	+33.306950
Longitude:	-111.651900

EPA ID:	AZ7570028582
Contaminated Media:	Soil
Action ID:	5
Operable Unit:	04
Action Name:	Record of Decision
Action Taken Date:	04/14/2000
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	2000
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	+33.306950
Longitude:	-111.651900

US INST CONTROLS:

Name:	WILLIAMS AIR FORCE BASE
Address:	WILLIAMS AFB
Address 2:	Not reported
City,State,Zip:	CHANDLER, AZ 85224
EPA ID:	AZ7570028582
Action Name:	Explanation of Significant Differences
Action ID:	1
Operable Unit:	03
Actual Date:	08/18/2022
Contaminated Media:	Soil
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	2022
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	+33.306950
Longitude:	-111.651900

Name:	WILLIAMS AIR FORCE BASE
Address:	WILLIAMS AFB
Address 2:	Not reported
City,State,Zip:	CHANDLER, AZ 85224
EPA ID:	AZ7570028582
Action Name:	ROD Amendment

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

Action ID:	2
Operable Unit:	01
Actual Date:	05/13/2014
Contaminated Media:	Groundwater
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	2014
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	+33.306950
Longitude:	-111.651900

Name:	WILLIAMS AIR FORCE BASE
Address:	WILLIAMS AFB
Address 2:	Not reported
City,State,Zip:	CHANDLER, AZ 85224
EPA ID:	AZ7570028582
Action Name:	ROD Amendment
Action ID:	2
Operable Unit:	01
Actual Date:	05/13/2014
Contaminated Media:	Soil Gas
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	2014
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	+33.306950
Longitude:	-111.651900

Name:	WILLIAMS AIR FORCE BASE
Address:	WILLIAMS AFB
Address 2:	Not reported
City,State,Zip:	CHANDLER, AZ 85224
EPA ID:	AZ7570028582
Action Name:	Record of Decision
Action ID:	1
Operable Unit:	02
Actual Date:	12/30/1992
Contaminated Media:	Soil
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	1993
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	+33.306950
Longitude:	-111.651900

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

Name:	WILLIAMS AIR FORCE BASE
Address:	WILLIAMS AFB
Address 2:	Not reported
City,State,Zip:	CHANDLER, AZ 85224
EPA ID:	AZ7570028582
Action Name:	Record of Decision
Action ID:	1
Operable Unit:	02
Actual Date:	12/30/1992
Contaminated Media:	Groundwater
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	1993
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	+33.306950
Longitude:	-111.651900

Name:	WILLIAMS AIR FORCE BASE
Address:	WILLIAMS AFB
Address 2:	Not reported
City,State,Zip:	CHANDLER, AZ 85224
EPA ID:	AZ7570028582
Action Name:	Record of Decision
Action ID:	2
Operable Unit:	01
Actual Date:	05/18/1994
Contaminated Media:	Soil
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	1994
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	+33.306950
Longitude:	-111.651900

Name:	WILLIAMS AIR FORCE BASE
Address:	WILLIAMS AFB
Address 2:	Not reported
City,State,Zip:	CHANDLER, AZ 85224
EPA ID:	AZ7570028582
Action Name:	Record of Decision
Action ID:	5
Operable Unit:	04
Actual Date:	04/14/2000
Contaminated Media:	Soil
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

Fiscal Year:	2000
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	+33.306950
Longitude:	-111.651900

Name:	WILLIAMS AIR FORCE BASE
Address:	WILLIAMS AFB
Address 2:	Not reported
City,State,Zip:	CHANDLER, AZ 85224
EPA ID:	AZ7570028582
Action Name:	Record of Decision
Action ID:	8
Operable Unit:	06
Actual Date:	02/16/2018
Contaminated Media:	Soil
Event Code:	Not reported
Contact Name:	Not reported
Contact Telephone:	Not reported
Event:	Not reported
Federal Facility:	Y
Fiscal Year:	2018
NPL Status:	Currently on the Final NPL
Superfund Alternative Agreement:	N
Latitude:	+33.306950
Longitude:	-111.651900

ROD:

Name:	WILLIAMS AIR FORCE BASE
Address:	Williams Afb 6001 South Power Road
City,State,Zip:	CHANDLER, AZ 85224
EPA ID:	AZ7570028582
RG:	9
Site ID:	900890
Action:	FF ROD
Operable Unit Number:	OU06
SEQ ID:	8
Action Completion:	2018-02-16 00:00:00
NPL Status:	Final
Non NPL Status:	Not reported

Name:	WILLIAMS AIR FORCE BASE
Address:	Williams Afb 6001 South Power Road
City,State,Zip:	CHANDLER, AZ 85224
EPA ID:	AZ7570028582
RG:	9
Site ID:	900890
Action:	FF ROD (RCRA Statement of Basis/RTC)
Operable Unit Number:	OU02
SEQ ID:	1
Action Completion:	1992-12-30 00:00:00
NPL Status:	Final
Non NPL Status:	Not reported

Name:	WILLIAMS AIR FORCE BASE
Address:	Williams Afb 6001 South Power Road
City,State,Zip:	CHANDLER, AZ 85224

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

EPA ID: AZ7570028582
RG: 9
Site ID: 900890
Action: FF ROD (RCRA Statement of Basis/RTC)
Operable Unit Number: OVERALL SITE + LAND FILL LF004
SEQ ID: 2
Action Completion: 1994-05-18 00:00:00
NPL Status: Final
Non NPL Status: Not reported

Name: WILLIAMS AIR FORCE BASE
Address: Williams Afb 6001 South Power Road
City,State,Zip: CHANDLER, AZ 85224
EPA ID: AZ7570028582
RG: 9
Site ID: 900890
Action: FF ROD (RCRA Statement of Basis/RTC)
Operable Unit Number: OU03
SEQ ID: 3
Action Completion: 1996-06-18 00:00:00
NPL Status: Final
Non NPL Status: Not reported

Name: WILLIAMS AIR FORCE BASE
Address: Williams Afb 6001 South Power Road
City,State,Zip: CHANDLER, AZ 85224
EPA ID: AZ7570028582
RG: 9
Site ID: 900890
Action: FF ROD (RCRA Statement of Basis/RTC)
Operable Unit Number: OU05
SEQ ID: 4
Action Completion: 1997-10-14 00:00:00
NPL Status: Final
Non NPL Status: Not reported

Name: WILLIAMS AIR FORCE BASE
Address: Williams Afb 6001 South Power Road
City,State,Zip: CHANDLER, AZ 85224
EPA ID: AZ7570028582
RG: 9
Site ID: 900890
Action: FF ROD (RCRA Statement of Basis/RTC)
Operable Unit Number: OU04
SEQ ID: 5
Action Completion: 2000-04-14 00:00:00
NPL Status: Final
Non NPL Status: Not reported

Name: WILLIAMS AIR FORCE BASE
Address: Williams Afb 6001 South Power Road
City,State,Zip: CHANDLER, AZ 85224
EPA ID: AZ7570028582
RG: 9
Site ID: 900890
Action: FF ROD Amendment
Operable Unit Number: OU02

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

SEQ ID: 1
Action Completion: 1996-08-16 00:00:00
NPL Status: Final
Non NPL Status: Not reported

Name: WILLIAMS AIR FORCE BASE
Address: Williams Afb 6001 South Power Road
City,State,Zip: CHANDLER, AZ 85224
EPA ID: AZ7570028582
RG: 9
Site ID: 900890
Action: FF ROD Amendment
Operable Unit Number: OVERALL SITE + LAND FILL LF004
SEQ ID: 2
Action Completion: 2014-05-13 00:00:00
NPL Status: Final
Non NPL Status: Not reported

Name: WILLIAMS AIR FORCE BASE
Address: Williams Afb 6001 South Power Road
City,State,Zip: CHANDLER, AZ 85224
EPA ID: AZ7570028582
RG: 9
Site ID: 900890
Action: FF ROD Amendment
Operable Unit Number: OU02
SEQ ID: 3
Action Completion: 2013-09-28 00:00:00
NPL Status: Final
Non NPL Status: Not reported

PRP:
PRP Name: STATE OF ARIZONA/DEPT. OF ENVIRONMENTAL QUALITY
STATE OF ARIZONA/DEPT. OF WATER QUALITY
STATE OF ARIZONA/OFFICE OF THE ATTORNEY GENERAL
U.S. AIR FORCE
U.S. AIR FORCE
U.S. AIR FORCE
U.S. EPA

PFAS NPL:
EPA Region: 09
Name: WILLIAMS AIR FORCE BASE
Address: WILLIAMS AFB
City,State,Zip: CHANDLER, AZ 85224
EPAID: AZ7570028582
Superfund Link: https://www.epa.gov/superfund/williamsafb
Data Systems: SEMS
Location Type: Not reported
NPL Site: Yes
NPL Status: Final
Media Detected: Not reported
Latitude: 33.30695
Longitude: -111.6519

AZ MANIFEST:
Name: AIR FORCE REAL PROPERTY AGENCY

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

Address:	7411 E ULYSSES AVE
City,State,Zip:	MESA, AZ 85206
Report Year:	2011
EPA Id:	AZ7570028582
Business Type:	Not reported
Mailing Address:	Not reported
Mailing State:	Not reported
Contact Name:	Not reported
Contact Phone:	Not reported
Management Methods:	H040
Date Generator Signed The Manifest:	Not reported
Transporter EPA Id Number:	Not reported
Date Transporter Signed The Manifest:	Not reported
TSD EPA Id Number:	Not reported
Volume:	Not reported
Date TSD Signed Manifest:	Not reported
DOT Id Number:	UN1992
Quantity:	166.6
Waste Code 1:	D001
Waste Code 2:	D007
Waste Code 3:	U031
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Waste Code 7:	Not reported
Waste Code 8:	Not reported
Waste Code 10:	Not reported
Waste Code 9:	Not reported
Waste Code 11:	Not reported
Waste Code 12:	Not reported
Waste Code 13:	Not reported

Name:	AFRPA/DC - WILLIAMS
Address:	82 ABG DEEV WILLIAMS AFB
City,State,Zip:	WILLIAMS AFB, AZ
Report Year:	Not reported
EPA Id:	AZ7570028582
Business Type:	F
Mailing Address:	143 BILLY MITCHELL BLVD #1
Mailing State:	TX
Contact Name:	ANTHONY MORRISS
Contact Phone:	(210) 925-3050
Management Methods:	Not reported
Date Generator Signed The Manifest:	11/03/2004
Transporter EPA Id Number:	AZ0000303032
Date Transporter Signed The Manifest:	11/05/2004
TSD EPA Id Number:	ARD069748192
Volume:	P
Date TSD Signed Manifest:	/ /
DOT Id Number:	UN1993
Quantity:	32.00
Waste Code 1:	D001
Waste Code 2:	D035
Waste Code 3:	Not reported
Waste Code 4:	D040
Waste Code 5:	Not reported
Waste Code 6:	Not reported

WILLIAMS AIR FORCE BASE (Continued) **1000880901**

Waste Code 7:	Not reported
Waste Code 8:	Not reported
Waste Code 10:	Not reported
Waste Code 9:	Not reported
Waste Code 11:	Not reported
Waste Code 12:	Not reported
Waste Code 13:	Not reported

---

1 **CMC STEEL ARIZONA AND CMC REBAR ARIZONA OUTFALL PE** **EMAP** **S122977179**
Target Property **, AZ** **N/A**

Actual: 1441 ft.
Focus Map: 5

EMAP:

Name:	CMC STEEL ARIZONA AND CMC REBAR ARIZONA OUTFALL PECOS ROAD
Address:	Not reported
City,State,Zip:	AZ
ID Number:	180286
Township:	Not reported
Range:	Not reported
Section:	Not reported
Quarter 1:	Not reported
Quarter 2:	Not reported
Quarter 3:	Not reported
Latitude:	33.29163100
Longitude:	-111.587799
Collection Method:	PROVIDED BY OWNER/OPERATOR
Place Type:	STORMWATER DISCHARGE POINT
Place Type Code:	RO
Place C Code:	REGULATED OBJECTS
Facility Status:	NOT ACTIVE
End Date:	02/28/2020
Verified:	Y

---

2 **OUTFALL NW CORNER ON PECOS ROAD** **EMAP** **S125989057**
Target Property **, AZ** **N/A**

Actual: 1437 ft.
Focus Map: 5

EMAP:

Name:	OUTFALL NW CORNER ON PECOS ROAD
Address:	Not reported
City,State,Zip:	AZ
ID Number:	198670
Township:	Not reported
Range:	Not reported
Section:	Not reported
Quarter 1:	Not reported
Quarter 2:	Not reported
Quarter 3:	Not reported
Latitude:	33.29139700
Longitude:	-111.589708
Collection Method:	PROVIDED BY OWNER/OPERATOR
Place Type:	STORMWATER DISCHARGE POINT
Place Type Code:	RO
Place C Code:	REGULATED OBJECTS
Facility Status:	ACTIVE
End Date:	Not reported

OUTFALL NW CORNER ON PECOS ROAD (Continued) **S125989057**

Verified: Y

A3 **KOMATSU SERVICE AND MAINTENANCE FACILITY OUTFALL O** **EMAP** **S132771295**
Target Property **, AZ** **N/A**

Site 1 of 2 in cluster A

Actual: 1409 ft.
Focus Map: 4

EMAP:

Name:	KOMATSU SERVICE AND MAINTENANCE FACILITY OUTFALL OUTFALL 2
Address:	Not reported
City,State,Zip:	AZ
ID Number:	250184
Township:	Not reported
Range:	Not reported
Section:	Not reported
Quarter 1:	Not reported
Quarter 2:	Not reported
Quarter 3:	Not reported
Latitude:	33.28915100
Longitude:	-111.618094
Collection Method:	PROVIDED BY OWNER/OPERATOR
Place Type:	STORMWATER DISCHARGE POINT
Place Type Code:	RO
Place C Code:	REGULATED OBJECTS
Facility Status:	ACTIVE
End Date:	Not reported
Verified:	Y

A4 **OUTFALL OUTFALL 2** **EMAP** **S133242347**
Target Property **, AZ** **N/A**

Site 2 of 2 in cluster A

Actual: 1409 ft.
Focus Map: 4

EMAP:

Name:	OUTFALL OUTFALL 2
Address:	Not reported
City,State,Zip:	AZ
ID Number:	252556
Township:	Not reported
Range:	Not reported
Section:	Not reported
Quarter 1:	Not reported
Quarter 2:	Not reported
Quarter 3:	Not reported
Latitude:	33.28915100
Longitude:	-111.618094
Collection Method:	PROVIDED BY OWNER/OPERATOR
Place Type:	STORMWATER DISCHARGE POINT
Place Type Code:	RO
Place C Code:	REGULATED OBJECTS
Facility Status:	ACTIVE
End Date:	Not reported
Verified:	N

5 **PECOS POINT INDUSTRIAL PARK OUTFALL SOSSAMAN ROAD** **EMAP** **S132769527**
Target Property **, AZ** **N/A**

Actual: 1354 ft.
Focus Map: 2

EMAP:

Name:	PECOS POINT INDUSTRIAL PARK OUTFALL SOSSAMAN ROAD
Address:	Not reported
City,State,Zip:	AZ
ID Number:	247611
Township:	Not reported
Range:	Not reported
Section:	Not reported
Quarter 1:	Not reported
Quarter 2:	Not reported
Quarter 3:	Not reported
Latitude:	33.28769000
Longitude:	-111.669282
Collection Method:	PROVIDED BY OWNER/OPERATOR
Place Type:	STORMWATER DISCHARGE POINT
Place Type Code:	RO
Place C Code:	REGULATED OBJECTS
Facility Status:	ACTIVE
End Date:	Not reported
Verified:	Y

B6 **PENSKE LOGISTICS** **EMAP** **S132767938**
Target Property **7111 S CRISMON RD** **N/A**
MESA, AZ 85212

Site 1 of 2 in cluster B

Actual: 1412 ft.
Focus Map: 9

EMAP:

Name:	PENSKE LOGISTICS
Address:	7111 S CRISMON RD
City,State,Zip:	MESA, AZ 85212
ID Number:	223652
Township:	2
Range:	7
Section:	2
Quarter 1:	b
Quarter 2:	c
Quarter 3:	c
Latitude:	33.28583800
Longitude:	-111.615825
Collection Method:	PROVIDED BY OWNER/OPERATOR
Place Type:	TRUCKING COMPANY
Place Type Code:	PP
Place C Code:	PHYSICAL PROPERTIES
Facility Status:	ACTIVE
End Date:	Not reported
Verified:	Y

B7 **LOWE'S PRO SUPPLY #4545** **EMAP** **S132769369**
Target **7111 S CRISMON RD** **N/A**
Property **MESA, AZ 85212**

Site 2 of 2 in cluster B

Actual: **1412 ft.**
Focus Map: **9**

EMAP:

Name:	LOWE'S PRO SUPPLY #4545
Address:	7111 S CRISMON RD
City,State,Zip:	MESA, AZ 85212
ID Number:	247428
Township:	2
Range:	7
Section:	2
Quarter 1:	b
Quarter 2:	c
Quarter 3:	b
Latitude:	33.28685000
Longitude:	-111.615929
Collection Method:	PROVIDED BY OWNER/OPERATOR
Place Type:	WAREHOUSE
Place Type Code:	PP
Place C Code:	PHYSICAL PROPERTIES
Facility Status:	ACTIVE
End Date:	Not reported
Verified:	Y

C8 **THE CUBES AT MESA GATEWAY INFRASTRUCTURE** **EMAP** **S128570152**
Target **N/A**
Property **MESA, AZ 85212**

Site 1 of 3 in cluster C

Actual: **1410 ft.**
Focus Map: **9**

EMAP:

Name:	THE CUBES AT MESA GATEWAY INFRASTRUCTURE
Address:	Not reported
City,State,Zip:	MESA, AZ 85212
ID Number:	222932
Township:	2
Range:	7
Section:	2
Quarter 1:	b
Quarter 2:	c
Quarter 3:	c
Latitude:	33.28589000
Longitude:	-111.616916
Collection Method:	PROVIDED BY OWNER/OPERATOR
Place Type:	ROAD CONSTRUCTION PROJECT
Place Type Code:	PP
Place C Code:	PHYSICAL PROPERTIES
Facility Status:	ACTIVE
End Date:	Not reported
Verified:	Y

C9 **SPDES** **S132584770**
Target **N/A**
Property **MARICOPA (County), AZ**

Site 2 of 3 in cluster C

Actual: NPDES:
1410 ft.

Name:	Not reported
Address:	Not reported
City,State,Zip:	AZ
AZNPDES Number:	AZCN94971
Application Type:	Not reported
Receive Date:	6/20/2022
Approved Date:	Not reported
Term Void Date:	Not reported
Application Status:	Not reported
Site Phone:	Not reported
Contact Name:	Not reported
Operator Business Name:	Clayco Inc.
Operator Address:	2199 INNERBELT BUSINESS CENTER DRIV
Operator Phone:	(314) 592-2204
Operator Fax:	Not reported
Operator County:	Not reported
Type of Project:	Commercial
Part of Larger Plan:	Not reported
Total Project Size:	146.00
Size of Operation:	Not reported
Site Direction:	Not reported
Start Date:	4/11/2022
End Date:	3/1/2023
Date Applied:	6/20/2022
Date Submit:	6/20/2022
Non Stormwater Discharges:	Not reported
Closest Receiving Water:	Not reported
MS4 Potential:	Not reported
MS4 Owner:	Not reported
SWPPP Location:	Not reported
SWPPP Contact Name:	Cam Buchanan
SWPPP Contact Phone:	3149108429
SWPPP Contact Email:	buchananc@claycorp.com
Within Quarter Mile:	Not reported
Within Half Mile:	Not reported
Signer Name:	Not reported
Signer Business Name:	Not reported
Signer Address:	Not reported
Signer Phone:	Not reported
Latitude:	33.28589
Longitude:	-111.616916

Focus Map: **9**

C10 **THE CUBES AT MESA GATEWAY INFRASTRUCTURE** **SPDES** **S131501101**
Target **N/A**
Property **MARICOPA (County), AZ**

Site 3 of 3 in cluster C

Actual: NPDES:
1410 ft.

Name:	THE CUBES AT MESA GATEWAY INFRASTRUCTURE
Address:	Not reported
City,State,Zip:	AZ
AZNPDES Number:	93131

Focus Map: **9**

THE CUBES AT MESA GATEWAY INFRASTRUCTURE (Continued) **S131501101**

Application Type:	CGPD
Receive Date:	2022-02-11
Approved Date:	Not reported
Term Void Date:	Not reported
Application Status:	Not reported
Site Phone:	Not reported
Contact Name:	Bryan Zehnder
Operator Business Name:	Clayco Inc.
Operator Address:	2199 INNERBELT BUSINESS CENTER DRIV, ST LOUIS MO 63114
Operator Phone:	(314) 592-2204
Operator Fax:	Not reported
Operator County:	Not reported
Type of Project:	Roads
Part of Larger Plan:	Not reported
Total Project Size:	Not reported
Size of Operation:	Not reported
Site Direction:	Not reported
Start Date:	2022-03-01 00:00:00
End Date:	2023-03-01 00:00:00
Date Applied:	2022-02-11 00:00:00
Date Submit:	2022-02-11 12:32:31
Non Stormwater Discharges:	Not reported
Closest Receiving Water:	Not reported
MS4 Potential:	Not reported
MS4 Owner:	Not reported
SWPPP Location:	Not reported
SWPPP Contact Name:	Not reported
SWPPP Contact Phone:	Not reported
SWPPP Contact Email:	Not reported
Within Quarter Mile:	Not reported
Within Half Mile:	Not reported
Signer Name:	Not reported
Signer Business Name:	Not reported
Signer Address:	Not reported
Signer Phone:	Not reported
Latitude:	33.28589
Longitude:	-111.616916

Name:	THE CUBES AT MESA GATEWAY INFRASTRUCTURE
Address:	Not reported
City,State,Zip:	AZ
AZNPDES Number:	Not reported
Application Type:	CGP
Receive Date:	02/11/2022
Approved Date:	Not reported
Term Void Date:	Not reported
Application Status:	CLOSED - TERMINATED BY COMPANY
Site Phone:	Not reported
Contact Name:	BRYAN ZEHNDER, swpppDetails: None
Operator Business Name:	CLAYCO INC.
Operator Address:	2199 INNERBELT BUSINESS CENTER DRIV; None, ST LOUIS MO 63114
Operator Phone:	Not reported
Operator Fax:	Not reported
Operator County:	Not reported
Type of Project:	Roads
Part of Larger Plan:	Not reported
Total Project Size:	None

THE CUBES AT MESA GATEWAY INFRASTRUCTURE (Continued) **S131501101**

Size of Operation:	Not reported
Site Direction:	Not reported
Start Date:	03/01/2022
End Date:	03/01/2023
Date Applied:	01/11/2022
Date Submit:	02/11/2022
Non Stormwater Discharges:	Not reported
Closest Receiving Water:	Not reported
MS4 Potential:	Not reported
MS4 Owner:	Not reported
SWPPP Location:	Not reported
SWPPP Contact Name:	Not reported
SWPPP Contact Phone:	Not reported
SWPPP Contact Email:	Not reported
Within Quarter Mile:	Not reported
Within Half Mile:	Not reported
Signer Name:	Not reported
Signer Business Name:	Not reported
Signer Address:	Not reported
Signer Phone:	Not reported
Latitude:	33.28589
Longitude:	-111.616916

Name:	THE CUBES AT MESA GATEWAY INFRASTRUCTURE
Address:	Not reported
City,State,Zip:	AZ
AZNPDES Number:	Not reported
Application Type:	CGP
Receive Date:	06/20/2022
Approved Date:	Not reported
Term Void Date:	Not reported
Application Status:	ISSUED
Site Phone:	Not reported
Contact Name:	BRYAN ZEHNDER
Operator Business Name:	CLAYCO INC.
Operator Address:	2199 INNERBELT BUSINESS CENTER DRIV; None, ST LOUIS MO 63114
Operator Phone:	Not reported
Operator Fax:	Not reported
Operator County:	Not reported
Type of Project:	Commercial
Part of Larger Plan:	Not reported
Total Project Size:	146
Size of Operation:	Not reported
Site Direction:	Not reported
Start Date:	04/11/2022
End Date:	03/01/2023
Date Applied:	06/10/2022
Date Submit:	06/20/2022
Non Stormwater Discharges:	Not reported
Closest Receiving Water:	Not reported
MS4 Potential:	Not reported
MS4 Owner:	Not reported
SWPPP Location:	Not reported
SWPPP Contact Name:	Cam Buchanan
SWPPP Contact Phone:	3149108429
SWPPP Contact Email:	buchananc@claycorp.com
Within Quarter Mile:	Not reported

THE CUBES AT MESA GATEWAY INFRASTRUCTURE (Continued) **S131501101**

Within Half Mile: Not reported
Signer Name: Not reported
Signer Business Name: Not reported
Signer Address: Not reported
Signer Phone: Not reported
Latitude: 33.28589
Longitude: -111.616916

11
Target Property
Actual: 1411 ft.
Focus Map: 9

THE CUBES AT MESA GATEWAY - BUILDING C **SPDES** **S131501100**
N/A

MARICOPA (County), AZ

NPDES:
Name: THE CUBES AT MESA GATEWAY - BUILDING C
Address: Not reported
City,State,Zip: AZ
AZNPDES Number: 93560
Application Type: CGPD
Receive Date: 2022-03-10
Approved Date: Not reported
Term Void Date: Not reported
Application Status: Not reported
Site Phone: Not reported
Contact Name: Bryan Zehnder
Operator Business Name: Clayco Inc.
Operator Address: 2199 INNERBELT BUSINESS CENTER DRIV, ST LOUIS MO 63114
Operator Phone: (314) 592-2204
Operator Fax: Not reported
Operator County: Not reported
Type of Project: Commercial
Part of Larger Plan: Not reported
Total Project Size: Not reported
Size of Operation: Not reported
Site Direction: Not reported
Start Date: 2022-04-01 00:00:00
End Date: 2023-04-01 00:00:00
Date Applied: 2022-03-10 00:00:00
Date Submit: 2022-03-10 15:46:06
Non Stormwater Discharges: Not reported
Closest Receiving Water: Not reported
MS4 Potential: Not reported
MS4 Owner: Not reported
SWPPP Location: Not reported
SWPPP Contact Name: Not reported
SWPPP Contact Phone: Not reported
SWPPP Contact Email: Not reported
Within Quarter Mile: Not reported
Within Half Mile: Not reported
Signer Name: Not reported
Signer Business Name: Not reported
Signer Address: Not reported
Signer Phone: Not reported
Latitude: 33.285838
Longitude: -111.615825

Name: THE CUBES AT MESA GATEWAY - BUILDING C
Address: Not reported
City,State,Zip: AZ

THE CUBES AT MESA GATEWAY - BUILDING C (Continued) **S131501100**

AZNPDES Number:	Not reported
Application Type:	CGP
Receive Date:	03/10/2022
Approved Date:	Not reported
Term Void Date:	Not reported
Application Status:	ISSUED
Site Phone:	Not reported
Contact Name:	BRYAN ZEHNDER, swpppDetails: None
Operator Business Name:	CLAYCO INC.
Operator Address:	2199 INNERBELT BUSINESS CENTER DRIV; None, ST LOUIS MO 63114
Operator Phone:	Not reported
Operator Fax:	Not reported
Operator County:	Not reported
Type of Project:	Commercial
Part of Larger Plan:	Not reported
Total Project Size:	None
Size of Operation:	Not reported
Site Direction:	Not reported
Start Date:	04/01/2022
End Date:	04/01/2023
Date Applied:	03/10/2022
Date Submit:	03/10/2022
Non Stormwater Discharges:	Not reported
Closest Receiving Water:	Not reported
MS4 Potential:	Not reported
MS4 Owner:	Not reported
SWPPP Location:	Not reported
SWPPP Contact Name:	Not reported
SWPPP Contact Phone:	Not reported
SWPPP Contact Email:	Not reported
Within Quarter Mile:	Not reported
Within Half Mile:	Not reported
Signer Name:	Not reported
Signer Business Name:	Not reported
Signer Address:	Not reported
Signer Phone:	Not reported
Latitude:	33.285838
Longitude:	-111.615825

D12 **SIGNAL BUTTE BETWEEN PECOS AND GERMANN** **SPDES** **S131501094**
Target **N/A**
Property **MARICOPA (County), AZ**

Site 1 of 2 in cluster D

Actual: **1429 ft.**

Focus Map: **9**

NPDES:

Name:	SIGNAL BUTTE BETWEEN PECOS AND GERMANN
Address:	Not reported
City,State,Zip:	AZ
AZNPDES Number:	89422
Application Type:	CGPD
Receive Date:	2021-05-25
Approved Date:	Not reported
Term Void Date:	Not reported
Application Status:	Not reported
Site Phone:	Not reported
Contact Name:	Chris Nay
Operator Business Name:	Revolution Industrial, Llc

SIGNAL BUTTE BETWEEN PECOS AND GERMANN (Continued) **S131501094**

Operator Address:	3115 S PRICE RD, CHANDLER AZ 85248
Operator Phone:	(480) 737-7030
Operator Fax:	Not reported
Operator County:	Not reported
Type of Project:	Municipal/Public
Part of Larger Plan:	Not reported
Total Project Size:	Not reported
Size of Operation:	Not reported
Site Direction:	Not reported
Start Date:	2021-06-08 00:00:00
End Date:	2021-10-20 00:00:00
Date Applied:	2021-05-25 00:00:00
Date Submit:	2021-05-25 07:22:49
Non Stormwater Discharges:	Not reported
Closest Receiving Water:	Not reported
MS4 Potential:	Not reported
MS4 Owner:	Not reported
SWPPP Location:	Not reported
SWPPP Contact Name:	Not reported
SWPPP Contact Phone:	Not reported
SWPPP Contact Email:	Not reported
Within Quarter Mile:	Not reported
Within Half Mile:	Not reported
Signer Name:	Not reported
Signer Business Name:	Not reported
Signer Address:	Not reported
Signer Phone:	Not reported
Latitude:	33.285164
Longitude:	-111.600507

Name:	SIGNAL BUTTE BETWEEN PECOS AND GERMANN
Address:	Not reported
City,State,Zip:	AZ
AZNPDES Number:	Not reported
Application Type:	CGP
Receive Date:	05/25/2021
Approved Date:	Not reported
Term Void Date:	Not reported
Application Status:	ISSUED
Site Phone:	Not reported
Contact Name:	MARIE PRATT, swpppDetails: None
Operator Business Name:	REVOLUTION INDUSTRIAL, LLC
Operator Address:	3115 S PRICE RD; STE 130, CHANDLER AZ 85248
Operator Phone:	Not reported
Operator Fax:	Not reported
Operator County:	Not reported
Type of Project:	Municipal/Public
Part of Larger Plan:	Not reported
Total Project Size:	None
Size of Operation:	Not reported
Site Direction:	Not reported
Start Date:	06/08/2021
End Date:	10/20/2021
Date Applied:	05/25/2021
Date Submit:	05/25/2021
Non Stormwater Discharges:	Not reported
Closest Receiving Water:	Not reported

SIGNAL BUTTE BETWEEN PECOS AND GERMANN (Continued) **S131501094**

MS4 Potential:	Not reported
MS4 Owner:	Not reported
SWPPP Location:	Not reported
SWPPP Contact Name:	Not reported
SWPPP Contact Phone:	Not reported
SWPPP Contact Email:	Not reported
Within Quarter Mile:	Not reported
Within Half Mile:	Not reported
Signer Name:	Not reported
Signer Business Name:	Not reported
Signer Address:	Not reported
Signer Phone:	Not reported
Latitude:	33.285164
Longitude:	-111.600507

D13 **SIGNAL BUTTE BETWEEN PECOS AND GERMANN** **EMAP** **S127765658**
Target Property **MESA, AZ 85212** **N/A**

Site 2 of 2 in cluster D

Actual: 1429 ft.
Focus Map: 9

EMAP:

Name:	SIGNAL BUTTE BETWEEN PECOS AND GERMANN
Address:	Not reported
City,State,Zip:	MESA, AZ 85212
ID Number:	214690
Township:	2
Range:	7
Section:	2
Quarter 1:	a
Quarter 2:	d
Quarter 3:	d
Latitude:	33.28516400
Longitude:	-111.600507
Collection Method:	PROVIDED BY OWNER/OPERATOR
Place Type:	CONSTRUCTION PROJECT
Place Type Code:	PP
Place C Code:	PHYSICAL PROPERTIES
Facility Status:	ACTIVE
End Date:	Not reported
Verified:	Y

---

14 **OUTFALL MERRIL 1** **EMAP** **S128788330**
Target Property **, AZ** **N/A**

Actual: 1418 ft.
Focus Map: 9

EMAP:

Name:	OUTFALL MERRIL 1
Address:	Not reported
City,State,Zip:	AZ
ID Number:	226343
Township:	Not reported
Range:	Not reported
Section:	Not reported
Quarter 1:	Not reported
Quarter 2:	Not reported

OUTFALL MERRIL 1 (Continued) **S128788330**

Quarter 3:	Not reported
Latitude:	33.28473500
Longitude:	-111.609104
Collection Method:	PROVIDED BY OWNER/OPERATOR
Place Type:	STORMWATER DISCHARGE POINT
Place Type Code:	RO
Place C Code:	REGULATED OBJECTS
Facility Status:	ACTIVE
End Date:	Not reported
Verified:	Y

---

15 **XPO BUILDING B OUTFALL 4 MESA DRAINAGE** **EMAP** **S132770123**
Target Property **, AZ** **N/A**

Actual: 1351 ft.
Focus Map: 7

EMAP:

Name:	XPO BUILDING B OUTFALL 4 MESA DRAINAGE
Address:	Not reported
City,State,Zip:	AZ
ID Number:	248376
Township:	Not reported
Range:	Not reported
Section:	Not reported
Quarter 1:	Not reported
Quarter 2:	Not reported
Quarter 3:	Not reported
Latitude:	33.28225100
Longitude:	-111.67534
Collection Method:	PROVIDED BY OWNER/OPERATOR
Place Type:	STORMWATER DISCHARGE POINT
Place Type Code:	RO
Place C Code:	REGULATED OBJECTS
Facility Status:	ACTIVE
End Date:	Not reported
Verified:	Y

---

16 **XPO BUILDING B OUTFALL 2 MESA DRAINAGE** **EMAP** **S132770121**
Target Property **, AZ** **N/A**

Actual: 1350 ft.
Focus Map: 7

EMAP:

Name:	XPO BUILDING B OUTFALL 2 MESA DRAINAGE
Address:	Not reported
City,State,Zip:	AZ
ID Number:	248374
Township:	Not reported
Range:	Not reported
Section:	Not reported
Quarter 1:	Not reported
Quarter 2:	Not reported
Quarter 3:	Not reported
Latitude:	33.28147100
Longitude:	-111.673988
Collection Method:	PROVIDED BY OWNER/OPERATOR
Place Type:	STORMWATER DISCHARGE POINT
Place Type Code:	RO

XPO BUILDING B OUTFALL 2 MESA DRAINAGE (Continued) **S132770121**

Place C Code:	REGULATED OBJECTS
Facility Status:	ACTIVE
End Date:	Not reported
Verified:	Y

---

17 **HERITAGE ACADEMY GATEWAY OUTFALL QUEEN CREEK WASH** **EMAP** **S128061920**
Target Property **, AZ** **N/A**

Actual: 1371 ft.
Focus Map: 7

EMAP:

Name:	HERITAGE ACADEMY GATEWAY OUTFALL QUEEN CREEK WASH
Address:	Not reported
City,State,Zip:	AZ
ID Number:	218688
Township:	Not reported
Range:	Not reported
Section:	Not reported
Quarter 1:	Not reported
Quarter 2:	Not reported
Quarter 3:	Not reported
Latitude:	33.27387700
Longitude:	-111.663007
Collection Method:	PROVIDED BY OWNER/OPERATOR
Place Type:	STORMWATER DISCHARGE POINT
Place Type Code:	RO
Place C Code:	REGULATED OBJECTS
Facility Status:	ACTIVE
End Date:	Not reported
Verified:	Y

E18 **CANYON STATE ACADEMY** **AST** **A100430140**
SW **20061 EAST RITTENHOUSE ROAD** **N/A**
< 1/8 **QUEEN CREEK, AZ 85142**
0.028 mi.
148 ft. **Site 1 of 3 in cluster E**

Actual: 1384 ft.
Focus Map: 7

AST:

Name:	CANYON STATE ACADEMY
Address:	20061 EAST RITTENHOUSE ROAD
City,State,Zip:	QUEEN CREEK, AZ 85142
Facility Status:	Other
Permit #:	3030
Permit Year:	1992
Submitter:	West Star Contracting
Submitter Phone:	602)678-1488
Memo:	Not reported
Approval Date:	05/07/1992

E19
SW
< 1/8
0.028 mi.
148 ft.

ARIZONA BOYS RANCH
20061 E RITTENHOUSE RD
QUEEN CREEK, AZ 85142

Site 2 of 3 in cluster E

RCRA NonGen / NLR **1000588522** **AZD074472382**

Actual:
1384 ft.

Focus Map:
7

RCRA Listings:

Date Form Received by Agency:		20190925
Handler Name:		Arizona Boys Ranch
Handler Address:		20061 E Rittenhouse Rd
Handler City,State,Zip:		QUEEN CREEK, AZ 85142
EPA ID:		AZD074472382
Contact Name:		JOHN MOTLEY
Contact Address:		Not reported
Contact City,State,Zip:		Not reported
Contact Telephone:		480-987-9700
Contact Fax:		480-987-9701
Contact Email:		JMOTLEY@REITEOFPASSAGE.COM
Contact Title:		Not reported
EPA Region:		09
Land Type:		Other
Federal Waste Generator Description:		Not a generator, verified
Non-Notifier:		Not reported
Biennial Report Cycle:		Not reported
Accessibility:		Not reported
Active Site Indicator:		Not reported
State District Owner:		Not reported
State District:		Not reported
Mailing Address:		20061 E RITTENHOUSE RD
Mailing City,State,Zip:		QUEEN CREEK, AZ 85142
Owner Name:	Not reported	
Owner Type:		Not reported
Operator Name:	Not reported	
Operator Type:		Not reported
Short-Term Generator Activity:		No
Importer Activity:		No
Mixed Waste Generator:		No
Transporter Activity:		No
Transfer Facility Activity:		No
Recycler Activity with Storage:		No
Small Quantity On-Site Burner Exemption:		No
Smelting Melting and Refining Furnace Exemption:		No
Underground Injection Control:		No
Off-Site Waste Receipt:		No
Universal Waste Indicator:		No
Universal Waste Destination Facility:		No
Federal Universal Waste:		No
Active Site State-Reg Handler:		---
Federal Facility Indicator:		Not reported
Hazardous Secondary Material Indicator:		N
Sub-Part K Indicator:		Not reported
2018 GPRA Permit Baseline:		Not on the Baseline
2018 GPRA Renewals Baseline:		Not on the Baseline
202 GPRA Corrective Action Baseline:		No
Subject to Corrective Action Universe:		No
Non-TSDFs Where RCRA CA has Been Imposed Universe:		No
Corrective Action Priority Ranking:		No NCAPS ranking
Environmental Control Indicator:		No
Institutional Control Indicator:		No

ARIZONA BOYS RANCH (Continued) **1000588522**

Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20190926
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name: ARIZONA BOYS RANCH INC	
Legal Status:	Private
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	20061 E RITTENHOUSE RD
Owner/Operator City,State,Zip:	BOYS RANCH, AZ 85525
Owner/Operator Telephone:	602-892-9550
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name: ARIZONA BOYS RANCH INC	
Legal Status:	Private
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	20061 E RITTENHOUSE RD
Owner/Operator City,State,Zip:	BOYS RANCH, AZ 85525
Owner/Operator Telephone:	602-892-9550
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	20070226
Handler Name: CANYON STATE ACADEMY	
Federal Waste Generator Description:	Not a generator, verified
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

ARIZONA BOYS RANCH (Continued) **1000588522**

Receive Date: 20190925
Handler Name: ARIZONA BOYS RANCH
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 19910613
Handler Name: ARIZONA BOYS RANCH
Federal Waste Generator Description: Very Small Quantity Generator (formerly Conditionally-Exempt Small Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 32311
NAICS Description: Printing

NAICS Code: 323114
NAICS Description: Quick Printing

NAICS Code: 62399
NAICS Description: Other Residential Care Facilities

NAICS Code: 811111
NAICS Description: General Automotive Repair

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

E20
SW
< 1/8
0.028 mi.
148 ft.

ARIZONA BOYS RANCH
20061 E RITTENHOUSE RD
QUEEN CREEK, AZ 85142

Site 3 of 3 in cluster E

UST **1012149051**
N/A

Actual:
1384 ft.

Focus Map:
7

UST:

Name:	ARIZONA BOYS RANCH
Address:	20061 E RITTENHOUSE RD
City,State,Zip:	QUEEN CREEK, AZ 85142
Facility ID:	0-004074
Owner:	None
Latitude:	33.265845
Longitude:	111.651263
Tank ID:	1
Date Closed:	05/08/1992
Tank Status:	**Perm Closure**
Closure Type:	**Removal**
Tank Inst Date:	**Not reported**
Capacity:	**550**
Substance:	**Unleaded Gasoline**
Compartment:	**COMPARTMENT A**
Tank Const Type:	**Double Walled**
Tank Mtrl Type:	**Asphalt coated or Bare Steel**
Pipe Type:	**Suction - Check Valve at the Tank Top**
Pipe Mtrl Type:	**Bare or Galvanized Steel**
Pipe const Type:	**Not reported**
Tank ID:	2
Date Closed:	11/07/2008
Tank Status:	**Perm Closure**
Closure Type:	**Removal**
Tank Inst Date:	**01/16/2009**
Capacity:	**10000**
Substance:	**Unidentified**
Compartment:	**COMPARTMENT A**
Tank Const Type:	**Single Walled**
Tank Mtrl Type:	**Fiberglass Reinforced Plastic**
Pipe Type:	**Not reported**
Pipe Mtrl Type:	**Not reported**
Pipe const Type:	**Not reported**
Tank ID:	3
Date Closed:	11/07/2008
Tank Status:	**Perm Closure**
Closure Type:	**Removal**
Tank Inst Date:	**01/16/2009**
Capacity:	**10000**
Substance:	**Unidentified**
Compartment:	**COMPARTMENT A**
Tank Const Type:	**Single Walled**
Tank Mtrl Type:	**Fiberglass Reinforced Plastic**
Pipe Type:	**Not reported**
Pipe Mtrl Type:	**Not reported**
Pipe const Type:	**Not reported**

21
East
< 1/8
0.031 mi.
165 ft.

MESA CITY OF
QUEEN CREEK, AZ

PFAS **S125863072**
N/A

Actual:
1392 ft.

Focus Map:
3

PFAS:

Name:	MESA CITY OF
Address:	Not reported
City,State,Zip:	QUEEN CREEK, AZ
PWS ID:	07095
Well Number:	55-585924
PFOS + PFOA ng/L:	ND
ADEQ Letter to PWS:	Not reported
PWS PFAS Data:	Not reported
ADEQ PFAS Screening 2018 Report:	Not reported
ADEQ PFAS Screening 2021:	Not reported
Note:	Not reported
Latitude:	33.29134102400
Longitude:	-111.63388179300
Facility ID:	Not reported
Laboratory Full Name:	Not reported
Reporting Agency Full Name:	Not reported
Collecting Agency Full Name:	Not reported
Sample ID:	Not reported
Purpose Type Description:	Not reported
Sample Type Decsription:	Not reported
Sample Date Time:	Not reported
Analysis Date:	Not reported
Laboratory Reporting Limit:	Not reported
Laboratory Reporting Limit Unit:	Not reported
Laboratory Notation Description:	Not reported
Method:	Not reported
Substance Name:	Not reported
Case Number:	Not reported
PFAS Compound Acronym:	Not reported
Sample Media:	Not reported

22
SW
< 1/8
0.037 mi.
193 ft.

CALIBER COLLISION - QUEEN CREEK #0137
18638 E RITTENHOUSE RD
QUEEN CREEK, AZ 85142

RCRA-VSQG **1026160912**
E MANIFEST **AZR000522300**

Actual:
1345 ft.

Focus Map:
6

RCRA Listings:

Date Form Received by Agency:	20230905
Handler Name:	Caliber Collision Center - Queen Creek 0137
Handler Address:	18638 E Rittenhouse Rd
Handler City,State,Zip:	QUEEN CREEK, AZ 85142
EPA ID:	AZR000522300
Contact Name:	GREGORY M NICHOLS
Contact Address:	2941 LAKE VISTA DR
Contact City,State,Zip:	LEWISVILLE, TX 75067
Contact Telephone:	469-948-9500
Contact Fax:	Not reported
Contact Email:	LICENSEANDPERMITS@CALIBERCOLLISION.COM
Contact Title:	Not reported
EPA Region:	09
Land Type:	Private
Federal Waste Generator Description:	Conditionally Exempt Small Quantity Generator

CALIBER COLLISION - QUEEN CREEK #0137 (Continued) **1026160912**

Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Handler Activities
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	2941 LAKE VISTA DR
Mailing City,State,Zip:	LEWISVILLE, TX 75067
Owner Name:	Cross Development Cc Queen Creek Ll
Owner Type:	Private
Operator Name:	Caliber Bodyworks Of Arizona, Inc.
Operator Type:	Private
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20231214
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Hazardous Waste Summary:

Waste Code:	D001
Waste Description:	Ignitable Waste

CALIBER COLLISION - QUEEN CREEK #0137 (Continued) **1026160912**

Waste Code: F003
Waste Description: The Following Spent Nonhalogenated Solvents: Xylene, Acetone, Ethyl Acetate, Ethyl Benzene, Ethyl Ether, Methyl Isobutyl Ketone, N-Butyl Alcohol, Cyclohexanone, And Methanol; All Spent Solvent Mixtures/Blends Containing, Before Use, Only The Above Spent Nonhalogenated Solvents; And All Spent Solvent Mixtures/Blends Containing, Before Use, One Or More Of The Above Nonhalogenated Solvents, And A Total Of Ten Percent Or More (By Volume) Of One Or More Of Those Solvents Listed In F001, F002, F004, And F005; And Still Bottoms From The Recovery Of These Spent Solvents And Spent Solvent Mixtures.

Waste Code: F005
Waste Description: The Following Spent Nonhalogenated Solvents: Toluene, Methyl Ethyl Ketone, Carbon Disulfide, Isobutanol, Pyridine, Benzene, 2-Ethoxyethanol, And 2-Nitropropane; All Spent Solvent Mixtures/Blends Containing, Before Use, A Total Of Ten Percent Or More (By Volume) Of One Or More Of The Above Nonhalogenated Solvents Or Those Solvents Listed In F001, F002, Or F004; And Still Bottoms From The Recovery Of These Spent Solvents And Spent Solvent Mixtures.

Handler - Owner Operator:
Owner/Operator Indicator: Operator
Owner/Operator Name: CALIBER BODYWORKS OF ARIZONA, INC.
Legal Status: Private
Date Became Current: 20200302
Date Ended Current: Not reported
Owner/Operator Address: 401 E CORPORATE DR
Owner/Operator City,State,Zip: LEWISVILLE, TX 75057
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: CALIBER BODYWORKS OF ARIZONA, INC.
Legal Status: Private
Date Became Current: 20200302
Date Ended Current: Not reported
Owner/Operator Address: 2941 LAKE VISTA DR
Owner/Operator City,State,Zip: LEWISVILLE, TX 75067
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: CROSS DEVELOPMENT CC QUEEN CREEK LL
Legal Status: Private
Date Became Current: 20181022
Date Ended Current: Not reported
Owner/Operator Address: 4336 MARSH RIDGE RD
Owner/Operator City,State,Zip: CARROLLTON, TX 75010
Owner/Operator Telephone: 214-614-8252
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

CALIBER COLLISION - QUEEN CREEK #0137 (Continued) **1026160912**

Owner/Operator Indicator: Owner
Owner/Operator Name: CROSS DEVELOPMENT CC QUEEN CREEK LL
Legal Status: Private
Date Became Current: 20181022
Date Ended Current: Not reported
Owner/Operator Address: 4336 MARSH RIDGE RD
Owner/Operator City,State,Zip: CARROLLTON, TX 75010
Owner/Operator Telephone: 214-614-8252
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: CROSS DEVELOPMENT CC QUEEN CREEK LL
Legal Status: Private
Date Became Current: 20181022
Date Ended Current: Not reported
Owner/Operator Address: 4336 MARSH RIDGE RD
Owner/Operator City,State,Zip: CARROLLTON, TX 75010
Owner/Operator Telephone: 214-614-8252
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: CALIBER BODYWORKS OF ARIZONA, INC.
Legal Status: Private
Date Became Current: 20200302
Date Ended Current: Not reported
Owner/Operator Address: 2941 LAKE VISTA DR
Owner/Operator City,State,Zip: LEWISVILLE, TX 75067
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: CALIBER BODYWORKS OF ARIZONA, INC.
Legal Status: Private
Date Became Current: 20200302
Date Ended Current: Not reported
Owner/Operator Address: 2941 LAKE VISTA DR
Owner/Operator City,State,Zip: LEWISVILLE, TX 75067
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: CROSS DEVELOPMENT CC QUEEN CREEK LL
Legal Status: Private
Date Became Current: 20181022
Date Ended Current: Not reported
Owner/Operator Address: 4336 MARSH RIDGE RD
Owner/Operator City,State,Zip: CARROLLTON, TX 75010
Owner/Operator Telephone: 214-614-8252
Owner/Operator Telephone Ext: Not reported

CALIBER COLLISION - QUEEN CREEK #0137 (Continued) **1026160912**

Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: CROSS DEVELOPMENT CC QUEEN CREEK LL
Legal Status: Private
Date Became Current: 20181022
Date Ended Current: Not reported
Owner/Operator Address: 4336 MARSH RIDGE RD
Owner/Operator City,State,Zip: CARROLLTON, TX 75010
Owner/Operator Telephone: 214-614-8252
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: CALIBER BODYWORKS OF ARIZONA, INC.
Legal Status: Private
Date Became Current: 20200302
Date Ended Current: Not reported
Owner/Operator Address: 2941 LAKE VISTA DR
Owner/Operator City,State,Zip: LEWISVILLE, TX 75067
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 20210216
Handler Name: CALIBER COLLISION CENTER - QUEEN CREEK 0137
Federal Waste Generator Description: Very Small Quantity Generator (formerly Conditionally-Exempt Small Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

Receive Date: 20220206
Handler Name: CALIBER COLLISION CENTER - QUEEN CREEK 0137
Federal Waste Generator Description: Very Small Quantity Generator (formerly Conditionally-Exempt Small Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

Receive Date: 20200323

CALIBER COLLISION - QUEEN CREEK #0137 (Continued) **1026160912**

Handler Name: CALIBER COLLISION CENTER - QUEEN CREEK 0137
Federal Waste Generator Description: Very Small Quantity Generator (formerly Conditionally-Exempt Small Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20220206
Handler Name: CALIBER COLLISION CENTER - QUEEN CREEK 0137
Federal Waste Generator Description: Very Small Quantity Generator (formerly Conditionally-Exempt Small Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

Receive Date: 20230905
Handler Name: CALIBER COLLISION CENTER - QUEEN CREEK 0137
Federal Waste Generator Description: Very Small Quantity Generator (formerly Conditionally-Exempt Small Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

List of NAICS Codes and Descriptions:
NAICS Code: 811121
NAICS Description: Automotive Body, Paint, And Interior Repair And Maintenance

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

E MANIFEST:
Manifest Tracking Number: 008291568SKS
Last Updated Date: 20220424

CALIBER COLLISION - QUEEN CREEK #0137 (Continued) **1026160912**

Shipped Date:	20220308
Received Date:	20220403
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	CESQG
Generator Name:	Caliber Collision - Queen Creek #0137
Generator Location Street Number:	Not reported
Generator Location Street 1:	18638 E RITTENHOUSE RD
Generator Location Street 2:	Location ID# - 0137
Generator Location City:	QUEEN CREEK
Generator Location State:	AZ
Generator Location Zip:	85142
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	18638 E Rittenhouse Rd
Generator Mail Street 2:	Location ID# - 0137
Generator Mail City:	Queen Creek
Generator Mail Zip:	85142
Generator Mail State:	AZ
Generator Contact Company Name:	Caliber Collision - Queen Creek #0137
Designated Facility EPA ID:	ARD069748192
Designated Facility Name:	Clean Harbors El Dorado Llc
Designated Facility Mail Street Number:	Not reported
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	309 American Circle
Designated Facility Mail City:	El Dorado
Designated Facility Mail Zip:	71730
Designated Facility Mail State:	AR
Designated Facility Location Street Number:	Not reported
Designated Facility Location Street 1:	309 American Circle
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	El Dorado
Designated Facility Location Zip:	71730
Designated Facility Location State:	AR
Designated Facility Contact Company Name:	Not reported
Manifest Residue Indicator:	N
Rejection Indicator:	N

Manifest Tracking Number:	008291835SKS
Last Updated Date:	20230223
Shipped Date:	20230110
Received Date:	20230201
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	CESQG
Generator Name:	Caliber Collision - Queen Creek #0137
Generator Location Street Number:	Not reported
Generator Location Street 1:	18638 E RITTENHOUSE RD
Generator Location Street 2:	Location ID# - 0137
Generator Location City:	QUEEN CREEK
Generator Location State:	AZ
Generator Location Zip:	85142
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	18638 E Rittenhouse Rd
Generator Mail Street 2:	Location ID# - 0137
Generator Mail City:	Queen Creek

CALIBER COLLISION - QUEEN CREEK #0137 (Continued) **1026160912**

Generator Mail Zip:	85142
Generator Mail State:	AZ
Generator Contact Company Name:	Caliber Collision - Queen Creek #0137
Designated Facility EPA ID:	ARD069748192
Designated Facility Name:	Clean Harbors El Dorado Llc
Designated Facility Mail Street Number:	Not reported
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	309 American Circle
Designated Facility Mail City:	El Dorado
Designated Facility Mail Zip:	71730
Designated Facility Mail State:	AR
Designated Facility Location Street Number:	Not reported
Designated Facility Location Street 1:	309 American Circle
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	El Dorado
Designated Facility Location Zip:	71730
Designated Facility Location State:	AR
Designated Facility Contact Company Name:	Not reported
Manifest Residue Indicator:	N
Rejection Indicator:	N

Manifest Tracking Number:	008291836SKS
Last Updated Date:	20230128
Shipped Date:	20221118
Received Date:	20230106
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	CESQG
Generator Name:	Caliber Collision - Queen Creek #0137
Generator Location Street Number:	Not reported
Generator Location Street 1:	18638 E RITTENHOUSE RD
Generator Location Street 2:	Location ID# - 0137
Generator Location City:	QUEEN CREEK
Generator Location State:	AZ
Generator Location Zip:	85142
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	18638 E Rittenhouse Rd
Generator Mail Street 2:	Location ID# - 0137
Generator Mail City:	Queen Creek
Generator Mail Zip:	85142
Generator Mail State:	AZ
Generator Contact Company Name:	Caliber Collision - Queen Creek #0137
Designated Facility EPA ID:	ARD069748192
Designated Facility Name:	Clean Harbors El Dorado Llc
Designated Facility Mail Street Number:	Not reported
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	309 American Circle
Designated Facility Mail City:	El Dorado
Designated Facility Mail Zip:	71730
Designated Facility Mail State:	AR
Designated Facility Location Street Number:	Not reported
Designated Facility Location Street 1:	309 American Circle
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	El Dorado
Designated Facility Location Zip:	71730
Designated Facility Location State:	AR

CALIBER COLLISION - QUEEN CREEK #0137 (Continued) **1026160912**

Designated Facility Contact Company Name:	Not reported
Manifest Residue Indicator:	N
Rejection Indicator:	N
Manifest Tracking Number:	008291837SKS
Last Updated Date:	20221114
Shipped Date:	20220920
Received Date:	20221025
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	CESQG
Generator Name:	Caliber Collision - Queen Creek #0137
Generator Location Street Number:	Not reported
Generator Location Street 1:	18638 E RITTENHOUSE RD
Generator Location Street 2:	Location ID# - 0137
Generator Location City:	QUEEN CREEK
Generator Location State:	AZ
Generator Location Zip:	85142
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	18638 E Rittenhouse Rd
Generator Mail Street 2:	Location ID# - 0137
Generator Mail City:	Queen Creek
Generator Mail Zip:	85142
Generator Mail State:	AZ
Generator Contact Company Name:	Caliber Collision - Queen Creek #0137
Designated Facility EPA ID:	ARD069748192
Designated Facility Name:	Clean Harbors El Dorado Llc
Designated Facility Mail Street Number:	Not reported
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	309 American Circle
Designated Facility Mail City:	El Dorado
Designated Facility Mail Zip:	71730
Designated Facility Mail State:	AR
Designated Facility Location Street Number:	Not reported
Designated Facility Location Street 1:	309 American Circle
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	El Dorado
Designated Facility Location Zip:	71730
Designated Facility Location State:	AR
Designated Facility Contact Company Name:	Not reported
Manifest Residue Indicator:	N
Rejection Indicator:	N
Manifest Tracking Number:	001715270VES
Last Updated Date:	20201103
Shipped Date:	20201013
Received Date:	20201029
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	VSQG
Generator Name:	Caliber Collision - Queen Cree
Generator Location Street Number:	Not reported
Generator Location Street 1:	18638 E RITTENHOUSE RD
Generator Location Street 2:	Not reported
Generator Location City:	QUEEN CREEK

CALIBER COLLISION - QUEEN CREEK #0137 (Continued) **1026160912**

Generator Location State:	AZ
Generator Location Zip:	85142
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	18638 E Rittenhouse Rd
Generator Mail Street 2:	Not reported
Generator Mail City:	Queen Creek
Generator Mail Zip:	85142
Generator Mail State:	AZ
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	COD980591184
Designated Facility Name:	Not reported
Designated Facility Mail Street Number:	9131
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	E 96TH AVE
Designated Facility Mail City:	HENDERSON
Designated Facility Mail Zip:	80640
Designated Facility Mail State:	CO
Designated Facility Location Street Number:	9131
Designated Facility Location Street 1:	E 96TH AVE
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	HENDERSON
Designated Facility Location Zip:	80640
Designated Facility Location State:	CO
Designated Facility Contact Company Name:	Veolia Es Technical Solutions Llc
Manifest Residue Indicator:	N
Rejection Indicator:	N

Manifest Tracking Number:	009430472SKS
Last Updated Date:	20250606
Shipped Date:	20250424
Received Date:	20250517
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	AZR000522300
Generator Name:	Caliber Collision - Queen Creek #0137
Generator Location Street Number:	Not reported
Generator Location Street 1:	18638 E RITTENHOUSE RD
Generator Location Street 2:	LOCATION ID# - 0137
Generator Location City:	QUEEN CREEK
Generator Location State:	AZ
Generator Location Zip:	85142
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	18638 E RITTENHOUSE RD
Generator Mail Street 2:	LOCATION ID# - 0137
Generator Mail City:	QUEEN CREEK
Generator Mail Zip:	85142
Generator Mail State:	AZ
Generator Contact Company Name:	CALIBER COLLISION - QUEEN CREEK #0137
Designated Facility EPA ID:	ARD069748192
Designated Facility Name:	Clean Harbors El Dorado Llc
Designated Facility Mail Street Number:	301
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	309 AMERICAN CIRCLE
Designated Facility Mail City:	EL DORADO
Designated Facility Mail Zip:	71730
Designated Facility Mail State:	AR

CALIBER COLLISION - QUEEN CREEK #0137 (Continued) **1026160912**

Designated Facility Location Street Number:	309
Designated Facility Location Street 1:	AMERICAN CIRCLE
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	EL DORADO
Designated Facility Location Zip:	71730
Designated Facility Location State:	AR
Designated Facility Contact Company Name:	Not reported
Manifest Residue Indicator:	N
Rejection Indicator:	N

Manifest Tracking Number:	008290519SKS
Last Updated Date:	20220316
Shipped Date:	20220131
Received Date:	20220224
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	CESQG
Generator Name:	Caliber Collision - Queen Creek #0137
Generator Location Street Number:	Not reported
Generator Location Street 1:	18638 E RITTENHOUSE RD
Generator Location Street 2:	Location ID# - 0137
Generator Location City:	QUEEN CREEK
Generator Location State:	AZ
Generator Location Zip:	85142
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	18638 E Rittenhouse Rd
Generator Mail Street 2:	Location ID# - 0137
Generator Mail City:	Queen Creek
Generator Mail Zip:	85142
Generator Mail State:	AZ
Generator Contact Company Name:	Caliber Collision - Queen Creek #0137
Designated Facility EPA ID:	ARD069748192
Designated Facility Name:	Clean Harbors El Dorado Llc
Designated Facility Mail Street Number:	Not reported
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	309 American Circle
Designated Facility Mail City:	El Dorado
Designated Facility Mail Zip:	71730
Designated Facility Mail State:	AR
Designated Facility Location Street Number:	Not reported
Designated Facility Location Street 1:	309 American Circle
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	El Dorado
Designated Facility Location Zip:	71730
Designated Facility Location State:	AR
Designated Facility Contact Company Name:	Not reported
Manifest Residue Indicator:	N
Rejection Indicator:	N

Manifest Tracking Number:	008290793SKS
Last Updated Date:	20221007
Shipped Date:	20220824
Received Date:	20220917
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Service

CALIBER COLLISION - QUEEN CREEK #0137 (Continued) **1026160912**

Generator EPA ID:	CESQG
Generator Name:	Caliber Collision - Queen Creek #0137
Generator Location Street Number:	Not reported
Generator Location Street 1:	18638 E RITTENHOUSE RD
Generator Location Street 2:	Location ID# - 0137
Generator Location City:	QUEEN CREEK
Generator Location State:	AZ
Generator Location Zip:	85142
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	18638 E Rittenhouse Rd
Generator Mail Street 2:	Location ID# - 0137
Generator Mail City:	Queen Creek
Generator Mail Zip:	85142
Generator Mail State:	AZ
Generator Contact Company Name:	Caliber Collision - Queen Creek #0137
Designated Facility EPA ID:	ARD069748192
Designated Facility Name:	Clean Harbors El Dorado Llc
Designated Facility Mail Street Number:	Not reported
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	309 American Circle
Designated Facility Mail City:	El Dorado
Designated Facility Mail Zip:	71730
Designated Facility Mail State:	AR
Designated Facility Location Street Number:	Not reported
Designated Facility Location Street 1:	309 American Circle
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	El Dorado
Designated Facility Location Zip:	71730
Designated Facility Location State:	AR
Designated Facility Contact Company Name:	Not reported
Manifest Residue Indicator:	N
Rejection Indicator:	N

Manifest Tracking Number:	008159881SKS
Last Updated Date:	20211106
Shipped Date:	20210924
Received Date:	20211016
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	CESQG
Generator Name:	Caliber Collision - Queen Creek #0137
Generator Location Street Number:	Not reported
Generator Location Street 1:	18638 E RITTENHOUSE RD
Generator Location Street 2:	Location ID# - 0137
Generator Location City:	QUEEN CREEK
Generator Location State:	AZ
Generator Location Zip:	85142
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	18638 E Rittenhouse Rd
Generator Mail Street 2:	Location ID# - 0137
Generator Mail City:	Queen Creek
Generator Mail Zip:	85142
Generator Mail State:	AZ
Generator Contact Company Name:	Caliber Collision - Queen Creek #0137
Designated Facility EPA ID:	ARD069748192
Designated Facility Name:	Clean Harbors El Dorado Llc

CALIBER COLLISION - QUEEN CREEK #0137 (Continued) **1026160912**

Designated Facility Mail Street Number:	Not reported
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	309 American Circle
Designated Facility Mail City:	El Dorado
Designated Facility Mail Zip:	71730
Designated Facility Mail State:	AR
Designated Facility Location Street Number:	Not reported
Designated Facility Location Street 1:	309 American Circle
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	El Dorado
Designated Facility Location Zip:	71730
Designated Facility Location State:	AR
Designated Facility Contact Company Name:	Not reported
Manifest Residue Indicator:	N
Rejection Indicator:	N

Manifest Tracking Number:	008160176SKS
Last Updated Date:	20220715
Shipped Date:	20220603
Received Date:	20220622
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	CESQG
Generator Name:	Caliber Collision - Queen Creek #0137
Generator Location Street Number:	Not reported
Generator Location Street 1:	18638 E RITTENHOUSE RD
Generator Location Street 2:	Location ID# - 0137
Generator Location City:	QUEEN CREEK
Generator Location State:	AZ
Generator Location Zip:	85142
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	18638 E Rittenhouse Rd
Generator Mail Street 2:	Location ID# - 0137
Generator Mail City:	Queen Creek
Generator Mail Zip:	85142
Generator Mail State:	AZ
Generator Contact Company Name:	Caliber Collision - Queen Creek #0137
Designated Facility EPA ID:	ARD069748192
Designated Facility Name:	Clean Harbors El Dorado Llc
Designated Facility Mail Street Number:	Not reported
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	309 American Circle
Designated Facility Mail City:	El Dorado
Designated Facility Mail Zip:	71730
Designated Facility Mail State:	AR
Designated Facility Location Street Number:	Not reported
Designated Facility Location Street 1:	309 American Circle
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	El Dorado
Designated Facility Location Zip:	71730
Designated Facility Location State:	AR
Designated Facility Contact Company Name:	Not reported
Manifest Residue Indicator:	N
Rejection Indicator:	N

Manifest Tracking Number:	008160341SKS

CALIBER COLLISION - QUEEN CREEK #0137 (Continued) **1026160912**

Last Updated Date:	20220128
Shipped Date:	20211119
Received Date:	20220108
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	CESQG
Generator Name:	Caliber Collision - Queen Creek #0137
Generator Location Street Number:	Not reported
Generator Location Street 1:	18638 E RITTENHOUSE RD
Generator Location Street 2:	Location ID# - 0137
Generator Location City:	QUEEN CREEK
Generator Location State:	AZ
Generator Location Zip:	85142
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	18638 E Rittenhouse Rd
Generator Mail Street 2:	Location ID# - 0137
Generator Mail City:	Queen Creek
Generator Mail Zip:	85142
Generator Mail State:	AZ
Generator Contact Company Name:	Caliber Collision - Queen Creek #0137
Designated Facility EPA ID:	ARD069748192
Designated Facility Name:	Clean Harbors El Dorado Llc
Designated Facility Mail Street Number:	Not reported
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	309 American Circle
Designated Facility Mail City:	El Dorado
Designated Facility Mail Zip:	71730
Designated Facility Mail State:	AR
Designated Facility Location Street Number:	Not reported
Designated Facility Location Street 1:	309 American Circle
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	El Dorado
Designated Facility Location Zip:	71730
Designated Facility Location State:	AR
Designated Facility Contact Company Name:	Not reported
Manifest Residue Indicator:	N
Rejection Indicator:	N

Transporter:

Manifest Tracking Number:	009342859SKS
Transporter Line Number:	1
Transporter EPA ID:	TXR000081205
Transporter Name:	Safety-Kleen Systems, Inc.
Manifest Tracking Number:	009342859SKS
Transporter Line Number:	2
Transporter EPA ID:	MAD039322250
Transporter Name:	Clean Harbors Environmental Services, Inc.

Waste Line:

Manifest Tracking Number:	009342859SKS
Waste Line Number:	1
U.S. DOT Hazardous Indicator:	Y
U.S. DOT ID Number:	UN1950
U.S. DOT Description:	Rq, Un1950, Waste Aerosols, Flammable, (Each Not Exceeding 1 L

CALIBER COLLISION - QUEEN CREEK #0137 (Continued) **1026160912**

	Capacity), 2.1, None (D001)
Non-Hazardous Waste Description:	Not reported
Number of Containers:	1
Container Type Code:	DM
Container Type Description:	Metal drums, barrels, kegs
Waste Quantity:	30
Quantity Unit of Measure Code:	P
Quantity Unit of Measure Description:	Pounds
Waste Quantity, in Tons:	0.015
Acute Waste Quantity, in Tons:	0
Non-Acute Waste Quantity, in Tons:	0.015
Waste Quantity, in Kilograms:	13.60545
Acute Waste Quantity, in Kilograms:	0
Non-Acute Waste Quantity, in Kilorgrams:	13.60545
Management Method Code:	H040
Management Method Description:	INCINERATION
Waste Residue Indicator:	N
Quantity Discrepancy Indicator:	N
Waste Type Discrepancy Indicator:	N
Waste Density:	Not reported
Waste Density Unit of Measure Code:	Not reported
Waste Density Unit of Measure Description:	Not reported
Form Code:	Not reported
Form Code Description:	Not reported
Source Code:	Not reported
Source Code Description:	Not reported
Waste Minimization Code:	Not reported
Waste Minimization Code Description:	Not reported
Consent Number:	Not reported
EPA Waste Indicator:	Y
Federal Waste Codes:	D001, D035, D039, D040
Quantity Haz Kg:	13.60545
Quantity Haz Tons:	0.015
Quantity Non Haz Kg:	0
Quantity Non Haz Tons:	0
State Waste Codes:	Not reported

Click this hyperlink while viewing on your computer to access
8 additional US EManifest: record(s) in the EDR Site Report.

---

23 **COBBLESTONE EXPRESS #17** **UST** **U004375991**
SSE **7215 S ELLSWORTH RD** **Financial Assurance** **N/A**
< 1/8 **MESA, AZ 85212**
0.037 mi.
197 ft.

Actual:
1398 ft.

Focus Map:
8

UST:

Name:	COBBLESTONE EXPRESS #17
Address:	7215 S ELLSWORTH RD
City,State,Zip:	MESA, AZ 85212
Facility ID:	0-010782
Owner:	Not reported
Latitude:	Not reported
Longitude:	Not reported
Tank ID:	1
Date Closed:	Not reported
Tank Status:	**Open**

COBBLESTONE EXPRESS #17 (Continued) **U004375991**

Closure Type: **Not reported**
Tank Inst Date: **11/30/2022**
Capacity: **15000**
Substance: **Unleaded Gasoline**
Compartment: **COMPARTMENT A**
Tank Const Type: **Double Walled**
Tank Mtrl Type: **Composite (Steel/Fiberglass or Steel/Polyethylene)**
Pipe Type: **Pressure**
Pipe Mtrl Type: **Fiberglass Reinforced Plastic**
Pipe const Type: **Double Walled**

Tank ID: 2
Date Closed: Not reported
Tank Status: **Open**
Closure Type: **Not reported**
Tank Inst Date: **11/30/2022**
Capacity: **10000**
Substance: **Diesel**
Compartment: **COMPARTMENT B**
Tank Const Type: **Double Walled**
Tank Mtrl Type: **Composite (Steel/Fiberglass or Steel/Polyethylene)**
Pipe Type: **Pressure**
Pipe Mtrl Type: **Fiberglass Reinforced Plastic**
Pipe const Type: **Double Walled**

Tank ID: 2
Date Closed: Not reported
Tank Status: **Open**
Closure Type: **Not reported**
Tank Inst Date: **11/30/2022**
Capacity: **6000**
Substance: **Unleaded Gasoline**
Compartment: **COMPARTMENT C**
Tank Const Type: **Double Walled**
Tank Mtrl Type: **Composite (Steel/Fiberglass or Steel/Polyethylene)**
Pipe Type: **Pressure**
Pipe Mtrl Type: **Fiberglass Reinforced Plastic**
Pipe const Type: **Double Walled**

Tank ID: 2
Date Closed: Not reported
Tank Status: **Open**
Closure Type: **Not reported**
Tank Inst Date: **11/30/2022**
Capacity: **7000**
Substance: **Premium Unleaded Gasoline**
Compartment: **COMPARTMENT A**
Tank Const Type: **Double Walled**
Tank Mtrl Type: **Composite (Steel/Fiberglass or Steel/Polyethylene)**
Pipe Type: **Pressure**
Pipe Mtrl Type: **Fiberglass Reinforced Plastic**
Pipe const Type: **Double Walled**

FIN ASSURANCE 1:
Name: COBBLESTONE EXPRESS #17
Address: 7215 S ELLSWORTH RD
City,State,Zip: MESA, AZ 85212

COBBLESTONE EXPRESS #17 (Continued) **U004375991**

Mech Desc:	COMIN Insurance
Owner Name:	COBBLESTONE 17 PROPCO, LLC
Annual Coverage:	$2,000,000.00
Effective Date:	01/23/2025
Expired Date:	01/23/2026
Per Occurrence Amount:	$1,000,000.00
Number of Tanks:	4
Number of Open Tanks:	4
Number of Tanks Perm Colsed:	0
Number of Tanks Temp Closed:	0
FR Number:	FR5292
Status:	ACTIVE
Cancel Date:	Not reported
Ust Owner ID:	10125
Owner Address:	8900 E BAHIA DR SUITE 200
Owner City:	SCOTTSDALE
Owner State:	AZ
Owner Zip:	85260

---

24 SSW < 1/8 0.059 mi. 311 ft.

Actual: 1396 ft.

Focus Map: 8

SPEEDWAY #1509 **UST** **U004330493**
MESA, AZ **Financial Assurance** **N/A**

UST:

Name:	SPEEDWAY #1509
Address:	Not reported
City,State,Zip:	MESA
Facility ID:	0-010717
Owner:	Not reported
Latitude:	Not reported
Longitude:	Not reported
Tank ID:	1
Date Closed:	Not reported
Tank Status:	**Open**
Closure Type:	**Not reported**
Tank Inst Date:	**12/10/2020**
Capacity:	**30000**
Substance:	**Gasoline (UL)**
Compartment:	**COMPARTMENT A**
Tank Const Type:	**Double Walled**
Tank Mtrl Type:	**Fiberglass Reinforced Plastic**
Pipe Type:	**Pressure**
Pipe Mtrl Type:	**Fiberglass Reinforced Plastic**
Pipe const Type:	**Double Walled**
Tank ID:	2
Date Closed:	Not reported
Tank Status:	**Open**
Closure Type:	**Not reported**
Tank Inst Date:	**12/10/2020**
Capacity:	**8000**
Substance:	**Premium Unleaded Gasoline**
Compartment:	**COMPARTMENT B**
Tank Const Type:	**Double Walled**
Tank Mtrl Type:	**Fiberglass Reinforced Plastic**

SPEEDWAY #1509 (Continued) **U004330493**

Pipe Type: **Pressure**
Pipe Mtrl Type: **Flexible Polyethylene**
Pipe const Type: **Double Walled**

Tank ID: 2
Date Closed: Not reported
Tank Status: **Open**
Closure Type: **Not reported**
Tank Inst Date: **12/10/2020**
Capacity: **8000**
Substance: **Diesel**
Compartment: **COMPARTMENT C**
Tank Const Type: **Double Walled**
Tank Mtrl Type: **Fiberglass Reinforced Plastic**
Pipe Type: **Pressure**
Pipe Mtrl Type: **Flexible Polyethylene**
Pipe const Type: **Double Walled**

Tank ID: 2
Date Closed: Not reported
Tank Status: **Open**
Closure Type: **Not reported**
Tank Inst Date: **12/10/2020**
Capacity: **8000**
Substance: **Gasoline (UL)**
Compartment: **COMPARTMENT A**
Tank Const Type: **Double Walled**
Tank Mtrl Type: **Fiberglass Reinforced Plastic**
Pipe Type: **Pressure**
Pipe Mtrl Type: **Flexible Polyethylene**
Pipe const Type: **Double Walled**

FIN ASSURANCE 1:
Name: SPEEDWAY #1509
Address: Not reported
City,State,Zip: MESA, AZ
Mech Desc: COMIN Insurance
Owner Name: SPEEDWAY LLC
Annual Coverage: $2,000,000.00
Effective Date: 12/18/2020
Expired Date: 12/18/2025
Per Occurrence Amount: $1,000,000.00
Number of Tanks: 4
Number of Open Tanks: 4
Number of Tanks Perm Colsed: 0
Number of Tanks Temp Closed: 0
FR Number: FR5363
Status: ACTIVE
Cancel Date: Not reported
Ust Owner ID: 9950
Owner Address: PO BOX 711
Owner City: DALLAS
Owner State: TX
Owner Zip: 75221

25
West
< 1/8
0.063 mi.
332 ft.

MOBIL3 STUDIO LLC
19122 E SEAGULL DR
QUEEN CREEK, AZ 85142

EDR Hist Auto **1020597696**
N/A

Actual:
1361 ft.

Focus Map:
7

EDR Hist Auto

Year:	Name:	Type:
2011	MOBIL3 STUDIO LLC	Gasoline Service Stations, NEC
2012	MOBIL3 STUDIO LLC	Gasoline Service Stations, NEC
2013	MOBIL3 STUDIO LLC	Gasoline Service Stations, NEC
2014	MOBIL3 STUDIO LLC	Gasoline Service Stations, NEC

F26
NNE
< 1/8
0.066 mi.
351 ft.

CRM OF AMERICA
11400 E. PECOS RD
MESA, AZ 85212
Site 1 of 5 in cluster F

AST **A100531000**
N/A

Actual:
1441 ft.

Focus Map:
5

AST 2:

Name:	CRM OF AMERICA
Address:	11400 E. PECOS RD
City:	MESA
Exemption Num:	0701902-16
Old Exemption Num:	Not reported
Owner Id:	1104
Owner Name:	CRM of America
Applicant Mailing Address:	11400 E. Pecos Rd
Applicant City, State, Zip:	Mesa, AZ 85212
Cert Status:	Open
Cert Effective Date:	10/26/2022
Tank Number:	4
Product Code:	Red Diesel
Tank Type:	Above Ground Storage
Capacity:	500
Installed Date:	01/01/2017
Cancellation Date:	Not reported
Cert Validation Date:	10/26/2022

Name:	CRM OF AMERICA
Address:	11400 E. PECOS RD
City:	MESA
Exemption Num:	0701902-16
Old Exemption Num:	Not reported
Owner Id:	1104
Owner Name:	CRM of America
Applicant Mailing Address:	11400 E. Pecos Rd
Applicant City, State, Zip:	Mesa, AZ 85212
Cert Status:	Open
Cert Effective Date:	10/26/2022
Tank Number:	3
Product Code:	Gasoline (UL)
Tank Type:	Above Ground Storage
Capacity:	500
Installed Date:	01/01/2003
Cancellation Date:	Not reported
Cert Validation Date:	10/26/2022

Name:	CRM OF AMERICA

CRM OF AMERICA (Continued) **A100531000**

Address:	11400 E. PECOS RD
City:	MESA
Exemption Num:	0701902-16
Old Exemption Num:	Not reported
Owner Id:	1104
Owner Name:	CRM of America
Applicant Mailing Address:	11400 E. Pecos Rd
Applicant City, State, Zip:	Mesa, AZ 85212
Cert Status:	Open
Cert Effective Date:	10/26/2022
Tank Number:	2
Product Code:	Red Diesel
Tank Type:	Above Ground Storage
Capacity:	1000
Installed Date:	01/01/2003
Cancellation Date:	Not reported
Cert Validation Date:	10/26/2022

Name:	CRM OF AMERICA
Address:	11400 E. PECOS RD
City:	MESA
Exemption Num:	0701902-16
Old Exemption Num:	Not reported
Owner Id:	1104
Owner Name:	CRM of America
Applicant Mailing Address:	11400 E. Pecos Rd
Applicant City, State, Zip:	Mesa, AZ 85212
Cert Status:	Open
Cert Effective Date:	10/26/2022
Tank Number:	1
Product Code:	Diesel
Tank Type:	Above Ground Storage
Capacity:	3000
Installed Date:	01/01/2017
Cancellation Date:	Not reported
Cert Validation Date:	10/26/2022

F27 **MARICOPA COUNTY - SOUTHEAST WASTE TIRE COLLECTION** **SWF/LF** **S101640990**
NNE **11400 E PECOS RD** **SPILLS** **N/A**
< 1/8 **MESA, AZ 85212** **Enforcement**
0.066 mi. **SPDES**
351 ft. **Site 2 of 5 in cluster F**

Actual:
1441 ft.

Focus Map:
5

SWF/LF:

Name:	CRM OF AMERICA
Address:	11400 E PECOS RD
City,State,Zip:	MESA, AZ 85212
Facility Status:	ACTIVE
Facility Type:	Transfer
Operator:	Not reported
Operator Address:	Not reported
Owner:	Not reported
ID Number:	9770
Range:	Not reported
Township:	Not reported
Section:	Not reported
Q1:	Not reported
Q2:	Not reported

MARICOPA COUNTY - SOUTHEAST WASTE TIRE COLLECTION SITE (Continued) **S101640990**

Q3:	Not reported
Latitude:	33.29298007
Longitude:	-111.587
Collection:	LOCATED FROM COUNTY PARCEL INFORMATION
Place Type:	RECYCLING CENTER
Code:	RCYL
PLACC Code:	PP
Status:	ACTIVE
End Date:	Not reported
Verified:	Y
Generated:	5/6/2019
PLC ID:	9770
PLC Name:	CRM OF AMERICA
PLC Address:	MESA, AZ 85212
PLC City State Zip:	11400 E PECOS RD
PLC County:	MARICOPA
CUS ID:	24879
Contact :	(480) 987-3006

SPILLS:

Name:	BAKER SOUTHWEST
Address:	11400 E. PECOS ROAD
City,State,Zip:	MESA, AZ
Referred to:	Solid Waste
Property Mngmt:	Private
Fund Amount:	Pvt/Unk
Incident Date:	06/16/1995
Chemicals:	Tires
Quantity:	None
Response Date:	06/16/1995
Incident Number:	95-011-F
Referral Date:	6/16/1995
Type:	Fire
Structure:	Tires
Date Report:	06/16/1995
Status:	Not reported
Comments:	Not reported

ENF:

Facility ID:	129120
Name:	MARICOPA COUNTY - SOUTHEAST WASTE TIRE COLLECTION SITE
Address:	11400 E PECOS RD
City,State,Zip:	MESA, AZ 85212
Case ID:	195040
Facility Type:	WASTE TIRE COLLECTION SITE
Notice Type:	Notice Of Opportunity To Correct Deficiencies
Notice Issue Date:	12/17/2020
Order Type:	Not reported
Order Issue Date:	Not reported
Closed Date:	01/07/2021
Faciltiy Status:	Case Closed
Env Program:	SOLID WASTE PROGRAM
Notice Type Code:	NOC

Facility ID:	129120
Name:	MARICOPA COUNTY - SOUTHEAST WASTE TIRE COLLECTION SITE

MARICOPA COUNTY - SOUTHEAST WASTE TIRE COLLECTION SITE (Continued) **S101640990**

Address: 11400 E PECOS RD
City,State,Zip: MESA, AZ 85212
Case ID: 230452
Facility Type: WASTE TIRE COLLECTION SITE
Notice Type: Notice Of Opportunity To Correct Deficiencies
Notice Issue Date: 10/24/2025
Order Type: Not reported
Order Issue Date: Not reported
Closed Date: Not reported
Faciltiy Status: NOC Pending
Env Program: SOLID WASTE PROGRAM
Notice Type Code: NOC

Facility ID: 9770
Name: CRM OF AMERICA
Address: 11400 E PECOS RD
City,State,Zip: MESA, AZ 85212
Case ID: 170580
Facility Type: RECYCLING CENTER
Notice Type: Notice Of Opportunity To Correct Deficiencies
Notice Issue Date: 06/14/2017
Order Type: Not reported
Order Issue Date: Not reported
Closed Date: 07/05/2017
Faciltiy Status: Case Closed
Env Program: AZPDES STORMWATER
Notice Type Code: NOC

Facility ID: 9770
Name: CRM OF AMERICA
Address: 11400 E PECOS RD
City,State,Zip: MESA, AZ 85212
Case ID: 101876
Facility Type: RECYCLING CENTER
Notice Type: Not reported
Notice Issue Date: 11/12/2008
Order Type: Not reported
Order Issue Date: Not reported
Closed Date: 03/18/2009
Faciltiy Status: Case Closed
Env Program: SOLID WASTE PROGRAM
Notice Type Code: Not reported

NPDES:
Name: CRM OF AMERICA
Address: 11400 E PECOS RD
City,State,Zip: MESA, AZ 85212
AZNPDES Number: AZMS68623
Application Type: MSGPN
Receive Date: 2011-07-06
Approved Date: Not reported
Term Void Date: 2020-02-27
Application Status: Not reported
Site Phone: Not reported
Contact Name: Brian Wong
Operator Business Name: Crm Of America, Llc
Operator Address: 11400 E PECOS RD, MESA AZ 85212

MARICOPA COUNTY - SOUTHEAST WASTE TIRE COLLECTION SITE (Continued) **S101640990**

Operator Phone:	(480) 987-3006
Operator Fax:	Not reported
Operator County:	Not reported
Type of Project:	AZPDES MSGP Non-Mining
Part of Larger Plan:	Not reported
Total Project Size:	Not reported
Size of Operation:	Not reported
Site Direction:	Not reported
Start Date:	Not reported
End Date:	Not reported
Date Applied:	2017-11-02 13:46:57
Date Submit:	2017-11-01 14:46:41
Non Stormwater Discharges:	Not reported
Closest Receiving Water:	Not reported
MS4 Potential:	Not reported
MS4 Owner:	Not reported
SWPPP Location:	Not reported
SWPPP Contact Name:	DAWN HELMS
SWPPP Contact Phone:	4809873006
SWPPP Contact Email:	dhelms@crmrubber.com
Within Quarter Mile:	Not reported
Within Half Mile:	Not reported
Signer Name:	Not reported
Signer Business Name:	Not reported
Signer Address:	Not reported
Signer Phone:	Not reported
Latitude:	33.292980073
Longitude:	-111.58734783

Name:	CRM OF AMERICA
Address:	11400 E PECOS RD
City,State,Zip:	MESA, AZ 85212
AZNPDES Number:	AZMS81269
Application Type:	MSGPN
Receive Date:	2020-02-27
Approved Date:	Not reported
Term Void Date:	Not reported
Application Status:	Not reported
Site Phone:	Not reported
Contact Name:	Brian Wong
Operator Business Name:	Crm Of America, Llc
Operator Address:	11400 E PECOS RD, MESA AZ 85212
Operator Phone:	(480) 987-3006
Operator Fax:	Not reported
Operator County:	Not reported
Type of Project:	AZPDES MSGP Non-Mining
Part of Larger Plan:	Not reported
Total Project Size:	Not reported
Size of Operation:	Not reported
Site Direction:	Not reported
Start Date:	Not reported
End Date:	Not reported
Date Applied:	2020-02-27 00:00:00
Date Submit:	2020-02-27 13:57:21
Non Stormwater Discharges:	Not reported
Closest Receiving Water:	Not reported
MS4 Potential:	Not reported

MARICOPA COUNTY - SOUTHEAST WASTE TIRE COLLECTION SITE (Continued) **S101640990**

MS4 Owner:	Not reported
SWPPP Location:	Not reported
SWPPP Contact Name:	DAWN HELMS
SWPPP Contact Phone:	4809873006
SWPPP Contact Email:	dhelms@crmrubber.com
Within Quarter Mile:	Not reported
Within Half Mile:	Not reported
Signer Name:	Not reported
Signer Business Name:	Not reported
Signer Address:	Not reported
Signer Phone:	Not reported
Latitude:	33.292980073
Longitude:	-111.58734783

F28 **CRUM RUBBER MANUFACTURING** **AST** **A100531002**
NNE **11400 E PECOS RD** **N/A**
< 1/8 **MESA, AZ 85212**
0.066 mi.
351 ft. **Site 3 of 5 in cluster F**

Actual:
1441 ft.

Focus Map:
5

AST 2:

Name:	CRUM RUBBER MANUFACTURING
Address:	11400 E PECOS RD
City:	MESA
Exemption Num:	0701584-17
Old Exemption Num:	Not reported
Owner Id:	922
Owner Name:	CRUM RUBBER MANUFACTURING
Applicant Mailing Address:	11400 E PECOS RD
Applicant City, State, Zip:	MESA, AZ 85212
Cert Status:	Closed
Cert Effective Date:	Not reported
Tank Number:	1
Product Code:	Diesel
Tank Type:	Above Ground Storage
Capacity:	3000
Installed Date:	01/01/2015
Cancellation Date:	10/26/2022
Cert Validation Date:	06/21/2017

Name:	CRUM RUBBER MANUFACTURING
Address:	11400 E PECOS RD
City:	MESA
Exemption Num:	0701584-17
Old Exemption Num:	Not reported
Owner Id:	922
Owner Name:	CRUM RUBBER MANUFACTURING
Applicant Mailing Address:	11400 E PECOS RD
Applicant City, State, Zip:	MESA, AZ 85212
Cert Status:	Closed
Cert Effective Date:	Not reported
Tank Number:	2
Product Code:	Red Diesel
Tank Type:	Above Ground Storage
Capacity:	1000
Installed Date:	01/01/2015
Cancellation Date:	10/26/2022
Cert Validation Date:	06/21/2017

F29 **CRM OF AMERICA, L.L.C.** **SWTIRE** **S128064552**
NNE **11400 E. PECOS ROAD** **EMAP** **N/A**
< 1/8 **MESA, AZ 85212** **SPDES**
0.066 mi.
351 ft. **Site 4 of 5 in cluster F**

Actual:
1441 ft.

Focus Map:
5

SWTIRE:

Name:	CRM OF AMERICA, L.L.C.
Address:	11400 E. PECOS ROAD
City,State,Zip:	MESA, AZ 85212
Owner Name:	CRM of America, L.L.C.
Owner Address:	11400 E. Pecos Road
Owner City,St,Zip:	Mesa, AZ 85212
Facility Type:	Self-Cert. WTCS (=5,000)
Contact Name:	Barry Takallou
Contact Telephone:	480-987-3006

EMAP:

Name:	CRM OF AMERICA
Address:	11400 E PECOS RD
City,State,Zip:	MESA, AZ 85212
ID Number:	9770
Township:	1
Range:	7
Section:	36
Quarter 1:	Not reported
Quarter 2:	Not reported
Quarter 3:	Not reported
Latitude:	33.29298007
Longitude:	-111.58734783
Collection Method:	LOCATED FROM COUNTY PARCEL INFORMATION
Place Type:	RECYCLING CENTER
Place Type Code:	PP
Place C Code:	PHYSICAL PROPERTIES
Facility Status:	ACTIVE
End Date:	Not reported
Verified:	Y

NPDES:

Name:	CRM OF AMERICA
Address:	11400 E PECOS RD
City,State,Zip:	MESA, AZ 85212
AZNPDES Number:	109819
Application Type:	MSGPD
Receive Date:	6/19/2025
Approved Date:	Not reported
Term Void Date:	Not reported
Application Status:	Not reported
Site Phone:	Not reported
Contact Name:	Not reported
Operator Business Name:	Crm Of America, Llc
Operator Address:	11400 E PECOS RD
Operator Phone:	(480) 987-3006
Operator Fax:	Not reported
Operator County:	Not reported
Type of Project:	NDC No Discharge Certificate
Part of Larger Plan:	Not reported
Total Project Size:	Not reported

CRM OF AMERICA, L.L.C. (Continued) **S128064552**

Size of Operation:	Not reported
Site Direction:	Not reported
Start Date:	Not reported
End Date:	Not reported
Date Applied:	6/19/2025
Date Submit:	6/19/2025
Non Stormwater Discharges:	Not reported
Closest Receiving Water:	Not reported
MS4 Potential:	Not reported
MS4 Owner:	Not reported
SWPPP Location:	Not reported
SWPPP Contact Name:	Not reported
SWPPP Contact Phone:	Not reported
SWPPP Contact Email:	Not reported
Within Quarter Mile:	Not reported
Within Half Mile:	Not reported
Signer Name:	Not reported
Signer Business Name:	Not reported
Signer Address:	Not reported
Signer Phone:	Not reported
Latitude:	33.292980073
Longitude:	-111.58734783

F30 **CRM OF AMERICA** **RCRA NonGen / NLR** **1010312538**
NNE **11400 E PECOS RD** **AZE060911001**
< 1/8 **MESA, AZ 85212**
0.066 mi.
351 ft. **Site 5 of 5 in cluster F**

Actual: **1441 ft.**

Focus Map: **5**

RCRA Listings:

Date Form Received by Agency:		20211104
Handler Name:		Crm Of America
Handler Address:		11400 E Pecos Rd
Handler City,State,Zip:		MESA, AZ 85212-7936
EPA ID:		AZE060911001
Contact Name:		Not reported
Contact Address:		Not reported
Contact City,State,Zip:		Not reported
Contact Telephone:		Not reported
Contact Fax:		Not reported
Contact Email:		Not reported
Contact Title:		Not reported
EPA Region:		09
Land Type:		Other
Federal Waste Generator Description:		Not a generator, verified
Non-Notifier:		Not reported
Biennial Report Cycle:		Not reported
Accessibility:		Not reported
Active Site Indicator:		Not reported
State District Owner:		Not reported
State District:		Not reported
Mailing Address:		Not reported
Mailing City,State,Zip:		Not reported
Owner Name:	Not reported	
Owner Type:		Not reported
Operator Name:	Not reported	
Operator Type:		Not reported
Short-Term Generator Activity:		No

CRM OF AMERICA (Continued) **1010312538**

Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20211104
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Hazardous Waste Summary:

Waste Code:	D002
Waste Description:	Corrosive Waste
Waste Code:	F001
Waste Description:	The Following Spent Halogenated Solvents Used In Degreasing: Tetrachloroethylene, Trichlorethylene, Methylene Chloride, 1,1,1-Trichloroethane, Carbon Tetrachloride And Chlorinated Fluorocarbons; All Spent Solvent Mixtures/Blends Used In Degreasing Containing, Before Use, A Total Of Ten Percent Or More (By Volume) Of One Or More Of The Above Halogenated Solvents Or Those Solvents Listed In F002, F004, And F005; And Still Bottoms From The Recovery Of These Spent Solvents And Spent Solvent Mixtures.
Waste Code:	F002
Waste Description:	The Following Spent Halogenated Solvents: Tetrachloroethylene,

CRM OF AMERICA (Continued) **1010312538**

Methylene Chloride, Trichloroethylene, 1,1,1-Trichloroethane, Chlorobenzene, 1,1,2-Trichloro-1,2,2-Trifluoroethane, Ortho-Dichlorobenzene, Trichlorofluoromethane, And 1,1,2, Trichloroethane; All Spent Solvent Mixtures/Blends Containing, Before Use, A Total Of Ten Percent Or More (By Volume) Of One Or More Of The Above Halogenated Solvents Or Those Solvents Listed In F001, F004, And F005; And Still Bottoms From The Recovery Of These Spent Solvents And Spent Solvent Mixtures.

Handler - Owner Operator:

Owner/Operator Indicator:	Operator
Owner/Operator Name: CRM OF AMERICA LLC	
Legal Status:	Private
Date Became Current:	20030701
Date Ended Current:	Not reported
Owner/Operator Address:	11400 E PECOS RD
Owner/Operator City,State,Zip:	QUEEN CREEK, AZ 85242-8936
Owner/Operator Telephone:	480-987-3606
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name: CRM OF AMERICA HOLDINGS LLC	
Legal Status:	Private
Date Became Current:	20030701
Date Ended Current:	Not reported
Owner/Operator Address:	1520 E MARCO POLO RD
Owner/Operator City,State,Zip:	PHOENIX, AZ 85024-3656
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	20080423
Handler Name: CRM OF AMERICA	
Federal Waste Generator Description:	Small Quantity Generator
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

Receive Date:	20080207
Handler Name: CRM OF AMERICA	
Federal Waste Generator Description:	Not a generator, verified
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No

CRM OF AMERICA (Continued) **1010312538**

Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20061210
Handler Name: CRM OF AMERICA
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20211104
Handler Name: CRM OF AMERICA
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

Receive Date: 20211104
Handler Name: CRM OF AMERICA
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

Receive Date: 20060911
Handler Name: CRM OF AMERICA LLC
Federal Waste Generator Description: Small Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

CRM OF AMERICA (Continued) **1010312538**

List of NAICS Codes and Descriptions:
NAICS Codes: No NAICS Codes Found

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

31
NNE
< 1/8
0.076 mi.
401 ft.

LOWES PRO MSH #4545 **E MANIFEST** **1032148341**
7111 SOUTH CRISMON RD **N/A**
MESA, AZ 85212

Actual:
1410 ft.

Focus Map:
4

E MANIFEST:

Manifest Tracking Number:	026816961JJK
Last Updated Date:	20250204
Shipped Date:	20240812
Received Date:	20240822
Manifest Status:	Corrected
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	Not reported
Generator Name:	Lowes Pro Msh #4545
Generator Location Street Number:	Not reported
Generator Location Street 1:	7111 SOUTH CRISMON RD
Generator Location Street 2:	BULIDING C SUITE 101
Generator Location City:	MESA
Generator Location State:	AZ
Generator Location Zip:	85212
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	7111 SOUTH CRISMON RD
Generator Mail Street 2:	BULIDING C SUITE 101
Generator Mail City:	MESA
Generator Mail Zip:	85212
Generator Mail State:	AZ
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	NVT330010000
Designated Facility Name:	Us Ecology Nevada, Inc
Designated Facility Mail Street Number:	Not reported
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	HIGHWAY 95, 11 MILES SOUTH OF BEATTY
Designated Facility Mail City:	BEATTY
Designated Facility Mail Zip:	89003
Designated Facility Mail State:	NV
Designated Facility Location Street Number:	Not reported
Designated Facility Location Street 1:	HIGHWAY 95, 11 MILES SOUTH OF BEATTY
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	BEATTY
Designated Facility Location Zip:	89003
Designated Facility Location State:	NV
Designated Facility Contact Company Name:	Not reported
Manifest Residue Indicator:	N
Rejection Indicator:	N

LOWES PRO MSH #4545 (Continued) **1032148341**

Manifest Tracking Number:	026818801JJK
Last Updated Date:	20250204
Shipped Date:	20241204
Received Date:	20241212
Manifest Status:	Corrected
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	Not reported
Generator Name:	Lowes Pro Msh #4545
Generator Location Street Number:	Not reported
Generator Location Street 1:	7111 SOUTH CRISMON RD
Generator Location Street 2:	BULIDING C SUITE 101
Generator Location City:	MESA
Generator Location State:	AZ
Generator Location Zip:	85212
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	7111 SOUTH CRISMON RD
Generator Mail Street 2:	BULIDING C SUITE 101
Generator Mail City:	MESA
Generator Mail Zip:	85212
Generator Mail State:	AZ
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	NVT330010000
Designated Facility Name:	Us Ecology Nevada, Inc
Designated Facility Mail Street Number:	Not reported
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	HIGHWAY 95, 11 MILES SOUTH OF BEATTY
Designated Facility Mail City:	BEATTY
Designated Facility Mail Zip:	89003
Designated Facility Mail State:	NV
Designated Facility Location Street Number:	Not reported
Designated Facility Location Street 1:	HIGHWAY 95, 11 MILES SOUTH OF BEATTY
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	BEATTY
Designated Facility Location Zip:	89003
Designated Facility Location State:	NV
Designated Facility Contact Company Name:	Not reported
Manifest Residue Indicator:	N
Rejection Indicator:	N

Manifest Tracking Number:	027158723JJK
Last Updated Date:	20250717
Shipped Date:	20250617
Received Date:	20250703
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	Not reported
Generator Name:	Lowes Pro Msh #4545
Generator Location Street Number:	Not reported
Generator Location Street 1:	7111 SOUTH CRISMON RD
Generator Location Street 2:	BULIDING C SUITE 101
Generator Location City:	MESA
Generator Location State:	AZ
Generator Location Zip:	85212
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	7111 SOUTH CRISMON RD

LOWES PRO MSH #4545 (Continued) **1032148341**

Generator Mail Street 2:	BULIDING C SUITE 101
Generator Mail City:	MESA
Generator Mail Zip:	85212
Generator Mail State:	AZ
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	NVT330010000
Designated Facility Name:	Us Ecology Nevada, Inc
Designated Facility Mail Street Number:	Not reported
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	HIGHWAY 95, 11 MILES SOUTH OF BEATTY
Designated Facility Mail City:	BEATTY
Designated Facility Mail Zip:	89003
Designated Facility Mail State:	NV
Designated Facility Location Street Number:	Not reported
Designated Facility Location Street 1:	HIGHWAY 95, 11 MILES SOUTH OF BEATTY
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	BEATTY
Designated Facility Location Zip:	89003
Designated Facility Location State:	NV
Designated Facility Contact Company Name:	Not reported
Manifest Residue Indicator:	N
Rejection Indicator:	N

Manifest Tracking Number:	025238487JJK
Last Updated Date:	20250329
Shipped Date:	20250304
Received Date:	20250313
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	Not reported
Generator Name:	Lowes Pro Msh #4545
Generator Location Street Number:	Not reported
Generator Location Street 1:	7111 SOUTH CRISMON RD
Generator Location Street 2:	BULIDING C SUITE 101
Generator Location City:	MESA
Generator Location State:	AZ
Generator Location Zip:	85212
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	7111 SOUTH CRISMON RD
Generator Mail Street 2:	BULIDING C SUITE 101
Generator Mail City:	MESA
Generator Mail Zip:	85212
Generator Mail State:	AZ
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	NVT330010000
Designated Facility Name:	Us Ecology Nevada, Inc
Designated Facility Mail Street Number:	Not reported
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	HIGHWAY 95, 11 MILES SOUTH OF BEATTY
Designated Facility Mail City:	BEATTY
Designated Facility Mail Zip:	89003
Designated Facility Mail State:	NV
Designated Facility Location Street Number:	Not reported
Designated Facility Location Street 1:	HIGHWAY 95, 11 MILES SOUTH OF BEATTY
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	BEATTY

LOWES PRO MSH #4545 (Continued) **1032148341**

Designated Facility Location Zip: 89003
Designated Facility Location State: NV
Designated Facility Contact Company Name: Not reported
Manifest Residue Indicator: N
Rejection Indicator: N

Transporter:
Manifest Tracking Number: 025238487JJK
Transporter Line Number: 1
Transporter EPA ID: MIK593743838
Transporter Name: Us Ecology Transportation Solutions, Inc

Waste Line:
Manifest Tracking Number: 025238487JJK
Waste Line Number: 1
U.S. DOT Hazardous Indicator: Y
U.S. DOT ID Number: UN1993
U.S. DOT Description: Rq, Un1993, Waste Flammable Liquids, N.O.S. (Benzene, Acetone), 3, Pgii, Rq: Benzene, Erg#128
Non-Hazardous Waste Description: Not reported
Number of Containers: 3
Container Type Code: DF
Container Type Description: Fiberboard or plastic drums, barrels, kegs
Waste Quantity: 192
Quantity Unit of Measure Code: P
Quantity Unit of Measure Description: Pounds
Waste Quantity, in Tons: 0.096
Acute Waste Quantity, in Tons: 0
Non-Acute Waste Quantity, in Tons: 0.096
Waste Quantity, in Kilograms: 87.07488
Acute Waste Quantity, in Kilograms: 0
Non-Acute Waste Quantity, in Kilorgrams: 87.07488
Management Method Code: H141
Management Method Description: STORAGE, BULKING AND/OR TRANSFER OFF SITE
Waste Residue Indicator: N
Quantity Discrepancy Indicator: N
Waste Type Discrepancy Indicator: N
Waste Density: Not reported
Waste Density Unit of Measure Code: Not reported
Waste Density Unit of Measure Description: Not reported
Form Code: Not reported
Form Code Description: Not reported
Source Code: Not reported
Source Code Description: Not reported
Waste Minimization Code: Not reported
Waste Minimization Code Description: Not reported
Consent Number: Not reported
EPA Waste Indicator: Y
Federal Waste Codes: D001, D005, D007, D018, D035, U002, U159
Quantity Haz Kg: 87.07488
Quantity Haz Tons: 0.096
Quantity Non Haz Kg: 0
Quantity Non Haz Tons: 0
State Waste Codes: Not reported

Manifest Tracking Number: 025238487JJK

LOWES PRO MSH #4545 (Continued) **1032148341**

Waste Line Number:	2
U.S. DOT Hazardous Indicator:	Y
U.S. DOT ID Number:	UN3266
U.S. DOT Description:	Rq, Un3266, Waste Corrosive Liquid, Basic, Inorganic, N.O.S. (Sodium Hydroxide, Potassium Hydroxide), 8, Pgii, (Rq: D002), Erg#154
Non-Hazardous Waste Description:	Not reported
Number of Containers:	1
Container Type Code:	DF
Container Type Description:	Fiberboard or plastic drums, barrels, kegs
Waste Quantity:	166
Quantity Unit of Measure Code:	P
Quantity Unit of Measure Description:	Pounds
Waste Quantity, in Tons:	0.083
Acute Waste Quantity, in Tons:	0
Non-Acute Waste Quantity, in Tons:	0.083
Waste Quantity, in Kilograms:	75.28349
Acute Waste Quantity, in Kilograms:	0
Non-Acute Waste Quantity, in Kilorgrams:	75.28349
Management Method Code:	H039
Management Method Description:	OTHER RECOVERY OR RECLAMATION FOR REUSE
Waste Residue Indicator:	N
Quantity Discrepancy Indicator:	N
Waste Type Discrepancy Indicator:	N
Waste Density:	Not reported
Waste Density Unit of Measure Code:	Not reported
Waste Density Unit of Measure Description:	Not reported
Form Code:	Not reported
Form Code Description:	Not reported
Source Code:	Not reported
Source Code Description:	Not reported
Waste Minimization Code:	Not reported
Waste Minimization Code Description:	Not reported
Consent Number:	Not reported
EPA Waste Indicator:	Y
Federal Waste Codes:	D002
Quantity Haz Kg:	75.28349
Quantity Haz Tons:	0.083
Quantity Non Haz Kg:	0
Quantity Non Haz Tons:	0
State Waste Codes:	Not reported
Manifest Tracking Number:	025238487JJK
Waste Line Number:	3
U.S. DOT Hazardous Indicator:	N
U.S. DOT ID Number:	Not reported
U.S. DOT Description:	Not reported
Non-Hazardous Waste Description:	Non Hazardous Liquid
Number of Containers:	3
Container Type Code:	DF
Container Type Description:	Fiberboard or plastic drums, barrels, kegs
Waste Quantity:	224
Quantity Unit of Measure Code:	P
Quantity Unit of Measure Description:	Pounds
Waste Quantity, in Tons:	0.112
Acute Waste Quantity, in Tons:	0
Non-Acute Waste Quantity, in Tons:	0.112
Waste Quantity, in Kilograms:	101.58736

LOWES PRO MSH #4545 (Continued) **1032148341**

Acute Waste Quantity, in Kilograms:	0
Non-Acute Waste Quantity, in Kilorgrams:	101.58736
Management Method Code:	H039
Management Method Description:	OTHER RECOVERY OR RECLAMATION FOR REUSE
Waste Residue Indicator:	N
Quantity Discrepancy Indicator:	N
Waste Type Discrepancy Indicator:	N
Waste Density:	Not reported
Waste Density Unit of Measure Code:	Not reported
Waste Density Unit of Measure Description:	Not reported
Form Code:	Not reported
Form Code Description:	Not reported
Source Code:	Not reported
Source Code Description:	Not reported
Waste Minimization Code:	Not reported
Waste Minimization Code Description:	Not reported
Consent Number:	Not reported
EPA Waste Indicator:	N
Federal Waste Codes:	Not reported
Quantity Haz Kg:	0
Quantity Haz Tons:	0
Quantity Non Haz Kg:	101.58736
Quantity Non Haz Tons:	0.112
State Waste Codes:	Not reported

Manifest Tracking Number:	025238487JJK
Waste Line Number:	4
U.S. DOT Hazardous Indicator:	N
U.S. DOT ID Number:	Not reported
U.S. DOT Description:	Not reported
Non-Hazardous Waste Description:	Universal Waste Various
Number of Containers:	1
Container Type Code:	CF
Container Type Description:	Fiber or plastic boxes, cartons, cases
Waste Quantity:	2
Quantity Unit of Measure Code:	P
Quantity Unit of Measure Description:	Pounds
Waste Quantity, in Tons:	0.001
Acute Waste Quantity, in Tons:	0
Non-Acute Waste Quantity, in Tons:	0.001
Waste Quantity, in Kilograms:	0.90703
Acute Waste Quantity, in Kilograms:	0
Non-Acute Waste Quantity, in Kilorgrams:	0.90703
Management Method Code:	H141
Management Method Description:	STORAGE, BULKING AND/OR TRANSFER OFF SITE
Waste Residue Indicator:	N
Quantity Discrepancy Indicator:	N
Waste Type Discrepancy Indicator:	N
Waste Density:	Not reported
Waste Density Unit of Measure Code:	Not reported
Waste Density Unit of Measure Description:	Not reported
Form Code:	Not reported
Form Code Description:	Not reported
Source Code:	Not reported
Source Code Description:	Not reported
Waste Minimization Code:	Not reported
Waste Minimization Code Description:	Not reported

LOWES PRO MSH #4545 (Continued) **1032148341**

Consent Number:	Not reported
EPA Waste Indicator:	N
Federal Waste Codes:	Not reported
Quantity Haz Kg:	0
Quantity Haz Tons:	0
Quantity Non Haz Kg:	0.90703
Quantity Non Haz Tons:	0.001
State Waste Codes:	Not reported

G32 **PETSMART** **E MANIFEST** **1032238643**
SSW **21032 S ELLSWORTH LOOP ROAD** **N/A**
< 1/8 **QUEEN CREEK, AZ 85142**
0.093 mi.
490 ft. **Site 1 of 2 in cluster G**

Actual:
1401 ft.

Focus Map:
13

E MANIFEST:

Manifest Tracking Number:	013409759FLE
Last Updated Date:	20200310
Shipped Date:	20200217
Received Date:	20200304
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	CESQG
Generator Name:	Petsmart
Generator Location Street Number:	Not reported
Generator Location Street 1:	21032 S ELLSWORTH LOOP ROAD
Generator Location Street 2:	Not reported
Generator Location City:	QUEEN CREEK
Generator Location State:	AZ
Generator Location Zip:	85142-7675
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	21032 S Ellsworth Loop Rd
Generator Mail Street 2:	Not reported
Generator Mail City:	Queen Creek
Generator Mail Zip:	85142-7675
Generator Mail State:	AZ
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	TXD046844700
Designated Facility Name:	Chemical Reclamation Services Llc
Designated Facility Mail Street Number:	Not reported
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	405 Powell Street P.O. Box 69 50084
Designated Facility Mail City:	Avalon
Designated Facility Mail Zip:	76623
Designated Facility Mail State:	TX
Designated Facility Location Street Number:	Not reported
Designated Facility Location Street 1:	405 Powell Street P.O. Box 69 50084
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	Avalon
Designated Facility Location Zip:	76623
Designated Facility Location State:	TX
Designated Facility Contact Company Name:	Not reported
Manifest Residue Indicator:	N
Rejection Indicator:	N

Manifest Tracking Number:	013410284FLE
Last Updated Date:	20190920

PETSMART (Continued) **1032238643**

Shipped Date:	20190907
Received Date:	20190916
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	CESQG
Generator Name:	Petsmart
Generator Location Street Number:	Not reported
Generator Location Street 1:	21032 S ELLSWORTH LOOP ROAD
Generator Location Street 2:	Not reported
Generator Location City:	QUEEN CREEK
Generator Location State:	AZ
Generator Location Zip:	85142-7675
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	21032 S Ellsworth Loop Rd
Generator Mail Street 2:	Not reported
Generator Mail City:	Queen Creek
Generator Mail Zip:	85142-7675
Generator Mail State:	AZ
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	TXD046844700
Designated Facility Name:	Chemical Reclamation Services Llc
Designated Facility Mail Street Number:	Not reported
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	405 Powell Street P.O. Box 69 50084
Designated Facility Mail City:	Avalon
Designated Facility Mail Zip:	76623
Designated Facility Mail State:	TX
Designated Facility Location Street Number:	Not reported
Designated Facility Location Street 1:	405 Powell Street P.O. Box 69 50084
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	Avalon
Designated Facility Location Zip:	76623
Designated Facility Location State:	TX
Designated Facility Contact Company Name:	Not reported
Manifest Residue Indicator:	N
Rejection Indicator:	N

Manifest Tracking Number:	013410985FLE
Last Updated Date:	20200831
Shipped Date:	20200807
Received Date:	20200817
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	CESQG
Generator Name:	Petsmart
Generator Location Street Number:	Not reported
Generator Location Street 1:	21032 S ELLSWORTH LOOP ROAD
Generator Location Street 2:	Not reported
Generator Location City:	QUEEN CREEK
Generator Location State:	AZ
Generator Location Zip:	85142-7675
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	21032 S Ellsworth Loop Rd
Generator Mail Street 2:	Not reported
Generator Mail City:	Queen Creek

PETSMART (Continued) **1032238643**

Generator Mail Zip:	85142-7675
Generator Mail State:	AZ
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	TXD046844700
Designated Facility Name:	Chemical Reclamation Services Llc
Designated Facility Mail Street Number:	Not reported
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	405 Powell Street P.O. Box 69 50084
Designated Facility Mail City:	Avalon
Designated Facility Mail Zip:	76623
Designated Facility Mail State:	TX
Designated Facility Location Street Number:	Not reported
Designated Facility Location Street 1:	405 Powell Street P.O. Box 69 50084
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	Avalon
Designated Facility Location Zip:	76623
Designated Facility Location State:	TX
Designated Facility Contact Company Name:	Not reported
Manifest Residue Indicator:	N
Rejection Indicator:	N

Manifest Tracking Number:	011459053FLE
Last Updated Date:	20181102
Shipped Date:	20181011
Received Date:	20181019
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	CESQG
Generator Name:	Petsmart
Generator Location Street Number:	Not reported
Generator Location Street 1:	21032 S ELLSWORTH LOOP ROAD
Generator Location Street 2:	Not reported
Generator Location City:	QUEEN CREEK
Generator Location State:	AZ
Generator Location Zip:	85142
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	19601 N 27TH AVE
Generator Mail Street 2:	Not reported
Generator Mail City:	PHOENIX
Generator Mail Zip:	85027-4008
Generator Mail State:	AZ
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	TXD046844700
Designated Facility Name:	Chemical Reclamation Services Llc
Designated Facility Mail Street Number:	Not reported
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	405 Powell Street P.O. Box 69 50084
Designated Facility Mail City:	Avalon
Designated Facility Mail Zip:	76623
Designated Facility Mail State:	TX
Designated Facility Location Street Number:	Not reported
Designated Facility Location Street 1:	405 Powell Street P.O. Box 69 50084
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	Avalon
Designated Facility Location Zip:	76623
Designated Facility Location State:	TX

PETSMART (Continued) **1032238643**

Designated Facility Contact Company Name:	Not reported
Manifest Residue Indicator:	N
Rejection Indicator:	N
Manifest Tracking Number:	200994036CLE
Last Updated Date:	20250423
Shipped Date:	20241120
Received Date:	20241217
Manifest Status:	Corrected
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	CESQG
Generator Name:	Petsmart
Generator Location Street Number:	Not reported
Generator Location Street 1:	21032 S ELLSWORTH LOOP ROAD
Generator Location Street 2:	Not reported
Generator Location City:	QUEEN CREEK
Generator Location State:	AZ
Generator Location Zip:	85142
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	21032 S ELLSWORTH LOOP RD
Generator Mail Street 2:	Not reported
Generator Mail City:	QUEEN CREEK
Generator Mail Zip:	85142
Generator Mail State:	AZ
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	TXD046844700
Designated Facility Name:	Chemical Reclamation Services - Avalon (Esol)
Designated Facility Mail Street Number:	Not reported
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	405 POWELL STREET
Designated Facility Mail City:	AVALON
Designated Facility Mail Zip:	76623
Designated Facility Mail State:	TX
Designated Facility Location Street Number:	405
Designated Facility Location Street 1:	POWELL STREET
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	AVALON
Designated Facility Location Zip:	76623
Designated Facility Location State:	TX
Designated Facility Contact Company Name:	Not reported
Manifest Residue Indicator:	N
Rejection Indicator:	N
Manifest Tracking Number:	200031057CLE
Last Updated Date:	20220131
Shipped Date:	20211220
Received Date:	20220114
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	CESQG
Generator Name:	Petsmart
Generator Location Street Number:	Not reported
Generator Location Street 1:	21032 S ELLSWORTH LOOP ROAD
Generator Location Street 2:	Not reported
Generator Location City:	QUEEN CREEK

PETSMART (Continued) **1032238643**

Generator Location State:	AZ
Generator Location Zip:	85142-7675
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	21032 S Ellsworth Loop Rd
Generator Mail Street 2:	Not reported
Generator Mail City:	Queen Creek
Generator Mail Zip:	85142-7675
Generator Mail State:	AZ
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	TXD046844700
Designated Facility Name:	Chemical Reclamation Services Llc
Designated Facility Mail Street Number:	Not reported
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	405 Powell Street P.O. Box 69 50084
Designated Facility Mail City:	Avalon
Designated Facility Mail Zip:	76623
Designated Facility Mail State:	TX
Designated Facility Location Street Number:	Not reported
Designated Facility Location Street 1:	405 Powell Street P.O. Box 69 50084
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	Avalon
Designated Facility Location Zip:	76623
Designated Facility Location State:	TX
Designated Facility Contact Company Name:	Not reported
Manifest Residue Indicator:	N
Rejection Indicator:	N

Manifest Tracking Number:	015080687FLE
Last Updated Date:	20210302
Shipped Date:	20210120
Received Date:	20210129
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	CESQG
Generator Name:	Petsmart
Generator Location Street Number:	Not reported
Generator Location Street 1:	21032 S ELLSWORTH LOOP ROAD
Generator Location Street 2:	Not reported
Generator Location City:	QUEEN CREEK
Generator Location State:	AZ
Generator Location Zip:	85142-7675
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	21032 S Ellsworth Loop Rd
Generator Mail Street 2:	Not reported
Generator Mail City:	Queen Creek
Generator Mail Zip:	85142-7675
Generator Mail State:	AZ
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	TXD046844700
Designated Facility Name:	Chemical Reclamation Services Llc
Designated Facility Mail Street Number:	Not reported
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	405 Powell Street P.O. Box 69 50084
Designated Facility Mail City:	Avalon
Designated Facility Mail Zip:	76623
Designated Facility Mail State:	TX

PETSMART (Continued) **1032238643**

Designated Facility Location Street Number:	Not reported
Designated Facility Location Street 1:	405 Powell Street P.O. Box 69 50084
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	Avalon
Designated Facility Location Zip:	76623
Designated Facility Location State:	TX
Designated Facility Contact Company Name:	Not reported
Manifest Residue Indicator:	N
Rejection Indicator:	N

Manifest Tracking Number:	200053958CLE
Last Updated Date:	20220131
Shipped Date:	20220112
Received Date:	20220126
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	CESQG
Generator Name:	Petsmart
Generator Location Street Number:	Not reported
Generator Location Street 1:	21032 S ELLSWORTH LOOP ROAD
Generator Location Street 2:	Not reported
Generator Location City:	QUEEN CREEK
Generator Location State:	AZ
Generator Location Zip:	85142-7675
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	21032 S Ellsworth Loop Rd
Generator Mail Street 2:	Not reported
Generator Mail City:	Queen Creek
Generator Mail Zip:	85142-7675
Generator Mail State:	AZ
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	TXD046844700
Designated Facility Name:	Chemical Reclamation Services Llc
Designated Facility Mail Street Number:	Not reported
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	405 Powell Street P.O. Box 69 50084
Designated Facility Mail City:	Avalon
Designated Facility Mail Zip:	76623
Designated Facility Mail State:	TX
Designated Facility Location Street Number:	Not reported
Designated Facility Location Street 1:	405 Powell Street P.O. Box 69 50084
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	Avalon
Designated Facility Location Zip:	76623
Designated Facility Location State:	TX
Designated Facility Contact Company Name:	Not reported
Manifest Residue Indicator:	N
Rejection Indicator:	N

Manifest Tracking Number:	013003650FLE
Last Updated Date:	20190430
Shipped Date:	20190327
Received Date:	20190405
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Service

PETSMART (Continued) **1032238643**

Generator EPA ID:	CESQG
Generator Name:	Petsmart
Generator Location Street Number:	Not reported
Generator Location Street 1:	21032 S ELLSWORTH LOOP ROAD
Generator Location Street 2:	Not reported
Generator Location City:	QUEEN CREEK
Generator Location State:	AZ
Generator Location Zip:	85142
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	21032 S Ellsworth Loop Road
Generator Mail Street 2:	Not reported
Generator Mail City:	QUEEN CREEK
Generator Mail Zip:	85142
Generator Mail State:	AZ
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	TXD046844700
Designated Facility Name:	Chemical Reclamation Services Llc
Designated Facility Mail Street Number:	Not reported
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	405 Powell Street P.O. Box 69 50084
Designated Facility Mail City:	Avalon
Designated Facility Mail Zip:	76623
Designated Facility Mail State:	TX
Designated Facility Location Street Number:	Not reported
Designated Facility Location Street 1:	405 Powell Street P.O. Box 69 50084
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	Avalon
Designated Facility Location Zip:	76623
Designated Facility Location State:	TX
Designated Facility Contact Company Name:	Not reported
Manifest Residue Indicator:	N
Rejection Indicator:	N

Transporter:

Manifest Tracking Number:	013003650FLE
Transporter Line Number:	1
Transporter EPA ID:	TXR000025072
Transporter Name:	Rocketline Carrier Services
Manifest Tracking Number:	013003650FLE
Transporter Line Number:	2
Transporter EPA ID:	MNS000110924
Transporter Name:	Stericycle Specialty Waste Solutions Inc
Manifest Tracking Number:	013003650FLE
Transporter Line Number:	3
Transporter EPA ID:	TXR000025072
Transporter Name:	Rocketline Carrier Services
Manifest Tracking Number:	013003650FLE
Transporter Line Number:	4
Transporter EPA ID:	MNS000110924
Transporter Name:	Stericycle Specialty Waste Solutions Inc

Waste Line:

Manifest Tracking Number:	013003650FLE

PETSMART (Continued) **1032238643**

Waste Line Number:	1
U.S. DOT Hazardous Indicator:	N
U.S. DOT ID Number:	Not reported
U.S. DOT Description:	Not reported
Non-Hazardous Waste Description:	Un2902, Pesticides, Liquid, Toxic, N.O.S. 6.1, Pg Ii, Erg#151
Number of Containers:	1
Container Type Code:	CF
Container Type Description:	Fiber or plastic boxes, cartons, cases
Waste Quantity:	9
Quantity Unit of Measure Code:	P
Quantity Unit of Measure Description:	Pounds
Waste Quantity, in Tons:	0.0045
Acute Waste Quantity, in Tons:	0
Non-Acute Waste Quantity, in Tons:	0.0045
Waste Quantity, in Kilograms:	4.081635
Acute Waste Quantity, in Kilograms:	0
Non-Acute Waste Quantity, in Kilorgrams:	4.081635
Management Method Code:	H141
Management Method Description:	STORAGE, BULKING AND/OR TRANSFER OFF SITE
Waste Residue Indicator:	N
Quantity Discrepancy Indicator:	N
Waste Type Discrepancy Indicator:	N
Waste Density:	Not reported
Waste Density Unit of Measure Code:	Not reported
Waste Density Unit of Measure Description:	Not reported
Form Code:	Not reported
Form Code Description:	Not reported
Source Code:	Not reported
Source Code Description:	Not reported
Waste Minimization Code:	Not reported
Waste Minimization Code Description:	Not reported
Consent Number:	Not reported
EPA Waste Indicator:	N
Federal Waste Codes:	Not reported
Quantity Haz Kg:	0
Quantity Haz Tons:	0
Quantity Non Haz Kg:	4.081635
Quantity Non Haz Tons:	0.0045
State Waste Codes:	Not reported

G33 **QUEEN CREEK, BANFIELD #1809** **E MANIFEST** **1032257194**
SSW **21032 S ELLSWORTH LOOP RD** **N/A**
< 1/8 **QUEEN CREEK, AZ 85142**
0.093 mi.
490 ft. **Site 2 of 2 in cluster G**

Actual:
1401 ft.

Focus Map:
13

E MANIFEST:

Manifest Tracking Number:	023132299JJK
Last Updated Date:	20220216
Shipped Date:	20220118
Received Date:	20220210
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	VSQG
Generator Name:	Queen Creek, Banfield #1809
Generator Location Street Number:	Not reported
Generator Location Street 1:	21032 S ELLSWORTH LOOP RD

QUEEN CREEK, BANFIELD #1809 (Continued) **1032257194**

Generator Location Street 2:	Not reported
Generator Location City:	QUEEN CREEK
Generator Location State:	AZ
Generator Location Zip:	85142
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	21032 S Ellsworth Loop Rd
Generator Mail Street 2:	Not reported
Generator Mail City:	Queen Creek
Generator Mail Zip:	85142
Generator Mail State:	AZ
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	COD980591184
Designated Facility Name:	Veolia Es Technical Solutions,
Designated Facility Mail Street Number:	9131
Designated Facility Mail Street 1:	9131 EAST 96TH AVE.
Designated Facility Mail Street 2:	L.L.C.
Designated Facility Mail City:	HENDERSON
Designated Facility Mail Zip:	80640
Designated Facility Mail State:	CO
Designated Facility Location Street Number:	9131
Designated Facility Location Street 1:	L.L.C.
Designated Facility Location Street 2:	9131 EAST 96TH AVE.
Designated Facility Location City:	HENDERSON
Designated Facility Location Zip:	80640
Designated Facility Location State:	CO
Designated Facility Contact Company Name:	Not reported
Manifest Residue Indicator:	N
Rejection Indicator:	N

Manifest Tracking Number:	022842194JJK
Last Updated Date:	20210902
Shipped Date:	20210803
Received Date:	20210827
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	VSQG
Generator Name:	Queen Creek, Banfield #1809
Generator Location Street Number:	Not reported
Generator Location Street 1:	21032 S ELLSWORTH LOOP RD
Generator Location Street 2:	Not reported
Generator Location City:	QUEEN CREEK
Generator Location State:	AZ
Generator Location Zip:	85142
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	21032 S Ellsworth Loop Rd
Generator Mail Street 2:	Not reported
Generator Mail City:	Queen Creek
Generator Mail Zip:	85142
Generator Mail State:	AZ
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	COD980591184
Designated Facility Name:	Veolia Es Technical Solutions,
Designated Facility Mail Street Number:	9131
Designated Facility Mail Street 1:	9131 EAST 96TH AVE.
Designated Facility Mail Street 2:	L.L.C.
Designated Facility Mail City:	HENDERSON

QUEEN CREEK, BANFIELD #1809 (Continued) **1032257194**

Designated Facility Mail Zip:	80640
Designated Facility Mail State:	CO
Designated Facility Location Street Number:	9131
Designated Facility Location Street 1:	L.L.C.
Designated Facility Location Street 2:	9131 EAST 96TH AVE.
Designated Facility Location City:	HENDERSON
Designated Facility Location Zip:	80640
Designated Facility Location State:	CO
Designated Facility Contact Company Name:	Not reported
Manifest Residue Indicator:	N
Rejection Indicator:	N

Transporter:

Manifest Tracking Number:	022842194JJK
Transporter Line Number:	1
Transporter EPA ID:	TXR000084566
Transporter Name:	Sharps Environmental Services
Manifest Tracking Number:	022842194JJK
Transporter Line Number:	2
Transporter EPA ID:	NJD080631369
Transporter Name:	Veolia Es Technical Solutions
Manifest Tracking Number:	022842194JJK
Transporter Line Number:	3
Transporter EPA ID:	OKR000031492
Transporter Name:	Basin Transportation
Manifest Tracking Number:	022842194JJK
Transporter Line Number:	4
Transporter EPA ID:	NJD080631369
Transporter Name:	Veolia Es Technical Solutions

Waste Line:

Manifest Tracking Number:	022842194JJK
Waste Line Number:	1
U.S. DOT Hazardous Indicator:	Y
U.S. DOT ID Number:	UN1993
U.S. DOT Description:	Un1993, Waste Flammable Liquids, N.O.S. (Acetone) (Isopropanol), 3, Ii
Non-Hazardous Waste Description:	Not reported
Number of Containers:	1
Container Type Code:	DF
Container Type Description:	Fiberboard or plastic drums, barrels, kegs
Waste Quantity:	5
Quantity Unit of Measure Code:	G
Quantity Unit of Measure Description:	Gallons
Waste Quantity, in Tons:	0.020850709
Acute Waste Quantity, in Tons:	0
Non-Acute Waste Quantity, in Tons:	0.020850709
Waste Quantity, in Kilograms:	18.912218
Acute Waste Quantity, in Kilograms:	0
Non-Acute Waste Quantity, in Kilorgrams:	18.912218
Management Method Code:	H061
Management Method Description:	FUEL BLENDING
Waste Residue Indicator:	N
Quantity Discrepancy Indicator:	N

QUEEN CREEK, BANFIELD #1809 (Continued) **1032257194**

Waste Type Discrepancy Indicator:	N
Waste Density:	Not reported
Waste Density Unit of Measure Code:	Not reported
Waste Density Unit of Measure Description:	Not reported
Form Code:	Not reported
Form Code Description:	Not reported
Source Code:	Not reported
Source Code Description:	Not reported
Waste Minimization Code:	Not reported
Waste Minimization Code Description:	Not reported
Consent Number:	Not reported
EPA Waste Indicator:	Y
Federal Waste Codes:	D001, F003
Quantity Haz Kg:	18.912218
Quantity Haz Tons:	0.020850709
Quantity Non Haz Kg:	0
Quantity Non Haz Tons:	0
State Waste Codes:	Not reported
Manifest Tracking Number:	022842194JJK
Waste Line Number:	2
U.S. DOT Hazardous Indicator:	Y
U.S. DOT ID Number:	UN3248
U.S. DOT Description:	Un3248, Waste Medicine, Liquid, Flammable, Toxic, N.O.S. (Selenium,Ethanol), 3 (6.1), Ii
Non-Hazardous Waste Description:	Not reported
Number of Containers:	1
Container Type Code:	DF
Container Type Description:	Fiberboard or plastic drums, barrels, kegs
Waste Quantity:	25
Quantity Unit of Measure Code:	P
Quantity Unit of Measure Description:	Pounds
Waste Quantity, in Tons:	0.0125
Acute Waste Quantity, in Tons:	0
Non-Acute Waste Quantity, in Tons:	0.0125
Waste Quantity, in Kilograms:	11.337875
Acute Waste Quantity, in Kilograms:	0
Non-Acute Waste Quantity, in Kilorgrams:	11.337875
Management Method Code:	H141
Management Method Description:	STORAGE, BULKING AND/OR TRANSFER OFF SITE
Waste Residue Indicator:	N
Quantity Discrepancy Indicator:	N
Waste Type Discrepancy Indicator:	N
Waste Density:	Not reported
Waste Density Unit of Measure Code:	Not reported
Waste Density Unit of Measure Description:	Not reported
Form Code:	Not reported
Form Code Description:	Not reported
Source Code:	Not reported
Source Code Description:	Not reported
Waste Minimization Code:	Not reported
Waste Minimization Code Description:	Not reported
Consent Number:	Not reported
EPA Waste Indicator:	Y
Federal Waste Codes:	D001, D010, D011, D024, U002, U031, U039, U112, U122, U154, U188, U279
Quantity Haz Kg:	11.337875
Quantity Haz Tons:	0.0125

QUEEN CREEK, BANFIELD #1809 (Continued) **1032257194**

Quantity Non Haz Kg: 0
Quantity Non Haz Tons: 0
State Waste Codes: Not reported

34
North
1/8-1/4
0.127 mi.
670 ft.

PECOS OLD DOMINION FREIGHT LINE INC **AST** **A100513756**
10233 E. PECOS RD SW **N/A**
MESA, AZ 82212

Actual:
1411 ft.

Focus Map:
4

AST 2:

Name:	PECOS OLD DOMINION FREIGHT LINE INC
Address:	10233 E. PECOS RD SW
City:	MESA
Exemption Num:	0701727-16
Old Exemption Num:	Not reported
Owner Id:	856
Owner Name:	Old Dominion Freight Line, Inc.
Applicant Mailing Address:	500 Old Dominion Way
Applicant City, State, Zip:	Thomasville, NC 27360
Cert Status:	Open
Cert Effective Date:	01/03/2024
Tank Number:	1
Product Code:	Diesel
Tank Type:	Above Ground Storage
Capacity:	15000
Installed Date:	12/04/2020
Cancellation Date:	Not reported
Cert Validation Date:	01/03/2024

35
North
1/8-1/4
0.151 mi.
796 ft.

MESA TRANSFER STATION **SWF/LF** **S117603693**
6711 S MOUNTAIN RD **N/A**
MESA, AZ 85212

Actual:
1438 ft.

Focus Map:
5

SWF/LF:

Name:	MESA TRANSFER STATION
Address:	6711 S MOUNTAIN RD
City,State,Zip:	MESA, AZ 85212
Facility Status:	ACTIVE
Facility Type:	Transfer
Operator:	Not reported
Operator Address:	Not reported
Owner:	Not reported
ID Number:	113182
Range:	Not reported
Township:	Not reported
Section:	Not reported
Q1:	Not reported
Q2:	Not reported
Q3:	Not reported
Latitude:	33.29410321
Longitude:	-111.591
Collection:	LOCATED FROM COUNTY PARCEL INFORMATION
Place Type:	TRANSFER STATION

MESA TRANSFER STATION (Continued) **S117603693**

Code:	TS
PLACC Code:	PP
Status:	ACTIVE
End Date:	Not reported
Verified:	Y
Generated:	5/6/2019
PLC ID:	113182
PLC Name:	MESA TRANSFER STATION
PLC Address:	MESA, AZ 85212
PLC City State Zip:	6711 S MOUNTAIN RD
PLC County:	MARICOPA
CUS ID:	26875
Contact :	(602) 717-5966

36
SW
1/8-1/4
0.162 mi.
856 ft.

QUEEN CREEK SMILES **RCRA NonGen / NLR** **1010783640**
18550 E RITTENHOUSE RD **AZR000506204**
QUEEN CREEK, AZ 85142

Actual:
1343 ft.

Focus Map:
6

RCRA Listings:

Date Form Received by Agency:		20230816
Handler Name:		Queen Creek Smiles
Handler Address:		18550 E Rittenhouse Rd
Handler City,State,Zip:		QUEEN CREEK, AZ 85142
EPA ID:		AZR000506204
Contact Name:		KAMERON ALEXANDER
Contact Address:		2860 MICHELLE
Contact City,State,Zip:		IRVINE, CA 92606
Contact Telephone:		714-508-3600 x2002
Contact Fax:		Not reported
Contact Email:		ALEXANDERK@PACDEN.COM
Contact Title:		Not reported
EPA Region:		09
Land Type:		Other
Federal Waste Generator Description:		Not a generator, verified
Non-Notifier:		Not reported
Biennial Report Cycle:		Not reported
Accessibility:		Not reported
Active Site Indicator:		Not reported
State District Owner:		Not reported
State District:		Not reported
Mailing Address:		2860 MICHELLE
Mailing City,State,Zip:		IRVINE, CA 92606
Owner Name:	Not reported	
Owner Type:		Not reported
Operator Name:	Pacific Dental Services Inc	
Operator Type:		Private
Short-Term Generator Activity:		No
Importer Activity:		No
Mixed Waste Generator:		No
Transporter Activity:		No
Transfer Facility Activity:		No
Recycler Activity with Storage:		No
Small Quantity On-Site Burner Exemption:		No
Smelting Melting and Refining Furnace Exemption:		No
Underground Injection Control:		No
Off-Site Waste Receipt:		No

QUEEN CREEK SMILES (Continued) **1010783640**

Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20230822
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Hazardous Waste Summary:

Waste Code:	D001
Waste Description:	Ignitable Waste
Waste Code:	D007
Waste Description:	Chromium
Waste Code:	D008
Waste Description:	Lead
Waste Code:	D009
Waste Description:	Mercury
Waste Code:	D011
Waste Description:	Silver

Handler - Owner Operator:

Owner/Operator Indicator:	Operator
Owner/Operator Name:	PACIFIC DENTAL SERVICES INC
Legal Status:	Private
Date Became Current:	20071030
Date Ended Current:	Not reported
Owner/Operator Address:	2860 MICHELLE
Owner/Operator City,State,Zip:	IRVINE, CA 92606

QUEEN CREEK SMILES (Continued) **1010783640**

Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: PACIFIC DENTAL SERVICES INC
Legal Status: Private
Date Became Current: 20071030
Date Ended Current: Not reported
Owner/Operator Address: 2860 MICHELLE DR
Owner/Operator City,State,Zip: IRVINE, CA 92606
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: DTD-DEVCO 2 LLC
Legal Status: Private
Date Became Current: 20070101
Date Ended Current: Not reported
Owner/Operator Address: PO BOX 5479
Owner/Operator City,State,Zip: SCOTTSDALE, AZ 85261-5479
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 20090108
Handler Name: QUEEN CREEK SMILES
Federal Waste Generator Description: Very Small Quantity Generator (formerly Conditionally-Exempt Small Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20230816
Handler Name: QUEEN CREEK SMILES
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

QUEEN CREEK SMILES (Continued) **1010783640**

Receive Date: 20080414
Handler Name: QUEEN CREEK SMILES
Federal Waste Generator Description: Very Small Quantity Generator (formerly Conditionally-Exempt Small Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 62121
NAICS Description: Offices Of Dentists

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

H37 **MAGNA STEYR USA INC** **RCRA-SQG** **1031766493**
NE **7035 E PECOS RD** **AZR000531897**
1/8-1/4 **MESA, AZ 85212**
0.171 mi.
902 ft. **Site 1 of 2 in cluster H**

Actual:
1343 ft.

Focus Map:
1

RCRA Listings:
Date Form Received by Agency: 20250606
Handler Name: Magna Steyr Usa Inc
Handler Address: 7035 E Pecos Rd
Handler City,State,Zip: MESA, AZ 85212
EPA ID: AZR000531897
Contact Name: KHADIAN ROSE-WHITAKER
Contact Address: 7035 E PECOS ROAD
Contact City,State,Zip: MESA, AZ 85212
Contact Telephone: 480-398-5754
Contact Fax: Not reported
Contact Email: KHADIAN.ROSE@MAGNA.COM
Contact Title: HEALTH AND SAFETY SPECIALIST
EPA Region: 09
Land Type: Private
Federal Waste Generator Description: Small Quantity Generator
Non-Notifier: Not reported
Biennial Report Cycle: Not reported
Accessibility: Not reported
Active Site Indicator: Handler Activities
State District Owner: Not reported
State District: Not reported
Mailing Address: 7035 E PECOS RD
Mailing City,State,Zip: MESA, AZ 85213
Owner Name: Power Industrial Owner Llc

MAGNA STEYR USA INC (Continued) **1031766493**

Owner Type:		Private
Operator Name:	Magna Steyr Usa Inc.	
Operator Type:		Private
Short-Term Generator Activity:		No
Importer Activity:		No
Mixed Waste Generator:		No
Transporter Activity:		No
Transfer Facility Activity:		No
Recycler Activity with Storage:		No
Small Quantity On-Site Burner Exemption:		No
Smelting Melting and Refining Furnace Exemption:		No
Underground Injection Control:		No
Off-Site Waste Receipt:		No
Universal Waste Indicator:		No
Universal Waste Destination Facility:		No
Federal Universal Waste:		No
Active Site State-Reg Handler:		---
Federal Facility Indicator:		Not reported
Hazardous Secondary Material Indicator:		N
Sub-Part K Indicator:		Not reported
2018 GPRA Permit Baseline:		Not on the Baseline
2018 GPRA Renewals Baseline:		Not on the Baseline
202 GPRA Corrective Action Baseline:		No
Subject to Corrective Action Universe:		No
Non-TSDFs Where RCRA CA has Been Imposed Universe:		No
Corrective Action Priority Ranking:		No NCAPS ranking
Environmental Control Indicator:		No
Institutional Control Indicator:		No
Human Exposure Controls Indicator:		N/A
Groundwater Controls Indicator:		N/A
Significant Non-Complier Universe:		No
Unaddressed Significant Non-Complier Universe:		No
Addressed Significant Non-Complier Universe:		No
Significant Non-Complier With a Compliance Schedule Universe:		No
Financial Assurance Required:		Not reported
Handler Date of Last Change:		20250606
Recognized Trader-Importer:		No
Recognized Trader-Exporter:		No
Importer of Spent Lead Acid Batteries:		No
Exporter of Spent Lead Acid Batteries:		No
Recycler Activity Without Storage:		No
Manifest Broker:		No
Sub-Part P Indicator:		No

Hazardous Waste Summary:

Waste Code:	D001
Waste Description:	Ignitable Waste

Handler - Owner Operator:

Owner/Operator Indicator:	Operator
Owner/Operator Name: MAGNA STEYR USA INC.	
Legal Status:	Private
Date Became Current:	20240601
Date Ended Current:	Not reported
Owner/Operator Address:	7035 E PECOS RD

MAGNA STEYR USA INC (Continued) **1031766493**

Owner/Operator City,State,Zip: MESA, AZ 85213
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: POWER INDUSTRIAL OWNER LLC
Legal Status: Private
Date Became Current: 20130722
Date Ended Current: Not reported
Owner/Operator Address: 8700 E PINNACLE PEAK ROAD
Owner/Operator City,State,Zip: SCOTTSDALE, AZ 85255
Owner/Operator Telephone: 602-735-1759
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: POWER INDUSTRIAL OWNER LLC
Legal Status: Private
Date Became Current: 20130722
Date Ended Current: Not reported
Owner/Operator Address: 8700 E PINNACLE PEAK ROAD
Owner/Operator City,State,Zip: SCOTTSDALE, AZ 85255
Owner/Operator Telephone: 602-735-1759
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: MAGNA STEYR USA INC.
Legal Status: Private
Date Became Current: 20240601
Date Ended Current: Not reported
Owner/Operator Address: 7035 E PECOS RD
Owner/Operator City,State,Zip: MESA, AZ 85213
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 20250311
Handler Name: MAGNA STEYR USA INC
Federal Waste Generator Description: Small Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

Receive Date: 20250606

MAGNA STEYR USA INC (Continued) **1031766493**

Handler Name: MAGNA STEYR USA INC
Federal Waste Generator Description: Small Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

List of NAICS Codes and Descriptions:
NAICS Code: 336110
NAICS Description: Automobile And Light Duty Motor Vehicle Manufacturing

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

H38 **LI-CYCLE, MESA PECOS WAREHOUSE** **RCRA NonGen / NLR** **1031037062**
NE **7035 E PECOS RD** **AZR000527846**
1/8-1/4 **MESA, AZ 85212**
0.171 mi.
902 ft. **Site 2 of 2 in cluster H**

Actual:
1343 ft.

Focus Map:
1

RCRA Listings:
Date Form Received by Agency: 20240206
Handler Name: Li-Cycle, Mesa Pecos Warehouse
Handler Address: 7035 E Pecos Rd
Handler City,State,Zip: MESA, AZ 85212
EPA ID: AZR000527846
Contact Name: ANTOINE G EMANUEL
Contact Address: 55 MCLAUGHLIN RD
Contact City,State,Zip: ROCHESTER, NY 14615
Contact Telephone: 585-666-2437
Contact Fax: Not reported
Contact Email: ANTOINE.EMANUEL@LI-CYCLE.COM
Contact Title: Not reported
EPA Region: 09
Land Type: Private
Federal Waste Generator Description: Not a generator, verified
Non-Notifier: Not reported
Biennial Report Cycle: Not reported
Accessibility: Not reported
Active Site Indicator: Handler Activities
State District Owner: Not reported
State District: Not reported
Mailing Address: 55 MCLAUGHLIN RD
Mailing City,State,Zip: ROCHESTER, NY 14615
Owner Name: Power Industrial Owner, Llc
Owner Type: Private
Operator Name: Li-Cycle Inc

LI-CYCLE, MESA PECOS WAREHOUSE (Continued) **1031037062**

Operator Type:	Private
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	Yes
Universal Waste Destination Facility:	Yes
Federal Universal Waste:	Yes
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20240215
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Operator
Owner/Operator Name: LI-CYCLE INC	
Legal Status:	Private
Date Became Current:	20240129
Date Ended Current:	Not reported
Owner/Operator Address:	55 MCLAUGHLIN RD
Owner/Operator City,State,Zip:	ROCHESTER, NY 14615
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner

LI-CYCLE, MESA PECOS WAREHOUSE (Continued) **1031037062**

Owner/Operator Name: POWER INDUSTRIAL OWNER, LLC
Legal Status: Private
Date Became Current: 20220106
Date Ended Current: Not reported
Owner/Operator Address: 8700 E PINNACLE PEAK RD
Owner/Operator City,State,Zip: SCOTTSDALE, AZ 85255
Owner/Operator Telephone: 515-201-0198
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 20240206
Handler Name: LI-CYCLE, MESA PECOS WAREHOUSE
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: Yes
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

List of NAICS Codes and Descriptions:
NAICS Code: 423930
NAICS Description: Recyclable Material Merchant Wholesalers

NAICS Code: 562920
NAICS Description: Materials Recovery Facilities

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

I39 **MESA AIR SEPARATION UNIT (ASU)** **RCRA-VSQG** **1031462932**
ENE **11530 E PECOS RD** **AZR000531624**
1/8-1/4 **MESA, AZ 85212**
0.172 mi.
908 ft. **Site 1 of 2 in cluster I**

Actual:
1444 ft.

Focus Map:
5

RCRA Listings:
Date Form Received by Agency: 20250122
Handler Name: Mesa Air Separation Unit (Asu)
Handler Address: 11530 E Pecos Rd
Handler City,State,Zip: MESA, AZ 85212
EPA ID: AZR000531624
Contact Name: JAMES MURPHREE
Contact Address: 1700 SCEPTER RD
Contact City,State,Zip: WAVERLY, TN 37185
Contact Telephone: 931-296-8151

MESA AIR SEPARATION UNIT (ASU) (Continued) **1031462932**

Contact Fax:		Not reported
Contact Email:		JMURPHREE@MATHESONGAS.COM
Contact Title:		Not reported
EPA Region:		09
Land Type:		Private
Federal Waste Generator Description:		Conditionally Exempt Small Quantity Generator
Non-Notifier:		Not reported
Biennial Report Cycle:		Not reported
Accessibility:		Not reported
Active Site Indicator:		Handler Activities
State District Owner:		Not reported
State District:		Not reported
Mailing Address:		1700 SCEPTER RD
Mailing City,State,Zip:		WAVERLY, TN 37185
Owner Name:	Matheson Tri-Gas, Inc	
Owner Type:		Private
Operator Name:	Matheson Tri-Gas, Inc.	
Operator Type:		Private
Short-Term Generator Activity:		No
Importer Activity:		No
Mixed Waste Generator:		No
Transporter Activity:		No
Transfer Facility Activity:		No
Recycler Activity with Storage:		No
Small Quantity On-Site Burner Exemption:		No
Smelting Melting and Refining Furnace Exemption:		No
Underground Injection Control:		No
Off-Site Waste Receipt:		No
Universal Waste Indicator:		No
Universal Waste Destination Facility:		No
Federal Universal Waste:		No
Active Site State-Reg Handler:		---
Federal Facility Indicator:		Not reported
Hazardous Secondary Material Indicator:		N
Sub-Part K Indicator:		Not reported
2018 GPRA Permit Baseline:		Not on the Baseline
2018 GPRA Renewals Baseline:		Not on the Baseline
202 GPRA Corrective Action Baseline:		No
Subject to Corrective Action Universe:		No
Non-TSDFs Where RCRA CA has Been Imposed Universe:		No
Corrective Action Priority Ranking:		No NCAPS ranking
Environmental Control Indicator:		No
Institutional Control Indicator:		No
Human Exposure Controls Indicator:		N/A
Groundwater Controls Indicator:		N/A
Significant Non-Complier Universe:		No
Unaddressed Significant Non-Complier Universe:		No
Addressed Significant Non-Complier Universe:		No
Significant Non-Complier With a Compliance Schedule Universe:		No
Financial Assurance Required:		Not reported
Handler Date of Last Change:		20250122
Recognized Trader-Importer:		No
Recognized Trader-Exporter:		No
Importer of Spent Lead Acid Batteries:		No
Exporter of Spent Lead Acid Batteries:		No
Recycler Activity Without Storage:		No
Manifest Broker:		No

MESA AIR SEPARATION UNIT (ASU) (Continued) **1031462932**

Sub-Part P Indicator: No

Hazardous Waste Summary:
Waste Code: D001
Waste Description: Ignitable Waste

Waste Code: D002
Waste Description: Corrosive Waste

Handler - Owner Operator:
Owner/Operator Indicator: Operator
Owner/Operator Name: MATHESON TRI-GAS, INC.
Legal Status: Private
Date Became Current: 20141201
Date Ended Current: Not reported
Owner/Operator Address: 1700 SCEPTER RD
Owner/Operator City,State,Zip: WAVERLY, TN 37185
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: MATHESON TRI-GAS, INC
Legal Status: Private
Date Became Current: 20130629
Date Ended Current: Not reported
Owner/Operator Address: 1700 SCEPTER RD
Owner/Operator City,State,Zip: WAVERLY, TN 37185
Owner/Operator Telephone: 931-296-8151
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 20250122
Handler Name: MESA AIR SEPARATION UNIT (ASU)
Federal Waste Generator Description: Very Small Quantity Generator (formerly Conditionally-Exempt Small Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

List of NAICS Codes and Descriptions:
NAICS Code: 325120
NAICS Description: Industrial Gas Manufacturing

MESA AIR SEPARATION UNIT (ASU) (Continued) **1031462932**

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

40
SW
1/8-1/4
0.173 mi.
914 ft.

KAIZEN COLLISION - QUEEN CREEK **RCRA-VSQG** **1027513183**
18583 S. 187TH PLACE **AZR000526483**
QUEEN CREEK, AZ 85142

Actual:
1351 ft.

Focus Map:
6

RCRA Listings:

Date Form Received by Agency:	20221102
Handler Name:	Kaizen Collision - Queen Creek
Handler Address:	18583 S. 187th Place
Handler City,State,Zip:	QUEEN CREEK, AZ 85142
EPA ID:	AZR000526483
Contact Name:	DAWN ROBERTSEN
Contact Address:	622 S HACIENDA DR
Contact City,State,Zip:	TEMPE, AZ 85288
Contact Telephone:	480-446-0599
Contact Fax:	Not reported
Contact Email:	D.ROBERTSEN@KAIZENCOLLISIONCENTER.COM
Contact Title:	Not reported
EPA Region:	09
Land Type:	Private
Federal Waste Generator Description:	Conditionally Exempt Small Quantity Generator
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Handler Activities
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	3325 S BONANZA AVE
Mailing City,State,Zip:	YUMA, AZ 85365
Owner Name:	Kaizen Auto Care, Llc
Owner Type:	Private
Operator Name:	Kaizen Auto Care Llc Dba Kaizen Collision Center
Operator Type:	Private
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N

KAIZEN COLLISION - QUEEN CREEK (Continued) **1027513183**

Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20230201
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Hazardous Waste Summary:

Waste Code:	D001
Waste Description:	Ignitable Waste

Waste Code:	F003
Waste Description:	The Following Spent Nonhalogenated Solvents: Xylene, Acetone, Ethyl Acetate, Ethyl Benzene, Ethyl Ether, Methyl Isobutyl Ketone, N-Butyl Alcohol, Cyclohexanone, And Methanol; All Spent Solvent Mixtures/Blends Containing, Before Use, Only The Above Spent Nonhalogenated Solvents; And All Spent Solvent Mixtures/Blends Containing, Before Use, One Or More Of The Above Nonhalogenated Solvents, And A Total Of Ten Percent Or More (By Volume) Of One Or More Of Those Solvents Listed In F001, F002, F004, And F005; And Still Bottoms From The Recovery Of These Spent Solvents And Spent Solvent Mixtures.

Waste Code:	F005
Waste Description:	The Following Spent Nonhalogenated Solvents: Toluene, Methyl Ethyl Ketone, Carbon Disulfide, Isobutanol, Pyridine, Benzene, 2-Ethoxyethanol, And 2-Nitropropane; All Spent Solvent Mixtures/Blends Containing, Before Use, A Total Of Ten Percent Or More (By Volume) Of One Or More Of The Above Nonhalogenated Solvents Or Those Solvents Listed In F001, F002, Or F004; And Still Bottoms From The Recovery Of These Spent Solvents And Spent Solvent Mixtures.

Handler - Owner Operator:

Owner/Operator Indicator:	Operator
Owner/Operator Name:	KAIZEN AUTO CARE LLC DBA KAIZEN COLLISION CENTER
Legal Status:	Private
Date Became Current:	20220926

KAIZEN COLLISION - QUEEN CREEK (Continued) **1027513183**

Date Ended Current:	Not reported
Owner/Operator Address:	3325 S BONANZA AVE
Owner/Operator City,State,Zip:	YUMA, AZ 85365
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Owner
Owner/Operator Name: KAIZEN AUTO CARE, LLC	
Legal Status:	Private
Date Became Current:	20211004
Date Ended Current:	Not reported
Owner/Operator Address:	1405 N HAYDEN RD
Owner/Operator City,State,Zip:	SCOTTSDALE, AZ 85257
Owner/Operator Telephone:	480-446-0599
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	20221102
Handler Name: KAIZEN COLLISION - QUEEN CREEK	
Federal Waste Generator Description:	Very Small Quantity Generator (formerly Conditionally-Exempt Small Quantity Generator
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	Yes
Non Storage Recycler Activity:	No
Electronic Manifest Broker:	No

List of NAICS Codes and Descriptions:

NAICS Code:	811121
NAICS Description:	Automotive Body, Paint, And Interior Repair And Maintenance

Facility Has Received Notices of Violations:

Violations:	No Violations Found

Evaluation Action Summary:

Evaluations:	No Evaluations Found

41
South
1/8-1/4
0.177 mi.
934 ft.

CHIPOTLE #1163-RITTEN HOUSE
21172 SOUTH ELLSWORTH LOOP ROAD, SUITE 114
QUEEN CREEK, AZ 85142

E MANIFEST **1031928518**
N/A

Actual:
1401 ft.

Focus Map:
13

E MANIFEST:

Manifest Tracking Number:	024243385JJK
Last Updated Date:	20230409
Shipped Date:	20230316
Received Date:	20230329
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	Not reported
Generator Name:	Chipotle #1163-Ritten House
Generator Location Street Number:	Not reported
Generator Location Street 1:	21172 SOUTH ELLSWORTH LOOP ROAD, SUITE 114
Generator Location Street 2:	Not reported
Generator Location City:	QUEEN CREEK
Generator Location State:	AZ
Generator Location Zip:	85142
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	ATTN: STORE MANAGER
Generator Mail Street 2:	21172 SOUTH ELLSWORTH LOOP ROAD
Generator Mail City:	QUEEN CREEK
Generator Mail Zip:	85142
Generator Mail State:	AZ
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	IDD073114654
Designated Facility Name:	Us Ecology Idaho
Designated Facility Mail Street Number:	Not reported
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	20400 LEMLEY ROAD
Designated Facility Mail City:	GRAND VIEW
Designated Facility Mail Zip:	83624
Designated Facility Mail State:	ID
Designated Facility Location Street Number:	Not reported
Designated Facility Location Street 1:	20400 LEMLEY ROAD
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	GRAND VIEW
Designated Facility Location Zip:	83624
Designated Facility Location State:	ID
Designated Facility Contact Company Name:	Not reported
Manifest Residue Indicator:	N
Rejection Indicator:	N

Manifest Tracking Number:	023500913JJK
Last Updated Date:	20230601
Shipped Date:	20230425
Received Date:	20230518
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	Not reported
Generator Name:	Chipotle #1163-Ritten House
Generator Location Street Number:	Not reported
Generator Location Street 1:	21172 SOUTH ELLSWORTH LOOP ROAD, SUITE 114
Generator Location Street 2:	Not reported

CHIPOTLE #1163-RITTEN HOUSE (Continued) **1031928518**

Generator Location City:	QUEEN CREEK
Generator Location State:	AZ
Generator Location Zip:	85142
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	ATTN: STORE MANAGER
Generator Mail Street 2:	21172 SOUTH ELLSWORTH LOOP ROAD
Generator Mail City:	QUEEN CREEK
Generator Mail Zip:	85142
Generator Mail State:	AZ
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	IDD073114654
Designated Facility Name:	Us Ecology Idaho
Designated Facility Mail Street Number:	Not reported
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	20400 LEMLEY ROAD
Designated Facility Mail City:	GRAND VIEW
Designated Facility Mail Zip:	83624
Designated Facility Mail State:	ID
Designated Facility Location Street Number:	Not reported
Designated Facility Location Street 1:	20400 LEMLEY ROAD
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	GRAND VIEW
Designated Facility Location Zip:	83624
Designated Facility Location State:	ID
Designated Facility Contact Company Name:	Not reported
Manifest Residue Indicator:	N
Rejection Indicator:	N

Transporter:

Manifest Tracking Number:	023500913JJK
Transporter Line Number:	1
Transporter EPA ID:	MIK593743838
Transporter Name:	Us Ecology Transportation Solutions, Inc
Manifest Tracking Number:	023500913JJK
Transporter Line Number:	2
Transporter EPA ID:	MOD095038998
Transporter Name:	Bed Rock Inc. Dba Tsmtco
Manifest Tracking Number:	023500913JJK
Transporter Line Number:	3
Transporter EPA ID:	MIK593743838
Transporter Name:	Us Ecology Transportation Solutions, Inc

Waste Line:

Manifest Tracking Number:	023500913JJK
Waste Line Number:	1
U.S. DOT Hazardous Indicator:	Y
U.S. DOT ID Number:	UN3109
U.S. DOT Description:	Rq, Un3109, Waste Organic Peroxide Type F, Liquid, 5.2, Pgii, (D001, D002), Erg#145
Non-Hazardous Waste Description:	Not reported
Number of Containers:	1
Container Type Code:	DF
Container Type Description:	Fiberboard or plastic drums, barrels, kegs
Waste Quantity:	25

CHIPOTLE #1163-RITTEN HOUSE (Continued) **1031928518**

Quantity Unit of Measure Code:	P
Quantity Unit of Measure Description:	Pounds
Waste Quantity, in Tons:	0.0125
Acute Waste Quantity, in Tons:	0
Non-Acute Waste Quantity, in Tons:	0.0125
Waste Quantity, in Kilograms:	11.337875
Acute Waste Quantity, in Kilograms:	0
Non-Acute Waste Quantity, in Kilorgrams:	11.337875
Management Method Code:	H132
Management Method Description:	LANDFILL (WITH PRIOR TREATMENT AND/OR STABILIZATION)
Waste Residue Indicator:	N
Quantity Discrepancy Indicator:	N
Waste Type Discrepancy Indicator:	N
Waste Density:	Not reported
Waste Density Unit of Measure Code:	Not reported
Waste Density Unit of Measure Description:	Not reported
Form Code:	Not reported
Form Code Description:	Not reported
Source Code:	Not reported
Source Code Description:	Not reported
Waste Minimization Code:	Not reported
Waste Minimization Code Description:	Not reported
Consent Number:	Not reported
EPA Waste Indicator:	Y
Federal Waste Codes:	D001, D002
Quantity Haz Kg:	11.337875
Quantity Haz Tons:	0.0125
Quantity Non Haz Kg:	Not reported
Quantity Non Haz Tons:	Not reported
State Waste Codes:	Not reported

J42 **PINTO CREEK MANAGEMENT** **LUST** **U003052123**
ESE **20820 S OLD ELLSWORTH RD** **UST** **N/A**
1/8-1/4 **QUEEN CREEK, AZ 85142** **AST**
0.180 mi. **EMAP**
953 ft. **Site 1 of 2 in cluster J**

Actual:
1402 ft.

Focus Map:
13

LUST:

Name:	PINTO CREEK MANAGEMENT
Address:	20820 S OLD ELLSWORTH RD
City,State,Zip:	QUEEN CREEK, AZ 85142
Facility ID:	0-007502
Lust Number:	0962.01
Facility Status:	CLOSED
Leak Priority:	5R1
Priority Description:	Closed soil-only CoC levels meet RBCA Tier 1 standards
Notification:	11/28/89
Date Closed:	09/27/05

UST:

Name:	PINTO CREEK MANAGEMENT
Address:	20820 S OLD ELLSWORTH RD
City,State,Zip:	QUEEN CREEK, AZ 85142
Facility ID:	0-007502
Owner:	Not reported
Latitude:	Not reported
Longitude:	Not reported

PINTO CREEK MANAGEMENT (Continued) **U003052123**

Tank ID: 1
Date Closed: 11/02/1989
Tank Status: **Perm Closure**
Closure Type: **Removal**
Tank Inst Date: **Not reported**
Capacity: **10000**
Substance: **Unleaded Gasoline**
Compartment: **COMPARTMENT A**
Tank Const Type: **Double Walled**
Tank Mtrl Type: **Asphalt coated or Bare Steel**
Pipe Type: **Suction - Check Valve at the Tank Top**
Pipe Mtrl Type: **Bare or Galvanized Steel**
Pipe const Type: **Not reported**

Tank ID: 2
Date Closed: 11/02/1989
Tank Status: **Perm Closure**
Closure Type: **Removal**
Tank Inst Date: **Not reported**
Capacity: **10000**
Substance: **Diesel**
Compartment: **COMPARTMENT A**
Tank Const Type: **Double Walled**
Tank Mtrl Type: **Asphalt coated or Bare Steel**
Pipe Type: **Suction - Check Valve at the Tank Top**
Pipe Mtrl Type: **Bare or Galvanized Steel**
Pipe const Type: **Not reported**

AST 2:
Name: PINTO CREEK MANAGEMENT
Address: 20820 S ELLSWORTH RD
City: QUEEN CREEK
Exemption Num: 0700169-11
Old Exemption Num: 07-1001060
Owner Id: 316
Owner Name: Pinto Creek Management Inc
Applicant Mailing Address: PO Box 650
Applicant City, State, Zip: Queen Creek, AZ 85242-0650
Cert Status: Closed
Cert Effective Date: 12/19/1991
Tank Number: 1
Product Code: Diesel(20)
Tank Type: Above
Capacity: 2000
Installed Date: 01/01/1991
Cancellation Date: 12/31/2015
Cert Validation Date: 04/01/2011

EMAP:
Name: PINTO CREEK MANAGEMENT
Address: 20820 S OLD ELLSWORTH RD
City,State,Zip: QUEEN CREEK, AZ 85142
ID Number: 33349
Township: Not reported
Range: Not reported
Section: Not reported

PINTO CREEK MANAGEMENT (Continued) **U003052123**

Quarter 1:	Not reported
Quarter 2:	Not reported
Quarter 3:	Not reported
Latitude:	33.26437225
Longitude:	-111.63513885
Collection Method:	CALCULATED BY PROGRAM TECHNICAL STAFF
Place Type:	FARM/RANCH
Place Type Code:	PP
Place C Code:	PHYSICAL PROPERTIES
Facility Status:	NOT ACTIVE
End Date:	10/05/2011
Verified:	Y

Name:	WALKER PLOW-POTATO SHED
Address:	20820 S OLD ELLSWORTH RD
City,State,Zip:	QUEEN CREEK, AZ 85142
ID Number:	137488
Township:	Not reported
Range:	Not reported
Section:	Not reported
Quarter 1:	Not reported
Quarter 2:	Not reported
Quarter 3:	Not reported
Latitude:	33.25869978
Longitude:	-111.63600739
Collection Method:	DIGITAL IMAGERY
Place Type:	MANUFACTURING/INDUSTRIAL PLANT
Place Type Code:	PP
Place C Code:	PHYSICAL PROPERTIES
Facility Status:	ACTIVE
End Date:	Not reported
Verified:	Y

J43 **PINTO CREEK MANAGEMENT** **UST FINDER** **1028177389**
ESE **20820 S ELLSWORTH RD** **UST FINDER RELEASE** **N/A**
1/8-1/4 **QUEEN CREEK, AZ**
0.180 mi.
953 ft. **Site 2 of 2 in cluster J**

Actual:
1402 ft.

Focus Map:
13

UST FINDER:

Object ID:	25504
Facility ID:	AZ0-007502
Name:	PINTO CREEK MANAGEMENT
Address:	20820 S ELLSWORTH RD
City,State,Zip:	QUEEN CREEK, AZ
Address Match Type:	Not reported
Open USTs:	0
Closed USTs:	2
TOS USTs:	0
Population 1500ft:	101
Private Wells 1500ft:	3
Within 100yr Floodplain:	No
Land Use:	Developed, Low Intensity
Within SPA:	No
SPA PWS Facility ID:	Not reported
SPA Water Type:	Not reported
SPA Facility Type:	Not reported
SPA HUC12:	Not reported

PINTO CREEK MANAGEMENT (Continued) **1028177389**

Within WHPA:	Yes
WHPA PWS Facility ID:	AZ0407033_19237
WHPA Water Type:	GW - Ground water
WHPA Facility Type:	WL - Well
WHPA HUC12:	150501000808
Facility Status:	Closed UST(s)
Date of Last Inspection:	Not reported
EPA Region:	9
Tribe:	Not reported
Coordinate Source:	State
X Coord:	-111.635138848
Y Coord:	33.2643722540001
Latitude:	33.264372254
Longitude:	-111.635138848

UST FINDER:

Object ID:	73198
Facility ID:	AZ0-007502
Tank ID:	AZ0-007502_2
Tank Status:	Closed
Installation Date:	Not reported
Removal Date:	1989/11/02 15:59:59+00
Tank Capacity:	10000
Substances:	Diesel
Tank Wall Type:	Double

Object ID:	73199
Facility ID:	AZ0-007502
Tank ID:	AZ0-007502_1
Tank Status:	Closed
Installation Date:	Not reported
Removal Date:	1989/11/02 15:59:59+00
Tank Capacity:	10000
Substances:	Gasoline
Tank Wall Type:	Double

UST FINDER RELEASE:

Object ID:	462860
Facility ID:	AZ0-007502
Lust ID:	AZ0-007502-962.01
Name:	PINTO CREEK MANAGEMENT
Address:	20820 S ELLSWORTH RD
City,State,Zip:	QUEEN CREEK, AZ 0
Address Match Type:	StreetAddress
Reported Date:	1989/11/28 15:59:59+00
Status:	No Further Action
Substance:	Gasoline
Population within 1500ft:	261
Domestic Wells within 1500ft:	7
Land Use:	Developed, Low Intensity
Within SPA:	No
SPA PWS Facility ID:	Not reported
SPA Water Type:	Not reported
SPA Facility Type:	Not reported
SPA HUC12:	Not reported
Within WHPA:	Yes

PINTO CREEK MANAGEMENT (Continued) **1028177389**

WHPA PWS Facility ID:	AZ0407033_24755
WHPA Water Type:	GW - Ground water
WHPA Facility Type:	WL - Well
WHPA HUC12:	150501000809
Within 100yr Floodplain:	No
Tribe:	Not reported
EPA Region:	9
NFA Letter 1:	Not reported
NFA Letter 2:	Not reported
NFA Letter 3:	Not reported
NFA Letter 4:	Not reported
Closed With Residual Contaminate:	Not reported
Coordinate Source:	Geocode
X Coord:	-111.634713306
Y Coord:	33.2585021940001
Latitude:	33.2585021937361
Longitude:	-111.634713305503

I44 **MESA AIR SEPARATION UNIT (ASU)** **PFAS ECHO** **1031725820**
East **N/A**
1/8-1/4 **MESA, AZ**
0.192 mi.
1015 ft. **Site 2 of 2 in cluster I**

Actual:
1444 ft.

Focus Map:
5

PFAS ECHO:

Facility ID:	AZR000531624
Name:	Mesa Air Separation Unit (Asu)
Address:	Not reported
City,State,Zip:	MESA, AZ
Latitude:	33.292222
Longitude:	-111.584167
Count:	1
County:	MARICOPA
Status:	Active
Region:	09
Industry:	Industrial Gas
ECHO Facility Report:	https://echo.epa.gov/detailed-facility-report?fid=AZR000531624
Facility Percent Minority:	-
Facility Derived Tribes:	Gila River Indian Community of the Gila River Indian Reservation, Arizona - 9 mile(s), Salt River Pima-Maricopa Indian Community of the Salt River Reservation, Arizona - 16 mile(s), Fort McDowell Yavapai Nation, Arizona - 20 mile(s), Tohono O'odham Nation of Arizona - 22 mile(s)
Facility Population:	-
EPA Programs:	RCRA
Federal Facility:	No
Federal Agency:	-
Facility FIPS Code:	-
Facility Indian Country Flag:	N
Facility Collection Method:	-
Facility Derived HUC:	-
Facility Derived WBD:	-
Facility Derived CD113:	-
Facility Derived CB2010:	-
Facility Major Flag:	-
Facility Active Flag:	Y
Facility Inspection Count:	0
Facility Date Last Inspection:	-

MESA AIR SEPARATION UNIT (ASU) (Continued) **1031725820**

Facility Days Last Inspection:	-
Facility Informal Count:	0
Facility Date Last Informal Action:	-
Facility Formal Action Count:	0
Facility Date Last Formal Action:	-
Facility Total Penalties:	0
Facility Penalty Count:	-
Facility Date Last Penalty:	-
Facility Last Penalty AMT:	0
Facility QTRS With NC:	0
Facility Programs With SNC:	0
Facility Compliance Status:	No Violation Identified
Facility SNC Flag:	N
AIR Flag:	N
NPDES Flag:	N
SDWIS Flag:	N
RCRA Flag:	Y
TRI Flag:	N
GHG Flag:	N
AIR IDS:	-
CAA Permit Types:	-
CAA NAICS:	-
CAA SICS:	-
NPDES IDS:	-
CWA Permit Types:	-
CWA NAICS:	-
CWA SICS:	-
RCRA IDS:	AZR000531624
RCRA Permit Types:	VSQG
RCRA NAICS:	325120
SDWA IDS:	-
SDWA System Types:	-
SDWA Compliance Status:	-
SDWA SNC Flag:	N
TRI IDS:	-
TRI Releases Transfers:	-
TRI On Site Releases:	-
TRI Off Site Transfers:	-
TRI Reporter:	-
Facility IMP Water Flag:	-

K45 **MGC PURE CHEMICALS AMERICA INC** **RCRA-VSQG** **1007198506**
North **6560 S MOUNTAIN RD** **TSCA** **85242MGCPR6560S**
1/8-1/4 **MESA, AZ 85212** **TRIS**
0.198 mi. **FINDS**
1044 ft. **Site 1 of 2 in cluster K** **ECHO**
E MANIFEST
Actual: **MANIFEST**
1432 ft.

Focus Map: RCRA Listings:
5

Date Form Received by Agency:	20220222
Handler Name:	Mgc Pure Chemicals America Inc
Handler Address:	6560 S Mountain Rd
Handler City,State,Zip:	MESA, AZ 85212
EPA ID:	AZR000002394
Contact Name:	DAVID BLOOMER
Contact Address:	6560 S MOUNTAIN RD
Contact City,State,Zip:	MESA, AZ 85212

MGC PURE CHEMICALS AMERICA INC (Continued) **1007198506**

Contact Telephone:		480-828-1367
Contact Fax:		Not reported
Contact Email:		DBLOOMER@MGCPURE.COM
Contact Title:		Not reported
EPA Region:		09
Land Type:		Private
Federal Waste Generator Description:		Conditionally Exempt Small Quantity Generator
Non-Notifier:		Not reported
Biennial Report Cycle:		Not reported
Accessibility:		Not reported
Active Site Indicator:		Handler Activities
State District Owner:		Not reported
State District:		Not reported
Mailing Address:		6560 S MOUNTAIN RD
Mailing City,State,Zip:		MESA, AZ 85212
Owner Name:	Mgc Pure Chemicals America Inc	
Owner Type:		Private
Operator Name:	Mgc Pure Chemicals America Inc	
Operator Type:		Private
Short-Term Generator Activity:		No
Importer Activity:		No
Mixed Waste Generator:		No
Transporter Activity:		No
Transfer Facility Activity:		No
Recycler Activity with Storage:		No
Small Quantity On-Site Burner Exemption:		No
Smelting Melting and Refining Furnace Exemption:		No
Underground Injection Control:		No
Off-Site Waste Receipt:		No
Universal Waste Indicator:		No
Universal Waste Destination Facility:		No
Federal Universal Waste:		No
Active Site State-Reg Handler:		---
Federal Facility Indicator:		Not reported
Hazardous Secondary Material Indicator:		N
Sub-Part K Indicator:		Not reported
2018 GPRA Permit Baseline:		Not on the Baseline
2018 GPRA Renewals Baseline:		Not on the Baseline
202 GPRA Corrective Action Baseline:		No
Subject to Corrective Action Universe:		No
Non-TSDFs Where RCRA CA has Been Imposed Universe:		No
Corrective Action Priority Ranking:		No NCAPS ranking
Environmental Control Indicator:		No
Institutional Control Indicator:		No
Human Exposure Controls Indicator:		N/A
Groundwater Controls Indicator:		N/A
Significant Non-Complier Universe:		No
Unaddressed Significant Non-Complier Universe:		No
Addressed Significant Non-Complier Universe:		No
Significant Non-Complier With a Compliance Schedule Universe:		No
Financial Assurance Required:		Not reported
Handler Date of Last Change:		20220322
Recognized Trader-Importer:		No
Recognized Trader-Exporter:		No
Importer of Spent Lead Acid Batteries:		No
Exporter of Spent Lead Acid Batteries:		No
Recycler Activity Without Storage:		No

MGC PURE CHEMICALS AMERICA INC (Continued) **1007198506**

Manifest Broker: No
Sub-Part P Indicator: No

Biennial: List of Years
Year: 2003

Click Here for Biennial Reporting System Data:
Year: 2001

Click Here for Biennial Reporting System Data:

Hazardous Waste Summary:
Waste Code: D001
Waste Description: Ignitable Waste

Waste Code: D002
Waste Description: Corrosive Waste

Waste Code: D003
Waste Description: Reactive Waste

Waste Code: D004
Waste Description: Arsenic

Waste Code: D007
Waste Description: Chromium

Waste Code: F003
Waste Description: The Following Spent Nonhalogenated Solvents: Xylene, Acetone, Ethyl Acetate, Ethyl Benzene, Ethyl Ether, Methyl Isobutyl Ketone, N-Butyl Alcohol, Cyclohexanone, And Methanol; All Spent Solvent Mixtures/Blends Containing, Before Use, Only The Above Spent Nonhalogenated Solvents; And All Spent Solvent Mixtures/Blends Containing, Before Use, One Or More Of The Above Nonhalogenated Solvents, And A Total Of Ten Percent Or More (By Volume) Of One Or More Of Those Solvents Listed In F001, F002, F004, And F005; And Still Bottoms From The Recovery Of These Spent Solvents And Spent Solvent Mixtures.

Waste Code: U134
Waste Description: Hydrofluoric Acid (C,T) (Or) Hydrogen Fluoride (C,T)

Waste Code: U154
Waste Description: Methanol (I) (Or) Methyl Alcohol (I)

Handler - Owner Operator:
Owner/Operator Indicator: Owner
Owner/Operator Name: MGC PURE CHEMICALS AMERICA INC
Legal Status: Private
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 6560 S MOUNTAIN RD
Owner/Operator City,State,Zip: QUEEN CREEK, AZ 85242-9716
Owner/Operator Telephone: 602-756-2427
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported

MGC PURE CHEMICALS AMERICA INC (Continued) **1007198506**

Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: MGC PURE CHEMICALS AMERICA, INC;.
Legal Status: Private
Date Became Current: 19950103
Date Ended Current: Not reported
Owner/Operator Address: Not reported
Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: MGC PURE CHEMICALS AMERICA INC
Legal Status: Private
Date Became Current: 19950103
Date Ended Current: Not reported
Owner/Operator Address: 6560 S MOUNTAIN RD
Owner/Operator City,State,Zip: MESA 85212-9716
Owner/Operator Telephone: 701-261-5153
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: MGC PURE CHEMICALS AMERICA, INC.
Legal Status: Private
Date Became Current: 19950103
Date Ended Current: Not reported
Owner/Operator Address: 6560 S. MOUNTAIN RD
Owner/Operator City,State,Zip: QUEEN CREEK, AZ 85242
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: MGC PURE CHEMICALS AMERICA INC
Legal Status: Private
Date Became Current: 19950608
Date Ended Current: Not reported
Owner/Operator Address: 6560 S MOUNTAIN RD
Owner/Operator City,State,Zip: MESA, AZ 85212
Owner/Operator Telephone: 480-987-9100
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: MGC PURE CHEMICALS AMERICA INC
Legal Status: Private
Date Became Current: 19950103
Date Ended Current: Not reported
Owner/Operator Address: 6560 S MOUNTAIN RD
Owner/Operator City,State,Zip: MESA, AZ 85212

MGC PURE CHEMICALS AMERICA INC (Continued) **1007198506**

Owner/Operator Telephone: 623-326-9640
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: MGC PURE CHEMICALS AMERICA INC
Legal Status: Private
Date Became Current: 19950103
Date Ended Current: Not reported
Owner/Operator Address: 6560 S MOUNTAIN RD
Owner/Operator City,State,Zip: MESA, AZ 85212
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: MGC PURE CHEMICALS AMERICA INC
Legal Status: Private
Date Became Current: 19950103
Date Ended Current: Not reported
Owner/Operator Address: 6560 S MOUNTAIN RD
Owner/Operator City,State,Zip: MESA, AZ 85212
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: MGC PURE CHEMICALS AMERICA INC
Legal Status: Private
Date Became Current: 19950608
Date Ended Current: Not reported
Owner/Operator Address: 6560 S MOUNTAIN RD
Owner/Operator City,State,Zip: MESA, AZ 85212
Owner/Operator Telephone: 480-987-9100
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: MGC PURE CHEMICALS AMERICA INC
Legal Status: Private
Date Became Current: 19950103
Date Ended Current: Not reported
Owner/Operator Address: 6560 S MOUNTAIN RD
Owner/Operator City,State,Zip: MESA, AZ 85212-9716
Owner/Operator Telephone: 623-326-9640
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: MGC PURE CHEMICALS AMERICA INC
Legal Status: Private
Date Became Current: 19950103

MGC PURE CHEMICALS AMERICA INC (Continued) **1007198506**

Date Ended Current: Not reported
Owner/Operator Address: 6560 S MOUNTAIN RD
Owner/Operator City,State,Zip: MESA, AZ 85212
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: MGC PURE CHEMICALS AMERICA INC
Legal Status: Private
Date Became Current: 19950103
Date Ended Current: Not reported
Owner/Operator Address: 6560 S MOUNTAIN RD
Owner/Operator City,State,Zip: MESA, AZ 85212
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: MGC PURE CHEMICALS AMERICA INC
Legal Status: Private
Date Became Current: 19950103
Date Ended Current: Not reported
Owner/Operator Address: 6560 S MOUNTAIN RD
Owner/Operator City,State,Zip: MESA, AZ 85212
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: MGC PURE CHEMICALS AMERICA INC
Legal Status: Private
Date Became Current: 19950103
Date Ended Current: Not reported
Owner/Operator Address: 6560 S MOUNTAIN RD
Owner/Operator City,State,Zip: MESA, AZ 85212
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: MGC PURE CHEMICALS AMERICA INC
Legal Status: Private
Date Became Current: 19950103
Date Ended Current: Not reported
Owner/Operator Address: 6560 S MOUNTAIN RD
Owner/Operator City,State,Zip: MESA 85212-9716
Owner/Operator Telephone: 701-261-5153
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner

MGC PURE CHEMICALS AMERICA INC (Continued) **1007198506**

Owner/Operator Name: MGC PURE CHEMICALS AMERICA, INC.
Legal Status: Private
Date Became Current: 19950103
Date Ended Current: Not reported
Owner/Operator Address: Not reported
Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: MGC PURE CHEMICAL AMERICA, INC.
Legal Status: Private
Date Became Current: 19950103
Date Ended Current: Not reported
Owner/Operator Address: 6560 S. MOUNTAIN RD
Owner/Operator City,State,Zip: QUEEN CREEK, AZ 85242
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: MGC PURE CHEMICALS AMERICA INC
Legal Status: Private
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 6560 S MOUNTAIN RD
Owner/Operator City,State,Zip: QUEEN CREEK, AZ 85242-9716
Owner/Operator Telephone: 602-756-2427
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: MGC PURE CHEMICALS AMERICA INC
Legal Status: Private
Date Became Current: 19950103
Date Ended Current: Not reported
Owner/Operator Address: 6560 S MOUNTAIN RD
Owner/Operator City,State,Zip: MESA, AZ 85212
Owner/Operator Telephone: 480-720-1728
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: MGC PURE CHEMICALS AMERICA INC
Legal Status: Private
Date Became Current: 19950608
Date Ended Current: Not reported
Owner/Operator Address: 6560 S MOUNTAIN RD
Owner/Operator City,State,Zip: MESA, AZ 85212
Owner/Operator Telephone: 480-987-9100
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported

MGC PURE CHEMICALS AMERICA INC (Continued) **1007198506**

Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: MGC PURE CHEMICALS AMERICA INC
Legal Status: Private
Date Became Current: 19950608
Date Ended Current: Not reported
Owner/Operator Address: 6560 S MOUNTAIN RD
Owner/Operator City,State,Zip: MESA, AZ 85212
Owner/Operator Telephone: 480-987-9100
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: MGC PURE CHEMICALS AMERICA INC
Legal Status: Private
Date Became Current: 19950103
Date Ended Current: Not reported
Owner/Operator Address: 6560 S MOUNTAIN RD
Owner/Operator City,State,Zip: MESA, AZ 85212-9716
Owner/Operator Telephone: 480-720-1728
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: MGC PURE CHEMICALS AMERICA INC
Legal Status: Private
Date Became Current: 19950608
Date Ended Current: Not reported
Owner/Operator Address: 6560 S MOUNTAIN RD
Owner/Operator City,State,Zip: MESA, AZ 85212
Owner/Operator Telephone: 480-987-9100
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 20080221
Handler Name: MGC PURE CHEMICALS AMERICA INC
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20070214
Handler Name: MGC PURE CHEMICALS AMERICA INC
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No

MGC PURE CHEMICALS AMERICA INC (Continued) **1007198506**

Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20150514
Handler Name: MGC PURE CHEMICALS AMERICA INC
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20160418
Handler Name: MGC PURE CHEMICALS AMERICA INC
Federal Waste Generator Description: Small Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20180302
Handler Name: MGC PURE CHEMICALS AMERICA INC
Federal Waste Generator Description: Very Small Quantity Generator (formerly Conditionally-Exempt Small Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20200219
Handler Name: MGC PURE CHEMICALS AMERICA INC
Federal Waste Generator Description: Very Small Quantity Generator (formerly Conditionally-Exempt Small Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No

MGC PURE CHEMICALS AMERICA INC (Continued) **1007198506**

Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20210226
Handler Name: MGC PURE CHEMICALS AMERICA INC
Federal Waste Generator Description: Very Small Quantity Generator (formerly Conditionally-Exempt Small Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

Receive Date: 20220222
Handler Name: MGC PURE CHEMICALS AMERICA INC
Federal Waste Generator Description: Very Small Quantity Generator (formerly Conditionally-Exempt Small Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

Receive Date: 20020910
Handler Name: MGC PURE CHEMICALS AMERICA INC
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20050301
Handler Name: MGC PURE CHEMICALS AMERICA INC
Federal Waste Generator Description: Small Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported

MGC PURE CHEMICALS AMERICA INC (Continued) **1007198506**

Electronic Manifest Broker: Not reported

Receive Date: 20110929
Handler Name: MGC PURE CHEMICALS AMERICA INC
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20180323
Handler Name: MGC PURE CHEMICALS AMERICA INC
Federal Waste Generator Description: Small Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20180326
Handler Name: MGC PURE CHEMICALS AMERICA INC
Federal Waste Generator Description: Very Small Quantity Generator (formerly Conditionally-Exempt Small Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

Receive Date: 20190628
Handler Name: MGC PURE CHEMICALS AMERICA INC
Federal Waste Generator Description: Very Small Quantity Generator (formerly Conditionally-Exempt Small Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20211215

MGC PURE CHEMICALS AMERICA INC (Continued) **1007198506**

Handler Name: MGC PURE CHEMICALS AMERICA INC
Federal Waste Generator Description: Very Small Quantity Generator (formerly Conditionally-Exempt Small Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

Receive Date: 20010215
Handler Name: MGC CHEMICALS AMERICA, INC.
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20020225
Handler Name: MGC PURE CHEMICALS AMERICA, INC.
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20040227
Handler Name: MGC PURE CHEMICALS AMERICA, INC.
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 32518
NAICS Description: Other Basic Inorganic Chemical Manufacturing

NAICS Code: 325180

MGC PURE CHEMICALS AMERICA INC (Continued) **1007198506**

NAICS Description: Other Basic Inorganic Chemical Manufacturing

NAICS Code: 325998
NAICS Description: All Other Miscellaneous Chemical Product And Preparation Manufacturing

Has the Facility Received Notices of Violations:

Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported

MGC PURE CHEMICALS AMERICA INC (Continued) **1007198506**

Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	EPA
Violation Short Description:	Generators - Pre-transport
Date Violation was Determined:	20000712
Actual Return to Compliance Date:	20010220
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	EPA
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	002
Date of Enforcement Action:	20001106
Enforcement Responsible Agency:	EPA
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	CMCDO
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported

MGC PURE CHEMICALS AMERICA INC (Continued) **1007198506**

Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: EPA
Violation Short Description: Generators - General
Date Violation was Determined: 20000712
Actual Return to Compliance Date: 20010220
Return to Compliance Qualifier: Observed
Violation Responsible Agency: EPA
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 20001016
Enforcement Responsible Agency: EPA
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: CMCDO
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: EPA
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 20000712
Actual Return to Compliance Date: 20010220
Return to Compliance Qualifier: Observed
Violation Responsible Agency: EPA
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 20001016
Enforcement Responsible Agency: EPA
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported

MGC PURE CHEMICALS AMERICA INC (Continued) **1007198506**

Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	CMCDO
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Found Violation:	Yes
Agency Which Determined Violation:	EPA
Violation Short Description:	Generators - General
Date Violation was Determined:	20000712
Actual Return to Compliance Date:	20010220
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	EPA
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	002
Date of Enforcement Action:	20001106
Enforcement Responsible Agency:	EPA
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	CMCDO
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported

MGC PURE CHEMICALS AMERICA INC (Continued) **1007198506**

Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported

Evaluation Action Summary:

Evaluation Date:	20240411
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	Not reported
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20000712
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	R9STA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20000712
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	CMCDO
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	20010220
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20000712
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	CMCDO
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	20010220
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported

MGC PURE CHEMICALS AMERICA INC (Continued) **1007198506**

Former Citation:	Not reported
Evaluation Date:	20000712
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	CMCDO
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	20010220
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20000712
Evaluation Responsible Agency:	EPA
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	CMCDO
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	20010220
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Click this hyperlink while viewing on your computer to access additional TSCA detail in the EDR Site Report.

Facility, Chemical, Releases and Other Waste Management Summary Information:

TRI ID:	85242MGCPR6560S
Form Type:	Form R
Reporting year:	2023
Trade secret indicator:	NO
Sanitized indicator:	NO
Title of certifying official:	EHS MANAGER JON JOHNSTON
Certifying officials signature indicator:	ELECTRONIC
Date signed:	2024-06-28
Name:	Mgc Pure Chemicals America Inc
Address:	6560 S MOUNTAIN RD
City,State,Zip:	MESA, AZ 85212
BIA code:	Not reported
Tribe name:	Not reported
Mailing name:	Mgc Pure Chemicals America Inc
Mailing street:	6560 S MOUNTAIN RD
Mailing province:	Not reported
Mailing City,State,Zip:	MESA, AZ 85212
Entire facility ind:	YES
Partial facility ind:	NO
Federal facility ind:	NO
Goco facility ind:	NO
Assigned fed facility flag:	NO
Public contact name:	JON JOHNSTON
Public contact phone and Ext:	4809879100 180

MGC PURE CHEMICALS AMERICA INC (Continued) **1007198506**

Public contact email:	JJOHNSTON@MGCPURE.COM
Primary sic code:	Not reported
Sic code 2:	Not reported
Sic code 3:	Not reported
Sic code 4:	Not reported
Sic code 5:	Not reported
Sic code 6:	Not reported
Naics origin:	Not reported
Primary naics code:	325180
Naics code 2:	Not reported
Naics code 3:	Not reported
Naics code 4:	Not reported
Naics code 5:	Not reported
Naics code 6:	Not reported
Latitude:	33.294653
Longitude:	-111.594748
D and B number A:	959948027
D and B number B:	Not reported
RCRA number A:	AZR000002394
RCRA number B:	Not reported
RCRA number C:	Not reported
RCRA number D:	Not reported
RCRA number E:	Not reported
RCRA number F:	Not reported
RCRA number G:	Not reported
RCRA number H:	Not reported
NPDES number A:	AZMS80828
NPDES number B:	AZMS67800
NPDES number C:	AZMS67772
NPDES number D:	Not reported
NPDES number E:	Not reported
NPDES number F:	Not reported
NPDES number G:	Not reported
Parent company name:	Not reported
Parent company D and B number:	Not reported
Standardized parent company name:	MITSUBISHI CHEMICAL AMERICA INC
Document control number:	1323222229751
TRI ID:	85242MGCPR6560S
Cas number:	0007664417
Chemical name: Ammonia	
Classification:	TRI
Unit of measure:	Pounds
Metal ind:	NO
Revision code 1:	Not reported
Revision code 2:	Not reported
Maximum amount on site:	05
Fugitive air emissions - total release pounds:	NA
Fugitive air emissions - total release range code:	Not reported
Total fugitive air emissions:	0
Fugitive air emissions - basis of estimate:	Not reported
Stack air emissions - release pounds:	9
Stack air emissions - release range code:	Not reported
Total stack air emissions:	9
Stack air emissions - basis of estimate:	On-Site-Specific Emission Factors
Total air emissions:	9
Discharges to stream a - stream name:	NA
Total discharges to stream a:	0

MGC PURE CHEMICALS AMERICA INC (Continued) **1007198506**

Discharges to stream a - basis of estimate:	Not reported
Discharges to stream a - % from stormwater:	Not reported
Discharges to stream b - stream name:	Not reported
Total discharges to stream b:	Not reported
Discharges to stream b - basis of estimate:	Not reported
Discharges to stream b - % from stormwater:	Not reported
Discharges to stream c - stream name:	Not reported
Total discharges to stream c:	Not reported
Discharges to stream c - basis of estimate:	Not reported
Discharges to stream c - % from stormwater:	Not reported
Discharges to stream d - stream name:	Not reported
Total discharges to stream d:	Not reported
Discharges to stream d - basis of estimate:	Not reported
Discharges to stream d - % from stormwater:	Not reported
Discharges to stream e - stream name:	Not reported
Total discharges to stream e:	Not reported
Discharges to stream e - basis of estimate:	Not reported
Discharges to stream e - % from stormwater:	Not reported
Discharges to stream f - stream name:	Not reported
Total discharges to stream f:	Not reported
Discharges to stream f - basis of estimate:	Not reported
Discharges to stream f - % from stormwater:	Not reported
Discharges to stream g - stream name:	Not reported
Total discharges to stream g:	Not reported
Discharges to stream g - basis of estimate:	Not reported
Discharges to stream g - % from stormwater:	Not reported
Discharges to stream h - stream name:	Not reported
Discharges to stream h - release pounds:	Not reported
Discharges to stream h - release range code:	Not reported
Total discharges to stream h:	Not reported
Discharges to stream h - basis for estimate:	Not reported
Discharges to stream h - % from stormwater:	Not reported
Total number of receiving streams:	0
Total surface water discharge:	0
Total on-site underground inj - pounds:	Not reported
On-site underground inj - basis of estimate:	Not reported
Total on-site ugrnd inj to cl i wells - pounds:	0
On-site underground inj to c1 i wells - basis of estimate:	Not reported
Total on-site ugrnd inj to cl ii-v wells - pounds:	0
On-site ungrnd inj to cl ii-v wells - basis of estimate:	Not reported
Total on-site underground injection:	0
Total on-site landfills:	Not reported
On-site landfills - basis of estimate:	Not reported
Total on-site RCRA subtitle c landfills:	0
On-site RCRA subtitle c landfills - basis of estimate:	Not reported
Total other on-site landfills:	0
Other landfills - basis of estimate:	Not reported
Total on-site land treatment:	0
Land trtmt/appl farming - basis of estimate:	Not reported
Total surface impoundments:	Not reported
Surface impoundment - basis of estimate:	Not reported
Total RCRA c surface impoundments:	0
RCRA c Surface impoundment - basis of estimate:	Not reported
Total other surface impoundments:	0
Other surface impoundment - basis of estimate:	Not reported
Total other disposal:	0
Other disposal - basis of estimate:	Not reported

MGC PURE CHEMICALS AMERICA INC (Continued) **1007198506**

Total on-site land releases:	0
Total on-site releases:	Not reported
Off-site - POTW releases:	1153.6
Off-site - storage only:	0
Off-site - solid/stab - metals:	0
Off-site - wastewater treatment release - metals:	0
Off-site - solid/stab - release - metals:	0
Off-site - wastewater treatment - metals:	0
Off-site - underground injection:	0
Off-site - underground injection - class 1 wells:	0
Off-site - underground injection - class ii-v wells:	0
Off-site - landfills/disposal surface impoundments:	0
Off-site - surface impoundment:	0
Off-site - RCRA subtitle c surface impoundments:	0
Off-site - other surface impoundments:	0
Off-site - other landfills:	0
Off-site - RCRA subtitle c landfills:	0
Off-site - disposal - land treatment:	0
Off-site - disposal - other land disposal:	0
Off-site - disposal - other off-site management:	0
Off-site - disposal - transfer to waste broker:	0
Off-site - disposal - unknown:	0
Total transferred off site for disposal:	1153.6
Off-site - recycling - solvents/organics recovery:	0
Off-site - recycling -metals recovery:	0
Off-site - recycling - other reuse or recovery:	0
Off-site - recycling - acid regeneration:	0
Off-site - recycling - transfer to waste broker:	53362
Total transferred off site for recycling:	53362
Off-site - energy recovery:	0
Off-site - transfer to waste broker for energy recovery:	0
Total transferred off site for energy recovery:	0
Off-site - POTW treatment:	1730.4
Off-site - solid/stab treatment - non metals:	0
Off-site -incineration/thermal treatment:	0
Off-site - incineration/insignificant heat value:	0
Off-site - wastewater treatment - non-metals:	0
Off-site - other waste treatment:	0
Off-site - transfer to waste broker - waste treatment:	0
Total transferred off site for treatment:	1730.4
Off-site - transfer to waste broker:	0
Total transferred off site for further waste management:	56246
Total POTW transfer:	2884
Energy recovery on site current year:	0
Recycled on site current year:	0
Treated on site current year:	0
Total on-site waste management:	0
On-site energy recovery method 1:	Not Applicable
On-site energy recovery method 2:	Not reported
On-site energy recovery method 3:	Not Applicable
On-site energy recovery method 4:	Not reported
On-site recycling processes method 1:	Not Applicable
On-site recycling processes method 2:	Not reported
On-site recycling processes method 3:	Not reported
On-site recycling processes method 4:	Not reported
On-site recycling processes method 5:	Not reported
On-site recycling processes method 6:	Not reported

MGC PURE CHEMICALS AMERICA INC (Continued) **1007198506**

On-site recycling processes method 7:	Not reported
FRS Facility ID:	110039268431
Elemental Metal Included:	NO
Waste Rock Pile managed Indicator:	9
Waste Rock Quantity:	0
Off Site - POTW Releases 81C:	0
Off Site - POTW Releases 81D:	1153.6
Assigned Partial Facility Flag:	NO
Case Number:	7664-41-7
Mixture Name:	NA
Carcinogen Ind:	NO
PFAS Ind:	NO
Foreign Parent Company D and B Number:	175114909
Foreign Parent Company Name:	MITSUBISHI GAS CHEMICAL AMERICA INC
Hazardous Air Pollutant - HAPS:	NO
Standardized Foreign Parent Company Name:	Not reported

Chemical Activities and Uses:

Cas number:	0007664417
Document control number:	1323222229751
Chemical name: Ammonia	
Classification:	TRI
Unit of measure:	Pounds
Produce the chemical:	No
Import the chemical:	No
On-site use of the chemical:	No
Sale or distribution of the chemical:	No
As a byproduct:	No
As a manufactured impurity:	No
Used as a reactant:	No
P101 feedstocks:	No
P102 raw materials:	No
P103 intermediates:	No
P104 initiators:	No
P199 other:	No
Added as a formulation component:	Yes
P201 additives:	No
P202 dyes:	No
P203 reaction diluents:	No
P204 initiators:	No
P205 solvents:	No
P206 inhibitors:	No
P207 emulsifiers:	No
P208 surfactants:	No
P209 lubricants:	No
P210 flame retardants:	No
P211 rheological modifiers:	No
P299 other:	Yes
Used as an article component:	No
Repackaging:	No
As a process impurity:	No
Processed / recycling:	No
Used as a chemical processing aid:	No
Z101 process solvents:	No
Z102 catalysts:	No
Z103 inhibitors:	No
Z104 initiators:	No
Z105 reaction terminators:	No

MGC PURE CHEMICALS AMERICA INC (Continued) **1007198506**

Z106 solution buffers:	No
Z199 other:	No
Used as a manufacturing aid:	No
Z201 process lubricants:	No
Z202 metalworking fluids:	No
Z203 coolants:	No
Z204 refrigerants:	No
Z205 hydraulic fluids:	No
Z299 other:	No
Ancillary or other use:	No
Z301 cleaner:	No
Z302 degreaser:	No
Z303 lubricant:	No
Z304 fuel:	No
Z305 flame retardant:	No
Z306 waste treatment:	No
Z307 water treatment:	No
Z308 construction materials:	No
Z399 other:	No
Certifying Officials Signature:	2024-06-28
Submitted Facility Name:	Mgc Pure Chemicals America Inc
Submitted Street:	6560 S MOUNTAIN RD
Submitted City:	MESA
Submitted County:	MARICOPA
Submitted State:	AZ
Submitted Zip Code:	85212
Submitted BIA Code:	Not reported
Submitted Tribe Name:	Not reported
Submitted Parent Company Name:	Not reported
Submitted Parent Company DB Number:	Not reported
Submitted Standardized Parent Company Name:	MITSUBISHI CHEMICAL AMERICA INC
Submitted Primary NAICS Code:	325180
Submitted Industry Code:	325
Submitted Industry Name:	Chemicals
Industry Code:	325
Industry Name:	Chemicals
Last year the facility reported:	2024
First year the facility reported:	1996
Number of forms submitted:	1
Total number of forms submitted:	22 20250730
Assigned Agency:	Not reported

Detailed Source Reduction Activities and Methods:

Cas number:	0007664417
Document control number:	1323222229751
Chemical name: Ammonia	
Classification:	TRI
Unit of measure:	Pounds
On-site limited releases - prior year:	0
On-site limited releases - current year:	0
On-site limited releases - following year:	0
On-site limited releases - 2nd-following year:	0
Other on-site releases - prior year:	14
Other on-site releases - current year:	9
Other on-site releases - following year:	0
Other on-site releases - 2nd-following year:	0

MGC PURE CHEMICALS AMERICA INC (Continued) **1007198506**

Off-site limited releases - prior year:	0
Off-site limited releases - current year:	0
Off-site limited releases - following year:	0
Off-site limited releases - 2nd-following year:	0
Other off-site releases - previous year:	2105.98
Other off-site releases - current year:	1153.6
Other off-site releases - following year:	1152.736
Other off-site releases - 2nd-following year:	1152.736
Energy recovery on site prior year:	0
Energy recovery on site current year:	0
Energy recovery on site following year:	0
Energy recovery on site 2nd-following year:	0
Energy recovery off site prior year:	0
Energy recovery off site current year:	0
Energy recovery off site following year:	0
Energy recovery off site 2nd-following year:	0
Quantity recycled on site prior year:	0
Quantity recycled on site current year:	0
Quantity recycled on site following year:	0
Quantity recycled on site 2nd-following year:	0
Quantity recycled off site prior year:	47206
Quantity recycled off site current year:	53362
Quantity recycled off site following year:	53362
Quantity recycled off site 2nd-following year:	53362
Quantity treated on site prior year:	0
Quantity treated on site current year:	0
Quantity treated on site following year:	0
Quantity treated on site 2nd-following year:	0
Quantity treated off site prior year:	3158.97
Quantity treated off site current year:	1730.4
Quantity treated off site following year:	1729.104
Quantity treated off site 2nd-following year:	1729.104
Catastrophic releases or other one-time events:	Not reported
Prod ratio/activity index:	.66
Prod ratio or activity:	PRODUCTION
1st SR reduction activity:	S44-Other Improvements To Operating Practices And Training
1st SR activity ID meth code and desc 1:	T11 OTHER
1st SR activity ID meth code and desc 2:	Not reported
1st SR activity ID meth code and desc 3:	Not reported
EST Ann REDN 1st source REDN act code and desc:	Not reported
2nd SR activity code and desc:	Not reported
2nd SR activity ID meth code and desc 1:	Not reported
2nd SR activity ID meth code and desc 2:	Not reported
2nd SR activity ID meth code and desc 3:	Not reported
EST Ann REDN 2nd source REDN act code and desc:	Not reported
3rd SR activity code and desc:	Not reported
3rd SR activity ID meth code and desc 1:	Not reported
3rd SR activity ID meth code and desc 2:	Not reported
3rd SR activity ID meth code and desc 3:	Not reported
EST Ann REDN 3rd source REDN act code and desc:	Not reported
4th SR activity code and desc:	Not reported
4th SR activity ID meth code and desc 1:	Not reported
4th SR activity ID meth code and desc 2:	Not reported
4th SR activity ID meth code and desc 3:	Not reported
EST Ann REDN 4th source REDN act code and desc:	Not reported

MGC PURE CHEMICALS AMERICA INC (Continued) **1007198506**

Detailed On-site Waste Treatment Methods and Efficiency:

Cas number:	0007664417
Document control number:	1323222229751
Chemical name: Ammonia	
Classification:	TRI
Unit of measure:	Pounds
Stream 1 - waste stream code:	NA
Stream 1 - trtmt method - sequence 1:	Not reported
Stream 1 - trtmt method - sequence 2:	Not reported
Stream 1 - trtmt method - sequence 3:	Not reported
Stream 1 - trtmt method - sequence 4:	Not reported
Stream 1 - trtmt method - sequence 5:	Not reported
Stream 1 - trtmt method - sequence 6:	Not reported
Stream 1 - trtmt method - sequence 7:	Not reported
Stream 1 - trtmt method - sequence 8:	Not reported
Stream 1 - based on operating data:	Not reported
Stream 2 - waste stream code:	Not reported
Stream 2 - trtmt method - sequence 1:	Not reported
Stream 2 - trtmt method - sequence 2:	Not reported
Stream 2 - trtmt method - sequence 3:	Not reported
Stream 2 - trtmt method - sequence 4:	Not reported
Stream 2 - trtmt method - sequence 5:	Not reported
Stream 2 - trtmt method - sequence 6:	Not reported
Stream 2 - trtmt method - sequence 7:	Not reported
Stream 2 - trtmt method - sequence 8:	Not reported
Stream 2 - based on operating data:	Not reported
Stream 3 - waste stream code:	Not reported
Stream 3 - trtmt method - sequence 1:	Not reported
Stream 3 - trtmt method - sequence 2:	Not reported
Stream 3 - trtmt method - sequence 3:	Not reported
Stream 3 - trtmt method - sequence 4:	Not reported
Stream 3 - trtmt method - sequence 5:	Not reported
Stream 3 - trtmt method - sequence 6:	Not reported
Stream 3 - trtmt method - sequence 7:	Not reported
Stream 3 - trtmt method - sequence 8:	Not reported
Stream 3 - based on operating data:	Not reported
Stream 4 - waste stream code:	Not reported
Stream 4 - trtmt method - sequence 1:	Not reported
Stream 4 - trtmt method - sequence 2:	Not reported
Stream 4 - trtmt method - sequence 3:	Not reported
Stream 4 - trtmt method - sequence 4:	Not reported
Stream 4 - trtmt method - sequence 5:	Not reported
Stream 4 - trtmt method - sequence 6:	Not reported
Stream 4 - trtmt method - sequence 7:	Not reported
Stream 4 - trtmt method - sequence 8:	Not reported
Stream 4 - based on operating data:	Not reported
Stream 5 - waste stream code:	Not reported
Stream 5 - trtmt method - sequence 1:	Not reported
Stream 5 - trtmt method - sequence 2:	Not reported
Stream 5 - trtmt method - sequence 3:	Not reported
Stream 5 - trtmt method - sequence 4:	Not reported
Stream 5 - trtmt method - sequence 5:	Not reported
Stream 5 - trtmt method - sequence 6:	Not reported
Stream 5 - trtmt method - sequence 7:	Not reported
Stream 5 - trtmt method - sequence 8:	Not reported
Stream 5 - based on operating data:	Not reported

MGC PURE CHEMICALS AMERICA INC (Continued) **1007198506**

Details of Off-site Transfers:

Cas number:		0007664417
Document control number:		1323222229751
Chemical name:	Ammonia	
Classification:		TRI
Offsite RCRA id nr:		AZS000030544
Offsite transfer sequence number:		2
Offsite name:		Fertizona
Offsite street address:		2850 S PEART ROAD
Offsite City,State,Zip:		CASA GRANDE, AZ 85222
Offsite county:		PINAL
Offsite province:		Not reported
Offsite country id:		Not reported
Offsite control:		NO
Unit of measure:		Pounds
Total amount transferred offsite for disposal:		0
Offsite TRF to WST broker for recycl m93 LBS:		53362
Offsite TRF to WST broker for recycl m93 BOE:		Periodic/Random Monotoning Data
Total amount transferred offsite for recycling:		53362
Total amount transferred offsite for energy recovery:		0
Total amount transferred offsite for treatment:		0
FRS ID - Transfer Location:		110022295577
CAS Number:		7664-41-7

Details of Transfers to Publicly Owned Treatment Works:

Cas number:		0007664417
Document control number:		1323222229751
Chemical name:	Ammonia	
Classification:		TRI
Unit of measure:		Pounds
POTW name:		MESA GREENFIELD WRP
POTW address:		E. QUEEN CREEK RD AND GREENFIELD RD.
POTW City,State,Zip:		MESA, AZ 85211
POTW county:		MARICOPA
Quantity transferred:		2884
Basis of estimate:		Not reported
Discharges to water streams:		0
Discharges to water streams - basis of estimate:		Not reported
Discharges to other activities:		0
Discharges to other activities - basis of estimate:		Not reported
Released to air:		0
Released to air - basis of estimate:		Not reported
Sludge to disposal:		0
Sludge to disposal - basis of estimate:		Not reported
Sludge to incineration - metals:		0
Sludge to incineration - metals - basis of estimate:		Not reported
Sludge to agricultural applications:		0
Sludge to agricultural applications - basis of estimate:		Not reported
Other or unknown disposal:		1153.6
Other or unknown disposal - basis of estimate:		Published Emission Factors
Other or unknown treatment:		0
Other or unknown treatment - basis of estimate:		Not reported
Sludge to incineration - nonmetals:		0
Sludge to incineration - nonmetals - basis of estimate:		Not reported
Total treated:		1730.4
POTW Registry ID:		110056004149

MGC PURE CHEMICALS AMERICA INC (Continued) **1007198506**

Off Site - POTW Releases 81C:	0
Off Site - POTW Releases 81D:	1153.6
Off Site - POTW Releases:	1153.6
Experimental and Est. Treatment:	1730.4
Experimental and Est. Treatment - Basis of Est.:	E1
Assigned Partial Facility Flag:	NO
Carcinogen:	NO
CAS Number:	7664-41-7
PFAS Indicator:	NO
Standardized Foreign Parent Company Name:	Not reported

Additional Information on Disposal and Other Releases, Source Reduction and Recycling Activities:

Cas number:	0007664417
Document control number:	1323222229751
Chemical name: Ammonia	
Classification:	TRI
Comment sequence:	852225
Comment type description:	T11 - Other
Comment text:	Hired an Environmental Engineer to assist with pollution prevention
P2 Classification:	Source Reduction

Additional Information Miscellaneous and Optional:

Cas number:	0007664417
Document control number:	1323222229751
Chemical name: Ammonia	
Classification:	TRI
Comment sequence:	852228
Comment type description:	POTW transfer details modified after using calculator
Comment text:	Error Reviewed / No Comment.

FINDS:
Registry ID: 110071907154

Click Here for FRS Facility Detail Report:

Environmental Interest/Information System:

The Integrated Compliance Information System (ICIS) provides a database that, when complete, will contain integrated enforcement and compliance information across most of EPA's programs. The vision for ICIS is to replace EPA's independent databases that contain enforcement data with a single repository for that information. Currently, ICIS contains all Federal Administrative and Judicial enforcement actions and a subset of the Permit Compliance System (PCS), which supports the National Pollutant Discharge Elimination System (NPDES). This information is maintained in ICIS by EPA in the Regional offices and it at Headquarters. A future release of ICIS will completely replace PCS and will integrate that information with Federal actions already in the system. ICIS also has the capability to track other activities that support compliance and enforcement programs, including incident tracking, compliance assistance, and compliance monitoring.
The National Pollutant Discharge Elimination System (NPDES) module of the Integrated Compliance Information System (ICIS). Under NPDES, all facilities that discharge pollutants from any point source into waters of the United States are required to obtain a permit. The permit will

MGC PURE CHEMICALS AMERICA INC (Continued) **1007198506**

likely contain limits on what can be discharged, impose monitoring and reporting requirements, and include other provisions to ensure that the discharge does not adversely affect water quality.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid:	1007198506
Registry ID:	110071907154
DFR URL:	http://echo.epa.gov/detailed-facility-report?fid=110071907154
Name:	MGC PURE CHEMICALS AMERICA INC
Address:	6560 S Mountain Rd
City,State,Zip:	MESA, AZ 85212

E MANIFEST:

Manifest Tracking Number:	019368686FLE
Last Updated Date:	20240424
Shipped Date:	20240405
Received Date:	20240415
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Web
Generator EPA ID:	AZR000002394
Generator Name:	Mgc Pure Chemicals America Inc
Generator Location Street Number:	Not reported
Generator Location Street 1:	6560 S MOUNTAIN RD
Generator Location Street 2:	Not reported
Generator Location City:	MESA
Generator Location State:	AZ
Generator Location Zip:	85212
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	6560 S MOUNTAIN RD
Generator Mail Street 2:	Not reported
Generator Mail City:	MESA
Generator Mail Zip:	85212
Generator Mail State:	AZ
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	NMD002208627
Designated Facility Name:	Advanced Chemical Treatment Llc
Designated Facility Mail Street Number:	6133
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	EDITH BLVD NE
Designated Facility Mail City:	ALBUQUERQUE
Designated Facility Mail Zip:	87107
Designated Facility Mail State:	NM
Designated Facility Location Street Number:	6133
Designated Facility Location Street 1:	EDITH BLVD NE
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	ALBUQUERQUE
Designated Facility Location Zip:	87107
Designated Facility Location State:	NM
Designated Facility Contact Company Name:	Not reported
Manifest Residue Indicator:	N
Rejection Indicator:	N

Manifest Tracking Number:	019368797FLE

MGC PURE CHEMICALS AMERICA INC (Continued) **1007198506**

Last Updated Date:	20240807
Shipped Date:	20240405
Received Date:	20240411
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	AZR000002394
Generator Name:	Mgc Pure Chemicals America, Inc
Generator Location Street Number:	Not reported
Generator Location Street 1:	6560 S MOUNTAIN ROAD
Generator Location Street 2:	Not reported
Generator Location City:	MESA
Generator Location State:	AZ
Generator Location Zip:	85212
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	6560 S MOUNTAIN ROAD
Generator Mail Street 2:	Not reported
Generator Mail City:	MESA
Generator Mail Zip:	85212
Generator Mail State:	AZ
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	NVT330010000
Designated Facility Name:	Us Ecology Nevada, Inc.
Designated Facility Mail Street Number:	Not reported
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	HWY 95 11 MILES S. OF BEATTY
Designated Facility Mail City:	BEATTY
Designated Facility Mail Zip:	89003
Designated Facility Mail State:	NV
Designated Facility Location Street Number:	Not reported
Designated Facility Location Street 1:	HWY 95 11 MILES S. OF BEATTY
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	BEATTY
Designated Facility Location Zip:	89003
Designated Facility Location State:	NV
Designated Facility Contact Company Name:	Not reported
Manifest Residue Indicator:	N
Rejection Indicator:	N

Manifest Tracking Number:	019045070FLE
Last Updated Date:	20240326
Shipped Date:	20240301
Received Date:	20240312
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Web
Generator EPA ID:	AZR000002394
Generator Name:	Mgc Pure Chemicals America Inc
Generator Location Street Number:	Not reported
Generator Location Street 1:	6560 S MOUNTAIN RD
Generator Location Street 2:	Not reported
Generator Location City:	MESA
Generator Location State:	AZ
Generator Location Zip:	85212
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	6560 S MOUNTAIN RD
Generator Mail Street 2:	Not reported

MGC PURE CHEMICALS AMERICA INC (Continued) **1007198506**

Generator Mail City:	MESA
Generator Mail Zip:	85212
Generator Mail State:	AZ
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	NMD002208627
Designated Facility Name:	Advanced Chemical Treatment Llc
Designated Facility Mail Street Number:	6133
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	EDITH BLVD NE
Designated Facility Mail City:	ALBUQUERQUE
Designated Facility Mail Zip:	87107
Designated Facility Mail State:	NM
Designated Facility Location Street Number:	6133
Designated Facility Location Street 1:	EDITH BLVD NE
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	ALBUQUERQUE
Designated Facility Location Zip:	87107
Designated Facility Location State:	NM
Designated Facility Contact Company Name:	Not reported
Manifest Residue Indicator:	N
Rejection Indicator:	N

Manifest Tracking Number:	019297154JJK
Last Updated Date:	20190819
Shipped Date:	20190814
Received Date:	20190815
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	AZR000002394
Generator Name:	Mgc Pure Chemicals America Inc
Generator Location Street Number:	Not reported
Generator Location Street 1:	6560 S MOUNTAIN RD
Generator Location Street 2:	Not reported
Generator Location City:	MESA
Generator Location State:	AZ
Generator Location Zip:	85212
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	6560 S MOUNTAIN RD
Generator Mail Street 2:	Not reported
Generator Mail City:	MESA
Generator Mail Zip:	85212
Generator Mail State:	AZ
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	NVT330010000
Designated Facility Name:	Us Ecology Nevada, Inc
Designated Facility Mail Street Number:	Not reported
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	PO BOX 578
Designated Facility Mail City:	BEATTY
Designated Facility Mail Zip:	89003
Designated Facility Mail State:	NV
Designated Facility Location Street Number:	Not reported
Designated Facility Location Street 1:	HWY 95 11 MI S OF BEATTY
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	BEATTY
Designated Facility Location Zip:	89003

MGC PURE CHEMICALS AMERICA INC (Continued) **1007198506**

Designated Facility Location State:	NV
Designated Facility Contact Company Name:	Not reported
Manifest Residue Indicator:	N
Rejection Indicator:	N
Manifest Tracking Number:	019297155JJK
Last Updated Date:	20190823
Shipped Date:	20190819
Received Date:	20190820
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	AZR000002394
Generator Name:	Mgc Pure Chemicals America Inc
Generator Location Street Number:	Not reported
Generator Location Street 1:	6560 S MOUNTAIN RD
Generator Location Street 2:	Not reported
Generator Location City:	MESA
Generator Location State:	AZ
Generator Location Zip:	85212
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	6560 S MOUNTAIN RD
Generator Mail Street 2:	Not reported
Generator Mail City:	MESA
Generator Mail Zip:	85212
Generator Mail State:	AZ
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	NVT330010000
Designated Facility Name:	Us Ecology Nevada, Inc
Designated Facility Mail Street Number:	Not reported
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	PO BOX 578
Designated Facility Mail City:	BEATTY
Designated Facility Mail Zip:	89003
Designated Facility Mail State:	NV
Designated Facility Location Street Number:	Not reported
Designated Facility Location Street 1:	HWY 95 11 MI S OF BEATTY
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	BEATTY
Designated Facility Location Zip:	89003
Designated Facility Location State:	NV
Designated Facility Contact Company Name:	Not reported
Manifest Residue Indicator:	N
Rejection Indicator:	N
Manifest Tracking Number:	019297488JJK
Last Updated Date:	20190812
Shipped Date:	20190729
Received Date:	20190730
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	AZR000002394
Generator Name:	Mgc Pure Chemicals America Inc
Generator Location Street Number:	Not reported
Generator Location Street 1:	6560 S MOUNTAIN RD
Generator Location Street 2:	Not reported

MGC PURE CHEMICALS AMERICA INC (Continued) **1007198506**

Generator Location City:	MESA
Generator Location State:	AZ
Generator Location Zip:	85212
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	6560 S MOUNTAIN RD
Generator Mail Street 2:	Not reported
Generator Mail City:	MESA
Generator Mail Zip:	85212
Generator Mail State:	AZ
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	NVT330010000
Designated Facility Name:	Us Ecology Nevada, Inc
Designated Facility Mail Street Number:	Not reported
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	PO BOX 578
Designated Facility Mail City:	BEATTY
Designated Facility Mail Zip:	89003
Designated Facility Mail State:	NV
Designated Facility Location Street Number:	Not reported
Designated Facility Location Street 1:	HWY 95 11 MI S OF BEATTY
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	BEATTY
Designated Facility Location Zip:	89003
Designated Facility Location State:	NV
Designated Facility Contact Company Name:	Not reported
Manifest Residue Indicator:	N
Rejection Indicator:	N

Manifest Tracking Number:	019297487JJK
Last Updated Date:	20190812
Shipped Date:	20190729
Received Date:	20190730
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	AZR000002394
Generator Name:	Mgc Pure Chemicals America Inc
Generator Location Street Number:	Not reported
Generator Location Street 1:	6560 S MOUNTAIN RD
Generator Location Street 2:	Not reported
Generator Location City:	MESA
Generator Location State:	AZ
Generator Location Zip:	85212
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	6560 S MOUNTAIN RD
Generator Mail Street 2:	Not reported
Generator Mail City:	MESA
Generator Mail Zip:	85212
Generator Mail State:	AZ
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	NVT330010000
Designated Facility Name:	Us Ecology Nevada, Inc
Designated Facility Mail Street Number:	Not reported
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	PO BOX 578
Designated Facility Mail City:	BEATTY
Designated Facility Mail Zip:	89003

MGC PURE CHEMICALS AMERICA INC (Continued) **1007198506**

Designated Facility Mail State:	NV
Designated Facility Location Street Number:	Not reported
Designated Facility Location Street 1:	HWY 95 11 MI S OF BEATTY
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	BEATTY
Designated Facility Location Zip:	89003
Designated Facility Location State:	NV
Designated Facility Contact Company Name:	Not reported
Manifest Residue Indicator:	N
Rejection Indicator:	N

Manifest Tracking Number:	019297499JJK
Last Updated Date:	20190813
Shipped Date:	20190731
Received Date:	20190801
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	AZR000002394
Generator Name:	Mgc Pure Chemicals America Inc
Generator Location Street Number:	Not reported
Generator Location Street 1:	6560 S MOUNTAIN RD
Generator Location Street 2:	Not reported
Generator Location City:	MESA
Generator Location State:	AZ
Generator Location Zip:	85212
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	6560 S MOUNTAIN RD
Generator Mail Street 2:	Not reported
Generator Mail City:	MESA
Generator Mail Zip:	85212
Generator Mail State:	AZ
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	NVT330010000
Designated Facility Name:	Us Ecology Nevada, Inc
Designated Facility Mail Street Number:	Not reported
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	PO BOX 578
Designated Facility Mail City:	BEATTY
Designated Facility Mail Zip:	89003
Designated Facility Mail State:	NV
Designated Facility Location Street Number:	Not reported
Designated Facility Location Street 1:	HWY 95 11 MI S OF BEATTY
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	BEATTY
Designated Facility Location Zip:	89003
Designated Facility Location State:	NV
Designated Facility Contact Company Name:	Not reported
Manifest Residue Indicator:	N
Rejection Indicator:	N

Manifest Tracking Number:	019297500JJK
Last Updated Date:	20190813
Shipped Date:	20190731
Received Date:	20190801
Manifest Status:	Signed
Submission Type:	DataImage5Copy

MGC PURE CHEMICALS AMERICA INC (Continued) **1007198506**

Origin Type:	Service
Generator EPA ID:	AZR000002394
Generator Name:	Mgc Pure Chemicals America Inc
Generator Location Street Number:	Not reported
Generator Location Street 1:	6560 S MOUNTAIN RD
Generator Location Street 2:	Not reported
Generator Location City:	MESA
Generator Location State:	AZ
Generator Location Zip:	85212
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	6560 S MOUNTAIN RD
Generator Mail Street 2:	Not reported
Generator Mail City:	MESA
Generator Mail Zip:	85212
Generator Mail State:	AZ
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	NVT330010000
Designated Facility Name:	Us Ecology Nevada, Inc
Designated Facility Mail Street Number:	Not reported
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	PO BOX 578
Designated Facility Mail City:	BEATTY
Designated Facility Mail Zip:	89003
Designated Facility Mail State:	NV
Designated Facility Location Street Number:	Not reported
Designated Facility Location Street 1:	HWY 95 11 MI S OF BEATTY
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	BEATTY
Designated Facility Location Zip:	89003
Designated Facility Location State:	NV
Designated Facility Contact Company Name:	Not reported
Manifest Residue Indicator:	N
Rejection Indicator:	N

Manifest Tracking Number:	019297501JJK
Last Updated Date:	20190813
Shipped Date:	20190802
Received Date:	20190806
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	AZR000002394
Generator Name:	Mgc Pure Chemicals America Inc
Generator Location Street Number:	Not reported
Generator Location Street 1:	6560 S MOUNTAIN RD
Generator Location Street 2:	Not reported
Generator Location City:	MESA
Generator Location State:	AZ
Generator Location Zip:	85212
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	6560 S MOUNTAIN RD
Generator Mail Street 2:	Not reported
Generator Mail City:	MESA
Generator Mail Zip:	85212
Generator Mail State:	AZ
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	NVT330010000

MGC PURE CHEMICALS AMERICA INC (Continued) **1007198506**

Designated Facility Name:	Us Ecology Nevada, Inc
Designated Facility Mail Street Number:	Not reported
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	PO BOX 578
Designated Facility Mail City:	BEATTY
Designated Facility Mail Zip:	89003
Designated Facility Mail State:	NV
Designated Facility Location Street Number:	Not reported
Designated Facility Location Street 1:	HWY 95 11 MI S OF BEATTY
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	BEATTY
Designated Facility Location Zip:	89003
Designated Facility Location State:	NV
Designated Facility Contact Company Name:	Not reported
Manifest Residue Indicator:	N
Rejection Indicator:	N

Manifest Tracking Number:	019297502JJK
Last Updated Date:	20190813
Shipped Date:	20190802
Received Date:	20190806
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	AZR000002394
Generator Name:	Mgc Pure Chemicals America Inc
Generator Location Street Number:	Not reported
Generator Location Street 1:	6560 S MOUNTAIN RD
Generator Location Street 2:	Not reported
Generator Location City:	MESA
Generator Location State:	AZ
Generator Location Zip:	85212
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	6560 S MOUNTAIN RD
Generator Mail Street 2:	Not reported
Generator Mail City:	MESA
Generator Mail Zip:	85212
Generator Mail State:	AZ
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	NVT330010000
Designated Facility Name:	Us Ecology Nevada, Inc
Designated Facility Mail Street Number:	Not reported
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	PO BOX 578
Designated Facility Mail City:	BEATTY
Designated Facility Mail Zip:	89003
Designated Facility Mail State:	NV
Designated Facility Location Street Number:	Not reported
Designated Facility Location Street 1:	HWY 95 11 MI S OF BEATTY
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	BEATTY
Designated Facility Location Zip:	89003
Designated Facility Location State:	NV
Designated Facility Contact Company Name:	Not reported
Manifest Residue Indicator:	N
Rejection Indicator:	N

MGC PURE CHEMICALS AMERICA INC (Continued) **1007198506**

Transporter:
- Manifest Tracking Number: 019297503JJK
- Transporter Line Number: 1
- Transporter EPA ID: AZR000032821
- Transporter Name: Overley'S Vacuum Service

Waste Line:
- Manifest Tracking Number: 019297503JJK
- Waste Line Number: 1
- U.S. DOT Hazardous Indicator: Y
- U.S. DOT ID Number: UN3264
- U.S. DOT Description: Rq, Un3264, Corrosive Liquid, Acidic, Inorganic, N.O.S., 8, Pg Ii
- Non-Hazardous Waste Description: Not reported
- Number of Containers: 15
- Container Type Code: CF
- Container Type Description: Fiber or plastic boxes, cartons, cases
- Waste Quantity: 18
- Quantity Unit of Measure Code: T
- Quantity Unit of Measure Description: Tons (2000 Pounds)
- Waste Quantity, in Tons: 18
- Acute Waste Quantity, in Tons: 0
- Non-Acute Waste Quantity, in Tons: 18
- Waste Quantity, in Kilograms: 16326.541
- Acute Waste Quantity, in Kilograms: 0
- Non-Acute Waste Quantity, in Kilorgrams: 16326.541
- Management Method Code: H039
- Management Method Description: OTHER RECOVERY OR RECLAMATION FOR REUSE
- Waste Residue Indicator: N
- Quantity Discrepancy Indicator: N
- Waste Type Discrepancy Indicator: N
- Waste Density: Not reported
- Waste Density Unit of Measure Code: Not reported
- Waste Density Unit of Measure Description: Not reported
- Form Code: Not reported
- Form Code Description: Not reported
- Source Code: Not reported
- Source Code Description: Not reported
- Waste Minimization Code: Not reported
- Waste Minimization Code Description: Not reported
- Consent Number: Not reported
- EPA Waste Indicator: Y
- Federal Waste Codes: D002
- Quantity Haz Kg: 16326.541
- Quantity Haz Tons: 18
- Quantity Non Haz Kg: 0
- Quantity Non Haz Tons: 0
- State Waste Codes: Not reported

Click this hyperlink while viewing on your computer to access
22 additional US EManifest: record(s) in the EDR Site Report.

AZ MANIFEST:
- Name: MGC PURE CHEMICALS AMERICA INC
- Address: 6560 S. MOUNTAIN RD
- City,State,Zip: QUEEN CREEK, AZ 852429716
- Report Year: 2016

MGC PURE CHEMICALS AMERICA INC (Continued) **1007198506**

EPA Id:	AZR000002394
Business Type:	Not reported
Mailing Address:	Not reported
Mailing State:	Not reported
Contact Name:	Not reported
Contact Phone:	Not reported
Management Methods:	H040
Date Generator Signed The Manifest:	Not reported
Transporter EPA Id Number:	Not reported
Date Transporter Signed The Manifest:	Not reported
TSD EPA Id Number:	Not reported
Volume:	Not reported
Date TSD Signed Manifest:	Not reported
DOT Id Number:	UN1836
Quantity:	420
Waste Code 1:	D002
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Waste Code 7:	Not reported
Waste Code 8:	Not reported
Waste Code 10:	Not reported
Waste Code 9:	Not reported
Waste Code 11:	Not reported
Waste Code 12:	Not reported
Waste Code 13:	Not reported

Name:	MGC PURE CHEMICALS AMERICA INC
Address:	6560 S. MOUNTAIN RD
City,State,Zip:	QUEEN CREEK, AZ 852429716
Report Year:	2016
EPA Id:	AZR000002394
Business Type:	Not reported
Mailing Address:	Not reported
Mailing State:	Not reported
Contact Name:	Not reported
Contact Phone:	Not reported
Management Methods:	H040
Date Generator Signed The Manifest:	Not reported
Transporter EPA Id Number:	Not reported
Date Transporter Signed The Manifest:	Not reported
TSD EPA Id Number:	Not reported
Volume:	Not reported
Date TSD Signed Manifest:	Not reported
DOT Id Number:	UN2984
Quantity:	1200
Waste Code 1:	D001
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Waste Code 7:	Not reported
Waste Code 8:	Not reported
Waste Code 10:	Not reported

MGC PURE CHEMICALS AMERICA INC (Continued) **1007198506**

Waste Code 9:	Not reported
Waste Code 11:	Not reported
Waste Code 12:	Not reported
Waste Code 13:	Not reported
Name:	MGC PURE CHEMICALS AMERICA INC
Address:	6560 S MOUNTAIN RD
City,State,Zip:	QUEEN CREEK, AZ 85242-9716
Report Year:	2017
EPA Id:	AZR000002394
Business Type:	Not reported
Mailing Address:	Not reported
Mailing State:	Not reported
Contact Name:	Not reported
Contact Phone:	Not reported
Management Methods:	H040
Date Generator Signed The Manifest:	Not reported
Transporter EPA Id Number:	Not reported
Date Transporter Signed The Manifest:	Not reported
TSD EPA Id Number:	Not reported
Volume:	Not reported
Date TSD Signed Manifest:	Not reported
DOT Id Number:	UN2922
Quantity:	25
Waste Code 1:	D002,D004,D005,
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Waste Code 7:	Not reported
Waste Code 8:	Not reported
Waste Code 10:	Not reported
Waste Code 9:	Not reported
Waste Code 11:	Not reported
Waste Code 12:	Not reported
Waste Code 13:	Not reported
Name:	MGC PURE CHEMICALS AMERICA INC
Address:	6560 S MOUNTAIN RD
City,State,Zip:	QUEEN CREEK, AZ 85242-9716
Report Year:	2017
EPA Id:	AZR000002394
Business Type:	Not reported
Mailing Address:	Not reported
Mailing State:	Not reported
Contact Name:	Not reported
Contact Phone:	Not reported
Management Methods:	H040
Date Generator Signed The Manifest:	Not reported
Transporter EPA Id Number:	Not reported
Date Transporter Signed The Manifest:	Not reported
TSD EPA Id Number:	Not reported
Volume:	Not reported
Date TSD Signed Manifest:	Not reported
DOT Id Number:	UN2924
Quantity:	5

MGC PURE CHEMICALS AMERICA INC (Continued) **1007198506**

Waste Code 1:	D001,D002
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Waste Code 7:	Not reported
Waste Code 8:	Not reported
Waste Code 10:	Not reported
Waste Code 9:	Not reported
Waste Code 11:	Not reported
Waste Code 12:	Not reported
Waste Code 13:	Not reported

Name:	MGC PURE CHEMICALS AMERICA INC
Address:	6560 S MOUNTAIN RD
City,State,Zip:	QUEEN CREEK, AZ 85242-9716
Report Year:	2017
EPA Id:	AZR000002394
Business Type:	Not reported
Mailing Address:	Not reported
Mailing State:	Not reported
Contact Name:	Not reported
Contact Phone:	Not reported
Management Methods:	H040
Date Generator Signed The Manifest:	Not reported
Transporter EPA Id Number:	Not reported
Date Transporter Signed The Manifest:	Not reported
TSD EPA Id Number:	Not reported
Volume:	Not reported
Date TSD Signed Manifest:	Not reported
DOT Id Number:	UN3139
Quantity:	5
Waste Code 1:	D001
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Waste Code 7:	Not reported
Waste Code 8:	Not reported
Waste Code 10:	Not reported
Waste Code 9:	Not reported
Waste Code 11:	Not reported
Waste Code 12:	Not reported
Waste Code 13:	Not reported

Name:	MGC PURE CHEMICALS AMERICA INC
Address:	6560 S MOUNTAIN RD
City,State,Zip:	QUEEN CREEK, AZ 85242-9716
Report Year:	2017
EPA Id:	AZR000002394
Business Type:	Not reported
Mailing Address:	Not reported
Mailing State:	Not reported
Contact Name:	Not reported
Contact Phone:	Not reported

MGC PURE CHEMICALS AMERICA INC (Continued) **1007198506**

Management Methods:	H040
Date Generator Signed The Manifest:	Not reported
Transporter EPA Id Number:	Not reported
Date Transporter Signed The Manifest:	Not reported
TSD EPA Id Number:	Not reported
Volume:	Not reported
Date TSD Signed Manifest:	Not reported
DOT Id Number:	UN3264
Quantity:	13
Waste Code 1:	D002
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Waste Code 7:	Not reported
Waste Code 8:	Not reported
Waste Code 10:	Not reported
Waste Code 9:	Not reported
Waste Code 11:	Not reported
Waste Code 12:	Not reported
Waste Code 13:	Not reported

Name:	MGC PURE CHEMICALS AMERICA INC
Address:	6560 S MOUNTAIN RD
City,State,Zip:	QUEEN CREEK, AZ 85242-9716
Report Year:	2017
EPA Id:	AZR000002394
Business Type:	Not reported
Mailing Address:	Not reported
Mailing State:	Not reported
Contact Name:	Not reported
Contact Phone:	Not reported
Management Methods:	H040
Date Generator Signed The Manifest:	Not reported
Transporter EPA Id Number:	Not reported
Date Transporter Signed The Manifest:	Not reported
TSD EPA Id Number:	Not reported
Volume:	Not reported
Date TSD Signed Manifest:	Not reported
DOT Id Number:	UN1993
Quantity:	5
Waste Code 1:	D001
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Waste Code 7:	Not reported
Waste Code 8:	Not reported
Waste Code 10:	Not reported
Waste Code 9:	Not reported
Waste Code 11:	Not reported
Waste Code 12:	Not reported
Waste Code 13:	Not reported

Name:	MGC PURE CHEMICALS AMERICA INC

MGC PURE CHEMICALS AMERICA INC (Continued) **1007198506**

Address:	6560 S. MOUNTAIN RD
City,State,Zip:	QUEEN CREEK, AZ 852429716
Report Year:	2016
EPA Id:	AZR000002394
Business Type:	Not reported
Mailing Address:	Not reported
Mailing State:	Not reported
Contact Name:	Not reported
Contact Phone:	Not reported
Management Methods:	H040
Date Generator Signed The Manifest:	Not reported
Transporter EPA Id Number:	Not reported
Date Transporter Signed The Manifest:	Not reported
TSD EPA Id Number:	Not reported
Volume:	Not reported
Date TSD Signed Manifest:	Not reported
DOT Id Number:	UN2984
Quantity:	8838
Waste Code 1:	D001
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Waste Code 7:	Not reported
Waste Code 8:	Not reported
Waste Code 10:	Not reported
Waste Code 9:	Not reported
Waste Code 11:	Not reported
Waste Code 12:	Not reported
Waste Code 13:	Not reported

Name:	MGC PURE CHEMICALS AMERICA INC
Address:	6560 S MOUNTAIN RD
City,State,Zip:	QUEEN CREEK, AZ 85242-9716
Report Year:	2017
EPA Id:	AZR000002394
Business Type:	Not reported
Mailing Address:	Not reported
Mailing State:	Not reported
Contact Name:	Not reported
Contact Phone:	Not reported
Management Methods:	H040
Date Generator Signed The Manifest:	Not reported
Transporter EPA Id Number:	Not reported
Date Transporter Signed The Manifest:	Not reported
TSD EPA Id Number:	Not reported
Volume:	Not reported
Date TSD Signed Manifest:	Not reported
DOT Id Number:	UN3267
Quantity:	28
Waste Code 1:	D002
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported

MGC PURE CHEMICALS AMERICA INC (Continued) **1007198506**

Waste Code 7:	Not reported
Waste Code 8:	Not reported
Waste Code 10:	Not reported
Waste Code 9:	Not reported
Waste Code 11:	Not reported
Waste Code 12:	Not reported
Waste Code 13:	Not reported

Name:	MGC PURE CHEMICALS AMERICA INC
Address:	6560 S MOUNTAIN RD
City,State,Zip:	QUEEN CREEK, AZ 852429716
Report Year:	2015
EPA Id:	AZR000002394
Business Type:	Not reported
Mailing Address:	Not reported
Mailing State:	Not reported
Contact Name:	Not reported
Contact Phone:	Not reported
Management Methods:	H040
Date Generator Signed The Manifest:	Not reported
Transporter EPA Id Number:	Not reported
Date Transporter Signed The Manifest:	Not reported
TSD EPA Id Number:	Not reported
Volume:	Not reported
Date TSD Signed Manifest:	Not reported
DOT Id Number:	UN1490
Quantity:	900
Waste Code 1:	D001
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Waste Code 7:	Not reported
Waste Code 8:	Not reported
Waste Code 10:	Not reported
Waste Code 9:	Not reported
Waste Code 11:	Not reported
Waste Code 12:	Not reported
Waste Code 13:	Not reported

Click this hyperlink while viewing on your computer to access
1 additional AZ MANIFEST: record(s) in the EDR Site Report.

K46 **MGC PURE CHEMICALS AMERICA INC** **EMAP** **S117603838**
North **6560 S MOUNTAIN RD** **MANIFEST** **N/A**
1/8-1/4 **MESA, AZ 85212** **SPDES**
0.198 mi.
1044 ft. **Site 2 of 2 in cluster K**

Actual:
1432 ft.

Focus Map:
5

EMAP:

Name:	MGC PURE CHEMICALS AMERICA INC
Address:	6560 S MOUNTAIN RD
City,State,Zip:	MESA, AZ 85212
ID Number:	22401
Township:	Not reported
Range:	Not reported
Section:	Not reported

MGC PURE CHEMICALS AMERICA INC (Continued) **S117603838**

Quarter 1:	Not reported
Quarter 2:	Not reported
Quarter 3:	Not reported
Latitude:	33.29500000
Longitude:	-111.5948
Collection Method:	LOCATED FROM COUNTY PARCEL INFORMATION
Place Type:	CHEMICAL MANUFACTURING OR SALES
Place Type Code:	PP
Place C Code:	PHYSICAL PROPERTIES
Facility Status:	ACTIVE
End Date:	Not reported
Verified:	Y

AZ MANIFEST:

Name:	MGC PURE CHEMICALS AMERICA INC
Address:	6560 S MOUNTAIN RD
City,State,Zip:	MESA, AZ 85212
Report Year:	2018
EPA Id:	AZR000002394
Business Type:	Not reported
Mailing Address:	Not reported
Mailing State:	Not reported
Contact Name:	Not reported
Contact Phone:	Not reported
Management Methods:	H132
Date Generator Signed The Manifest:	Not reported
Transporter EPA Id Number:	Not reported
Date Transporter Signed The Manifest:	Not reported
TSD EPA Id Number:	Not reported
Volume:	Not reported
Date TSD Signed Manifest:	Not reported
DOT Id Number:	UN3098
Quantity:	200
Waste Code 1:	D001, D002
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Waste Code 7:	Not reported
Waste Code 8:	Not reported
Waste Code 10:	Not reported
Waste Code 9:	Not reported
Waste Code 11:	Not reported
Waste Code 12:	Not reported
Waste Code 13:	Not reported

Name:	MGC PURE CHEMICALS AMERICA INC
Address:	6560 S MOUNTAIN RD
City,State,Zip:	MESA, AZ 85212
Report Year:	2018
EPA Id:	AZR000002394
Business Type:	Not reported
Mailing Address:	Not reported
Mailing State:	Not reported
Contact Name:	Not reported
Contact Phone:	Not reported

MGC PURE CHEMICALS AMERICA INC (Continued) **S117603838**

Management Methods:	H040
Date Generator Signed The Manifest:	Not reported
Transporter EPA Id Number:	Not reported
Date Transporter Signed The Manifest:	Not reported
TSD EPA Id Number:	Not reported
Volume:	Not reported
Date TSD Signed Manifest:	Not reported
DOT Id Number:	UN2810
Quantity:	45
Waste Code 1:	Not reported
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Waste Code 7:	Not reported
Waste Code 8:	Not reported
Waste Code 10:	Not reported
Waste Code 9:	Not reported
Waste Code 11:	Not reported
Waste Code 12:	Not reported
Waste Code 13:	Not reported

Name:	MGC PURE CHEMICALS AMERICA INC
Address:	6560 S MOUNTAIN RD
City,State,Zip:	MESA, AZ 85212
Report Year:	2018
EPA Id:	AZR000002394
Business Type:	Not reported
Mailing Address:	Not reported
Mailing State:	Not reported
Contact Name:	Not reported
Contact Phone:	Not reported
Management Methods:	H040
Date Generator Signed The Manifest:	Not reported
Transporter EPA Id Number:	Not reported
Date Transporter Signed The Manifest:	Not reported
TSD EPA Id Number:	Not reported
Volume:	Not reported
Date TSD Signed Manifest:	Not reported
DOT Id Number:	UN3264
Quantity:	5
Waste Code 1:	D002
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Waste Code 7:	Not reported
Waste Code 8:	Not reported
Waste Code 10:	Not reported
Waste Code 9:	Not reported
Waste Code 11:	Not reported
Waste Code 12:	Not reported
Waste Code 13:	Not reported

Name:	MGC PURE CHEMICALS AMERICA INC

MGC PURE CHEMICALS AMERICA INC (Continued) **S117603838**

Address:	6560 S MOUNTAIN RD
City,State,Zip:	MESA, AZ 85212
Report Year:	2018
EPA Id:	AZR000002394
Business Type:	Not reported
Mailing Address:	Not reported
Mailing State:	Not reported
Contact Name:	Not reported
Contact Phone:	Not reported
Management Methods:	H132
Date Generator Signed The Manifest:	Not reported
Transporter EPA Id Number:	Not reported
Date Transporter Signed The Manifest:	Not reported
TSD EPA Id Number:	Not reported
Volume:	Not reported
Date TSD Signed Manifest:	Not reported
DOT Id Number:	UN3264
Quantity:	16000
Waste Code 1:	D002, U134
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Waste Code 7:	Not reported
Waste Code 8:	Not reported
Waste Code 10:	Not reported
Waste Code 9:	Not reported
Waste Code 11:	Not reported
Waste Code 12:	Not reported
Waste Code 13:	Not reported

Name:	MGC PURE CHEMICALS AMERICA INC
Address:	6560 S MOUNTAIN RD
City,State,Zip:	MESA, AZ 85212
Report Year:	2018
EPA Id:	AZR000002394
Business Type:	Not reported
Mailing Address:	Not reported
Mailing State:	Not reported
Contact Name:	Not reported
Contact Phone:	Not reported
Management Methods:	H040
Date Generator Signed The Manifest:	Not reported
Transporter EPA Id Number:	Not reported
Date Transporter Signed The Manifest:	Not reported
TSD EPA Id Number:	Not reported
Volume:	Not reported
Date TSD Signed Manifest:	Not reported
DOT Id Number:	UN3266
Quantity:	8
Waste Code 1:	D002
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported

MGC PURE CHEMICALS AMERICA INC (Continued) **S117603838**

Waste Code 7:	Not reported
Waste Code 8:	Not reported
Waste Code 10:	Not reported
Waste Code 9:	Not reported
Waste Code 11:	Not reported
Waste Code 12:	Not reported
Waste Code 13:	Not reported

Name:	MGC PURE CHEMICALS AMERICA INC
Address:	6560 S MOUNTAIN RD
City,State,Zip:	MESA, AZ 85212
Report Year:	2018
EPA Id:	AZR000002394
Business Type:	Not reported
Mailing Address:	Not reported
Mailing State:	Not reported
Contact Name:	Not reported
Contact Phone:	Not reported
Management Methods:	H132
Date Generator Signed The Manifest:	Not reported
Transporter EPA Id Number:	Not reported
Date Transporter Signed The Manifest:	Not reported
TSD EPA Id Number:	Not reported
Volume:	Not reported
Date TSD Signed Manifest:	Not reported
DOT Id Number:	UN1824
Quantity:	400
Waste Code 1:	D002
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Waste Code 7:	Not reported
Waste Code 8:	Not reported
Waste Code 10:	Not reported
Waste Code 9:	Not reported
Waste Code 11:	Not reported
Waste Code 12:	Not reported
Waste Code 13:	Not reported

Name:	MGC PURE CHEMICALS AMERICA INC
Address:	6560 S MOUNTAIN RD
City,State,Zip:	MESA, AZ 85212
Report Year:	2018
EPA Id:	AZR000002394
Business Type:	Not reported
Mailing Address:	Not reported
Mailing State:	Not reported
Contact Name:	Not reported
Contact Phone:	Not reported
Management Methods:	H040
Date Generator Signed The Manifest:	Not reported
Transporter EPA Id Number:	Not reported
Date Transporter Signed The Manifest:	Not reported
TSD EPA Id Number:	Not reported
Volume:	Not reported

MGC PURE CHEMICALS AMERICA INC (Continued) **S117603838**

Date TSD Signed Manifest:	Not reported
DOT Id Number:	UN3139
Quantity:	30
Waste Code 1:	D001, D011
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Waste Code 7:	Not reported
Waste Code 8:	Not reported
Waste Code 10:	Not reported
Waste Code 9:	Not reported
Waste Code 11:	Not reported
Waste Code 12:	Not reported
Waste Code 13:	Not reported

NPDES:

Name:	MGC PURE CHEMICALS AMERICA INC
Address:	6560 S MOUNTAIN RD
City,State,Zip:	MESA, AZ 85212
AZNPDES Number:	AZI107701
Application Type:	MSGPN
Receive Date:	1/16/2025
Approved Date:	Not reported
Term Void Date:	Not reported
Application Status:	Not reported
Site Phone:	Not reported
Contact Name:	Not reported
Operator Business Name:	Mgc Pure Chemicals America Inc
Operator Address:	6560 S MOUNTAIN RD
Operator Phone:	(480) 987-9100
Operator Fax:	Not reported
Operator County:	Not reported
Type of Project:	AZPDES MSGP Non-Mining
Part of Larger Plan:	Not reported
Total Project Size:	Not reported
Size of Operation:	Not reported
Site Direction:	Not reported
Start Date:	Not reported
End Date:	Not reported
Date Applied:	2/26/2025
Date Submit:	2/26/2025
Non Stormwater Discharges:	Not reported
Closest Receiving Water:	Not reported
MS4 Potential:	Not reported
MS4 Owner:	Not reported
SWPPP Location:	Not reported
SWPPP Contact Name:	DAVID Bloomer
SWPPP Contact Phone:	4809879100
SWPPP Contact Email:	dbloomer@mgcpure.com
Within Quarter Mile:	Not reported
Within Half Mile:	Not reported
Signer Name:	Not reported
Signer Business Name:	Not reported
Signer Address:	Not reported
Signer Phone:	Not reported

MGC PURE CHEMICALS AMERICA INC (Continued) **S117603838**

Latitude:	33.295
Longitude:	-111.5948
Name:	MGC PURE CHEMICALS AMERICA INC
Address:	6560 S MOUNTAIN RD
City,State,Zip:	MESA, AZ 85212
AZNPDES Number:	AZMS67772
Application Type:	MSGPN
Receive Date:	2017-09-07
Approved Date:	Not reported
Term Void Date:	2017-09-08
Application Status:	Not reported
Site Phone:	Not reported
Contact Name:	Jon Johnston
Operator Business Name:	Mgc Pure Chemicals America Inc
Operator Address:	6560 S MOUNTAIN RD, MESA AZ 85212
Operator Phone:	(480) 987-9100
Operator Fax:	Not reported
Operator County:	Not reported
Type of Project:	AZPDES MSGP Non-Mining
Part of Larger Plan:	Not reported
Total Project Size:	Not reported
Size of Operation:	Not reported
Site Direction:	Not reported
Start Date:	Not reported
End Date:	Not reported
Date Applied:	2017-09-07 14:07:02
Date Submit:	2017-09-07 14:07:03
Non Stormwater Discharges:	Not reported
Closest Receiving Water:	Not reported
MS4 Potential:	Not reported
MS4 Owner:	Not reported
SWPPP Location:	Not reported
SWPPP Contact Name:	TYLER Stephens
SWPPP Contact Phone:	4803221038
SWPPP Contact Email:	tstephens@mgcpure.com
Within Quarter Mile:	Not reported
Within Half Mile:	Not reported
Signer Name:	Not reported
Signer Business Name:	Not reported
Signer Address:	Not reported
Signer Phone:	Not reported
Latitude:	33.295
Longitude:	-111.5948
Name:	MGC PURE CHEMICALS AMERICA INC
Address:	6560 S MOUNTAIN RD
City,State,Zip:	MESA, AZ 85212
AZNPDES Number:	AZMS67800
Application Type:	MSGPN
Receive Date:	2017-04-14
Approved Date:	Not reported
Term Void Date:	2020-02-19
Application Status:	Not reported
Site Phone:	Not reported
Contact Name:	Jon Johnston
Operator Business Name:	Mgc Pure Chemicals America Inc

MGC PURE CHEMICALS AMERICA INC (Continued) **S117603838**

Operator Address:	6560 S MOUNTAIN RD, MESA AZ 85212
Operator Phone:	(480) 987-9100
Operator Fax:	Not reported
Operator County:	Not reported
Type of Project:	AZPDES MSGP Non-Mining
Part of Larger Plan:	Not reported
Total Project Size:	Not reported
Size of Operation:	Not reported
Site Direction:	Not reported
Start Date:	Not reported
End Date:	Not reported
Date Applied:	2017-09-08 14:30:22
Date Submit:	2017-09-08 14:30:22
Non Stormwater Discharges:	Not reported
Closest Receiving Water:	Not reported
MS4 Potential:	Not reported
MS4 Owner:	Not reported
SWPPP Location:	Not reported
SWPPP Contact Name:	TYLER Stephens
SWPPP Contact Phone:	4809879100
SWPPP Contact Email:	tstephens@mgcpure.com
Within Quarter Mile:	Not reported
Within Half Mile:	Not reported
Signer Name:	Not reported
Signer Business Name:	Not reported
Signer Address:	Not reported
Signer Phone:	Not reported
Latitude:	33.295
Longitude:	-111.5948

Name:	MGC PURE CHEMICALS AMERICA INC
Address:	6560 S MOUNTAIN RD
City,State,Zip:	MESA, AZ 85212
AZNPDES Number:	AZMS80828
Application Type:	MSGPN
Receive Date:	2020-02-19
Approved Date:	Not reported
Term Void Date:	Not reported
Application Status:	Not reported
Site Phone:	Not reported
Contact Name:	Jon Johnston
Operator Business Name:	Mgc Pure Chemicals America Inc
Operator Address:	6560 S MOUNTAIN RD, MESA AZ 85212
Operator Phone:	(480) 987-9100
Operator Fax:	Not reported
Operator County:	Not reported
Type of Project:	AZPDES MSGP Non-Mining
Part of Larger Plan:	Not reported
Total Project Size:	Not reported
Size of Operation:	Not reported
Site Direction:	Not reported
Start Date:	Not reported
End Date:	Not reported
Date Applied:	2020-02-19 00:00:00
Date Submit:	2020-02-19 16:09:17
Non Stormwater Discharges:	Not reported
Closest Receiving Water:	Not reported

MGC PURE CHEMICALS AMERICA INC (Continued) **S117603838**

MS4 Potential:	Not reported
MS4 Owner:	Not reported
SWPPP Location:	Not reported
SWPPP Contact Name:	JEFF Littell
SWPPP Contact Phone:	4809879100
SWPPP Contact Email:	jlittell@mgcpure.com
Within Quarter Mile:	Not reported
Within Half Mile:	Not reported
Signer Name:	Not reported
Signer Business Name:	Not reported
Signer Address:	Not reported
Signer Phone:	Not reported
Latitude:	33.295
Longitude:	-111.5948

47
NW
1/8-1/4
0.209 mi.
1104 ft.

TOWN OF GILBERT PUBLIC SAFETY TRAINING FACILITY (P **AST** **A100533777**
6860 S. POWER RD **N/A**
GILBERT, AZ 85297

Actual:
1331 ft.

Focus Map:
1

AST 2:

Name:	TOWN OF GILBERT PUBLIC SAFETY TRAINING FACILITY (PSTF)
Address:	6860 S. POWER RD
City:	GILBERT
Exemption Num:	0701930-16
Old Exemption Num:	Not reported
Owner Id:	1126
Owner Name:	Town Of Gilbert
Applicant Mailing Address:	900 E. Juniper Ave
Applicant City, State, Zip:	Gilbert, AZ 85234
Cert Status:	Open
Cert Effective Date:	11/14/2023
Tank Number:	1
Product Code:	Gasoline (UL)
Tank Type:	Above Ground Storage
Capacity:	1500
Installed Date:	Not reported
Cancellation Date:	Not reported
Cert Validation Date:	11/14/2023

Name:	TOWN OF GILBERT PUBLIC SAFETY TRAINING FACILITY (PSTF)
Address:	6860 S. POWER RD
City:	GILBERT
Exemption Num:	0701930-16
Old Exemption Num:	Not reported
Owner Id:	1126
Owner Name:	Town Of Gilbert
Applicant Mailing Address:	900 E. Juniper Ave
Applicant City, State, Zip:	Gilbert, AZ 85234
Cert Status:	Open
Cert Effective Date:	11/14/2023
Tank Number:	2
Product Code:	Diesel
Tank Type:	Above Ground Storage
Capacity:	1500
Installed Date:	Not reported
Cancellation Date:	Not reported

TOWN OF GILBERT PUBLIC SAFETY TRAINING FACILITY (PSTF) (Continued) **A100533777**

Cert Validation Date: 11/14/2023

L48 **SPROUTS** **E MANIFEST** **1032311390**
SE **21181 S. ELLSWORTH LOOP RD** **N/A**
1/8-1/4 **QUEEN CREEK, AZ 85142**
0.213 mi.
1127 ft. **Site 1 of 3 in cluster L**

Actual:
1402 ft.

Focus Map:
13

E MANIFEST:

Manifest Tracking Number:	201086842CLE
Last Updated Date:	20250324
Shipped Date:	20250310
Received Date:	20250319
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	CESQG
Generator Name:	Sprouts
Generator Location Street Number:	Not reported
Generator Location Street 1:	21181 S. ELLSWORTH LOOP RD
Generator Location Street 2:	Not reported
Generator Location City:	QUEEN CREEK
Generator Location State:	AZ
Generator Location Zip:	85142
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	21181 S. ELLSWORTH LOOP RD
Generator Mail Street 2:	Not reported
Generator Mail City:	QUEEN CREEK
Generator Mail Zip:	85142
Generator Mail State:	AZ
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	TXD046844700
Designated Facility Name:	Chemical Reclamation Services - Avalon (Esol)
Designated Facility Mail Street Number:	Not reported
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	405 POWELL STREET
Designated Facility Mail City:	AVALON
Designated Facility Mail Zip:	76623
Designated Facility Mail State:	TX
Designated Facility Location Street Number:	405
Designated Facility Location Street 1:	POWELL STREET
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	AVALON
Designated Facility Location Zip:	76623
Designated Facility Location State:	TX
Designated Facility Contact Company Name:	Not reported
Manifest Residue Indicator:	N
Rejection Indicator:	N

Manifest Tracking Number:	200903560CLE
Last Updated Date:	20241023
Shipped Date:	20240930
Received Date:	20241016
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	CESQG
Generator Name:	Sprouts

SPROUTS (Continued) **1032311390**

Generator Location Street Number:	Not reported
Generator Location Street 1:	21181 S. ELLSWORTH LOOP RD
Generator Location Street 2:	Not reported
Generator Location City:	QUEEN CREEK
Generator Location State:	AZ
Generator Location Zip:	85142
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	21181 S. ELLSWORTH LOOP RD
Generator Mail Street 2:	Not reported
Generator Mail City:	QUEEN CREEK
Generator Mail Zip:	85142
Generator Mail State:	AZ
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	TXD046844700
Designated Facility Name:	Chemical Reclamation Services - Avalon (Esol)
Designated Facility Mail Street Number:	Not reported
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	405 POWELL STREET
Designated Facility Mail City:	AVALON
Designated Facility Mail Zip:	76623
Designated Facility Mail State:	TX
Designated Facility Location Street Number:	405
Designated Facility Location Street 1:	POWELL STREET
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	AVALON
Designated Facility Location Zip:	76623
Designated Facility Location State:	TX
Designated Facility Contact Company Name:	Not reported
Manifest Residue Indicator:	N
Rejection Indicator:	N

Manifest Tracking Number:	201159699CLE
Last Updated Date:	20250623
Shipped Date:	20250603
Received Date:	20250609
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	CESQG
Generator Name:	Sprouts
Generator Location Street Number:	Not reported
Generator Location Street 1:	21181 S. ELLSWORTH LOOP RD
Generator Location Street 2:	Not reported
Generator Location City:	QUEEN CREEK
Generator Location State:	AZ
Generator Location Zip:	85142
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	21181 S. ELLSWORTH LOOP RD
Generator Mail Street 2:	Not reported
Generator Mail City:	QUEEN CREEK
Generator Mail Zip:	85142
Generator Mail State:	AZ
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	TXD046844700
Designated Facility Name:	Chemical Reclamation Services - Avalon (Esol)
Designated Facility Mail Street Number:	Not reported
Designated Facility Mail Street 1:	Not reported

SPROUTS (Continued) **1032311390**

Designated Facility Mail Street 2:	405 POWELL STREET
Designated Facility Mail City:	AVALON
Designated Facility Mail Zip:	76623
Designated Facility Mail State:	TX
Designated Facility Location Street Number:	405
Designated Facility Location Street 1:	POWELL STREET
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	AVALON
Designated Facility Location Zip:	76623
Designated Facility Location State:	TX
Designated Facility Contact Company Name:	Not reported
Manifest Residue Indicator:	N
Rejection Indicator:	N

Manifest Tracking Number:	011459052FLE
Last Updated Date:	20181102
Shipped Date:	20181011
Received Date:	20181019
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	CESQG
Generator Name:	Sprouts
Generator Location Street Number:	Not reported
Generator Location Street 1:	21181 S. ELLSWORTH LOOP RD
Generator Location Street 2:	Not reported
Generator Location City:	QUEEN CREEK
Generator Location State:	AZ
Generator Location Zip:	85142
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	5455 E High St, suite 111
Generator Mail Street 2:	Not reported
Generator Mail City:	Phoenix
Generator Mail Zip:	85054
Generator Mail State:	AZ
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	TXD046844700
Designated Facility Name:	Chemical Reclamation Services Llc
Designated Facility Mail Street Number:	Not reported
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	405 Powell Street P.O. Box 69 50084
Designated Facility Mail City:	Avalon
Designated Facility Mail Zip:	76623
Designated Facility Mail State:	TX
Designated Facility Location Street Number:	Not reported
Designated Facility Location Street 1:	405 Powell Street P.O. Box 69 50084
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	Avalon
Designated Facility Location Zip:	76623
Designated Facility Location State:	TX
Designated Facility Contact Company Name:	Not reported
Manifest Residue Indicator:	N
Rejection Indicator:	N

Manifest Tracking Number:	201236386CLE
Last Updated Date:	20250902
Shipped Date:	20250819

SPROUTS (Continued) **1032311390**

Received Date:	20250828
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	CESQG
Generator Name:	Sprouts
Generator Location Street Number:	Not reported
Generator Location Street 1:	21181 S. ELLSWORTH LOOP RD
Generator Location Street 2:	Not reported
Generator Location City:	QUEEN CREEK
Generator Location State:	AZ
Generator Location Zip:	85142
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	21181 S. ELLSWORTH LOOP RD
Generator Mail Street 2:	Not reported
Generator Mail City:	QUEEN CREEK
Generator Mail Zip:	85142
Generator Mail State:	AZ
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	TXD046844700
Designated Facility Name:	Chemical Reclamation Services - Avalon (Esol)
Designated Facility Mail Street Number:	Not reported
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	405 POWELL STREET
Designated Facility Mail City:	AVALON
Designated Facility Mail Zip:	76623
Designated Facility Mail State:	TX
Designated Facility Location Street Number:	405
Designated Facility Location Street 1:	POWELL STREET
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	AVALON
Designated Facility Location Zip:	76623
Designated Facility Location State:	TX
Designated Facility Contact Company Name:	Not reported
Manifest Residue Indicator:	N
Rejection Indicator:	N

Transporter:

Manifest Tracking Number:	201236386CLE
Transporter Line Number:	1
Transporter EPA ID:	MNS000110924
Transporter Name:	Clean Earth Specialty Waste Solutions
Manifest Tracking Number:	201236386CLE
Transporter Line Number:	2
Transporter EPA ID:	TXR000025072
Transporter Name:	Rocketline Carrier Services
Manifest Tracking Number:	201236386CLE
Transporter Line Number:	3
Transporter EPA ID:	MNS000110924
Transporter Name:	Clean Earth Specialty Waste Solutions

Waste Line:

Manifest Tracking Number:	201236386CLE
Waste Line Number:	1

SPROUTS (Continued) **1032311390**

U.S. DOT Hazardous Indicator:	Y
U.S. DOT ID Number:	UN1993
U.S. DOT Description:	Un1993, Waste Flammable Liquids, N.O.S. (Petroleum Distillates, Ethyl Alcohol), 3, Pg-Ii
Non-Hazardous Waste Description:	Not reported
Number of Containers:	1
Container Type Code:	CF
Container Type Description:	Fiber or plastic boxes, cartons, cases
Waste Quantity:	2
Quantity Unit of Measure Code:	P
Quantity Unit of Measure Description:	Pounds
Waste Quantity, in Tons:	0.001
Acute Waste Quantity, in Tons:	0
Non-Acute Waste Quantity, in Tons:	0.001
Waste Quantity, in Kilograms:	0.90703
Acute Waste Quantity, in Kilograms:	0
Non-Acute Waste Quantity, in Kilorgrams:	0.90703
Management Method Code:	H141
Management Method Description:	STORAGE, BULKING AND/OR TRANSFER OFF SITE
Waste Residue Indicator:	N
Quantity Discrepancy Indicator:	N
Waste Type Discrepancy Indicator:	N
Waste Density:	Not reported
Waste Density Unit of Measure Code:	Not reported
Waste Density Unit of Measure Description:	Not reported
Form Code:	Not reported
Form Code Description:	Not reported
Source Code:	Not reported
Source Code Description:	Not reported
Waste Minimization Code:	Not reported
Waste Minimization Code Description:	Not reported
Consent Number:	Not reported
EPA Waste Indicator:	Y
Federal Waste Codes:	D001
Quantity Haz Kg:	0.90703
Quantity Haz Tons:	0.001
Quantity Non Haz Kg:	0
Quantity Non Haz Tons:	0
State Waste Codes:	TX-OUTS219H
Manifest Tracking Number:	201236386CLE
Waste Line Number:	2
U.S. DOT Hazardous Indicator:	N
U.S. DOT ID Number:	Not reported
U.S. DOT Description:	Not reported
Non-Hazardous Waste Description:	Non Rcra Hazardous Waste, Liquid (Water Based Cleaners, Latex Paint)
Number of Containers:	1
Container Type Code:	DM
Container Type Description:	Metal drums, barrels, kegs
Waste Quantity:	94
Quantity Unit of Measure Code:	P
Quantity Unit of Measure Description:	Pounds
Waste Quantity, in Tons:	0.047
Acute Waste Quantity, in Tons:	0
Non-Acute Waste Quantity, in Tons:	0.047
Waste Quantity, in Kilograms:	42.63041
Acute Waste Quantity, in Kilograms:	0

SPROUTS (Continued) **1032311390**

Non-Acute Waste Quantity, in Kilorgrams:	42.63041
Management Method Code:	H141
Management Method Description:	STORAGE, BULKING AND/OR TRANSFER OFF SITE
Waste Residue Indicator:	N
Quantity Discrepancy Indicator:	N
Waste Type Discrepancy Indicator:	N
Waste Density:	Not reported
Waste Density Unit of Measure Code:	Not reported
Waste Density Unit of Measure Description:	Not reported
Form Code:	Not reported
Form Code Description:	Not reported
Source Code:	Not reported
Source Code Description:	Not reported
Waste Minimization Code:	Not reported
Waste Minimization Code Description:	Not reported
Consent Number:	Not reported
EPA Waste Indicator:	N
Federal Waste Codes:	Not reported
Quantity Haz Kg:	0
Quantity Haz Tons:	0
Quantity Non Haz Kg:	42.63041
Quantity Non Haz Tons:	0.047
State Waste Codes:	TX-OUTS2191

M49 **QUEEN CREEK UNIFIED SCHOOL DIST #95** **AST** **A100355060**
ENE **20740 S ELLSWORTH RD** **N/A**
1/8-1/4 **QUEEN CREEK, AZ 85242**
0.216 mi.
1138 ft. **Site 1 of 2 in cluster M**

Actual:
1403 ft.

Focus Map:
13

AST 2:

Name:	QUEEN CREEK UNIFIED SCHOOL DIST #95
Address:	20740 S ELLSWORTH RD
City:	QUEEN CREEK
Exemption Num:	0700339-15
Old Exemption Num:	07-1008654
Owner Id:	482
Owner Name:	Queen Creek Unified School Dists
Applicant Mailing Address:	20740 S Ellsworth Rd
Applicant City, State, Zip:	Queen Creek, AZ 85242
Cert Status:	Open
Cert Effective Date:	11/06/2006
Tank Number:	1
Product Code:	Compartment Tank
Tank Type:	Above Ground Storage
Capacity:	0
Installed Date:	Not reported
Cancellation Date:	12/01/2015
Cert Validation Date:	04/01/2011

M50 **QUEEN CREEK SCHOOL MAINTENANCE** **AST** **A100430173**
ENE **20740 SOUTH ELLSWORTH** **N/A**
1/8-1/4 **QUEEN CREEK, AZ 85142**
0.216 mi.
1138 ft. **Site 2 of 2 in cluster M**

Actual:
1403 ft.

Focus Map:
13

AST:

Name:	QUEEN CREEK SCHOOL MAINTENANCE
Address:	20740 SOUTH ELLSWORTH
City,State,Zip:	QUEEN CREEK, AZ 85142
Facility Status:	Permitted
Permit #:	3058
Permit Year:	2006
Submitter:	Linda Nuetzman, Queen Creek USD
Submitter Phone:	480-987-5986
Memo:	Not reported
Approval Date:	08/21/1906

---

51 **FORMER WILLIAMS AIR FORCE BASE SITE SS024** **AZURITE** **S118167568**
North **6833 E OLD PECOS ROAD** **AUL** **N/A**
1/8-1/4 **MESA, AZ 85212** **EMAP**
0.238 mi.
1256 ft.

Actual:
1338 ft.

Focus Map:
1

AZURITE:

Remediation Level Achieved:	Not reported
Name:	FORMER WILLIAMS AIR FORCE BASE SITE SS024
Address:	6833 E. OLD PECOS ROAD
City,State,Zip:	MESA, AZ 85212
Remediation ID:	31388
Program:	WQARF
Program File Number:	Not reported
Type:	DEUR
Remediation Start Date:	Not reported
Remediation End Date:	Not reported
DEUR Record Date:	Not reported
WPD Dirctrs Approval:	Not reported
VEMUR Record Date:	Not reported
DEUR Release Date:	Not reported
RIMS Number:	63375
PID:	148715
Date Recorded:	04/14/2015
Use Restriction:	Non-Residential Use
Record Number:	20150252221
Latitude/Longitude:	33 17 31.241/111 41 8.8205

AZURITE:

Remediation Id:	31388
Standard Types:	Soil Remediation Level
Contaminants:	CHLORDANE
Concentraction Mg/Kg:	1
Depth Feet:	Not reported

Remediation Id:	31388
Standard Types:	Soil Remediation Level
Contaminants:	CHLORDANE
Concentraction Mg/Kg:	1
Depth Feet:	Not reported

Remediation Id: 31388

FORMER WILLIAMS AIR FORCE BASE SITE SS024 (Continued) **S118167568**

Standard Types:	Soil Remediation Level
Contaminants:	DIELDRIN
Concentraction Mg/Kg:	.54
Depth Feet:	Not reported

AUL:

Name:	FORMER WILLIAMS AIR FORCE BASE SITE SS024
Address:	6833 E. OLD PECOS ROAD
City:	MESA
Remediation ID:	31388
Program:	WQARF
Program File Number:	Not reported
Type:	DEUR
RIMS Number:	63375
PID:	148715
Date Recorded:	04/14/2015
Use Restriction:	Non-Residential Use
Record Number:	20150252221
Latitude/Longitude:	33 17 31.241/111 41 8.8205

EMAP:

Name:	FORMER WILLIAMS AIR FORCE BASE SITE SS024
Address:	6833 E OLD PECOS ROAD
City,State,Zip:	MESA, AZ 85212
ID Number:	148715
Township:	Not reported
Range:	Not reported
Section:	Not reported
Quarter 1:	Not reported
Quarter 2:	Not reported
Quarter 3:	Not reported
Latitude:	33.29201150
Longitude:	-111.68578347
Collection Method:	DIGITAL IMAGERY
Place Type:	MILITARY BASE
Place Type Code:	PP
Place C Code:	PHYSICAL PROPERTIES
Facility Status:	ACTIVE
End Date:	Not reported
Verified:	Y

---

52 **ULTA BEAUTY** **E MANIFEST** **1032353222**
SW **21118 S. ELLSWORTH LOOP ROAD** **N/A**
1/8-1/4 **QUEEN CREEK, AZ 85142**
0.238 mi.
1258 ft.

Actual:
1395 ft.

Focus Map:
13

E MANIFEST:

Manifest Tracking Number:	011460885FLE
Last Updated Date:	20180906
Shipped Date:	20180813
Received Date:	20180824
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	CESQG

ULTA BEAUTY (Continued) **1032353222**

Generator Name:	Ulta Beauty
Generator Location Street Number:	Not reported
Generator Location Street 1:	21118 S. ELLSWORTH LOOP ROAD
Generator Location Street 2:	Not reported
Generator Location City:	QUEEN CREEK
Generator Location State:	AZ
Generator Location Zip:	85142
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	1000 Remington Boulevard
Generator Mail Street 2:	Not reported
Generator Mail City:	Bolingbrook
Generator Mail Zip:	60440
Generator Mail State:	IL
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	TXD046844700
Designated Facility Name:	Chemical Reclamation Services Llc
Designated Facility Mail Street Number:	Not reported
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	405 Powell Street P.O. Box 69 50084
Designated Facility Mail City:	Avalon
Designated Facility Mail Zip:	76623
Designated Facility Mail State:	TX
Designated Facility Location Street Number:	Not reported
Designated Facility Location Street 1:	405 Powell Street P.O. Box 69 50084
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	Avalon
Designated Facility Location Zip:	76623
Designated Facility Location State:	TX
Designated Facility Contact Company Name:	Not reported
Manifest Residue Indicator:	N
Rejection Indicator:	N

Manifest Tracking Number:	200844365CLE
Last Updated Date:	20240807
Shipped Date:	20240627
Received Date:	20240717
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	VSQG
Generator Name:	Ulta Beauty
Generator Location Street Number:	Not reported
Generator Location Street 1:	21118 S. ELLSWORTH LOOP ROAD
Generator Location Street 2:	Not reported
Generator Location City:	QUEEN CREEK
Generator Location State:	AZ
Generator Location Zip:	85142
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	21118 S. ELLSWORTH LOOP ROAD
Generator Mail Street 2:	Not reported
Generator Mail City:	QUEEN CREEK
Generator Mail Zip:	85142
Generator Mail State:	AZ
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	TXD046844700
Designated Facility Name:	Chemical Reclamation Services - Avalon (Esol)
Designated Facility Mail Street Number:	Not reported

ULTA BEAUTY (Continued) **1032353222**

Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	405 POWELL STREET
Designated Facility Mail City:	AVALON
Designated Facility Mail Zip:	76623
Designated Facility Mail State:	TX
Designated Facility Location Street Number:	405
Designated Facility Location Street 1:	POWELL STREET
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	AVALON
Designated Facility Location Zip:	76623
Designated Facility Location State:	TX
Designated Facility Contact Company Name:	Not reported
Manifest Residue Indicator:	N
Rejection Indicator:	N

Manifest Tracking Number:	200916142CLE
Last Updated Date:	20241002
Shipped Date:	20240828
Received Date:	20240920
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	CESQG
Generator Name:	Ulta Beauty
Generator Location Street Number:	Not reported
Generator Location Street 1:	21118 S. ELLSWORTH LOOP ROAD
Generator Location Street 2:	Not reported
Generator Location City:	QUEEN CREEK
Generator Location State:	AZ
Generator Location Zip:	85142
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	1000 REMINGTON BLVD SUITE 120
Generator Mail Street 2:	Not reported
Generator Mail City:	BOLINGBROOK
Generator Mail Zip:	60440
Generator Mail State:	IL
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	TXD046844700
Designated Facility Name:	Chemical Reclamation Services - Avalon (Esol)
Designated Facility Mail Street Number:	Not reported
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	405 POWELL STREET
Designated Facility Mail City:	AVALON
Designated Facility Mail Zip:	76623
Designated Facility Mail State:	TX
Designated Facility Location Street Number:	405
Designated Facility Location Street 1:	POWELL STREET
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	AVALON
Designated Facility Location Zip:	76623
Designated Facility Location State:	TX
Designated Facility Contact Company Name:	Not reported
Manifest Residue Indicator:	N
Rejection Indicator:	N

Manifest Tracking Number:	201020532CLE
Last Updated Date:	20250114

ULTA BEAUTY (Continued) **1032353222**

Shipped Date:	20241219
Received Date:	20250107
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	CESQG
Generator Name:	Ulta Beauty
Generator Location Street Number:	Not reported
Generator Location Street 1:	21118 S. ELLSWORTH LOOP ROAD
Generator Location Street 2:	Not reported
Generator Location City:	QUEEN CREEK
Generator Location State:	AZ
Generator Location Zip:	85142
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	1000 REMINGTON BLVD SUITE 120
Generator Mail Street 2:	Not reported
Generator Mail City:	BOLINGBROOK
Generator Mail Zip:	60440
Generator Mail State:	IL
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	TXD046844700
Designated Facility Name:	Chemical Reclamation Services - Avalon (Esol)
Designated Facility Mail Street Number:	Not reported
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	405 POWELL STREET
Designated Facility Mail City:	AVALON
Designated Facility Mail Zip:	76623
Designated Facility Mail State:	TX
Designated Facility Location Street Number:	405
Designated Facility Location Street 1:	POWELL STREET
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	AVALON
Designated Facility Location Zip:	76623
Designated Facility Location State:	TX
Designated Facility Contact Company Name:	Not reported
Manifest Residue Indicator:	N
Rejection Indicator:	N

Manifest Tracking Number:	201184015CLE
Last Updated Date:	20250714
Shipped Date:	20250630
Received Date:	20250708
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	CESQG
Generator Name:	Ulta Beauty
Generator Location Street Number:	Not reported
Generator Location Street 1:	21118 S. ELLSWORTH LOOP ROAD
Generator Location Street 2:	Not reported
Generator Location City:	QUEEN CREEK
Generator Location State:	AZ
Generator Location Zip:	85142
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	1000 REMINGTON BLVD SUITE 120
Generator Mail Street 2:	Not reported
Generator Mail City:	BOLINGBROOK

ULTA BEAUTY (Continued) **1032353222**

Generator Mail Zip:	60440
Generator Mail State:	IL
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	TXD046844700
Designated Facility Name:	Chemical Reclamation Services - Avalon (Esol)
Designated Facility Mail Street Number:	Not reported
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	405 POWELL STREET
Designated Facility Mail City:	AVALON
Designated Facility Mail Zip:	76623
Designated Facility Mail State:	TX
Designated Facility Location Street Number:	405
Designated Facility Location Street 1:	POWELL STREET
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	AVALON
Designated Facility Location Zip:	76623
Designated Facility Location State:	TX
Designated Facility Contact Company Name:	Not reported
Manifest Residue Indicator:	N
Rejection Indicator:	N

Manifest Tracking Number:	200764654CLE
Last Updated Date:	20240718
Shipped Date:	20240429
Received Date:	20240513
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	VSQG
Generator Name:	Ulta Beauty
Generator Location Street Number:	Not reported
Generator Location Street 1:	21118 S. ELLSWORTH LOOP ROAD
Generator Location Street 2:	Not reported
Generator Location City:	QUEEN CREEK
Generator Location State:	AZ
Generator Location Zip:	85142
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	21118 S. ELLSWORTH LOOP ROAD
Generator Mail Street 2:	Not reported
Generator Mail City:	QUEEN CREEK
Generator Mail Zip:	85142
Generator Mail State:	AZ
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	TXD046844700
Designated Facility Name:	Chemical Reclamation Services - Avalon (Esol)
Designated Facility Mail Street Number:	Not reported
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	405 POWELL STREET
Designated Facility Mail City:	AVALON
Designated Facility Mail Zip:	76623
Designated Facility Mail State:	TX
Designated Facility Location Street Number:	405
Designated Facility Location Street 1:	POWELL STREET
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	AVALON
Designated Facility Location Zip:	76623
Designated Facility Location State:	TX

ULTA BEAUTY (Continued) **1032353222**

Designated Facility Contact Company Name:	Not reported
Manifest Residue Indicator:	N
Rejection Indicator:	N
Manifest Tracking Number:	201068484CLE
Last Updated Date:	20250310
Shipped Date:	20250217
Received Date:	20250226
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	CESQG
Generator Name:	Ulta Beauty
Generator Location Street Number:	Not reported
Generator Location Street 1:	21118 S. ELLSWORTH LOOP ROAD
Generator Location Street 2:	Not reported
Generator Location City:	QUEEN CREEK
Generator Location State:	AZ
Generator Location Zip:	85142
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	1000 REMINGTON BLVD SUITE 120
Generator Mail Street 2:	Not reported
Generator Mail City:	BOLINGBROOK
Generator Mail Zip:	60440
Generator Mail State:	IL
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	TXD046844700
Designated Facility Name:	Chemical Reclamation Services - Avalon (Esol)
Designated Facility Mail Street Number:	Not reported
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	405 POWELL STREET
Designated Facility Mail City:	AVALON
Designated Facility Mail Zip:	76623
Designated Facility Mail State:	TX
Designated Facility Location Street Number:	405
Designated Facility Location Street 1:	POWELL STREET
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	AVALON
Designated Facility Location Zip:	76623
Designated Facility Location State:	TX
Designated Facility Contact Company Name:	Not reported
Manifest Residue Indicator:	N
Rejection Indicator:	N
Manifest Tracking Number:	201122618CLE
Last Updated Date:	20250701
Shipped Date:	20250417
Received Date:	20250423
Manifest Status:	Corrected
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	CESQG
Generator Name:	Ulta Beauty
Generator Location Street Number:	Not reported
Generator Location Street 1:	21118 S. ELLSWORTH LOOP ROAD
Generator Location Street 2:	Not reported
Generator Location City:	QUEEN CREEK

ULTA BEAUTY (Continued) **1032353222**

Generator Location State:	AZ
Generator Location Zip:	85142
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	1000 REMINGTON BLVD SUITE 120
Generator Mail Street 2:	Not reported
Generator Mail City:	BOLINGBROOK
Generator Mail Zip:	60440
Generator Mail State:	IL
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	TXD046844700
Designated Facility Name:	Chemical Reclamation Services - Avalon (Esol)
Designated Facility Mail Street Number:	Not reported
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	405 POWELL STREET
Designated Facility Mail City:	AVALON
Designated Facility Mail Zip:	76623
Designated Facility Mail State:	TX
Designated Facility Location Street Number:	405
Designated Facility Location Street 1:	POWELL STREET
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	AVALON
Designated Facility Location Zip:	76623
Designated Facility Location State:	TX
Designated Facility Contact Company Name:	Not reported
Manifest Residue Indicator:	N
Rejection Indicator:	N

Manifest Tracking Number:	200970195CLE
Last Updated Date:	20241114
Shipped Date:	20241022
Received Date:	20241105
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	CESQG
Generator Name:	Ulta Beauty
Generator Location Street Number:	Not reported
Generator Location Street 1:	21118 S. ELLSWORTH LOOP ROAD
Generator Location Street 2:	Not reported
Generator Location City:	QUEEN CREEK
Generator Location State:	AZ
Generator Location Zip:	85142
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	1000 REMINGTON BLVD SUITE 120
Generator Mail Street 2:	Not reported
Generator Mail City:	BOLINGBROOK
Generator Mail Zip:	60440
Generator Mail State:	IL
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	TXD046844700
Designated Facility Name:	Chemical Reclamation Services - Avalon (Esol)
Designated Facility Mail Street Number:	Not reported
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	405 POWELL STREET
Designated Facility Mail City:	AVALON
Designated Facility Mail Zip:	76623
Designated Facility Mail State:	TX

ULTA BEAUTY (Continued) **1032353222**

Designated Facility Location Street Number: 405
Designated Facility Location Street 1: POWELL STREET
Designated Facility Location Street 2: Not reported
Designated Facility Location City: AVALON
Designated Facility Location Zip: 76623
Designated Facility Location State: TX
Designated Facility Contact Company Name: Not reported
Manifest Residue Indicator: N
Rejection Indicator: N

Transporter:
Manifest Tracking Number: 200970195CLE
Transporter Line Number: 1
Transporter EPA ID: MNS000110924
Transporter Name: Clean Earth Specialty Waste Solutions,

Manifest Tracking Number: 200970195CLE
Transporter Line Number: 2
Transporter EPA ID: CAD982523433
Transporter Name: Dillard Environmental Services

Manifest Tracking Number: 200970195CLE
Transporter Line Number: 3
Transporter EPA ID: MNS000110924
Transporter Name: Clean Earth Specialty Waste Solutions,

Waste Line:
Manifest Tracking Number: 200970195CLE
Waste Line Number: 1
U.S. DOT Hazardous Indicator: Y
U.S. DOT ID Number: UN1993
U.S. DOT Description: Un1993, Flammable Liquids, N.O.S., 3, Pg-Ii
Non-Hazardous Waste Description: Not reported
Number of Containers: 1
Container Type Code: DF
Container Type Description: Fiberboard or plastic drums, barrels, kegs
Waste Quantity: 106
Quantity Unit of Measure Code: P
Quantity Unit of Measure Description: Pounds
Waste Quantity, in Tons: 0.053
Acute Waste Quantity, in Tons: 0
Non-Acute Waste Quantity, in Tons: 0.053
Waste Quantity, in Kilograms: 48.07259
Acute Waste Quantity, in Kilograms: 0
Non-Acute Waste Quantity, in Kilorgrams: 48.07259
Management Method Code: H061
Management Method Description: FUEL BLENDING
Waste Residue Indicator: N
Quantity Discrepancy Indicator: N
Waste Type Discrepancy Indicator: N
Waste Density: Not reported
Waste Density Unit of Measure Code: Not reported
Waste Density Unit of Measure Description: Not reported
Form Code: Not reported
Form Code Description: Not reported
Source Code: Not reported

ULTA BEAUTY (Continued) **1032353222**

Source Code Description:	Not reported
Waste Minimization Code:	Not reported
Waste Minimization Code Description:	Not reported
Consent Number:	Not reported
EPA Waste Indicator:	N
Federal Waste Codes:	Not reported
Quantity Haz Kg:	0
Quantity Haz Tons:	0
Quantity Non Haz Kg:	48.07259
Quantity Non Haz Tons:	0.053
State Waste Codes:	Not reported

Manifest Tracking Number:	200970195CLE
Waste Line Number:	2
U.S. DOT Hazardous Indicator:	Y
U.S. DOT ID Number:	UN1950
U.S. DOT Description:	Un1950, Aerosols, 2.1
Non-Hazardous Waste Description:	Not reported
Number of Containers:	1
Container Type Code:	DF
Container Type Description:	Fiberboard or plastic drums, barrels, kegs
Waste Quantity:	48
Quantity Unit of Measure Code:	P
Quantity Unit of Measure Description:	Pounds
Waste Quantity, in Tons:	0.024
Acute Waste Quantity, in Tons:	0
Non-Acute Waste Quantity, in Tons:	0.024
Waste Quantity, in Kilograms:	21.76872
Acute Waste Quantity, in Kilograms:	0
Non-Acute Waste Quantity, in Kilorgrams:	21.76872
Management Method Code:	H141
Management Method Description:	STORAGE, BULKING AND/OR TRANSFER OFF SITE
Waste Residue Indicator:	N
Quantity Discrepancy Indicator:	N
Waste Type Discrepancy Indicator:	N
Waste Density:	Not reported
Waste Density Unit of Measure Code:	Not reported
Waste Density Unit of Measure Description:	Not reported
Form Code:	Not reported
Form Code Description:	Not reported
Source Code:	Not reported
Source Code Description:	Not reported
Waste Minimization Code:	Not reported
Waste Minimization Code Description:	Not reported
Consent Number:	Not reported
EPA Waste Indicator:	N
Federal Waste Codes:	Not reported
Quantity Haz Kg:	0
Quantity Haz Tons:	0
Quantity Non Haz Kg:	21.76872
Quantity Non Haz Tons:	0.024
State Waste Codes:	Not reported

L53
SE
1/8-1/4
0.246 mi.
1301 ft.

HAPPY BEAUTY CO. 10834
21227 E ELLISWORTH LP RD
QUEEN CREEK, AZ 85142

Site 2 of 3 in cluster L

E MANIFEST | **1032076048** / **N/A**

Actual:
1402 ft.

Focus Map:
13

E MANIFEST:

Manifest Tracking Number:	026220632JJK
Last Updated Date:	20240311
Shipped Date:	20240220
Received Date:	20240229
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	AZR000527358
Generator Name:	Happy Beauty Co. 10834
Generator Location Street Number:	Not reported
Generator Location Street 1:	21227 E ELLISWORTH LP RD
Generator Location Street 2:	Not reported
Generator Location City:	QUEEN CREEK
Generator Location State:	AZ
Generator Location Zip:	85142
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	STORE MANAGER
Generator Mail Street 2:	21227 E ELLISWORTH LP RD
Generator Mail City:	QUEEN CREEK
Generator Mail Zip:	85142
Generator Mail State:	AZ
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	NVT330010000
Designated Facility Name:	Us Ecology, Inc
Designated Facility Mail Street Number:	Not reported
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	HIGHWAY 95, 11 MILES SOUTH OF BEATTY
Designated Facility Mail City:	BEATTY
Designated Facility Mail Zip:	89003
Designated Facility Mail State:	NV
Designated Facility Location Street Number:	Not reported
Designated Facility Location Street 1:	HIGHWAY 95, 11 MILES SOUTH OF BEATTY
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	BEATTY
Designated Facility Location Zip:	89003
Designated Facility Location State:	NV
Designated Facility Contact Company Name:	Not reported
Manifest Residue Indicator:	N
Rejection Indicator:	N

Manifest Tracking Number:	024612250JJK
Last Updated Date:	20250819
Shipped Date:	20250728
Received Date:	20250811
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	AZR000527358
Generator Name:	Happy Beauty Co. 10834
Generator Location Street Number:	Not reported
Generator Location Street 1:	21227 E ELLISWORTH LP RD
Generator Location Street 2:	Not reported

HAPPY BEAUTY CO. 10834 (Continued) **1032076048**

Generator Location City:	QUEEN CREEK
Generator Location State:	AZ
Generator Location Zip:	85142
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	STORE MANAGER
Generator Mail Street 2:	21227 E ELLISWORTH LP RD
Generator Mail City:	QUEEN CREEK
Generator Mail Zip:	85142
Generator Mail State:	AZ
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	NVT330010000
Designated Facility Name:	Us Ecology Nevada, Inc
Designated Facility Mail Street Number:	Not reported
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	HIGHWAY 95, 11 MILES SOUTH OF BEATTY
Designated Facility Mail City:	BEATTY
Designated Facility Mail Zip:	89003
Designated Facility Mail State:	NV
Designated Facility Location Street Number:	Not reported
Designated Facility Location Street 1:	HIGHWAY 95, 11 MILES SOUTH OF BEATTY
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	BEATTY
Designated Facility Location Zip:	89003
Designated Facility Location State:	NV
Designated Facility Contact Company Name:	Not reported
Manifest Residue Indicator:	N
Rejection Indicator:	N

Manifest Tracking Number:	025238494JJK
Last Updated Date:	20250218
Shipped Date:	20250129
Received Date:	20250206
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	AZR000527358
Generator Name:	Happy Beauty Co. 10834
Generator Location Street Number:	Not reported
Generator Location Street 1:	21227 E ELLISWORTH LP RD
Generator Location Street 2:	Not reported
Generator Location City:	QUEEN CREEK
Generator Location State:	AZ
Generator Location Zip:	85142
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	STORE MANAGER
Generator Mail Street 2:	21227 E ELLISWORTH LP RD
Generator Mail City:	QUEEN CREEK
Generator Mail Zip:	85142
Generator Mail State:	AZ
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	NVT330010000
Designated Facility Name:	Us Ecology Nevada, Inc
Designated Facility Mail Street Number:	Not reported
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	HIGHWAY 95, 11 MILES SOUTH OF BEATTY
Designated Facility Mail City:	BEATTY
Designated Facility Mail Zip:	89003

HAPPY BEAUTY CO. 10834 (Continued) **1032076048**

Designated Facility Mail State:	NV
Designated Facility Location Street Number:	Not reported
Designated Facility Location Street 1:	HIGHWAY 95, 11 MILES SOUTH OF BEATTY
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	BEATTY
Designated Facility Location Zip:	89003
Designated Facility Location State:	NV
Designated Facility Contact Company Name:	Not reported
Manifest Residue Indicator:	N
Rejection Indicator:	N

Manifest Tracking Number:	026221395JJK
Last Updated Date:	20240830
Shipped Date:	20240805
Received Date:	20240815
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	AZR000527358
Generator Name:	Happy Beauty Co. 10834
Generator Location Street Number:	Not reported
Generator Location Street 1:	21227 E ELLISWORTH LP RD
Generator Location Street 2:	Not reported
Generator Location City:	QUEEN CREEK
Generator Location State:	AZ
Generator Location Zip:	85142
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	STORE MANAGER
Generator Mail Street 2:	21227 E ELLISWORTH LP RD
Generator Mail City:	QUEEN CREEK
Generator Mail Zip:	85142
Generator Mail State:	AZ
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	NVT330010000
Designated Facility Name:	Us Ecology Nevada, Inc
Designated Facility Mail Street Number:	Not reported
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	HIGHWAY 95, 11 MILES SOUTH OF BEATTY
Designated Facility Mail City:	BEATTY
Designated Facility Mail Zip:	89003
Designated Facility Mail State:	NV
Designated Facility Location Street Number:	Not reported
Designated Facility Location Street 1:	HIGHWAY 95, 11 MILES SOUTH OF BEATTY
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	BEATTY
Designated Facility Location Zip:	89003
Designated Facility Location State:	NV
Designated Facility Contact Company Name:	Not reported
Manifest Residue Indicator:	N
Rejection Indicator:	N

Transporter:

Manifest Tracking Number:	026221395JJK
Transporter Line Number:	1
Transporter EPA ID:	MIK593743838
Transporter Name:	Us Ecology Transportation Solutions, Inc

HAPPY BEAUTY CO. 10834 (Continued) **1032076048**

Waste Line:

Manifest Tracking Number:	026221395JJK
Waste Line Number:	1
U.S. DOT Hazardous Indicator:	Y
U.S. DOT ID Number:	UN1993
U.S. DOT Description:	Rq, Un1993, Waste Flammable Liquids, N.O.S. (Acetone, Ethyl Acetate), 3, Pgii, (Rq: D018), Erg#128
Non-Hazardous Waste Description:	Not reported
Number of Containers:	1
Container Type Code:	DF
Container Type Description:	Fiberboard or plastic drums, barrels, kegs
Waste Quantity:	6
Quantity Unit of Measure Code:	P
Quantity Unit of Measure Description:	Pounds
Waste Quantity, in Tons:	0.003
Acute Waste Quantity, in Tons:	0
Non-Acute Waste Quantity, in Tons:	0.003
Waste Quantity, in Kilograms:	2.72109
Acute Waste Quantity, in Kilograms:	0
Non-Acute Waste Quantity, in Kilorgrams:	2.72109
Management Method Code:	H141
Management Method Description:	STORAGE, BULKING AND/OR TRANSFER OFF SITE
Waste Residue Indicator:	N
Quantity Discrepancy Indicator:	N
Waste Type Discrepancy Indicator:	N
Waste Density:	Not reported
Waste Density Unit of Measure Code:	Not reported
Waste Density Unit of Measure Description:	Not reported
Form Code:	Not reported
Form Code Description:	Not reported
Source Code:	Not reported
Source Code Description:	Not reported
Waste Minimization Code:	Not reported
Waste Minimization Code Description:	Not reported
Consent Number:	Not reported
EPA Waste Indicator:	Y
Federal Waste Codes:	D001, D018, D035, U002, U112
Quantity Haz Kg:	2.72109
Quantity Haz Tons:	0.003
Quantity Non Haz Kg:	0
Quantity Non Haz Tons:	0
State Waste Codes:	Not reported

Manifest Tracking Number:	026221395JJK
Waste Line Number:	2
U.S. DOT Hazardous Indicator:	N
U.S. DOT ID Number:	Not reported
U.S. DOT Description:	Not reported
Non-Hazardous Waste Description:	Non Hazardous Liquid
Number of Containers:	1
Container Type Code:	DF
Container Type Description:	Fiberboard or plastic drums, barrels, kegs
Waste Quantity:	125
Quantity Unit of Measure Code:	P
Quantity Unit of Measure Description:	Pounds
Waste Quantity, in Tons:	0.0625
Acute Waste Quantity, in Tons:	0

HAPPY BEAUTY CO. 10834 (Continued) **1032076048**

Non-Acute Waste Quantity, in Tons:	0.0625
Waste Quantity, in Kilograms:	56.68938
Acute Waste Quantity, in Kilograms:	0
Non-Acute Waste Quantity, in Kilorgrams:	56.689375
Management Method Code:	H039
Management Method Description:	OTHER RECOVERY OR RECLAMATION FOR REUSE
Waste Residue Indicator:	N
Quantity Discrepancy Indicator:	N
Waste Type Discrepancy Indicator:	N
Waste Density:	Not reported
Waste Density Unit of Measure Code:	Not reported
Waste Density Unit of Measure Description:	Not reported
Form Code:	Not reported
Form Code Description:	Not reported
Source Code:	Not reported
Source Code Description:	Not reported
Waste Minimization Code:	Not reported
Waste Minimization Code Description:	Not reported
Consent Number:	Not reported
EPA Waste Indicator:	N
Federal Waste Codes:	Not reported
Quantity Haz Kg:	0
Quantity Haz Tons:	0
Quantity Non Haz Kg:	56.689375
Quantity Non Haz Tons:	0.0625
State Waste Codes:	Not reported

L54 **HAPPY BEAUTY CO. #10834** **RCRA-VSQG** **1028882188**
SE **21227 S ELLSWORTH LOOP RD** **AZR000527358**
1/8-1/4 **QUEEN CREEK, AZ 85142**
0.246 mi.
1301 ft. **Site 3 of 3 in cluster L**

Actual:
1402 ft.

Focus Map:
13

RCRA Listings:

Date Form Received by Agency:	20230911
Handler Name:	Happy Beauty Co. #10834
Handler Address:	21227 S Ellsworth Loop Rd
Handler City,State,Zip:	QUEEN CREEK, AZ 85142
EPA ID:	AZR000527358
Contact Name:	DEBBIE W MIDDLETON
Contact Address:	3001 COLORADO BLVD
Contact City,State,Zip:	DENTON, TX 76210
Contact Telephone:	940-315-6782
Contact Fax:	Not reported
Contact Email:	DMIDDLETON@SALLYBEAUTY.COM
Contact Title:	Not reported
EPA Region:	09
Land Type:	Private
Federal Waste Generator Description:	Conditionally Exempt Small Quantity Generator
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Handler Activities
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	3001 COLORADO BLVD
Mailing City,State,Zip:	DENTON, TX 76210
Owner Name:	Sunbelt Land Holdings L P

HAPPY BEAUTY CO. #10834 (Continued) **1028882188**

Owner Type:		Private
Operator Name:	Sally Beauty Holdings, Inc.	
Operator Type:		Private
Short-Term Generator Activity:		No
Importer Activity:		No
Mixed Waste Generator:		No
Transporter Activity:		No
Transfer Facility Activity:		No
Recycler Activity with Storage:		No
Small Quantity On-Site Burner Exemption:		No
Smelting Melting and Refining Furnace Exemption:		No
Underground Injection Control:		No
Off-Site Waste Receipt:		No
Universal Waste Indicator:		No
Universal Waste Destination Facility:		No
Federal Universal Waste:		No
Active Site State-Reg Handler:		---
Federal Facility Indicator:		Not reported
Hazardous Secondary Material Indicator:		N
Sub-Part K Indicator:		Not reported
2018 GPRA Permit Baseline:		Not on the Baseline
2018 GPRA Renewals Baseline:		Not on the Baseline
202 GPRA Corrective Action Baseline:		No
Subject to Corrective Action Universe:		No
Non-TSDFs Where RCRA CA has Been Imposed Universe:		No
Corrective Action Priority Ranking:		No NCAPS ranking
Environmental Control Indicator:		No
Institutional Control Indicator:		No
Human Exposure Controls Indicator:		N/A
Groundwater Controls Indicator:		N/A
Significant Non-Complier Universe:		No
Unaddressed Significant Non-Complier Universe:		No
Addressed Significant Non-Complier Universe:		No
Significant Non-Complier With a Compliance Schedule Universe:		No
Financial Assurance Required:		Not reported
Handler Date of Last Change:		20231214
Recognized Trader-Importer:		No
Recognized Trader-Exporter:		No
Importer of Spent Lead Acid Batteries:		No
Exporter of Spent Lead Acid Batteries:		No
Recycler Activity Without Storage:		No
Manifest Broker:		No
Sub-Part P Indicator:		No

Hazardous Waste Summary:

Waste Code:	D001
Waste Description:	Ignitable Waste
Waste Code:	D002
Waste Description:	Corrosive Waste
Waste Code:	D005
Waste Description:	Barium
Waste Code:	D007
Waste Description:	Chromium

HAPPY BEAUTY CO. #10834 (Continued) **1028882188**

Waste Code: D008
Waste Description: Lead

Waste Code: D009
Waste Description: Mercury

Waste Code: D011
Waste Description: Silver

Waste Code: D018
Waste Description: Benzene

Waste Code: D035
Waste Description: Methyl Ethyl Ketone

Waste Code: U002
Waste Description: 2-Propanone (I) (Or) Acetone (I)

Waste Code: U112
Waste Description: Acetic Acid, Ethyl Ester (I) (Or) Ethyl Acetate (I)

Waste Code: U118
Waste Description: 2-Propenoic Acid, 2-Methyl-, Ethyl Ester (Or) Ethyl Methacrylate

Waste Code: U123
Waste Description: Formic Acid (C,T)

Waste Code: U154
Waste Description: Methanol (I) (Or) Methyl Alcohol (I)

Handler - Owner Operator:
Owner/Operator Indicator: Owner
Owner/Operator Name: SUNBELT LAND HOLDINGS L P
Legal Status: Private
Date Became Current: 20180813
Date Ended Current: Not reported
Owner/Operator Address: 8095 OTHELLO AVE
Owner/Operator City,State,Zip: SAN DIEGO, CA 92111
Owner/Operator Telephone: 940-898-7500
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: SALLY BEAUTY HOLDINGS, INC.
Legal Status: Private
Date Became Current: 20230817
Date Ended Current: Not reported
Owner/Operator Address: 3001 COLORADO BLVD
Owner/Operator City,State,Zip: DENTON, TX 76210
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:

HAPPY BEAUTY CO. #10834 (Continued) **1028882188**

Receive Date: 20230911
Handler Name: HAPPY BEAUTY CO. #10834
Federal Waste Generator Description: Very Small Quantity Generator (formerly Conditionally-Exempt Small Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

List of NAICS Codes and Descriptions:
NAICS Code: 456120
NAICS Description: Cosmetics, Beauty Supplies, And Perfume Retailers

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

N55 **HOME DEPOT U.S.A., INC.** **EMAP** **S126330532**
SW **7401 S POWER RD** **MANIFEST** **N/A**
1/8-1/4 **QUEEN CREEK, AZ 85142**
0.247 mi.
1306 ft. **Site 1 of 2 in cluster N**

Actual:
1347 ft.

Focus Map:
6

EMAP:
Name: HOME DEPOT STORE #415
Address: 7401 S POWER RD
City,State,Zip: QUEEN CREEK, AZ 85142
ID Number: 111688
Township: 2
Range: 7
Section: 6
Quarter 1: c
Quarter 2: b
Quarter 3: d
Latitude: 33.28164900
Longitude: -111.683569
Collection Method: DIGITAL IMAGERY
Place Type: RETAIL STORE
Place Type Code: PP
Place C Code: PHYSICAL PROPERTIES
Facility Status: ACTIVE
End Date: Not reported
Verified: Y

AZ MANIFEST:
Name: HOME DEPOT U.S.A., INC.
Address: 7401 S POWER RD
City,State,Zip: QUEEN CREEK, AZ 85142

HOME DEPOT U.S.A., INC. (Continued) **S126330532**

Report Year:	2018
EPA Id:	AZR000048207
Business Type:	Not reported
Mailing Address:	Not reported
Mailing State:	Not reported
Contact Name:	Not reported
Contact Phone:	Not reported
Management Methods:	H141
Date Generator Signed The Manifest:	Not reported
Transporter EPA Id Number:	Not reported
Date Transporter Signed The Manifest:	Not reported
TSD EPA Id Number:	Not reported
Volume:	Not reported
Date TSD Signed Manifest:	Not reported
DOT Id Number:	UN1044
Quantity:	26
Waste Code 1:	Not reported
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Waste Code 7:	Not reported
Waste Code 8:	Not reported
Waste Code 10:	Not reported
Waste Code 9:	Not reported
Waste Code 11:	Not reported
Waste Code 12:	Not reported
Waste Code 13:	Not reported

Name:	HOME DEPOT U.S.A., INC.
Address:	7401 S POWER RD
City,State,Zip:	QUEEN CREEK, AZ 85142
Report Year:	2018
EPA Id:	AZR000048207
Business Type:	Not reported
Mailing Address:	Not reported
Mailing State:	Not reported
Contact Name:	Not reported
Contact Phone:	Not reported
Management Methods:	H141
Date Generator Signed The Manifest:	Not reported
Transporter EPA Id Number:	Not reported
Date Transporter Signed The Manifest:	Not reported
TSD EPA Id Number:	Not reported
Volume:	Not reported
Date TSD Signed Manifest:	Not reported
DOT Id Number:	UN2735
Quantity:	1
Waste Code 1:	Not reported
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Waste Code 7:	Not reported
Waste Code 8:	Not reported

HOME DEPOT U.S.A., INC. (Continued) **S126330532**

Waste Code 10:	Not reported
Waste Code 9:	Not reported
Waste Code 11:	Not reported
Waste Code 12:	Not reported
Waste Code 13:	Not reported

Name:	HOME DEPOT U.S.A., INC.
Address:	7401 S POWER RD
City,State,Zip:	QUEEN CREEK, AZ 85142
Report Year:	2018
EPA Id:	AZR000048207
Business Type:	Not reported
Mailing Address:	Not reported
Mailing State:	Not reported
Contact Name:	Not reported
Contact Phone:	Not reported
Management Methods:	H141
Date Generator Signed The Manifest:	Not reported
Transporter EPA Id Number:	Not reported
Date Transporter Signed The Manifest:	Not reported
TSD EPA Id Number:	Not reported
Volume:	Not reported
Date TSD Signed Manifest:	Not reported
DOT Id Number:	UN3266
Quantity:	43
Waste Code 1:	D002
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Waste Code 7:	Not reported
Waste Code 8:	Not reported
Waste Code 10:	Not reported
Waste Code 9:	Not reported
Waste Code 11:	Not reported
Waste Code 12:	Not reported
Waste Code 13:	Not reported

Name:	HOME DEPOT U.S.A., INC.
Address:	7401 S POWER RD
City,State,Zip:	QUEEN CREEK, AZ 85142
Report Year:	2018
EPA Id:	AZR000048207
Business Type:	Not reported
Mailing Address:	Not reported
Mailing State:	Not reported
Contact Name:	Not reported
Contact Phone:	Not reported
Management Methods:	H141
Date Generator Signed The Manifest:	Not reported
Transporter EPA Id Number:	Not reported
Date Transporter Signed The Manifest:	Not reported
TSD EPA Id Number:	Not reported
Volume:	Not reported
Date TSD Signed Manifest:	Not reported
DOT Id Number:	UN1044

HOME DEPOT U.S.A., INC. (Continued) **S126330532**

Quantity:	45
Waste Code 1:	Not reported
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Waste Code 7:	Not reported
Waste Code 8:	Not reported
Waste Code 10:	Not reported
Waste Code 9:	Not reported
Waste Code 11:	Not reported
Waste Code 12:	Not reported
Waste Code 13:	Not reported

Name:	HOME DEPOT U.S.A., INC.
Address:	7401 S POWER RD
City,State,Zip:	QUEEN CREEK, AZ 85142
Report Year:	2018
EPA Id:	AZR000048207
Business Type:	Not reported
Mailing Address:	Not reported
Mailing State:	Not reported
Contact Name:	Not reported
Contact Phone:	Not reported
Management Methods:	H141
Date Generator Signed The Manifest:	Not reported
Transporter EPA Id Number:	Not reported
Date Transporter Signed The Manifest:	Not reported
TSD EPA Id Number:	Not reported
Volume:	Not reported
Date TSD Signed Manifest:	Not reported
DOT Id Number:	UN1993
Quantity:	45
Waste Code 1:	D001, D018, D03
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Waste Code 7:	Not reported
Waste Code 8:	Not reported
Waste Code 10:	Not reported
Waste Code 9:	Not reported
Waste Code 11:	Not reported
Waste Code 12:	Not reported
Waste Code 13:	Not reported

Name:	HOME DEPOT U.S.A., INC.
Address:	7401 S POWER RD
City,State,Zip:	QUEEN CREEK, AZ 85142
Report Year:	2018
EPA Id:	AZR000048207
Business Type:	Not reported
Mailing Address:	Not reported
Mailing State:	Not reported
Contact Name:	Not reported

HOME DEPOT U.S.A., INC. (Continued) **S126330532**

Contact Phone:	Not reported
Management Methods:	H141
Date Generator Signed The Manifest:	Not reported
Transporter EPA Id Number:	Not reported
Date Transporter Signed The Manifest:	Not reported
TSD EPA Id Number:	Not reported
Volume:	Not reported
Date TSD Signed Manifest:	Not reported
DOT Id Number:	UN1978
Quantity:	3
Waste Code 1:	Not reported
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Waste Code 7:	Not reported
Waste Code 8:	Not reported
Waste Code 10:	Not reported
Waste Code 9:	Not reported
Waste Code 11:	Not reported
Waste Code 12:	Not reported
Waste Code 13:	Not reported

Name:	HOME DEPOT U.S.A., INC.
Address:	7401 S POWER RD
City,State,Zip:	QUEEN CREEK, AZ 85142
Report Year:	2018
EPA Id:	AZR000048207
Business Type:	Not reported
Mailing Address:	Not reported
Mailing State:	Not reported
Contact Name:	Not reported
Contact Phone:	Not reported
Management Methods:	H141
Date Generator Signed The Manifest:	Not reported
Transporter EPA Id Number:	Not reported
Date Transporter Signed The Manifest:	Not reported
TSD EPA Id Number:	Not reported
Volume:	Not reported
Date TSD Signed Manifest:	Not reported
DOT Id Number:	UN3266
Quantity:	72
Waste Code 1:	D002
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Waste Code 7:	Not reported
Waste Code 8:	Not reported
Waste Code 10:	Not reported
Waste Code 9:	Not reported
Waste Code 11:	Not reported
Waste Code 12:	Not reported
Waste Code 13:	Not reported

HOME DEPOT U.S.A., INC. (Continued) **S126330532**

Name:	HOME DEPOT U.S.A., INC.
Address:	7401 S POWER RD
City,State,Zip:	QUEEN CREEK, AZ 85142
Report Year:	2018
EPA Id:	AZR000048207
Business Type:	Not reported
Mailing Address:	Not reported
Mailing State:	Not reported
Contact Name:	Not reported
Contact Phone:	Not reported
Management Methods:	H141
Date Generator Signed The Manifest:	Not reported
Transporter EPA Id Number:	Not reported
Date Transporter Signed The Manifest:	Not reported
TSD EPA Id Number:	Not reported
Volume:	Not reported
Date TSD Signed Manifest:	Not reported
DOT Id Number:	UN3266
Quantity:	5
Waste Code 1:	D002
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Waste Code 7:	Not reported
Waste Code 8:	Not reported
Waste Code 10:	Not reported
Waste Code 9:	Not reported
Waste Code 11:	Not reported
Waste Code 12:	Not reported
Waste Code 13:	Not reported

Name:	HOME DEPOT U.S.A., INC.
Address:	7401 S POWER RD
City,State,Zip:	QUEEN CREEK, AZ 85142
Report Year:	2018
EPA Id:	AZR000048207
Business Type:	Not reported
Mailing Address:	Not reported
Mailing State:	Not reported
Contact Name:	Not reported
Contact Phone:	Not reported
Management Methods:	H141
Date Generator Signed The Manifest:	Not reported
Transporter EPA Id Number:	Not reported
Date Transporter Signed The Manifest:	Not reported
TSD EPA Id Number:	Not reported
Volume:	Not reported
Date TSD Signed Manifest:	Not reported
DOT Id Number:	UN3266
Quantity:	48
Waste Code 1:	D002
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported

HOME DEPOT U.S.A., INC. (Continued) **S126330532**

Waste Code 6:	Not reported
Waste Code 7:	Not reported
Waste Code 8:	Not reported
Waste Code 10:	Not reported
Waste Code 9:	Not reported
Waste Code 11:	Not reported
Waste Code 12:	Not reported
Waste Code 13:	Not reported

Name:	HOME DEPOT U.S.A., INC.
Address:	7401 S POWER RD
City,State,Zip:	QUEEN CREEK, AZ 85142
Report Year:	2018
EPA Id:	AZR000048207
Business Type:	Not reported
Mailing Address:	Not reported
Mailing State:	Not reported
Contact Name:	Not reported
Contact Phone:	Not reported
Management Methods:	H141
Date Generator Signed The Manifest:	Not reported
Transporter EPA Id Number:	Not reported
Date Transporter Signed The Manifest:	Not reported
TSD EPA Id Number:	Not reported
Volume:	Not reported
Date TSD Signed Manifest:	Not reported
DOT Id Number:	UN1044
Quantity:	6
Waste Code 1:	Not reported
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Waste Code 7:	Not reported
Waste Code 8:	Not reported
Waste Code 10:	Not reported
Waste Code 9:	Not reported
Waste Code 11:	Not reported
Waste Code 12:	Not reported
Waste Code 13:	Not reported

Click this hyperlink while viewing on your computer to access
91 additional AZ MANIFEST: record(s) in the EDR Site Report.

N56 **HOME DEPOT #0415** **RCRA-SQG** **1007569059**
SW **7401 S. POWER RD.** **E MANIFEST** **AZR000048207**
1/8-1/4 **QUEEN CREEK, AZ 85242** **MANIFEST**
0.247 mi.
1306 ft. **Site 2 of 2 in cluster N**

Actual:
1347 ft.

Focus Map:
6

RCRA Listings:

Date Form Received by Agency:	20250210
Handler Name:	Home Depot Store #415
Handler Address:	7401 S Power Rd
Handler City,State,Zip:	QUEEN CREEK, AZ 85142
EPA ID:	AZR000048207
Contact Name:	MICHELLE A O'BRIEN

HOME DEPOT #0415 (Continued) **1007569059**

Contact Address:	2455 PACES FERRY RD., D-4
Contact City,State,Zip:	ATLANTA, GA 30339
Contact Telephone:	770-433-8211 x82714
Contact Fax:	770-384-4142
Contact Email:	MICHELLE_A_OBRIEN@HOMEDEPOT.COM
Contact Title:	MANAGER - REGULATORY COMPLIANCE
EPA Region:	09
Land Type:	Private
Federal Waste Generator Description:	Small Quantity Generator
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Handler Activities
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	2455 PACES FERRY RD SE
Mailing City,State,Zip:	ATLANTA, GA 30339
Owner Name:	Hd Development Of Maryland Inc
Owner Type:	Private
Operator Name:	The Home Depot Usa, Inc. - Haz Waste
Operator Type:	Private
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
202 GPRA Corrective Action Baseline:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20250318
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No

HOME DEPOT #0415 (Continued) **1007569059**

Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Hazardous Waste Summary:

Waste Code:	D001
Waste Description:	Ignitable Waste
Waste Code:	D002
Waste Description:	Corrosive Waste
Waste Code:	D003
Waste Description:	Reactive Waste
Waste Code:	D004
Waste Description:	Arsenic
Waste Code:	D005
Waste Description:	Barium
Waste Code:	D006
Waste Description:	Cadmium
Waste Code:	D007
Waste Description:	Chromium
Waste Code:	D008
Waste Description:	Lead
Waste Code:	D009
Waste Description:	Mercury
Waste Code:	D010
Waste Description:	Selenium
Waste Code:	D011
Waste Description:	Silver
Waste Code:	D015
Waste Description:	Toxaphene (C10 H10 Cl8, Technical Chlorinated Camphene, 67-69 Percent Chlorine)
Waste Code:	D016
Waste Description:	2,4-D (2,4-Dichlorophenoxyacetic Acid)
Waste Code:	D018
Waste Description:	Benzene
Waste Code:	D020
Waste Description:	Chlordane
Waste Code:	D023
Waste Description:	O-Cresol
Waste Code:	D024

HOME DEPOT #0415 (Continued) **1007569059**

Waste Description:	M-Cresol
Waste Code:	D027
Waste Description:	1,4-Dichlorobenzene
Waste Code:	D028
Waste Description:	1,2-Dichloroethane
Waste Code:	D031
Waste Description:	Heptachlor (And Its Epoxide)
Waste Code:	D035
Waste Description:	Methyl Ethyl Ketone
Waste Code:	D039
Waste Description:	Tetrachloroethylene
Waste Code:	D040
Waste Description:	Trichloroethylene
Waste Code:	D043
Waste Description:	Vinyl Chloride
Waste Code:	F003
Waste Description:	The Following Spent Nonhalogenated Solvents: Xylene, Acetone, Ethyl Acetate, Ethyl Benzene, Ethyl Ether, Methyl Isobutyl Ketone, N-Butyl Alcohol, Cyclohexanone, And Methanol; All Spent Solvent Mixtures/Blends Containing, Before Use, Only The Above Spent Nonhalogenated Solvents; And All Spent Solvent Mixtures/Blends Containing, Before Use, One Or More Of The Above Nonhalogenated Solvents, And A Total Of Ten Percent Or More (By Volume) Of One Or More Of Those Solvents Listed In F001, F002, F004, And F005; And Still Bottoms From The Recovery Of These Spent Solvents And Spent Solvent Mixtures.
Waste Code:	F005
Waste Description:	The Following Spent Nonhalogenated Solvents: Toluene, Methyl Ethyl Ketone, Carbon Disulfide, Isobutanol, Pyridine, Benzene, 2-Ethoxyethanol, And 2-Nitropropane; All Spent Solvent Mixtures/Blends Containing, Before Use, A Total Of Ten Percent Or More (By Volume) Of One Or More Of The Above Nonhalogenated Solvents Or Those Solvents Listed In F001, F002, Or F004; And Still Bottoms From The Recovery Of These Spent Solvents And Spent Solvent Mixtures.
Waste Code:	U002
Waste Description:	2-Propanone (I) (Or) Acetone (I)
Waste Code:	U072
Waste Description:	Benzene, 1,4-Dichloro- (Or) P-Dichlorobenzene
Waste Code:	U080
Waste Description:	Methane, Dichloro- (Or) Methylene Chloride
Waste Code:	U112
Waste Description:	Acetic Acid, Ethyl Ester (I) (Or) Ethyl Acetate (I)
Waste Code:	U154

HOME DEPOT #0415 (Continued) **1007569059**

Waste Description: Methanol (I) (Or) Methyl Alcohol (I)

Waste Code: U159
Waste Description: 2-Butanone (I,T) (Or) Methyl Ethyl Ketone (Mek) (I,T)

Waste Code: U160
Waste Description: 2-Butanone, Peroxide (R,T) (Or) Methyl Ethyl Ketone Peroxide (R,T)

Waste Code: U161
Waste Description: 4-Methyl-2-Pentanone (I) (Or) Methyl Isobutyl Ketone (I) (Or) Pentanol, 4-Methyl-

Waste Code: U165
Waste Description: Naphthalene

Waste Code: U210
Waste Description: Ethene, Tetrachloro- (Or) Tetrachloroethylene

Waste Code: U220
Waste Description: Benzene, Methyl- (Or) Toluene

Waste Code: U226
Waste Description: Ethane, 1,1,1-Trichloro- (Or) Methyl Chloroform

Waste Code: U228
Waste Description: Ethene, Trichloro- (Or) Trichloroethylene

Waste Code: U239
Waste Description: Benzene, Dimethyl- (I,T) (Or) Xylene (I)

Waste Code: U240
Waste Description: 2,4-D, Salts & Esters (Or) Acetic Acid, (2,4-Dichlorophenoxy)-, Salts & Esters (Or) Dichlorophenoxyacetic Acid 2,4-D

Waste Code: U249
Waste Description: Zinc Phosphide Zn3p2, When Present At Concentrations Of 10% Or Less

Waste Code: U279
Waste Description: U279

Waste Code: U411
Waste Description: U411

Handler - Owner Operator:
Owner/Operator Indicator: Operator
Owner/Operator Name: HOME DEPOT USA
Legal Status: Private
Date Became Current: 20040724
Date Ended Current: Not reported
Owner/Operator Address: 7400 S POWER RD
Owner/Operator City,State,Zip: QUEEN CREEK, AZ 85242
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator

HOME DEPOT #0415 (Continued) **1007569059**

Owner/Operator Name: THE HOME DEPOT USA, INC. - HAZ WASTE
Legal Status: Private
Date Became Current: 20040729
Date Ended Current: Not reported
Owner/Operator Address: 9950 CHEMICAL RD
Owner/Operator City,State,Zip: PASADENA, TX 77507
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: THE HOME DEPOT USA, INC. - HAZ WASTE
Legal Status: Private
Date Became Current: 20040729
Date Ended Current: Not reported
Owner/Operator Address: 9950 CHEMICAL RD
Owner/Operator City,State,Zip: PASADENA, TX 77507
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: THE HOME DEPOT USA, INC. - HAZ WASTE
Legal Status: Private
Date Became Current: 20040729
Date Ended Current: Not reported
Owner/Operator Address: 2455 PACES FERRY RD SE
Owner/Operator City,State,Zip: ATLANTA, GA 30339
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: HD DEVELOPMENT OF MARYLAND INC
Legal Status: Private
Date Became Current: 20151209
Date Ended Current: Not reported
Owner/Operator Address: 2455 PACES FERRY RD SE
Owner/Operator City,State,Zip: ATLANTA, GA 30339
Owner/Operator Telephone: 770-433-8211
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: HOME DEPOT USA
Legal Status: Private
Date Became Current: 20040724
Date Ended Current: Not reported
Owner/Operator Address: 7400 S POWER RD
Owner/Operator City,State,Zip: QUEEN CREEK, AZ 85242
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported

HOME DEPOT #0415 (Continued) **1007569059**

Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: HOME DEPOT USA
Legal Status: Private
Date Became Current: 20040724
Date Ended Current: Not reported
Owner/Operator Address: 2455 PACES FERRY RD D-17
Owner/Operator City,State,Zip: ATLANTA, GA 30339
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: HD DEVELOPMENT OF MARYLAND INC
Legal Status: Private
Date Became Current: 20151209
Date Ended Current: Not reported
Owner/Operator Address: 2455 PACES FERRY RD SE
Owner/Operator City,State,Zip: ATLANTA, GA 30339
Owner/Operator Telephone: 770-433-8211
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: HD DEVELOPMENT OF MARYLAND INC
Legal Status: Private
Date Became Current: 20151209
Date Ended Current: Not reported
Owner/Operator Address: 2455 PACES FERRY RD SE
Owner/Operator City,State,Zip: ATLANTA, GA 30339
Owner/Operator Telephone: 770-433-8211
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: THE HOME DEPOT USA, INC. - HAZ WASTE
Legal Status: Private
Date Became Current: 20040729
Date Ended Current: Not reported
Owner/Operator Address: 2455 PACES FERRY RD SE
Owner/Operator City,State,Zip: ATLANTA, GA 30339
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: HOME DEPOT USA
Legal Status: Private
Date Became Current: 20040724
Date Ended Current: Not reported
Owner/Operator Address: 2455 PACES FERRY RD D-17
Owner/Operator City,State,Zip: ATLANTA, GA 30339

HOME DEPOT #0415 (Continued) **1007569059**

Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: THE HOME DEPOT USA, INC. - HAZ WASTE
Legal Status: Private
Date Became Current: 20040729
Date Ended Current: Not reported
Owner/Operator Address: 9950 CHEMICAL RD
Owner/Operator City,State,Zip: PASADENA, TX 77507
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: HOME DEPOT USA
Legal Status: Private
Date Became Current: 20040724
Date Ended Current: Not reported
Owner/Operator Address: 2455 PACES FERRY RD D-17
Owner/Operator City,State,Zip: ATLANTA, GA 30339
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: HD DEVELOPMENT OF MARYLAND INC
Legal Status: Private
Date Became Current: 20151209
Date Ended Current: Not reported
Owner/Operator Address: 2455 PACES FERRY RD SE
Owner/Operator City,State,Zip: ATLANTA, GA 30339
Owner/Operator Telephone: 770-433-8211
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: HOME DEPOT USA
Legal Status: Private
Date Became Current: 20040724
Date Ended Current: Not reported
Owner/Operator Address: 2455 PACES FERRY RD D-17
Owner/Operator City,State,Zip: ATLANTA, GA 30339
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: THE HOME DEPOT USA, INC. - HAZ WASTE
Legal Status: Private
Date Became Current: 20040729

HOME DEPOT #0415 (Continued) **1007569059**

Date Ended Current:	Not reported
Owner/Operator Address:	2455 PACES FERRY RD SE
Owner/Operator City,State,Zip:	ATLANTA, GA 30399
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Operator
Owner/Operator Name: THE HOME DEPOT USA, INC. - HAZ WASTE	
Legal Status:	Private
Date Became Current:	20040729
Date Ended Current:	Not reported
Owner/Operator Address:	9950 CHEMICAL RD
Owner/Operator City,State,Zip:	PASADENA, TX 77507
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Operator
Owner/Operator Name: HOME DEPOT USA	
Legal Status:	Private
Date Became Current:	20040724
Date Ended Current:	Not reported
Owner/Operator Address:	7400 S POWER RD
Owner/Operator City,State,Zip:	QUEEN CREEK, AZ 85242
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Operator
Owner/Operator Name: HOME DEPOT USA	
Legal Status:	Private
Date Became Current:	20040724
Date Ended Current:	Not reported
Owner/Operator Address:	7400 S POWER RD
Owner/Operator City,State,Zip:	QUEEN CREEK, AZ 85242
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	20060731
Handler Name: HOME DEPOT USA INC HD 0415	
Federal Waste Generator Description:	Small Quantity Generator
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

HOME DEPOT #0415 (Continued) **1007569059**

Receive Date:	20070312
Handler Name: HOME DEPOT 0415	
Federal Waste Generator Description:	Small Quantity Generator
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

Receive Date:	20080624
Handler Name: HOME DEPOT 0415	
Federal Waste Generator Description:	Small Quantity Generator
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

Receive Date:	20090223
Handler Name: HOME DEPOT 0415	
Federal Waste Generator Description:	Small Quantity Generator
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

Receive Date:	20100216
Handler Name: HOME DEPOT 0415	
Federal Waste Generator Description:	Small Quantity Generator
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

Receive Date:	20110228
Handler Name: HOME DEPOT 0415	
Federal Waste Generator Description:	Small Quantity Generator
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No

HOME DEPOT #0415 (Continued) **1007569059**

Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

Receive Date:	20120222
Handler Name: HOME DEPOT 0415	
Federal Waste Generator Description:	Small Quantity Generator
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

Receive Date:	20130304
Handler Name: HOME DEPOT 0415	
Federal Waste Generator Description:	Small Quantity Generator
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

Receive Date:	20140220
Handler Name: HOME DEPOT 0415	
Federal Waste Generator Description:	Small Quantity Generator
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

Receive Date:	20150223
Handler Name: HOME DEPOT 0415	
Federal Waste Generator Description:	Small Quantity Generator
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No

HOME DEPOT #0415 (Continued) **1007569059**

Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported
Receive Date:	20160425
Handler Name: HOME DEPOT 0415	
Federal Waste Generator Description:	Small Quantity Generator
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported
Receive Date:	20170216
Handler Name: HOME DEPOT 0415	
Federal Waste Generator Description:	Small Quantity Generator
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported
Receive Date:	20180208
Handler Name: HOME DEPOT 0415	
Federal Waste Generator Description:	Small Quantity Generator
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported
Receive Date:	20190215
Handler Name: HOME DEPOT 0415	
Federal Waste Generator Description:	Small Quantity Generator
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported
Receive Date:	20200211
Handler Name: HOME DEPOT 0415	

HOME DEPOT #0415 (Continued) **1007569059**

Federal Waste Generator Description:	Small Quantity Generator
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

Receive Date:	20210208
Handler Name: HOME DEPOT 0415	
Federal Waste Generator Description:	Small Quantity Generator
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	No
Electronic Manifest Broker:	No

Receive Date:	20220222
Handler Name: HOME DEPOT 0415	
Federal Waste Generator Description:	Small Quantity Generator
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	No
Electronic Manifest Broker:	No

Receive Date:	20041018
Handler Name: HOME DEPOT 415	
Federal Waste Generator Description:	Small Quantity Generator
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

Receive Date:	20050627
Handler Name: HOME DEPOT USA INC HD 0415	
Federal Waste Generator Description:	Very Small Quantity Generator (formerly Conditionally-Exempt Small Quantity Generator
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No

HOME DEPOT #0415 (Continued) **1007569059**

Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

Receive Date:	20070806
Handler Name: HOME DEPOT 0415	
Federal Waste Generator Description:	Small Quantity Generator
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

Receive Date:	20220213
Handler Name: HOME DEPOT 0415	
Federal Waste Generator Description:	Small Quantity Generator
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	No
Electronic Manifest Broker:	No

Receive Date:	20230418
Handler Name: HOME DEPOT 0415	
Federal Waste Generator Description:	Small Quantity Generator
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	No
Non Storage Recycler Activity:	No
Electronic Manifest Broker:	No

Receive Date:	20250210
Handler Name: HOME DEPOT STORE #415	
Federal Waste Generator Description:	Small Quantity Generator
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	Yes
Non Storage Recycler Activity:	No

HOME DEPOT #0415 (Continued) **1007569059**

Electronic Manifest Broker: No

List of NAICS Codes and Descriptions:
NAICS Code: 44411
NAICS Description: Home Centers

NAICS Code: 444110
NAICS Description: Home Centers

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

E MANIFEST:

Manifest Tracking Number:	002707532PSC
Last Updated Date:	20200403
Shipped Date:	20200310
Received Date:	20200318
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	AZR000048207
Generator Name:	Home Depot #Hd0415
Generator Location Street Number:	Not reported
Generator Location Street 1:	7401 S. POWER RD.
Generator Location Street 2:	Not reported
Generator Location City:	QUEEN CREEK
Generator Location State:	AZ
Generator Location Zip:	85242
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	5250 Triangle Parkway, Suite 200
Generator Mail Street 2:	Not reported
Generator Mail City:	Peachtree Corners
Generator Mail Zip:	30092
Generator Mail State:	GA
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	TXD046844700
Designated Facility Name:	Not reported
Designated Facility Mail Street Number:	Not reported
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	405 Powell Street P.O. Box 69 50084
Designated Facility Mail City:	Avalon
Designated Facility Mail Zip:	76623
Designated Facility Mail State:	TX
Designated Facility Location Street Number:	Not reported
Designated Facility Location Street 1:	405 Powell Street P.O. Box 69 50084
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	Avalon
Designated Facility Location Zip:	76623
Designated Facility Location State:	TX
Designated Facility Contact Company Name:	Chemical Reclamation Services Llc
Manifest Residue Indicator:	N

HOME DEPOT #0415 (Continued) **1007569059**

Rejection Indicator:	N
Manifest Tracking Number:	001975127PSC
Last Updated Date:	20190430
Shipped Date:	20180925
Received Date:	20181002
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	AZR000048207
Generator Name:	Home Depot #Hd0415
Generator Location Street Number:	Not reported
Generator Location Street 1:	7401 S. POWER RD.
Generator Location Street 2:	Not reported
Generator Location City:	QUEEN CREEK
Generator Location State:	AZ
Generator Location Zip:	85242
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	5151 San Felipe HOME DEPOT #HD0415
Generator Mail Street 2:	Not reported
Generator Mail City:	Houston
Generator Mail Zip:	77056
Generator Mail State:	TX
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	TXD046844700
Designated Facility Name:	Not reported
Designated Facility Mail Street Number:	Not reported
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	405 Powell Street P.O. Box 69 50084
Designated Facility Mail City:	Avalon
Designated Facility Mail Zip:	76623
Designated Facility Mail State:	TX
Designated Facility Location Street Number:	Not reported
Designated Facility Location Street 1:	405 Powell Street P.O. Box 69 50084
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	Avalon
Designated Facility Location Zip:	76623
Designated Facility Location State:	TX
Designated Facility Contact Company Name:	Chemical Reclamation Services Llc
Manifest Residue Indicator:	N
Rejection Indicator:	N
Manifest Tracking Number:	002742406PSC
Last Updated Date:	20200424
Shipped Date:	20200406
Received Date:	20200410
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	AZR000048207
Generator Name:	Home Depot #Hd0415
Generator Location Street Number:	Not reported
Generator Location Street 1:	7401 S. POWER RD.
Generator Location Street 2:	Not reported
Generator Location City:	QUEEN CREEK
Generator Location State:	AZ
Generator Location Zip:	85242

HOME DEPOT #0415 (Continued) **1007569059**

Generator Mail Street Number:	Not reported
Generator Mail Street 1:	5250 Triangle Parkway, Suite 200
Generator Mail Street 2:	Not reported
Generator Mail City:	Peachtree Corners
Generator Mail Zip:	30092
Generator Mail State:	GA
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	TXD046844700
Designated Facility Name:	Not reported
Designated Facility Mail Street Number:	Not reported
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	405 Powell Street P.O. Box 69 50084
Designated Facility Mail City:	Avalon
Designated Facility Mail Zip:	76623
Designated Facility Mail State:	TX
Designated Facility Location Street Number:	Not reported
Designated Facility Location Street 1:	405 Powell Street P.O. Box 69 50084
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	Avalon
Designated Facility Location Zip:	76623
Designated Facility Location State:	TX
Designated Facility Contact Company Name:	Chemical Reclamation Services Llc
Manifest Residue Indicator:	N
Rejection Indicator:	N

Manifest Tracking Number:	002764143PSC
Last Updated Date:	20200601
Shipped Date:	20200504
Received Date:	20200511
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	AZR000048207
Generator Name:	Home Depot #Hd0415
Generator Location Street Number:	Not reported
Generator Location Street 1:	7401 S. POWER RD.
Generator Location Street 2:	Not reported
Generator Location City:	QUEEN CREEK
Generator Location State:	AZ
Generator Location Zip:	85242
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	5250 Triangle Parkway, Suite 200
Generator Mail Street 2:	Not reported
Generator Mail City:	Peachtree Corners
Generator Mail Zip:	30092
Generator Mail State:	GA
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	TXD046844700
Designated Facility Name:	Not reported
Designated Facility Mail Street Number:	Not reported
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	405 Powell Street P.O. Box 69 50084
Designated Facility Mail City:	Avalon
Designated Facility Mail Zip:	76623
Designated Facility Mail State:	TX
Designated Facility Location Street Number:	Not reported
Designated Facility Location Street 1:	405 Powell Street P.O. Box 69 50084

HOME DEPOT #0415 (Continued) **1007569059**

Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	Avalon
Designated Facility Location Zip:	76623
Designated Facility Location State:	TX
Designated Facility Contact Company Name:	Chemical Reclamation Services Llc
Manifest Residue Indicator:	N
Rejection Indicator:	N

Manifest Tracking Number:	001924146PSC
Last Updated Date:	20190419
Shipped Date:	20180803
Received Date:	20180815
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	AZR000048207
Generator Name:	Home Depot #Hd0415
Generator Location Street Number:	Not reported
Generator Location Street 1:	7401 S. POWER RD.
Generator Location Street 2:	Not reported
Generator Location City:	QUEEN CREEK
Generator Location State:	AZ
Generator Location Zip:	85242
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	5151 San Felipe HOME DEPOT #HD0415
Generator Mail Street 2:	Not reported
Generator Mail City:	Houston
Generator Mail Zip:	77056
Generator Mail State:	TX
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	TXD046844700
Designated Facility Name:	Not reported
Designated Facility Mail Street Number:	Not reported
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	405 Powell Street P.O. Box 69 50084
Designated Facility Mail City:	Avalon
Designated Facility Mail Zip:	76623
Designated Facility Mail State:	TX
Designated Facility Location Street Number:	Not reported
Designated Facility Location Street 1:	405 Powell Street P.O. Box 69 50084
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	Avalon
Designated Facility Location Zip:	76623
Designated Facility Location State:	TX
Designated Facility Contact Company Name:	Chemical Reclamation Services Llc
Manifest Residue Indicator:	N
Rejection Indicator:	N

Manifest Tracking Number:	003243564PSC
Last Updated Date:	20210812
Shipped Date:	20210726
Received Date:	20210806
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	AZR000048207
Generator Name:	Home Depot #Hd0415

HOME DEPOT #0415 (Continued) **1007569059**

Generator Location Street Number:	Not reported
Generator Location Street 1:	7401 S. POWER RD.
Generator Location Street 2:	Not reported
Generator Location City:	QUEEN CREEK
Generator Location State:	AZ
Generator Location Zip:	85242
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	5250 Triangle Parkway, Suite 200
Generator Mail Street 2:	Not reported
Generator Mail City:	Peachtree Corners
Generator Mail Zip:	30092
Generator Mail State:	GA
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	TXD046844700
Designated Facility Name:	Not reported
Designated Facility Mail Street Number:	Not reported
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	405 Powell Street P.O. Box 69 50084
Designated Facility Mail City:	Avalon
Designated Facility Mail Zip:	76623
Designated Facility Mail State:	TX
Designated Facility Location Street Number:	Not reported
Designated Facility Location Street 1:	405 Powell Street P.O. Box 69 50084
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	Avalon
Designated Facility Location Zip:	76623
Designated Facility Location State:	TX
Designated Facility Contact Company Name:	Chemical Reclamation Services Llc
Manifest Residue Indicator:	N
Rejection Indicator:	N

Manifest Tracking Number:	013413071FLE
Last Updated Date:	20201117
Shipped Date:	20200923
Received Date:	20201007
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	AZR000048207
Generator Name:	Home Depot #Hd0415
Generator Location Street Number:	Not reported
Generator Location Street 1:	7401 S. POWER RD.
Generator Location Street 2:	Not reported
Generator Location City:	QUEEN CREEK
Generator Location State:	AZ
Generator Location Zip:	85242
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	5250 Triangle Parkway, Suite 200
Generator Mail Street 2:	Not reported
Generator Mail City:	Peachtree Corners
Generator Mail Zip:	30092
Generator Mail State:	GA
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	TXD046844700
Designated Facility Name:	Chemical Reclamation Services Llc
Designated Facility Mail Street Number:	Not reported
Designated Facility Mail Street 1:	Not reported

HOME DEPOT #0415 (Continued) **1007569059**

Designated Facility Mail Street 2:	405 Powell Street P.O. Box 69 50084
Designated Facility Mail City:	Avalon
Designated Facility Mail Zip:	76623
Designated Facility Mail State:	TX
Designated Facility Location Street Number:	Not reported
Designated Facility Location Street 1:	405 Powell Street P.O. Box 69 50084
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	Avalon
Designated Facility Location Zip:	76623
Designated Facility Location State:	TX
Designated Facility Contact Company Name:	Not reported
Manifest Residue Indicator:	N
Rejection Indicator:	N

Manifest Tracking Number:	003304552CLE
Last Updated Date:	20231113
Shipped Date:	20210921
Received Date:	20211008
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	AZR000048207
Generator Name:	Home Depot
Generator Location Street Number:	Not reported
Generator Location Street 1:	7401 S. POWER RD.
Generator Location Street 2:	Not reported
Generator Location City:	QUEEN CREEK
Generator Location State:	AZ
Generator Location Zip:	85242
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	5250 Triangle Parkway, Suite 200
Generator Mail Street 2:	Not reported
Generator Mail City:	Peachtree Corners
Generator Mail Zip:	30092
Generator Mail State:	GA
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	TXD046844700
Designated Facility Name:	Not reported
Designated Facility Mail Street Number:	Not reported
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	405 Powell Street P.O. Box 69 50084
Designated Facility Mail City:	Avalon
Designated Facility Mail Zip:	76623
Designated Facility Mail State:	TX
Designated Facility Location Street Number:	405
Designated Facility Location Street 1:	Powell Street P.O. Box 69 50084
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	Avalon
Designated Facility Location Zip:	76623
Designated Facility Location State:	TX
Designated Facility Contact Company Name:	Chemical Reclamation Services Llc
Manifest Residue Indicator:	N
Rejection Indicator:	N

Manifest Tracking Number:	019489086JJK
Last Updated Date:	20190516
Shipped Date:	20190327

HOME DEPOT #0415 (Continued) **1007569059**

Received Date:	20190410
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	AZR000048207
Generator Name:	Home Depot #Hd0415
Generator Location Street Number:	Not reported
Generator Location Street 1:	7401 S. POWER RD.
Generator Location Street 2:	Not reported
Generator Location City:	QUEEN CREEK
Generator Location State:	AZ
Generator Location Zip:	85242
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	5151 San Felipe HOME DEPOT #HD0415
Generator Mail Street 2:	Not reported
Generator Mail City:	Houston
Generator Mail Zip:	77056
Generator Mail State:	TX
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	TXD046844700
Designated Facility Name:	Chemical Reclamation Services Llc
Designated Facility Mail Street Number:	Not reported
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	405 Powell Street P.O. Box 69 50084
Designated Facility Mail City:	Avalon
Designated Facility Mail Zip:	76623
Designated Facility Mail State:	TX
Designated Facility Location Street Number:	Not reported
Designated Facility Location Street 1:	405 Powell Street P.O. Box 69 50084
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	Avalon
Designated Facility Location Zip:	76623
Designated Facility Location State:	TX
Designated Facility Contact Company Name:	Not reported
Manifest Residue Indicator:	N
Rejection Indicator:	N

Manifest Tracking Number:	200281179CLE
Last Updated Date:	20230126
Shipped Date:	20221018
Received Date:	20221026
Manifest Status:	Corrected
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	AZR000048207
Generator Name:	Home Depot
Generator Location Street Number:	Not reported
Generator Location Street 1:	7401 S. POWER RD.
Generator Location Street 2:	Not reported
Generator Location City:	QUEEN CREEK
Generator Location State:	AZ
Generator Location Zip:	85242
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	5250 Triangle Parkway, Suite 200
Generator Mail Street 2:	Not reported
Generator Mail City:	Peachtree Corners
Generator Mail Zip:	30092

HOME DEPOT #0415 (Continued) **1007569059**

Generator Mail State:	GA
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	TXD046844700
Designated Facility Name:	Chemical Reclamation Services Llc
Designated Facility Mail Street Number:	Not reported
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	405 Powell Street P.O. Box 69 50084
Designated Facility Mail City:	Avalon
Designated Facility Mail Zip:	76623
Designated Facility Mail State:	TX
Designated Facility Location Street Number:	Not reported
Designated Facility Location Street 1:	405 Powell Street P.O. Box 69 50084
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	Avalon
Designated Facility Location Zip:	76623
Designated Facility Location State:	TX
Designated Facility Contact Company Name:	Not reported
Manifest Residue Indicator:	N
Rejection Indicator:	N

Manifest Tracking Number:	200168131CLE
Last Updated Date:	20230421
Shipped Date:	20220602
Received Date:	20220620
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	AZR000048207
Generator Name:	Home Depot #0415
Generator Location Street Number:	Not reported
Generator Location Street 1:	7401 S. POWER RD.
Generator Location Street 2:	Not reported
Generator Location City:	QUEEN CREEK
Generator Location State:	AZ
Generator Location Zip:	85242
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	5250 Triangle Parkway, Suite 200
Generator Mail Street 2:	Not reported
Generator Mail City:	Peachtree Corners
Generator Mail Zip:	30092
Generator Mail State:	GA
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	TXD046844700
Designated Facility Name:	Chemical Reclamation Services Llc
Designated Facility Mail Street Number:	Not reported
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	405 Powell Street P.O. Box 69 50084
Designated Facility Mail City:	Avalon
Designated Facility Mail Zip:	76623
Designated Facility Mail State:	TX
Designated Facility Location Street Number:	Not reported
Designated Facility Location Street 1:	405 Powell Street P.O. Box 69 50084
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	Avalon
Designated Facility Location Zip:	76623
Designated Facility Location State:	TX
Designated Facility Contact Company Name:	Not reported

HOME DEPOT #0415 (Continued) **1007569059**

Manifest Residue Indicator: N
Rejection Indicator: N

Transporter:
Manifest Tracking Number: 200813900CLE
Transporter Line Number: 1
Transporter EPA ID: MNS000110924
Transporter Name: Clean Earth Specialty Waste Solutions,

Manifest Tracking Number: 200813900CLE
Transporter Line Number: 2
Transporter EPA ID: TXR000025072
Transporter Name: Rocketline Carrier Services

Manifest Tracking Number: 200813900CLE
Transporter Line Number: 3
Transporter EPA ID: MNS000110924
Transporter Name: Clean Earth Specialty Waste Solutions,

Waste Line:
Manifest Tracking Number: 200813900CLE
Waste Line Number: 1
U.S. DOT Hazardous Indicator: Y
U.S. DOT ID Number: UN1950
U.S. DOT Description: Un1950, Waste Aerosols, 2.1
Non-Hazardous Waste Description: Not reported
Number of Containers: 1
Container Type Code: DM
Container Type Description: Metal drums, barrels, kegs
Waste Quantity: 66
Quantity Unit of Measure Code: P
Quantity Unit of Measure Description: Pounds
Waste Quantity, in Tons: 0.033
Acute Waste Quantity, in Tons: 0
Non-Acute Waste Quantity, in Tons: 0.033
Waste Quantity, in Kilograms: 29.93199
Acute Waste Quantity, in Kilograms: 0
Non-Acute Waste Quantity, in Kilorgrams: 29.93199
Management Method Code: H141
Management Method Description: STORAGE, BULKING AND/OR TRANSFER OFF SITE
Waste Residue Indicator: N
Quantity Discrepancy Indicator: N
Waste Type Discrepancy Indicator: N
Waste Density: Not reported
Waste Density Unit of Measure Code: Not reported
Waste Density Unit of Measure Description: Not reported
Form Code: Not reported
Form Code Description: Not reported
Source Code: Not reported
Source Code Description: Not reported
Waste Minimization Code: Not reported
Waste Minimization Code Description: Not reported
Consent Number: Not reported
EPA Waste Indicator: Y
Federal Waste Codes: D001, D005, D007, D008, D035
Quantity Haz Kg: 29.93199

HOME DEPOT #0415 (Continued) **1007569059**

Quantity Haz Tons: 0.033
Quantity Non Haz Kg: 0
Quantity Non Haz Tons: 0
State Waste Codes: Not reported

Manifest Tracking Number: 200813900CLE
Waste Line Number: 2
U.S. DOT Hazardous Indicator: Y
U.S. DOT ID Number: UN3085
U.S. DOT Description: Un3085, Waste Oxidizing Solid, Corrosive, N.O.S. (Trichloro-S-Triazinetrone, Sodium Dichloro-S-Triazinetrione), 5.1 (8), Pg-Ii
Non-Hazardous Waste Description: Not reported
Number of Containers: 1
Container Type Code: DF
Container Type Description: Fiberboard or plastic drums, barrels, kegs
Waste Quantity: 112
Quantity Unit of Measure Code: P
Quantity Unit of Measure Description: Pounds
Waste Quantity, in Tons: 0.056
Acute Waste Quantity, in Tons: 0
Non-Acute Waste Quantity, in Tons: 0.056
Waste Quantity, in Kilograms: 50.79368
Acute Waste Quantity, in Kilograms: 0
Non-Acute Waste Quantity, in Kilorgrams: 50.79368
Management Method Code: H141
Management Method Description: STORAGE, BULKING AND/OR TRANSFER OFF SITE
Waste Residue Indicator: N
Quantity Discrepancy Indicator: N
Waste Type Discrepancy Indicator: N
Waste Density: Not reported
Waste Density Unit of Measure Code: Not reported
Waste Density Unit of Measure Description: Not reported
Form Code: Not reported
Form Code Description: Not reported
Source Code: Not reported
Source Code Description: Not reported
Waste Minimization Code: Not reported
Waste Minimization Code Description: Not reported
Consent Number: Not reported
EPA Waste Indicator: Y
Federal Waste Codes: D001
Quantity Haz Kg: 50.79368
Quantity Haz Tons: 0.056
Quantity Non Haz Kg: 0
Quantity Non Haz Tons: 0
State Waste Codes: Not reported

Manifest Tracking Number: 200813900CLE
Waste Line Number: 3
U.S. DOT Hazardous Indicator: Y
U.S. DOT ID Number: UN2810
U.S. DOT Description: Un2810, Waste Toxic, Liquids, Organic, N.O.S. (2,4-Dichlorophenoxyacetic Acid, Carbaryl), 6.1, Pg-Ii
Non-Hazardous Waste Description: Not reported
Number of Containers: 1
Container Type Code: DF

HOME DEPOT #0415 (Continued) **1007569059**

Container Type Description:	Fiberboard or plastic drums, barrels, kegs
Waste Quantity:	132
Quantity Unit of Measure Code:	P
Quantity Unit of Measure Description:	Pounds
Waste Quantity, in Tons:	0.066
Acute Waste Quantity, in Tons:	0
Non-Acute Waste Quantity, in Tons:	0.066
Waste Quantity, in Kilograms:	59.86398
Acute Waste Quantity, in Kilograms:	0
Non-Acute Waste Quantity, in Kilorgrams:	59.86398
Management Method Code:	H141
Management Method Description:	STORAGE, BULKING AND/OR TRANSFER OFF SITE
Waste Residue Indicator:	N
Quantity Discrepancy Indicator:	N
Waste Type Discrepancy Indicator:	N
Waste Density:	Not reported
Waste Density Unit of Measure Code:	Not reported
Waste Density Unit of Measure Description:	Not reported
Form Code:	Not reported
Form Code Description:	Not reported
Source Code:	Not reported
Source Code Description:	Not reported
Waste Minimization Code:	Not reported
Waste Minimization Code Description:	Not reported
Consent Number:	Not reported
EPA Waste Indicator:	Y
Federal Waste Codes:	D016, U240, U279
Quantity Haz Kg:	59.86398
Quantity Haz Tons:	0.066
Quantity Non Haz Kg:	0
Quantity Non Haz Tons:	0
State Waste Codes:	Not reported

Manifest Tracking Number:	200813900CLE
Waste Line Number:	4
U.S. DOT Hazardous Indicator:	Y
U.S. DOT ID Number:	UN3264
U.S. DOT Description:	Un3264, Waste Corrosive Liquid, Acidic, Inorganic, N.O.S. (Sulfuric Acid, Hydrochloric Acid), 8, Pg-Ii,Rq(D002=100lbs)
Non-Hazardous Waste Description:	Not reported
Number of Containers:	1
Container Type Code:	DF
Container Type Description:	Fiberboard or plastic drums, barrels, kegs
Waste Quantity:	74
Quantity Unit of Measure Code:	P
Quantity Unit of Measure Description:	Pounds
Waste Quantity, in Tons:	0.037
Acute Waste Quantity, in Tons:	0
Non-Acute Waste Quantity, in Tons:	0.037
Waste Quantity, in Kilograms:	33.56011
Acute Waste Quantity, in Kilograms:	0
Non-Acute Waste Quantity, in Kilorgrams:	33.56011
Management Method Code:	H141
Management Method Description:	STORAGE, BULKING AND/OR TRANSFER OFF SITE
Waste Residue Indicator:	N
Quantity Discrepancy Indicator:	N
Waste Type Discrepancy Indicator:	N

HOME DEPOT #0415 (Continued) **1007569059**

Waste Density:	Not reported
Waste Density Unit of Measure Code:	Not reported
Waste Density Unit of Measure Description:	Not reported
Form Code:	Not reported
Form Code Description:	Not reported
Source Code:	Not reported
Source Code Description:	Not reported
Waste Minimization Code:	Not reported
Waste Minimization Code Description:	Not reported
Consent Number:	Not reported
EPA Waste Indicator:	Y
Federal Waste Codes:	D002
Quantity Haz Kg:	33.56011
Quantity Haz Tons:	0.037
Quantity Non Haz Kg:	0
Quantity Non Haz Tons:	0
State Waste Codes:	Not reported
Manifest Tracking Number:	200813900CLE
Waste Line Number:	5
U.S. DOT Hazardous Indicator:	Y
U.S. DOT ID Number:	UN3266
U.S. DOT Description:	Un3266, Waste Corrosive Liquid, Basic, Inorganic, N.O.S. (Containerized Alkaline Consumer Products, Containing Inorganic Bases. Products And), 8, Pg-Ii
Non-Hazardous Waste Description:	Not reported
Number of Containers:	1
Container Type Code:	DF
Container Type Description:	Fiberboard or plastic drums, barrels, kegs
Waste Quantity:	30
Quantity Unit of Measure Code:	P
Quantity Unit of Measure Description:	Pounds
Waste Quantity, in Tons:	0.015
Acute Waste Quantity, in Tons:	0
Non-Acute Waste Quantity, in Tons:	0.015
Waste Quantity, in Kilograms:	13.60545
Acute Waste Quantity, in Kilograms:	0
Non-Acute Waste Quantity, in Kilorgrams:	13.60545
Management Method Code:	H141
Management Method Description:	STORAGE, BULKING AND/OR TRANSFER OFF SITE
Waste Residue Indicator:	N
Quantity Discrepancy Indicator:	N
Waste Type Discrepancy Indicator:	N
Waste Density:	Not reported
Waste Density Unit of Measure Code:	Not reported
Waste Density Unit of Measure Description:	Not reported
Form Code:	Not reported
Form Code Description:	Not reported
Source Code:	Not reported
Source Code Description:	Not reported
Waste Minimization Code:	Not reported
Waste Minimization Code Description:	Not reported
Consent Number:	Not reported
EPA Waste Indicator:	Y
Federal Waste Codes:	D002
Quantity Haz Kg:	13.60545
Quantity Haz Tons:	0.015

HOME DEPOT #0415 (Continued) **1007569059**

Quantity Non Haz Kg:	0
Quantity Non Haz Tons:	0
State Waste Codes:	Not reported
Manifest Tracking Number:	200813900CLE
Waste Line Number:	6
U.S. DOT Hazardous Indicator:	Y
U.S. DOT ID Number:	NA3077
U.S. DOT Description:	Na3077, Waste Hazardous Waste, Solid, N.O.S. (2,4-D), 9, Pg-Iii
Non-Hazardous Waste Description:	Not reported
Number of Containers:	1
Container Type Code:	DF
Container Type Description:	Fiberboard or plastic drums, barrels, kegs
Waste Quantity:	57
Quantity Unit of Measure Code:	P
Quantity Unit of Measure Description:	Pounds
Waste Quantity, in Tons:	0.0285
Acute Waste Quantity, in Tons:	0
Non-Acute Waste Quantity, in Tons:	0.0285
Waste Quantity, in Kilograms:	25.85036
Acute Waste Quantity, in Kilograms:	0
Non-Acute Waste Quantity, in Kilorgrams:	25.850355
Management Method Code:	H141
Management Method Description:	STORAGE, BULKING AND/OR TRANSFER OFF SITE
Waste Residue Indicator:	N
Quantity Discrepancy Indicator:	N
Waste Type Discrepancy Indicator:	N
Waste Density:	Not reported
Waste Density Unit of Measure Code:	Not reported
Waste Density Unit of Measure Description:	Not reported
Form Code:	Not reported
Form Code Description:	Not reported
Source Code:	Not reported
Source Code Description:	Not reported
Waste Minimization Code:	Not reported
Waste Minimization Code Description:	Not reported
Consent Number:	Not reported
EPA Waste Indicator:	Y
Federal Waste Codes:	D016
Quantity Haz Kg:	25.850355
Quantity Haz Tons:	0.0285
Quantity Non Haz Kg:	0
Quantity Non Haz Tons:	0
State Waste Codes:	Not reported
Manifest Tracking Number:	200813900CLE
Waste Line Number:	7
U.S. DOT Hazardous Indicator:	Y
U.S. DOT ID Number:	NA3077
U.S. DOT Description:	Na3077, Waste Hazardous Waste, Solid, N.O.S. (Mercury, Crushed Fluorescent Bulbs), 9, Pg-Iii
Non-Hazardous Waste Description:	Not reported
Number of Containers:	1
Container Type Code:	DF
Container Type Description:	Fiberboard or plastic drums, barrels, kegs
Waste Quantity:	42
Quantity Unit of Measure Code:	P

HOME DEPOT #0415 (Continued) **1007569059**

Quantity Unit of Measure Description:	Pounds
Waste Quantity, in Tons:	0.021
Acute Waste Quantity, in Tons:	0
Non-Acute Waste Quantity, in Tons:	0.021
Waste Quantity, in Kilograms:	19.04763
Acute Waste Quantity, in Kilograms:	0
Non-Acute Waste Quantity, in Kilorgrams:	19.04763
Management Method Code:	H141
Management Method Description:	STORAGE, BULKING AND/OR TRANSFER OFF SITE
Waste Residue Indicator:	N
Quantity Discrepancy Indicator:	N
Waste Type Discrepancy Indicator:	N
Waste Density:	Not reported
Waste Density Unit of Measure Code:	Not reported
Waste Density Unit of Measure Description:	Not reported
Form Code:	Not reported
Form Code Description:	Not reported
Source Code:	Not reported
Source Code Description:	Not reported
Waste Minimization Code:	Not reported
Waste Minimization Code Description:	Not reported
Consent Number:	Not reported
EPA Waste Indicator:	Y
Federal Waste Codes:	D009
Quantity Haz Kg:	19.04763
Quantity Haz Tons:	0.021
Quantity Non Haz Kg:	0
Quantity Non Haz Tons:	0
State Waste Codes:	Not reported
Manifest Tracking Number:	200813900CLE
Waste Line Number:	8
U.S. DOT Hazardous Indicator:	Y
U.S. DOT ID Number:	UN1993
U.S. DOT Description:	Un1993, Waste Flammable Liquids, N.O.S. (Xylene, Toluene), 3, Pg-Ii,Rq(D001=100lbs)
Non-Hazardous Waste Description:	Not reported
Number of Containers:	1
Container Type Code:	DF
Container Type Description:	Fiberboard or plastic drums, barrels, kegs
Waste Quantity:	77
Quantity Unit of Measure Code:	P
Quantity Unit of Measure Description:	Pounds
Waste Quantity, in Tons:	0.0385
Acute Waste Quantity, in Tons:	0
Non-Acute Waste Quantity, in Tons:	0.0385
Waste Quantity, in Kilograms:	34.92066
Acute Waste Quantity, in Kilograms:	0
Non-Acute Waste Quantity, in Kilorgrams:	34.920655
Management Method Code:	H061
Management Method Description:	FUEL BLENDING
Waste Residue Indicator:	N
Quantity Discrepancy Indicator:	N
Waste Type Discrepancy Indicator:	N
Waste Density:	Not reported
Waste Density Unit of Measure Code:	Not reported
Waste Density Unit of Measure Description:	Not reported

HOME DEPOT #0415 (Continued) **1007569059**

Form Code:	Not reported
Form Code Description:	Not reported
Source Code:	Not reported
Source Code Description:	Not reported
Waste Minimization Code:	Not reported
Waste Minimization Code Description:	Not reported
Consent Number:	Not reported
EPA Waste Indicator:	Y
Federal Waste Codes:	D001, D035, U112, U220, U239
Quantity Haz Kg:	34.920655
Quantity Haz Tons:	0.0385
Quantity Non Haz Kg:	0
Quantity Non Haz Tons:	0
State Waste Codes:	Not reported
Manifest Tracking Number:	200813900CLE
Waste Line Number:	9
U.S. DOT Hazardous Indicator:	N
U.S. DOT ID Number:	Not reported
U.S. DOT Description:	Not reported
Non-Hazardous Waste Description:	Non Rcra Hazardous Waste, Liquid (Water Based Cleaners)
Number of Containers:	9
Container Type Code:	DF
Container Type Description:	Fiberboard or plastic drums, barrels, kegs
Waste Quantity:	972
Quantity Unit of Measure Code:	P
Quantity Unit of Measure Description:	Pounds
Waste Quantity, in Tons:	0.486
Acute Waste Quantity, in Tons:	0
Non-Acute Waste Quantity, in Tons:	0.486
Waste Quantity, in Kilograms:	440.81658
Acute Waste Quantity, in Kilograms:	0
Non-Acute Waste Quantity, in Kilorgrams:	440.81658
Management Method Code:	H141
Management Method Description:	STORAGE, BULKING AND/OR TRANSFER OFF SITE
Waste Residue Indicator:	N
Quantity Discrepancy Indicator:	N
Waste Type Discrepancy Indicator:	N
Waste Density:	Not reported
Waste Density Unit of Measure Code:	Not reported
Waste Density Unit of Measure Description:	Not reported
Form Code:	Not reported
Form Code Description:	Not reported
Source Code:	Not reported
Source Code Description:	Not reported
Waste Minimization Code:	Not reported
Waste Minimization Code Description:	Not reported
Consent Number:	Not reported
EPA Waste Indicator:	N
Federal Waste Codes:	Not reported
Quantity Haz Kg:	0
Quantity Haz Tons:	0
Quantity Non Haz Kg:	440.81658
Quantity Non Haz Tons:	0.486
State Waste Codes:	Not reported
Manifest Tracking Number:	200813900CLE

HOME DEPOT #0415 (Continued) **1007569059**

Waste Line Number:	10
U.S. DOT Hazardous Indicator:	N
U.S. DOT ID Number:	Not reported
U.S. DOT Description:	Not reported
Non-Hazardous Waste Description:	Non-Rcra, Non-Dot Regulated Material ,Universal Waste Lamps (Whole Fluorescent Tubes)
Number of Containers:	3
Container Type Code:	CF
Container Type Description:	Fiber or plastic boxes, cartons, cases
Waste Quantity:	41
Quantity Unit of Measure Code:	P
Quantity Unit of Measure Description:	Pounds
Waste Quantity, in Tons:	0.0205
Acute Waste Quantity, in Tons:	0
Non-Acute Waste Quantity, in Tons:	0.0205
Waste Quantity, in Kilograms:	18.59412
Acute Waste Quantity, in Kilograms:	0
Non-Acute Waste Quantity, in Kilorgrams:	18.594115
Management Method Code:	H141
Management Method Description:	STORAGE, BULKING AND/OR TRANSFER OFF SITE
Waste Residue Indicator:	N
Quantity Discrepancy Indicator:	N
Waste Type Discrepancy Indicator:	N
Waste Density:	Not reported
Waste Density Unit of Measure Code:	Not reported
Waste Density Unit of Measure Description:	Not reported
Form Code:	Not reported
Form Code Description:	Not reported
Source Code:	Not reported
Source Code Description:	Not reported
Waste Minimization Code:	Not reported
Waste Minimization Code Description:	Not reported
Consent Number:	Not reported
EPA Waste Indicator:	N
Federal Waste Codes:	Not reported
Quantity Haz Kg:	0
Quantity Haz Tons:	0
Quantity Non Haz Kg:	18.594115
Quantity Non Haz Tons:	0.0205
State Waste Codes:	Not reported
Manifest Tracking Number:	200813900CLE
Waste Line Number:	11
U.S. DOT Hazardous Indicator:	N
U.S. DOT ID Number:	Not reported
U.S. DOT Description:	Not reported
Non-Hazardous Waste Description:	Non Rcra Hazardous Waste, Liquid (Sump Water & Oil)
Number of Containers:	1
Container Type Code:	DM
Container Type Description:	Metal drums, barrels, kegs
Waste Quantity:	103
Quantity Unit of Measure Code:	P
Quantity Unit of Measure Description:	Pounds
Waste Quantity, in Tons:	0.0515
Acute Waste Quantity, in Tons:	0
Non-Acute Waste Quantity, in Tons:	0.0515
Waste Quantity, in Kilograms:	46.71205

HOME DEPOT #0415 (Continued) **1007569059**

Acute Waste Quantity, in Kilograms:	0
Non-Acute Waste Quantity, in Kilorgrams:	46.712045
Management Method Code:	H141
Management Method Description:	STORAGE, BULKING AND/OR TRANSFER OFF SITE
Waste Residue Indicator:	N
Quantity Discrepancy Indicator:	N
Waste Type Discrepancy Indicator:	N
Waste Density:	Not reported
Waste Density Unit of Measure Code:	Not reported
Waste Density Unit of Measure Description:	Not reported
Form Code:	Not reported
Form Code Description:	Not reported
Source Code:	Not reported
Source Code Description:	Not reported
Waste Minimization Code:	Not reported
Waste Minimization Code Description:	Not reported
Consent Number:	Not reported
EPA Waste Indicator:	N
Federal Waste Codes:	Not reported
Quantity Haz Kg:	0
Quantity Haz Tons:	0
Quantity Non Haz Kg:	46.712045
Quantity Non Haz Tons:	0.0515
State Waste Codes:	Not reported

Click this hyperlink while viewing on your computer to access
100 additional US EManifest: record(s) in the EDR Site Report.

AZ MANIFEST:

Name:	HOME DEPOT USA
Address:	7400 S POWER RD
City,State,Zip:	GILBERT, AZ 85297-9281
Report Year:	2017
EPA Id:	AZR000048207
Business Type:	Not reported
Mailing Address:	Not reported
Mailing State:	Not reported
Contact Name:	Not reported
Contact Phone:	Not reported
Management Methods:	H141
Date Generator Signed The Manifest:	Not reported
Transporter EPA Id Number:	Not reported
Date Transporter Signed The Manifest:	Not reported
TSD EPA Id Number:	Not reported
Volume:	Not reported
Date TSD Signed Manifest:	Not reported
DOT Id Number:	UN1978
Quantity:	10
Waste Code 1:	EX
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Waste Code 7:	Not reported
Waste Code 8:	Not reported
Waste Code 10:	Not reported

HOME DEPOT #0415 (Continued) **1007569059**

Waste Code 9:	Not reported
Waste Code 11:	Not reported
Waste Code 12:	Not reported
Waste Code 13:	Not reported

Name:	HOME DEPOT USA
Address:	7400 S POWER RD
City,State,Zip:	GILBERT, AZ 85297-9281
Report Year:	2017
EPA Id:	AZR000048207
Business Type:	Not reported
Mailing Address:	Not reported
Mailing State:	Not reported
Contact Name:	Not reported
Contact Phone:	Not reported
Management Methods:	H141
Date Generator Signed The Manifest:	Not reported
Transporter EPA Id Number:	Not reported
Date Transporter Signed The Manifest:	Not reported
TSD EPA Id Number:	Not reported
Volume:	Not reported
Date TSD Signed Manifest:	Not reported
DOT Id Number:	UN1011
Quantity:	3
Waste Code 1:	EX
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Waste Code 7:	Not reported
Waste Code 8:	Not reported
Waste Code 10:	Not reported
Waste Code 9:	Not reported
Waste Code 11:	Not reported
Waste Code 12:	Not reported
Waste Code 13:	Not reported

Name:	HOME DEPOT USA
Address:	7400 S POWER RD
City,State,Zip:	QUEEN CREEK, AZ 85242
Report Year:	2013
EPA Id:	AZR000048207
Business Type:	Not reported
Mailing Address:	Not reported
Mailing State:	Not reported
Contact Name:	Not reported
Contact Phone:	Not reported
Management Methods:	Not reported
Date Generator Signed The Manifest:	Not reported
Transporter EPA Id Number:	Not reported
Date Transporter Signed The Manifest:	Not reported
TSD EPA Id Number:	Not reported
Volume:	Not reported
Date TSD Signed Manifest:	Not reported
DOT Id Number:	Not reported
Quantity:	Not reported

HOME DEPOT #0415 (Continued) **1007569059**

Waste Code 1:	Not reported
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Waste Code 7:	Not reported
Waste Code 8:	Not reported
Waste Code 10:	Not reported
Waste Code 9:	Not reported
Waste Code 11:	Not reported
Waste Code 12:	Not reported
Waste Code 13:	Not reported

Name:	HOME DEPOT USA
Address:	7400 S POWER RD
City,State,Zip:	QUEEN CREEK, AZ 85242
Report Year:	2013
EPA Id:	AZR000048207
Business Type:	Not reported
Mailing Address:	Not reported
Mailing State:	Not reported
Contact Name:	Not reported
Contact Phone:	Not reported
Management Methods:	H141
Date Generator Signed The Manifest:	Not reported
Transporter EPA Id Number:	Not reported
Date Transporter Signed The Manifest:	Not reported
TSD EPA Id Number:	Not reported
Volume:	Not reported
Date TSD Signed Manifest:	Not reported
DOT Id Number:	UN1203
Quantity:	85
Waste Code 1:	D001
Waste Code 2:	D018
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Waste Code 7:	Not reported
Waste Code 8:	Not reported
Waste Code 10:	Not reported
Waste Code 9:	Not reported
Waste Code 11:	Not reported
Waste Code 12:	Not reported
Waste Code 13:	Not reported

Name:	HOME DEPOT USA
Address:	7400 S POWER RD
City,State,Zip:	QUEEN CREEK, AZ 85242
Report Year:	2012
EPA Id:	AZR000048207
Business Type:	Not reported
Mailing Address:	Not reported
Mailing State:	Not reported
Contact Name:	Not reported
Contact Phone:	Not reported

HOME DEPOT #0415 (Continued) **1007569059**

Management Methods:	H141
Date Generator Signed The Manifest:	Not reported
Transporter EPA Id Number:	Not reported
Date Transporter Signed The Manifest:	Not reported
TSD EPA Id Number:	Not reported
Volume:	Not reported
Date TSD Signed Manifest:	Not reported
DOT Id Number:	UN1978
Quantity:	13
Waste Code 1:	Not reported
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Waste Code 7:	Not reported
Waste Code 8:	Not reported
Waste Code 10:	Not reported
Waste Code 9:	Not reported
Waste Code 11:	Not reported
Waste Code 12:	Not reported
Waste Code 13:	Not reported

Name:	HOME DEPOT USA
Address:	7400 S POWER RD
City,State,Zip:	QUEEN CREEK, AZ 85242
Report Year:	2012
EPA Id:	AZR000048207
Business Type:	Not reported
Mailing Address:	Not reported
Mailing State:	Not reported
Contact Name:	Not reported
Contact Phone:	Not reported
Management Methods:	H061
Date Generator Signed The Manifest:	Not reported
Transporter EPA Id Number:	Not reported
Date Transporter Signed The Manifest:	Not reported
TSD EPA Id Number:	Not reported
Volume:	Not reported
Date TSD Signed Manifest:	Not reported
DOT Id Number:	UN1993
Quantity:	180
Waste Code 1:	D001
Waste Code 2:	D035
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Waste Code 7:	Not reported
Waste Code 8:	Not reported
Waste Code 10:	Not reported
Waste Code 9:	Not reported
Waste Code 11:	Not reported
Waste Code 12:	Not reported
Waste Code 13:	Not reported

Name:	HOME DEPOT USA

HOME DEPOT #0415 (Continued) **1007569059**

Address:	7400 S POWER RD
City,State,Zip:	QUEEN CREEK, AZ 85242
Report Year:	2011
EPA Id:	AZR000048207
Business Type:	Not reported
Mailing Address:	Not reported
Mailing State:	Not reported
Contact Name:	Not reported
Contact Phone:	Not reported
Management Methods:	H141
Date Generator Signed The Manifest:	Not reported
Transporter EPA Id Number:	Not reported
Date Transporter Signed The Manifest:	Not reported
TSD EPA Id Number:	Not reported
Volume:	Not reported
Date TSD Signed Manifest:	Not reported
DOT Id Number:	UN3266
Quantity:	40
Waste Code 1:	D002
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Waste Code 7:	Not reported
Waste Code 8:	Not reported
Waste Code 10:	Not reported
Waste Code 9:	Not reported
Waste Code 11:	Not reported
Waste Code 12:	Not reported
Waste Code 13:	Not reported

Name:	HOME DEPOT USA
Address:	7400 S POWER RD
City,State,Zip:	QUEEN CREEK, AZ 85242
Report Year:	2013
EPA Id:	AZR000048207
Business Type:	Not reported
Mailing Address:	Not reported
Mailing State:	Not reported
Contact Name:	Not reported
Contact Phone:	Not reported
Management Methods:	H141
Date Generator Signed The Manifest:	Not reported
Transporter EPA Id Number:	Not reported
Date Transporter Signed The Manifest:	Not reported
TSD EPA Id Number:	Not reported
Volume:	Not reported
Date TSD Signed Manifest:	Not reported
DOT Id Number:	UN1978
Quantity:	6
Waste Code 1:	NONE
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported

HOME DEPOT #0415 (Continued) **1007569059**

Waste Code 7:	Not reported
Waste Code 8:	Not reported
Waste Code 10:	Not reported
Waste Code 9:	Not reported
Waste Code 11:	Not reported
Waste Code 12:	Not reported
Waste Code 13:	Not reported

Name:	HOME DEPOT USA
Address:	7400 S POWER RD
City,State,Zip:	QUEEN CREEK, AZ 85242
Report Year:	2013
EPA Id:	AZR000048207
Business Type:	Not reported
Mailing Address:	Not reported
Mailing State:	Not reported
Contact Name:	Not reported
Contact Phone:	Not reported
Management Methods:	H141
Date Generator Signed The Manifest:	Not reported
Transporter EPA Id Number:	Not reported
Date Transporter Signed The Manifest:	Not reported
TSD EPA Id Number:	Not reported
Volume:	Not reported
Date TSD Signed Manifest:	Not reported
DOT Id Number:	UN3264
Quantity:	5
Waste Code 1:	D002
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Waste Code 7:	Not reported
Waste Code 8:	Not reported
Waste Code 10:	Not reported
Waste Code 9:	Not reported
Waste Code 11:	Not reported
Waste Code 12:	Not reported
Waste Code 13:	Not reported

Name:	HOME DEPOT USA
Address:	7400 S POWER RD
City,State,Zip:	QUEEN CREEK, AZ 85242
Report Year:	2015
EPA Id:	AZR000048207
Business Type:	Not reported
Mailing Address:	Not reported
Mailing State:	Not reported
Contact Name:	Not reported
Contact Phone:	Not reported
Management Methods:	H141
Date Generator Signed The Manifest:	Not reported
Transporter EPA Id Number:	Not reported
Date Transporter Signed The Manifest:	Not reported
TSD EPA Id Number:	Not reported
Volume:	Not reported

HOME DEPOT #0415 (Continued) **1007569059**

Date TSD Signed Manifest:	Not reported
DOT Id Number:	UN3264
Quantity:	6
Waste Code 1:	D002
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Waste Code 7:	Not reported
Waste Code 8:	Not reported
Waste Code 10:	Not reported
Waste Code 9:	Not reported
Waste Code 11:	Not reported
Waste Code 12:	Not reported
Waste Code 13:	Not reported

Click this hyperlink while viewing on your computer to access
286 additional AZ MANIFEST: record(s) in the EDR Site Report.

57
ESE
1/4-1/2
0.302 mi.
1594 ft.

PRISONER OF WAR CAMP (QUEEN CREEK) **FUDS** **1024903319**
N/A

RITTENHOUSE, AZ

Actual:
1403 ft.

Focus Map:
13

FUDS:

EPA Region:	9
Installation ID:	AZ99799FA42600
Congressional District Number:	5
Name:	PRISONER OF WAR CAMP (QUEEN CREEK)
FUDS Number:	J09AZ1104
City:	RITTENHOUSE
State:	AZ
County:	MARICOPA
Object ID:	1741
USACE Division:	spd
USACE District:	spl
Status:	Properties without projects
Current Owner:	Not reported
EMS Map Link:	https://fudsportal.usace.army.mil/ems/inventory/map?id=63039
Eligibility:	Eligible
Has Projects:	no
NPL Status:	Not on the NPL
Project Required:	Not reported
Feature Description:	N/A
Latitude:	33.25833333
Longitude:	-111.63333333

O58 **FORMER WILLIAMS AIR FORCE BASE SITE FT002** **AZURITE** **S133069764**
North **S OF EAST VELOCITY WAY & E OF SOUTH SOSSAMAN RD** **AUL** **N/A**
1/4-1/2 **MESA, AZ 85212**
0.413 mi.
2181 ft. **Site 1 of 2 in cluster O**

Actual:
1349 ft.

Focus Map:
2

AZURITE:

Remediation Level Achieved:	Not reported
Name:	FORMER WILLIAMS AIR FORCE BASE SITE FT002
Address:	S OF EAST VELOCITY WAY & E OF SOUTH SOSSAMAN RD
City,State,Zip:	MESA, AZ 85212
Remediation ID:	29703
Program:	Federal Projects
Program File Number:	Not reported
Type:	DEUR
Remediation Start Date:	Not reported
Remediation End Date:	Not reported
DEUR Record Date:	Not reported
WPD Dirctrs Approval:	Not reported
VEMUR Record Date:	Not reported
DEUR Release Date:	Not reported
RIMS Number:	53431
PID:	132894
Date Recorded:	04/04/2008
Use Restriction:	Non-Residential Use, Excavation Restriction
Record Number:	2008-0301501
Latitude/Longitude:	33 12 40.0000/111 40 8.0000

AUL:

Name:	FORMER WILLIAMS AIR FORCE BASE SITE FT002
Address:	S OF EAST VELOCITY WAY & E OF SOUTH SOSSAMAN RD
City:	MESA
Remediation ID:	29703
Program:	Federal Projects
Program File Number:	Not reported
Type:	DEUR
RIMS Number:	53431
PID:	132894
Date Recorded:	04/04/2008
Use Restriction:	Non-Residential Use, Excavation Restriction
Record Number:	2008-0301501
Latitude/Longitude:	33 12 40.0000/111 40 8.0000

O59 **FORMER WILLIAMS AIR FORCE BASE SITE FT002** **AZURITE** **S133069765**
North **S. OF E. VELOCITY WAY & EAST OF S. SOSSAMAN RD.** **AUL** **N/A**
1/4-1/2 **MESA, AZ**
0.413 mi.
2181 ft. **Site 2 of 2 in cluster O**

Actual:
1349 ft.

Focus Map:
2

AZURITE:

Remediation Level Achieved:	Not reported
Name:	FORMER WILLIAMS AIR FORCE BASE SITE FT002
Address:	S. OF E. VELOCITY WAY & EAST OF S. SOSSAMAN RD.
City,State,Zip:	MESA, AZ
Remediation ID:	29703
Program:	Federal Projects
Program File Number:	Not reported
Type:	DEUR
Remediation Start Date:	Not reported

FORMER WILLIAMS AIR FORCE BASE SITE FT002 (Continued) **S133069765**

Remediation End Date: Not reported
DEUR Record Date: Not reported
WPD Dirctrs Approval: Not reported
VEMUR Record Date: Not reported
DEUR Release Date: Not reported
RIMS Number: 53431
PID: Not reported
Date Recorded: 03/26/2018
Use Restriction: Not reported
Record Number: 20180222011
Latitude/Longitude: 33 12 40.0000/111 40 8.0000

Remediation Level Achieved: Not reported
Name: FORMER WILLIAMS AIR FORCE BASE SITE FT002
Address: S. OF E. VELOCITY WAY & EAST OF S. SOSSAMAN RD.
City,State,Zip: MESA, AZ
Remediation ID: 29703
Program: Federal Projects
Program File Number: Not reported
Type: DEUR
Remediation Start Date: Not reported
Remediation End Date: Not reported
DEUR Record Date: Not reported
WPD Dirctrs Approval: Not reported
VEMUR Record Date: Not reported
DEUR Release Date: Not reported
RIMS Number: 53431
PID: Not reported
Date Recorded: 07/11/2024
Use Restriction: Not reported
Record Number: 20240369523
Latitude/Longitude: 33 17 09.0221/111 39 32.0002

AUL:
Name: FORMER WILLIAMS AIR FORCE BASE SITE FT002
Address: S. OF E. VELOCITY WAY & EAST OF S. SOSSAMAN RD.
City: MESA
Remediation ID: 29703
Program: Federal Projects
Program File Number: Not reported
Type: DEUR
RIMS Number: 53431
PID: Not reported
Date Recorded: 03/26/2018
Use Restriction: Not reported
Record Number: 20180222011
Latitude/Longitude: 33 12 40.0000/111 40 8.0000

Name: FORMER WILLIAMS AIR FORCE BASE SITE FT002
Address: S. OF E. VELOCITY WAY & EAST OF S. SOSSAMAN RD.
City: MESA
Remediation ID: 29703
Program: Federal Projects
Program File Number: Not reported
Type: DEUR
RIMS Number: 53431
PID: Not reported

FORMER WILLIAMS AIR FORCE BASE SITE FT002 (Continued) **S133069765**

Date Recorded: 07/11/2024
Use Restriction: Not reported
Record Number: 20240369523
Latitude/Longitude: 33 17 09.0221/111 39 32.0002

60
SE
1/4-1/2
0.490 mi.
2588 ft.

FIRESTONE COMPLETE AUTO CARE #798351
21443 S ELLSWORTH RD.
QUEEN CREEK, AZ 85142

SWTIRE **S125154044**
Dry Wells **N/A**
EMAP
SPDES

Actual:
1403 ft.

Focus Map:
13

SWTIRE:
Name: FIRESTONE COMPLETE AUTO CARE #798351
Address: 21443 S ELLSWORTH RD.
City,State,Zip: QUEEN CREEK, AZ 85142
Owner Name: Bridgestone Retail Operations, LLC
Owner Address: Not reported
Owner City,St,Zip: Not reported
Facility Type: Used Tire Site or WTCS (<5,000)
Contact Name: Dain Brandrup
Contact Telephone: 615-937-1498

DRY WELLS:
Name: FIRESTONE QUEEN CREEK
Address: 21443 S ELLSWORTH RD
City,State,Zip: QUEEN CREEK, AZ 85142
Latitude: 33.252955
Longitude: -111.634264
Facility Type: Drywell Places
NOB ID: 79115-NOB10
NOB PLC ID: 189878
NOB Name: Not reported
DW PLC ID: Not reported
Cadastral: D 2 7 15 cbc
Facility Status: ACTIVE
Verified: Y
Collection: PROVIDED BY OWNER/OPERATOR
Place Type: TIRE SHOP
Code: TRSP
PLACC Code: PP
Drywells: Not reported

EMAP:
Name: FIRESTONE QUEEN CREEK
Address: 21443 S ELLSWORTH RD
City,State,Zip: QUEEN CREEK, AZ 85142
ID Number: 189878
Township: 2
Range: 7
Section: 15
Quarter 1: c
Quarter 2: b
Quarter 3: c
Latitude: 33.25295500
Longitude: -111.634264
Collection Method: PROVIDED BY OWNER/OPERATOR
Place Type: TIRE SHOP

FIRESTONE COMPLETE AUTO CARE #798351 (Continued) **S125154044**

Place Type Code:	PP
Place C Code:	PHYSICAL PROPERTIES
Facility Status:	ACTIVE
End Date:	Not reported
Verified:	Y

NPDES:

Name:	FIRESTONE QUEEN CREEK
Address:	21443 S ELLSWORTH RD
City,State,Zip:	QUEEN CREEK, AZ 85142
AZNPDES Number:	AZCN77255
Application Type:	CGPB
Receive Date:	2019-06-18
Approved Date:	Not reported
Term Void Date:	Not reported
Application Status:	Not reported
Site Phone:	Not reported
Contact Name:	Chris Heilbrun
Operator Business Name:	Not reported
Operator Address:	4838 S GRANBY ST, CENTENNIAL CO 80015
Operator Phone:	(303) 549-1740
Operator Fax:	Not reported
Operator County:	Not reported
Type of Project:	Commercial
Part of Larger Plan:	Not reported
Total Project Size:	14
Size of Operation:	Not reported
Site Direction:	Not reported
Start Date:	2019-06-17 00:00:00
End Date:	2019-12-31 00:00:00
Date Applied:	2019-06-18 15:00:23
Date Submit:	2019-06-18 15:00:23
Non Stormwater Discharges:	Not reported
Closest Receiving Water:	Not reported
MS4 Potential:	Not reported
MS4 Owner:	Not reported
SWPPP Location:	Not reported
SWPPP Contact Name:	Jarod Johnson
SWPPP Contact Phone:	2144333102
SWPPP Contact Email:	jjohnson@enviroserve.com
Within Quarter Mile:	Not reported
Within Half Mile:	Not reported
Signer Name:	Not reported
Signer Business Name:	Not reported
Signer Address:	Not reported
Signer Phone:	Not reported
Latitude:	33.252955
Longitude:	-111.634264

61
SE
1/2-1
0.542 mi.
2862 ft.

TRW AUTOMOTIVE SYSTEMS
11202 E GERMANN RD
MESA, AZ 85212

CORRACTS
RCRA-LQG
SPILLS
E MANIFEST
MANIFEST

1000135907
AZD982491649

Actual:
1434 ft.

Focus Map:
10

CORRACTS:

Name:	TRW AUTOMOTIVE SYSTEMS
Address:	11202 E GERMANN RD
Address 2:	Not reported
EPA ID:	AZD982491649
Area Name:	Entire Facility
Corrective Action:	REMEDY CONSTRUCTION-REMEDY CONSTRUCTED
Actual Date:	20220630
Air Release Indicator:	Not reported
Groundwater Release Indicator:	Not reported
Soil Release Indicator:	Not reported
Surface Water Release Indicator:	Not reported

Name:	TRW AUTOMOTIVE SYSTEMS
Address:	11202 E GERMANN RD
Address 2:	Not reported
EPA ID:	AZD982491649
Area Name:	Entire Facility
Corrective Action:	RELEASE TO GW CONTROLLED DETERMINATION-YES, APPLICABLE AS OF THIS DATE
Actual Date:	20220614
Air Release Indicator:	Not reported
Groundwater Release Indicator:	Not reported
Soil Release Indicator:	Not reported
Surface Water Release Indicator:	Not reported

Name:	TRW AUTOMOTIVE SYSTEMS
Address:	11202 E GERMANN RD
Address 2:	Not reported
EPA ID:	AZD982491649
Area Name:	Entire Facility
Corrective Action:	HUMAN EXPOSURES CONTROLLED DETERMINATION-YES, APPLICABLE AS OF THIS DATE
Actual Date:	20220614
Air Release Indicator:	Not reported
Groundwater Release Indicator:	Not reported
Soil Release Indicator:	Not reported
Surface Water Release Indicator:	Not reported

RCRA Listings:

Date Form Received by Agency:	20240827
Handler Name:	Trw Automotive Systems
Handler Address:	11202 E Germann Rd
Handler City,State,Zip:	MESA, AZ 85212
EPA ID:	AZD982491649
Contact Name:	KENNY VU
Contact Address:	11202 E GERMANN RD
Contact City,State,Zip:	MESA, AZ 85212
Contact Telephone:	480-722-4041
Contact Fax:	Not reported
Contact Email:	KENNY.VU@ZF.COM
Contact Title:	SENIOR EHS SPECIALIST
EPA Region:	09
Land Type:	Private

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Federal Waste Generator Description:		Large Quantity Generator
Non-Notifier:		Not reported
Biennial Report Cycle:		2023
Accessibility:		Not reported
Active Site Indicator:		Handler Activities, Corrective Action Activities
State District Owner:		Not reported
State District:		Not reported
Mailing Address:		11202 E GERMANN RD
Mailing City,State,Zip:		MESA, AZ 85212
Owner Name:	Trw Vehicle Safety Systems Inc	
Owner Type:		Private
Operator Name:	Trw Automotive U.S. Llc	
Operator Type:		Private
Short-Term Generator Activity:		No
Importer Activity:		No
Mixed Waste Generator:		No
Transporter Activity:		No
Transfer Facility Activity:		No
Recycler Activity with Storage:		No
Small Quantity On-Site Burner Exemption:		No
Smelting Melting and Refining Furnace Exemption:		No
Underground Injection Control:		No
Off-Site Waste Receipt:		No
Universal Waste Indicator:		No
Universal Waste Destination Facility:		No
Federal Universal Waste:		No
Active Site State-Reg Handler:		---
Federal Facility Indicator:		Not reported
Hazardous Secondary Material Indicator:		N
Sub-Part K Indicator:		Not reported
2018 GPRA Permit Baseline:		Not on the Baseline
2018 GPRA Renewals Baseline:		Not on the Baseline
202 GPRA Corrective Action Baseline:		Yes
Subject to Corrective Action Universe:		No
Non-TSDFs Where RCRA CA has Been Imposed Universe:		No
Corrective Action Priority Ranking:		No NCAPS ranking
Environmental Control Indicator:		No
Institutional Control Indicator:		No
Human Exposure Controls Indicator:		Yes
Groundwater Controls Indicator:		Yes
Significant Non-Complier Universe:		No
Unaddressed Significant Non-Complier Universe:		No
Addressed Significant Non-Complier Universe:		No
Significant Non-Complier With a Compliance Schedule Universe:		No
Financial Assurance Required:		Not reported
Handler Date of Last Change:		20240917
Recognized Trader-Importer:		No
Recognized Trader-Exporter:		No
Importer of Spent Lead Acid Batteries:		No
Exporter of Spent Lead Acid Batteries:		No
Recycler Activity Without Storage:		No
Manifest Broker:		No
Sub-Part P Indicator:		No

Biennial: List of Years

Year:	2023

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Click Here for Biennial Reporting System Data:
Year: 2021

Click Here for Biennial Reporting System Data:
Year: 2019

Click Here for Biennial Reporting System Data:
Year: 2017

Click Here for Biennial Reporting System Data:
Year: 2015

Click Here for Biennial Reporting System Data:
Year: 2013

Click Here for Biennial Reporting System Data:
Year: 2011

Click Here for Biennial Reporting System Data:
Year: 2009

Click Here for Biennial Reporting System Data:
Year: 2007

Click Here for Biennial Reporting System Data:
Year: 2005

Click Here for Biennial Reporting System Data:
Year: 2003

Click Here for Biennial Reporting System Data:
Year: 2001

Click Here for Biennial Reporting System Data:

Hazardous Waste Summary:
Waste Code: D001
Waste Description: Ignitable Waste

Waste Code: D002
Waste Description: Corrosive Waste

Waste Code: D003
Waste Description: Reactive Waste

Waste Code: D004
Waste Description: Arsenic

Waste Code: D005
Waste Description: Barium

Waste Code: D006
Waste Description: Cadmium

Waste Code: D007
Waste Description: Chromium

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Waste Code: D008
Waste Description: Lead

Waste Code: D009
Waste Description: Mercury

Waste Code: D011
Waste Description: Silver

Waste Code: D030
Waste Description: 2,4-Dinitrotoluene

Waste Code: D035
Waste Description: Methyl Ethyl Ketone

Waste Code: D043
Waste Description: Vinyl Chloride

Waste Code: F002
Waste Description: The Following Spent Halogenated Solvents: Tetrachloroethylene, Methylene Chloride, Trichloroethylene, 1,1,1-Trichloroethane, Chlorobenzene, 1,1,2-Trichloro-1,2,2-Trifluoroethane, Ortho-Dichlorobenzene, Trichlorofluoromethane, And 1,1,2, Trichloroethane; All Spent Solvent Mixtures/Blends Containing, Before Use, A Total Of Ten Percent Or More (By Volume) Of One Or More Of The Above Halogenated Solvents Or Those Solvents Listed In F001, F004, And F005; And Still Bottoms From The Recovery Of These Spent Solvents And Spent Solvent Mixtures.

Waste Code: F003
Waste Description: The Following Spent Nonhalogenated Solvents: Xylene, Acetone, Ethyl Acetate, Ethyl Benzene, Ethyl Ether, Methyl Isobutyl Ketone, N-Butyl Alcohol, Cyclohexanone, And Methanol; All Spent Solvent Mixtures/Blends Containing, Before Use, Only The Above Spent Nonhalogenated Solvents; And All Spent Solvent Mixtures/Blends Containing, Before Use, One Or More Of The Above Nonhalogenated Solvents, And A Total Of Ten Percent Or More (By Volume) Of One Or More Of Those Solvents Listed In F001, F002, F004, And F005; And Still Bottoms From The Recovery Of These Spent Solvents And Spent Solvent Mixtures.

Waste Code: F005
Waste Description: The Following Spent Nonhalogenated Solvents: Toluene, Methyl Ethyl Ketone, Carbon Disulfide, Isobutanol, Pyridine, Benzene, 2-Ethoxyethanol, And 2-Nitropropane; All Spent Solvent Mixtures/Blends Containing, Before Use, A Total Of Ten Percent Or More (By Volume) Of One Or More Of The Above Nonhalogenated Solvents Or Those Solvents Listed In F001, F002, Or F004; And Still Bottoms From The Recovery Of These Spent Solvents And Spent Solvent Mixtures.

Waste Code: K044
Waste Description: Wastewater Treatment Sludges From The Manufacturing And Processing Of Explosives.

Waste Code: K045
Waste Description: Spent Carbon From The Treatment Of Wastewater Containing Explosives.

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Waste Code: LABP
Waste Description: Lab Pack

Waste Code: P012
Waste Description: Arsenic Oxide As2o3 (Or) Arsenic Trioxide

Waste Code: P105
Waste Description: Sodium Azide

Waste Code: U003
Waste Description: Acetonitrile (I,T)

Waste Code: U012
Waste Description: Aniline (I,T) (Or) Benzenamine (I,T)

Waste Code: U044
Waste Description: Chloroform (Or) Methane, Trichloro-

Waste Code: U080
Waste Description: Methane, Dichloro- (Or) Methylene Chloride

Waste Code: U116
Waste Description: 2-Imidazolidinethione (Or) Ethylenethiourea

Waste Code: U122
Waste Description: Formaldehyde

Waste Code: U154
Waste Description: Methanol (I) (Or) Methyl Alcohol (I)

Waste Code: U162
Waste Description: 2-Propenoic Acid, 2-Methyl-, Methyl Ester (I,T) (Or) Methyl Methacrylate (I,T)

Waste Code: U213
Waste Description: Furan, Tetrahydro-(I) (Or) Tetrahydrofuran (I)

Handler - Owner Operator:
Owner/Operator Indicator: Owner
Owner/Operator Name: TRW VSSI
Legal Status: Private
Date Became Current: 19900411
Date Ended Current: Not reported
Owner/Operator Address: 11202 EAST GERMANN ROAD
Owner/Operator City,State,Zip: MESA, AZ 85212
Owner/Operator Telephone: 480-722-6215
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: TRW VSSI
Legal Status: Private
Date Became Current: 19900411
Date Ended Current: Not reported
Owner/Operator Address: Not reported
Owner/Operator City,State,Zip: Not reported

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: TRW VEHICLE SAFETY SYS
Legal Status: Private
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 4505 W 26 MILE RD
Owner/Operator City,State,Zip: WASHINGTON, MI 48094-9732
Owner/Operator Telephone: 810-786-7978
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: TRW VEHICLE SAFETY SYSTEMS
Legal Status: Private
Date Became Current: 19900411
Date Ended Current: Not reported
Owner/Operator Address: 11202 EAST GERMANN ROAD
Owner/Operator City,State,Zip: QUEEN CREEK, AZ 85242
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: TRW VSSI
Legal Status: Private
Date Became Current: 19900411
Date Ended Current: Not reported
Owner/Operator Address: 11202 EAST GERMANN ROAD
Owner/Operator City,State,Zip: MESA, AZ 85212
Owner/Operator Telephone: 480-722-6215
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: TRW AUTOMOTIVE U.S. LLC
Legal Status: Private
Date Became Current: 19900411
Date Ended Current: Not reported
Owner/Operator Address: 11202 E GERMANN RD
Owner/Operator City,State,Zip: MESA, AZ 85212
Owner/Operator Telephone: 480-722-4595
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: JOHN.BISHOPP@ZF.COM

Owner/Operator Indicator: Owner
Owner/Operator Name: TRW VEHICLE SAFETY SYSTEMS INC
Legal Status: Private
Date Became Current: 19900412

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Date Ended Current: Not reported
Owner/Operator Address: 12001 TECH CENTER DR
Owner/Operator City,State,Zip: LIVONIA, MI 48150
Owner/Operator Telephone: 480-722-4139
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: TRW AUTOMOTIVE U.S. LLC
Legal Status: Private
Date Became Current: 20190601
Date Ended Current: Not reported
Owner/Operator Address: 11202 E GERMANN RD
Owner/Operator City,State,Zip: MESA, AZ 85212
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: TRW, INC.
Legal Status: Private
Date Became Current: 19900412
Date Ended Current: Not reported
Owner/Operator Address: Not reported
Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: TRW VEHICLE SAFETY SYSTEMS, INC.
Legal Status: Private
Date Became Current: 19900411
Date Ended Current: Not reported
Owner/Operator Address: Not reported
Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: TRW VEHICLE SAFETY SYSTEMS
Legal Status: Private
Date Became Current: 19900411
Date Ended Current: Not reported
Owner/Operator Address: 11202 EAST GERMANN ROAD
Owner/Operator City,State,Zip: MESA, AZ 85212
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Owner/Operator Name: TRW VSSI
Legal Status: Private
Date Became Current: 19900411
Date Ended Current: Not reported
Owner/Operator Address: Not reported
Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: ZF PASSIVE SAFETY SYSTEMS US, INC
Legal Status: Private
Date Became Current: 20190601
Date Ended Current: Not reported
Owner/Operator Address: 11202 E GERMANN RD
Owner/Operator City,State,Zip: MESA, AZ 85212
Owner/Operator Telephone: 480-722-4595
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: JOHN.BISHOPP@ZF.COM

Owner/Operator Indicator: Operator
Owner/Operator Name: NOT REQUIRED
Legal Status: Private
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: NOT REQUIRED
Owner/Operator City,State,Zip: NOT REQUIRED, ME 99999
Owner/Operator Telephone: 415-555-1212
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: TRW AUTOMOTIVE U.S. LLC
Legal Status: Private
Date Became Current: 20190601
Date Ended Current: Not reported
Owner/Operator Address: 11202 E GERMANN RD
Owner/Operator City,State,Zip: MESA, AZ 85212
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: TRW VEHICLE SAFETY SYSTEMS
Legal Status: Municipal
Date Became Current: 19900411
Date Ended Current: Not reported
Owner/Operator Address: 11202 E GERMANN RD
Owner/Operator City,State,Zip: QUEEN CREEK, AZ 85242
Owner/Operator Telephone: 480-722-4139
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Owner
Owner/Operator Name: TRW VSSI	
Legal Status:	Private
Date Became Current:	19900411
Date Ended Current:	Not reported
Owner/Operator Address:	11202 EAST GERMANN ROAD
Owner/Operator City,State,Zip:	MESA, AZ 85212
Owner/Operator Telephone:	480-722-6215
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Operator
Owner/Operator Name: TRW AUTOMOTIVE U.S. LLC	
Legal Status:	Private
Date Became Current:	19900411
Date Ended Current:	Not reported
Owner/Operator Address:	11202 EAST GERMANN ROAD
Owner/Operator City,State,Zip:	MESA, AZ 85212
Owner/Operator Telephone:	480-722-4000
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Owner
Owner/Operator Name: TRW VEHICLE SAFETY SYSTEMS INC	
Legal Status:	Private
Date Became Current:	19900412
Date Ended Current:	Not reported
Owner/Operator Address:	12001 TECH CENTER DR
Owner/Operator City,State,Zip:	LIVONIA, MI 48150
Owner/Operator Telephone:	480-722-4139
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	SCOTT.DETWILER@ZF.COM
Owner/Operator Indicator:	Operator
Owner/Operator Name: TRW AUTOMOTIVE U.S. LLC	
Legal Status:	Private
Date Became Current:	20190601
Date Ended Current:	Not reported
Owner/Operator Address:	11202 E GERMANN RD
Owner/Operator City,State,Zip:	MESA, AZ 85212
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported
Owner/Operator Indicator:	Owner
Owner/Operator Name: TRW VEHICLE SAFETY SYSTEMS INC	
Legal Status:	Private
Date Became Current:	19900412
Date Ended Current:	Not reported
Owner/Operator Address:	12001 TECH CENTER DR
Owner/Operator City,State,Zip:	LIVONIA, MI 48150

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Owner/Operator Telephone: 480-722-4139
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: TRW VEHICLE SAFETY SYS
Legal Status: Private
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 4505 W 26 MILE RD
Owner/Operator City,State,Zip: WASHINGTON, MI 48094-9732
Owner/Operator Telephone: 810-786-7978
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: TRW VEHICLE SAFETY SYSTEMS
Legal Status: Municipal
Date Became Current: 19900411
Date Ended Current: Not reported
Owner/Operator Address: 11202 E GERMANN RD
Owner/Operator City,State,Zip: QUEEN CREEK, AZ 85242
Owner/Operator Telephone: 480-722-4139
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: TRW AUTOMOTIVE U.S. LLC
Legal Status: Private
Date Became Current: 20190601
Date Ended Current: Not reported
Owner/Operator Address: 11202 E GERMANN RD
Owner/Operator City,State,Zip: MESA, AZ 85212
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: TRW VEHICLE SAFETY SYSTEMS INC
Legal Status: Private
Date Became Current: 19900411
Date Ended Current: Not reported
Owner/Operator Address: 11202 EAST GERMANN ROAD
Owner/Operator City,State,Zip: MESA, AZ 85212
Owner/Operator Telephone: 480-722-4000
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: TRW VEHICLE SAFETY SYSTEMS INC
Legal Status: Private
Date Became Current: 19900412

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Date Ended Current: Not reported
Owner/Operator Address: 12001 TECH CENTER DR
Owner/Operator City,State,Zip: LIVONIA, MI 48150
Owner/Operator Telephone: 480-722-4139
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: TRW VEHICLE SAFETY SYSTEMS
Legal Status: Private
Date Became Current: 19900411
Date Ended Current: Not reported
Owner/Operator Address: Not reported
Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: TRW VSSI
Legal Status: Private
Date Became Current: 19900411
Date Ended Current: Not reported
Owner/Operator Address: 11202 E. GERMANN RD.
Owner/Operator City,State,Zip: MESA, AZ 85212
Owner/Operator Telephone: 480-722-4000
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: TRW VSSI
Legal Status: Private
Date Became Current: 19900411
Date Ended Current: Not reported
Owner/Operator Address: 11202 EAST GERMANN ROAD
Owner/Operator City,State,Zip: MESA, AZ 85212
Owner/Operator Telephone: 480-722-6215
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: TRW VEHICLE SAFETY SYSTEMS INC
Legal Status: Private
Date Became Current: 19900412
Date Ended Current: Not reported
Owner/Operator Address: 12001 TECH CENTER DR
Owner/Operator City,State,Zip: LIVONIA, MI 48150
Owner/Operator Telephone: 480-722-4139
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Owner/Operator Name: TRW AUTOMOTIVE U.S. LLC
Legal Status: Private
Date Became Current: 20190601
Date Ended Current: Not reported
Owner/Operator Address: 11202 E GERMANN RD
Owner/Operator City,State,Zip: MESA, AZ 85212
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: TRW VEHICLE SAFETY SYSTEMS INC
Legal Status: Private
Date Became Current: 19900412
Date Ended Current: Not reported
Owner/Operator Address: 12001 TECH CENTER DR
Owner/Operator City,State,Zip: LIVONIA, MI 48150
Owner/Operator Telephone: 480-722-4139
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: TRW VEHICLE SAFETY SYSTEMS, INC.
Legal Status: Private
Date Became Current: 19900411
Date Ended Current: Not reported
Owner/Operator Address: 11202 EAST GERMANN ROAD
Owner/Operator City,State,Zip: QUEEN CREEK, AZ 85242
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: TRW VEHICLE SAFETY SYSTEMS
Legal Status: Private
Date Became Current: 19900411
Date Ended Current: Not reported
Owner/Operator Address: Not reported
Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: TRW VSSI
Legal Status: Private
Date Became Current: 19900411
Date Ended Current: Not reported
Owner/Operator Address: 11202 E. GERMANN RD.
Owner/Operator City,State,Zip: MESA, AZ 85212
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: TRW AUTOMOTIVE U.S. LLC
Legal Status: Private
Date Became Current: 20190601
Date Ended Current: Not reported
Owner/Operator Address: 11202 E GERMANN RD
Owner/Operator City,State,Zip: MESA, AZ 85212
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: TRW AUTOMOTIVE U.S. LLC
Legal Status: Private
Date Became Current: 20190601
Date Ended Current: Not reported
Owner/Operator Address: 11202 E GERMANN RD
Owner/Operator City,State,Zip: MESA, AZ 85212
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: TRW VEHICLE SAFETY SYSTEMS INC
Legal Status: Private
Date Became Current: 19900412
Date Ended Current: Not reported
Owner/Operator Address: 12001 TECH CENTER DR
Owner/Operator City,State,Zip: LIVONIA, MI 48150
Owner/Operator Telephone: 480-722-4139
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: TRW VEHICLE SAFETY SYSTEMS INC
Legal Status: Private
Date Became Current: 19900412
Date Ended Current: Not reported
Owner/Operator Address: 12001 TECH CENTER DR
Owner/Operator City,State,Zip: LIVONIA, MI 48150
Owner/Operator Telephone: 480-722-4139
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: TRW VEHICLE SAFETY SYSTEMS MESA II
Legal Status: Municipal
Date Became Current: 19900411
Date Ended Current: Not reported
Owner/Operator Address: 11202 E GERMANN RD
Owner/Operator City,State,Zip: QUEEN CREEK, AZ 85242

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Owner/Operator Telephone: 480-722-4139
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: TRW, INC.
Legal Status: Private
Date Became Current: 19900412
Date Ended Current: Not reported
Owner/Operator Address: Not reported
Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:

Receive Date: 20100203
Handler Name: TRW VSSI, MESA OPERATIONS
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20120419
Handler Name: TRW VSSI, MESA OPERATIONS
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20140429
Handler Name: TRW VSSI, MESA OPERATIONS
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Receive Date: 20160401
Handler Name: TRW VSSI, MESA OPERATIONS
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20180226
Handler Name: TRW AUTOMOTIVE SYSTEMS
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

Receive Date: 20200227
Handler Name: TRW AUTOMOTIVE SYSTEMS
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

Receive Date: 20220228
Handler Name: TRW AUTOMOTIVE SYSTEMS
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

Receive Date: 20240827
Handler Name: TRW AUTOMOTIVE SYSTEMS
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

Receive Date: 19930111
Handler Name: TRW VEHICLE SAFETY SYSTEMS MESA I I
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20080220
Handler Name: TRW AUTOMOTIVE SYSTEMS
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20090213
Handler Name: TRW AUTOMOTIVE SYSTEMS
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20100225
Handler Name: TRW AUTOMOTIVE SYSTEMS
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20110218
Handler Name: TRW AUTOMOTIVE SYSTEMS
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20120228
Handler Name: TRW AUTOMOTIVE SYSTEMS
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20130214
Handler Name: TRW AUTOMOTIVE SYSTEMS
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20140212
Handler Name: TRW AUTOMOTIVE SYSTEMS
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20150310
Handler Name: TRW AUTOMOTIVE SYSTEMS

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20160511
Handler Name: TRW AUTOMOTIVE SYSTEMS
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20170208
Handler Name: TRW AUTOMOTIVE SYSTEMS
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20180223
Handler Name: TRW AUTOMOTIVE SYSTEMS
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20191007
Handler Name: TRW AUTOMOTIVE SYSTEMS
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20200205
Handler Name: TRW AUTOMOTIVE SYSTEMS
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20210104
Handler Name: TRW AUTOMOTIVE SYSTEMS
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

Receive Date: 19951214
Handler Name: TRW VEHICLE SAFETY SYSTEMS MESA I I
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20030415
Handler Name: TRW VEHICLE SAFETY SYSTEMS MESA I I
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Receive Date: 20190813
Handler Name: TRW AUTOMOTIVE SYSTEMS
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20220804
Handler Name: TRW AUTOMOTIVE SYSTEMS
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

Receive Date: 19920228
Handler Name: TRW V.S.S.I/MESA II
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 19940228
Handler Name: TRW SAFETY SYSTEMS MESA II
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 19960228
Handler Name: TRW
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 19980227
Handler Name: TRW
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20010215
Handler Name: TRW VSSI MESA II
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20020222
Handler Name: TRW VEHICLE SAFETY SYS., INC. MESA II
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20040226
Handler Name: TRW VEHICLE SAFETY SYSTEMS, INC.
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20060227
Handler Name: TRW VEHICLE SAFETY SYSTEMS, INC.
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20080227
Handler Name: TRW VEHICLE SAFETY SYSTEMS, INC
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 33639
NAICS Description: Other Motor Vehicle Parts Manufacturing

NAICS Code: 336390
NAICS Description: Other Motor Vehicle Parts Manufacturing

NAICS Code: 336399
NAICS Description: All Other Motor Vehicle Parts Manufacturing

NAICS Code: 336999
NAICS Description: All Other Transportation Equipment Manufacturing

Has the Facility Received Notices of Violations:
Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 20200817
Actual Return to Compliance Date: 20201009
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 022
Date of Enforcement Action: 20200828
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: BGRE
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 20200817
Actual Return to Compliance Date: 20201009
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 021
Date of Enforcement Action: 20200824
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: MBAR
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 20160114
Actual Return to Compliance Date: 20160122
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 19
Date of Enforcement Action: 20160114
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: ELEI
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 20160114
Actual Return to Compliance Date: 20160122
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 20160114
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: ELEI
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - General
Date Violation was Determined:	20111107
Actual Return to Compliance Date:	20111122
Return to Compliance Qualifier:	Documented
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	15
Date of Enforcement Action:	20111122
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	EDEL
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - General
Date Violation was Determined:	20111107
Actual Return to Compliance Date:	20111122
Return to Compliance Qualifier:	Documented
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	16
Date of Enforcement Action:	20111129
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: EDEL
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 20111107
Actual Return to Compliance Date: 20111122
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 17
Date of Enforcement Action: 20111214
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: EDEL
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - General
Date Violation was Determined:	20111107
Actual Return to Compliance Date:	20111122
Return to Compliance Qualifier:	Documented
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	18
Date of Enforcement Action:	20120125
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	EDEL
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - General
Date Violation was Determined:	20070124
Actual Return to Compliance Date:	20070413
Return to Compliance Qualifier:	Documented
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	001
Date of Enforcement Action:	20070330
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: JOLM
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 20070124
Actual Return to Compliance Date: 20070413
Return to Compliance Qualifier: Documented
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 20070302
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: JOLM
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - General
Date Violation was Determined:	20070124
Actual Return to Compliance Date:	20070413
Return to Compliance Qualifier:	Documented
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	001
Date of Enforcement Action:	20070205
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	JOLM
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: No
Agency Which Determined Violation: Not reported
Violation Short Description: Not reported
Date Violation was Determined: Not reported
Actual Return to Compliance Date: Not reported
Return to Compliance Qualifier: Not reported
Violation Responsible Agency: Not reported
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19980313
Actual Return to Compliance Date: 20010118
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 013
Date of Enforcement Action: 20010118
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL CIVIL JUDICIAL ACTION FOR COMPLIANCE AND/OR MONETARY PENALTY
Enforcement Responsible Person: R9STA
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Pre-transport
Date Violation was Determined:	19980313
Actual Return to Compliance Date:	20010118
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	013
Date of Enforcement Action:	20010118
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	FINAL CIVIL JUDICIAL ACTION FOR COMPLIANCE AND/OR MONETARY PENALTY
Enforcement Responsible Person:	R9STA
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19970829
Actual Return to Compliance Date: 20010118
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: 19990305
Enforcement Identifier: 006
Date of Enforcement Action: 19970903
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: R9STA
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - General
Date Violation was Determined:	19970829
Actual Return to Compliance Date:	20010118
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	19990305
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - General
Date Violation was Determined: 19970829
Actual Return to Compliance Date: 20010118
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 011
Date of Enforcement Action: 20010118
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL CIVIL JUDICIAL ACTION FOR COMPLIANCE AND/OR MONETARY PENALTY
Enforcement Responsible Person: R9STA
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	TSD - General
Date Violation was Determined:	19970829
Actual Return to Compliance Date:	20010118
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	19990305
Enforcement Identifier:	006
Date of Enforcement Action:	19970903
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	No
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	WRITTEN INFORMAL
Enforcement Responsible Person:	R9STA
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	TSD - General
Date Violation was Determined:	19970829
Actual Return to Compliance Date:	20010118
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	011
Date of Enforcement Action:	20010118
Enforcement Responsible Agency:	State
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL CIVIL JUDICIAL ACTION FOR COMPLIANCE AND/OR MONETARY PENALTY
Enforcement Responsible Person: R9STA
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD - General
Date Violation was Determined: 19970829
Actual Return to Compliance Date: 20010118
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: 19990305
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19950606
Actual Return to Compliance Date: 19961018
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	TSD - Closure/Post-Closure
Date Violation was Determined:	19951113
Actual Return to Compliance Date:	19961120
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	TSD - Financial Requirements
Date Violation was Determined:	19951113
Actual Return to Compliance Date:	19960314
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: Generators - Pre-transport
Date Violation was Determined: 19950606
Actual Return to Compliance Date: 19951213
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: Not reported
Date of Enforcement Action: Not reported
Enforcement Responsible Agency: Not reported
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	Yes
Agency Which Determined Violation:	State
Violation Short Description:	Generators - Pre-transport
Date Violation was Determined:	19950606
Actual Return to Compliance Date:	19961120
Return to Compliance Qualifier:	Observed
Violation Responsible Agency:	State
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported
Corrective Action Component:	Not reported
Appeal Initiated Date:	Not reported
Appeal Resolution Date:	Not reported
Disposition Status Date:	Not reported
Disposition Status:	Not reported
Disposition Status Description:	Not reported
Consent/Final Order Sequence Number:	Not reported
Consent/Final Order Respondent Name:	Not reported
Consent/Final Order Lead Agency:	Not reported
Enforcement Type:	Not reported
Enforcement Responsible Person:	Not reported
Enforcement Responsible Sub-Organization:	Not reported
SEP Sequence Number:	Not reported
SEP Expenditure Amount:	Not reported
SEP Scheduled Completion Date:	Not reported
SEP Actual Date:	Not reported
SEP Defaulted Date:	Not reported
SEP Type:	Not reported
SEP Type Description:	Not reported
Proposed Amount:	Not reported
Final Monetary Amount:	Not reported
Paid Amount:	Not reported
Final Count:	Not reported
Final Amount:	Not reported
Found Violation:	No
Agency Which Determined Violation:	Not reported
Violation Short Description:	Not reported
Date Violation was Determined:	Not reported
Actual Return to Compliance Date:	Not reported
Return to Compliance Qualifier:	Not reported
Violation Responsible Agency:	Not reported
Scheduled Compliance Date:	Not reported
Enforcement Identifier:	Not reported
Date of Enforcement Action:	Not reported
Enforcement Responsible Agency:	Not reported
Enforcement Docket Number:	Not reported
Enforcement Attorney:	Not reported

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Corrective Action Component: Not reported
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: Not reported
Enforcement Responsible Person: Not reported
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD - General
Date Violation was Determined: 19930330
Actual Return to Compliance Date: 19960306
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 001
Date of Enforcement Action: 19940511
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: WRITTEN INFORMAL
Enforcement Responsible Person: R9STA
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD - General
Date Violation was Determined: 19930330
Actual Return to Compliance Date: 19960306
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 004
Date of Enforcement Action: 19951113
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported
Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: INITIAL CIVIL JUDICIAL ACTION FOR COMPLIANCE AND/OR MONETARY PENALTY
Enforcement Responsible Person: R9STA
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: Not reported
Paid Amount: Not reported
Final Count: Not reported
Final Amount: Not reported

Found Violation: Yes
Agency Which Determined Violation: State
Violation Short Description: TSD - General
Date Violation was Determined: 19930330
Actual Return to Compliance Date: 19960306
Return to Compliance Qualifier: Observed
Violation Responsible Agency: State
Scheduled Compliance Date: Not reported
Enforcement Identifier: 003
Date of Enforcement Action: 19951113
Enforcement Responsible Agency: State
Enforcement Docket Number: Not reported
Enforcement Attorney: Not reported

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Corrective Action Component: No
Appeal Initiated Date: Not reported
Appeal Resolution Date: Not reported
Disposition Status Date: Not reported
Disposition Status: Not reported
Disposition Status Description: Not reported
Consent/Final Order Sequence Number: Not reported
Consent/Final Order Respondent Name: Not reported
Consent/Final Order Lead Agency: Not reported
Enforcement Type: FINAL CIVIL JUDICIAL ACTION FOR COMPLIANCE AND/OR MONETARY PENALTY
Enforcement Responsible Person: R9STA
Enforcement Responsible Sub-Organization: Not reported
SEP Sequence Number: Not reported
SEP Expenditure Amount: Not reported
SEP Scheduled Completion Date: Not reported
SEP Actual Date: Not reported
SEP Defaulted Date: Not reported
SEP Type: Not reported
SEP Type Description: Not reported
Proposed Amount: Not reported
Final Monetary Amount: 79500
Paid Amount: Not reported
Final Count: 1
Final Amount: 79500

Evaluation Action Summary:
Evaluation Date: 20230406
Evaluation Responsible Agency: State
Found Violation: No
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier: Not reported
Evaluation Responsible Sub-Organization: Not reported
Actual Return to Compliance Date: Not reported
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 20200817
Evaluation Responsible Agency: State
Found Violation: Yes
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier: Not reported
Evaluation Responsible Sub-Organization: Not reported
Actual Return to Compliance Date: 20201009
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 20200817
Evaluation Responsible Agency: State
Found Violation: Yes
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier: Not reported

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	20201009
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20160114
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	ELEI
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	20160122
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20160114
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	ELEI
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	20160122
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20111107
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	EDEL
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	20111122
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20111107
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	EDEL
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	20111122
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20111107
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	EDEL
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	20111122
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20111107
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	EDEL
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	20111122
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20070124
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	JOLM
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	20070413
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20070124
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	JOLM
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	20070413
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	20070124
Evaluation Responsible Agency:	State

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	JOLM
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	20070413
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20020610
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	R9STA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20010302
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	FOLLOW-UP INSPECTION
Evaluation Responsible Person Identifier:	R9STA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	20010118
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	NO LONGER A SIGNIFICANT NON-COMPLIER
Evaluation Responsible Person Identifier:	CHIBB
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19980313
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	SIGNIFICANT NON-COMPLIER
Evaluation Responsible Person Identifier:	Not reported
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19980313
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	FOCUSED COMPLIANCE INSPECTION
Evaluation Responsible Person Identifier:	R9STA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	20010118
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19980313
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	FOCUSED COMPLIANCE INSPECTION
Evaluation Responsible Person Identifier:	R9STA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	20010118
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19970903
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	SIGNIFICANT NON-COMPLIER
Evaluation Responsible Person Identifier:	R9STA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19970829
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	FOCUSED COMPLIANCE INSPECTION
Evaluation Responsible Person Identifier:	R9STA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	20010118
Scheduled Compliance Date:	19990305
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Evaluation Date:	19970829
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	FOCUSED COMPLIANCE INSPECTION
Evaluation Responsible Person Identifier:	R9STA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	20010118
Scheduled Compliance Date:	19990305
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19970829
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	SIGNIFICANT NON-COMPLIER
Evaluation Responsible Person Identifier:	Not reported
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19970829
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	FOCUSED COMPLIANCE INSPECTION
Evaluation Responsible Person Identifier:	R9STA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	20010118
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19970829
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	FOCUSED COMPLIANCE INSPECTION
Evaluation Responsible Person Identifier:	R9STA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	20010118
Scheduled Compliance Date:	19990305
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19970829
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	FOCUSED COMPLIANCE INSPECTION
Evaluation Responsible Person Identifier:	R9STA

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	20010118
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19970829
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	FOCUSED COMPLIANCE INSPECTION
Evaluation Responsible Person Identifier:	R9STA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	20010118
Scheduled Compliance Date:	19990305
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19961120
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	NO LONGER A SIGNIFICANT NON-COMPLIER
Evaluation Responsible Person Identifier:	Not reported
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19951113
Evaluation Responsible Agency:	State
Found Violation:	No
Evaluation Type Description:	SIGNIFICANT NON-COMPLIER
Evaluation Responsible Person Identifier:	Not reported
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported
Evaluation Date:	19950606
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	R9STA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19961018
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 19950606
Evaluation Responsible Agency: State
Found Violation: Yes
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier: R9STA
Evaluation Responsible Sub-Organization: Not reported
Actual Return to Compliance Date: 19961120
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 19950606
Evaluation Responsible Agency: State
Found Violation: Yes
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier: R9STA
Evaluation Responsible Sub-Organization: Not reported
Actual Return to Compliance Date: 19960314
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 19950606
Evaluation Responsible Agency: State
Found Violation: Yes
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier: R9STA
Evaluation Responsible Sub-Organization: Not reported
Actual Return to Compliance Date: 19951213
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 19950606
Evaluation Responsible Agency: State
Found Violation: Yes
Evaluation Type Description: COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier: R9STA
Evaluation Responsible Sub-Organization: Not reported
Actual Return to Compliance Date: 19961120
Scheduled Compliance Date: Not reported
Date of Request: Not reported
Date Response Received: Not reported
Request Agency: Not reported
Former Citation: Not reported

Evaluation Date: 19950606
Evaluation Responsible Agency: State

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Found Violation:	No
Evaluation Type Description:	SIGNIFICANT NON-COMPLIER
Evaluation Responsible Person Identifier:	Not reported
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	Not reported
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930330
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	R9STA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19960306
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930330
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	R9STA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19960306
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

Evaluation Date:	19930330
Evaluation Responsible Agency:	State
Found Violation:	Yes
Evaluation Type Description:	COMPLIANCE EVALUATION INSPECTION
Evaluation Responsible Person Identifier:	R9STA
Evaluation Responsible Sub-Organization:	Not reported
Actual Return to Compliance Date:	19960306
Scheduled Compliance Date:	Not reported
Date of Request:	Not reported
Date Response Received:	Not reported
Request Agency:	Not reported
Former Citation:	Not reported

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

SPILLS:

Name:	TRW VEHICLE SAFETY SYSTEMS
Address:	11202 E. GERMANN
City,State,Zip:	QUEEN CREEK, AZ
Referred to:	N/A
Property Mngmt:	Private
Fund Amount:	Pvt/Unk
Incident Date:	06/18/1996
Chemicals:	Sodium Azide
Quantity:	1200 lbs.
Response Date:	06/18/1996
Incident Number:	96-017-D
Referral Date:	N/A
Type:	Release
Structure:	Tote
Date Report:	06/18/1996
Status:	Not reported
Comments:	Not reported

Name:	TRW, INC.
Address:	11202 E. GERMANN
City,State,Zip:	QUEEN CREEK, AZ
Referred to:	N/A
Property Mngmt:	Private
Fund Amount:	Pvt/Unk
Incident Date:	03/07/1998
Chemicals:	Anhydrous Ammonia
Quantity:	643 lbs.
Response Date:	N/A
Incident Number:	98-115-E
Referral Date:	N/A
Type:	Release
Structure:	Tank
Date Report:	03/10/1998
Status:	Not reported
Comments:	Not reported

E MANIFEST:

Manifest Tracking Number:	000943124WAS
Last Updated Date:	20190823
Shipped Date:	20190729
Received Date:	20190802
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	AZD982491649
Generator Name:	Trw Automotive Systems
Generator Location Street Number:	Not reported
Generator Location Street 1:	11202 EAST GERMANN RD
Generator Location Street 2:	Not reported
Generator Location City:	MESA
Generator Location State:	AZ
Generator Location Zip:	85212-8678
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	11202 EAST GERMANN RD
Generator Mail Street 2:	Not reported

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Generator Mail City:	MESA
Generator Mail Zip:	85212-8678
Generator Mail State:	AZ
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	AZD081705402
Designated Facility Name:	Not reported
Designated Facility Mail Street Number:	284
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	284 EAST STOREY RD
Designated Facility Mail City:	COOLIDGE
Designated Facility Mail Zip:	85128-9205
Designated Facility Mail State:	AZ
Designated Facility Location Street Number:	284
Designated Facility Location Street 1:	284 EAST STOREY ROAD
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	COOLIDGE
Designated Facility Location Zip:	85128-9205
Designated Facility Location State:	AZ
Designated Facility Contact Company Name:	Heritage Environmental Services Llc
Manifest Residue Indicator:	N
Rejection Indicator:	N

Manifest Tracking Number:	000943144WAS
Last Updated Date:	20190823
Shipped Date:	20190801
Received Date:	20190806
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	AZD982491649
Generator Name:	Trw Automotive Systems
Generator Location Street Number:	Not reported
Generator Location Street 1:	11202 E GERMANN RD
Generator Location Street 2:	Not reported
Generator Location City:	MESA
Generator Location State:	AZ
Generator Location Zip:	85212
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	11202 E GERMANN RD
Generator Mail Street 2:	Not reported
Generator Mail City:	MESA
Generator Mail Zip:	85212
Generator Mail State:	AZ
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	AZD081705402
Designated Facility Name:	Not reported
Designated Facility Mail Street Number:	284
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	284 EAST STOREY RD
Designated Facility Mail City:	COOLIDGE
Designated Facility Mail Zip:	85128-9205
Designated Facility Mail State:	AZ
Designated Facility Location Street Number:	284
Designated Facility Location Street 1:	284 EAST STOREY ROAD
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	COOLIDGE
Designated Facility Location Zip:	85128-9205

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Designated Facility Location State:	AZ
Designated Facility Contact Company Name:	Heritage Environmental Services Llc
Manifest Residue Indicator:	N
Rejection Indicator:	N
Manifest Tracking Number:	000943374WAS
Last Updated Date:	20191101
Shipped Date:	20191008
Received Date:	20191011
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	AZD982491649
Generator Name:	Trw Automotive Systems
Generator Location Street Number:	Not reported
Generator Location Street 1:	11202 E GERMANN RD
Generator Location Street 2:	Not reported
Generator Location City:	MESA
Generator Location State:	AZ
Generator Location Zip:	85212
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	11202 E GERMANN RD
Generator Mail Street 2:	Not reported
Generator Mail City:	MESA
Generator Mail Zip:	85212
Generator Mail State:	AZ
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	AZD081705402
Designated Facility Name:	Not reported
Designated Facility Mail Street Number:	284
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	284 EAST STOREY RD
Designated Facility Mail City:	COOLIDGE
Designated Facility Mail Zip:	85128-9205
Designated Facility Mail State:	AZ
Designated Facility Location Street Number:	284
Designated Facility Location Street 1:	284 EAST STOREY ROAD
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	COOLIDGE
Designated Facility Location Zip:	85128-9205
Designated Facility Location State:	AZ
Designated Facility Contact Company Name:	Heritage Environmental Services Llc
Manifest Residue Indicator:	N
Rejection Indicator:	N
Manifest Tracking Number:	000943613WAS
Last Updated Date:	20200127
Shipped Date:	20191218
Received Date:	20200116
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	AZD982491649
Generator Name:	Trw Automotive Systems
Generator Location Street Number:	Not reported
Generator Location Street 1:	11202 E GERMANN RD
Generator Location Street 2:	Not reported

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Generator Location City:	MESA
Generator Location State:	AZ
Generator Location Zip:	85212
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	11202 E GERMANN RD
Generator Mail Street 2:	Not reported
Generator Mail City:	MESA
Generator Mail Zip:	85212
Generator Mail State:	AZ
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	OHD980613541
Designated Facility Name:	Not reported
Designated Facility Mail Street Number:	Not reported
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	1250 SAINT GEORGE ST
Designated Facility Mail City:	EAST LIVERPOOL
Designated Facility Mail Zip:	43920
Designated Facility Mail State:	OH
Designated Facility Location Street Number:	Not reported
Designated Facility Location Street 1:	1250 SAINT GEORGE ST
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	EAST LIVERPOOL
Designated Facility Location Zip:	43920
Designated Facility Location State:	OH
Designated Facility Contact Company Name:	Heritage Thermal Services Inc
Manifest Residue Indicator:	N
Rejection Indicator:	N

Manifest Tracking Number:	000943614WAS
Last Updated Date:	20200117
Shipped Date:	20191218
Received Date:	20191221
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	AZD982491649
Generator Name:	Trw Automotive Systems
Generator Location Street Number:	Not reported
Generator Location Street 1:	11202 E GERMANN RD
Generator Location Street 2:	Not reported
Generator Location City:	MESA
Generator Location State:	AZ
Generator Location Zip:	85212
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	11202 E GERMANN RD
Generator Mail Street 2:	Not reported
Generator Mail City:	MESA
Generator Mail Zip:	85212
Generator Mail State:	AZ
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	AZD081705402
Designated Facility Name:	Not reported
Designated Facility Mail Street Number:	284
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	EAST STOREY RD
Designated Facility Mail City:	COOLIDGE
Designated Facility Mail Zip:	85128-9205

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Designated Facility Mail State:	AZ
Designated Facility Location Street Number:	284
Designated Facility Location Street 1:	EAST STOREY ROAD
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	COOLIDGE
Designated Facility Location Zip:	85128-9205
Designated Facility Location State:	AZ
Designated Facility Contact Company Name:	Heritage Environmental Services Llc
Manifest Residue Indicator:	N
Rejection Indicator:	N

Manifest Tracking Number:	000943672WAS
Last Updated Date:	20200210
Shipped Date:	20200114
Received Date:	20200120
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Service
Generator EPA ID:	AZD982491649
Generator Name:	Trw Automotive Systems
Generator Location Street Number:	Not reported
Generator Location Street 1:	11202 E GERMANN RD
Generator Location Street 2:	Not reported
Generator Location City:	MESA
Generator Location State:	AZ
Generator Location Zip:	85212
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	11202 E GERMANN RD
Generator Mail Street 2:	Not reported
Generator Mail City:	MESA
Generator Mail Zip:	85212
Generator Mail State:	AZ
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	AZD081705402
Designated Facility Name:	Not reported
Designated Facility Mail Street Number:	284
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	EAST STOREY RD
Designated Facility Mail City:	COOLIDGE
Designated Facility Mail Zip:	85128-9205
Designated Facility Mail State:	AZ
Designated Facility Location Street Number:	284
Designated Facility Location Street 1:	EAST STOREY ROAD
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	COOLIDGE
Designated Facility Location Zip:	85128-9205
Designated Facility Location State:	AZ
Designated Facility Contact Company Name:	Heritage Environmental Services Llc
Manifest Residue Indicator:	N
Rejection Indicator:	N

Manifest Tracking Number:	018681758FLE
Last Updated Date:	20231007
Shipped Date:	20230831
Received Date:	20230919
Manifest Status:	Signed
Submission Type:	DataImage5Copy

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Origin Type:	Service
Generator EPA ID:	AZD982491649
Generator Name:	Trw Safety Systems
Generator Location Street Number:	Not reported
Generator Location Street 1:	11202 EAST GERMANN ROAD
Generator Location Street 2:	Not reported
Generator Location City:	MESA
Generator Location State:	AZ
Generator Location Zip:	85212
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	11202 EAST GERMANN ROAD
Generator Mail Street 2:	Not reported
Generator Mail City:	MESA
Generator Mail Zip:	85212
Generator Mail State:	AZ
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	NVT330010000
Designated Facility Name:	Us Ecology Nevada, Inc.
Designated Facility Mail Street Number:	Not reported
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	HWY 95 11 MILES S. OF BEATTY
Designated Facility Mail City:	BEATTY
Designated Facility Mail Zip:	89003
Designated Facility Mail State:	NV
Designated Facility Location Street Number:	Not reported
Designated Facility Location Street 1:	HWY 95 11 MILES S. OF BEATTY
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	BEATTY
Designated Facility Location Zip:	89003
Designated Facility Location State:	NV
Designated Facility Contact Company Name:	Not reported
Manifest Residue Indicator:	N
Rejection Indicator:	N

Manifest Tracking Number:	017175350FLE
Last Updated Date:	20241014
Shipped Date:	20240917
Received Date:	20240919
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Web
Generator EPA ID:	AZD982491649
Generator Name:	Trw Automotive Systems
Generator Location Street Number:	Not reported
Generator Location Street 1:	11202 E GERMANN RD
Generator Location Street 2:	Not reported
Generator Location City:	MESA
Generator Location State:	AZ
Generator Location Zip:	85212
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	11202 E GERMANN RD
Generator Mail Street 2:	Not reported
Generator Mail City:	MESA
Generator Mail Zip:	85212
Generator Mail State:	AZ
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	MOD985798164

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Designated Facility Name:	Ebv Explosives Environmental Company
Designated Facility Mail Street Number:	Not reported
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	PO BOX 1386
Designated Facility Mail City:	JOPLIN
Designated Facility Mail Zip:	64802-1386
Designated Facility Mail State:	MO
Designated Facility Location Street Number:	Not reported
Designated Facility Location Street 1:	4174 CO RD 180
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	CARTHAGE
Designated Facility Location Zip:	64836-4002
Designated Facility Location State:	MO
Designated Facility Contact Company Name:	Not reported
Manifest Residue Indicator:	N
Rejection Indicator:	N

Manifest Tracking Number:	017175403FLE
Last Updated Date:	20250305
Shipped Date:	20241211
Received Date:	20241212
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Web
Generator EPA ID:	AZD982491649
Generator Name:	Trw Automotive Systems
Generator Location Street Number:	Not reported
Generator Location Street 1:	11202 E GERMANN RD
Generator Location Street 2:	Not reported
Generator Location City:	MESA
Generator Location State:	AZ
Generator Location Zip:	85212
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	11202 E GERMANN RD
Generator Mail Street 2:	Not reported
Generator Mail City:	MESA
Generator Mail Zip:	85212
Generator Mail State:	AZ
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	MOD985798164
Designated Facility Name:	Ebv Explosives Environmental Company
Designated Facility Mail Street Number:	Not reported
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	PO BOX 1386
Designated Facility Mail City:	JOPLIN
Designated Facility Mail Zip:	64802-1386
Designated Facility Mail State:	MO
Designated Facility Location Street Number:	Not reported
Designated Facility Location Street 1:	4174 CO RD 180
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	CARTHAGE
Designated Facility Location Zip:	64836-4002
Designated Facility Location State:	MO
Designated Facility Contact Company Name:	Not reported
Manifest Residue Indicator:	N
Rejection Indicator:	N

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Manifest Tracking Number:	017175440FLE
Last Updated Date:	20250306
Shipped Date:	20250225
Received Date:	20250226
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Web
Generator EPA ID:	AZD982491649
Generator Name:	Trw Automotive Systems
Generator Location Street Number:	Not reported
Generator Location Street 1:	11202 E GERMANN RD
Generator Location Street 2:	Not reported
Generator Location City:	MESA
Generator Location State:	AZ
Generator Location Zip:	85212
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	11202 E GERMANN RD
Generator Mail Street 2:	Not reported
Generator Mail City:	MESA
Generator Mail Zip:	85212
Generator Mail State:	AZ
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	MOD985798164
Designated Facility Name:	Ebv Explosives Environmental Company
Designated Facility Mail Street Number:	Not reported
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	PO BOX 1386
Designated Facility Mail City:	JOPLIN
Designated Facility Mail Zip:	64802-1386
Designated Facility Mail State:	MO
Designated Facility Location Street Number:	Not reported
Designated Facility Location Street 1:	4174 CO RD 180
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	CARTHAGE
Designated Facility Location Zip:	64836-4002
Designated Facility Location State:	MO
Designated Facility Contact Company Name:	Not reported
Manifest Residue Indicator:	N
Rejection Indicator:	N

Manifest Tracking Number:	017175483FLE
Last Updated Date:	20250620
Shipped Date:	20250520
Received Date:	20250521
Manifest Status:	Signed
Submission Type:	DataImage5Copy
Origin Type:	Web
Generator EPA ID:	AZD982491649
Generator Name:	Trw Automotive Systems
Generator Location Street Number:	Not reported
Generator Location Street 1:	11202 E GERMANN RD
Generator Location Street 2:	Not reported
Generator Location City:	MESA
Generator Location State:	AZ
Generator Location Zip:	85212
Generator Mail Street Number:	Not reported
Generator Mail Street 1:	11202 E GERMANN RD

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Generator Mail Street 2:	Not reported
Generator Mail City:	MESA
Generator Mail Zip:	85212
Generator Mail State:	AZ
Generator Contact Company Name:	Not reported
Designated Facility EPA ID:	MOD985798164
Designated Facility Name:	Arcwood Environmental Joplin Inc
Designated Facility Mail Street Number:	Not reported
Designated Facility Mail Street 1:	Not reported
Designated Facility Mail Street 2:	PO BOX 1386
Designated Facility Mail City:	JOPLIN
Designated Facility Mail Zip:	64802-1386
Designated Facility Mail State:	MO
Designated Facility Location Street Number:	Not reported
Designated Facility Location Street 1:	4174 CO RD 180
Designated Facility Location Street 2:	Not reported
Designated Facility Location City:	CARTHAGE
Designated Facility Location Zip:	64836-4002
Designated Facility Location State:	MO
Designated Facility Contact Company Name:	Not reported
Manifest Residue Indicator:	N
Rejection Indicator:	N

Transporter:

Manifest Tracking Number:	024076128JJK
Transporter Line Number:	1
Transporter EPA ID:	TXR000084869
Transporter Name:	Univar Solutions Usa The Woodlands

Manifest Tracking Number:	024076128JJK
Transporter Line Number:	2
Transporter EPA ID:	AZD982403586
Transporter Name:	Englund Equipment Co

Manifest Tracking Number:	024076128JJK
Transporter Line Number:	3
Transporter EPA ID:	TXR000084869
Transporter Name:	Univar Solutions Usa The Woodlands

Manifest Tracking Number:	024076128JJK
Transporter Line Number:	4
Transporter EPA ID:	KS0000336891
Transporter Name:	Savannah Transp Inc

Waste Line:

Manifest Tracking Number:	024076128JJK
Waste Line Number:	1
U.S. DOT Hazardous Indicator:	Y
U.S. DOT ID Number:	UN2924
U.S. DOT Description:	Un2924, Waste Flammable Liquid, Corrosive, N.O.S. (Ethanol, Hydrochloric Acid), 3 (8), Iii, Rq (Copper Dichloride), Erg 132, U148-0233, Metak Etchant Mixture Solution, Pci#Au1480233
Non-Hazardous Waste Description:	Not reported
Number of Containers:	1
Container Type Code:	DF
Container Type Description:	Fiberboard or plastic drums, barrels, kegs

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Waste Quantity:	72
Quantity Unit of Measure Code:	P
Quantity Unit of Measure Description:	Pounds
Waste Quantity, in Tons:	0.036
Acute Waste Quantity, in Tons:	0
Non-Acute Waste Quantity, in Tons:	0.036
Waste Quantity, in Kilograms:	32.65308
Acute Waste Quantity, in Kilograms:	0
Non-Acute Waste Quantity, in Kilorgrams:	32.65308
Management Method Code:	H141
Management Method Description:	STORAGE, BULKING AND/OR TRANSFER OFF SITE
Waste Residue Indicator:	N
Quantity Discrepancy Indicator:	N
Waste Type Discrepancy Indicator:	N
Waste Density:	Not reported
Waste Density Unit of Measure Code:	Not reported
Waste Density Unit of Measure Description:	Not reported
Form Code:	Not reported
Form Code Description:	Not reported
Source Code:	Not reported
Source Code Description:	Not reported
Waste Minimization Code:	Not reported
Waste Minimization Code Description:	Not reported
Consent Number:	Not reported
EPA Waste Indicator:	Y
Federal Waste Codes:	D001, D002
Quantity Haz Kg:	32.65308
Quantity Haz Tons:	0.036
Quantity Non Haz Kg:	0
Quantity Non Haz Tons:	0
State Waste Codes:	Not reported

Click this hyperlink while viewing on your computer to access
85 additional US EManifest: record(s) in the EDR Site Report.

AZ MANIFEST:

Name:	TRW AUTOMOTIVE U.S. LLC
Address:	11202 E GERMANN RD
City,State,Zip:	MESA, AZ 85212
Report Year:	2018
EPA Id:	AZD982491649
Business Type:	Not reported
Mailing Address:	Not reported
Mailing State:	Not reported
Contact Name:	Not reported
Contact Phone:	Not reported
Management Methods:	H141
Date Generator Signed The Manifest:	Not reported
Transporter EPA Id Number:	Not reported
Date Transporter Signed The Manifest:	Not reported
TSD EPA Id Number:	Not reported
Volume:	Not reported
Date TSD Signed Manifest:	Not reported
DOT Id Number:	UN3316
Quantity:	5
Waste Code 1:	D001, D002
Waste Code 2:	Not reported

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Waste Code 7:	Not reported
Waste Code 8:	Not reported
Waste Code 10:	Not reported
Waste Code 9:	Not reported
Waste Code 11:	Not reported
Waste Code 12:	Not reported
Waste Code 13:	Not reported

Name:	TRW AUTOMOTIVE U.S. LLC
Address:	11202 E GERMANN RD
City,State,Zip:	MESA, AZ 85212
Report Year:	2018
EPA Id:	AZD982491649
Business Type:	Not reported
Mailing Address:	Not reported
Mailing State:	Not reported
Contact Name:	Not reported
Contact Phone:	Not reported
Management Methods:	H141
Date Generator Signed The Manifest:	Not reported
Transporter EPA Id Number:	Not reported
Date Transporter Signed The Manifest:	Not reported
TSD EPA Id Number:	Not reported
Volume:	Not reported
Date TSD Signed Manifest:	Not reported
DOT Id Number:	UN1830
Quantity:	5
Waste Code 1:	D001, D002
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Waste Code 7:	Not reported
Waste Code 8:	Not reported
Waste Code 10:	Not reported
Waste Code 9:	Not reported
Waste Code 11:	Not reported
Waste Code 12:	Not reported
Waste Code 13:	Not reported

Name:	TRW AUTOMOTIVE U.S. LLC
Address:	11202 E GERMANN RD
City,State,Zip:	MESA, AZ 85212
Report Year:	2018
EPA Id:	AZD982491649
Business Type:	Not reported
Mailing Address:	Not reported
Mailing State:	Not reported
Contact Name:	Not reported
Contact Phone:	Not reported
Management Methods:	H141
Date Generator Signed The Manifest:	Not reported

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Transporter EPA Id Number:	Not reported
Date Transporter Signed The Manifest:	Not reported
TSD EPA Id Number:	Not reported
Volume:	Not reported
Date TSD Signed Manifest:	Not reported
DOT Id Number:	NA3082
Quantity:	7474
Waste Code 1:	K044
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Waste Code 7:	Not reported
Waste Code 8:	Not reported
Waste Code 10:	Not reported
Waste Code 9:	Not reported
Waste Code 11:	Not reported
Waste Code 12:	Not reported
Waste Code 13:	Not reported

Name:	TRW AUTOMOTIVE U.S. LLC
Address:	11202 E GERMANN RD
City,State,Zip:	MESA, AZ 85212
Report Year:	2018
EPA Id:	AZD982491649
Business Type:	Not reported
Mailing Address:	Not reported
Mailing State:	Not reported
Contact Name:	Not reported
Contact Phone:	Not reported
Management Methods:	H040
Date Generator Signed The Manifest:	Not reported
Transporter EPA Id Number:	Not reported
Date Transporter Signed The Manifest:	Not reported
TSD EPA Id Number:	Not reported
Volume:	Not reported
Date TSD Signed Manifest:	Not reported
DOT Id Number:	UN0431
Quantity:	64
Waste Code 1:	D003
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Waste Code 7:	Not reported
Waste Code 8:	Not reported
Waste Code 10:	Not reported
Waste Code 9:	Not reported
Waste Code 11:	Not reported
Waste Code 12:	Not reported
Waste Code 13:	Not reported

Name:	TRW AUTOMOTIVE U.S. LLC
Address:	11202 E GERMANN RD
City,State,Zip:	MESA, AZ 85212

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Report Year:	2018
EPA Id:	AZD982491649
Business Type:	Not reported
Mailing Address:	Not reported
Mailing State:	Not reported
Contact Name:	Not reported
Contact Phone:	Not reported
Management Methods:	H141
Date Generator Signed The Manifest:	Not reported
Transporter EPA Id Number:	Not reported
Date Transporter Signed The Manifest:	Not reported
TSD EPA Id Number:	Not reported
Volume:	Not reported
Date TSD Signed Manifest:	Not reported
DOT Id Number:	UN2924
Quantity:	59
Waste Code 1:	D001, D002
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Waste Code 7:	Not reported
Waste Code 8:	Not reported
Waste Code 10:	Not reported
Waste Code 9:	Not reported
Waste Code 11:	Not reported
Waste Code 12:	Not reported
Waste Code 13:	Not reported

Name:	TRW AUTOMOTIVE U.S. LLC
Address:	11202 E GERMANN RD
City,State,Zip:	MESA, AZ 85212
Report Year:	2018
EPA Id:	AZD982491649
Business Type:	Not reported
Mailing Address:	Not reported
Mailing State:	Not reported
Contact Name:	Not reported
Contact Phone:	Not reported
Management Methods:	H040
Date Generator Signed The Manifest:	Not reported
Transporter EPA Id Number:	Not reported
Date Transporter Signed The Manifest:	Not reported
TSD EPA Id Number:	Not reported
Volume:	Not reported
Date TSD Signed Manifest:	Not reported
DOT Id Number:	UN0454
Quantity:	606
Waste Code 1:	D003
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Waste Code 7:	Not reported
Waste Code 8:	Not reported

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Waste Code 10:	Not reported
Waste Code 9:	Not reported
Waste Code 11:	Not reported
Waste Code 12:	Not reported
Waste Code 13:	Not reported

Name:	TRW AUTOMOTIVE U.S. LLC
Address:	11202 E GERMANN RD
City,State,Zip:	MESA, AZ 85212
Report Year:	2018
EPA Id:	AZD982491649
Business Type:	Not reported
Mailing Address:	Not reported
Mailing State:	Not reported
Contact Name:	Not reported
Contact Phone:	Not reported
Management Methods:	H040
Date Generator Signed The Manifest:	Not reported
Transporter EPA Id Number:	Not reported
Date Transporter Signed The Manifest:	Not reported
TSD EPA Id Number:	Not reported
Volume:	Not reported
Date TSD Signed Manifest:	Not reported
DOT Id Number:	UN0478
Quantity:	4013
Waste Code 1:	D003
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Waste Code 7:	Not reported
Waste Code 8:	Not reported
Waste Code 10:	Not reported
Waste Code 9:	Not reported
Waste Code 11:	Not reported
Waste Code 12:	Not reported
Waste Code 13:	Not reported

Name:	TRW AUTOMOTIVE U.S. LLC
Address:	11202 E GERMANN RD
City,State,Zip:	MESA, AZ 85212
Report Year:	2018
EPA Id:	AZD982491649
Business Type:	Not reported
Mailing Address:	Not reported
Mailing State:	Not reported
Contact Name:	Not reported
Contact Phone:	Not reported
Management Methods:	H040
Date Generator Signed The Manifest:	Not reported
Transporter EPA Id Number:	Not reported
Date Transporter Signed The Manifest:	Not reported
TSD EPA Id Number:	Not reported
Volume:	Not reported
Date TSD Signed Manifest:	Not reported
DOT Id Number:	UN0429

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Quantity:	643
Waste Code 1:	Not reported
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Waste Code 7:	Not reported
Waste Code 8:	Not reported
Waste Code 10:	Not reported
Waste Code 9:	Not reported
Waste Code 11:	Not reported
Waste Code 12:	Not reported
Waste Code 13:	Not reported

Name:	TRW AUTOMOTIVE U.S. LLC
Address:	11202 E GERMANN RD
City,State,Zip:	MESA, AZ 85212-8678
Report Year:	2017
EPA Id:	AZD982491649
Business Type:	Not reported
Mailing Address:	Not reported
Mailing State:	Not reported
Contact Name:	Not reported
Contact Phone:	Not reported
Management Methods:	H141
Date Generator Signed The Manifest:	Not reported
Transporter EPA Id Number:	Not reported
Date Transporter Signed The Manifest:	Not reported
TSD EPA Id Number:	Not reported
Volume:	Not reported
Date TSD Signed Manifest:	Not reported
DOT Id Number:	UN1950
Quantity:	20
Waste Code 1:	D001
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Waste Code 7:	Not reported
Waste Code 8:	Not reported
Waste Code 10:	Not reported
Waste Code 9:	Not reported
Waste Code 11:	Not reported
Waste Code 12:	Not reported
Waste Code 13:	Not reported

Name:	TRW AUTOMOTIVE U.S. LLC
Address:	11202 E GERMANN RD
City,State,Zip:	MESA, AZ 85212-8678
Report Year:	2017
EPA Id:	AZD982491649
Business Type:	Not reported
Mailing Address:	Not reported
Mailing State:	Not reported
Contact Name:	Not reported

TRW AUTOMOTIVE SYSTEMS (Continued) **1000135907**

Contact Phone:	Not reported
Management Methods:	H040
Date Generator Signed The Manifest:	Not reported
Transporter EPA Id Number:	Not reported
Date Transporter Signed The Manifest:	Not reported
TSD EPA Id Number:	Not reported
Volume:	Not reported
Date TSD Signed Manifest:	Not reported
DOT Id Number:	UN0454
Quantity:	329
Waste Code 1:	D003
Waste Code 2:	Not reported
Waste Code 3:	Not reported
Waste Code 4:	Not reported
Waste Code 5:	Not reported
Waste Code 6:	Not reported
Waste Code 7:	Not reported
Waste Code 8:	Not reported
Waste Code 10:	Not reported
Waste Code 9:	Not reported
Waste Code 11:	Not reported
Waste Code 12:	Not reported
Waste Code 13:	Not reported

Click this hyperlink while viewing on your computer to access
113 additional AZ MANIFEST: record(s) in the EDR Site Report.

---

62 **FORMER SKEET RANGE** **UXO** **1024717553**
NW **N/A**
1/2-1 **MESA, AZ**
0.733 mi.
3870 ft.

Actual: **1338 ft.**
Focus Map: **1**

UXO:

DoD Component:	Air Force
Installation Name:	WILLIAMS
Name:	FORMER SKEET RANGE
Address:	Not reported
Address 2:	Not reported
City,State,Zip:	MESA, AZ
Site ID:	SR400
Site Type:	Small Arms Range
Latitude:	33.317453999999998
Longitude:	-111.65397299999999

---

63 **MUNITIONS BURIAL SITE** **UXO** **1024718685**
NNW **N/A**
1/2-1 **MESA, AZ**
0.909 mi.
4801 ft.

Actual: **1381 ft.**
Focus Map: **3**

UXO:

DoD Component:	Air Force
Installation Name:	WILLIAMS
Name:	MUNITIONS BURIAL SITE
Address:	Not reported

MUNITIONS BURIAL SITE (Continued) **1024718685**

Address 2:	Not reported
City,State,Zip:	MESA, AZ
Site ID:	XE402
Site Type:	Explosive Ordnance Disposal Area
Latitude:	33.304160000000003
Longitude:	-111.638571

Count: 87 records

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
GILBERT	S110143387	STRATLAND ESTATES	NEC OF HIGLEY RD & GERMANN	85297	DRYWELLS HIST
GILBERT	S111227273	VILLAGES @ VAL VISTA -PH 1	SWC VAL VISTA & GERMANN RD		DRYWELLS HIST
GILBERT	S109347767	202 BUSINESS PARK	NWC GERMANN RD & LINDSAY		DRYWELLS HIST
GILBERT	S108250603	MERCY MEDICAL CENTER ACCESS RD -PHASE 1	NEC VAL VISTA DR & GERMANN		DRYWELLS HIST
GILBERT	S113876170	VILLAGES AT VAL VISTA - PH 3	SWC VAL VISTA RD & GERMANN		DRYWELLS HIST
GILBERT	S105890699	THE ESTATES AT SPECTRUM	SWC GERMANN ST & QUARTZ ST		DRYWELLS HIST
GILBERT	S109132255	POWER RANCH-NEIGHBORHOOD 10(PARCELS A-F)	NWC GERMANN RD & RANCH HOUSE PKWY		DRYWELLS HIST
GILBERT	S110118548	TOWN OF GILBERT IMP DIST NO. 20	NEC VAL VISTA DR & GERMANN		DRYWELLS HIST
GILBERT	S109347768	GILBERT HIGH SCHOOL #5	NWC GERMANN RD & QUARTZ ST		DRYWELLS HIST
GILBERT	S106854391	TOWN OF GILBERT, PECOS RD IMPROVEMENTS	SOUTH PECOS RD , EAST RECKER	85297	DRYWELLS HIST
GILBERT	S106854343	PECOS RD IMPROVEMENTS	NORTH OF PECOS RD, EAST RWCD CANAL	85297	DRYWELLS HIST
GILBERT	S108932627	SEVILLE, PARCEL 20	WEST OF THE NWC POWER & RIGGS ROAD	85297	DRYWELLS HIST
GILBERT	S119025546	SAN TAN VILLAGE SHOPS A & B	NEC OF PECOS RD & MARKET ST	85295	DRYWELLS HIST
GILBERT	S108932213	HIGHLANDS AT SPECTRUM	W OF THE NWC PECOS RD & VAL VISTA DR		DRYWELLS HIST
GILBERT	S119025569	UNISON BANK	SWC PECOS RD & MARKET ST		DRYWELLS HIST
GILBERT	S109058611	CHANDLER HEIGHTS VILLAGE	NWC CHANDLER HEIGHTS & POWER RD		DRYWELLS HIST
GILBERT	S106718644	PECOS MANOR	NWC PECOS & RECKER RD		DRYWELLS HIST
GILBERT	S121272926	ARCADIA COMMONS	SWC POWER RD & GUADALUPE		DRYWELLS HIST
GILBERT	S109239183	LEGACY INN & SUITES HOTEL	NWC POWER RD & RANCH		DRYWELLS HIST
GILBERT	S109058764	SPECTRUM CENTRE - PHASE 1	NEC PECOS RD & VAL VISTA DR		DRYWELLS HIST
GILBERT	S106097918	SPECTRUM @ VAL VISTA PUMP STA	E. OF LINDSAY BETWEEN PECOS & GERMAN		DRYWELLS HIST
GILBERT	S108250640	POWER RANCH - NEIGHBORHOOD 8	NWC OF GERMANN & POWER RD		DRYWELLS HIST
GILBERT	S109132254	POWER RANCH NEIGHBORHOOD 9-PARCELS 1 & 2	SWC PECOS RD & POWER		DRYWELLS HIST
GILBERT	S105762585	VINTAGE RANCH	NWC LINDSAY & PECOS		DRYWELLS HIST
GILBERT	S105890478	ALLEN RANCH PARCELS 1,2,3, &4	NEC GILBERT & PECOS RD		DRYWELLS HIST
GILBERT	S114530069	SAN PRIVADA	NWC VAL VISTA DR & PECOS		DRYWELLS HIST
GILBERT	S105762760	PECOS PARK	NEC PECOS RD. & HIGLEY RD		DRYWELLS HIST
GILBERT	S108250711	THE OFFICES AT POWER RANCH	SWC POWER RD & LOS ALTOS		DRYWELLS HIST
GILBERT	S109239162	GILBERT & PECOS RETAIL CENTER	NEC GILBERT RD & PECOS RD		DRYWELLS HIST
GILBERT	S106598888	GILBERT GATEWAY TOWNE CENTER	NWC OF POWER RD & RAY RD		DRYWELLS HIST
GILBERT	S109347657	POWER RANCH NEIGHBORHOOD 11 A & B	SWC PECOS RD & RANCH HOUSE PKWY		DRYWELLS HIST
GILBERT	S118482197	RIVULON PHASE 1	NEC PECOS & GILBERT RD		DRYWELLS HIST
GILBERT	S106196630	SPUR INDUSTRIES	HIGLEY RD ON GERMANN RD.		SPILLS
GILBERT	1028172998	POWER ENTERPRISES	20220 S POWER RD	0	UST FINDER, UST FINDER RELEASE
MESA	S117346567	TOKA STICKS HOTEL & GOLF CLUB HOUSE	POWER RD & WILLIAMSFIELD DR		DRYWELLS HIST
MESA	S117884920	SRP APACHE SUBSTATION	NWC POWER RDE & ARBOR		DRYWELLS HIST
MESA	S120804085	EVO SWIM SCHOOL	3700 BLOCK OF SOUTH POWER RD		DRYWELLS HIST
MESA	S106718610	GILBERT ELEMENTARY SCHOOL #26	3600 S. MOUNTAIN RD	85212	DRYWELLS HIST
MESA	S108932656	SONORA PARKE	NORTH OF ADOBE ON ELLSWORTH ROAD		DRYWELLS HIST
MESA	S108931673	APACHE MANOR	ELLSWORTH RD, N. APACHE TRAIL		DRYWELLS HIST
MESA	S120804136	STRIKER SOCCER CLUB COMPLEX	NEC SOSSAMAN & WARNER RD	85212	DRYWELLS HIST
MESA	2019252559		PECOS RD		ERNS
MESA	S103809873	WQ-NORTHEAST MESA	UNDEF--NEAR FALCON FIELD		SHWS

Count: 87 records

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
MESA	S133069782	FORMER WILLIAMS AIR FORCE BASE FACILITY 46	S. SOSSAMAN RD.	85212	AZURITE, AUL
MESA	S133069762	FORMER WILLIAMS AIR FORCE BASE SITE SS021	EAST OF SOSSAMAN RD., NORTH OF E.PECOS RD	85212	AZURITE, AUL
MESA	S101092733	SRP (94-001-H)	SO AVE BETW CRISMON-SIGNAL BUT		SPILLS
MESA	S106202213	UNKNOWN	E OF MOUNTAIN RD, S OF ELLIOT		SPILLS
MESA	S104851121	BENNET INTERNATIONAL	SE CORNER ELLSWORTH/MCKELLIPS		SPILLS
MESA	S103773357	UNKNOWN	SOSSAMAN RD. SO. OF ELLIOT		SPILLS
PIMA COUNTY	M300002984	GRANITE CONSTRUCTION CO.	SWAN PIT		US MINES
QUEEN CREEK	S108931971	CORTINA -PARCELS 12 & 13	SWC GERMANN RD & SOSSMAN RD		DRYWELLS HIST
QUEEN CREEK	S112165672	AMERICAN LEADERSHIP ACADEMY	SWC HAWES & CHANDLER HEIGHTS		DRYWELLS HIST
QUEEN CREEK	S108932089	EMPEROR ESTATES	NWC QUEEN CREEK RD & HAWES	'	DRYWELLS HIST
QUEEN CREEK	S113876169	VICTORIA PAD - PARCELS 11 & 11A - PHASE 2	NEC HAWES RD & OCOTILLO		DRYWELLS HIST
QUEEN CREEK	S109058709	MONTELENA	NEC CHANDLER HEIGHTS & HAWES		DRYWELLS HIST
QUEEN CREEK	S106097936	THE PECANS	E OF HAWES, S SIDE OF CHANDLER HTS		DRYWELLS HIST
QUEEN CREEK	S108250733	VICTORIA - PHASE 2 PARCEL 1	NWC HAWES RD & OCOTILLO		DRYWELLS HIST
QUEEN CREEK	S109347671	PREVENTATIVE PEST CONTROL-EAST	SWC RITTENHOUSE RD & MARKETPLACE WEST		DRYWELLS HIST
QUEEN CREEK	S108932570	RITTENHOUSE RANCH ON THE CREEK	SWC RITTENHOUSE RD & CHANDLER HEIGHTS		DRYWELLS HIST
QUEEN CREEK	S108932876	VILLAGES AT QUEEN CREEK	SWC RITTENHOUSE RD & VILLAGE LOOP		DRYWELLS HIST
QUEEN CREEK	S117884823	CHANDLER 7-12 SCHOOL	2901 S. POWER RD		DRYWELLS HIST
QUEEN CREEK	S109058740	RETAIL CENTER	SWC CHANDLER HEIGHTS & POWER RD		DRYWELLS HIST
QUEEN CREEK	S106097775	CORTINA	NEC POWER RD & RYAN RD		DRYWELLS HIST
QUEEN CREEK	S109132252	POWER MARKETPLACE-GERMANN RD IMPROVEMEI	NEC GERMANN & POWER RD		DRYWELLS HIST
QUEEN CREEK	S113390425	CRISMON HEIGHTS	NEC OCOTILLO & CRISMON		DRYWELLS HIST
QUEEN CREEK	S108519150	NAUVOO STATION	NWC CRISMON RD & OCOTILLO		DRYWELLS HIST
QUEEN CREEK	S117576789	PRESERVE AT HASTINGS FARMS-PARCEL D;PH 2	W. CRISMON RD & CHANDLER HEIGHTS		DRYWELLS HIST
QUEEN CREEK	S109347790	CRISMON HEIGHTS	NEC CRISMON & OCOTILLO		DRYWELLS HIST
QUEEN CREEK	S118872103	POPEYE'S LOUISIANA KITCHEN	SWC OF OCOTILLO RD & ELLSWORTH LOOP	85142	DRYWELLS HIST
QUEEN CREEK	S119762274	HERITAGE SQUARE	SWC ELLSWORTH RD & HERITAGE LOOP	85142	DRYWELLS HIST
QUEEN CREEK	S118872132	TOWN OF QUEEN CREEK-HORSE SHOE PARK	NWC RIGGS & ELLSWORTH	85142	DRYWELLS HIST
QUEEN CREEK	S119025533	POPEYE'S LOUISIANA KITCHEN-QUEEN CREEK	SWC OCOTILLO RD & ELLSWORTH LOOP	85142	DRYWELLS HIST
QUEEN CREEK	S117576750	EXPRESS CARWASH	SWC ELLSWORTH LOOP RD & OCOTILLO		DRYWELLS HIST
QUEEN CREEK	S118482190	QUEEN CREEK DISTRICT	NEC MAYA RD & ELLSWORTH		DRYWELLS HIST
QUEEN CREEK	S108932206	HASTING FARMS - PARCELS A & B	NEC ELLSWORTH RD & CHANDLER HEIGHTS RD		DRYWELLS HIST
QUEEN CREEK	S110709811	HASTINGS FARM	NEC RIGGS & ELLSWORTH		DRYWELLS HIST
QUEEN CREEK	S109347794	THE VILLAGE SHOPS AT QUEEN CREEK	NEC ELLSWORTH RD & SIERRA PARK BLVD		DRYWELLS HIST
QUEEN CREEK	S109058630	CORNERSTONE @ QUEEN CREEK	NEC OCOTILLO RD & ELLSWORTH		DRYWELLS HIST
QUEEN CREEK	S109058591	BROADSTONE @ QUEEN CREEK	NEC ELLSWORTH & OCOTILLO RD		DRYWELLS HIST
QUEEN CREEK	S114530013	EMPEROR ESTATES	NEC SOSSAMAN RD & QUEEN CREEK	85142	DRYWELLS HIST
QUEEN CREEK	S108932554	REMINGTON HEIGHTS 1 & 2	NEC SOSSAMAN & QUEEN CREEK		DRYWELLS HIST
QUEEN CREEK	S108415635	LUCIA AT QUEEN CREEK	NEC SOSSAMAN RD & OCOTILLO		DRYWELLS HIST
QUEEN CREEK	S109239222	QUEEN CREEK MIDDLE SCHOOL GMP	NEC RIGGS RD & SOSSAMAN RD		DRYWELLS HIST
QUEEN CREEK	A100381002	DEVELOPMENT PROJECT	SWC ELLSWORTH & RITTENHOUSE		AST
QUEEN CREEK	S101314893	MARICOPA CO. SOLID WASTE	ELLSWORTH SO OF QUEEN CREEK AV		SPILLS
QUEEN CREEK	S106202531	UNKNOWN	HUNT HWY, SOSSAMAN & HAWES RD		SPILLS
QUEEN CREEK	1031741069	LG ENERGY SOLUTION ARIZONA, INC.	335 E. PECOS ROAD	85140	FINDS

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Lists of Federal NPL (Superfund) sites

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 09/29/2025
Date Data Arrived at EDR: 10/01/2025
Date Made Active in Reports: 10/28/2025
Number of Days to Update: 27

Source: EPA
Telephone: N/A
Last EDR Contact: 01/05/2026
Next Scheduled EDR Contact: 04/06/2026
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 09/29/2025
Date Data Arrived at EDR: 10/01/2025
Date Made Active in Reports: 10/28/2025
Number of Days to Update: 27

Source: EPA
Telephone: N/A
Last EDR Contact: 01/05/2026
Next Scheduled EDR Contact: 04/06/2026
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

Lists of Federal Delisted NPL sites

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 09/29/2025
Date Data Arrived at EDR: 10/01/2025
Date Made Active in Reports: 10/28/2025
Number of Days to Update: 27

Source: EPA
Telephone: N/A
Last EDR Contact: 01/05/2026
Next Scheduled EDR Contact: 04/06/2026
Data Release Frequency: Quarterly

Lists of Federal sites subject to CERCLA removals and CERCLA orders

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 09/22/2025
Date Data Arrived at EDR: 09/23/2025
Date Made Active in Reports: 11/18/2025
Number of Days to Update: 56

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 12/10/2025
Next Scheduled EDR Contact: 04/06/2026
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 09/29/2025
Date Data Arrived at EDR: 10/01/2025
Date Made Active in Reports: 10/28/2025
Number of Days to Update: 27

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 01/05/2026
Next Scheduled EDR Contact: 04/20/2026
Data Release Frequency: Quarterly

Lists of Federal CERCLA sites with NFRAP

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 09/29/2025
Date Data Arrived at EDR: 10/01/2025
Date Made Active in Reports: 10/28/2025
Number of Days to Update: 27

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 01/05/2026
Next Scheduled EDR Contact: 04/20/2026
Data Release Frequency: Quarterly

Lists of Federal RCRA facilities undergoing Corrective Action

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 11/30/2025
Date Data Arrived at EDR: 12/03/2025
Date Made Active in Reports: 12/10/2025
Number of Days to Update: 7

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 12/03/2025
Next Scheduled EDR Contact: 03/30/2026
Data Release Frequency: Quarterly

Lists of Federal RCRA TSD facilities

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 11/30/2025
Date Data Arrived at EDR: 12/03/2025
Date Made Active in Reports: 12/10/2025
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/03/2025
Next Scheduled EDR Contact: 03/30/2026
Data Release Frequency: Quarterly

Lists of Federal RCRA generators

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 11/30/2025
Date Data Arrived at EDR: 12/03/2025
Date Made Active in Reports: 12/10/2025
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/03/2025
Next Scheduled EDR Contact: 03/30/2026
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 11/30/2025
Date Data Arrived at EDR: 12/03/2025
Date Made Active in Reports: 12/10/2025
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/03/2025
Next Scheduled EDR Contact: 03/30/2026
Data Release Frequency: Quarterly

RCRA-VSQG: RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Very small quantity generators (VSQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 11/30/2025
Date Data Arrived at EDR: 12/03/2025
Date Made Active in Reports: 12/10/2025
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/03/2025
Next Scheduled EDR Contact: 03/30/2026
Data Release Frequency: Quarterly

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 03/11/2025
Date Data Arrived at EDR: 04/02/2025
Date Made Active in Reports: 06/24/2025
Number of Days to Update: 83

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 10/28/2025
Next Scheduled EDR Contact: 02/16/2026
Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 10/30/2025
Date Data Arrived at EDR: 11/11/2025
Date Made Active in Reports: 11/12/2025
Number of Days to Update: 1

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 11/11/2025
Next Scheduled EDR Contact: 03/02/2026
Data Release Frequency: Varies

US INST CONTROLS: Institutional Controls Sites List

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 10/30/2025
Date Data Arrived at EDR: 11/11/2025
Date Made Active in Reports: 11/12/2025
Number of Days to Update: 1

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 11/11/2025
Next Scheduled EDR Contact: 03/02/2026
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 09/23/2025
Date Data Arrived at EDR: 10/01/2025
Date Made Active in Reports: 12/10/2025
Number of Days to Update: 70

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 12/08/2025
Next Scheduled EDR Contact: 03/30/2026
Data Release Frequency: Quarterly

Lists of state- and tribal (Superfund) equivalent sites

AZ NPL: NPL Detail Listing

Detailed site information for NPL sites from the Arizona Department of Environmental Quality.

Date of Government Version: 03/31/2023
Date Data Arrived at EDR: 05/25/2023
Date Made Active in Reports: 08/14/2023
Number of Days to Update: 81

Source: Department of Environmental Quality
Telephone: 602-771-4609
Last EDR Contact: 11/04/2025
Next Scheduled EDR Contact: 02/23/2026
Data Release Frequency: Varies

WQARF: Water Quality Assurance Revolving Fund Sites

Sites which may have an actual or potential impact upon the waters of the state, cause by hazardous substances. The WQARF program provides matching funds to political subdivisions and other state agencies for clean-up activities.

Date of Government Version: 04/03/2024
Date Data Arrived at EDR: 05/02/2024
Date Made Active in Reports: 07/24/2024
Number of Days to Update: 83

Source: Department of Environmental Quality
Telephone: 602-771-4360
Last EDR Contact: 11/04/2025
Next Scheduled EDR Contact: 02/23/2026
Data Release Frequency: Annually

Lists of state- and tribal hazardous waste facilities

SPL: Superfund Program List

The list is representative of the sites and potential sites within the jurisdiction of the Superfund Program Section. It is comprised of the following elements: 1) Water Quality Assurance Revolving Fund Registry Sites; 2) Potential WQARF Registry sites; 3) NPL sites; and 4) Department of Defense sites requiring SPS oversight.

Date of Government Version: 08/25/2004
Date Data Arrived at EDR: 04/04/2018
Date Made Active in Reports: 05/17/2018
Number of Days to Update: 43

Source: Department of Environmental Quality
Telephone: 602-771-4360
Last EDR Contact: 01/14/2026
Next Scheduled EDR Contact: 05/04/2026
Data Release Frequency: No Update Planned

SHWS: ZipAcids List

The ACIDS list consists of more than 750 locations subject to investigation under the State Water Quality Assurance Revolving Fund (WQARF) and Federal CERCLA programs. The list is no longer updated by the state.

Date of Government Version: 01/03/2000
Date Data Arrived at EDR: 04/11/2000
Date Made Active in Reports: 05/16/2000
Number of Days to Update: 35

Source: Department of Environmental Quality
Telephone: 602-771-4360
Last EDR Contact: 11/26/2025
Next Scheduled EDR Contact: 03/23/2026
Data Release Frequency: No Update Planned

Lists of state and tribal landfills and solid waste disposal facilities

SWF/LF: Directory of Solid Waste Facilities

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 05/03/2025
Date Data Arrived at EDR: 06/25/2025
Date Made Active in Reports: 09/18/2025
Number of Days to Update: 85

Source: Department of Environmental Quality
Telephone: 602-771-2300
Last EDR Contact: 01/07/2026
Next Scheduled EDR Contact: 04/13/2026
Data Release Frequency: Varies

Lists of state and tribal leaking storage tanks

LUST: Leaking Underground Storage Tank Listing

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 12/12/2025
Date Data Arrived at EDR: 12/22/2025
Date Made Active in Reports: 12/29/2025
Number of Days to Update: 7

Source: Department of Environmental Quality
Telephone: 602-771-4345
Last EDR Contact: 12/22/2025
Next Scheduled EDR Contact: 04/13/2026
Data Release Frequency: Semi-Annually

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land

A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 04/21/2025
Date Data Arrived at EDR: 07/10/2025
Date Made Active in Reports: 10/02/2025
Number of Days to Update: 84

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 12/11/2025
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 05/22/2025
Date Data Arrived at EDR: 07/10/2025
Date Made Active in Reports: 10/02/2025
Number of Days to Update: 84

Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 12/11/2025
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 04/21/2025
Date Data Arrived at EDR: 07/10/2025
Date Made Active in Reports: 10/02/2025
Number of Days to Update: 84

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 12/11/2025
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Varies

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land

Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 04/21/2025
Date Data Arrived at EDR: 07/10/2025
Date Made Active in Reports: 10/02/2025
Number of Days to Update: 84

Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 12/11/2025
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 04/21/2025
Date Data Arrived at EDR: 07/10/2025
Date Made Active in Reports: 10/02/2025
Number of Days to Update: 84

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 12/11/2025
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 05/27/2025
Date Data Arrived at EDR: 07/10/2025
Date Made Active in Reports: 10/02/2025
Number of Days to Update: 84
Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 11/21/2025
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 04/21/2025
Date Data Arrived at EDR: 07/10/2025
Date Made Active in Reports: 10/02/2025
Number of Days to Update: 84
Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 12/11/2025
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 05/22/2025
Date Data Arrived at EDR: 07/10/2025
Date Made Active in Reports: 10/02/2025
Number of Days to Update: 84
Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 12/11/2025
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Varies

Lists of state and tribal registered storage tanks

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 06/06/2025
Date Data Arrived at EDR: 08/26/2025
Date Made Active in Reports: 11/12/2025
Number of Days to Update: 78
Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 12/23/2025
Next Scheduled EDR Contact: 04/13/2026
Data Release Frequency: Varies

UST: Underground Storage Tank Listing
Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 12/12/2025
Date Data Arrived at EDR: 12/22/2025
Date Made Active in Reports: 12/29/2025
Number of Days to Update: 7
Source: Department of Environmental Quality
Telephone: 602-771-4345
Last EDR Contact: 12/22/2025
Next Scheduled EDR Contact: 04/13/2026
Data Release Frequency: Annually

AST 2: Aboveground Storage Tank Listing
A listing of aboveground storage tank site locations.

Date of Government Version: 06/26/2025
Date Data Arrived at EDR: 09/11/2025
Date Made Active in Reports: 12/08/2025
Number of Days to Update: 88
Source: Department of Environmental Quality
Telephone: 602-771-4380
Last EDR Contact: 11/24/2025
Next Scheduled EDR Contact: 03/16/2026
Data Release Frequency: Varies

AST: List of Aboveground Storage Tanks
Aboveground storage tanks that the Dept. of Building & Fire Safety have permitted.

Date of Government Version: 12/05/2019
Date Data Arrived at EDR: 12/06/2019
Date Made Active in Reports: 01/31/2020
Number of Days to Update: 56

Source: Department of Building & Fire Safety
Telephone: 602-364-1003
Last EDR Contact: 11/21/2025
Next Scheduled EDR Contact: 03/16/2026
Data Release Frequency: No Update Planned

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 04/21/2025
Date Data Arrived at EDR: 07/10/2025
Date Made Active in Reports: 10/02/2025
Number of Days to Update: 84

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 12/11/2025
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Varies

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 04/21/2025
Date Data Arrived at EDR: 07/10/2025
Date Made Active in Reports: 10/02/2025
Number of Days to Update: 84

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 12/11/2025
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 04/21/2025
Date Data Arrived at EDR: 07/10/2025
Date Made Active in Reports: 10/02/2025
Number of Days to Update: 84

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 12/11/2025
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 04/21/2025
Date Data Arrived at EDR: 07/10/2025
Date Made Active in Reports: 10/02/2025
Number of Days to Update: 84

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 12/11/2025
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 04/21/2025
Date Data Arrived at EDR: 07/10/2025
Date Made Active in Reports: 10/02/2025
Number of Days to Update: 84

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 12/11/2025
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 05/22/2025
Date Data Arrived at EDR: 07/10/2025
Date Made Active in Reports: 10/02/2025
Number of Days to Update: 84

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 12/11/2025
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Varies

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 05/22/2025
Date Data Arrived at EDR: 07/10/2025
Date Made Active in Reports: 10/02/2025
Number of Days to Update: 84

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 12/11/2025
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 05/27/2025
Date Data Arrived at EDR: 07/10/2025
Date Made Active in Reports: 10/02/2025
Number of Days to Update: 84

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 12/11/2025
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Varies

State and tribal institutional control / engineering control registries

AZURITE: Remediation and DEUR/VEMUR Tracking System

ADEQ maintains a repository listing sites remediated under programs administered by the department.

Date of Government Version: 11/06/2025
Date Data Arrived at EDR: 01/07/2026
Date Made Active in Reports: 01/08/2026
Number of Days to Update: 1

Source: Department of Environmental Quality
Telephone: 602-771-4397
Last EDR Contact: 12/01/2025
Next Scheduled EDR Contact: 03/23/2026
Data Release Frequency: Varies

AUL: DEUR Database

Activity and use limitations include both engineering controls and institutional controls. DEUR and VEMUR sites. DEUR: Declaration of Environmental Use Restriction. A restrictive land use covenant that is required when a property owner elects to use an institutional (i.e., administrative) control or engineering (i.e., physical) control as a means to meet remediation goals. The DEUR runs with and burdens the land, and requires maintenance of any institutional or engineering controls. VEMUR: Voluntary Environmental Mitigation Use Restriction. A restrictive land use covenant that, prior to July 18, 2000, was required when a property owner elected to remediate the property to non-residential uses. Effective July 18, 2000, the DEUR replaced the VEMUR as a restrictive use covenant.

Date of Government Version: 11/06/2025
Date Data Arrived at EDR: 01/07/2026
Date Made Active in Reports: 01/08/2026
Number of Days to Update: 1

Source: Department of Environmental Quality
Telephone: 602-771-4397
Last EDR Contact: 12/01/2025
Next Scheduled EDR Contact: 03/23/2026
Data Release Frequency: Varies

Lists of state and tribal voluntary cleanup sites

INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015
Date Data Arrived at EDR: 09/29/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 142

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 12/03/2025
Next Scheduled EDR Contact: 03/30/2026
Data Release Frequency: Varies

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng
A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27
Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 07/08/2021
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

VCP: Voluntary Remediation Program Sites
Sites involved in the Voluntary Remediation Program.

Date of Government Version: 07/08/2025
Date Data Arrived at EDR: 08/12/2025
Date Made Active in Reports: 10/31/2025
Number of Days to Update: 80
Source: Department of Environmental Quality
Telephone: 602-771-4411
Last EDR Contact: 12/09/2025
Next Scheduled EDR Contact: 04/06/2026
Data Release Frequency: Varies

Lists of state and tribal brownfield sites

BROWNFIELDS: Brownfields Tracking System
Information relating to Brownfields sites in Arizona.

Date of Government Version: 04/01/2025
Date Data Arrived at EDR: 08/14/2025
Date Made Active in Reports: 08/15/2025
Number of Days to Update: 1
Source: Department of Environmental Quality
Telephone: 602-771-4401
Last EDR Contact: 12/09/2025
Next Scheduled EDR Contact: 04/06/2026
Data Release Frequency: Varies

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites
Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 09/19/2025
Date Data Arrived at EDR: 10/01/2025
Date Made Active in Reports: 11/24/2025
Number of Days to Update: 54
Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 12/03/2025
Next Scheduled EDR Contact: 03/23/2026
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

SWTIRE: Solid Waste Tire Facilities
A waste tire "facility" means a solid waste facility at which waste tires are stored outdoors on any day.

Date of Government Version: 11/20/2024
Date Data Arrived at EDR: 11/22/2024
Date Made Active in Reports: 02/14/2025
Number of Days to Update: 84
Source: Department of Environmental Quality
Telephone: 602-771-4132
Last EDR Contact: 11/13/2024
Next Scheduled EDR Contact: 03/03/2025
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands
Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52
Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 10/15/2025
Next Scheduled EDR Contact: 02/02/2026
Data Release Frequency: Varies

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations
A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137
Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 01/07/2026
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: No Update Planned

ODI: Open Dump Inventory
An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39
Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land
A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 02/07/2024
Date Data Arrived at EDR: 11/13/2024
Date Made Active in Reports: 11/19/2024
Number of Days to Update: 6
Source: Department of Health & Human Serivces, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 01/14/2026
Next Scheduled EDR Contact: 05/04/2026
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register
A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 04/04/2025
Date Data Arrived at EDR: 06/02/2025
Date Made Active in Reports: 08/12/2025
Number of Days to Update: 71
Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 11/20/2025
Next Scheduled EDR Contact: 03/02/2026
Data Release Frequency: No Update Planned

CDL: Clandestine Drug Labs
A listing of drug lab seizures in Arizona.

Date of Government Version: 10/28/2019
Date Data Arrived at EDR: 10/30/2019
Date Made Active in Reports: 12/12/2019
Number of Days to Update: 43
Source: Board of Technical Registration
Telephone: 602-364-4931
Last EDR Contact: 12/03/2025
Next Scheduled EDR Contact: 03/30/2026
Data Release Frequency: Varies

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 04/04/2025
Date Data Arrived at EDR: 06/02/2025
Date Made Active in Reports: 08/12/2025
Number of Days to Update: 71

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 11/20/2025
Next Scheduled EDR Contact: 03/02/2026
Data Release Frequency: Quarterly

Local Land Records

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 09/29/2025
Date Data Arrived at EDR: 10/01/2025
Date Made Active in Reports: 10/28/2025
Number of Days to Update: 27

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 01/05/2026
Next Scheduled EDR Contact: 04/06/2026
Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 09/29/2025
Date Data Arrived at EDR: 10/01/2025
Date Made Active in Reports: 12/10/2025
Number of Days to Update: 70

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 12/08/2025
Next Scheduled EDR Contact: 03/30/2026
Data Release Frequency: Quarterly

SPILLS: Hazardous Material Logbook

Chemical spills and incidents referred to the Emergency Response Unit.

Date of Government Version: 08/24/2025
Date Data Arrived at EDR: 08/26/2025
Date Made Active in Reports: 11/14/2025
Number of Days to Update: 80

Source: Department of Environmental Quality
Telephone: 602-771-4153
Last EDR Contact: 11/11/2025
Next Scheduled EDR Contact: 03/02/2026
Data Release Frequency: No Update Planned

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 12/11/2001
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/11/2013
Number of Days to Update: 39

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 11/30/2025
Date Data Arrived at EDR: 12/03/2025
Date Made Active in Reports: 12/10/2025
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 12/03/2025
Next Scheduled EDR Contact: 03/30/2026
Data Release Frequency: Quarterly

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 10/22/2025
Date Data Arrived at EDR: 11/06/2025
Date Made Active in Reports: 01/12/2026
Number of Days to Update: 67

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 11/06/2025
Next Scheduled EDR Contact: 02/23/2026
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 06/07/2021
Date Data Arrived at EDR: 07/13/2021
Date Made Active in Reports: 03/09/2022
Number of Days to Update: 239

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 01/08/2026
Next Scheduled EDR Contact: 04/20/2026
Data Release Frequency: Varies

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/11/2018
Date Made Active in Reports: 11/06/2019
Number of Days to Update: 574

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 12/23/2025
Next Scheduled EDR Contact: 04/13/2026
Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 07/30/2021
Date Data Arrived at EDR: 02/03/2023
Date Made Active in Reports: 02/10/2023
Number of Days to Update: 7

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 11/03/2025
Next Scheduled EDR Contact: 02/16/2026
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 06/02/2025
Date Data Arrived at EDR: 06/03/2025
Date Made Active in Reports: 06/16/2025
Number of Days to Update: 13

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 12/08/2025
Next Scheduled EDR Contact: 03/30/2026
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA Watch List

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 10/22/2025
Next Scheduled EDR Contact: 02/09/2026
Data Release Frequency: No Update Planned

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 09/30/2017
Date Data Arrived at EDR: 05/08/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 73

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 10/30/2025
Next Scheduled EDR Contact: 02/09/2026
Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2020
Date Data Arrived at EDR: 06/14/2022
Date Made Active in Reports: 03/24/2023
Number of Days to Update: 283

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 12/11/2025
Next Scheduled EDR Contact: 03/23/2026
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2023
Date Data Arrived at EDR: 08/11/2025
Date Made Active in Reports: 11/10/2025
Number of Days to Update: 91

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 11/10/2025
Next Scheduled EDR Contact: 02/23/2026
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 10/13/2025
Date Data Arrived at EDR: 10/14/2025
Date Made Active in Reports: 01/07/2026
Number of Days to Update: 85

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 01/13/2026
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 10/30/2025
Date Data Arrived at EDR: 11/03/2025
Date Made Active in Reports: 11/18/2025
Number of Days to Update: 15

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 01/05/2026
Next Scheduled EDR Contact: 03/09/2026
Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 07/01/2025
Date Data Arrived at EDR: 07/29/2025
Date Made Active in Reports: 10/28/2025
Number of Days to Update: 91

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 01/08/2026
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

Date of Government Version: 06/26/2025
Date Data Arrived at EDR: 07/01/2025
Date Made Active in Reports: 07/29/2025
Number of Days to Update: 28

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 01/05/2026
Next Scheduled EDR Contact: 02/09/2026
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 08/12/2025
Date Data Arrived at EDR: 09/30/2025
Date Made Active in Reports: 11/24/2025
Number of Days to Update: 55

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 12/23/2025
Next Scheduled EDR Contact: 04/13/2026
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016
Date Data Arrived at EDR: 11/23/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 09/23/2025
Next Scheduled EDR Contact: 01/12/2026
Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 08/11/2025
Date Data Arrived at EDR: 08/12/2025
Date Made Active in Reports: 11/04/2025
Number of Days to Update: 84

Source: Nuclear Regulatory Commission
Telephone: 301-415-0717
Last EDR Contact: 01/08/2026
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Quarterly

COAL ASH DOE: Steam-Electric Plant Operation Data

A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2023
Date Data Arrived at EDR: 10/16/2024
Date Made Active in Reports: 01/14/2025
Number of Days to Update: 90

Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 11/19/2025
Next Scheduled EDR Contact: 03/09/2026
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List

A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 01/12/2017
Date Data Arrived at EDR: 03/05/2019
Date Made Active in Reports: 11/11/2019
Number of Days to Update: 251
Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 11/18/2025
Next Scheduled EDR Contact: 03/09/2026
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 09/13/2019
Date Data Arrived at EDR: 11/06/2019
Date Made Active in Reports: 02/10/2020
Number of Days to Update: 96
Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 10/30/2025
Next Scheduled EDR Contact: 02/09/2026
Data Release Frequency: Varies

RADINFO: Radiation Information Database
The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 07/01/2019
Date Data Arrived at EDR: 07/01/2019
Date Made Active in Reports: 09/23/2019
Number of Days to Update: 84
Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 12/09/2025
Next Scheduled EDR Contact: 04/06/2026
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing
A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing
A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data
Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 10/07/2025
Date Data Arrived at EDR: 10/20/2025
Date Made Active in Reports: 01/12/2026
Number of Days to Update: 84
Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 10/20/2025
Next Scheduled EDR Contact: 02/02/2026
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 06/30/2025
Date Data Arrived at EDR: 07/29/2025
Date Made Active in Reports: 10/28/2025
Number of Days to Update: 91

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 01/15/2026
Next Scheduled EDR Contact: 04/13/2026
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2023
Date Data Arrived at EDR: 02/19/2025
Date Made Active in Reports: 03/07/2025
Number of Days to Update: 16

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 12/08/2025
Next Scheduled EDR Contact: 03/30/2026
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 546

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 12/17/2025
Next Scheduled EDR Contact: 04/13/2026
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 03/03/2023
Date Data Arrived at EDR: 03/03/2023
Date Made Active in Reports: 06/09/2023
Number of Days to Update: 98

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 10/22/2025
Next Scheduled EDR Contact: 02/09/2026
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 05/15/2025
Date Data Arrived at EDR: 05/15/2025
Date Made Active in Reports: 07/29/2025
Number of Days to Update: 75

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 11/10/2025
Next Scheduled EDR Contact: 02/23/2026
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 09/29/2025
Date Data Arrived at EDR: 10/01/2025
Date Made Active in Reports: 10/28/2025
Number of Days to Update: 27

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 01/05/2026
Next Scheduled EDR Contact: 04/06/2026
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 08/08/2025
Date Data Arrived at EDR: 08/18/2025
Date Made Active in Reports: 11/12/2025
Number of Days to Update: 86

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 12/04/2025
Next Scheduled EDR Contact: 03/02/2026
Data Release Frequency: Semi-Annually

MINES VIOLATIONS: MSHA Violation Assessment Data

Mines violation and assessment information. Department of Labor, Mine Safety & Health Administration.

Date of Government Version: 01/01/2026
Date Data Arrived at EDR: 01/06/2026
Date Made Active in Reports: 01/07/2026
Number of Days to Update: 1

Source: DOL, Mine Safety & Health Admi
Telephone: 202-693-9424
Last EDR Contact: 01/06/2026
Next Scheduled EDR Contact: 03/02/2026
Data Release Frequency: Quarterly

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 04/08/2025
Date Data Arrived at EDR: 05/20/2025
Date Made Active in Reports: 08/12/2025
Number of Days to Update: 84

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 11/12/2025
Next Scheduled EDR Contact: 03/02/2026
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 11/20/2025
Next Scheduled EDR Contact: 03/02/2026
Data Release Frequency: Varies

ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 09/10/2025
Date Data Arrived at EDR: 09/10/2025
Date Made Active in Reports: 11/12/2025
Number of Days to Update: 63

Source: Department of Interior
Telephone: 202-208-2609
Last EDR Contact: 12/03/2025
Next Scheduled EDR Contact: 03/16/2026
Data Release Frequency: Quarterly

MINES MRDS: Mineral Resources Data System

Mineral Resources Data System

Date of Government Version: 06/04/2024
Date Data Arrived at EDR: 11/22/2024
Date Made Active in Reports: 02/18/2025
Number of Days to Update: 88

Source: USGS
Telephone: 703-648-6533
Last EDR Contact: 11/20/2025
Next Scheduled EDR Contact: 03/02/2026
Data Release Frequency: Varies

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 09/04/2025
Date Data Arrived at EDR: 10/01/2025
Date Made Active in Reports: 11/18/2025
Number of Days to Update: 48

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 11/19/2025
Next Scheduled EDR Contact: 03/09/2026
Data Release Frequency: Quarterly

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 09/20/2025
Date Data Arrived at EDR: 09/26/2025
Date Made Active in Reports: 11/24/2025
Number of Days to Update: 59

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 12/17/2025
Next Scheduled EDR Contact: 04/13/2026
Data Release Frequency: Quarterly

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 07/31/2025
Date Data Arrived at EDR: 08/14/2025
Date Made Active in Reports: 11/04/2025
Number of Days to Update: 82

Source: Department of Defense
Telephone: 703-704-1564
Last EDR Contact: 01/05/2026
Next Scheduled EDR Contact: 04/20/2026
Data Release Frequency: Varies

DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 05/06/2021
Date Data Arrived at EDR: 05/21/2021
Date Made Active in Reports: 08/11/2021
Number of Days to Update: 82

Source: Environmental Protection Agency
Telephone: 202-564-0527
Last EDR Contact: 11/11/2025
Next Scheduled EDR Contact: 03/02/2026
Data Release Frequency: Varies

FUELS PROGRAM: EPA Fuels Program Registered Listing

This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 11/06/2025
Date Data Arrived at EDR: 11/06/2025
Date Made Active in Reports: 01/12/2026
Number of Days to Update: 67

Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 11/06/2025
Next Scheduled EDR Contact: 02/23/2026
Data Release Frequency: Quarterly

PFAS NPL: Superfund Sites with PFAS Detections Information

EPA's Office of Land and Emergency Management and EPA Regional Offices maintain data describing what is known about site investigations, contamination, and remedial actions under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) where PFAS is present in the environment.

Date of Government Version: 12/17/2025
Date Data Arrived at EDR: 12/18/2025
Date Made Active in Reports: 12/23/2025
Number of Days to Update: 5

Source: Environmental Protection Agency
Telephone: 703-603-8895
Last EDR Contact: 12/18/2025
Next Scheduled EDR Contact: 04/13/2026
Data Release Frequency: Varies

PFAS FEDERAL SITES: Federal Sites PFAS Information

Several federal entities, such as the federal Superfund program, Department of Defense, National Aeronautics and Space Administration, Department of Transportation, and Department of Energy provided information for sites with known or suspected detections at federal facilities.

Date of Government Version: 12/17/2025
Date Data Arrived at EDR: 12/18/2025
Date Made Active in Reports: 12/23/2025
Number of Days to Update: 5

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 12/18/2025
Next Scheduled EDR Contact: 04/13/2026
Data Release Frequency: Varies

PFAS TSCA: PFAS Manufacture and Imports Information

EPA issued the Chemical Data Reporting (CDR) Rule under the Toxic Substances Control Act (TSCA) and requires chemical manufacturers and facilities that manufacture or import chemical substances to report data to EPA. EPA publishes non-confidential business information (non-CBI) and includes descriptive information about each site, corporate parent, production volume, other manufacturing information, and processing and use information.

Date of Government Version: 12/17/2025
Date Data Arrived at EDR: 12/18/2025
Date Made Active in Reports: 12/23/2025
Number of Days to Update: 5

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 12/18/2025
Next Scheduled EDR Contact: 04/13/2026
Data Release Frequency: Varies

PFAS TRIS: List of PFAS Added to the TRI

Section 7321 of the National Defense Authorization Act for Fiscal Year 2020 (NDAA) immediately added certain per- and polyfluoroalkyl substances (PFAS) to the list of chemicals covered by the Toxics Release Inventory (TRI) under Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA) and provided a framework for additional PFAS to be added to TRI on an annual basis.

Date of Government Version: 12/17/2025
Date Data Arrived at EDR: 12/18/2025
Date Made Active in Reports: 12/23/2025
Number of Days to Update: 5

Source: Environmental Protection Agency
Telephone: 202-566-0250
Last EDR Contact: 12/18/2025
Next Scheduled EDR Contact: 04/13/2026
Data Release Frequency: Varies

PFAS RCRA MANIFEST: PFAS Transfers Identified In the RCRA Database Listing

To work around the lack of PFAS waste codes in the RCRA database, EPA developed the PFAS Transfers dataset by mining e-Manifest records containing at least one of these common PFAS keywords: PFAS, PFOA, PFOS, PERFL, AFFF, GENX, GEN-X (plus the VT waste codes). These keywords were searched for in the following text fields: Manifest handling instructions (MANIFEST_HANDLING_INSTR), Non-hazardous waste description (NON_HAZ_WASTE_DESCRIPTION), DOT printed information (DOT_PRINTED_INFORMATION), Waste line handling instructions (WASTE_LINE_HANDLING_INSTR), Waste residue comments (WASTE_RESIDUE_COMMENTS).

Date of Government Version: 12/17/2025
Date Data Arrived at EDR: 12/18/2025
Date Made Active in Reports: 12/23/2025
Number of Days to Update: 5

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 12/18/2025
Next Scheduled EDR Contact: 04/13/2026
Data Release Frequency: Varies

PFAS ATSDR: PFAS Contamination Site Location Listing

PFAS contamination site locations from the Department of Health & Human Services, Center for Disease Control & Prevention. ATSDR is involved at a number of PFAS-related sites, either directly or through assisting state and federal partners. As of now, most sites are related to drinking water contamination connected with PFAS production facilities or fire training areas where aqueous film-forming firefighting foam (AFFF) was regularly used.

Date of Government Version: 11/12/2024
Date Data Arrived at EDR: 07/21/2025
Date Made Active in Reports: 10/13/2025
Number of Days to Update: 84

Source: Department of Health & Human Services
Telephone: 202-741-5770
Last EDR Contact: 01/14/2026
Next Scheduled EDR Contact: 05/04/2026
Data Release Frequency: Varies

PFAS WQP: Ambient Environmental Sampling for PFAS

The Water Quality Portal (WQP) is a part of a modernized repository storing ambient sampling data for all environmental media and tissue samples. A wide range of federal, state, tribal and local governments, academic and non-governmental organizations and individuals submit project details and sampling results to this public repository. The information is commonly used for research and assessments of environmental quality.

Date of Government Version: 12/17/2025
Date Data Arrived at EDR: 12/18/2025
Date Made Active in Reports: 01/07/2026
Number of Days to Update: 20

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 12/18/2025
Next Scheduled EDR Contact: 04/13/2026
Data Release Frequency: Varies

PFAS NPDES: Clean Water Act Discharge Monitoring Information

Any discharger of pollutants to waters of the United States from a point source must have a National Pollutant Discharge Elimination System (NPDES) permit. The process for obtaining limits involves the regulated entity (permittee) disclosing releases in a NPDES permit application and the permitting authority (typically the state but sometimes EPA) deciding whether to require monitoring or monitoring with limits. Caveats and Limitations: Less than half of states have required PFAS monitoring for at least one of their permittees and fewer states have established PFAS effluent limits for permittees. New rulemakings have been initiated that may increase the number of facilities monitoring for PFAS in the future.

Date of Government Version: 12/17/2025
Date Data Arrived at EDR: 12/19/2025
Date Made Active in Reports: 12/23/2025
Number of Days to Update: 4

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 12/19/2025
Next Scheduled EDR Contact: 04/13/2026
Data Release Frequency: Varies

PFAS PROJECT: NORTHEASTERN UNIVERSITY PFAS PROJECT

The PFAS Contamination Site Tracker records qualitative and quantitative data from each site in a chart, specifically examining discovery, contamination levels, government response, litigation, health impacts, media coverage, and community characteristics. All data presented in the chart were extracted from government websites, such as state health departments or the Environmental Protection Agency, and news articles.

Date of Government Version: 05/15/2024
Date Data Arrived at EDR: 03/06/2025
Date Made Active in Reports: 06/03/2025
Number of Days to Update: 89

Source: Social Science Environmental Health Research Institute
Telephone: N/A
Last EDR Contact: 11/25/2025
Next Scheduled EDR Contact: 03/16/2026
Data Release Frequency: Varies

PFAS ECHO: Facilities in Industries that May Be Handling PFAS Listing

Regulators and the public have expressed interest in knowing which regulated entities may be using PFAS. EPA has developed a dataset from various sources that show which industries may be handling PFAS. Approximately 120,000 facilities subject to federal environmental programs have operated or currently operate in industry sectors with processes that may involve handling and/or release of PFAS.

Date of Government Version: 12/17/2025
Date Data Arrived at EDR: 12/18/2025
Date Made Active in Reports: 12/23/2025
Number of Days to Update: 5

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 12/18/2025
Next Scheduled EDR Contact: 04/13/2026
Data Release Frequency: Varies

PFAS ECHO FIRE TRAIN: Facilities in Industries that May Be Handling PFAS Listing

A list of fire training sites was added to the Industry Sectors dataset using a keyword search on the permitted facilitys name to identify sites where fire-fighting foam may have been used in training exercises. Additionally, you may view an example spreadsheet of the subset of fire training facility data, as well as the keywords used in selecting or deselecting a facility for the subset. as well as the keywords used in selecting or deselecting a facility for the subset. These keywords were tested to maximize accuracy in selecting facilities that may use fire-fighting foam in training exercises, however, due to the lack of a required reporting field in the data systems for designating fire training sites, this methodology may not identify all fire training sites or may potentially misidentify them.

Date of Government Version: 12/17/2025
Date Data Arrived at EDR: 12/18/2025
Date Made Active in Reports: 12/23/2025
Number of Days to Update: 5

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 12/18/2025
Next Scheduled EDR Contact: 04/13/2026
Data Release Frequency: Varies

PFAS PT 139 AIRPORT: All Certified Part 139 Airports PFAS Information Listing

Since July 1, 2006, all certified part 139 airports are required to have fire-fighting foam onsite that meet military specifications (MIL-F-24385) (14 CFR 139.317). To date, these military specification fire-fighting foams are fluorinated and have been historically used for training and extinguishing. The 2018 FAA Reauthorization Act has a provision stating that no later than October 2021, FAA shall not require the use of fluorinated AFFF. This provision does not prohibit the use of fluorinated AFFF at Part 139 civilian airports; it only prohibits FAA from mandating its use. The Federal Aviation Administration?s document AC 150/5210-6D - Aircraft Fire Extinguishing Agents provides guidance on Aircraft Fire Extinguishing Agents, which includes Aqueous Film Forming Foam (AFFF).

Date of Government Version: 12/17/2025
Date Data Arrived at EDR: 12/18/2025
Date Made Active in Reports: 12/23/2025
Number of Days to Update: 5

Source: Environmental Protection Agency
Telephone: 202-272-0167
Last EDR Contact: 12/18/2025
Next Scheduled EDR Contact: 04/13/2026
Data Release Frequency: Varies

AQUEOUS FOAM NRC: Aqueous Foam Related Incidents Listing

The National Response Center (NRC) serves as an emergency call center that fields initial reports for pollution and railroad incidents and forwards that information to appropriate federal/state agencies for response. The spreadsheets posted to the NRC website contain initial incident data that has not been validated or investigated by a federal/state response agency. Response center calls from 1990 to the most recent complete calendar year where there was indication of Aqueous Film Forming Foam (AFFF) usage are included in this dataset. NRC calls may reference AFFF usage in the ?Material Involved? or ?Incident Description? fields.

Date of Government Version: 09/25/2025
Date Data Arrived at EDR: 09/26/2025
Date Made Active in Reports: 11/24/2025
Number of Days to Update: 59

Source: Environmental Protection Agency
Telephone: 202-267-2675
Last EDR Contact: 12/18/2025
Next Scheduled EDR Contact: 04/13/2026
Data Release Frequency: Varies

PCS ENF: Enforcement data

No description is available for this data

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 02/05/2015
Date Made Active in Reports: 03/06/2015
Number of Days to Update: 29

Source: EPA
Telephone: 202-564-2497
Last EDR Contact: 09/24/2025
Next Scheduled EDR Contact: 01/12/2026
Data Release Frequency: Varies

PCS: Permit Compliance System

PCS is a computerized management information system that contains data on National Pollutant Discharge Elimination System (NPDES) permit holding facilities. PCS tracks the permit, compliance, and enforcement status of NPDES facilities.

Date of Government Version: 12/16/2016
Date Data Arrived at EDR: 01/06/2017
Date Made Active in Reports: 03/10/2017
Number of Days to Update: 63

Source: EPA, Office of Water
Telephone: 202-564-2496
Last EDR Contact: 09/24/2025
Next Scheduled EDR Contact: 01/12/2026
Data Release Frequency: No Update Planned

BIOSOLIDS: ICIS-NPDES Biosolids Facility Data

The data reflects compliance information about facilities in the biosolids program.

Date of Government Version: 09/27/2025
Date Data Arrived at EDR: 10/11/2025
Date Made Active in Reports: 01/07/2026
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 202-564-4700
Last EDR Contact: 01/15/2026
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Varies

UST FINDER RELEASE: UST Finder Releases Database

US EPA’s UST Finder data is a national composite of leaking underground storage tanks. This data contains information about, and locations of, leaking underground storage tanks. Data was collected from state sources and standardized into a national profile by EPA’s Office of Underground Storage Tanks, Office of Research and Development, and the Association of State and Territorial Solid Waste Management Officials.

Date of Government Version: 06/08/2023
Date Data Arrived at EDR: 10/31/2023
Date Made Active in Reports: 01/18/2024
Number of Days to Update: 79

Source: Environmental Protecton Agency
Telephone: 202-564-0394
Last EDR Contact: 11/06/2025
Next Scheduled EDR Contact: 02/16/2026
Data Release Frequency: Semi-Annually

UST FINDER: UST Finder Database

EPA developed UST Finder, a web map application containing a comprehensive, state-sourced national map of underground storage tank (UST) and leaking UST (LUST) data. It provides the attributes and locations of active and closed USTs, UST facilities, and LUST sites from states and from Tribal lands and US territories . UST Finder contains information about proximity of UST facilities and LUST sites to: surface and groundwater public drinking water protection areas; estimated number of private domestic wells and number of people living nearby; and flooding and wildfires.

Date of Government Version: 06/08/2023
Date Data Arrived at EDR: 10/04/2023
Date Made Active in Reports: 01/18/2024
Number of Days to Update: 106
Source: Environmental Protection Agency
Telephone: 202-564-0394
Last EDR Contact: 11/06/2025
Next Scheduled EDR Contact: 02/16/2026
Data Release Frequency: Varies

E MANIFEST: Hazardous Waste Electronic Manifest System

EPA established a national system for tracking hazardous waste shipments electronically. This system, known as ?e-Manifest,? will modernize the nation?s cradle-to-grave hazardous waste tracking process while saving valuable time, resources, and dollars for industry and states.

Date of Government Version: 11/30/2025
Date Data Arrived at EDR: 12/05/2025
Date Made Active in Reports: 12/19/2025
Number of Days to Update: 14
Source: Environmental Protection Agency
Telephone: 833-501-6826
Last EDR Contact: 12/05/2025
Next Scheduled EDR Contact: 04/30/2026
Data Release Frequency: Varies

PFAS: PFAS Contamination Site Listing

Arizona?s Public Water System Screening for Perfluorooctanoic Acid (PFOA) and Perfluorooctane Sulfonate (PFOS) Final Report. The purpose of the grant was to screen Public Water System (PWS) drinking water wells in Arizona potentially impacted by perfluorooctanoic acid (PFOA) and/or perfluorooctane sulfonate (PFOS) contamination.

Date of Government Version: 05/16/2025
Date Data Arrived at EDR: 06/10/2025
Date Made Active in Reports: 09/09/2025
Number of Days to Update: 91
Source: Department of Environmental Quality
Telephone: 602-364-3118
Last EDR Contact: 10/22/2025
Next Scheduled EDR Contact: 02/09/2026
Data Release Frequency: Varies

AQUEOUS FOAM: Aqueous Film Forming Foam Listing

When AFFF is used, discharged or released to the environment, containment and cleanup may be required to prevent future adverse health or environmental impacts.

Date of Government Version: 11/14/2020
Date Data Arrived at EDR: 03/22/2022
Date Made Active in Reports: 04/26/2022
Number of Days to Update: 35
Source: Department of Environmenatl Quality
Telephone: 602-771-6145
Last EDR Contact: 10/22/2025
Next Scheduled EDR Contact: 02/09/2026
Data Release Frequency: Varies

AIRS: Arizona Airs Database

Arizona major (has the potential to emit over 100 tons of criteria pollutant) and minor (below 100 tons) sources.

Date of Government Version: 10/14/2025
Date Data Arrived at EDR: 10/15/2025
Date Made Active in Reports: 01/06/2026
Number of Days to Update: 83
Source: Department of Environmental Quality
Telephone: 602-771-2344
Last EDR Contact: 12/09/2025
Next Scheduled EDR Contact: 04/06/2026
Data Release Frequency: Semi-Annually

AQUIFER: Aquifer Protection Permits List

Facilities with an Aquifer Protection permit (APP), that discharges either directly to an aquifer or to the land surface or the vadose zone in such a manner that there is a reasonable probability that the pollutant will reach an aquifer.

Date of Government Version: 05/01/2025
Date Data Arrived at EDR: 05/01/2025
Date Made Active in Reports: 07/14/2025
Number of Days to Update: 74
Source: Department of Environmental Quality
Telephone: 602-771-4623
Last EDR Contact: 10/28/2025
Next Scheduled EDR Contact: 02/16/2026
Data Release Frequency: Semi-Annually

DOD: Department of Defense Sites

These sites are federal facilities that are either being assessed for potential contamination, or have active remediation taking place on them.

Date of Government Version: 03/31/2023
Date Data Arrived at EDR: 05/17/2023
Date Made Active in Reports: 08/04/2023
Number of Days to Update: 79
Source: Department of Environmental Quality
Telephone: 602-771-4360
Last EDR Contact: 11/04/2025
Next Scheduled EDR Contact: 02/23/2026
Data Release Frequency: Annually

DRY WELLS: Drywell Registration
A drywell is a bored, drilled, or driven shaft or hole whose depth is greater than its width and is designed and constructed specifically for the disposal of storm water.

Date of Government Version: 05/13/2025
Date Data Arrived at EDR: 05/14/2025
Date Made Active in Reports: 08/04/2025
Number of Days to Update: 82
Source: Department of Environmental Quality
Telephone: 602-771-4686
Last EDR Contact: 11/04/2025
Next Scheduled EDR Contact: 02/23/2026
Data Release Frequency: Semi-Annually

DRYCLEANERS: Drycleaner Facility Listing
A listing of drycleaner facilities in Arizona.

Date of Government Version: 06/17/2019
Date Data Arrived at EDR: 07/20/2020
Date Made Active in Reports: 10/07/2020
Number of Days to Update: 79
Source: Department of Environmental Quality
Telephone: 602-771-4335
Last EDR Contact: 12/01/2025
Next Scheduled EDR Contact: 03/23/2026
Data Release Frequency: No Update Planned

EMAP: All Places of Interest Listing
A listing of all places of interest to the Department of Environmental Quality, including air, waste and water sites.

Date of Government Version: 09/04/2025
Date Data Arrived at EDR: 09/05/2025
Date Made Active in Reports: 12/03/2025
Number of Days to Update: 89
Source: Department of Environmental Quality
Telephone: 602-771-4380
Last EDR Contact: 11/17/2025
Next Scheduled EDR Contact: 03/09/2026
Data Release Frequency: Varies

ENF: Enforcement and Violation Listing
A listing of enforcement and violation cases in the state of Arizona.

Date of Government Version: 10/24/2025
Date Data Arrived at EDR: 10/28/2025
Date Made Active in Reports: 01/15/2026
Number of Days to Update: 79
Source: Department of Environmental Quality
Telephone: 602-771-4424
Last EDR Contact: 01/14/2026
Next Scheduled EDR Contact: 05/04/2026
Data Release Frequency: Varies

FIN ASSURANCE 1: Financial Assurance Information Listing
Financial assurance information for ust sites.

Date of Government Version: 10/01/2025
Date Data Arrived at EDR: 10/08/2025
Date Made Active in Reports: 01/05/2026
Number of Days to Update: 89
Source: Department of Environmental Quality
Telephone: 602-771-4258
Last EDR Contact: 12/03/2025
Next Scheduled EDR Contact: 03/30/2026
Data Release Frequency: Varies

AZ MANIFEST: Manifest Information
Hazardous waste manifest information

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 06/15/2021
Date Made Active in Reports: 09/09/2021
Number of Days to Update: 86
Source: Department of Environmental Quality
Telephone: N/A
Last EDR Contact: 11/26/2025
Next Scheduled EDR Contact: 03/23/2026
Data Release Frequency: Annually

NPDES: Notice of Intent Construction Stormwater General Permits Database
NPDES permit sites

Date of Government Version: 10/10/2025
Date Data Arrived at EDR: 10/14/2025
Date Made Active in Reports: 01/06/2026
Number of Days to Update: 84

Source: Department of Environmental Quality
Telephone: 602-771-4424
Last EDR Contact: 12/15/2025
Next Scheduled EDR Contact: 04/13/2026
Data Release Frequency: Varies

VAPOR: Vapor Intrusion
A listing of vapor intrusion site locations

Date of Government Version: 04/21/2021
Date Data Arrived at EDR: 04/22/2021
Date Made Active in Reports: 07/09/2021
Number of Days to Update: 78

Source: Department of Environmental Quality
Telephone: 602-771-4197
Last EDR Contact: 12/09/2025
Next Scheduled EDR Contact: 04/06/2026
Data Release Frequency: Varies

UIC: Underground Injection Control Wells
Underground injection control wells.

Date of Government Version: 09/30/2015
Date Data Arrived at EDR: 02/05/2016
Date Made Active in Reports: 04/05/2016
Number of Days to Update: 60

Source: Arizona Geological Survey
Telephone: 520-770-3500
Last EDR Contact: 01/14/2026
Next Scheduled EDR Contact: 05/04/2026
Data Release Frequency: Varies

WWFAC: Waste Water Treatment Facilities
Statewide list of waste water treatment facilities.

Date of Government Version: 07/09/2012
Date Data Arrived at EDR: 07/23/2012
Date Made Active in Reports: 09/06/2012
Number of Days to Update: 45

Source: Department of Environmental Quality
Telephone: 602-771-4623
Last EDR Contact: 01/07/2026
Next Scheduled EDR Contact: 04/27/2026
Data Release Frequency: Varies

DRYWELLS HIST: Historical Drywells Listing
Historical listing of registered drywells once maintained and made available by the Arizona Department of Environmental Quality (ADEQ) Water Quality Division. In April 2018, ADEQ stopped accepting paper forms and will no longer be updating this list.

Date of Government Version: 04/30/2018
Date Data Arrived at EDR: 09/26/2024
Date Made Active in Reports: 10/15/2024
Number of Days to Update: 19

Source: Department of Environmental Quality
Telephone: 602-771-4686
Last EDR Contact: 11/04/2025
Next Scheduled EDR Contact: 02/23/2026
Data Release Frequency: No Update Planned

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants
The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historical Auto Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA HWS: Recovered Government Archive State Hazardous Waste Facilities List

The EDR Recovered Government Archive State Hazardous Waste database provides a list of SHWS incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Environmental Quality in Arizona.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/02/2014
Number of Days to Update: 185

Source: Department of Environmental Quality
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Environmental Quality in Arizona.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/15/2014
Number of Days to Update: 198

Source: Department of Environmental Quality
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank
The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Environmental Quality in Arizona.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/02/2014
Number of Days to Update: 185
Source: Department of Environmental Quality
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

COUNTY RECORDS

PIMA COUNTY:

LF TUCSON: City of Tucson Landfills Listing
Location and area of landfills owned by the City of Tucson.

Date of Government Version: 02/12/2024
Date Data Arrived at EDR: 04/04/2024
Date Made Active in Reports: 06/24/2024
Number of Days to Update: 81
Source: Tucson Department of Environmental and General Services
Telephone: 520-791-3171
Last EDR Contact: 12/23/2025
Next Scheduled EDR Contact: 04/13/2026
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data
Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 07/30/2025
Date Data Arrived at EDR: 07/31/2025
Date Made Active in Reports: 10/16/2025
Number of Days to Update: 77
Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 11/03/2025
Next Scheduled EDR Contact: 02/16/2026
Data Release Frequency: No Update Planned

NY MANIFEST: Facility and Manifest Data
Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 12/31/2019
Date Data Arrived at EDR: 11/30/2023
Date Made Active in Reports: 12/01/2023
Number of Days to Update: 1
Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 10/23/2025
Next Scheduled EDR Contact: 02/02/2026
Data Release Frequency: Quarterly

RI MANIFEST: Manifest information
Hazardous waste manifest information

Date of Government Version: 12/31/2020
Date Data Arrived at EDR: 11/30/2021
Date Made Active in Reports: 02/18/2022
Number of Days to Update: 80
Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 11/05/2025
Next Scheduled EDR Contact: 02/23/2026
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 05/31/2018
Date Data Arrived at EDR: 06/19/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 76

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 11/21/2025
Next Scheduled EDR Contact: 03/16/2026
Data Release Frequency: Annually

Oil/Gas Pipelines
Source: Endeavor Business Media
Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by Endeavor Business Media. This information is provided on a best effort basis and Endeavor Business Media does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of Endeavor Business Media.

Electric Power Transmission Line Data
Source: Endeavor Business Media
This map includes information copyrighted by Endeavor Business Media. This information is provided on a best effort basis and Endeavor Business Media does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of Endeavor Business Media.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Child Care Facilities & Group Homes
Source: Department of Health Services
Telephone: 602-674-4220

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005, 2010 and 2015 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Riparian Vegetation Associated with Perennial Waters
Source: State Land Department
Telephone: 602-542-4094

STREET AND ADDRESS INFORMATION

© 2015 TomTom North America, Inc. All rights reserved. This material is proprietary and the subject of copyright protection and other intellectual property rights owned by or licensed to Tele Atlas North America, Inc. The use of this material is subject to the terms of a license agreement. You will be held liable for any unauthorized copying or disclosure of this material.

Appendix F1
Biological Evaluation

BIOLOGICAL EVALUATION

PECOS INDUSTRIAL RAIL ACCESS AND TRAIN EXTENSION (PIRATE) PROJECT

Docket No. FD 36501 – Union Pacific Railroad Company
Construction and Operation Exemption in Maricopa County, Ariz.

May 2023

Summary

The Union Pacific Railroad Company (UP) is seeking authority from the Surface Transportation Board to construct and operate approximately 6.0 miles of new rail line in Maricopa County, Arizona (Docket No. FD 36501) to transport raw materials and commercial freight. The proposed rail line, referred to as the Pecos Industrial Rail Access and Train Extension (PIRATE), would connect UP's Phoenix Subdivision main line (Phoenix Subdivision) to industrial properties south of the Phoenix-Mesa Gateway Airport via a single-track rail line. UP also proposes to construct and operate approximately 2.5 miles of planned support tracks along the Phoenix Subdivision between Power Road and Ellsworth Road. The Surface Transportation Board's Office of Environmental Analysis identified two reasonable alternatives that meet the purpose and need for PIRATE: Alternative 1 and Alternative 2.

No species listed, proposed, or candidates for listing under the Endangered Species Act are expected to be affected by Alternative 1, Alternative 2, or the planned Phoenix Subdivision support tracks. Because the Surface Transportation Board has concluded that no listed species or critical habitats are present in the action area, Section 7 consultation with the U.S. Fish and Wildlife Service is not required for this project.

Ground disturbance and vegetation removal could result in impacts to migratory birds, protected native plants, and invasive species. Mitigation measures are included to avoid or minimize those impacts. Because protected native plants would be affected, a native plant permit from the Arizona Department of Agriculture would be required. The identified impacts to biological resources from either action alternative and the planned Phoenix Subdivision support tracks are similar, though Alternative 2 is longer and would have a slightly larger impact. The No-Action Alternative is expected to have similar effects as Alternative 1 or Alternative 2 and the planned Phoenix Subdivision support tracks due to rapid urban development in the area. Table S-1 summarizes the types of impacts to biological resources that are expected for each alternative and the planned Phoenix Subdivision support tracks.

Table S-1. Comparison of Impacts by Alternative

Impact Type	No-Action Alternative	Alternative 1 and the Planned Phoenix Subdivision Support Tracks	Alternative 2 and the Planned Phoenix Subdivision Support Tracks
Impact to federally listed species or suitable habitat	None	None	None
Impacts to native vegetation providing habitat for migratory birds	Minimal associated with ongoing development	172 acres (minor impacts with mitigation)	174 acres (minor impacts with mitigation)
Impacts to burrowing owl habitat	Minimal associated with ongoing development	115 acres (minor impacts with mitigation)	122 acres (minor impacts with mitigation)
Impact to suitable habitat for eagles	None	None	None
Impacts to protected native plants	Minimal associated with ongoing development	Portions of 172 acres (minor impacts with mitigation)	Portions of 174 acres (minor impacts with mitigation)
Area of disturbance creating potential to spread invasive species	Minor to moderate effect associated with ongoing development	254 acres (minor impacts with mitigation)	260 acres (minor impacts with mitigation)

Contents

Summary i
Figures v
Tables vi
Appendices vii
Acronyms and Abbreviations viii
Chapter 1 Introduction 1-1
Chapter 2 Studies and Coordination 2-1
2.1 Study Methods 2-1
2.2 Agency Coordination 2-1
2.3 Regulatory Context 2-1
2.3.1 Endangered Species Act 2-1
2.3.2 Migratory Bird Treaty Act 2-2
2.3.3 Bald and Golden Eagle Protection Act 2-2
2.3.4 Arizona Native Plant Law 2-2
2.3.5 Invasive Species 2-3
Chapter 3 Affected Environment 3-1
3.1 Project Location 3-1
3.2 Special Status Species Evaluation 3-1
3.2.1 Federally Listed Species 3-1
3.2.2 Migratory Birds 3-3
3.2.3 Bald and Golden Eagles 3-3
3.2.4 Native Plants 3-3
3.2.5 Invasive Species 3-3
Chapter 4 Environmental Effect Assessment 4-1
4.1 Federally Listed Species 4-1
4.1.1 No-Action Alternative 4-1
4.1.2 Alternative 1 4-1
4.1.3 Alternative 2 4-1
4.2 Migratory Birds 4-1
4.2.1 No-Action Alternative 4-1
4.2.2 Alternative 1 4-1
4.2.3 Alternative 2 4-2
4.3 Bald and Golden Eagles 4-2
4.3.1 No-Action Alternative 4-2
4.3.2 Alternative 1 4-2
4.3.3 Alternative 2 4-2

4.4 Native Plants 4-3
4.4.1 No-Action Alternative 4-3
4.4.2 Alternative 1 4-3
4.4.3 Alternative 2 4-3
4.5 Invasive Species 4-3
4.5.1 No-Action Alternative 4-3
4.5.2 Alternative 1 4-4
4.5.3 Alternative 2 4-4
Chapter 5 Recommended Mitigation 5-1
5.1 Federally Listed Species 5-1
5.2 Migratory Birds 5-1
5.3 Protected Native Plants 5-2
5.4 Invasive Species 5-2
5.5 General 5-2
Chapter 6 References 6-1

Figures

Figure 1-1. Burrowing Owl Habitat in the Action Area (1 of 3) 3-4
Figure 1-2. Burrowing Owl Habitat in the Action Area (2 of 3) 3-5
Figure 1-3. Burrowing Owl Habitat in the Action Area (3 of 3) 3-6

Tables

Table 1-1. ESA-Listed Species Potentially Present in the Action Area 3-2

Appendices

Appendix A. U.S. Fish and Wildlife Service Species List
Appendix B. Arizona Game and Fish Department Special Status Species List
Appendix C. Images of Habitat in the Project Limits

Acronyms and Abbreviations

AGFD	Arizona Game and Fish Department
AZDA	Arizona Department of Agriculture
Board	Surface Transportation Board
C.F.R.	Code of Federal Regulations
EO	Executive Order
ESA	Endangered Species Act
IPaC	Information for Planning and Consultation
MBTA	Migratory Bird Treaty Act
OEA	Office of Environmental Analysis
Phoenix Subdivision	Phoenix Subdivision main line
PIRATE	Pecos Industrial Rail Access and Train Extension
UP	Union Pacific Railroad Company
U.S.C.	United States Code
USFWS	U.S. Fish and Wildlife Service

Chapter 1
Introduction

The Union Pacific Railroad Company (UP) is seeking authority from the Surface Transportation Board (Board) to construct and operate approximately 6.0 miles of new rail line in Maricopa County, Arizona (Docket No. FD 36501) for purposes of transporting raw materials and commercial freight. The proposed rail line, referred to as the Pecos Industrial Rail Access and Train Extension (PIRATE), would connect UP's Phoenix Subdivision main line (Phoenix Subdivision) to industrial properties south of the Phoenix-Mesa Gateway Airport via a single-track rail line. UP also proposes to construct and operate approximately 2.5 miles of planned support tracks along the Phoenix Subdivision between Power Road and Ellsworth Road.

The purpose of PIRATE is to meet the transportation and logistics needs of existing and future manufacturing businesses within the Pecos Advanced Manufacturing Zone and adjacent areas. The Board's Office of Environmental Analysis (OEA) identified two reasonable alternatives that meet the purpose and need for PIRATE. The two Action Alternatives (Alternative 1 and Alternative 2), the No-Action Alternative, and the planned Phoenix Subdivision support tracks are described in detail in Chapter 2 of the Draft Environmental Assessment being prepared for this project.

Throughout this Biological Evaluation, the term "project limits" is used to represent the project footprint, which includes UP's proposed new right-of-way and temporary construction easements for each alternative and UP's existing right-of-way along the Phoenix Subdivision. The term "action area" is defined as all areas to that would be affected directly or indirectly by the project and is not merely the immediate area involved in the action. The term "project vicinity" is used to denote a more expansive landscape context.

Chapter 2
Studies and Coordination

2.1 Study Methods

Federal and state special status species lists were obtained for the action area and are included in Section 3.2. A Jacobs Engineering Group Inc. (Jacobs) senior biologist conducted a reconnaissance-level biological resources survey of the action area on May 24, 2022. The survey was conducted mostly by car, stopping periodically to walk around and identify biological resources. The biologist recorded the dominant vegetation observed and determined whether suitable habitat was present for special status species and migratory birds.

2.2 Agency Coordination

OEA notified the U.S. Fish and Wildlife Service (USFWS) through the online Information for Planning and Consultation (IPaC) system, which is considered by USFWS as sufficient notification for the scoping process. Jacobs accessed the IPaC system on February 25, 2022, and obtained an Official Species List. An updated species list was obtained on September 15, 2022 (USFWS 2022; Consultation Code: 2022-0013010; Appendix A).

Jacobs accessed the Arizona Game and Fish Department (AGFD) Online Environmental Review Tool on July 19, 2022, to obtain a list of special status species potentially present in the project vicinity (AGFD 2022b; HGIS-16838; Appendix B). The online tool receipt included a standard statement with guidelines to minimize ground disturbance, address invasive species, comply with the Arizona Native Plant Law (Arizona Revised Statute R3-3-1102), and protect burrowing owls and other nesting birds under the Migratory Bird Treaty Act (MBTA).

During the agency scoping process, Jacobs contacted AGFD to obtain information or provide comments on the project. AGFD responded with a letter that reiterated the recommendations in the online tool's standard statement and expressed additional considerations, including minimizing impacts to the burrowing owl population and native plant species (AGFD 2022a). AGFD also provided recommendations in case the project extends into native desert habitat in Pinal County; however, construction and operation of this project would occur entirely within Maricopa County.

2.3 Regulatory Context

2.3.1 Endangered Species Act

The Endangered Species Act of 1973 (ESA; 16 U.S.C. §§ 1531–1544) was enacted to protect critically rare animal and plant species and their habitats. The ESA provides for the protection of species that are at risk of extinction throughout all, or a significant portion of, their range and for the protection of ecosystems on which they depend. Section 9 of the ESA prohibits the "import, export, or take of fish and wildlife and plants that are listed as threatened or endangered species." Generally, USFWS coordinates ESA activities for terrestrial and freshwater species, and the

National Marine Fisheries Service coordinates ESA activities for marine and anadromous species. No marine or anadromous species are present in Maricopa County; therefore, the National Marine Fisheries Service will not be involved with this project.

Section 7 of the ESA requires all federal agencies to ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of any species listed under the ESA or to result in the destruction or adverse modification of critical habitat. Federal agencies must consider the direct, indirect, and cumulative effects of a project on federally listed species and designated critical habitat. If the project may affect listed species or critical habitat, the federal agency must initiate consultation with USFWS, and USFWS determines whether the project will jeopardize the continued existence of listed species or adversely modify critical habitat. If the federal agency determines the project will have no effect to listed species or critical habitat, consultation with USFWS is not required.

2.3.2 Migratory Bird Treaty Act

The MBTA (16 U.S.C. §§ 703-712) was enacted in 1918 to assist the United States in fulfilling its obligations in the 1916 "Convention between the United States and Great Britain for the protection of Migratory Birds" 39 Stat. 1702 (Aug. 16, 1916). The goal of the MBTA was to stop the unregulated killing of migratory birds. Under the MBTA, "taking" of listed migratory birds is subject to authorization from the USFWS. "Take" is defined in USFWS's general wildlife regulations as "to pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to hunt, shoot, wound, kill, trap, capture, or collect" (50 C.F.R. § 10.12).

2.3.3 Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (16 U.S.C. §§ 668-668d), enacted in 1940, prohibits anyone, without a permit issued by the Secretary of the Interior, from taking bald or golden eagles, including their parts, nests, or eggs. The Bald and Golden Eagle Protection Act provides criminal penalties for persons who "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle … [or any golden eagle], alive or dead, or any part, nest, or egg thereof." The Bald and Golden Eagle Protection Act defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb" (16 U.S.C. § 668c).

2.3.4 Arizona Native Plant Law

The Arizona Native Plant Law (Arizona Revised Statutes Title 3, Chapter 3, Article 11) was enacted to protect native desert plants. Many native plants fall into one of four categories specially protected from theft, vandalism, or unnecessary destruction: highly safeguarded native plants, salvage restricted native plants, salvage assessed native plants, and harvest restricted native plants. A protected native plant may not be legally possessed, taken, or transported from the growing site without a native plant permit from the Arizona Department of Agriculture (AZDA).

The type of protected native plant permit and associated fee required to salvage or destroy a plant depends on how that plant is categorized. Salvage assessed and harvest restricted native plant permits are $35.00 each on an annual basis and permits for all other protected native plants are $7.00 each for a one-time use. Exemptions from permit fees are allowed under certain

circumstances, such as when the protected native plants are relocated on the private landowner's property; collected for scientific purposes; or donated to a scientific, educational, or charitable institution. In addition to permit fees, the permittee must conduct a native plant inventory and pay a per-plant fee to AZDA that ranges from $0.50 to $8.00 per plant, depending on the type of plant.

Private landowners must submit a notice of intent to AZDA prior to destroying or salvaging protected native plants to allow others to salvage the native plants. The form required to file the notice of intent to clear land is available on AZDA's website (https://agriculture.az.gov/plantsproduce/native-plants).

The notice must be submitted no more than 1 year prior to salvaging or destroying plants, and the minimum time frame required for the notice of intent depends on the acreage to be cleared, as follows:

- Less than 1 acre of land requires notification at least 20 days prior to clearing the land
- 1 acre to less than 40 acres requires notification at least 30 days prior to clearing the land
- 40 acres or more requires notification at least 60 days prior to clearing the land

2.3.5 Invasive Species

Executive Order (EO) 13112 (February 3, 1999), as amended by EO 13751 (December 8, 2016), directs federal agencies to take steps to prevent the introduction and spread of invasive species, and to support efforts to eradicate and control invasive species that are already established. An invasive species is defined under EO 13751 as a non-native organism whose introduction to a particular ecosystem causes or is likely to cause economic or environmental harm or harm to human, animal, or plant health.

Arizona State Law R3-4-245 categorizes noxious weed species as Class A, B, and C noxious weeds and provides definitions for each category based on known distribution within the state and priority for control. A species list is provided for each noxious weed category. Class A, B, and C noxious weeds are restricted from entering the state without appropriate authorization, and AZDA is empowered to quarantine and abate an area infested with a Class A or B noxious weed if it poses an imminent threat to agriculture or horticulture.

Chapter 3
Affected Environment

3.1 Project Location

The action area is located within the Lower Colorado River Valley subdivision of the Sonoran Desertscrub biotic community (Turner and Brown 1994) at an elevation range of 1,330 to 1,340 feet. Habitat within the project limits southeast from South Power Road to South Ellsworth Road and northeast from East Rittenhouse Road to South Sossaman Road is disturbed native vegetation. Dominant plants in this area includes native species, such as foothills palo verde (*Parkinsonia microphylla*), velvet mesquite (*Prosopis velutina*), creosotebush (*Larrea tridentata*), desert broom (*Baccharis sarothroides*), fourwing saltbush (*Atriplex canescens*), brittlebush (*Encelia farinosa*), triangle-leaf bursage (*Ambrosia deltoidea*), snakeweed (*Gutierrezia sarothrae*), and Indian rushpea (*Hoffmannseggia glauca*). The area east of South Sossaman Road contains mostly highly disturbed agricultural fields. Industrial properties are present east of South Signal Butte Road where vegetation is similar to the native vegetation described previously. While some are still active fields, including a citrus orchard, most of the fields were fallow at the time of the site survey on May 24, 2022. Dominant vegetation in these fallow fields is mostly non-native species, such as Russian thistle (*Kali tragus*), common sunflower (*Helianthus annuus*), salt cedar (*Tamarix* spp.) and alfalfa (*Medicago sativa*). Other species found scattered throughout the action area include wolfberry (*Lycium brevipes*), alkali sacaton (*Sporobolus airoides*), and jimmyweed (*Isocoma* spp.). Representative images of habitat types present throughout the project limits are included in Appendix C.

The action area is located within and adjacent to commercial, industrial, residential, and agricultural developments. See the Draft Environmental Assessment for a complete project description and figures of the project limits and surrounding area.

3.2 Special Status Species Evaluation

3.2.1 Federally Listed Species

Jacobs reviewed the IPaC and AGFD species lists to determine the potential for any special status species and/or critical habitat to be present within the action area. Table 1-1 includes the species listed or proposed for listing under the ESA that are potentially present in the project vicinity and provides the potential for each species to be present in the action area.

Table 1-1. ESA-Listed Species Potentially Present in the Action Area

Species Type	Species Common Name (Scientific Name)	ESA Status	Habitat Requirements	Potential to Occur in the Action Area
Bird	California least tern (*Sterna antillarum browni*)	Listed Endangered	Open, bare or sparsely vegetated sand, sandbars, gravel pits, or exposed flats along shorelines of inland rivers, lakes, reservoirs, or drainage systems below 2,000 feet.	None. No suitable habitat within the action area. Lack of sandy beaches or dunes to support individual or breeding terns.
Bird	Yellow-billed cuckoo (*Coccyzus americanus*)	Listed Threatened	Uses large, contiguous patches of multilayered riparian habitat, such as cottonwood-willow gallery forests, along rivers and streams below 6,600 feet in elevation.	None. No suitable riparian habitat in the action area. Lack of large trees for foraging and nesting.
Reptile	Northern Mexican gartersnake (*Thamnophis eques megalops*)	Listed Threatened	Ponds, ciénegas, stock tanks, large-river riparian woodlands and forests, streamside gallery forests. Most abundant in densely vegetated habitat below 8,500 feet.	None. No suitable aquatic habitat in the action area. No wetlands with dense emergent vegetation present.
Insect	Monarch butterfly (*Danaus plexippus*)	Candidate for listing	Obligate to milkweed during breeding season and blooming nectar plants during migration. Ranges from Canada to United States and Mexico through Central and South America up to 9,000 feet.	None. No suitable habitat within the action area. Lack of extensive blooming nectar plants or milkweed to support individual or breeding monarchs.

Source: USFWS 2022.

3.2.2 Migratory Birds

The Jacobs biologist observed multiple species protected under the MBTA in the action area during the site visit. Species observed include burrowing owl (*Athene cunicularia hypugaea*), greater roadrunner (*Geococcyx californianus*), common night hawk (*Chordeiles minor*), and red-tailed hawk (*Buteo jamaicensis*).

Jacobs observed two burrowing owl nests with juveniles during the site visit. Suitable habitat for the burrowing owl is present throughout most of the action area where agricultural fields are present. The Arizona Burrowing Owl Working Group's *Burrowing Owl Project Clearance Guidance for Landowners* (2009) suggests that burrowing owls may be affected within a 100-foot buffer around projects. Figures 1-1 through 1-3 identify burrowing owl habitat locations in the action area, including a 100-foot buffer from the edge of the project limits that represents the extent of potential effects to burrowing owls.

3.2.3 Bald and Golden Eagles

Jacobs did not observe any eagles during the site visit. According to the AGFD Online Environmental Review Tool (2022b), no bald eagles (*Haliaeetus leucocephalus*) or golden eagles (*Aguila chrysaetos*) have been documented within 3 miles of the project limits. No suitable nesting habitat, such as large trees or cliffs, is present in the action area, and there is not a significant body of water nearby. Eagles may be seen passing through the area while foraging or migrating, but nesting is not expected to occur within the action area.

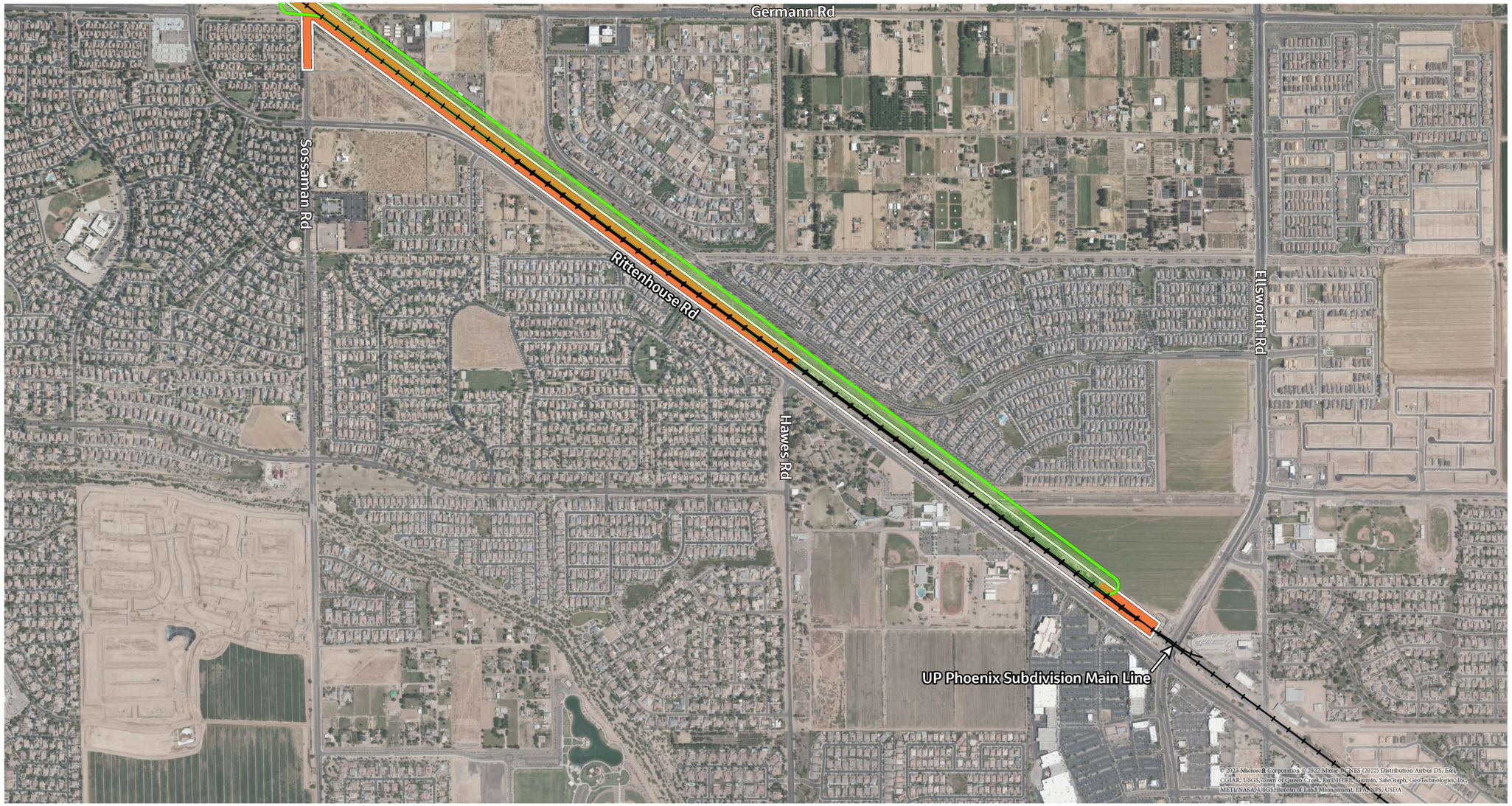
3.2.4 Native Plants

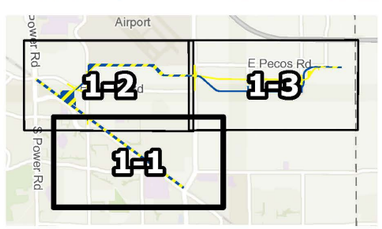
Native plants are present in the action area outside the agricultural lands. Jacobs observed protected native plants sparsely scattered within the patches of native vegetation in the action area during the site visit, including foothills paloverde and velvet mesquite.

3.2.5 Invasive Species

Jacobs observed invasive plant species in the project limits during the site visit. Invasive species observed include Russian thistle and salt cedar.

Figure 1-1. Burrowing Owl Habitat in the Action Area (1 of 3)





UP PIRATE
Burrowing Owl Impact Area

Maricopa County

Project Limits
Burrowing Owl Habitat Within Project Limits plus a 100-foot Buffer
Planned Phoenix Subdivision Support Tracks

N

0 250 500 1,000 Feet

0 75 150 300 Meters

Figure 1-2. Burrowing Owl Habitat in the Action Area (2 of 3)

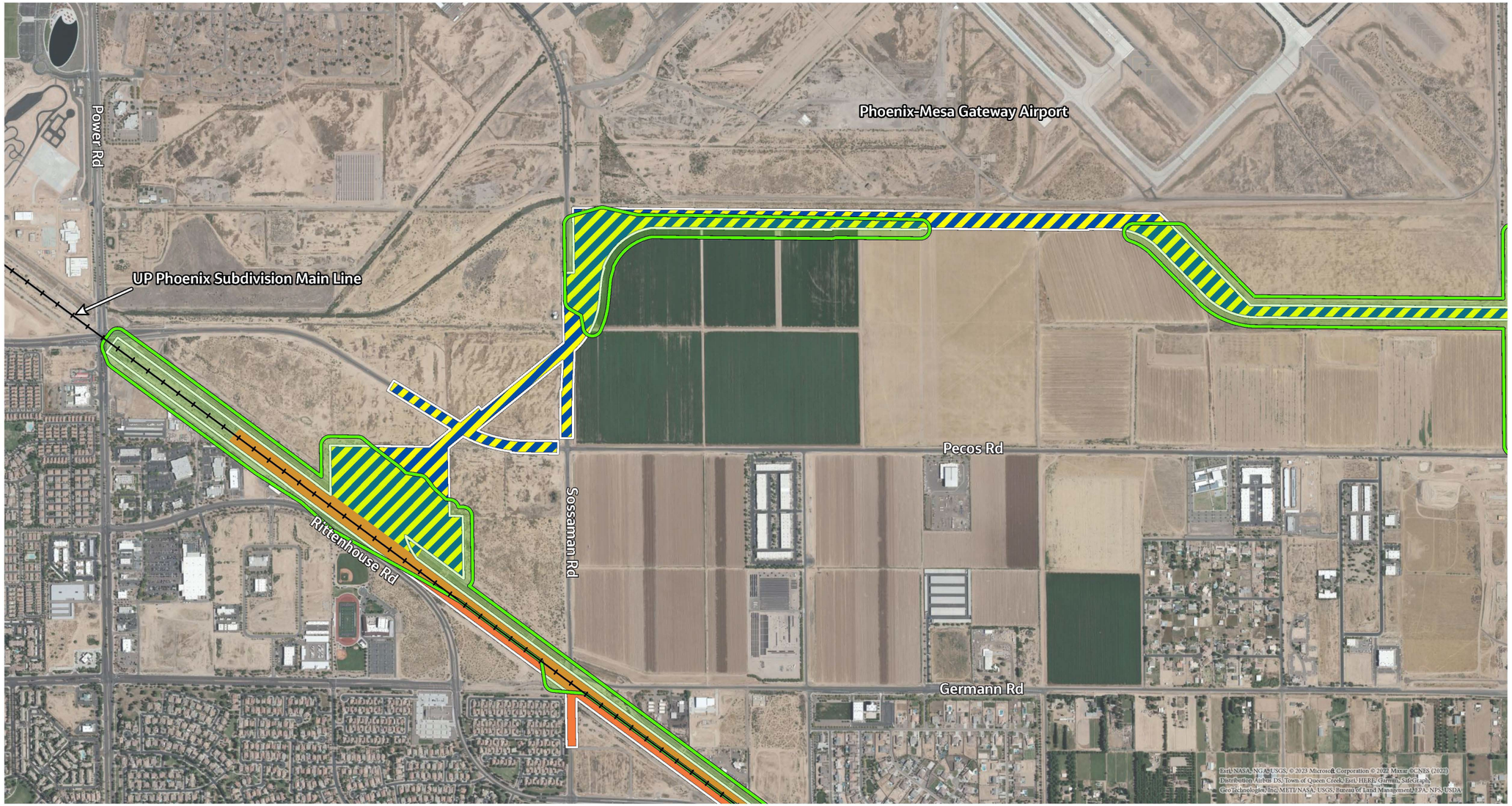
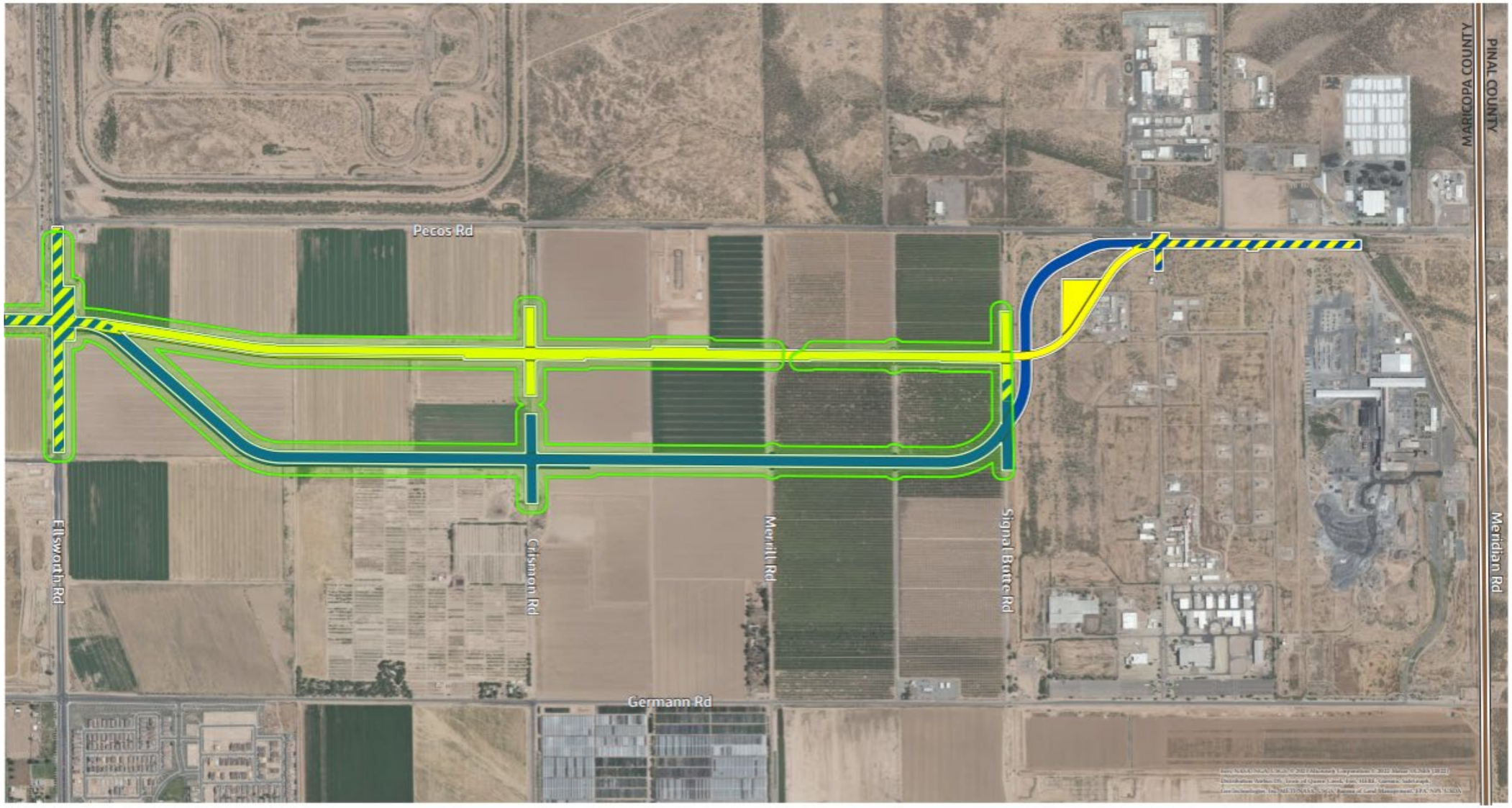


Figure 1-3. Burrowing Owl Habitat in the Action Area (3 of 3)



Chapter 4
Environmental Effect Assessment

This chapter analyzes potential project-related effects to biological resources, including federally listed species, migratory birds, bald and golden eagles, native plants, and invasive species.

4.1 Federally Listed Species

4.1.1 No-Action Alternative

Under the No-Action Alternative, UP would not construct or operate PIRATE or the planned Phoenix Subdivision support tracks. In addition, no federally listed or candidate species are known to occur within the action area and suitable habitat is not present. Therefore, the No-Action Alternative would have no effect to any ESA-listed, proposed, or candidate species.

4.1.2 Alternative 1

No federally listed or candidate species are known to occur within the action area and suitable habitat is not present; therefore, Alternative 1 and the planned Phoenix Subdivision support tracks would have no effect to any ESA-listed, proposed, or candidate species.

4.1.3 Alternative 2

The impacts from Alternative 2 and the planned Phoenix Subdivision support tracks would be the same as described for Alternative 1; therefore, Alternative 2 and the planned Phoenix Subdivision support tracks would have no effect to any ESA-listed, proposed, or candidate species.

4.2 Migratory Birds

4.2.1 No-Action Alternative

Under the No-Action Alternative, UP would not construct or operate PIRATE or the Phoenix Subdivision support tracks. Current land uses may continue in some areas, though this region is rapidly developing and agricultural lands are likely to be converted into a built urban environment. Construction activities for new developments would be required to comply with the MBTA, including avoiding impacts to nesting birds; therefore, the No-Action Alternative would have a minor effect on migratory birds.

4.2.2 Alternative 1

Alternative 1 and the planned Phoenix Subdivision support tracks include approximately 172 acres of habitat classified as native vegetation. Trees and shrubs in these areas provide nesting habitat for migratory birds. Alternative 1 and the planned Phoenix Subdivision support tracks may result in impacts to nesting birds if vegetation is cleared during the breeding season (February 1 to September 30). Young that are unable to fly could be injured or killed. Chapter 5 provides mitigation measures to avoid or minimize potential impacts to migratory birds from vegetation removal (i.e., seasonal restrictions or conducting surveys to avoid active nests).

Approximately 115 acres of burrowing owl habitat are in the agricultural lands within the project limits for Alternative 1 and the planned Phoenix Subdivision support tracks, as identified by AGFD's Online Environmental Review Tool (2022b). Burrowing owls are known to be present in the action area and could be affected by ground-disturbing activities. Chapter 5 provides specific mitigation measures that, if implemented, would avoid or minimize potential impacts to burrowing owls from ground-disturbing, project-related activities, including conducting surveys according to the species-specific survey protocol identified in the *Burrowing Owl Project Clearance Guidance for Landowners* (Arizona Burrowing Owl Working Group 2009). With the implementation of mitigation measures, Alternative 1 and the planned Phoenix Subdivision support tracks would have a minor effect on migratory birds.

4.2.3 Alternative 2

The impacts to migratory birds from Alternative 2 and the planned Phoenix Subdivision support tracks would be similar to those described for Alternative 1. However, Alternative 2 and the planned Phoenix Subdivision support tracks would affect approximately 174 acres of native habitat, which is approximately 2 acres more migratory bird habitat than Alternative 1. Approximately 122 acres of agricultural lands providing burrowing owl habitat would be cleared for Alternative 2 and the planned Phoenix Subdivision support tracks, which is approximately 7 acres more burrowing owl habitat than Alternative 1. Therefore, if mitigation measures identified for migratory birds in Chapter 5 are implemented, Alternative 2 and the planned Phoenix Subdivision support tracks would have a minor effect on migratory birds.

4.3 Bald and Golden Eagles

4.3.1 No-Action Alternative

Under the No-Action Alternative, UP would not construct or operate PIRATE or the planned Phoenix Subdivision support tracks. In addition, no suitable nesting habitat for eagles is present in the project vicinity. Any eagles incidentally flying over the action area are not likely to stop and use habitat in this area; therefore, the No-Action Alternative would have no effect to bald and golden eagles.

4.3.2 Alternative 1

No suitable nesting habitat for eagles is present in the project vicinity. Any eagles incidentally flying over the action area are not likely to stop and use habitat in this area; therefore, Alternative 1 and the planned Phoenix Subdivision support tracks would have no effect on bald or golden eagles.

4.3.3 Alternative 2

The impacts from Alternative 2 and the planned Phoenix Subdivision support tracks would be the same as described for Alternative 1; therefore, Alternative 2 and the planned Phoenix Subdivision support tracks would have no effect on bald or golden eagles.

4.4 Native Plants

4.4.1 No-Action Alternative

Under the No-Action Alternative, UP would not construct or operate PIRATE or the planned Phoenix Subdivision support tracks. Current land uses may continue in some areas, though this region is rapidly developing and agricultural lands are likely to be converted into a built urban environment. Construction activities for new developments would be required to comply with the Native Plant Law; therefore, the No-Action Alternative would have a minor effect on native plants.

4.4.2 Alternative 1

Alternative 1 and the planned Phoenix Subdivision support tracks would require vegetation removal and heavy equipment use. Most of the vegetation removed would consist of native plants from previously disturbed areas. Alternative 1 and the planned Phoenix Subdivision support tracks would result in the removal of approximately 172 acres of native vegetation. Protected native plants are sparsely scattered within the patches of native vegetation; therefore, only a minor amount of protected native plants would be removed. As identified in Chapter 5, AZDA requires UP to obtain a permit and submit a notice of intent to clear land prior to destroying or removing protected native plants. Therefore, Alternative 1 and the planned Phoenix Subdivision support tracks would have a minor effect on native plants.

4.4.3 Alternative 2

The impacts from Alternative 2 and the planned Phoenix Subdivision support tracks would be similar as described for Alternative 1. However, Alternative 2 and the planned Phoenix Subdivision support tracks would affect 174 acres of native habitat, which is approximately 2 acres more native plant habitat than Alternative 1. Therefore, Alternative 2 and the planned Phoenix Subdivision support tracks would have a minor effect on native plants.

4.5 Invasive Species

4.5.1 No-Action Alternative

Under the No-Action Alternative, UP would not construct or operate PIRATE or the planned Phoenix Subdivision support tracks. Current land uses may continue in some areas, though this region is rapidly developing and agricultural lands are likely to be converted into a built urban environment. Construction activities for new developments could contribute to the introduction or spread of invasive species if measures to prevent this from happening are not established and enforced; therefore, the No-Action Alternative could have a minor to moderate potential to spread invasive species.

4.5.2 Alternative 1

Alternative 1 and the planned Phoenix Subdivision support tracks would result in approximately 254 acres being disturbed. Equipment used during construction would have the potential to track in or carry invasive species out of the action area, or exacerbate existing infestations. Mitigation measures outlined in Chapter 5, if implemented, would minimize the potential risk. Therefore, by implementing the mitigation measures included in Chapter 5, Alternative 1 and the planned Phoenix Subdivision support tracks would have a minor potential to spread invasive species.

4.5.3 Alternative 2

The impacts from Alternative 2 and the planned Phoenix Subdivision support tracks would be similar to those described for Alternative 1. However, approximately 260 acres would be disturbed under Alternative 2 and the planned Phoenix Subdivision support tracks, affecting 6 acres more than Alternative 1. Therefore, if mitigation measures identified for invasive species in Chapter 5 are implemented, Alternative 2 and the planned Phoenix Subdivision support tracks would have a minor potential to spread invasive species.

Chapter 5
Recommended Mitigation

This section describes OEA's recommended mitigation measures that, if implemented, would avoid or minimize the project's construction-related effects on biological resources. This section also includes voluntary measures proposed by UP. Operational mitigation is not recommended because OEA does not anticipate impacts to biological resources from project operations.

5.1 Federally Listed Species

- UP shall review updated USFWS and AGFD species lists within 3 months of the start of project-related construction to see if any special status species were added after issuance of the Final EA. If new species are identified, UP shall notify OEA so that an appropriate action can be taken if warranted.

5.2 Migratory Birds

- UP shall not remove any trees or large tree limbs or conduct vegetation removal activities, such as grubbing or shrub clearing, between February 1 and September 30 until a biologist has conducted a bird nest search of grasses, shrubs, trees, and tree limbs and has determined that no active bird nests are present. Vegetation may be mowed or removed if it has been surveyed within 7 calendar days prior to removal as long as only inactive bird nests, if any, are present. Between October 1 and January 31, grubbing, shrub clearing, and tree/limb removal activities are not subject to restriction.

- Where practical, any ground-disturbing, ground-clearing activities or vegetation treatments will be performed before migratory birds begin nesting or after all young have fledged.

- If such activities must be scheduled to start during the migratory bird breeding season, UP will not take steps to prevent migratory birds from establishing nests in the potential impact area. UP or its agents will not haze or exclude nest access for migratory birds and other sensitive avian species.

- If such activities must be scheduled during the migratory bird breeding season, a qualified biologist will perform a site-specific survey for nesting birds starting no more than 7 days prior to ground-disturbing activities or vegetation treatments. Birds with eggs or young will not be hazed, and nests with eggs or young will not be moved until the young are no longer dependent on the nest.

- If nesting birds are found during the survey, UP will establish appropriate seasonal or spatial buffers around nests. Vegetation treatments or ground-disturbing activities within the buffer areas will be postponed, where feasible, until the birds have left the nest. A qualified biologist will confirm that all young have fledged.

- Within 30 days prior to project-related construction, qualified biologists will survey for the federal- and state-protected burrowing owl (*Athene cunicularia*) following guidelines provided by AGFD. UP shall provide the results of this survey to AGFD within 30 days

of survey completion, in accordance with the *AGFD Burrowing Owl Project Clearance Guidance for Landowners* (Arizona Burrowing Owl Working Group 2009).

- If burrowing owls are observed at burrows in the project limits, a 100-foot buffer of no activity will be established around the burrow for the duration of the project.
- If an active burrowing owl burrow is in an area that requires impact, a local, qualified biologist will be contacted to remove the owls from the project limits with the appropriate state and federal permits. The burrows will be collapsed by the biologist to prevent further nesting activities.

5.3 Protected Native Plants

- Prior to project-related construction, UP shall conduct a native plant inventory throughout the project limits to determine if protected native plants will be affected by project-related construction and consult with the AZDA to determine if a permit is required. If native plants will be affected and an AZDA native plant permit is required, UP shall comply with the reasonable requirements of AZDA prior to project-related construction.

5.4 Invasive Species

- UP shall ensure that all disturbed soils are landscaped, seeded with a native seed mix, or otherwise permanently stabilized following project-related construction.
- Prior to any project-related construction, UP shall develop and implement a mitigation plan to address the spread and control of non-native invasive plants during project-related construction. This plan shall address and designate the following elements: (1) planned seed mixes, (2) weed prevention and eradication procedures, (3) equipment cleaning protocols, (4) revegetation methods, and (5) protocols for monitoring revegetation. For any project-related construction on lands managed by state agencies, UP shall seek input on the plan from the appropriate land management agency.

5.5 General

- UP will comply with any conditions and mitigation commitments contained in the Draft Environmental Assessment, recommended by the Arizona Game and Fish Department and/or the U.S. Fish and Wildlife Service, for sensitive species, including plants, that could potentially be impacted by the project.

Chapter 6
References

Arizona Burrowing Owl Working Group. 2009. *Burrowing Owl Project Clearance Guidance for Landowners.* https://s3.amazonaws.com/azgfd-portal-wordpress/PortalImages/files/wildlife/nongame/eagles/BurrowingOwlClearanceProtocol_2009.pdf.

Arizona Game and Fish Department. 2022a. Scoping letter response to Jacobs Engineering Group Inc. regarding project-related biological resources impacts. January 31.

Arizona Game and Fish Department. 2022b. Online Environmental Review Tool, Heritage Geographic Information System (HGIS)-16838. https://ert.azgfd.gov/content/home. Accessed July 19, 2022.

Turner, R. M., and D. E. Brown. 1994. "Sonoran Desertscrub." In *Biotic Communities: Southwestern United States and Northwestern Mexico* (edited by D. E. Brown). University of Utah Press, Salt Lake City, Utah. pp. 181–192.

U.S. Fish and Wildlife Service. 2022. Information for Planning and Conservation (IPaC) Species list, Consultation Code: 2022-0013010. https://ipac.ecosphere.fws.gov/. Accessed February 25, 2022, and September 15, 2022.

Appendix A
U.S. Fish and Wildlife Service Species List

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Arizona Ecological Services Field Office
9828 North 31st Ave
#c3
Phoenix, AZ 85051-2517
Phone: (602) 242-0210 Fax: (602) 242-2513

In Reply Refer To:
Project Code: 2022-0013010
Project Name: UPRR Pirate Industrial Lead

September 15, 2022

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The Fish and Wildlife Service (Service) is providing this list under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*). The list you have generated identifies threatened, endangered, proposed, and candidate species, and designated and proposed critical habitat, that *may* occur within the One-Range that has been delineated for the species (candidate, proposed, or listed) and it's critical habitat (designated or proposed) with which your project polygon intersects. These range delineations are based on biological metrics, and do not necessarily represent exactly where the species is located. Please refer to the species information found on ECOS to determine if suitable habitat for the species on your list occurs in your project area.

The purpose of the Act is to provide a means whereby threatened and endangered species and the habitats upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of Federal trust resources and to determine whether projects may affect federally listed species and/or designated critical habitat. A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.
If the Federal action agency determines that listed species or critical habitat *may be affected* by a federally funded, permitted or authorized activity, the agency must consult with us pursuant to 50 CFR 402. Note that a "may affect" determination includes effects that may not be adverse and that may be beneficial, insignificant, or discountable. An effect exists even if only one individual

or habitat segment may be affected. The effects analysis should include the entire action area, which often extends well outside the project boundary or "footprint." For example, projects that involve streams and river systems should consider downstream affects. If the Federal action agency determines that the action may jeopardize a *proposed* species or may adversely modify *proposed* critical habitat, the agency must enter into a section 7 conference. The agency may choose to confer with us on an action that may affect proposed species or critical habitat.

Candidate species are those for which there is sufficient information to support a proposal for listing. Although candidate species have no legal protection under the Act, we recommend that they be considered in the planning process in the event they become proposed or listed prior to project completion. More information on the regulations (50 CFR 402) and procedures for section 7 consultation, including the role of permit or license applicants, can be found in our Endangered Species Consultation Handbook at: http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF.

We also advise you to consider species protected under the Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703-712) and the Bald and Golden Eagle Protection Act (Eagle Act) (16 U.S.C. 668 *et seq.*). The MBTA prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests, except when authorized by the Service. The Eagle Act prohibits anyone, without a permit, from taking (including disturbing) eagles, and their parts, nests, or eggs. Currently 1,026 species of birds are protected by the MBTA, including the western burrowing owl (*Athene cunicularia hypugaea*). Protected western burrowing owls can be found in urban areas and may use their nest/burrows year-round; destruction of the burrow may result in the unpermitted take of the owl or their eggs.

If a bald eagle or golden eagle nest occurs in or near the proposed project area, our office should be contacted for Technical Assistance. An evaluation must be performed to determine whether the project is likely to disturb or harm eagles. The National Bald Eagle Management Guidelines provide recommendations to minimize potential project impacts to bald eagles (see https://www.fws.gov/birds/management/project-assessment-tools-and-guidance/guidance-documents/eagles.php and https://www.fws.gov/birds/management/managed-species/eagle-management.php).

The Division of Migratory Birds (505/248-7882) administers and issues permits under the MBTA and Eagle Act, while our office can provide guidance and Technical Assistance. For more information regarding the MBTA, BGEPA, and permitting processes, please visit the following web site: https://www.fws.gov/birds/management.php. Guidance for minimizing impacts to migratory birds for communication tower projects (e.g. cellular, digital television, radio, and emergency broadcast) can be found at https://www.fws.gov/migratorybirds/pdf/management/usfwscommtowerguidance2016update.pdf.

The U.S. Army Corps of Engineers (Corps) may regulate activities that involve streams (including some intermittent streams) and/or wetlands. We recommend that you contact the Corps to determine their interest in proposed projects in these areas. For activities within a National Wildlife Refuge, we recommend that you contact refuge staff for specific information

about refuge resources, please visit https://www.fws.gov/southwest/refuges/ to locate the refuge you would be working in or around.

If your action is on tribal land or has implications for off-reservation tribal interests, we encourage you to contact the tribe(s) and the Bureau of Indian Affairs (BIA) to discuss potential tribal concerns, and to invite any affected tribe and the BIA to participate in the section 7 consultation. In keeping with our tribal trust responsibility, we will notify tribes that may be affected by proposed actions when section 7 consultation is initiated. For more information, please contact our Tribal Coordinator, John Nystedt, at 928/556-2160 or John_Nystedt@fws.gov.

We also recommend you seek additional information and coordinate your project with the Arizona Game and Fish Department. Information on known species detections, special status species, and Arizona species of greatest conservation need, such as the western burrowing owl and the Sonoran desert tortoise (*Gopherus morafkai*) can be found by using their Online Environmental Review Tool, administered through the Heritage Data Management System and Project Evaluation Program (https://www.azgfd.com/wildlife/planning/projevalprogram/).

We appreciate your concern for threatened and endangered species. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office. If we may be of further assistance, please contact our Flagstaff office at 928/556-2157 for projects in northern Arizona, our general Phoenix number 602/242-0210 for central Arizona, or 520/670-6144 for projects in southern Arizona.

Sincerely,
/s/

Mark A. Lamb
Acting Field Supervisor
Attachment

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Migratory Birds
- Wetlands

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Arizona Ecological Services Field Office
9828 North 31st Ave
#c3
Phoenix, AZ 85051-2517
(602) 242-0210

Project Summary

Project Code: 2022-0013010
Project Name: UPRR Pirate Industrial Lead
Project Type: Railroad - New Construction
Project Description: The proposed project is a new industrial lead railroad track that would connect Union Pacific Railroad Company's Phoenix Sub main line track in Maricopa County,
Arizona, to industrial properties southeast of the Phoenix-Mesa Gateway Airport. The proposed track would serve the transportation and logistics needs of existing manufacturing and industrial businesses, as well as prospective businesses looking to relocate to the area.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@33.27562535,-111.6654066683497,14z



Counties: Maricopa County, Arizona

Endangered Species Act Species

There is a total of 3 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Birds

NAME	STATUS
California Least Tern *Sterna antillarum browni* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8104	Endangered
Yellow-billed Cuckoo *Coccyzus americanus* Population: Western U.S. DPS There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/3911	Threatened

Insects

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

---

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Oct 15 to Aug 31
Bendire's Thrasher *Toxostoma bendirei* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9435	Breeds Mar 15 to Jul 31

NAME	BREEDING SEASON
Costa's Hummingbird *Calypte costae* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9470	Breeds Jan 15 to Jun 10
Gila Woodpecker *Melanerpes uropygialis* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/5960	Breeds Apr 1 to Aug 31
Golden Eagle *Aquila chrysaetos* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Dec 1 to Aug 31
Lawrence's Goldfinch *Carduelis lawrencei* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9464	Breeds Mar 20 to Sep 20

Probability Of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12

(0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.

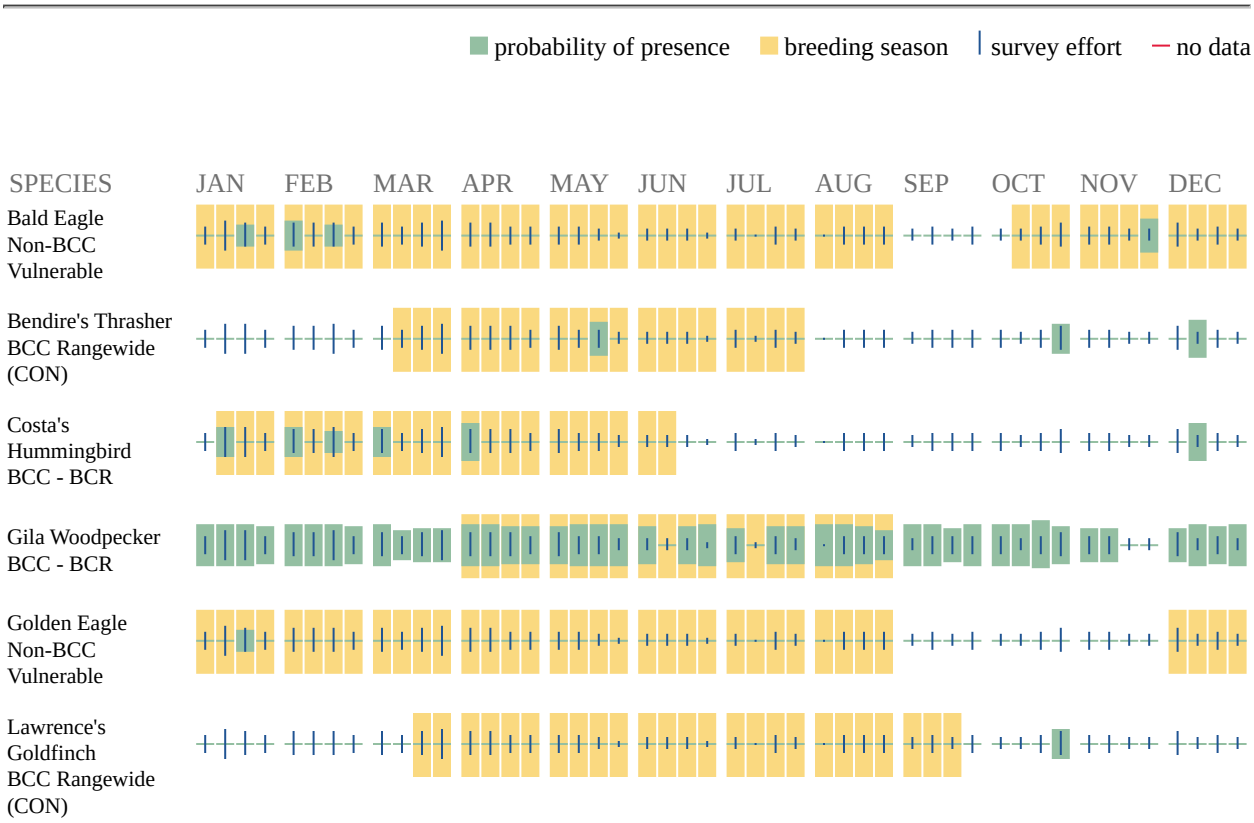
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Additional information can be found using the following links:

- Birds of Conservation Concern https://www.fws.gov/program/migratory-birds/species
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf

Migratory Birds FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and

how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?
To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?
Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects
For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?
If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Wetlands

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

WETLAND INFORMATION WAS NOT AVAILABLE WHEN THIS SPECIES LIST WAS GENERATED. PLEASE VISIT HTTPS://WWW.FWS.GOV/WETLANDS/DATA/MAPPER.HTML OR CONTACT THE FIELD OFFICE FOR FURTHER INFORMATION.

IPaC User Contact Information

Agency: Jacobs Engineering
Name: Kay Nicholson
Address: 1501 West Fountainhead Parkway, Suite 401
City: Tempe
State: AZ
Zip: 85282
Email kay.e.nicholson@jacobs.com
Phone: 6025301605

Lead Agency Contact Information

Lead Agency: Surface Transportation Board
Name: Adam Assenza
Email: Adam.Assenza@stb.gov
Phone: 2022450301

Appendix B
Arizona Game and Fish Department
Special Status Species List

Arizona Environmental Online Review Tool Report

Arizona Game and Fish Department Mission
To conserve Arizona's diverse wildlife resources and manage for safe, compatible outdoor recreation opportunities for current and future generations.

Project Name:

UPRR Pirate Industrial Lead

Project Description:

The proposed project is a new industrial lead railroad track that would connect Union Pacific Railroad Company's Phoenix Sub main line track in Maricopa County, Arizona, to industrial properties southeast of the Phoenix-Mesa Gateway Airport. The proposed track would serve the transportation and logistics needs of existing manufacturing and industrial businesses, as well as prospective businesses looking to relocate to the area.

Project Type:

Transportation & Infrastructure, Railroads (Freight and Passenger), New tracks, bridges, roadway crossing for freight or passenger lines,

Contact Person:

Kay Nicholson

Organization:

Jacobs Engineering Group

On Behalf Of:

OTHER_FED

Project ID:

HGIS-16838

Please review the entire report for project type and/or species recommendations for the location information entered. Please retain a copy for future reference.

Disclaimer:

1. This Environmental Review is based on the project study area that was entered. The report must be updated if the project study area, location, or the type of project changes.
2. This is a preliminary environmental screening tool. It is not a substitute for the potential knowledge gained by having a biologist conduct a field survey of the project area. This review is also not intended to replace environmental consultation (including federal consultation under the Endangered Species Act), land use permitting, or the Departments review of site-specific projects.
3. The Departments Heritage Data Management System (HDMS) data is not intended to include potential distribution of special status species. Arizona is large and diverse with plants, animals, and environmental conditions that are ever changing. Consequently, many areas may contain species that biologists do not know about or species previously noted in a particular area may no longer occur there. HDMS data contains information about species occurrences that have actually been reported to the Department. Not all of Arizona has been surveyed for special status species, and surveys that have been conducted have varied greatly in scope and intensity. Such surveys may reveal previously undocumented population of species of special concern.
4. HabiMap Arizona data, specifically Species of Greatest Conservation Need (SGCN) under our State Wildlife Action Plan (SWAP) and Species of Economic and Recreational Importance (SERI), represent potential species distribution models for the State of Arizona which are subject to ongoing change, modification and refinement. The status of a wildlife resource can change quickly, and the availability of new data will necessitate a refined assessment.

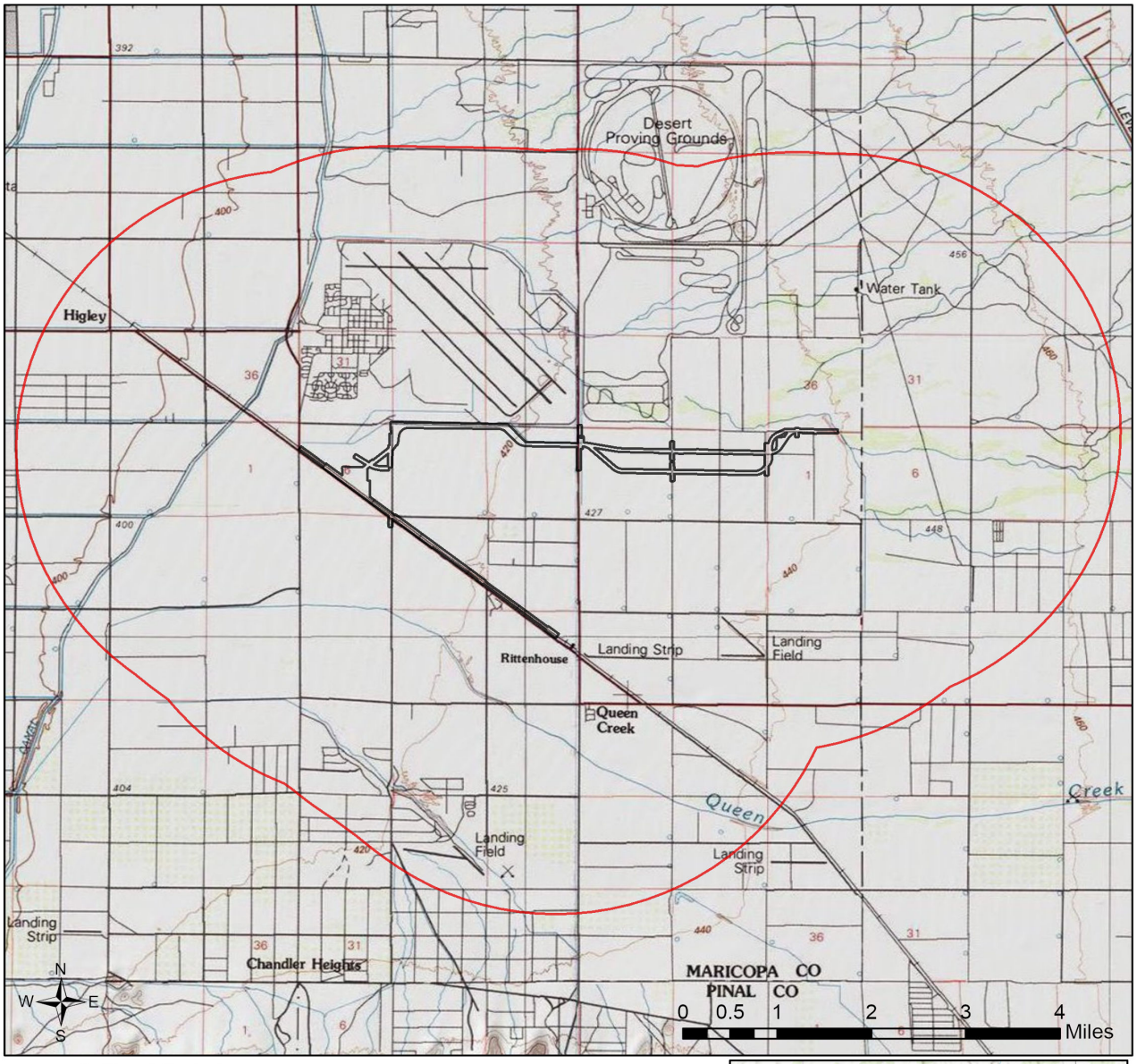
Locations Accuracy Disclaimer:
Project locations are assumed to be both precise and accurate for the purposes of environmental review. The creator/owner of the Project Review Report is solely responsible for the project location and thus the correctness of the Project Review Report content.

Recommendations Disclaimer:

1. The Department is interested in the conservation of all fish and wildlife resources, including those species listed in this report and those that may have not been documented within the project vicinity as well as other game and nongame wildlife.
2. Recommendations have been made by the Department, under authority of Arizona Revised Statutes Title 5 (Amusements and Sports), 17 (Game and Fish), and 28 (Transportation).
3. Potential impacts to fish and wildlife resources may be minimized or avoided by the recommendations generated from information submitted for your proposed project. These recommendations are preliminary in scope, designed to provide early considerations on all species of wildlife.
4. Making this information directly available does not substitute for the Department's review of project proposals, and should not decrease our opportunity to review and evaluate additional project information and/or new project proposals.
5. Further coordination with the Department requires the submittal of this Environmental Review Report with a cover letter and project plans or documentation that includes project narrative, acreage to be impacted, how construction or project activity(s) are to be accomplished, and project locality information (including site map). Once AGFD had received the information, please allow 30 days for completion of project reviews. Send requests to:
   Project Evaluation Program, Habitat Branch
   Arizona Game and Fish Department
   5000 West Carefree Highway
   Phoenix, Arizona 85086-5000
   Phone Number: (623) 236-7600
   Fax Number: (623) 236-7366
   Or
   PEP@azgfd.gov
6. Coordination may also be necessary under the National Environmental Policy Act (NEPA) and/or Endangered Species Act (ESA). Site specific recommendations may be proposed during further NEPA/ESA analysis or through coordination with affected agencies

UPRR Pirate Industrial Lead

USA Topo Basemap With Locator Map



Buffered Project Boundary

Project Boundary

Project Size (acres): 436.85

Lat/Long (DD): 33.2892 / -111.6368

County(s): Maricopa

AGFD Region(s): Mesa

Township/Range(s): T1S, R7E; T2S, R7E

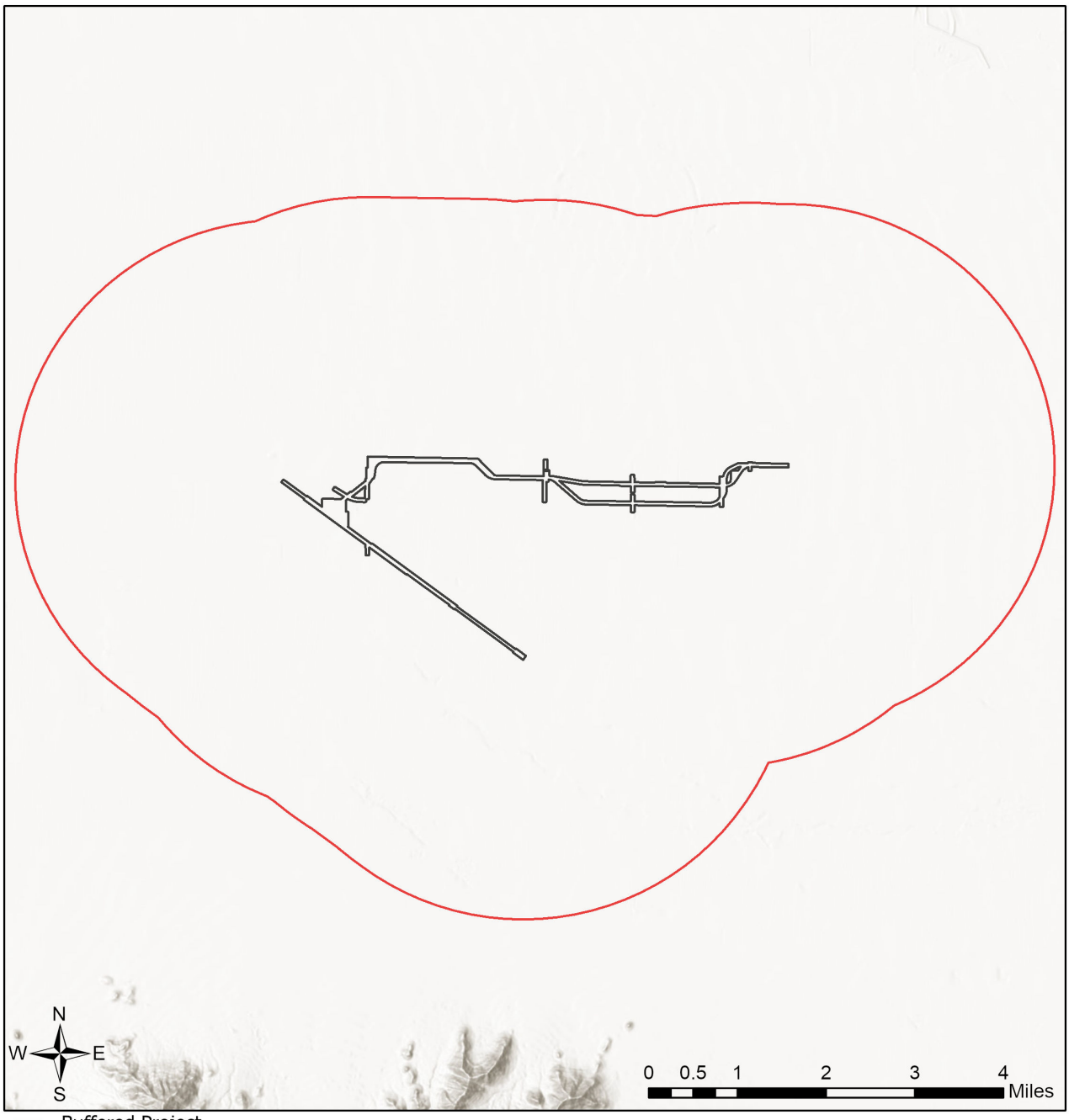
USGS Quad(s): DESERT WELL; HIGLEY



Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community

UPRR Pirate Industrial Lead

Web Map As Submitted By User



Buffered Project Boundary

Project Boundary

Project Size (acres): 436.85

Lat/Long (DD): 33.2892 / -111.6368

County(s): Maricopa

AGFD Region(s): Mesa

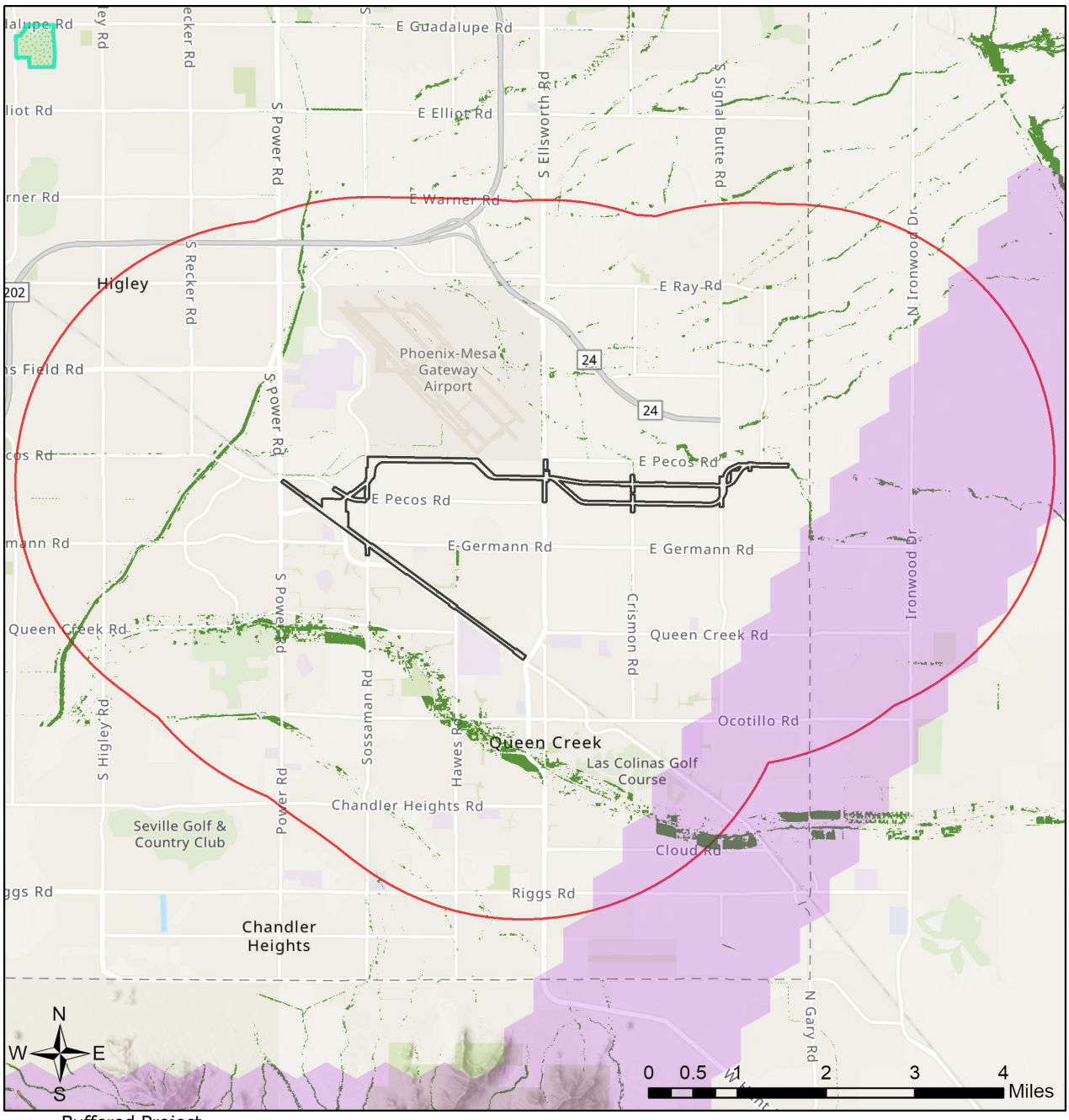
Township/Range(s): T1S, R7E; T2S, R7E

USGS Quad(s): DESERT WELL; HIGLEY

Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community

UPRR Pirate Industrial Lead

Important Areas



- Buffered Project Boundary
- Project Boundary
- Important Bird Areas
- Critical Habitat
- Pinal County Riparian
- Important Connectivity Zones
- Wildlife Connectivity

Project Size (acres): 436.85

Lat/Long (DD): 33.2892 / -111.6368

County(s): Maricopa

AGFD Region(s): Mesa

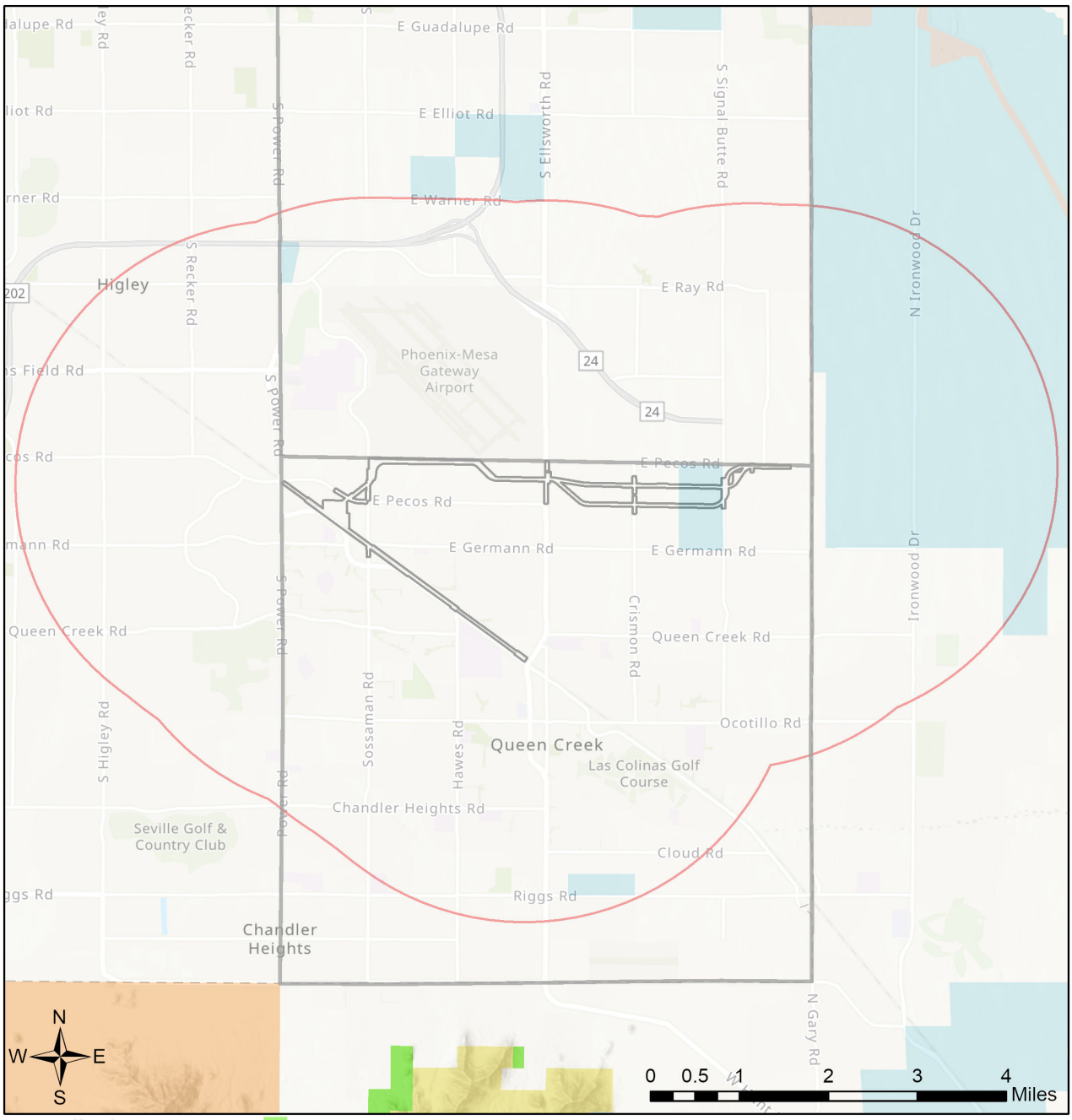
Township/Range(s): T1S, R7E; T2S, R7E

USGS Quad(s): DESERT WELL; HIGLEY

Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community
Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

UPRR Pirate Industrial Lead

Township/Ranges and Land Ownership



- Buffered Project Boundary
- Project Boundary
- AZ Game & Fish Dept.
- BLM
- BOR
- Indian Res.
- Military
- Mixed/Other
- National Park/Mon.
- Private
- State & Regional Parks
- State Trust
- US Forest Service
- Wildlife Area/Refuge
- Township/Ranges

Project Size (acres): 436.85

Lat/Long (DD): 33.2892 / -111.6368

County(s): Maricopa

AGFD Region(s): Mesa

Township/Range(s): T1S, R7E; T2S, R7E

USGS Quad(s): DESERT WELL; HIGLEY

Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community
Sources: Esri, HERE, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

Special Status Species Documented within 3 Miles of Project Vicinity

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Athene cunicularia hypugaea	Western Burrowing Owl	SC	S	S		1B
Danaus plexippus	Monarch	C		S		
Lepus alleni	Antelope Jackrabbit					1B

Note: Status code definitions can be found at https://www.azgfd.com/wildlife/planning/wildlifeguidelines/statusdefinitions/
.

Special Areas Documented that Intersect with Project Footprint as Drawn

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Riparian Area	Riparian Area					

Note: Status code definitions can be found at https://www.azgfd.com/wildlife/planning/wildlifeguidelines/statusdefinitions/
.

Species of Greatest Conservation Need Predicted that Intersect with Project Footprint as Drawn, based on Predicted Range Models

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Aix sponsa	Wood Duck					1B
Ammospermophilus harrisii	Harris' Antelope Squirrel					1B
Athene cunicularia hypugaea	Western Burrowing Owl	SC	S	S		1B
Botaurus lentiginosus	American Bittern					1B
Buteo regalis	Ferruginous Hawk	SC		S		1B
Calypte costae	Costa's Hummingbird					1C
Chilomeniscus stramineus	Variable Sandsnake					1B
Chionactis annulata	Resplendent Shovel-nosed Snake	SC				1C
Cistothorus palustris	Marsh Wren					1C
Colaptes chrysoides	Gilded Flicker			S		1B
Coluber bilineatus	Sonoran Whipsnake					1B
Corynorhinus townsendii pallescens	Pale Townsend's Big-eared Bat	SC	S	S		1B
Crotalus tigris	Tiger Rattlesnake					1B
Empidonax wrightii	Gray Flycatcher					1C
Euderma maculatum	Spotted Bat	SC	S	S		1B
Eumops perotis californicus	Greater Western Bonneted Bat	SC		S		1B
Falco peregrinus anatum	American Peregrine Falcon	SC	S	S		1A
Gopherus morafkai	Sonoran Desert Tortoise	CCA	S	S		1A
Haliaeetus leucocephalus	Bald Eagle	SC, BGA	S	S		1A
Heloderma suspectum	Gila Monster					1A
Incilius alvarius	Sonoran Desert Toad					1B
Kinosternon sonoriense sonoriense	Desert Mud Turtle			S		1B
Lasiurus blossevillii	Western Red Bat		S			1B

Species of Greatest Conservation Need Predicted that Intersect with Project Footprint as Drawn, based on Predicted Range Models

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Lasiurus xanthinus	Western Yellow Bat		S			1B
Leopardus pardalis	Ocelot	LE				1A
Leptonycteris yerbabuenae	Lesser Long-nosed Bat	SC				1A
Lepus alleni	Antelope Jackrabbit					1B
Macrotus californicus	California Leaf-nosed Bat	SC		S		1B
Melanerpes uropygialis	Gila Woodpecker					1B
Melospiza lincolnii	Lincoln's Sparrow					1B
Melozone aberti	Abert's Towhee		S			1B
Micrathene whitneyi	Elf Owl					1C
Micruroides euryxanthus	Sonoran Coralsnake					1B
Myiarchus tyrannulus	Brown-crested Flycatcher					1C
Myotis occultus	Arizona Myotis	SC		S		1B
Myotis velifer	Cave Myotis	SC		S		1B
Myotis yumanensis	Yuma Myotis	SC				1B
Nyctinomops femorosaccus	Pocketed Free-tailed Bat					1B
Oreoscoptes montanus	Sage Thrasher					1C
Oreothlypis luciae	Lucy's Warbler					1C
Panthera onca	Jaguar	LE				1A
Passerculus sandwichensis	Savannah Sparrow					1B
Phrynosoma goodei	Goode's Horned Lizard					1B
Phrynosoma solare	Regal Horned Lizard					1B
Phyllorhynchus browni	Saddled Leaf-nosed Snake					1B
Progne subis hesperia	Desert Purple Martin			S		1B
Setophaga petechia	Yellow Warbler					1B
Sphyrapicus nuchalis	Red-naped Sapsucker					1C
Spizella breweri	Brewer's Sparrow					1C
Tadarida brasiliensis	Brazilian Free-tailed Bat					1B
Toxostoma lecontei	LeConte's Thrasher			S		1B
Troglodytes pacificus	Pacific Wren					1B
Vireo bellii arizonae	Arizona Bell's Vireo					1B
Vulpes macrotis	Kit Fox	No Status				1B

Species of Economic and Recreation Importance Predicted that Intersect with Project Footprint as Drawn

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Callipepla gambelii	Gambel's Quail					
Zenaida asiatica	White-winged Dove					
Zenaida macroura	Mourning Dove					

Project Type: Transportation & Infrastructure, Railroads (Freight and Passenger), New tracks, bridges, roadway crossing for freight or passenger lines,

Project Type Recommendations:

Bridge Maintenance/Construction

Identify whether wildlife species use the structure for roosting or nesting during anticipated maintenance/construction period. Plan the timing of maintenance/construction to minimize impacts to wildlife species. In addition to the species list generated by the Arizona's On-line Environmental Review Tool, the Department recommends that surveys be conducted at the bridge and in the vicinity of the bridge to identify additional or currently undocumented bat, bird, or aquatic species in the project area. To minimize impacts to birds and bats, as well as aquatic species, consider conducting maintenance and construction activities outside the breeding/maternity season (breeding seasons for birds and bats usually occur spring - summer). Examining the crevices for the presence of bats prior to pouring new paving materials or that the top of those crevices be sealed to prevent material from dripping or falling through the cracks and potentially onto bats. If bats are present, maintenance and construction (including paving and milling) activities should be conducted during nighttime hours, if possible, when the fewest number of bats will be roosting. Minimize impacts to the vegetation community. Unavoidable impacts to vegetation should be mitigated on-site whenever possible. A revegetation plan should be developed to replace impacted communities.

Consider design structures and construction plans that minimize impacts to channel geometry (i.e., width/depth ratio, sinuosity, allow overflow channels), to avoid alteration of hydrological function. Consider incorporating roosting sites for bats into bridge designs. During construction, erosion control structures and drainage features should be used to prevent introduction of sediment laden runoff into the waterway. Minimize instream construction activity. If culverts are planned, use wildlife friendly designs to mitigate impacts to wildlife and fish movement. Guidelines for bridge designs to facilitate wildlife passage can be found on our Wildlife Friendly Guidelines web page under the Widilfe Planning button, at https://www.azgfd.com/wildlife/planning/wildlifeguidelines/.

Fence recommendations will be dependant upon the goals of the fence project and the wildlife species expected to be impacted by the project. General guidelines for ensuring wildlife-friendly fences include: barbless wire on the top and bottom with the maximum fence height 42", minimum height for bottom 16". Modifications to this design may be considered for fencing anticipated to be routinely encountered by elk, bighorn sheep or pronghorn (e.g., Pronghorn fencing would require 18" minimum height on the bottom). Please refer to the Department's Fencing Guidelines located on Wildlife Friendly Guidelines page, which is part of the WIldlife Planning button at https://www.azgfd.com/wildlife/planning/wildlifeguidelines/.

During the planning stages of your project, please consider the local or regional needs of wildlife in regards to movement, connectivity, and access to habitat needs. Loss of this permeability prevents wildlife from accessing resources, finding mates, reduces gene flow, prevents wildlife from re-colonizing areas where local extirpations may have occurred, and ultimately prevents wildlife from contributing to ecosystem functions, such as pollination, seed dispersal, control of prey numbers, and resistance to invasive species. In many cases, streams and washes provide natural movement corridors for wildlife and should be maintained in their natural state. Uplands also support a large diversity of species, and should be contained within important wildlife movement corridors. In addition, maintaining biodiversity and ecosystem functions can be facilitated through improving designs of structures, fences, roadways, and culverts to promote passage for a variety of wildlife. Guidelines for many of these can be found at: https://www.azgfd.com/wildlife/planning/wildlifeguidelines/.

Consider impacts of outdoor lighting on wildlife and develop measures or alternatives that can be taken to increase human safety while minimizing potential impacts to wildlife. Conduct wildlife surveys to determine species within project area, and evaluate proposed activities based on species biology and natural history to determine if artificial lighting may disrupt behavior patterns or habitat use. Use only the minimum amount of light needed for safety. Narrow spectrum bulbs should be used as often as possible to lower the range of species affected by lighting. All lighting should be shielded, canted, or cut to ensure that light reaches only areas needing illumination.

Minimize the potential introduction or spread of exotic invasive species, including aquatic and terrestrial plants, animals, insects and pathogens. Precautions should be taken to wash and/or decontaminate all equipment utilized in the project activities before entering and leaving the site. See the Arizona Department of Agriculture website for a list of prohibited and restricted noxious weeds at https://www.invasivespeciesinfo.gov/unitedstates/az.shtml and the Arizona Native Plant Society https://aznps.com/invas for recommendations on how to control. To view a list of documented invasive species or to report invasive species in or near your project area visit iMapInvasives - a national cloud-based application for tracking and managing invasive species at https://imap.natureserve.org/imap/services/page/map.html.

- To build a list: zoom to your area of interest, use the identify/measure tool to draw a polygon around your area of interest, and select “See What’s Here” for a list of reported species. To export the list, you must have an account and be logged in. You can then use the export tool to draw a boundary and export the records in a csv file.

Follow manufacturer's recommended application guidelines for all chemical treatments. The U.S. Fish and Wildlife Service, Region 2, Environmental Contaminants Program has a reference document that serves as their regional pesticide recommendations for protecting wildlife and fisheries resources, titled "Recommended Protection Measures for Pesticide Applications in Region 2 of the USFWS", http://www.fws.gov/southwest/es/arizona/Documents/ECReports/RPMPA_2007.pdf. The Department recommends that direct or indirect impacts to sensitive species and their forage base from the application of chemical pesticides or herbicides be considered carefully.

Minimization and mitigation of impacts to wildlife and fish species due to changes in water quality, quantity, chemistry, temperature, and alteration to flow regimes (timing, magnitude, duration, and frequency of floods) should be evaluated. Minimize impacts to springs, in-stream flow, and consider irrigation improvements to decrease water use. If dredging is a project component, consider timing of the project in order to minimize impacts to spawning fish and other aquatic species (include spawning seasons), and to reduce spread of exotic invasive species. We recommend early direct coordination with Project Evaluation Program for projects that could impact water resources, wetlands, streams, springs, and/or riparian habitats.

The Department recommends that wildlife surveys are conducted to determine if noise-sensitive species occur within the project area. Avoidance or minimization measures could include conducting project activities outside of breeding seasons.

Based on the project type entered, coordination with State Historic Preservation Office may be required (http://azstateparks.com/SHPO/index.html).

Design culverts to minimize impacts to channel geometry, or design channel geometry (low flow, overbank, floodplains) and substrates to carry expected discharge using local drainages of appropriate size as templates. Reduce/minimize barriers to allow movement of amphibians or fish (e.g., eliminate falls). Also for terrestrial wildlife, washes and stream corridors often provide important corridors for movement. Overall culvert width, height, and length should be optimized for movement of the greatest number and diversity of species expected to utilize the passage. Culvert designs should consider moisture, light, and noise, while providing clear views at both ends to maximize utilization. For many species, fencing is an important design feature that can be utilized with culverts to funnel wildlife into these areas and minimize the potential for roadway collisions. Guidelines for culvert designs to facilitate wildlife passage can be found on the home page of this application at https://www.azgfd.com/wildlife/planning/wildlifeguidelines/.

Based on the project type entered, coordination with Arizona Department of Environmental Quality may be required (http://www.azdeq.gov/).

Based on the project type entered, coordination with U.S. Army Corps of Engineers may be required (http://www.usace.army.mil/)

Based on the project type entered, coordination with County Flood Control district(s) may be required.

The Department requests further coordination to provide project/species specific recommendations, please contact Project Evaluation Program directly at PEP@azgfd.gov.

Project Location and/or Species Recommendations:
This review has identified **riparian areas** within the vicinity of your project. During the planning stage of your project, avoid, minimize, or mitigate any potential impacts to riparian areas identified in this report. Riparian areas play an important role in maintaining the functional integrity of the landscape, primarily by acting as natural drainages that convey water through an area, thereby reducing flood events. In addition, riparian areas provide important movement corridors and habitat for fish and wildlife. Riparian areas are channels that contain water year-round or at least part of the year. Riparian areas also include those channels which are dry most of the year, but may contain or convey water following rain events. All types of riparian areas offer vital habitats, resources, and movement corridors for wildlife. The Pinal County Comprehensive Plan (i.e. policies *6.1.2.1* and *7.1.2.4*), Open Space and Trails Master Plan, Drainage Ordinance, and Drainage Design Manual all identify riparian area considerations, guidance, and policies. Guidelines to avoid, minimize, or mitigate impacts to riparian habitat can be found at https://www.azgfd.com/wildlife/planning/wildlifeguidelines/. Based on the project type entered, further consultation with the Arizona Game and Fish Department and Pinal County may be warranted.

HDMS records indicate that **Western Burrowing Owls** have been documented within the vicinity of your project area. Please review the western burrowing owl resource page at: https://www.azgfd.com/wildlife/speciesofgreatestconservneed/burrowingowlmanagement/.

Appendix C
Images of Habitat in the Project Limits

Image 1. Representative photograph of habitat dominated by fourwing saltbush along the Phoenix Subdivision.



Image 2. Representative photograph of creosotebush-dominated habitat north of Rittenhouse Road and west of Sossaman Road.



Image 3. Representative photograph of fallow agricultural fields dominated by weedy species on the east side of Sossaman Road.



Image 4. Representative photograph of fallow agricultural fields dominated by bare ground on the west side of Sossaman Road.



Image 5. View of dense xeroriparian vegetation along an ephemeral wash (in the background) at the eastern end of the project limits.



Image 6. Habitat dominated by mesquite trees in the southeastern corner of Pecos and Signal Butte Roads where Alternatives 1 and 2 converge.



Image 7. Burrowing owls observed by a Jacobs biologist during project surveys.



Appendix F2
February 2026 USFWS and AGFD Species Lists

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Arizona Ecological Services Field Office
9828 North 31st Ave
#c3
Phoenix, AZ 85051-2517
Phone: (602) 242-0210 Fax: (602) 242-2513

In Reply Refer To: 02/15/2026 22:55:09 UTC
Project Code: 2022-0013010
Project Name: UPRR Pirate Industrial Lead

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The Fish and Wildlife Service (Service) is providing this list under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*). The list you have generated identifies threatened, endangered, proposed, and candidate species, and designated and proposed critical habitat, that *may* occur within the One-Range that has been delineated for the species (candidate, proposed, or listed) and it's critical habitat (designated or proposed) with which your project polygon intersects. These range delineations are based on biological metrics, and do not necessarily represent exactly where the species is located. Please refer to the species information found on ECOS to determine if suitable habitat for the species on your list occurs in your project area.

The purpose of the Act is to provide a means whereby threatened and endangered species and the habitats upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of Federal trust resources and to determine whether projects may affect federally listed species and/or designated critical habitat. A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.
If the Federal action agency determines that listed species or critical habitat *may be affected* by a federally funded, permitted or authorized activity, the agency must consult with us pursuant to 50 CFR 402. Note that a "may affect" determination includes effects that may not be adverse and that may be beneficial, insignificant, or discountable. An effect exists even if only one individual

or habitat segment may be affected. The effects analysis should include the entire action area, which often extends well outside the project boundary or "footprint." For example, projects that involve streams and river systems should consider downstream affects. If the Federal action agency determines that the action may jeopardize a *proposed* species or may adversely modify *proposed* critical habitat, the agency must enter into a section 7 conference. The agency may choose to confer with us on an action that may affect proposed species or critical habitat.

Candidate species are those for which there is sufficient information to support a proposal for listing. Although candidate species have no legal protection under the Act, we recommend that they be considered in the planning process in the event they become proposed or listed prior to project completion. More information on the regulations (50 CFR 402) and procedures for section 7 consultation, including the role of permit or license applicants, can be found in our Endangered Species Consultation Handbook at: https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf.

We also advise you to consider species protected under the Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703-712) and the Bald and Golden Eagle Protection Act (Eagle Act) (16 U.S.C. 668 *et seq.*). The MBTA prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests, except when authorized by the Service. The Eagle Act prohibits anyone, without a permit, from taking (including disturbing) eagles, and their parts, nests, or eggs. Currently 1,026 species of birds are protected by the MBTA, including the western burrowing owl (*Athene cunicularia hypugaea*). Protected western burrowing owls can be found in urban areas and may use their nest/burrows year-round; destruction of the burrow may result in the unpermitted take of the owl or their eggs.

If a bald eagle or golden eagle nest occurs in or near the proposed project area, our office should be contacted for Technical Assistance. An evaluation must be performed to determine whether the project is likely to disturb or harm eagles. The National Bald Eagle Management Guidelines provide recommendations to minimize potential project impacts to bald eagles (see https://www.fws.gov/law/bald-and-golden-eagle-protection-act and https://www.fws.gov/program/eagle-management).

The Division of Migratory Birds (505/248-7882) administers and issues permits under the MBTA and Eagle Act, while our office can provide guidance and Technical Assistance. For more information regarding the MBTA, BGEPA, and permitting processes, please visit the following web site: https://www.fws.gov/program/migratory-bird-permit. Guidance for minimizing impacts to migratory birds for communication tower projects (e.g. cellular, digital television, radio, and emergency broadcast) can be found at https://www.fws.gov/media/recommended-best-practices-communication-tower-design-siting-construction-operation.

The U.S. Army Corps of Engineers (Corps) may regulate activities that involve streams (including some intermittent streams) and/or wetlands. We recommend that you contact the Corps to determine their interest in proposed projects in these areas. For activities within a National Wildlife Refuge, we recommend that you contact refuge staff for specific information about refuge resources, please visit this link or visit https://www.fws.gov/program/national-

wildlife-refuge-system to locate the refuge you would be working in or around.

If your action is on tribal land or has implications for off-reservation tribal interests, we encourage you to contact the tribe(s) and the Bureau of Indian Affairs (BIA) to discuss potential tribal concerns, and to invite any affected tribe and the BIA to participate in the section 7 consultation. In keeping with our tribal trust responsibility, we will notify tribes that may be affected by proposed actions when section 7 consultation is initiated. For more information, please contact our Tribal Coordinator, John Nystedt, at 928/556-2160 or John_Nystedt@fws.gov.

We also recommend you seek additional information and coordinate your project with the Arizona Game and Fish Department. Information on known species detections, special status species, and Arizona species of greatest conservation need, such as the western burrowing owl and the Sonoran desert tortoise (*Gopherus morafkai*) can be found by using their Online Environmental Review Tool, administered through the Heritage Data Management System and Project Evaluation Program (https://www.azgfd.com/wildlife-conservation/planning-for-wildlife/project-evaluation-program/).

We appreciate your concern for threatened and endangered species. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office. If we may be of further assistance, please contact our Flagstaff office at 928/556-2118 for projects in northern Arizona, our general Phoenix number 602/242-0210 for central Arizona, or 520/670-6144 for projects in southern Arizona.

Sincerely,
/s/

Heather Whitlaw
Field Supervisor
Attachment

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Bald & Golden Eagles
- Migratory Birds
- Wetlands

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Arizona Ecological Services Field Office
9828 North 31st Ave
#c3
Phoenix, AZ 85051-2517
(602) 242-0210

PROJECT SUMMARY

Project Code: 2022-0013010
Project Name: UPRR Pirate Industrial Lead
Project Type: Railroad - New Construction
Project Description: The proposed project is a new industrial lead railroad track that would connect Union Pacific Railroad Company's Phoenix Sub main line track in Maricopa County,
Arizona, to industrial properties southeast of the Phoenix-Mesa Gateway Airport. The proposed track would serve the transportation and logistics needs of existing manufacturing and industrial businesses, as well as prospective businesses looking to relocate to the area.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@33.27562535,-111.6654066683497,14z



Counties: Maricopa County, Arizona

ENDANGERED SPECIES ACT SPECIES

There is a total of 5 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

BIRDS

NAME	STATUS
Cactus Ferruginous Pygmy-owl *Glaucidium brasilianum cactorum* There is **final** critical habitat for this species. Species profile: https://ecos.fws.gov/ecp/species/1225	Threatened
California Least Tern *Sternula antillarum browni* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8104	Endangered
Yellow-billed Cuckoo *Coccyzus americanus* Population: Western U.S. DPS There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3911	Threatened

FISHES

NAME	STATUS
Gila Topminnow (incl. Yaqui) *Poeciliopsis occidentalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/1116	Endangered

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9743	Proposed Threatened

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

BALD & GOLDEN EAGLES

Bald and Golden Eagles are protected under the Bald and Golden Eagle Protection Act [2] and the Migratory Bird Treaty Act (MBTA) [1]. Any person or organization who plans or conducts activities that may result in impacts to Bald or Golden Eagles, or their habitats, should follow appropriate regulations and consider implementing appropriate avoidance and minimization measures, as described in the various links on this page.

---

1. The Bald and Golden Eagle Protection Act of 1940.
2. The Migratory Birds Treaty Act of 1918.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

There are Bald Eagles and/or Golden Eagles in your project area.

Measures for Proactively Minimizing Eagle Impacts
For information on how to best avoid and minimize disturbance to nesting bald eagles, please review the National Bald Eagle Management Guidelines. You may employ the timing and activity-specific distance recommendations in this document when designing your project/ activity to avoid and minimize eagle impacts. For bald eagle information specific to Alaska, please refer to Bald Eagle Nesting and Sensitivity to Human Activity.

The FWS does not currently have guidelines for avoiding and minimizing disturbance to nesting Golden Eagles. For site-specific recommendations regarding nesting Golden Eagles, please consult with the appropriate Regional Migratory Bird Office or Ecological Services Field Office.

If disturbance or take of eagles cannot be avoided, an incidental take permit may be available to authorize any take that results from, but is not the purpose of, an otherwise lawful activity. For assistance making this determination for Bald Eagles, visit the Do I Need A Permit Tool. For assistance making this determination for golden eagles, please consult with the appropriate Regional Migratory Bird Office or Ecological Services Field Office.

Ensure Your Eagle List is Accurate and Complete
If your project area is in a poorly surveyed area in IPaC, your list may not be complete and you may need to rely on other resources to determine what species may be present (e.g. your local FWS field office, state surveys, your own surveys). Please review the Supplemental Information on Migratory Birds and Eagles, to help you properly interpret the report for your specified location, including determining if there is sufficient data to ensure your list is accurate.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to bald or golden eagles on your list, see the "Probability of Presence Summary" below to see when these bald or golden eagles are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Oct 15 to Aug 31
Golden Eagle *Aquila chrysaetos* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Dec 1 to Aug 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

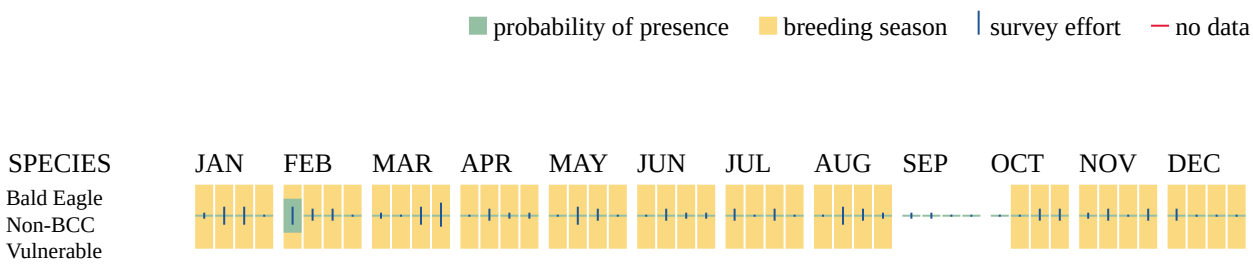
Probability of Presence (■)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

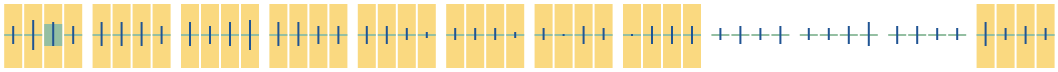
Breeding Season (■)
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)
Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (–)
A week is marked as having no data if there were no survey events for that week.



Golden Eagle
Non-BCC
Vulnerable



Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide avoidance and minimization measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

MIGRATORY BIRDS

The Migratory Bird Treaty Act (MBTA) [1] prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service (Service).

---

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the "Probability of Presence Summary" below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
American Avocet *Recurvirostra americana* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/11927	Breeds Apr 21 to Aug 10
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Oct 15 to Aug 31

NAME	BREEDING SEASON
Bendire's Thrasher *Toxostoma bendirei* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9435	Breeds Mar 15 to Jul 31
Costa's Hummingbird *Calypte costae* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9470	Breeds Jan 15 to Jun 10
Gila Woodpecker *Melanerpes uropygialis* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/5960	Breeds Apr 1 to Aug 31
Golden Eagle *Aquila chrysaetos* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Dec 1 to Aug 31
Lawrence's Goldfinch *Spinus lawrencei* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9464	Breeds Mar 20 to Sep 20

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (▪)

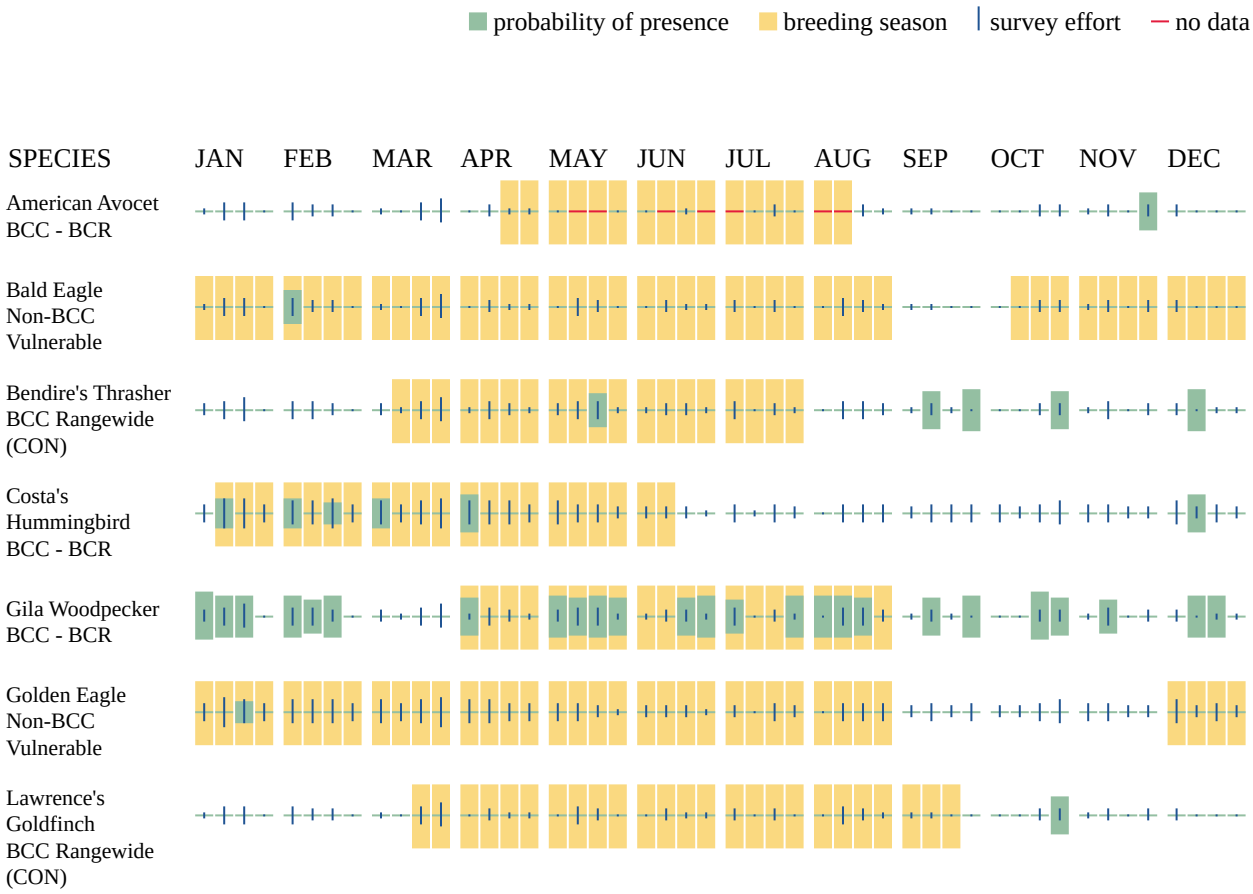
Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (▪)
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)
Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (–)

A week is marked as having no data if there were no survey events for that week.



Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide avoidance and minimization measures for birds
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

WETLANDS

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

RIVERINE

- R4SBJ

FRESHWATER POND

- PUBHx

IPAC USER CONTACT INFORMATION

Agency: Jacobs Engineering
Name: Kay Nicholson
Address: 1501 West Fountainhead Parkway, Suite 401
City: Tempe
State: AZ
Zip: 85282
Email kay.e.nicholson@jacobs.com
Phone: 6025301605

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Surface Transportation Board
Name: Adam Assenza
Email: Adam.Assenza@stb.gov
Phone: 2022450301

Arizona Environmental Online Review Tool Report

Arizona Game and Fish Department Mission
To conserve Arizona's diverse wildlife resources and manage for safe, compatible outdoor recreation opportunities for current and future generations.

The Department requests further coordination to provide project/species specific recommendations. Please use the Project Evaluation Form to submit your project to the Project Evaluation Program at PEP@azgfd.gov.

Project Name:

UPRR Pirate Industrial Lead

Project Type:

Transportation & Infrastructure, Railroads (Freight and Passenger), New tracks, bridges, roadway crossing for freight or passenger lines,

Project ID:

HGIS-16838

Project Description:

The proposed project is a new industrial lead railroad track that would connect Union Pacific Railroad Company's Phoenix Sub main line track in Maricopa County, Arizona, to industrial properties southeast of the Phoenix-Mesa Gateway Airport. The proposed track would serve the transportation and logistics needs of existing manufacturing and industrial businesses, as well as prospective businesses looking to relocate to the area.

Contact Person:

Kay Nicholson

Organization:

Jacobs Engineering Group

On Behalf Of:

OTHER_FED

Disclaimer:

1. This Environmental Review is based on the project study area that was entered. The report must be updated if the project study area, location, or the type of project changes.
2. This is a preliminary environmental screening tool. It is not a substitute for the potential knowledge gained by having a biologist conduct a field survey of the project area. This review is also not intended to replace environmental consultation (including federal consultation under the Endangered Species Act), land use permitting, or the Departments review of site-specific projects.
3. The Departments Heritage Data Management System (HDMS) data is not intended to include potential distribution of special status species. Arizona is large and diverse with plants, animals, and environmental conditions that are ever changing. Consequently, many areas may contain species that biologists do not know about or species previously noted in a particular area may no longer occur there. HDMS data contains information about species occurrences that have actually been reported to the Department. Not all of Arizona has been surveyed for special status species, and surveys that have been conducted have varied greatly in scope and intensity. Such surveys may reveal previously undocumented population of species of special concern.
4. Arizona Wildlife Conservation Strategy (AWCS), specifically Species of Greatest Conservation Need (SGCN), represent potential species distribution models for the State of Arizona which are subject to ongoing change, modification and refinement. The status of a wildlife resource can change quickly, and the availability of new data will necessitate a refined assessment.

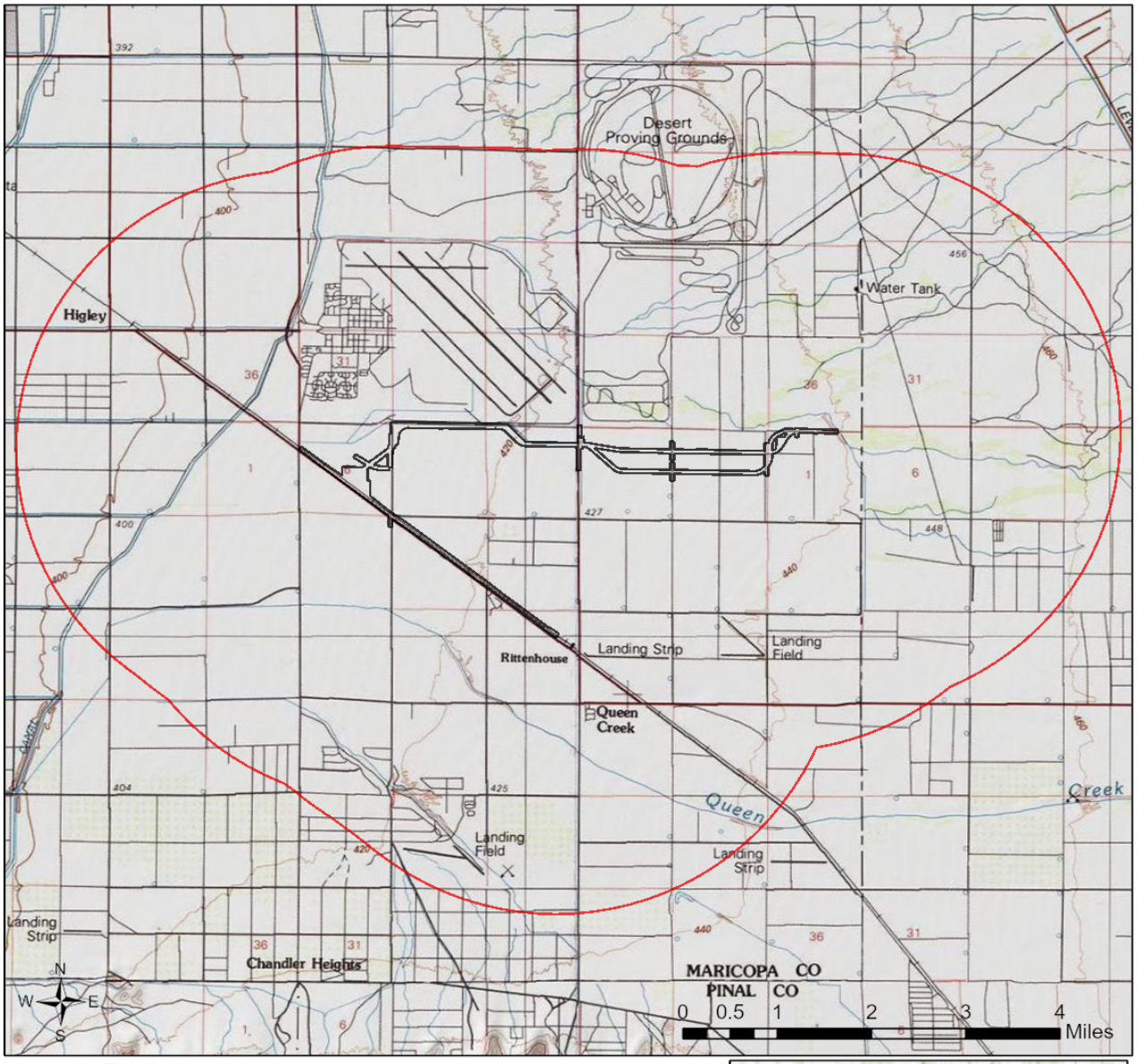
Locations Accuracy Disclaimer:
Project locations are assumed to be both precise and accurate for the purposes of environmental review. The creator/owner of the Project Review Report is solely responsible for the project location and thus the correctness of the Project Review Report content.

Recommendations Disclaimer:

1. The Department is interested in the conservation of all fish and wildlife resources, including those species listed in this report and those that may have not been documented within the project vicinity as well as other game and nongame wildlife.
2. Recommendations have been made by the Department, under authority of Arizona Revised Statutes Title 5 (Amusements and Sports), 17 (Game and Fish), and 28 (Transportation).
3. Potential impacts to fish and wildlife resources may be minimized or avoided by the recommendations generated from information submitted for your proposed project. These recommendations are preliminary in scope, designed to provide early considerations on all species of wildlife.
4. Making this information directly available does not substitute for the Department's review of project proposals, and should not decrease our opportunity to review and evaluate additional project information and/or new project proposals.
5. Further coordination with the Department requires the submittal of this Environmental Review Report with a cover letter and project plans or documentation that includes project narrative, acreage to be impacted, how construction or project activity(s) are to be accomplished, and project locality information (including site map). Once AGFD had received the information, please allow 30 days for completion of project reviews. Send requests to:
   Project Evaluation Program, Habitat Branch
   Arizona Game and Fish Department
   5000 West Carefree Highway
   Phoenix, Arizona 85086-5000
   Phone Number: (623) 236-7600
   Fax Number: (623) 236-7366
   Or
   PEP@azgfd.gov
6. Coordination may also be necessary under the National Environmental Policy Act (NEPA) and/or Endangered Species Act (ESA). Site specific recommendations may be proposed during further NEPA/ESA analysis or through coordination with affected agencies.

UPRR Pirate Industrial Lead

USA Topo Basemap With Locator Map



Buffered Project Boundary

Project Boundary



Project Size (acres): 436.85

Lat/Long (DD): 33.2892 / -111.6368

County(s): Maricopa

AGFD Region(s): Mesa

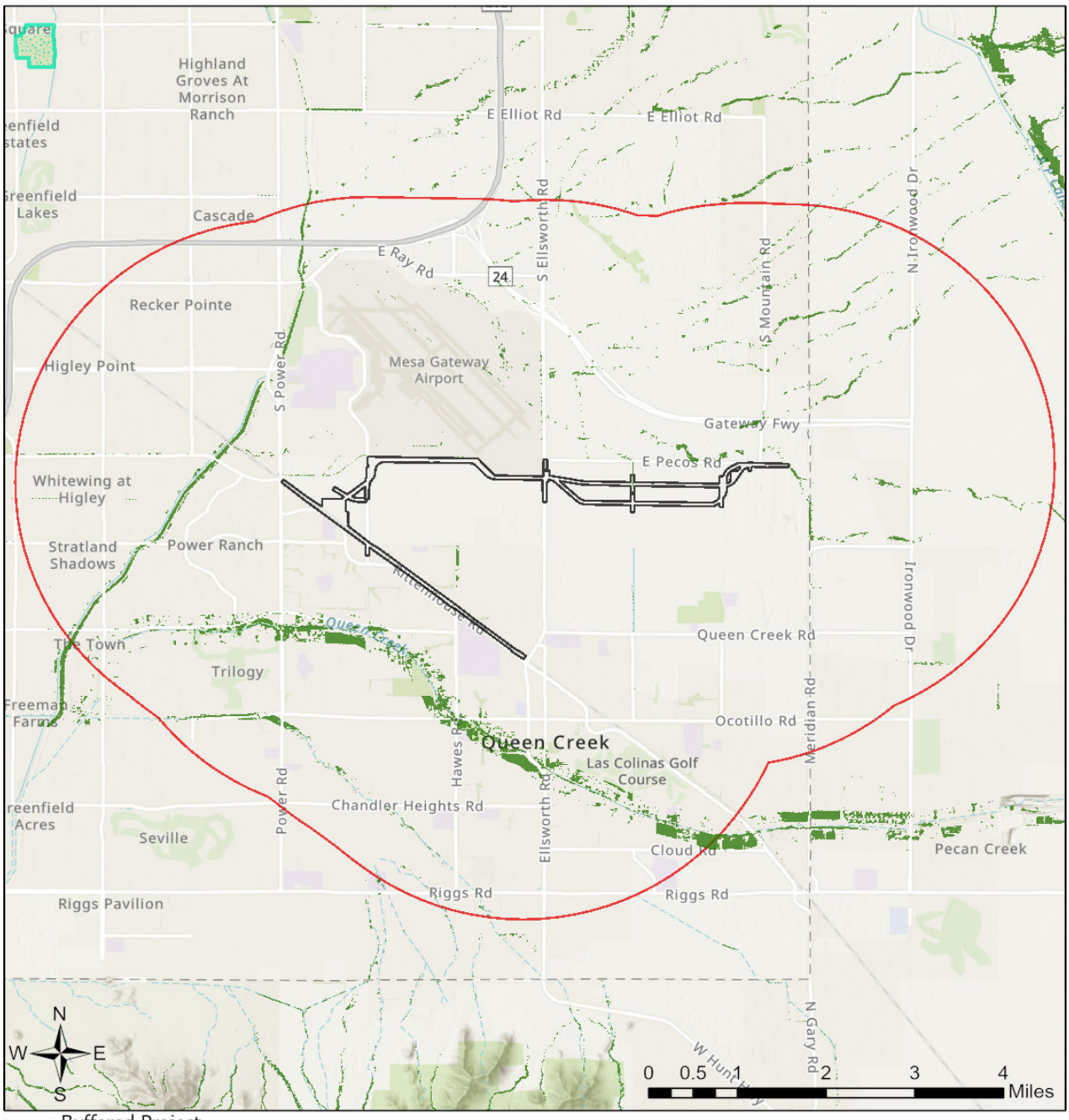
Township/Range(s): T1S, R7E; T2S, R7E

USGS Quad(s): DESERT WELL; HIGLEY

County of Yavapai, Esri, TomTom, Garmin, FAO, NOAA, USGS, EPA, USFWS
Copyright:© 2013 National Geographic Society, i-cubed
Esri, USGS

UPRR Pirate Industrial Lead

Important Areas



- Buffered Project Boundary
- Project Boundary
- Important Bird Areas
- Critical Habitat
- Pinal County Riparian
- Wildlife Connectivity

Project Size (acres): 436.85

Lat/Long (DD): 33.2892 / -111.6368

County(s): Maricopa

AGFD Region(s): Mesa

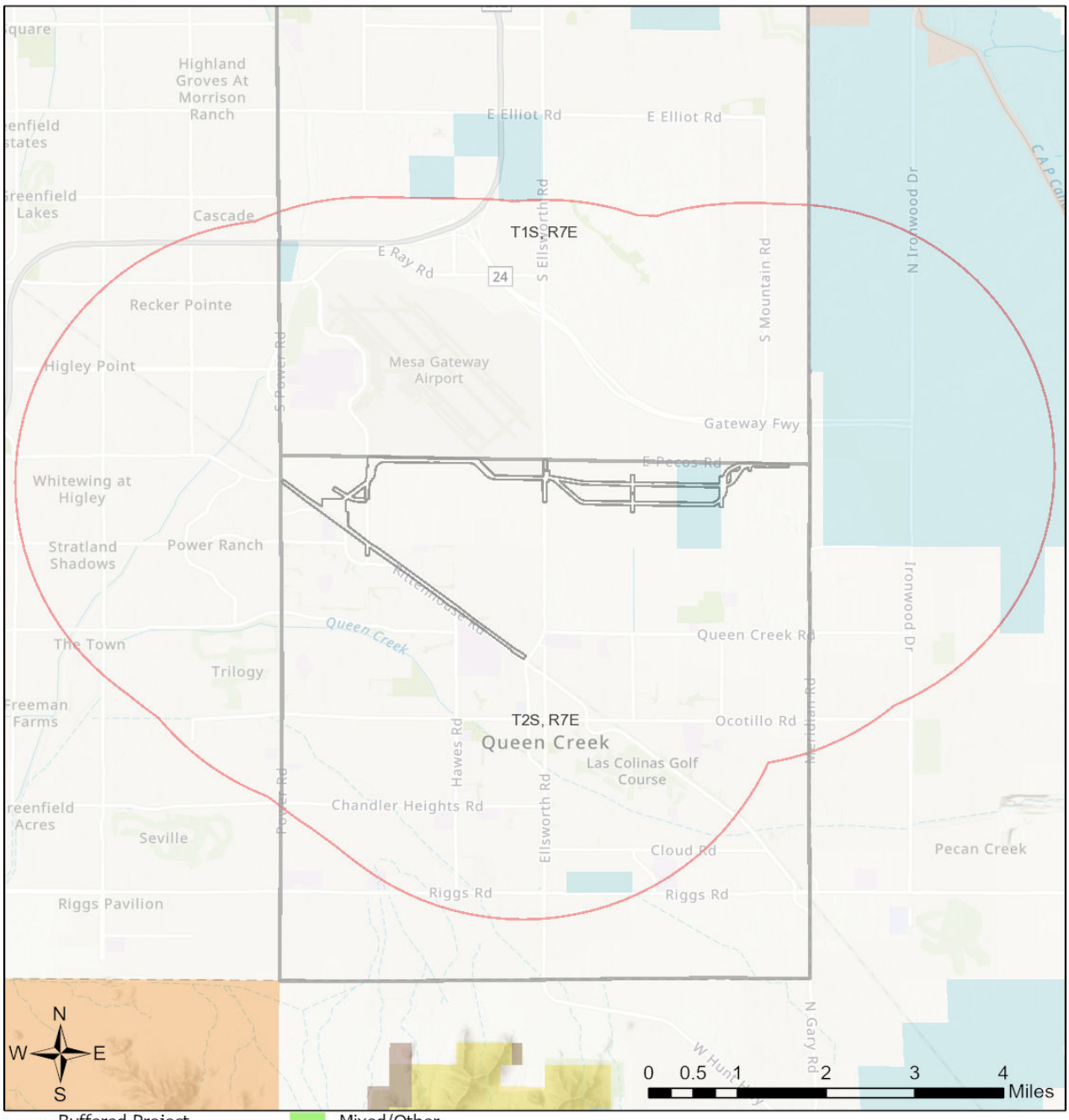
Township/Range(s): T1S, R7E; T2S, R7E

USGS Quad(s): DESERT WELL; HIGLEY

Esri, NASA, NGA, USGS
Town of Queen Creek, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, USDA, USFWS

UPRR Pirate Industrial Lead

Township/Ranges and Land Ownership



- Buffered Project Boundary
- Project Boundary
- AZ Game & Fish Dept.
- BLM
- BOR
- Indian Res.
- Military
- Mixed/Other
- National Park/Mon.
- Private
- State & Regional Parks
- State Trust
- US Forest Service
- Wildlife Area/Refuge
- Township/Ranges

Project Size (acres): 436.85

Lat/Long (DD): 33.2892 / -111.6368

County(s): Maricopa

AGFD Region(s): Mesa

Township/Range(s): T1S, R7E; T2S, R7E

USGS Quad(s): DESERT WELL; HIGLEY

Esri, NASA, NGA, USGS
Town of Queen Creek, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, USDA, USFWS

Special Status Species Documented within 3 Miles of Project Vicinity

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Athene cunicularia hypugaea	Western Burrowing Owl		S	S		2
Danaus plexippus	Monarch	PT		S		
Incilius alvarius	Sonoran Desert Toad					2
Lepus alleni	Antelope Jackrabbit					2
Perognathus amplus	Arizona Pocket Mouse					2
Phrynosoma solare	Regal Horned Lizard					2
Sigmodon hispidus	Hispid Cotton Rat					2
Toxostoma bendirei	Bendire's Thrasher					2

Note: Status code definitions can be found at https://www.azgfd.com/wildlife-conservation/on-the-ground-conservation/state-wildlife-action-plan/state-wildlife-action-plan-status-definitions/.

Special Areas Documented that Intersect with Project Footprint as Drawn

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Riparian Area	Riparian Area					

Note: Status code definitions can be found at https://www.azgfd.com/wildlife-conservation/on-the-ground-conservation/state-wildlife-action-plan/state-wildlife-action-plan-status-definitions/.

Species of Greatest Conservation Need Predicted that Intersect with Project Footprint as Drawn, based on Predicted Range Models

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Ammospermophilus harrisii	Harris' Antelope Squirrel					2
Anaxyrus microscaphus	Arizona Toad	UR		S		2
Anthus spragueii	Sprague's Pipit					2
Aquila chrysaetos	Golden Eagle			S		2
Artemisiospiza nevadensis	Sagebrush Sparrow					3
Athene cunicularia hypugaea	Western Burrowing Owl		S	S		2
Auriparus flaviceps	Verdin					2
Buteo regalis	Ferruginous Hawk			S		2
Buteo swainsoni	Swainson's Hawk					2
Calypte costae	Costa's Hummingbird					2
Campylorhynchus brunneicapillus	Cactus Wren					2
Catharus ustulatus	Swainson's Thrush					2
Chaetodipus baileyi	Bailey's Pocket Mouse					2
Chilomeniscus cinctus	Variable Sandsnake					2
Coccyzus americanus	Yellow-billed Cuckoo (Western DPS)	LT	S	S		1
Colaptes chrysoides	Gilded Flicker			S		2
Columbina inca	Inca Dove					2
Corynorhinus townsendii pallescens	Pale Townsend's Big-eared Bat		S	S		1
Crotalus tigris	Tiger Rattlesnake					2

Species of Greatest Conservation Need Predicted that Intersect with Project Footprint as Drawn, based on Predicted Range Models

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Cynanthus latirostris	Broad-billed Hummingbird		S			2
Empidonax wrightii	Gray Flycatcher					2
Eumops perotis californicus	Greater Western Bonneted Bat			S		2
Falco mexicanus	Prairie Falcon					2
Falco peregrinus anatum	American Peregrine Falcon		S	S		1
Falco sparverius	American Kestrel					2
Gopherus morafkai	Sonoran Desert Tortoise	CCA	S	S		1
Icterus bullockii	Bullock's Oriole					2
Icterus cucullatus	Hooded Oriole					2
Incilius alvarius	Sonoran Desert Toad					2
Kinosternon sonoriense sonoriense	Desert Mud Turtle			S		2
Lanius ludovicianus	Loggerhead Shrike					2
Lasiurus cinereus	Hoary Bat					2
Lasiurus frantzii	Desert Red Bat		S			2
Lasiurus xanthinus	Western Yellow Bat		S			2
Lepus alleni	Antelope Jackrabbit					2
Macrotus californicus	California Leaf-nosed Bat			S		2
Megascops kennicottii	Western Screech-owl					2
Melanerpes uropygialis	Gila Woodpecker					2
Melospiza lincolnii	Lincoln's Sparrow					2
Melozone aberti	Abert's Towhee		S			2
Micrathene whitneyi	Elf Owl					3
Myotis auriculus	Southwestern Myotis					2
Myotis velifer	Cave Myotis			S		2
Myotis yumanensis	Yuma Myotis					2
Neotamias cinereicollis	Gray-collared Chipmunk					2
Neotamias minimus	Least Chipmunk		S			2
Nyctinomops femorosaccus	Pocketed Free-tailed Bat					2
Parabuteo unicinctus	Harris's Hawk					2
Passerculus sandwichensis	Savannah Sparrow					2
Perognathus amplus	Arizona Pocket Mouse					2
Phrynosoma solare	Regal Horned Lizard					2
Pooecetes gramineus	Vesper Sparrow					2
Rana yavapaiensis	Lowland Leopard Frog		S	S		1
Spizella breweri	Brewer's Sparrow					2
Tadarida brasiliensis	Brazilian Free-tailed Bat					2
Toxostoma bendirei	Bendire's Thrasher					2

Species of Economic and Recreation Importance Predicted that Intersect with Project Footprint as Drawn

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Callipepla gambelii	Gambel's Quail					
Zenaida asiatica	White-winged Dove					
Zenaida macroura	Mourning Dove					

Project Type: Transportation & Infrastructure, Railroads (Freight and Passenger), New tracks, bridges, roadway crossing for freight or passenger lines,

Project Type Recommendations:
Bridge Maintenance/Construction
In addition to the species list generated by the Arizona's On-line Environmental Review Tool, the AZGFD recommends that surveys be conducted at the bridge and in the vicinity of the bridge to identify additional or currently undocumented bat, bird, or aquatic species in the project area. To minimize impacts to birds and bats, consider conducting maintenance and construction activities outside the bat maternity season (May through September) and typical bird breeding season (March through August). Examine the crevices for the presence of bats prior to pouring new paving materials or sealing the top of those crevices to prevent material from dripping or falling through the cracks and potentially onto bats. If bats are present, maintenance and construction (including paving and milling) activities should be conducted during nighttime hours, if possible, when the fewest number of bats will be roosting. Consider incorporating roosting sites for bats into bridge designs.
Consider design structures and construction plans that minimize impacts to channel geometry (i.e., width/depth ratio, sinuosity, allow overflow channels), to avoid alteration of hydrological function. During construction, erosion control structures and drainage features should be used to prevent introduction of sediment laden runoff into the waterway. Minimize instream construction activity. Guidelines for bridge and culvert designs to facilitate wildlife passage can be found on our Wildlife Friendly Guidelines web page under the Planning for Wildlife link, at https://www.azgfd.com/wildlife-conservation/planning-for-wildlife/planning-for-wildlife-wildlife-friendly-guidelines/.

Fence recommendations will be dependent upon the goals of the fence project and the wildlife species expected to be impacted by the project. The AZGFD's Wildlife Compatible Fencing Guidelines provide information on how fencing impacts wildlife, ways to design fencing to prevent wildlife entanglement and impalement, and to ensure wildlife movement is not restricted. Please refer to the AZGFD's Fencing Guidelines located on Wildlife Friendly Guidelines page, which is part of the Wildlife Planning page at https://www.azgfd.com/wildlife-conservation/planning-for-wildlife/planning-for-wildlife-wildlife-friendly-guidelines/.
For wildlife friendly fencing, general guidelines for ensuring wildlife-friendly barbed-wire fences along roadways and other property/allotment boundaries include: barbless wire on the top and bottom with the maximum fence height 42", minimum height for bottom 16". Modifications to this design may be considered for fencing anticipated to be routinely encountered by elk, bighorn sheep, or pronghorn (e.g., Pronghorn fencing would require 18" minimum height on the bottom). For projects that require chain link or other security/perimeter fence, leaving a 6–8-inch gap between the ground surface and bottom of the fence to allow for smaller wildlife species to move freely through the area and make use of any habitat within the project boundary.

During the planning stages of your project, please consider the local or regional needs of wildlife in regards to movement, connectivity, and access to habitat needs. Loss of this permeability prevents wildlife from accessing resources, finding mates, reduces gene flow, prevents wildlife from re-colonizing areas where local extirpations may have occurred, and ultimately prevents wildlife from contributing to ecosystem functions, such as pollination, seed dispersal, control of prey numbers, and resistance to invasive species. In many cases, streams and washes provide natural movement corridors for wildlife and should be maintained in their natural state. Uplands also support a large diversity of species, and it is important to identify and conserve upland wildlife movement corridors. In addition, maintaining biodiversity and ecosystem functions can be facilitated through improving designs of structures, fences, roadways, and culverts to promote passage for a variety of wildlife species. Guidelines for many of these can be found at:
https://www.azgfd.com/wildlife-conservation/planning-for-wildlife/planning-for-wildlife-wildlife-friendly-guidelines/.

Consider impacts of outdoor lighting on wildlife and develop measures or alternatives that can be taken to increase human safety while minimizing potential impacts to wildlife. Artificial lighting could impair the ability of nocturnal animals to navigate (e.g., owls, migratory birds, bats, and other nocturnal mammals) and may affect wildlife behavior and populations. The AZGFD recommends using only the minimum amount of light needed for safety, especially in areas immediately adjacent to open space or undeveloped lands. The AZGFD encourages the use of motion sensing lighting and narrow spectrum lighting (amber or warm tones typically 2700 Kelvin or lower) wherever possible to lower the range of species affected by lighting. Also, please consider shielding, canting, or cutting all lighting, where possible, to ensure that light reaches only areas needing illumination and to minimize impacts to nocturnal wildlife.

Minimize the potential introduction or spread of exotic invasive species, including aquatic and terrestrial plants, animals, insects and pathogens. Precautions should be taken to wash and/or decontaminate all equipment utilized in the project activities before entering and leaving the site. See the Arizona Department of Agriculture website for a list of prohibited and restricted noxious weeds at https://www.invasivespeciesinfo.gov/ and the Arizona Native Plant Society https://aznps.com/invas for recommendations on how to control these species. To view a list of documented invasive species or to report invasive species in or near your project area visit iMapInvasives - a national cloud-based application for tracking and managing invasive species at https://imap.natureserve.org/imap/services/page/map.html.

- To build a list: zoom to your area of interest, use the identify/measure tool to draw a polygon around your area of interest, and select “See What’s Here” for a list of reported species. To export the list, you must have an account and be logged in. You can then use the export tool to draw a boundary and export the records in a csv file.

Follow manufacturer's recommended application guidelines for all chemical treatments. The U.S. Fish and Wildlife Service, Integrated Pest Management Group has a reference document that serves as their pesticide recommendations for protecting wildlife and fisheries resources, titled "Reducing Risks to Pollinators from Pest Control", https://www.fws.gov/sites/default/files/documents/Reducing%20Risks%20to%20Pollinators%20From%20Insect%20and%20Plant%20Pest%20Control%20-%20Farmlands.pdf The AZGFD recommends that direct or indirect impacts to sensitive species and their forage base from the application of chemical pesticides or herbicides be considered carefully when identifying timing, location, and application methods.

Evaluate potential impacts to wildlife and fish species due to changes in access to water, water quality, quantity, chemistry, temperature, and alteration to flow regimes (timing, magnitude, duration, and frequency of floods). Minimize impacts to springs, in-stream flow, and consider irrigation improvements to decrease water use. If dredging is a project component, consider timing the project to minimize impacts to spawning fish and other aquatic species. Wash, drain, and dry equipment to reduce the spread of exotic invasive species. AZGFD recommends early coordination with the Project Evaluation Program (PEP@azgfd.gov) for projects that could impact water resources, wetlands, streams, springs, and/or riparian habitats.

The AZGFD recommends that wildlife surveys are conducted to determine if noise-sensitive species, such as birds or mammals, occur within the project area. Avoidance or minimization measures could include conducting project activities outside of breeding seasons.

Washes and stream corridors often provide important corridors for terrestrial and aquatic wildlife movement. Overall culvert width, height, and length should be optimized for movement of the greatest number and diversity of species expected to utilize the passage. Designs should provide clear views at both ends to maximize utilization. Rip-rap is difficult for many species to traverse; if rip-rap is required on the ground under or in front of the culvert, it should be buried, back-filled with topsoil, or at least a portion of it should be covered by another substrate that would allow wildlife to move through. If the concrete floor underneath the culvert creates a steep shelf or step, at least a portion of it, preferably close to one of the edges (i.e. not in the middle of the drainage), should have a sloped ramp that allows wildlife to move along the drainage unobstructed. For many species, fencing is an important design feature that can be utilized with culverts to funnel wildlife into these areas and minimize the potential for roadway collisions.
Determine if the current structures are structurally suitable to provide day and/or night time roosting habitat for bats. An experienced biologist should survey for bats by looking into suitable cracks and/or looking for body or urine stain, physical presence, or guano. Bat surveys should be conducted prior to any work on or immediately adjacent to the culverts; surveys should be scheduled far in advance of proposed work to allow for schedule modification to avoid disruption of maternity roosts during the breeding season, and again immediately prior to construction.
Guidelines for culvert designs to facilitate wildlife passage can be found on the home page of this application at https://www.azgfd.com/wildlife-conservation/planning-for-wildlife/planning-for-wildlife-wildlife-friendly-guidelines/.

Project Location and/or Species Recommendations:
This review has identified **riparian areas** within the vicinity of your project. During the planning stage of your project, avoid, minimize, or mitigate any potential impacts to riparian areas identified in this report. Riparian areas play an important role in maintaining the functional integrity of the landscape, primarily by acting as natural drainages that convey water through an area, thereby reducing flood events. In addition, riparian areas provide important movement corridors and habitat for fish and wildlife. Riparian areas are channels that contain water year-round or at least part of the year. Riparian areas also include those channels which are dry most of the year, but may contain or convey water following rain events. All types of riparian areas offer vital habitats, resources, and movement corridors for wildlife. The Pinal County Comprehensive Plan (i.e. policies *6.1.2.1* and *7.1.2.4*), Open Space and Trails Master Plan, Drainage Ordinance, and Drainage Design Manual all identify riparian area considerations, guidance, and policies. Guidelines to avoid, minimize, or mitigate impacts to riparian habitat can be found at https://www.azgfd.com/wildlife-conservation/planning-for-wildlife/planning-for-wildlife-wildlife-friendly-guidelines/. Further consultation with the Arizona Game and Fish Department and Pinal County may be warranted.

HDMS records indicate that **Western Burrowing Owls** have been documented within the vicinity of your project area. Please review the western burrowing owl resource page at https://www.azgfd.com/wildlife-conservation/conservation-and-endangered-species-programs/burrowing-owl-management/.

Appendix G
Jurisdictional Delineation Report Including Wetlands

Surface Transportation Board

Jurisdictional Delineation Report Including Wetlands

For

Pecos Industrial Rail Access and Train Extension (PIRATE) Project

Corps File No. SPL-2021-00653
Docket No. FD 36501 – Union Pacific Railroad Company Construction Exemption in Mesa, Arizona

October 2022
Submittal No. 1

TABLE OF CONTENTS

1. Location 2
2. Purpose....2
3. Location Description....2
4. Methods....9
5. Results....15
6. Summary....18
7. Coordination 18
8. References....19
9. Signatures....20

LIST OF TABLES

Table 1. Summary of Open Water and Other Waters of the U.S....15
Table 2. Plant Communities and Presence of Hydrophytic Vegetation in the Wetland Survey Area....16
Table 3. Indicators of Hydric Soils in the Wetland Survey Area 16
Table 4. Indicators of Wetland Hydrology in the Wetland Survey Area....17
Table 5. Cowardin Classification of Wetlands in the Wetland Survey Area....17
Table 6. Summary of Characteristics and Presence of Wetlands in the Wetland Survey Area....18
Table 7. Summary of Waters Type and Amount of Proposed Waters of the U.S. 18

LIST OF FIGURES

Figure 1. State Location Map....3
Figure 2a. Vicinity Map – Western Project Vicinity 4
Figure 2b. Vicinity Map – Eastern Project Vicinity 5
Figure 3a. JD Survey Area, Topographic, and Floodplain Map – Western Project Limits....6
Figure 3b. JD Survey Area, Topographic, and Floodplain Map – Eastern Project Limits....7
Figure 4a. Wetland Plant Communities Map – Northwest....13
Figure 4b. Wetland Plant Communities Map – Southeast....14

LIST OF APPENDICES

APPENDIX A. Proposed Jurisdictional Delineation with Wetlands
APPENDIX B. Ground Photographs of Project Drainages (May 24–26 and August 19, 2022)
APPENDIX C. Jurisdictional Delineation Physical Characteristics & Other Information Table
APPENDIX D. Wetland Determination Data Forms
APPENDIX E. Ground Photographs of Wetland Delineation Data Plots (May 25, 2022)
APPENDIX F. U.S. Fish and Wildlife Service National Wetlands Inventory Wetland Maps

1. Location

The jurisdictional delineation (JD), including the wetlands survey area, is located generally between Rittenhouse, Pecos, Meridian, and Germann Roads in the city of Mesa (Mesa), Maricopa County, Arizona (Figures 1, 2a, and 2b). The cadastral location of the Pecos Industrial Rail Access and Train Extension (PIRATE) project, as shown on the U.S. Geological Survey (USGS) Higley, AZ (1956b) and Desert Well, AZ (1956a) 7.5-minute topographic quadrangles, is listed below:

- Township 1 South, Range 7 East, Section 36
- Township 2 South, Range 7 East, Sections 1 through 9 and 16

The PIRATE project would occur within existing Union Pacific Railroad Company (UP) right-of-way, within future UP right-of-way to be purchased from Mesa and private landowners, and within future UP easements to be obtained from the Arizona State Land Department and the Flood Control District of Maricopa County (FCDMC). Three ephemeral washes, including the Rittenhouse and Ellsworth flood control channels (Wash No. 1 and Wash No. 2, respectively), and an unnamed wash (Wash No. 3) cross the proposed PIRATE alignment. The project midpoint is located at 33.289238N, -111.634987W, North American Datum of 1983 decimal degrees. Portions of the project occur within the Rittenhouse Channel 100-year floodplain (Figure 3a).

2. Purpose

This report documents the JD (including presence/absence of wetlands) conducted May 24–26, 2022, to determine the presence of potential jurisdictional waters of the United States (U.S.) within the limits of the proposed PIRATE project between the Phoenix Subdivision main line track at Rittenhouse Road and the eastern edge of the Pecos Advanced Manufacturing Zone (PAMZ) at Meridian Road. UP proposes to construct 6.0 miles of new industrial lead track between Rittenhouse and Meridian Roads and about 4.0 miles of new support tracks parallel to the existing Phoenix Subdivision main line track between Power and Ellsworth Roads. According to UP, the purpose of the proposed rail line is to meet the transportation and logistics needs of existing and future manufacturing businesses within the PAMZ and adjacent areas.

3. Location Description

The JD survey area occurs within the Basin and Range Physiographic Province, which is characterized by a series of northwest to southeast trending mountain ranges separated by alluvial valleys. The terrain is flat with elevations ranging about 10 feet, from 1,330 to 1,340 feet above mean sea level, within the Lower Colorado River subdivision of the Sonoran Desertscrub biotic community (Brown 1994).

The survey area, in a rapidly developing section of southeastern Mesa, is highly disturbed by agriculture (both active and fallow) and industrial development, as well as flood control, transportation, and freight infrastructure. Aviation, residential, commercial, and institutional land uses surround the survey area. Land to the east in Pinal County is still largely undeveloped desertscrub.

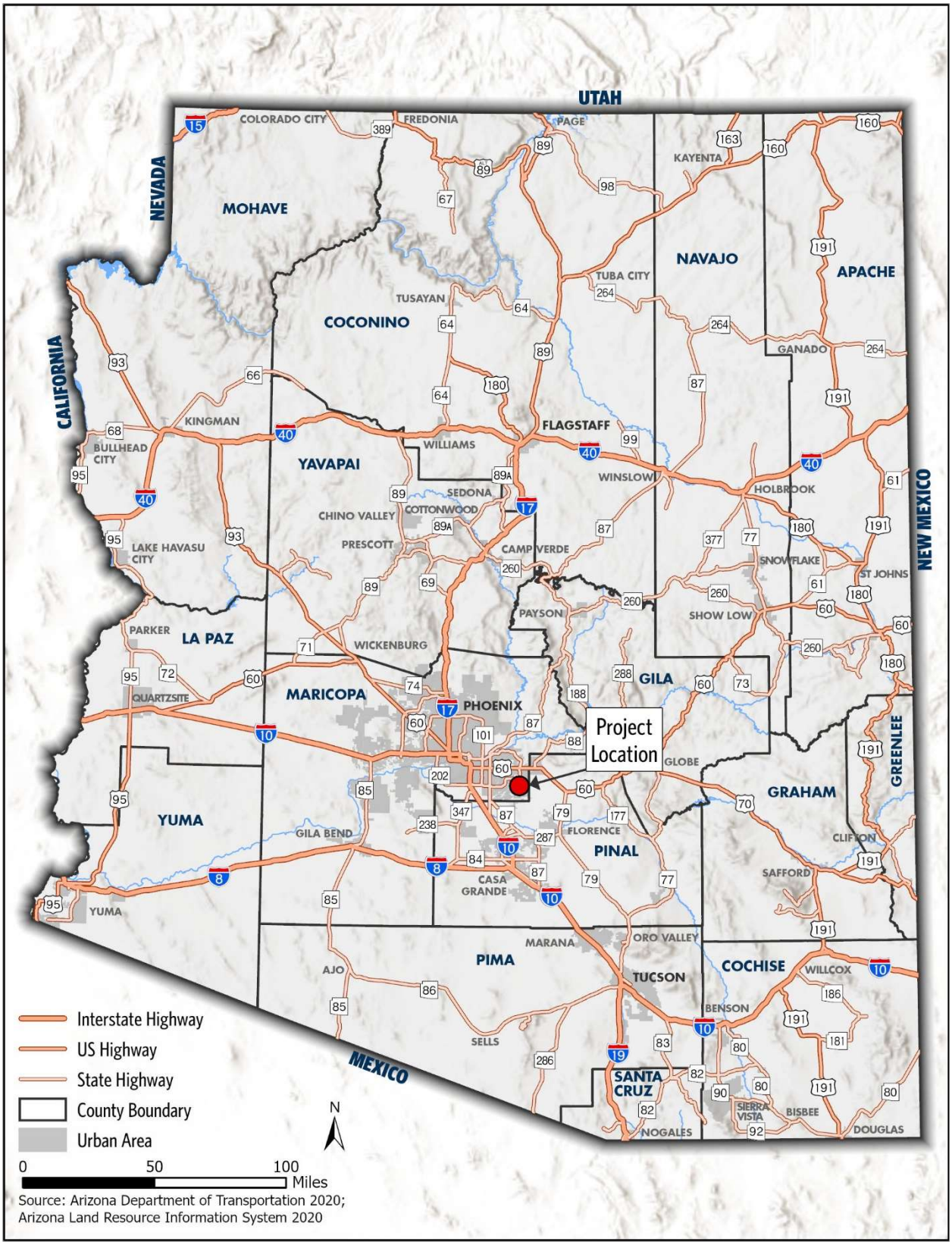


Figure 1. State Location Map
PIRATE Project / Docket No. FD 36501

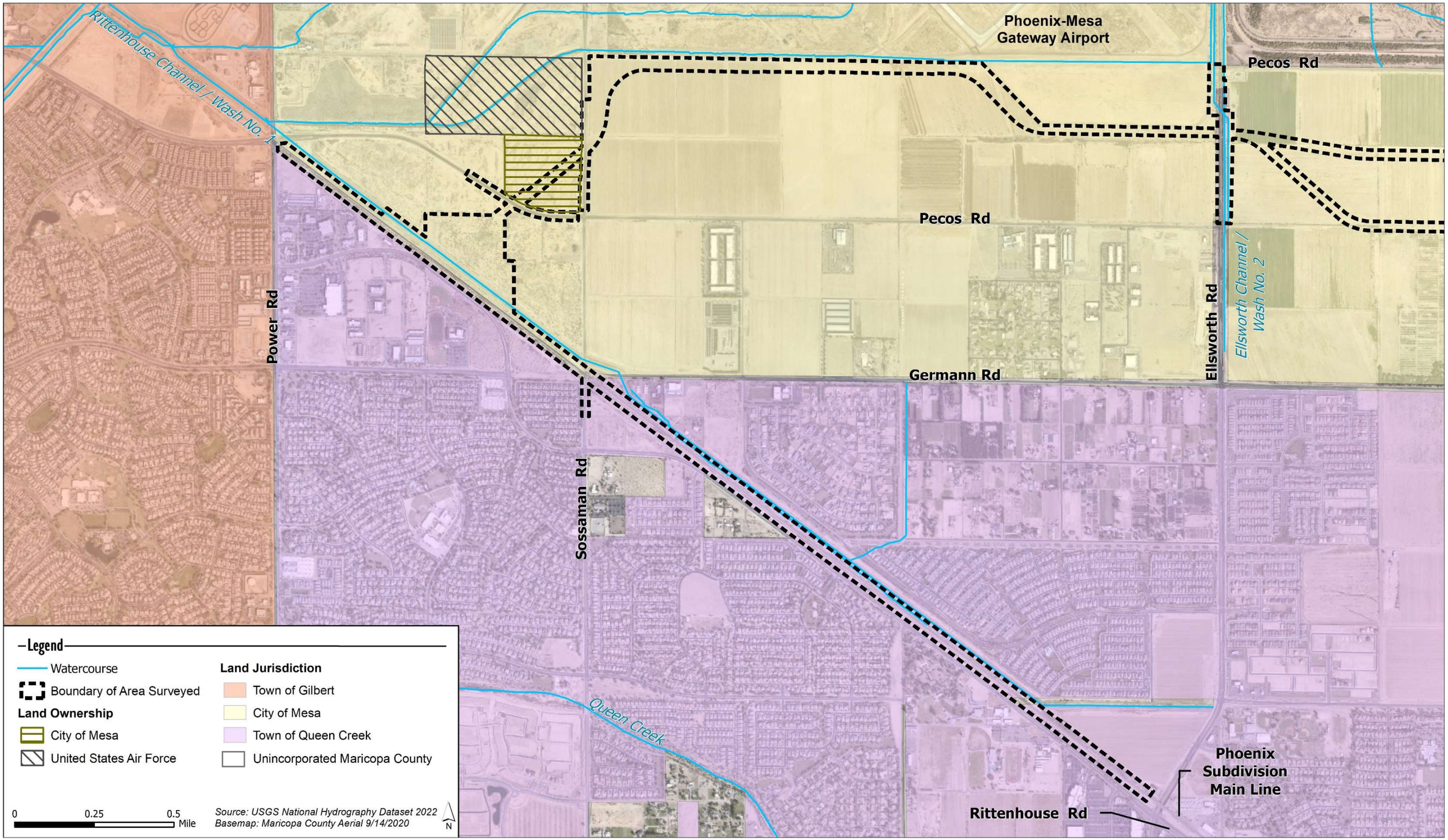


Figure 2a. Vicinity Map – Western Project Vicinity
PIRATE Project / Docket No. FD 36501

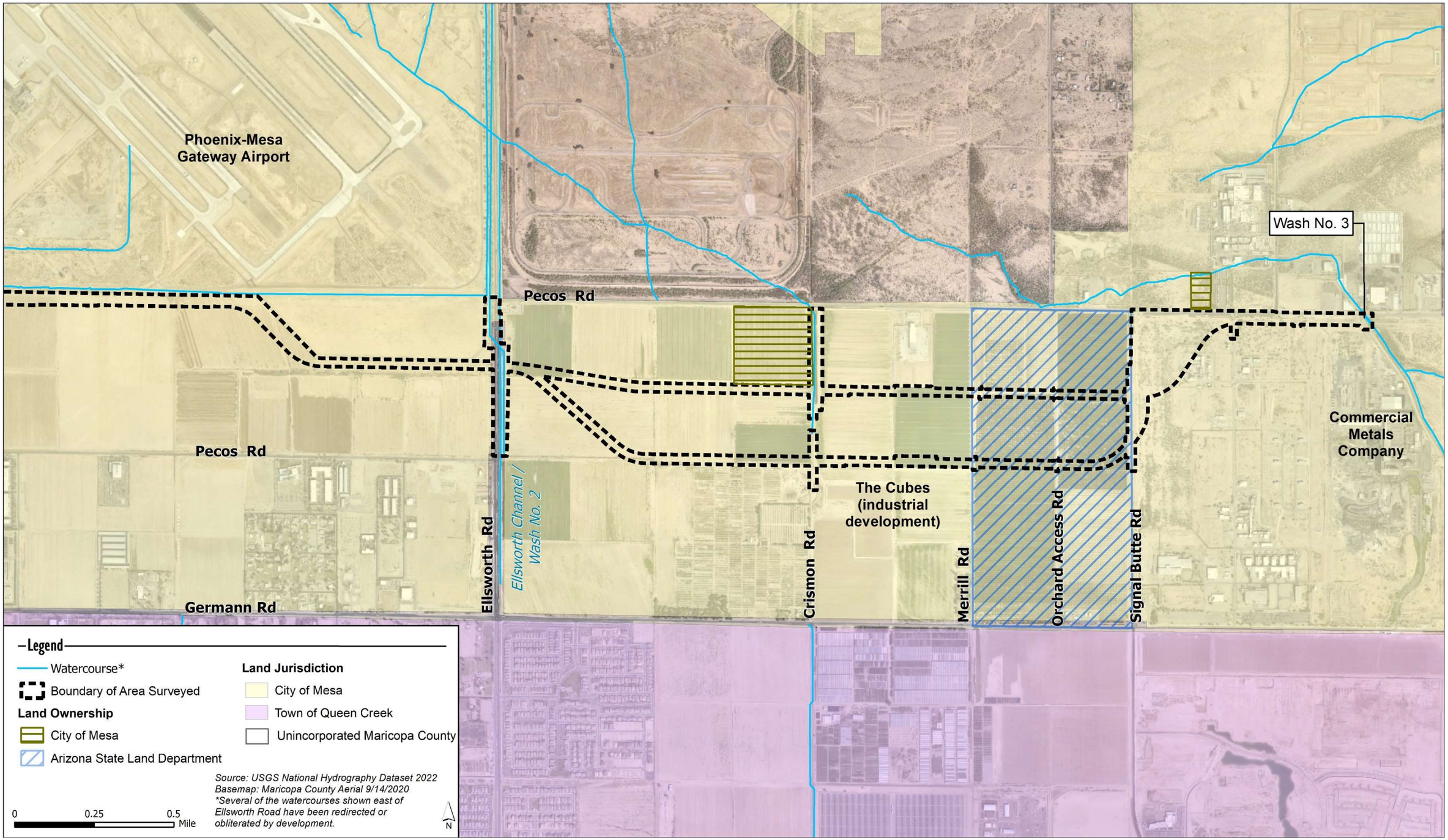


Figure 2b. Vicinity Map – Eastern Project Vicinity
PIRATE Project / Docket No. FD 36501

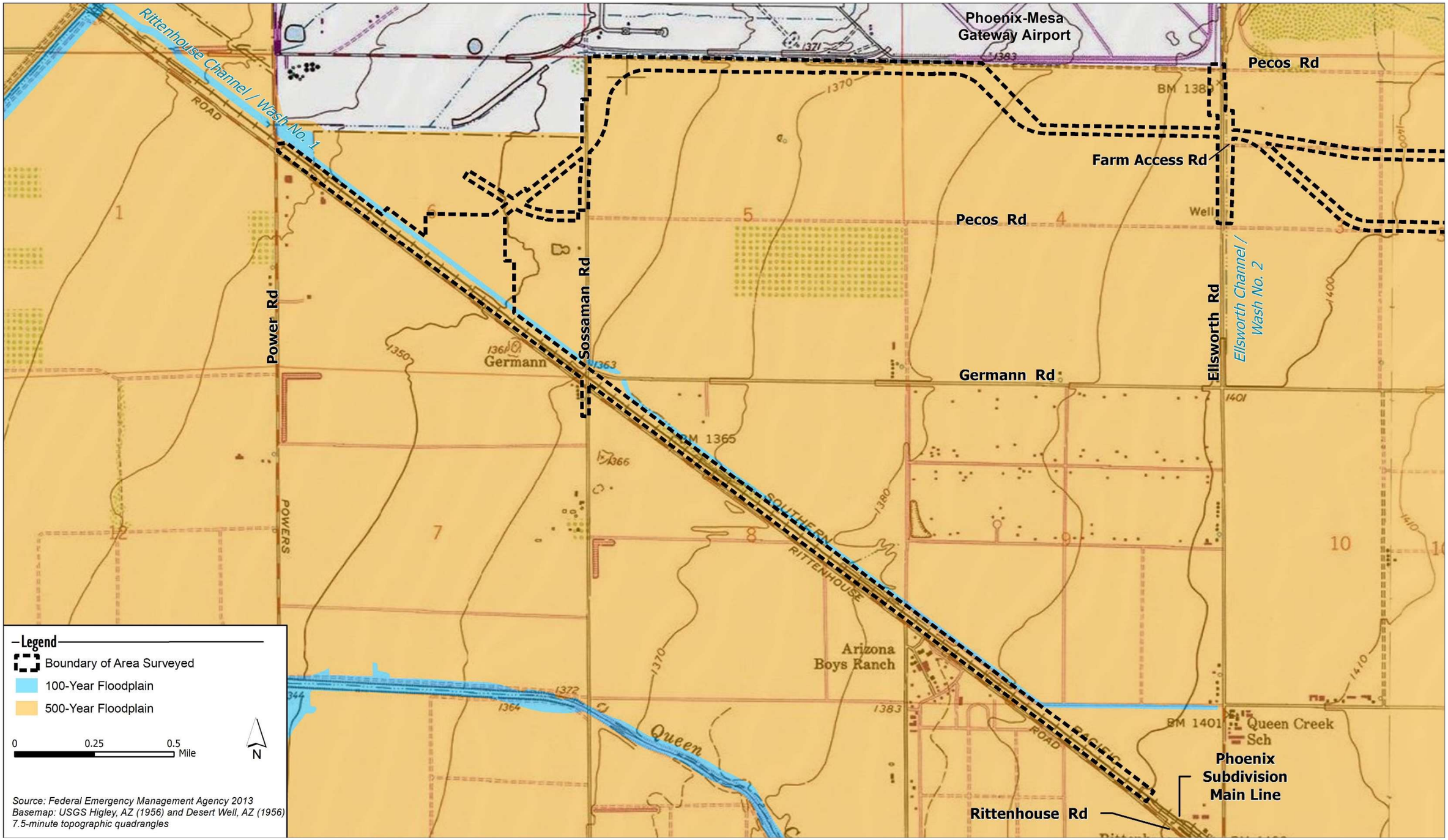


Figure 3a. JD Survey Area, Topographic, and Floodplain Map – Western Project Limits
PIRATE Project / Docket No. FD 36501

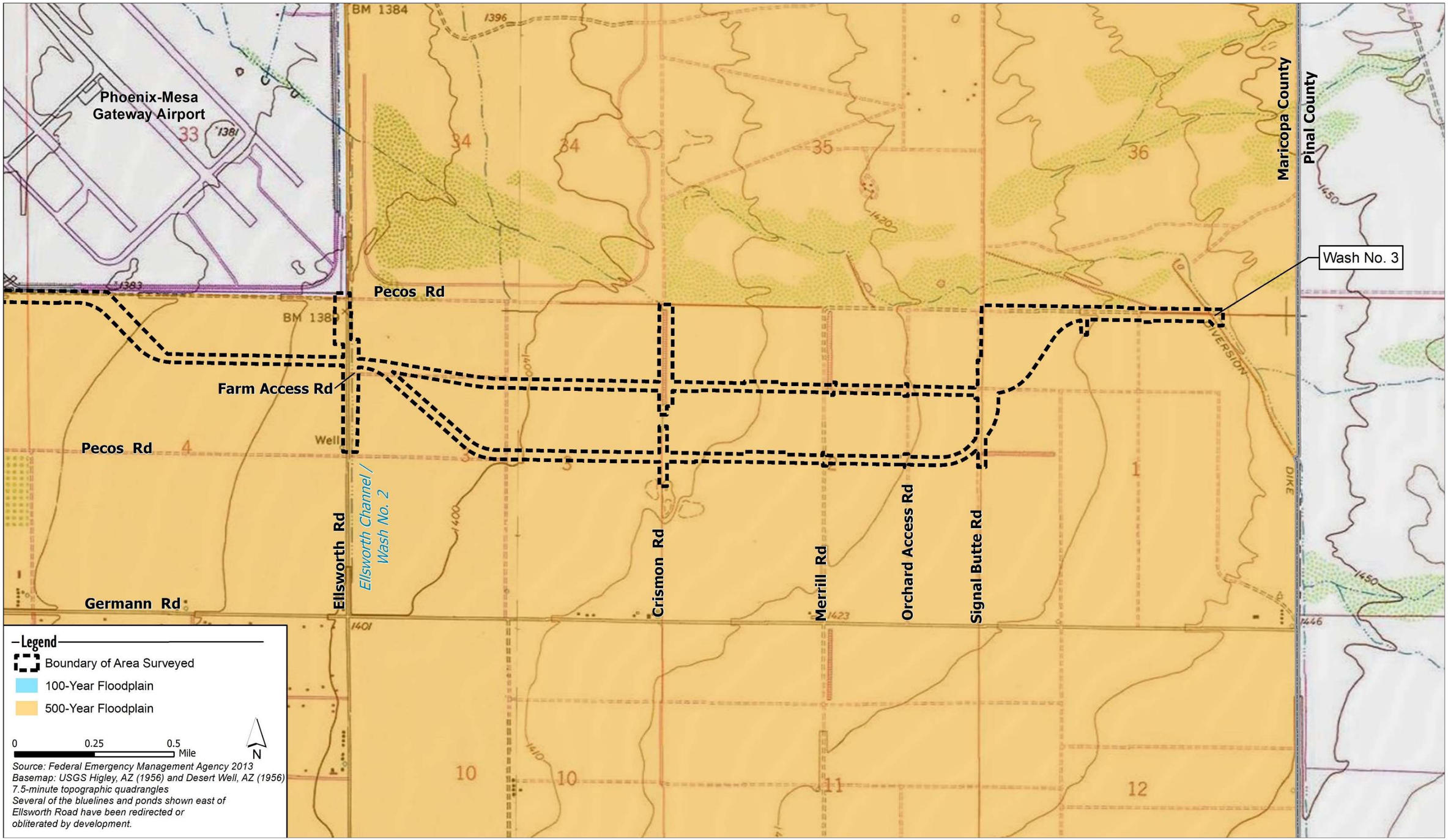


Figure 3b. JD Survey Area, Topographic, and Floodplain Map – Eastern Project Limits
PIRATE Project / Docket No. FD 36501

Some native species remain in the survey area west of Sossaman Road and east of Signal Butte Road. Dominant native plants include foothills palo verde (*Parkinsonia microphylla*), velvet mesquite (*Prosopis velutina*), creosotebush (*Larrea tridentata*), desert broom (*Baccharis sarothroides*), fourwing saltbush (*Atriplex canescens*), brittlebush (*Encelia farinosa*), triangle-leaf bursage (*Ambrosia deltoidea*), snakeweed (*Gutierrezia sarothrae*), and Indian rushpea (*Hoffmannseggia glauca*). Dominant vegetation in the agricultural fields consists of orange (*Citrus sinensis)* and lemon (*Citrus limon)* trees in the active orchards and non-native species in the fallow fields, such as Russian thistle (*Kali tragus*), common sunflower (*Helianthus annuus*), and alfalfa (*Medicago sativa*). One stand of cattail (*Typha* sp.) and salt cedar (*Tamarix* spp.) approximately 200 feet long by 30 feet wide was present on May 25, 2022, in an abandoned tailwater basin at the southeast corner of Pecos and Crismon Roads, but has since been removed as part of site preparation for The Cubes industrial warehouse development. Isolated areas of remnant xeroriparian habitat, including desert broom and foothills palo verde, are present along ephemeral washes near the eastern end of the survey area.

Soils in the survey area are loamy, with about 20 percent tending toward sandy loams or loamy sand. A band of clay loams (about 9 percent) traverses the survey area near Signal Butte Road. These soils developed on floodplains, alluvial fans, and fan terraces created by runoff and drainage from the surrounding mountains. Soil depth is greater than 6 feet, but drainage is constrained by bedrock, caliche, or other restrictive layers. Soils in the survey area are classified as well drained or somewhat excessively drained and none of the soils are considered hydric (Natural Resources Conservation Service [NRCS] 2022).

As mentioned above, terrain in the survey area is flat with only a 10-foot increase in elevation between the western and eastern termini. However, several mountain ranges about 15 to 20 miles away are visible because of the slight grade between the survey area and these geologic features. Terrain in the greater project vicinity is dominated by the Goldfield and Superstition Mountains to the northeast and east, most notably the craggy outline of Four Peaks and the angular form of The Flatiron. The Usery and McDowell Mountains are visible to the north and northwest.

Previous development has obliterated nearly all of the natural drainages in the survey area. Historical aerials indicate that agriculture was taking hold in the area by 1930; by 1949, most of the survey area, including watercourses, had been converted from natural desert to agriculture (Mesa 2022). To manage drainage and runoff in the greater project vicinity that historically flowed west and southwest through ephemeral washes, FCDMC and other entities constructed multiple flood control channels (FCDMC 2012). Two of these channels, both owned and maintained by FCDMC, intersect the survey area. The Rittenhouse Channel, which parallels UP's Phoenix Subdivision main line, and the Ellsworth Channel, along Ellsworth Road, gather regional and local drainage and runoff. Flows in both channels reach the East Maricopa Floodway, which flows south to the Gila River. The unnamed wash at the eastern end of the survey area has been heavily modified by industrial development. Appendix B contains photographs that support the evaluation of the Rittenhouse Channel (Wash No. 1), the Ellsworth Channel (Wash No. 2), and the unnamed wash (Wash No. 3).

The Rittenhouse Channel, an earthen, trapezoidal channel with intermittent concrete weirs, was designed for a peak flow (Q_{100}) of 3,887 cubic feet per second where it meets the East Maricopa Floodway (Wood, Patel & Associates, Inc. 2021). Flows pond in receiving areas about 50 feet long by 30 feet wide at the base of each weir. The Ellsworth Channel, also an earthen, trapezoidal

channel, was designed (Q_{100}) to convey up to 1,422 cubic feet per second (Dibble & Associates 1998). Within the survey area, portions of the Rittenhouse Channel are shown as bluelines and all of the Ellsworth Channel is shown as a blueline on the Higley, AZ (1956b) USGS 7.5-minute topographic quadrangle. Neither channel has any USGS stream gauges.

Wash No. 3 developed along the upstream side of a diversion dike constructed in the early 1950s to prevent the flooding of agricultural fields (currently Commercial Metals Company). This wash, while shown as a blueline on the Desert Well, AZ (1956a) USGS 7.5-minute topographical quadrangle, has been substantially modified by industrial development north and south of Pecos Road. The National Hydrography Dataset indicates Wash No. 3 flows to the northwest (USGS 2022). However, within the survey area, Wash No. 3 flows toward the southeast. Permission to access adjacent properties was not allowed; therefore, a fuller characterization of the changed conditions in Wash No. 3 outside the survey area cannot be provided herein. Flow data are not available for Wash No. 3.

Agricultural fields and associated infrastructure span the survey area between Sossaman and Signal Butte Roads. These areas include extensive irrigation ditch systems typically characterized by open, concrete-lined or unlined, 2- to 3-foot-wide laterals in various states of repair (see example photographs 17 to 20 in Appendix B). Many of the ditches and irrigation appurtenances have been abandoned as fields are left fallow or in anticipation of current and future development. Based on field reconnaissance and a review of aerials, the irrigation ditches appear to function only as part of water delivery systems for agricultural irrigation and do not serve flood protection or drainage functions. None of the ditches are shown as bluelines on the Higley, AZ (1956b) or Desert Well, AZ (1956a) USGS 7.5-minute topographical quadrangles. Therefore, the ditches and irrigation systems in the survey area are not evaluated in detail herein.

The remaining drainage features in the survey area are swales adjacent to the UP's Phoenix Subdivision main line (see example photographs 13 to 16 in Appendix B). UP constructed these intermittent swales as part of the railroad infrastructure to manage track-side runoff. These drainage swales generally dissipate into sheetflow or are self-contained, do not exhibit indicators of an ordinary high water mark, and do not have surface connections to the Rittenhouse Channel. Therefore, they are not evaluated in detail herein.

4. Methods

Delineation of "Other" Waters of the U.S.

Aerial photography (Maricopa County 2020); the USGS Higley, AZ (1956b) and Desert Well, AZ (1956a) 7.5-minute topographic quadrangles; the Federal Emergency Management Agency's Flood Insurance Rate Maps (2013a, 2013b); the National Hydrography Dataset (USGS 2022); the U.S. Fish and Wildlife Service's (USFWS) National Wetlands Inventory (NWI; USFWS 2022); and soil maps (NRCS 2022) were reviewed prior to conducting the JD field survey. A site visit was then conducted on May 24 through 26, 2022, where the width and depth of all potentially jurisdictional non-wetland watercourses in the JD survey area were measured, indicators of surface flow (physical characteristics) were identified, and ground photographs were taken. Additional ground photographs were taken on August 19, 2022 to document changed conditions in and adjacent to the survey area that no longer match NWI data. Approximately 345 acres were surveyed for waters of the U.S.

The site visit to determine the presence and extent of wetlands within the project limits was conducted outside of the growing season because the required rights-of-entry to access the survey area were not obtained until mid-May 2022. However, wetland vegetation was present during the May 26, 2022 wetland field survey within the Rittenhouse Channel. The wetland delineation survey was only conducted in a subset of the JD survey area in the Rittenhouse Channel due to the presence of riparian vegetation that was observed in the channel. Approximately 5 acres were surveyed for wetlands.

The NWI indicates possible wetlands in the following locations within the survey area, listed from west to east (Appendix F, Figures F-1 and F-2).

- Freshwater pond (PUBHx) in the southeastern corner of Pecos and Crismon Roads
- Riverine wetland (R4SBJ) in Wash No. 3 at the eastern terminus of the survey area

Outside of the Rittenhouse Channel and the abandoned tailwater pond at the southeastern corner of Pecos and Crismon Roads, the vegetation in the survey area as of late May 2022 was characteristic of upland species not indicative of a wetland, such as creosote bush, velvet mesquite, desert broom, and foothills palo verde. However, as mentioned above, the abandoned tailwater pond (which USFWS identified as a freshwater pond, but functioned as part of an irrigation water delivery system) and associated wetland vegetation have since been removed as part of site preparation for the Cubes industrial warehouse development (see photographs 32 through 34 in Appendix B). In addition, NRCS soil data indicate that soils in the survey area are not considered hydric (NRCS 2022). Because conditions in and around these two areas are not indicative of wetlands, the tailwater pond and Wash No. 3 were not included in the wetland delineation.

Another NWI-identified wetland, this one adjacent to the industrial portion of the survey area, has also been substantially modified by recent development. The possible freshwater forested/shrub (PSS1Ah) wetland in the northeastern corner of the Signal Butte Road/Pecos Road intersection has been obliterated as part of the site preparation for future industrial land use (see photographs 35 through 37 in Appendix B).

Wetland Determination

A wetland delineation per the *Corps of Engineers 1987 Wetland Delineation Manual* (1987 Manual; Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Version 2.0) (Supplement; U.S. Army Corps of Engineering [Corps] 2008) was conducted in the Rittenhouse Channel on May 25, 2022. The Supplement was selected for this survey because the project would occur in the Interior Deserts Land Resource Region of the Arid West Region.

Per the 1987 Manual, the method selected was a Routine Determination with onsite inspection. Transects were not required because the survey area did not exceed 5 acres and contains a relatively small number of distinct plant communities with little overlap. Therefore, a single sample plot (SP) was sufficient to document each vegetation community. The vegetation communities were contained in the width of the channel bed (about 30 feet wide) and generally between 25 and 50 feet long. In SP1 through SP5, all vegetation in the width of the channel was evaluated. In SP6 and SP7, 10- by 10-foot plots were used because the vegetation in the center of the channel was too tall and dense to access. In addition to the 1987 Manual (Environmental Laboratory 1987) and the Supplement (Corps 2008), aerial photography (Maricopa County 2020),

topographical maps (USGS 1956a, 1956b), NWI maps (USFWS 2022), and the National Wetland Plant List (Corps 2020) were used to assess potential wetlands. The NWI map is included in Appendix F.

During the delineation, plant communities were either evaluated as a whole (SP2 through SP5) or assigned a representative sample plot (SP1, SP6, and SP7). SP1 represents the non-wetland vegetation in the channel outside of the weir receiving areas (Figure 4a). At SP2 through SP5, each vegetation community was small enough to evaluate as a whole and could be accessed for plant identification (Figures 4a and 4b). The vegetation communities at SP6 and SP7 were not fully accessible, so smaller sample plots were used to represent the two communities at Rittenhouse Channel Station 90+43 (Figure 4b) where wetland vegetation was present. Plot dimensions varied across plant communities because of differences in (1) community spatial arrangement (the communities in SP1, SP2, and SP3 stretched across the width of the channel and the communities in SP4 through SP7 grew lengthwise along the channel) and (2) the mix and dominance of various species in different areas. The sample plot dimensions are listed below:

- 30 feet wide by 25 feet long (SP1, SP2, and SP3)
- 15 feet wide by 50 feet long (SP 4 and SP5)
- 10 feet by 10 feet (SP 6 and SP7)

At least four photographs were taken at each sample plot (Appendix E), but were not taken from cardinal directions because the Rittenhouse Channel flows from southeast to northwest. Instead, the four photographs were taken looking:

- Southeast and upstream along the channel
- Southwest toward the southwestern bank
- Northwest and downstream along the channel
- Northeast toward the northeastern bank

The section of the Rittenhouse Channel in the survey area was constructed in a drainage that developed northeast of the UP Phoenix Subdivision main line and has functioned as a regional flood control channel for over 25 years, with maintenance including periodic mowing of the bed and banks. Therefore, conditions in May 2022 were considered normal circumstances, which resulted in the "human-induced wetlands" atypical situation. Per the 1987 Manual, “application of the multiparameter approach in making wetland determinations in [human]-induced wetlands must be based on the presence of hydrophytic vegetation and wetland hydrology” (Environmental Laboratory 1987).

The Supplement also addresses wetland conditions affected by human influence (Corps 2008). The Rittenhouse Channel conforms to problematic hydric soils found in recently developed wetlands, where soils have not been in place long enough to develop hydric soil indicators. The Supplement directs that soils in problematic situations—like recently developed wetlands—can be considered hydric if indicators of hydrophytic vegetation and wetland hydrology are present. Based on the directions in the 1987 Manual and the Supplement, and because FCDMC’s permission to access the Rittenhouse Channel was a "non-intrusive" right-of-entry, soil pits were not dug as part of the wetland delineation survey.

Field data regarding vegetation and hydrology for each sample plot was recorded on a wetland determination data form (Appendix D), and then, if needed, extrapolated to represent the entire

surrounding plant community. The presence/absence of wetland indicators associated with vegetation, soil, and hydrology were used to determine the wetland status of the plant community. Three characteristics, consisting of hydrophytic vegetation, hydric soils, and wetland hydrology, are required for a plant community to be considered a wetland. Five plant communities were identified during the delineation and mapped using Collector, a global positioning system (GPS) capable of submeter accuracy.

Because soil pits were not dug, soils were assumed to be hydric if both hydrophytic vegetation and wetland hydrology were observed, per the 1987 Manual (Environmental Laboratory 1987) and the Supplement (Corps 2008). To determine the presence of hydrophytic vegetation, the absolute cover of vegetation within each sample plot was inventoried across four separate strata: tree, sapling/shrub, herb, and woody vine. All vegetation identified was in the herb stratum. Per the Supplement, the indicator status of vegetation in the Corps' National Wetland Plant List (2020) was then used to calculate the dominance test. Vegetation was considered hydrophytic if it passed the dominance test. Per the Supplement, the prevalence test was not conducted for wetland sample plots SP2, SP3, SP5, and SP7 because they passed the dominance test.

Lastly, each sample plot was surveyed for the presence of wetland hydrology indicators. The size of SP2 through SP5 covered their respective plant communities and the data collected therein did not need to be extrapolated. However, the data collected from SP1, SP6, and SP7 were extrapolated across those respective plant communities. Refer to Figures 4a and 4b, Wetland Plant Communities Maps for the northwestern and southeastern portions of the wetland survey area.

No problematic hydrology or problematic hydrophytic vegetation was identified in any of the SPs. However, problematic hydric soils were assumed in SP2, SP3, SP5, and SP7, where the other two wetland parameters—hydrophytic vegetation and wetland hydrology—were present. First, hydrophytic vegetation and wetland hydrology were evaluated to determine if they are present under normal conditions. A lack of indicators was interpreted based on field observations and known wetland ecological processes to determine whether any of these wetland factors may be disturbed or problematic. Because soil pits were not dug as part of the wetland survey protocol, hydric soil indicators could not be identified from non-intrusive, surface observations. Soils at SP1, SP4, and SP6 were not assumed to be hydric because hydrophytic vegetation was not present. Only the soils at SP2, SP3, SP5, and SP7 were identified as problematic per the Supplement (Corps 2008) and atypical per the 1987 Manual (Environmental Laboratory 1987) because of the presence of hydrophytic vegetation and wetland hydrology within these sample plots.

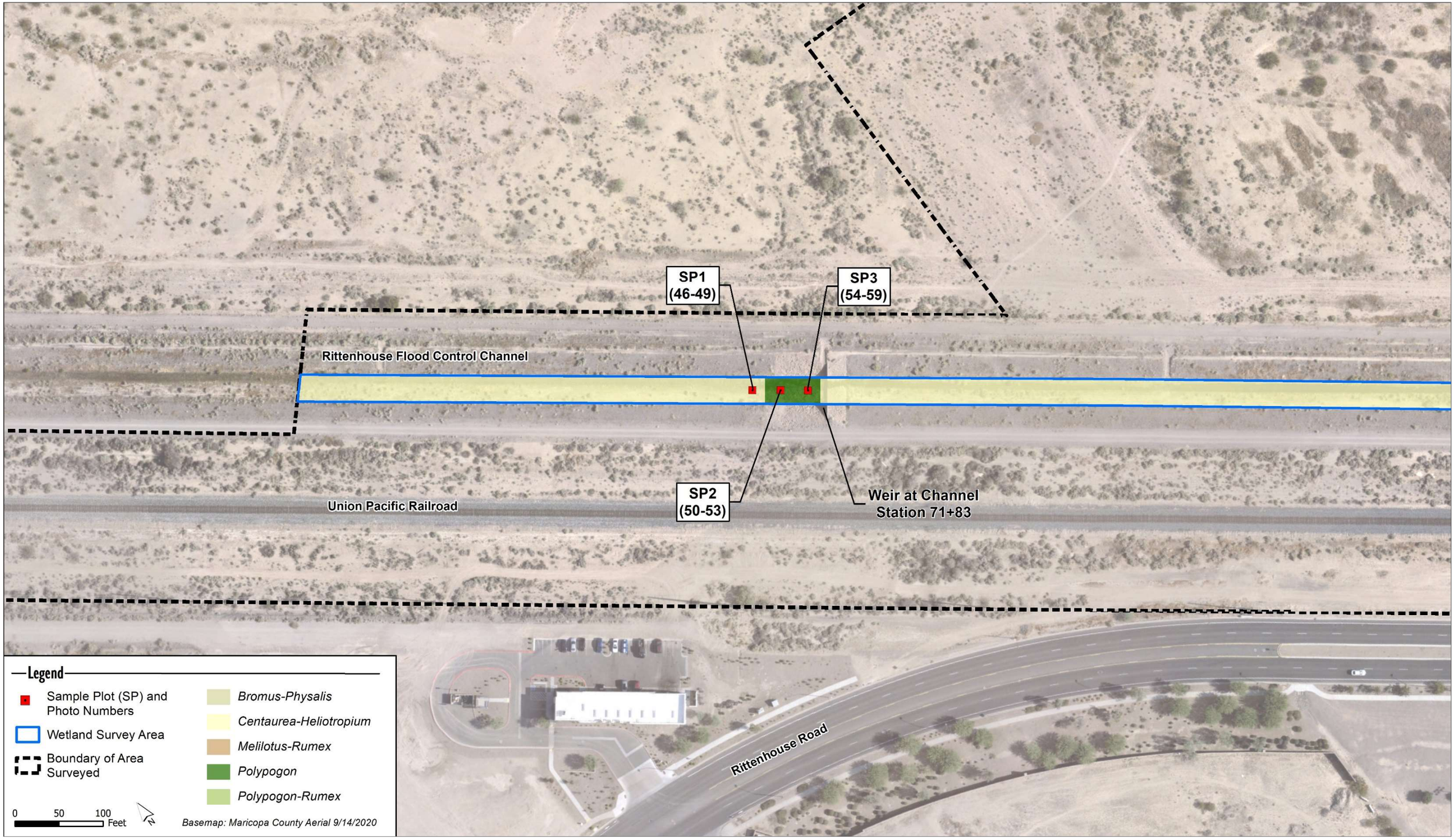


Figure 4a. Wetland Plant Communities Map – Northwest
PIRATE Project / Docket No. FD 36501

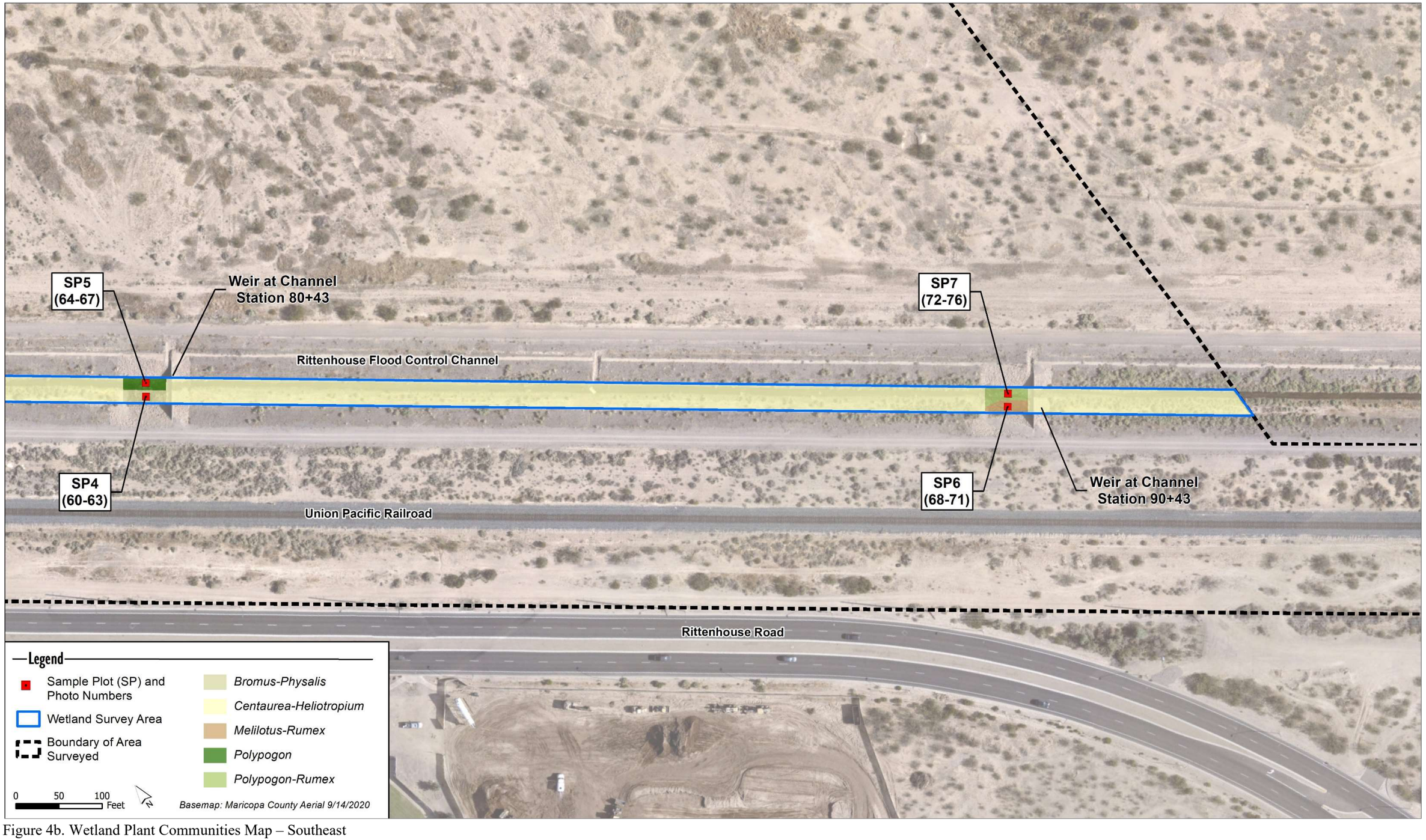


Figure 4b. Wetland Plant Communities Map – Southeast
PIRATE Project / Docket No. FD 36501

Field observations used to identify problematic wetland situations included landscape characteristics, signs of natural and human disturbance, and the possibility of seasonal changes in relevant factors, such as water availability and plant community composition. Soils were only assessed as potential problematic soils if hydrophytic vegetation and wetland hydrology were present. Therefore, SP2, SP3, SP5, and SP7 were determined to meet the conditions associated with the "human-induced wetlands" atypical situation (1987 Manual) and the “recently developed wetlands” problematic hydric soil situation (Supplement).

5. Results

Delineation of “Other” Waters of the U.S.

See Appendix A for the proposed JD with ground photograph points for drainages, Appendix B for a photograph log of documented drainages, Appendix C for the physical characteristics table, and Appendices D and E for JD Appendices 1 and 2. A total of three drainages within the JD survey area are proposed as jurisdictional waters of the U.S., including one unnamed ephemeral drainage (Wash No. 3), Rittenhouse Channel (Wash No. 1), and Ellsworth Channel (Wash No. 2), all of which exhibit the physical characteristics of waters of the U.S. (refer to Appendix C). A total of 0.0 acre of open waters of the U.S. is proposed within the survey area. A total of 2.959 acres of “other” waters (intermittent or ephemeral) is proposed within the JD survey area (Table 1).

Table 1. Summary of Open Water and Other Waters of the U.S.

Drainage	Waters Type	Waters of the U.S.	Amount (Acre)
Rittenhouse Channel (Wash No. 1)	Other Water	Yes	1.870
Ellsworth Channel (Wash No. 2)	Other Water	Yes	0.947
Wash No. 3	Other Water	Yes	0.142
			Total = 2.959

Wetland Determination

Refer to Appendix A for the proposed wetland delineation. Ground photographs occur at the center of each sample plot and are not depicted in Appendix A (Sheets 2 to 4) due to the quantity of photographs taken at each plot. The general location of each set of sample plot photographs is depicted on Figures 4a and 4b. See Appendix D for the wetland determination data sheets and Appendix E for the photograph log of the sample plots.

Vegetation Information: A total of five plant communities were observed in the wetland survey area. One sample data plot was established in each plant community to evaluate the presence of hydrophytic vegetation. Hydrophytic vegetation was determined in SP2, SP3, SP5, and SP7 due to the vegetation passing the dominance test. Table 2 identifies the plant communities observed in the survey area and summarizes the presence of hydrophytic vegetation. See the wetland determination data sheets in Appendix D for details of each sample plot.

Table 2. Plant Communities and Presence of Hydrophytic Vegetation in the Wetland Survey Area			
Sample Data Plot	**Plant Community**	**Dominance Test***	**Hydrophytic Vegetation Present**
1	*Centaurea-Heliotropium*	Failed	No
2, 3, and 5	*Polypogon*	Passed	Yes
4	*Bromus-Physalis*	Failed	No
6	*Melilotus-Rumex*	Failed	No
7	*Polypogon-Rumex*	Passed	Yes
*Dominance test from the Supplement (Corps 2008).			

Soils: Soil observations were visual and superficial because FCDMC's permission to access the Rittenhouse Channel was a "non-intrusive" right-of-entry. Soils generally seemed to be loamy to loamy sand, and odors were not detected.

No hydric soil indicators were identified in any of the sample plots due to the lack of soil pits and the "non-intrusive" wetland delineation. However, SP2, SP3, SP5, and SP7 contained hydrophytic vegetation and wetland hydrology and therefore met the conditions of problematic soils as identified in the Supplement (Corps 2008). Soils in these locations were representative of "recently developed wetlands" problematic soils, resulting from channel construction with ponding in the receiving area at the base of each weir. The Supplement describes this type of problematic soil as wetlands intentionally or unintentionally produced by human activities and naturally occurring wetlands that have not been in place long enough to develop hydric soil indicators. The surface layer appeared to be sediment deposited by flows in the channel. Because these soils have not been in place long enough for hydric soil indicators to develop, soils within the *Polypogon* and *Polypogon-Rumex* vegetation communities were determined to be hydric. Table 3 identifies the hydric soil indicators and indicates whether hydric soil was present in the survey area. See the wetland determination data sheets in Appendix D for details of each sample plot.

Table 3. Indicators of Hydric Soils in the Wetland Survey Area			
Sample Data Plot	**Plant Community**	**Hydric Soil Indicators***	**Hydric Soils**
1	*Centaurea-Heliotropium*	Not observed	No
2, 3, and 5	*Polypogon*	Not observed	Yes**
4	*Bromus-Physalis*	Not observed	No
6	*Melilotus-Rumex*	Not observed	No
7	*Polypogon-Rumex*	Not observed	Yes**
*Codes defined in the Supplement (Corps 2008). **Per the 1987 Manual (Environmental Laboratory), soils are assumed to be hydric due to presence of hydrophytic vegetation and wetland hydrology in an atypical situation..			

Hydrology Information: While no perennial streams flow through the survey area, the Rittenhouse Channel and other constructed channels convey drainage and runoff that historically flowed through ephemeral washes. Both primary and secondary wetland hydrology indicators were present. The secondary riverine indicators also helped to identify the ordinary high water mark of the Rittenhouse Channel. Wetland hydrology indicators were observed in all seven sample plots. Table 4 identifies the wetland hydrology indicators observed in the survey area and indicates whether wetland hydrology was present. See the wetland determination data sheets in Appendix D for details of each sample plot.

Table 4. Indicators of Wetland Hydrology in the Wetland Survey Area

Sample Data Plot	Plant Community	Wetland Hydrology Indicators*	Wetland Hydrology Present
1	*Centaurea-Heliotropium*	B6, B7, B2 (riverine), B10, C9	Yes
2 and 3	*Polypogon*	B6, B7, B2 (riverine), B10, C9	Yes
4	*Bromus-Physalis*	B6, B7, B1 (riverine), B2 (riverine), B10, C9	Yes
5	*Polypogon*	B6, B7, B1 (riverine), B2 (riverine), B10, C9	Yes
6	*Melilotus-Rumex*	A3, B6, B7, B13, B1 (riverine), B2 (riverine), B10, C9	Yes
7	*Polypogon-Rumex*	A3, B6, B7, B13, B1 (riverine), B2 (riverine), B10, C9	Yes

*Codes defined in the Supplement (Corps 2008).

Existing Wetland Mapping: The wetland survey area has not been subject to a previous wetland delineation. USFWS did not identify any potential wetlands in Rittenhouse Channel as part of the NWI mapping data (USFWS 2022). NWI-identified wetlands in the survey area are addressed in Section 4.

Table 5 identifies the classification for wetlands in the survey area to provide supplemental information regarding the survey area. Refer to Appendix F for the USFWS NWI wetlands mapping data for the project area.

Table 5. Cowardin Classification of Wetlands in the Wetland Survey Area

Sample Data Plot	Plant Community	Cowardin Class*
1	*Centaurea-Heliotropium*	Not Applicable
2, 3, and 5	*Polypogon*	Not Applicable
4	*Bromus-Physalis*	Not Applicable
6	*Melilotus-Rumex*	Not Applicable
7	*Polypogon-Rumex*	Not Applicable

*Cowardin et al. 1979 and USFWS 2022.

Proposed Wetland: A total of two plant communities within the wetland survey area were determined to have all three characteristics of wetlands, including hydrophytic vegetation, hydric soils, and wetland hydrology. The first is dominated by a single plant in the herb stratum, rabbitsfoot (*Polypogon monspeliensis*). The second is dominated by rabbitsfoot and bitter dock (*Rumex obtusifolius*). Both plant communities are associated with more concave areas at the base of each weir in the Rittenhouse Channel.

A total of 0.068 acre is proposed as wetland within the survey area, all within Rittenhouse Channel (refer to Appendix A). Table 6 summarizes the presence of wetland characteristics observed in each plant community. See the wetland determination data sheets in Appendix D for details of each sample plot.

Table 6. Summary of Characteristics and Presence of Wetlands in the Wetland Survey Area

Sample Data Plot	Plant Community	Hydrophytic Vegetation	Hydric Soils	Wetland Hydrology	Wetland
1	*Centaurea-Heliotropium*	No	No	Yes	No
2, 3, and 5	*Polypogon*	Yes	Yes*	Yes	Yes
4	*Bromus-Physalis*	No	No	Yes	No
6	*Melilotus-Rumex*	No	No	Yes	No
7	*Polypogon-Rumex*	Yes	Yes*	Yes	Yes

*Per the 1987 Manual (Environmental Laboratory), soils are assumed to be hydric due to the presence of hydrophytic vegetation and wetland hydrology.

6. Summary

In total, three drainages within the survey area exhibit the physical characteristics of waters of the U.S., including Rittenhouse Channel (Wash No. 1), Ellsworth Channel (Wash No.2), and one unnamed drainage (Wash No.3). Table 7 summarizes the type and amount of proposed waters of the U.S. within the survey area.

Table 7. Summary of Waters Type and Amount of Proposed Waters of the U.S.

Waters Type	Amount (Acre)
Other Waters	2.959
Open Water	0.000
Wetland	0.068
Total	**3.027**

7. Coordination

U.S. Army Corps of Engineers
Sallie Diebolt, Chief, Arizona Branch

8. References

Brown, D. E. (ed.). 1994. *Biotic Communities: Southwestern United States and Northwestern Mexico*. Salt Lake City, UT: University of Utah Press. 364 pp.

City of Mesa (Mesa). 2022. Historical Aerial Photography. https://gis.maricopa.gov/GIO/HistoricalAerial/index.html. Accessed August 7, 2022.

Cowardin, L. M., V. Carter, F. C. Golet, and E. T. LaRoe (Cowardin et al.). 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. U.S. Department of the Interior, Fish and Wildlife Service, Washington, DC.

Dibble & Associates. 1998. *East Mesa Area Drainage Master Plan.* https://www.cwsd.org/wp-content/uploads/2017/10/A442_601EastMesaAreaDrainageMasterPlan_RecommendedDesignReport.pdf. Accessed August 7, 2022.

Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual*. Wetlands Research Program Technical Report Y-87-1 (on-line edition). U.S. Army Corps of Engineers Waterways Experiment Station, Vicksburg, MS. Final Report January.

Federal Emergency Management Agency. 2013a. Flood Insurance Rate Map, Maricopa County, Arizona and Incorporated Areas. Map Number: 04013C2770L.

———. 2013b. Flood Insurance Rate Map, Maricopa County, Arizona and Incorporated Areas. Map Number: 04013C2790L.

Flood Control District of Maricopa County (FCDMC). 2012. *A Partnership in Flood Protection.* https://www.queencreekaz.gov/home/showdocument?id=11312. Accessed August 7, 2022.

Maricopa County. 2020. Aerial photographs. https://gis.maricopa.gov/imagery/services.

Natural Resources Conservation Service (NRCS). 2022. Web Soil Survey. https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm. U.S. Department of Agriculture. Accessed September 4, 2022.

U.S. Army Corps of Engineers (Corps). 2008. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Version 2.0), ERDC/EL TR-08-28, U.S. Army Engineer Research and Development Center, Vicksburg, MS.

———. 2020. National Wetland Plant List, version 3.5. https://wetland-plants.usace.army.mil/nwpl_static/v34/home/home.html. U.S. Army Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory, Hanover, NH.

U.S. Fish and Wildlife Service (USFWS). 2021. National Wetlands Inventory. https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/. U.S. Department of the Interior, Fish and Wildlife Service, Washington, DC. Accessed September 4, 2022.

U.S. Geological Survey (USGS). 1956a. *Desert Well, Arizona* (map). Prepared by U.S. Department of the Interior, U.S. Geological Survey. 1:24,000, 7.5-minute series topographic quadrangle. Electronic map, available from USGS Historic Topographic Map Explorer, http://livingatlas.arcgis.com.

———. 1956b. *Higley, Arizona* (map). Prepared by U.S. Department of the Interior, U.S. Geological Survey. 1:24,000, 7.5-minute series topographic quadrangle. Electronic map, available from USGS Historic Topographic Map Explorer, http://livingatlas.arcgis.com.

———. 2022. USGS National Hydrography Dataset. https://apps.nationalmap.gov/viewer/. Accessed 4 September 2022.

Wood, Patel & Associates, Inc. 2021. *Master Drainage Report Update for Eastmark.* https://www.mesaaz.gov/home/showpublisheddocument/15166/637804504985070000. Accessed August 7, 2022.

9. Signatures

Prepared by: _____ Date: 10.26.2022

Betsi Phoebus
Clean Water Act Specialist
Jacobs Engineering Group Inc.

Reviewed by: _____ Date: 10.26.2022

Melissa Williams
Clean Water Act Specialist
Jacobs Engineering Group Inc.

APPENDIX A

PROPOSED JURISDICTIONAL DELINEATION
WITH WETLANDS


Ellsworth Channel flows into the Powerline Floodway
~2 miles north, which flows into the
East Maricopa Floodway ~2 miles west.
Phoenix-Mesa
Gateway Airport
East Maricopa Floodway
Rittenhouse Channel / Wash No. 1
Ellsworth Channel / Wash No. 2
Wash No. 3
Pecos Rd
Pecos Rd
Pecos Rd
Germann Rd
Power Rd
Sossaman Rd
Ellsworth Rd
Crismon Rd
Merrill Rd
Orchard Access Rd
Signal Butte Rd
Mountain Rd
Rittenhouse Rd
Phoenix Subdivision Main Line
Queen Creek
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
PJD Sheet
Survey Area
0
0.25
0.5
Mile
N

Flow Direction

1 Photo Point, Number and Direction

Wash Name (xx-xx) Wash Name and Width (Feet)

Control Point

0 25 50 100 Feet

N

Corps File No. SPL-2021-00653
Board Docket No. FD 36501
PIRATE Rail Line Project
Desert Well, AZ (1956) and Higley, AZ (1956)
USGS 7.5' Topographic Quadrangles
Imagery Source: Maricopa County
Imagery Date: November 2020
Date Prepared: October 19, 2022
Preparer: Jacobs Engineering Group Inc.

******PRELIMINARY (RGL 16-01)******

SECTION 404 JURISDICTIONAL DELINEATION

U.S. Army Corps of Engineers, Los Angeles District
Application No. SPL-2021-00653

Boundary of area surveyed for jurisdictional waters of the United States

Approximate Ordinary High Water Mark

Potential Waters of the United States

Potential Wetlands (If legend is blank, no wetlands occur within survey area.)

Scale: See scale bar
Photograph Date: November 2020
Site Visit by Corps (Y/N) Date:
Determination Issued:
Corps Project Manager:

33.287201
-111.681472

No JD waters recommended on this sheet.

Dirt Road

Rittenhouse Flood Control Channel

Pecos Rd

Dirt Road

Union Pacific Railroad Phoenix Subdivision

2-Track

Dirt Road

Intermittent drainage swales adjacent to the Phoenix Subdivision throughout this portion of the survey area.

Power Rd

33.28765
-111.687169

Flow Direction

1 Photo Point, Number and Direction

Wash Name (xx-xx) Wash Name and Width (Feet)

Control Point

0 25 50 100 Feet

N

Corps File No. SPL-2021-00653
Board Docket No. FD 36501
PIRATE Rail Line Project
Desert Well, AZ (1956) and Higley, AZ (1956)
USGS 7.5' Topographic Quadrangles
Imagery Source: Maricopa County
Imagery Date: November 2020
Date Prepared: October 19, 2022
Preparer: Jacobs Engineering Group Inc.

******PRELIMINARY (RGL 16-01)******

SECTION 404 JURISDICTIONAL DELINEATION

U.S. Army Corps of Engineers, Los Angeles District
Application No. SPL-2021-00653

Boundary of area surveyed for jurisdictional waters of the United States

Approximate Ordinary High Water Mark

Potential Waters of the United States

Potential Wetlands (If legend is blank, no wetlands occur within survey area.)

Scale: See scale bar
Photograph Date: November 2020
Site Visit by Corps (Y/N) Date:
Determination Issued:
Corps Project Manager:

33.284799
-111.677169

2-Track

Rittenhouse Channel / Wash No. 1 (30)

Weir at Channel Station 71+83

Dirt Road

Rittenhouse Flood Control Channel

Dirt Road

1 2

3 4

Union Pacific Railroad

13 14

2-Track

Dirt Road

33.285263
-111.682821

Rittenhouse Road

Flow Direction

Photo Point, Number and Direction

Wash Name and Width (Feet)

Control Point

0 25 50 100 Feet

N

Corps File No. SPL-2021-00653
Board Docket No. FD 36501
PIRATE Rail Line Project
Desert Well, AZ (1956) and Higley, AZ (1956)
USGS 7.5' Topographic Quadrangles
Imagery Source: Maricopa County
Imagery Date: November 2020
Date Prepared: October 19, 2022
Preparer: Jacobs Engineering Group Inc.

******PRELIMINARY (RGL 16-01)******

SECTION 404 JURISDICTIONAL DELINEATION

U.S. Army Corps of Engineers, Los Angeles District
Application No. SPL-2021-00653

Boundary of area surveyed for jurisdictional waters of the United States

Approximate Ordinary High Water Mark

Potential Waters of the United States

Potential Wetlands (If legend is blank, no wetlands occur within survey area.)

Scale: See scale bar
Photograph Date: November 2020
Site Visit by Corps (Y/N) Date:
Determination Issued:
Corps Project Manager:

33.28239
-111.673095

2-Track

Rittenhouse Channel / Wash No. 1 (30)

Weir at Channel Station 80+43

2-Track

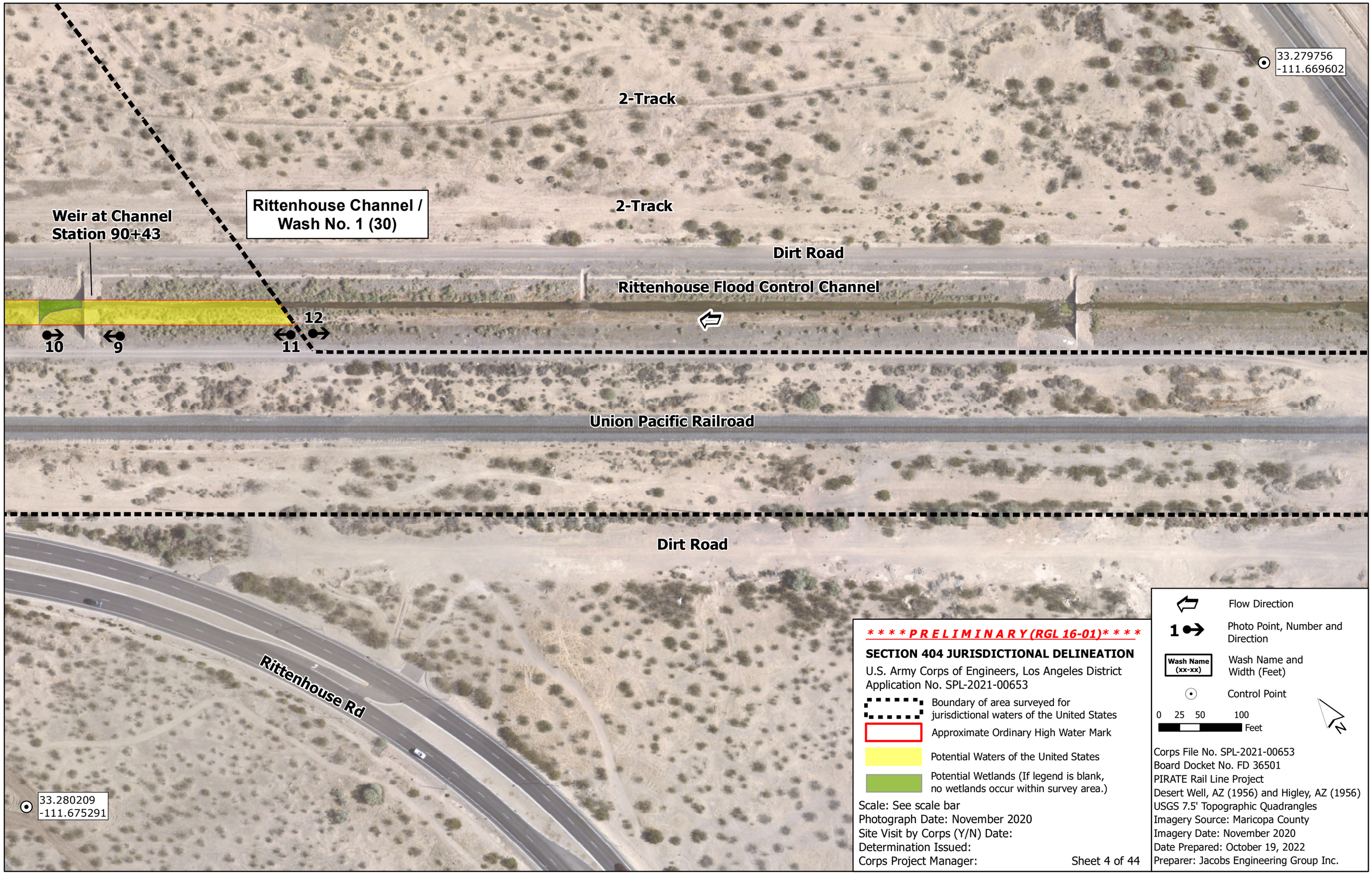
Weir at Channel Station 90+43

5 6 7 8 10 9

Union Pacific Railroad

Rittenhouse Rd

33.282842
-111.678785



*** * * * P R E L I M I N A R Y (RGL 16-01) * * * ***

SECTION 404 JURISDICTIONAL DELINEATION

U.S. Army Corps of Engineers, Los Angeles District
Application No. SPL-2021-00653

Boundary of area surveyed for jurisdictional waters of the United States

Approximate Ordinary High Water Mark

Potential Waters of the United States

Potential Wetlands (If legend is blank, no wetlands occur within survey area.)

Scale: See scale bar
Photograph Date: November 2020
Site Visit by Corps (Y/N) Date:
Determination Issued:
Corps Project Manager:

Flow Direction

1 → Photo Point, Number and Direction

Wash Name (xx-xx) Wash Name and Width (Feet)

Control Point

0 25 50 100 Feet

N

Corps File No. SPL-2021-00653
Board Docket No. FD 36501
PIRATE Rail Line Project
Desert Well, AZ (1956) and Higley, AZ (1956)
USGS 7.5' Topographic Quadrangles
Imagery Source: Maricopa County
Imagery Date: November 2020
Date Prepared: October 19, 2022
Preparer: Jacobs Engineering Group Inc.

33.277635
-111.671865

Rittenhouse Flood Control Channel

Germann Rd

Dirt Road

2-Track

Union Pacific Railroad

Right-of-entry not granted to privately owned parcel. Parcel was surveyed from public roadway and confirmed via aerial photography.

Dirt Road

Dirt Road

Dirt Road

Sossaman Rd

Dirt Road

No JD waters recommended on this sheet.

33.277184
-111.666169

Flow Direction

1 Photo Point, Number and Direction

Wash Name (xx-xx) Wash Name and Width (Feet)

Control Point

0 25 50 100 Feet

N

Corps File No. SPL-2021-00653
Board Docket No. FD 36501
PIRATE Rail Line Project
Desert Well, AZ (1956) and Higley, AZ (1956)
USGS 7.5' Topographic Quadrangles
Imagery Source: Maricopa County
Imagery Date: November 2020
Date Prepared: October 19, 2022
Preparer: Jacobs Engineering Group Inc.

*** * * * PRELIMINARY (RGL 16-01) * * * ***

SECTION 404 JURISDICTIONAL DELINEATION

U.S. Army Corps of Engineers, Los Angeles District
Application No. SPL-2021-00653

Boundary of area surveyed for jurisdictional waters of the United States

Approximate Ordinary High Water Mark

Potential Waters of the United States

Potential Wetlands (If legend is blank, no wetlands occur within survey area.)

Scale: See scale bar
Photograph Date: November 2020
Site Visit by Corps (Y/N) Date:
Determination Issued:
Corps Project Manager:

Flow Direction

1 Photo Point, Number and Direction

Wash Name (xx-xx) Wash Name and Width (Feet)

Control Point

0 25 50 100 Feet

N

Corps File No. SPL-2021-00653
Board Docket No. FD 36501
PIRATE Rail Line Project
Desert Well, AZ (1956) and Higley, AZ (1956)
USGS 7.5' Topographic Quadrangles
Imagery Source: Maricopa County
Imagery Date: November 2020
Date Prepared: October 19, 2022
Preparer: Jacobs Engineering Group Inc.

******PRELIMINARY (RGL 16-01)******

SECTION 404 JURISDICTIONAL DELINEATION

U.S. Army Corps of Engineers, Los Angeles District
Application No. SPL-2021-00653

Boundary of area surveyed for jurisdictional waters of the United States

Approximate Ordinary High Water Mark

Potential Waters of the United States

Potential Wetlands (If legend is blank, no wetlands occur within survey area.)

Scale: See scale bar
Photograph Date: November 2020
Site Visit by Corps (Y/N) Date:
Determination Issued:
Corps Project Manager:

No JD waters recommended on this sheet.

33.275548
-111.663029

Dirt Road

Dirt Road

Rittenhouse Flood Control Channel

Union Pacific Railroad

Dirt Road

Dirt Road

Rittenhouse Rd

33.27601
-111.668748

Flow Direction

1 Photo Point, Number and Direction

Wash Name (xx-xx) Wash Name and Width (Feet)

Control Point

0 25 50 100 Feet

N

Corps File No. SPL-2021-00653
Board Docket No. FD 36501
PIRATE Rail Line Project
Desert Well, AZ (1956) and Higley, AZ (1956)
USGS 7.5' Topographic Quadrangles
Imagery Source: Maricopa County
Imagery Date: November 2020
Date Prepared: October 19, 2022
Preparer: Jacobs Engineering Group Inc.

******PRELIMINARY (RGL 16-01)******

SECTION 404 JURISDICTIONAL DELINEATION

U.S. Army Corps of Engineers, Los Angeles District
Application No. SPL-2021-00653

Boundary of area surveyed for jurisdictional waters of the United States

Approximate Ordinary High Water Mark

Potential Waters of the United States

Potential Wetlands (If legend is blank, no wetlands occur within survey area.)

Scale: See scale bar
Photograph Date: November 2020
Site Visit by Corps (Y/N) Date:
Determination Issued:
Corps Project Manager:

No JD waters recommended on this sheet.

33.273021
-111.658965

Fulton Pkwy

Dirt Road

Rittenhouse Flood Control Channel

Dirt Road

Union Pacific Railroad

Rittenhouse Rd

33.273453
-111.66465

Flow Direction

1 Photo Point, Number and Direction

Wash Name (xx-xx) Wash Name and Width (Feet)

Control Point

0 25 50 100 Feet

N

Corps File No. SPL-2021-00653
Board Docket No. FD 36501
PIRATE Rail Line Project
Desert Well, AZ (1956) and Higley, AZ (1956)
USGS 7.5' Topographic Quadrangles
Imagery Source: Maricopa County
Imagery Date: November 2020
Date Prepared: October 19, 2022
Preparer: Jacobs Engineering Group Inc.

*** * * * PRELIMINARY (RGL 16-01) * * * ***

SECTION 404 JURISDICTIONAL DELINEATION

U.S. Army Corps of Engineers, Los Angeles District
Application No. SPL-2021-00653

Boundary of area surveyed for jurisdictional waters of the United States

Approximate Ordinary High Water Mark

Potential Waters of the United States

Potential Wetlands (If legend is blank, no wetlands occur within survey area.)

Scale: See scale bar
Photograph Date: November 2020
Site Visit by Corps (Y/N) Date:
Determination Issued:
Corps Project Manager:

No JD waters recommended on this sheet.

33.270446
-111.65466

Fulton Pkwy

Dirt Road

Rittenhouse Flood Control Channel

Dirt Road

Union Pacific Railroad

Rittenhouse Rd

33.270903
-111.660331

Flow Direction

1 Photo Point, Number and Direction

Wash Name (xx-xx) Wash Name and Width (Feet)

Control Point

0 25 50 100 Feet

N

Corps File No. SPL-2021-00653
Board Docket No. FD 36501
PIRATE Rail Line Project
Desert Well, AZ (1956) and Higley, AZ (1956)
USGS 7.5' Topographic Quadrangles
Imagery Source: Maricopa County
Imagery Date: November 2020
Date Prepared: October 19, 2022
Preparer: Jacobs Engineering Group Inc.

******PRELIMINARY (RGL 16-01)******

SECTION 404 JURISDICTIONAL DELINEATION

U.S. Army Corps of Engineers, Los Angeles District
Application No. SPL-2021-00653

Boundary of area surveyed for jurisdictional waters of the United States

Approximate Ordinary High Water Mark

Potential Waters of the United States

Potential Wetlands (If legend is blank, no wetlands occur within survey area.)

Scale: See scale bar
Photograph Date: November 2020
Site Visit by Corps (Y/N) Date:
Determination Issued:
Corps Project Manager:

No JD waters recommended on this sheet.

33.267894
-111.650264

Fulton Pkwy

Dirt Road

Rittenhouse Flood Control Channel

Dirt Road

Union Pacific Railroad

Rittenhouse Rd

33.268354
-111.655955

Flow Direction

1 Photo Point, Number and Direction

Wash Name (xx-xx) Wash Name and Width (Feet)

Control Point

0 25 50 100 Feet

N

Corps File No. SPL-2021-00653
Board Docket No. FD 36501
PIRATE Rail Line Project
Desert Well, AZ (1956) and Higley, AZ (1956)
USGS 7.5' Topographic Quadrangles
Imagery Source: Maricopa County
Imagery Date: November 2020
Date Prepared: October 19, 2022
Preparer: Jacobs Engineering Group Inc.

******PRELIMINARY (RGL 16-01)******

SECTION 404 JURISDICTIONAL DELINEATION

U.S. Army Corps of Engineers, Los Angeles District
Application No. SPL-2021-00653

Boundary of area surveyed for jurisdictional waters of the United States

Approximate Ordinary High Water Mark

Potential Waters of the United States

Potential Wetlands (If legend is blank, no wetlands occur within survey area.)

Scale: See scale bar
Photograph Date: November 2020
Site Visit by Corps (Y/N) Date:
Determination Issued:
Corps Project Manager:

Sheet 10 of 44

No JD waters recommended on this sheet.

33.265194
-111.645984

Fulton Pkwy

Dirt Road

Rittenhouse Flood Control Channel

Dirt Road

Union Pacific Railroad

Rittenhouse Rd

33.265641
-111.651681

Flow Direction

1 Photo Point, Number and Direction

Wash Name (xx-xx) Wash Name and Width (Feet)

Control Point

0 25 50 100 Feet

N

Corps File No. SPL-2021-00653
Board Docket No. FD 36501
PIRATE Rail Line Project
Desert Well, AZ (1956) and Higley, AZ (1956)
USGS 7.5' Topographic Quadrangles
Imagery Source: Maricopa County
Imagery Date: November 2020
Date Prepared: October 19, 2022
Preparer: Jacobs Engineering Group Inc.

******PRELIMINARY (RGL 16-01)******

SECTION 404 JURISDICTIONAL DELINEATION

U.S. Army Corps of Engineers, Los Angeles District
Application No. SPL-2021-00653

Boundary of area surveyed for jurisdictional waters of the United States

Approximate Ordinary High Water Mark

Potential Waters of the United States

Potential Wetlands (If legend is blank, no wetlands occur within survey area.)

Scale: See scale bar
Photograph Date: November 2020
Site Visit by Corps (Y/N) Date:
Determination Issued:
Corps Project Manager:

Sheet 11 of 44

No JD waters recommended on this sheet.

33.26258
-111.641827

Mesquite Dr

Dirt Road

Rittenhouse Flood Control Channel

Union Pacific Railroad

Rittenhouse Rd

33.263021
-111.647511

Flow Direction

1 Photo Point, Number and Direction

Wash Name (xx-xx) Wash Name and Width (Feet)

Control Point

0 25 50 100 Feet

N

Corps File No. SPL-2021-00653
Board Docket No. FD 36501
PIRATE Rail Line Project
Desert Well, AZ (1956) and Higley, AZ (1956)
USGS 7.5' Topographic Quadrangles
Imagery Source: Maricopa County
Imagery Date: November 2020
Date Prepared: October 19, 2022
Preparer: Jacobs Engineering Group Inc.

******PRELIMINARY (RGL 16-01)******

SECTION 404 JURISDICTIONAL DELINEATION

U.S. Army Corps of Engineers, Los Angeles District
Application No. SPL-2021-00653

Boundary of area surveyed for jurisdictional waters of the United States

Approximate Ordinary High Water Mark

Potential Waters of the United States

Potential Wetlands (If legend is blank, no wetlands occur within survey area.)

Scale: See scale bar
Photograph Date: November 2020
Site Visit by Corps (Y/N) Date:
Determination Issued:
Corps Project Manager:

Sheet 12 of 44

No JD waters recommended on this sheet.

33.259872
-111.637852

Isolated Detention Pond

15 16

Union Pacific Railroad Phoenix Subdivision

Intermittent drainage swales adjacent to the Phoenix Subdivision throughout this portion of the survey area.

Rittenhouse Rd

33.260336
-111.643566

Flow Direction

Photo Point, Number and Direction

Wash Name and Width (Feet)

Control Point

0 25 50 100 Feet

N

Corps File No. SPL-2021-00653
Board Docket No. FD 36501
PIRATE Rail Line Project
Desert Well, AZ (1956) and Higley, AZ (1956)
USGS 7.5' Topographic Quadrangles
Imagery Source: Maricopa County
Imagery Date: November 2020
Date Prepared: October 19, 2022
Preparer: Jacobs Engineering Group Inc.

*** * * * PRELIMINARY (RGL 16-01) * * * ***

SECTION 404 JURISDICTIONAL DELINEATION

U.S. Army Corps of Engineers, Los Angeles District
Application No. SPL-2021-00653

Boundary of area surveyed for jurisdictional waters of the United States

Approximate Ordinary High Water Mark

Potential Waters of the United States

Potential Wetlands (If legend is blank, no wetlands occur within survey area.)

Scale: See scale bar
Photograph Date: November 2020
Site Visit by Corps (Y/N) Date:
Determination Issued:
Corps Project Manager:

33.285407
-111.673666

Right-of-entry not granted to privately owned parcel. Parcel was surveyed from public roadway and adjacent parcels and confirmed via aerial photography.

2-Track

Rittenhouse Channel / Wash No. 1 (30)

Weir at Channel Station 80+43

5 6 7 8

33.282943
-111.678574

Flow Direction

1 Photo Point, Number and Direction

Wash Name (xx-xx) Wash Name and Width (Feet)

Control Point

0 25 50 100 Feet

N

Corps File No. SPL-2021-00653
Board Docket No. FD 36501
PIRATE Rail Line Project
Desert Well, AZ (1956) and Higley, AZ (1956)
USGS 7.5' Topographic Quadrangles
Imagery Source: Maricopa County
Imagery Date: November 2020
Date Prepared: October 19, 2022
Preparer: Jacobs Engineering Group Inc.

******PRELIMINARY (RGL 16-01)******

SECTION 404 JURISDICTIONAL DELINEATION

U.S. Army Corps of Engineers, Los Angeles District
Application No. SPL-2021-00653

Boundary of area surveyed for jurisdictional waters of the United States

Approximate Ordinary High Water Mark

Potential Waters of the United States

Potential Wetlands (If legend is blank, no wetlands occur within survey area.)

Scale: See scale bar
Photograph Date: November 2020
Site Visit by Corps (Y/N) Date:
Determination Issued:
Corps Project Manager:

No JD waters recommended on this sheet.

33.28737
-111.671161

Fenceline

Pecos Rd

Fenceline

Right-of-entry not granted to privately owned parcel. Parcel was surveyed from public roadway and adjacent parcels and confirmed via aerial photography.

33.284912
-111.676075

Abandoned Ditch

Flow Direction

1 Photo Point, Number and Direction

Wash Name (xx-xx) Wash Name and Width (Feet)

Control Point

0 25 50 100 Feet

N

Corps File No. SPL-2021-00653
Board Docket No. FD 36501
PIRATE Rail Line Project
Desert Well, AZ (1956) and Higley, AZ (1956)
USGS 7.5' Topographic Quadrangles
Imagery Source: Maricopa County
Imagery Date: November 2020
Date Prepared: October 19, 2022
Preparer: Jacobs Engineering Group Inc.

******PRELIMINARY (RGL 16-01)******

SECTION 404 JURISDICTIONAL DELINEATION

U.S. Army Corps of Engineers, Los Angeles District
Application No. SPL-2021-00653

Boundary of area surveyed for jurisdictional waters of the United States

Approximate Ordinary High Water Mark

Potential Waters of the United States

Potential Wetlands (If legend is blank, no wetlands occur within survey area.)

Scale: See scale bar
Photograph Date: November 2020
Site Visit by Corps (Y/N) Date:
Determination Issued:
Corps Project Manager:

No JD waters recommended on this sheet.

33.287602
-111.668782

Sossaman Rd

Unlined Irrigation Ditch

Lined Irrigation Ditch

Pecos Rd

Fenceline

33.285149
-111.673683

Flow Direction

Photo Point, Number and Direction

Wash Name and Width (Feet)

Control Point

0 25 50 100 Feet

N

Corps File No. SPL-2021-00653
Board Docket No. FD 36501
PIRATE Rail Line Project
Desert Well, AZ (1956) and Higley, AZ (1956)
USGS 7.5' Topographic Quadrangles
Imagery Source: Maricopa County
Imagery Date: November 2020
Date Prepared: October 19, 2022
Preparer: Jacobs Engineering Group Inc.

*** * * * PRELIMINARY (RGL 16-01) * * * ***

SECTION 404 JURISDICTIONAL DELINEATION

U.S. Army Corps of Engineers, Los Angeles District
Application No. SPL-2021-00653

Boundary of area surveyed for jurisdictional waters of the United States

Approximate Ordinary High Water Mark

Potential Waters of the United States

Potential Wetlands (If legend is blank, no wetlands occur within survey area.)

Scale: See scale bar
Photograph Date: November 2020
Site Visit by Corps (Y/N) Date:
Determination Issued:
Corps Project Manager:

No JD waters recommended on this sheet.

Unlined Irrigation Ditch

17

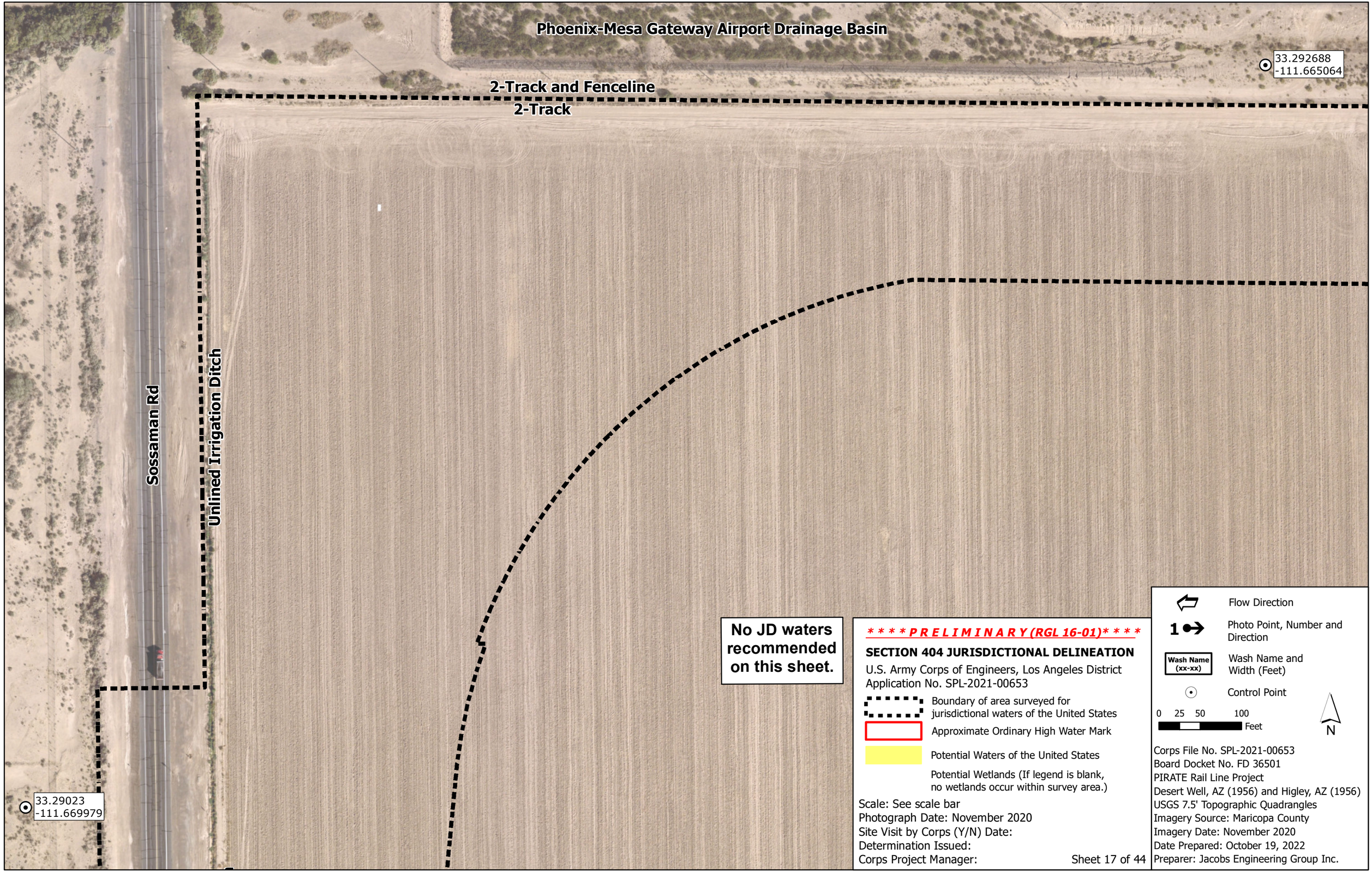
18

Sossaman Rd

Llined Irrigation Ditch

33.290113
-111.667235

33.287654
-111.672149



No JD waters recommended on this sheet.

* * * * P R E L I M I N A R Y (RGL 16-01)* * * *

SECTION 404 JURISDICTIONAL DELINEATION

U.S. Army Corps of Engineers, Los Angeles District
Application No. SPL-2021-00653

- Boundary of area surveyed for jurisdictional waters of the United States
- Approximate Ordinary High Water Mark
- Potential Waters of the United States
- Potential Wetlands (If legend is blank, no wetlands occur within survey area.)

Scale: See scale bar
Photograph Date: November 2020
Site Visit by Corps (Y/N) Date:
Determination Issued:
Corps Project Manager:

- Flow Direction
- 1 → Photo Point, Number and Direction
- Wash Name (xx-xx) — Wash Name and Width (Feet)
- Control Point

0 25 50 100 Feet

N

Corps File No. SPL-2021-00653
Board Docket No. FD 36501
PIRATE Rail Line Project
Desert Well, AZ (1956) and Higley, AZ (1956)
USGS 7.5' Topographic Quadrangles
Imagery Source: Maricopa County
Imagery Date: November 2020
Date Prepared: October 19, 2022
Preparer: Jacobs Engineering Group Inc.

Flow Direction

1 Photo Point, Number and Direction

Wash Name (xx-xx) Wash Name and Width (Feet)

Control Point

0 25 50 100 Feet

N

Corps File No. SPL-2021-00653
Board Docket No. FD 36501
PIRATE Rail Line Project
Desert Well, AZ (1956) and Higley, AZ (1956)
USGS 7.5' Topographic Quadrangles
Imagery Source: Maricopa County
Imagery Date: November 2020
Date Prepared: October 19, 2022
Preparer: Jacobs Engineering Group Inc.

******PRELIMINARY (RGL 16-01)******

SECTION 404 JURISDICTIONAL DELINEATION

U.S. Army Corps of Engineers, Los Angeles District
Application No. SPL-2021-00653

Boundary of area surveyed for jurisdictional waters of the United States

Approximate Ordinary High Water Mark

Potential Waters of the United States

Potential Wetlands (If legend is blank, no wetlands occur within survey area.)

Scale: See scale bar
Photograph Date: November 2020
Site Visit by Corps (Y/N) Date:
Determination Issued:
Corps Project Manager:

No JD waters recommended on this sheet.

33.293473
-111.659918

Airport internal access road (not public)

2-Track

Lined Irrigation Ditch

Lined Irrigation Ditch

33.291015
-111.664826

Flow Direction

1 Photo Point, Number and Direction

Wash Name (xx-xx) Wash Name and Width (Feet)

Control Point

0 25 50 100 Feet

N

Corps File No. SPL-2021-00653
Board Docket No. FD 36501
PIRATE Rail Line Project
Desert Well, AZ (1956) and Higley, AZ (1956)
USGS 7.5' Topographic Quadrangles
Imagery Source: Maricopa County
Imagery Date: November 2020
Date Prepared: October 19, 2022
Preparer: Jacobs Engineering Group Inc.

******PRELIMINARY (RGL 16-01)******

SECTION 404 JURISDICTIONAL DELINEATION

U.S. Army Corps of Engineers, Los Angeles District
Application No. SPL-2021-00653

Boundary of area surveyed for jurisdictional waters of the United States

Approximate Ordinary High Water Mark

Potential Waters of the United States

Potential Wetlands (If legend is blank, no wetlands occur within survey area.)

Scale: See scale bar
Photograph Date: November 2020
Site Visit by Corps (Y/N) Date:
Determination Issued:
Corps Project Manager:

No JD waters recommended on this sheet.

33.293468
-111.654749

Dirt Road

Airport internal access road (not public)

2-Track

33.291015
-111.659657

Flow Direction

1 Photo Point, Number and Direction

Wash Name (xx-xx) Wash Name and Width (Feet)

Control Point

0 25 50 100 Feet

N

Corps File No. SPL-2021-00653
Board Docket No. FD 36501
PIRATE Rail Line Project
Desert Well, AZ (1956) and Higley, AZ (1956)
USGS 7.5' Topographic Quadrangles
Imagery Source: Maricopa County
Imagery Date: November 2020
Date Prepared: October 19, 2022
Preparer: Jacobs Engineering Group Inc.

******PRELIMINARY (RGL 16-01)******

SECTION 404 JURISDICTIONAL DELINEATION

U.S. Army Corps of Engineers, Los Angeles District
Application No. SPL-2021-00653

Boundary of area surveyed for jurisdictional waters of the United States

Approximate Ordinary High Water Mark

Potential Waters of the United States

Potential Wetlands (If legend is blank, no wetlands occur within survey area.)

Scale: See scale bar
Photograph Date: November 2020
Site Visit by Corps (Y/N) Date:
Determination Issued:
Corps Project Manager:

No JD waters recommended on this sheet.

33.293468
-111.649567

Dirt Road

Airport internal access road (not public)

2-Track

33.291015
-111.654489

33.292592
-111.64927

Airport internal access road (not public)

2-Track

33.290107
-111.64437

No JD waters recommended on this sheet.

****PRELIMINARY (RGL 16-01)****

SECTION 404 JURISDICTIONAL DELINEATION

U.S. Army Corps of Engineers, Los Angeles District
Application No. SPL-2021-00653

Boundary of area surveyed for jurisdictional waters of the United States

Approximate Ordinary High Water Mark

Potential Waters of the United States

Potential Wetlands (If legend is blank, no wetlands occur within survey area.)

Scale: See scale bar
Photograph Date: November 2020
Site Visit by Corps (Y/N) Date:
Determination Issued:
Corps Project Manager:

Flow Direction

1 Photo Point, Number and Direction

Wash Name (xx-xx) Wash Name and Width (Feet)

Control Point

0 25 50 100 Feet

N

Corps File No. SPL-2021-00653
Board Docket No. FD 36501
PIRATE Rail Line Project
Desert Well, AZ (1956) and Higley, AZ (1956)
USGS 7.5' Topographic Quadrangles
Imagery Source: Maricopa County
Imagery Date: November 2020
Date Prepared: October 19, 2022
Preparer: Jacobs Engineering Group Inc.

33.288083
-111.646409

Airport internal access road (not public)

2-Track

Lined Irrigation Ditch

2-Track

Lined Irrigation Ditch

33.290541
-111.641507

Flow Direction

1 Photo Point, Number and Direction

Wash Name (xx-xx) Wash Name and Width (Feet)

Control Point

0 25 50 100 Feet

N

Corps File No. SPL-2021-00653
Board Docket No. FD 36501
PIRATE Rail Line Project
Desert Well, AZ (1956) and Higley, AZ (1956)
USGS 7.5' Topographic Quadrangles
Imagery Source: Maricopa County
Imagery Date: November 2020
Date Prepared: October 19, 2022
Preparer: Jacobs Engineering Group Inc.

*** * * * PRELIMINARY (RGL 16-01) * * * ***

SECTION 404 JURISDICTIONAL DELINEATION

U.S. Army Corps of Engineers, Los Angeles District
Application No. SPL-2021-00653

Boundary of area surveyed for jurisdictional waters of the United States

Approximate Ordinary High Water Mark

Potential Waters of the United States

Potential Wetlands (If legend is blank, no wetlands occur within survey area.)

Scale: See scale bar
Photograph Date: November 2020
Site Visit by Corps (Y/N) Date:
Determination Issued:
Corps Project Manager:

No JD waters recommended on this sheet.

Flow Direction

1 Photo Point, Number and Direction

Wash Name (xx-xx) Wash Name and Width (Feet)

Control Point

0 25 50 100 Feet

N

Corps File No. SPL-2021-00653
Board Docket No. FD 36501
PIRATE Rail Line Project
Desert Well, AZ (1956) and Higley, AZ (1956)
USGS 7.5' Topographic Quadrangles
Imagery Source: Maricopa County
Imagery Date: November 2020
Date Prepared: October 19, 2022
Preparer: Jacobs Engineering Group Inc.

******PRELIMINARY (RGL 16-01)******

SECTION 404 JURISDICTIONAL DELINEATION

U.S. Army Corps of Engineers, Los Angeles District
Application No. SPL-2021-00653

Boundary of area surveyed for jurisdictional waters of the United States

Approximate Ordinary High Water Mark

Potential Waters of the United States

Potential Wetlands (If legend is blank, no wetlands occur within survey area.)

Scale: See scale bar
Photograph Date: November 2020
Site Visit by Corps (Y/N) Date:
Determination Issued:
Corps Project Manager:

Sheet 23 of 44

No JD waters recommended on this sheet.

33.290541
-111.63626

2-Track

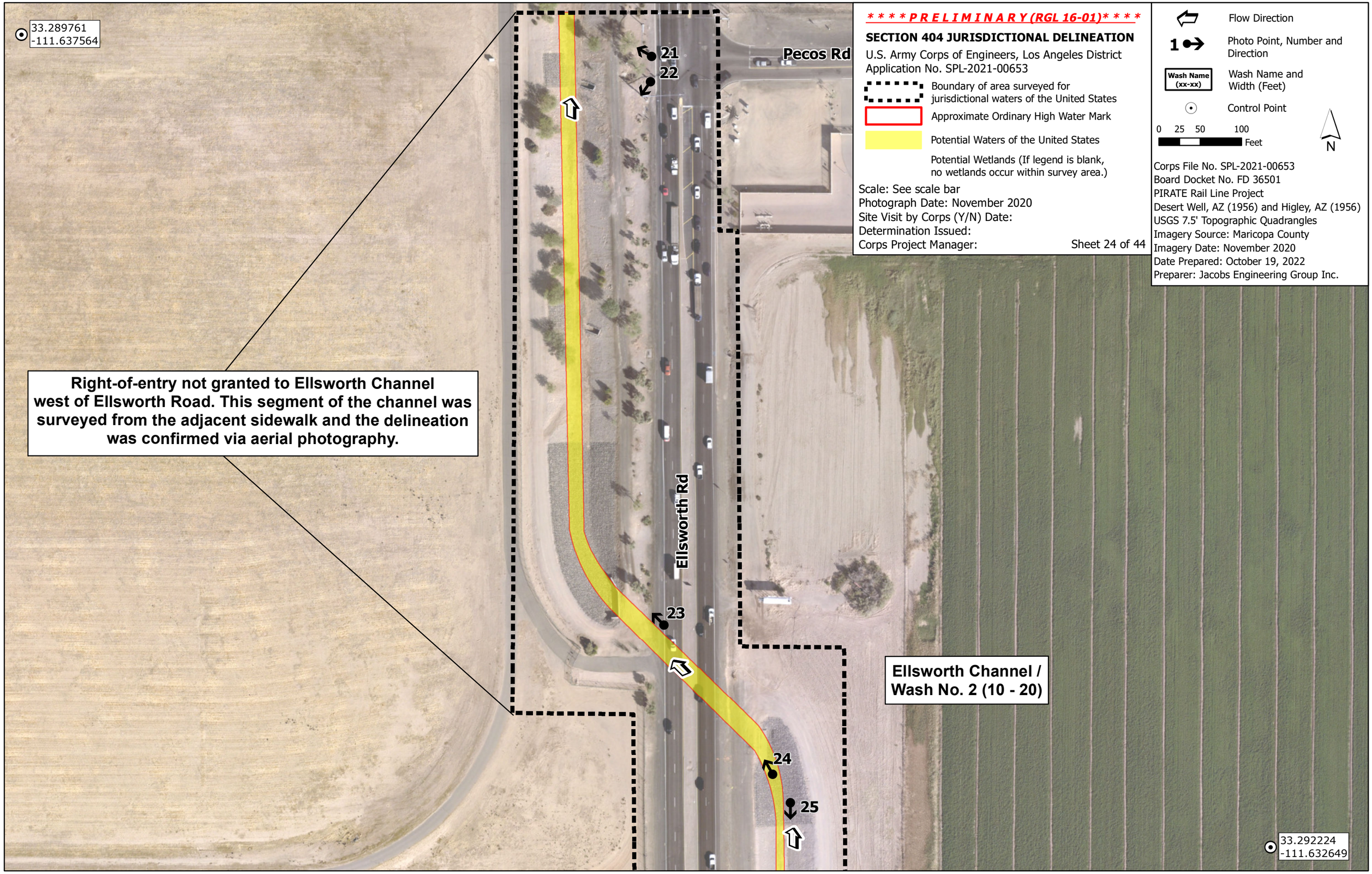
Airport internal access road (not public)

Lined Irrigation Ditch

Lined Irrigation Ditch

2-Track

33.288083
-111.641169



*** * * * PRELIMINARY (RGL 16-01) * * * ***

SECTION 404 JURISDICTIONAL DELINEATION

U.S. Army Corps of Engineers, Los Angeles District
Application No. SPL-2021-00653

Boundary of area surveyed for jurisdictional waters of the United States

Approximate Ordinary High Water Mark

Potential Waters of the United States

Potential Wetlands (If legend is blank, no wetlands occur within survey area.)

Scale: See scale bar
Photograph Date: November 2020
Site Visit by Corps (Y/N) Date:
Determination Issued:
Corps Project Manager:

Sheet 24 of 44

Flow Direction

1 Photo Point, Number and Direction

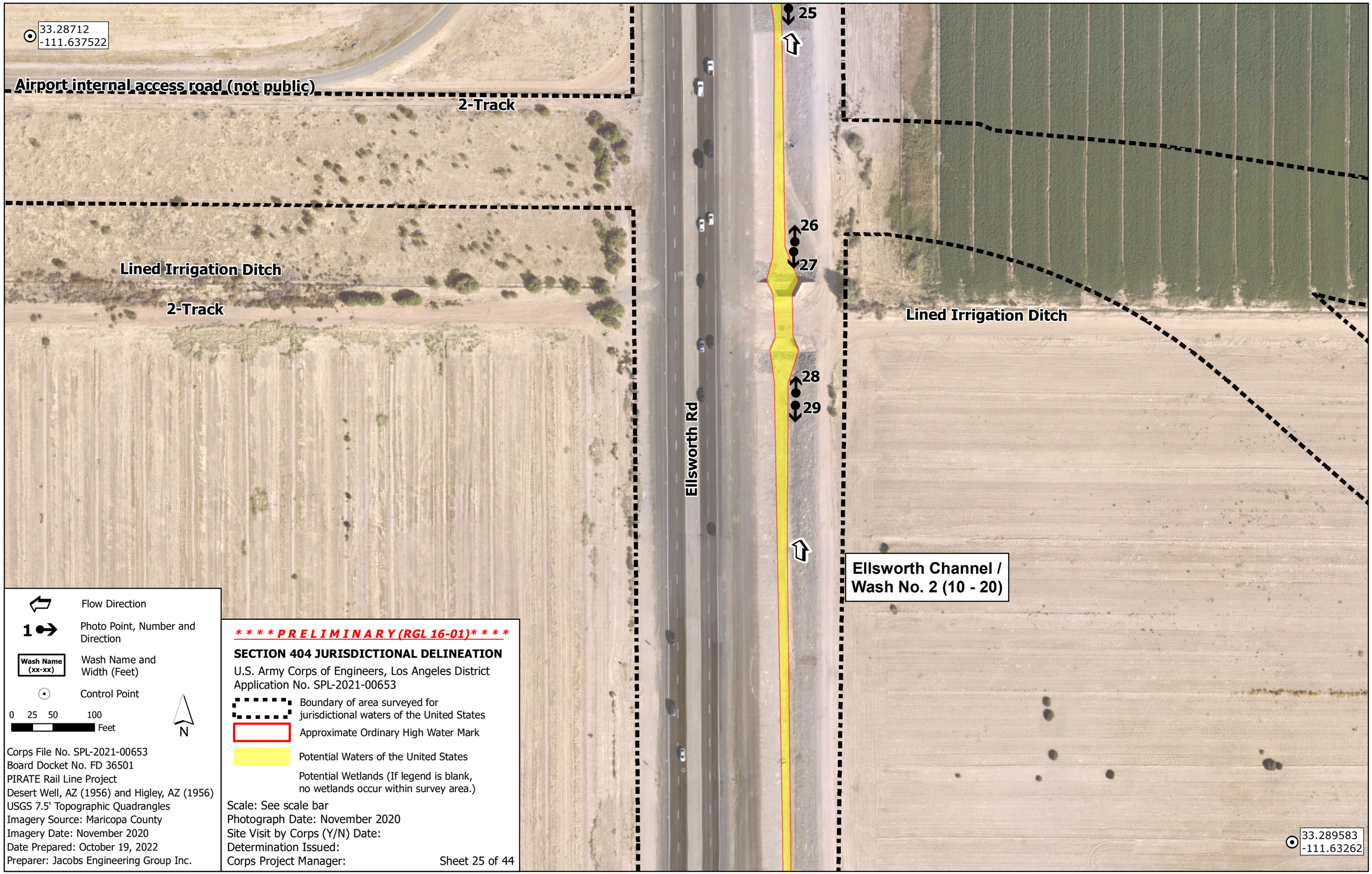
Wash Name (xx-xx) Wash Name and Width (Feet)

Control Point

0 25 50 100 Feet

N

Corps File No. SPL-2021-00653
Board Docket No. FD 36501
PIRATE Rail Line Project
Desert Well, AZ (1956) and Higley, AZ (1956)
USGS 7.5' Topographic Quadrangles
Imagery Source: Maricopa County
Imagery Date: November 2020
Date Prepared: October 19, 2022
Preparer: Jacobs Engineering Group Inc.



Flow Direction

1 Photo Point, Number and Direction

Wash Name (xx-xx) Wash Name and Width (Feet)

Control Point

0 25 50 100 Feet

N

Corps File No. SPL-2021-00653
Board Docket No. FD 36501
PIRATE Rail Line Project
Desert Well, AZ (1956) and Higley, AZ (1956)
USGS 7.5' Topographic Quadrangles
Imagery Source: Maricopa County
Imagery Date: November 2020
Date Prepared: October 19, 2022
Preparer: Jacobs Engineering Group Inc.

*** * * * PRELIMINARY (RGL 16-01) * * * ***

SECTION 404 JURISDICTIONAL DELINEATION

U.S. Army Corps of Engineers, Los Angeles District
Application No. SPL-2021-00653

Boundary of area surveyed for jurisdictional waters of the United States

Approximate Ordinary High Water Mark

Potential Waters of the United States

Potential Wetlands (If legend is blank, no wetlands occur within survey area.)

Scale: See scale bar
Photograph Date: November 2020
Site Visit by Corps (Y/N) Date:
Determination Issued:
Corps Project Manager:

Flow Direction

1 Photo Point, Number and Direction

Wash Name (xx-xx) Wash Name and Width (Feet)

Control Point

0 25 50 100 Feet

N

Corps File No. SPL-2021-00653
Board Docket No. FD 36501
PIRATE Rail Line Project
Desert Well, AZ (1956) and Higley, AZ (1956)
USGS 7.5' Topographic Quadrangles
Imagery Source: Maricopa County
Imagery Date: November 2020
Date Prepared: October 19, 2022
Preparer: Jacobs Engineering Group Inc.

******PRELIMINARY (RGL 16-01)******

SECTION 404 JURISDICTIONAL DELINEATION

U.S. Army Corps of Engineers, Los Angeles District
Application No. SPL-2021-00653

Boundary of area surveyed for jurisdictional waters of the United States

Approximate Ordinary High Water Mark

Potential Waters of the United States

Potential Wetlands (If legend is blank, no wetlands occur within survey area.)

Scale: See scale bar
Photograph Date: November 2020
Site Visit by Corps (Y/N) Date:
Determination Issued:
Corps Project Manager:

Ellsworth Rd

Ellsworth Channel / Wash No. 2 (10 - 20)

33.287078
-111.632685

30

31

Lined Irrigation Ditch

Pecos Rd

Lined Irrigation Ditch

Willis Rd (future)

33.284621
-111.637593

33.289915
-111.63231

No JD waters recommended on this sheet.

****PRELIMINARY (RGL 16-01)****

SECTION 404 JURISDICTIONAL DELINEATION

U.S. Army Corps of Engineers, Los Angeles District
Application No. SPL-2021-00653

Boundary of area surveyed for jurisdictional waters of the United States

Approximate Ordinary High Water Mark

Potential Waters of the United States

Potential Wetlands (If legend is blank, no wetlands occur within survey area.)

Scale: See scale bar
Photograph Date: November 2020
Site Visit by Corps (Y/N) Date:
Determination Issued:
Corps Project Manager:

Sheet 27 of 44

Flow Direction

1 Photo Point, Number and Direction

Wash Name (xx-xx) Wash Name and Width (Feet)

Control Point

0 25 50 100 Feet

N

Corps File No. SPL-2021-00653
Board Docket No. FD 36501
PIRATE Rail Line Project
Desert Well, AZ (1956) and Higley, AZ (1956)
USGS 7.5' Topographic Quadrangles
Imagery Source: Maricopa County
Imagery Date: November 2020
Date Prepared: October 19, 2022
Preparer: Jacobs Engineering Group Inc.

Lined Irrigation Ditch

Sheet 27

Sheet 34

33.287435
-111.627417

Flow Direction

1 Photo Point, Number and Direction

Wash Name (xx-xx) Wash Name and Width (Feet)

Control Point

0 25 50 100 Feet

N

Corps File No. SPL-2021-00653
Board Docket No. FD 36501
PIRATE Rail Line Project
Desert Well, AZ (1956) and Higley, AZ (1956)
USGS 7.5' Topographic Quadrangles
Imagery Source: Maricopa County
Imagery Date: November 2020
Date Prepared: October 19, 2022
Preparer: Jacobs Engineering Group Inc.

*** * * * PRELIMINARY (RGL 16-01) * * * ***

SECTION 404 JURISDICTIONAL DELINEATION

U.S. Army Corps of Engineers, Los Angeles District
Application No. SPL-2021-00653

Boundary of area surveyed for jurisdictional waters of the United States

Approximate Ordinary High Water Mark

Potential Waters of the United States

Potential Wetlands (If legend is blank, no wetlands occur within survey area.)

Scale: See scale bar
Photograph Date: November 2020
Site Visit by Corps (Y/N) Date:
Determination Issued:
Corps Project Manager:

No JD waters recommended on this sheet.

33.289654
-111.622233

Lined Irrigation Channel

2-Track

Lined Irrigation Channel

33.287191
-111.627136

Flow Direction

1 Photo Point, Number and Direction

Wash Name (xx-xx) Wash Name and Width (Feet)

Control Point

0 25 50 100 Feet

N

Corps File No. SPL-2021-00653
Board Docket No. FD 36501
PIRATE Rail Line Project
Desert Well, AZ (1956) and Higley, AZ (1956)
USGS 7.5' Topographic Quadrangles
Imagery Source: Maricopa County
Imagery Date: November 2020
Date Prepared: October 19, 2022
Preparer: Jacobs Engineering Group Inc.

******PRELIMINARY (RGL 16-01)******

SECTION 404 JURISDICTIONAL DELINEATION

U.S. Army Corps of Engineers, Los Angeles District
Application No. SPL-2021-00653

Boundary of area surveyed for jurisdictional waters of the United States

Approximate Ordinary High Water Mark

Potential Waters of the United States

Potential Wetlands (If legend is blank, no wetlands occur within survey area.)

Scale: See scale bar
Photograph Date: November 2020
Site Visit by Corps (Y/N) Date:
Determination Issued:
Corps Project Manager:

No JD waters recommended on this sheet.

Right-of-entry not granted to privately owned parcel. Parcel was surveyed from public roadway and adjacent parcels and confirmed via aerial photography.

2-Track

Lined Irrigation Ditch

Future Crismon Road Alignment

Vegetated Berm

Dirt Road

Abandoned Tailwater Pond (obliterated Summer 2022)

Lined Irrigation Channel

33.289572
-111.616878

33.287121
-111.621793

Flow Direction

1 Photo Point, Number and Direction

Wash Name (xx-xx) Wash Name and Width (Feet)

Control Point

0 25 50 100 Feet

N

Corps File No. SPL-2021-00653
Board Docket No. FD 36501
PIRATE Rail Line Project
Desert Well, AZ (1956) and Higley, AZ (1956)
USGS 7.5' Topographic Quadrangles
Imagery Source: Maricopa County
Imagery Date: November 2020
Date Prepared: October 19, 2022
Preparer: Jacobs Engineering Group Inc.

******PRELIMINARY (RGL 16-01)******

SECTION 404 JURISDICTIONAL DELINEATION

U.S. Army Corps of Engineers, Los Angeles District
Application No. SPL-2021-00653

Boundary of area surveyed for jurisdictional waters of the United States

Approximate Ordinary High Water Mark

Potential Waters of the United States

Potential Wetlands (If legend is blank, no wetlands occur within survey area.)

Scale: See scale bar
Photograph Date: November 2020
Site Visit by Corps (Y/N) Date:
Determination Issued:
Corps Project Manager:

No JD waters recommended on this sheet.

33.292217
-111.61688

Pecos Rd

32

34

33

Future Crismon Road Alignment

Vegetated Berm

Dirt Road

Lined Irrigation Ditch

Abandoned Tailwater Pond (obliterated Summer 2022)

Right-of-entry not granted to privately owned parcel. Parcel was surveyed from public roadway and adjacent parcels and confirmed via aerial photography.

33.289707
-111.621705

Flow Direction

1 Photo Point, Number and Direction

Wash Name (xx-xx) Wash Name and Width (Feet)

Control Point

0 25 50 100 Feet

N

Corps File No. SPL-2021-00653
Board Docket No. FD 36501
PIRATE Rail Line Project
Desert Well, AZ (1956) and Higley, AZ (1956)
USGS 7.5' Topographic Quadrangles
Imagery Source: Maricopa County
Imagery Date: November 2020
Date Prepared: October 19, 2022
Preparer: Jacobs Engineering Group Inc.

******PRELIMINARY (RGL 16-01)******

SECTION 404 JURISDICTIONAL DELINEATION

U.S. Army Corps of Engineers, Los Angeles District
Application No. SPL-2021-00653

Boundary of area surveyed for jurisdictional waters of the United States

Approximate Ordinary High Water Mark

Potential Waters of the United States

Potential Wetlands (If legend is blank, no wetlands occur within survey area.)

Scale: See scale bar
Photograph Date: November 2020
Site Visit by Corps (Y/N) Date:
Determination Issued:
Corps Project Manager:

No JD waters recommended on this sheet.

Lined Irrigation Channel

33.289536
-111.611559

Dirt Road

Dirt Road

33.287074
-111.616462

Flow Direction

1 Photo Point, Number and Direction

Wash Name (xx-xx) Wash Name and Width (Feet)

Control Point

0 25 50 100 Feet

N

Corps File No. SPL-2021-00653
Board Docket No. FD 36501
PIRATE Rail Line Project
Desert Well, AZ (1956) and Higley, AZ (1956)
USGS 7.5' Topographic Quadrangles
Imagery Source: Maricopa County
Imagery Date: November 2020
Date Prepared: October 19, 2022
Preparer: Jacobs Engineering Group Inc.

******PRELIMINARY (RGL 16-01)******

SECTION 404 JURISDICTIONAL DELINEATION

U.S. Army Corps of Engineers, Los Angeles District
Application No. SPL-2021-00653

Boundary of area surveyed for jurisdictional waters of the United States

Approximate Ordinary High Water Mark

Potential Waters of the United States

Potential Wetlands (If legend is blank, no wetlands occur within survey area.)

Scale: See scale bar
Photograph Date: November 2020
Site Visit by Corps (Y/N) Date:
Determination Issued:
Corps Project Manager:

No JD waters recommended on this sheet.

Unlined Irrigation Ditch

Merrill Rd

Dirt Road

Dirt Road

33.289542
-111.606284

Lined Irrigation Ditch

33.287085
-111.611193

Flow Direction

1 Photo Point, Number and Direction

Wash Name (xx-xx) Wash Name and Width (Feet)

Control Point

0 25 50 100 Feet

N

Corps File No. SPL-2021-00653
Board Docket No. FD 36501
PIRATE Rail Line Project
Desert Well, AZ (1956) and Higley, AZ (1956)
USGS 7.5' Topographic Quadrangles
Imagery Source: Maricopa County
Imagery Date: November 2020
Date Prepared: October 19, 2022
Preparer: Jacobs Engineering Group Inc.

******PRELIMINARY (RGL 16-01)******

SECTION 404 JURISDICTIONAL DELINEATION

U.S. Army Corps of Engineers, Los Angeles District
Application No. SPL-2021-00653

Boundary of area surveyed for jurisdictional waters of the United States

Approximate Ordinary High Water Mark

Potential Waters of the United States

Potential Wetlands (If legend is blank, no wetlands occur within survey area.)

Scale: See scale bar
Photograph Date: November 2020
Site Visit by Corps (Y/N) Date:
Determination Issued:
Corps Project Manager:

No JD waters recommended on this sheet.

33.289429
-111.601001

Lined Irrigation Ditch

Unlined Irrigation Ditch

Orchard Access Rd

Dirt Road

Sheet 41

33.286978
-111.605917

33.287436
-111.632053

Sheet 27

Sheet 34

Flow Direction

1 Photo Point, Number and Direction

Wash Name (xx-xx) Wash Name and Width (Feet)

Control Point

0 25 50 100 Feet

N

Corps File No. SPL-2021-00653
Board Docket No. FD 36501
PIRATE Rail Line Project
Desert Well, AZ (1956) and Higley, AZ (1956)
USGS 7.5' Topographic Quadrangles
Imagery Source: Maricopa County
Imagery Date: November 2020
Date Prepared: October 19, 2022
Preparer: Jacobs Engineering Group Inc.

*** * * * PRELIMINARY (RGL 16-01) * * * ***

SECTION 404 JURISDICTIONAL DELINEATION

U.S. Army Corps of Engineers, Los Angeles District
Application No. SPL-2021-00653

Boundary of area surveyed for jurisdictional waters of the United States

Approximate Ordinary High Water Mark

Potential Waters of the United States

Potential Wetlands (If legend is blank, no wetlands occur within survey area.)

Scale: See scale bar
Photograph Date: November 2020
Site Visit by Corps (Y/N) Date:
Determination Issued:
Corps Project Manager:

No JD waters recommended on this sheet.

Lined Irrigation Ditch

Future Willis Rd Alignment

33.284956
-111.627167

Flow Direction

1 Photo Point, Number and Direction

Wash Name (xx-xx) Wash Name and Width (Feet)

Control Point

0 25 50 100 Feet

N

Corps File No. SPL-2021-00653
Board Docket No. FD 36501
PIRATE Rail Line Project
Desert Well, AZ (1956) and Higley, AZ (1956)
USGS 7.5' Topographic Quadrangles
Imagery Source: Maricopa County
Imagery Date: November 2020
Date Prepared: October 19, 2022
Preparer: Jacobs Engineering Group Inc.

******PRELIMINARY (RGL 16-01)******

SECTION 404 JURISDICTIONAL DELINEATION

U.S. Army Corps of Engineers, Los Angeles District
Application No. SPL-2021-00653

Boundary of area surveyed for jurisdictional waters of the United States

Approximate Ordinary High Water Mark

Potential Waters of the United States

Potential Wetlands (If legend is blank, no wetlands occur within survey area.)

Scale: See scale bar
Photograph Date: November 2020
Site Visit by Corps (Y/N) Date:
Determination Issued:
Corps Project Manager:

No JD waters recommended on this sheet.

33.286324
-111.62206

Dirt Road

Lined Irrigation Ditch

Future Willis Rd Alignment

Lined Irrigation Ditch

Dirt Road

Unlined Irrigation Ditch

Dirt Road

Dirt Road

Dirt Road

33.283873
-111.626969

Flow Direction

1 Photo Point, Number and Direction

Wash Name (xx-xx) Wash Name and Width (Feet)

Control Point

0 25 50 100 Feet

N

Corps File No. SPL-2021-00653
Board Docket No. FD 36501
PIRATE Rail Line Project
Desert Well, AZ (1956) and Higley, AZ (1956)
USGS 7.5' Topographic Quadrangles
Imagery Source: Maricopa County
Imagery Date: November 2020
Date Prepared: October 19, 2022
Preparer: Jacobs Engineering Group Inc.

******PRELIMINARY (RGL 16-01)******

SECTION 404 JURISDICTIONAL DELINEATION

U.S. Army Corps of Engineers, Los Angeles District
Application No. SPL-2021-00653

Boundary of area surveyed for jurisdictional waters of the United States

Approximate Ordinary High Water Mark

Potential Waters of the United States

Potential Wetlands (If legend is blank, no wetlands occur within survey area.)

Scale: See scale bar
Photograph Date: November 2020
Site Visit by Corps (Y/N) Date:
Determination Issued:
Corps Project Manager:

No JD waters recommended on this sheet.

33.286276
-111.616777

Future Crismon Road Alignment

Lined Irrigation Ditch

Lined Irrigation Ditch

Future Willis Rd Alignment

Dirt Road

Dirt Road

Dirt Road

Dirt Road

33.283825
-111.621693

Flow Direction

1 Photo Point, Number and Direction

Wash Name (xx-xx) Wash Name and Width (Feet)

Control Point

0 25 50 100 Feet

N

Corps File No. SPL-2021-00653
Board Docket No. FD 36501
PIRATE Rail Line Project
Desert Well, AZ (1956) and Higley, AZ (1956) USGS 7.5' Topographic Quadrangles
Imagery Source: Maricopa County
Imagery Date: November 2020
Date Prepared: October 19, 2022
Preparer: Jacobs Engineering Group Inc.

******PRELIMINARY (RGL 16-01)******

SECTION 404 JURISDICTIONAL DELINEATION

U.S. Army Corps of Engineers, Los Angeles District
Application No. SPL-2021-00653

Boundary of area surveyed for jurisdictional waters of the United States

Approximate Ordinary High Water Mark

Potential Waters of the United States

Potential Wetlands (If legend is blank, no wetlands occur within survey area.)

Scale: See scale bar
Photograph Date: November 2020
Site Visit by Corps (Y/N) Date:
Determination Issued:
Corps Project Manager:

No JD waters recommended on this sheet.

33.286229
-111.611475

Dirt Road

Dirt Road

Lined Irrigation Ditch

33.283772
-111.616404

Flow Direction

Photo Point, Number and Direction

Wash Name and Width (Feet)

Control Point

0 25 50 100 Feet

N

Corps File No. SPL-2021-00653
Board Docket No. FD 36501
PIRATE Rail Line Project
Desert Well, AZ (1956) and Higley, AZ (1956)
USGS 7.5' Topographic Quadrangles
Imagery Source: Maricopa County
Imagery Date: November 2020
Date Prepared: October 19, 2022
Preparer: Jacobs Engineering Group Inc.

******PRELIMINARY (RGL 16-01)******

SECTION 404 JURISDICTIONAL DELINEATION

U.S. Army Corps of Engineers, Los Angeles District
Application No. SPL-2021-00653

Boundary of area surveyed for jurisdictional waters of the United States

Approximate Ordinary High Water Mark

Potential Waters of the United States

Potential Wetlands (If legend is blank, no wetlands occur within survey area.)

Scale: See scale bar
Photograph Date: November 2020
Site Visit by Corps (Y/N) Date:
Determination Issued:
Corps Project Manager:

No JD waters recommended on this sheet.

Unlined Irrigation Ditch

Merrill Rd

Dirt Road

Lined Irrigation Ditch

33.286234
-111.606206

33.283778
-111.611122

Flow Direction

1 Photo Point, Number and Direction

Wash Name (xx-xx) Wash Name and Width (Feet)

Control Point

0 25 50 100 Feet

N

Corps File No. SPL-2021-00653
Board Docket No. FD 36501
PIRATE Rail Line Project
Desert Well, AZ (1956) and Higley, AZ (1956)
USGS 7.5' Topographic Quadrangles
Imagery Source: Maricopa County
Imagery Date: November 2020
Date Prepared: October 19, 2022
Preparer: Jacobs Engineering Group Inc.

*** * * * PRELIMINARY (RGL 16-01) * * * ***

SECTION 404 JURISDICTIONAL DELINEATION

U.S. Army Corps of Engineers, Los Angeles District
Application No. SPL-2021-00653

Boundary of area surveyed for jurisdictional waters of the United States

Approximate Ordinary High Water Mark

Potential Waters of the United States

Potential Wetlands (If legend is blank, no wetlands occur within survey area.)

Scale: See scale bar
Photograph Date: November 2020
Site Visit by Corps (Y/N) Date:
Determination Issued:
Corps Project Manager:

No JD waters recommended on this sheet.

33.286311
-111.601001

Future Signal Butte Road Alignment

Lined Irrigation Ditch

19

20

Lined Irrigation Ditch

Dirt Road

Unlined Irrigation Ditch

33.283772
-111.605846

Flow Direction

1 Photo Point, Number and Direction

Wash Name (xx-xx) Wash Name and Width (Feet)

Control Point

0 25 50 100 Feet

N

Corps File No. SPL-2021-00653
Board Docket No. FD 36501
PIRATE Rail Line Project
Desert Well, AZ (1956) and Higley, AZ (1956)
USGS 7.5' Topographic Quadrangles
Imagery Source: Maricopa County
Imagery Date: November 2020
Date Prepared: October 19, 2022
Preparer: Jacobs Engineering Group Inc.

******PRELIMINARY (RGL 16-01)******

SECTION 404 JURISDICTIONAL DELINEATION

U.S. Army Corps of Engineers, Los Angeles District
Application No. SPL-2021-00653

Boundary of area surveyed for jurisdictional waters of the United States

Approximate Ordinary High Water Mark

Potential Waters of the United States

Potential Wetlands (If legend is blank, no wetlands occur within survey area.)

Scale: See scale bar
Photograph Date: November 2020
Site Visit by Corps (Y/N) Date:
Determination Issued:
Corps Project Manager:

33.287138
-111.59821

Right-of-entry not granted to privately owned parcel in May 2022. Parcel was surveyed from public roadway and confirmed via aerial photography.

Fenceline

Future Signal Butte Road Alignment

Lined Irrigation Ditch

No JD waters recommended on this sheet.

33.284677
-111.60312

Future Signal Butte Road Alignment

Fenceline

Lined Irrigation Ditch

Sheet 33

Sheet 41

33.2873
-111.602365

33.28975
-111.597449

Erosional Features

Right-of-entry not granted to privately owned parcel in May 2022. Parcel was surveyed from public roadway and confirmed via aerial photography.

No JD waters recommended on this sheet.

*** * * * P R E L I M I N A R Y (RGL 16-01) * * * ***

SECTION 404 JURISDICTIONAL DELINEATION

U.S. Army Corps of Engineers, Los Angeles District
Application No. SPL-2021-00653

Boundary of area surveyed for jurisdictional waters of the United States

Approximate Ordinary High Water Mark

Potential Waters of the United States

Potential Wetlands (If legend is blank, no wetlands occur within survey area.)

Scale: See scale bar
Photograph Date: November 2020
Site Visit by Corps (Y/N) Date:
Determination Issued:
Corps Project Manager:

Sheet 41 of 44

Flow Direction

1 Photo Point, Number and Direction

Wash Name (xx-xx) Wash Name and Width (Feet)

Control Point

0 25 50 100 Feet

N

Corps File No. SPL-2021-00653
Board Docket No. FD 36501
PIRATE Rail Line Project
Desert Well, AZ (1956) and Higley, AZ (1956)
USGS 7.5' Topographic Quadrangles
Imagery Source: Maricopa County
Imagery Date: November 2020
Date Prepared: October 19, 2022
Preparer: Jacobs Engineering Group Inc.

Flow Direction

1 Photo Point, Number and Direction

Wash Name (xx-xx) Wash Name and Width (Feet)

Control Point

0 25 50 100 Feet

N

Corps File No. SPL-2021-00653
Board Docket No. FD 36501
PIRATE Rail Line Project
Desert Well, AZ (1956) and Higley, AZ (1956)
USGS 7.5' Topographic Quadrangles
Imagery Source: Maricopa County
Imagery Date: November 2020
Date Prepared: October 19, 2022
Preparer: Jacobs Engineering Group Inc.

******PRELIMINARY (RGL 16-01)******

SECTION 404 JURISDICTIONAL DELINEATION

U.S. Army Corps of Engineers, Los Angeles District
Application No. SPL-2021-00653

Boundary of area surveyed for jurisdictional waters of the United States

Approximate Ordinary High Water Mark

Potential Waters of the United States

Potential Wetlands (If legend is blank, no wetlands occur within survey area.)

Scale: See scale bar
Photograph Date: November 2020
Site Visit by Corps (Y/N) Date:
Determination Issued:
Corps Project Manager:

33.292692
-111.59569

No JD waters recommended on this sheet.

35 36 37

Pecos Rd

2-Track

Isolated low-lying depression currently used as a detention basin. Right-of-entry not granted to privately owned parcel. Parcel was surveyed from public roadway and confirmed via aerial photography.

Lined Irrigation Ditch

Future Signal Butte Road Alignment

Fenceline

Erosional Features

Erosional Features

Right-of-entry not granted to privately owned parcel in May 2022. Parcel was surveyed from public roadway and confirmed via aerial photography.

33.290014
-111.600214

Flow Direction

1 Photo Point, Number and Direction

Wash Name (xx-xx) Wash Name and Width (Feet)

Control Point

0 25 50 100 Feet

N

Corps File No. SPL-2021-00653
Board Docket No. FD 36501
PIRATE Rail Line Project
Desert Well, AZ (1956) and Higley, AZ (1956)
USGS 7.5' Topographic Quadrangles
Imagery Source: Maricopa County
Imagery Date: November 2020
Date Prepared: October 19, 2022
Preparer: Jacobs Engineering Group Inc.

******PRELIMINARY (RGL 16-01)******

SECTION 404 JURISDICTIONAL DELINEATION

U.S. Army Corps of Engineers, Los Angeles District
Application No. SPL-2021-00653

Boundary of area surveyed for jurisdictional waters of the United States

Approximate Ordinary High Water Mark

Potential Waters of the United States

Potential Wetlands (If legend is blank, no wetlands occur within survey area.)

Scale: See scale bar
Photograph Date: November 2020
Site Visit by Corps (Y/N) Date:
Determination Issued:
Corps Project Manager:

Sheet 43 of 44

No JD waters recommended on this sheet.

33.29281
-111.590618

Mountain Rd

Pecos Rd

2-Track

Right-of-entry not granted to privately owned parcel in May 2022. Parcel was surveyed from public roadway and confirmed via aerial photography.

Driveway

33.290142
-111.595571

Flow Direction

Photo Point, Number and Direction

Wash Name and Width (Feet)

Control Point

0 25 50 100 Feet

N

Corps File No. SPL-2021-00653
Board Docket No. FD 36501
PIRATE Rail Line Project
Desert Well, AZ (1956) and Higley, AZ (1956)
USGS 7.5' Topographic Quadrangles
Imagery Source: Maricopa County
Imagery Date: November 2020
Date Prepared: October 19, 2022
Preparer: Jacobs Engineering Group Inc.

******PRELIMINARY (RGL 16-01)******

SECTION 404 JURISDICTIONAL DELINEATION

U.S. Army Corps of Engineers, Los Angeles District
Application No. SPL-2021-00653

Boundary of area surveyed for jurisdictional waters of the United States

Approximate Ordinary High Water Mark

Potential Waters of the United States

Potential Wetlands (If legend is blank, no wetlands occur within survey area.)

Scale: See scale bar
Photograph Date: November 2020
Site Visit by Corps (Y/N) Date:
Determination Issued:
Corps Project Manager:

33.292783
-111.585483

Wash No. 3
(4-30)

Pecos Rd

39
38
43
41
42
45
40
44

2-Track

Dirt Road

Fenceline

2-Track

Dirt Road on Diversion Dike

33.290136
-111.590419

APPENDIX B

GROUND PHOTOGRAPHS OF PROJECT DRAINAGES

(MAY 24–26 AND AUGUST 19, 2022)

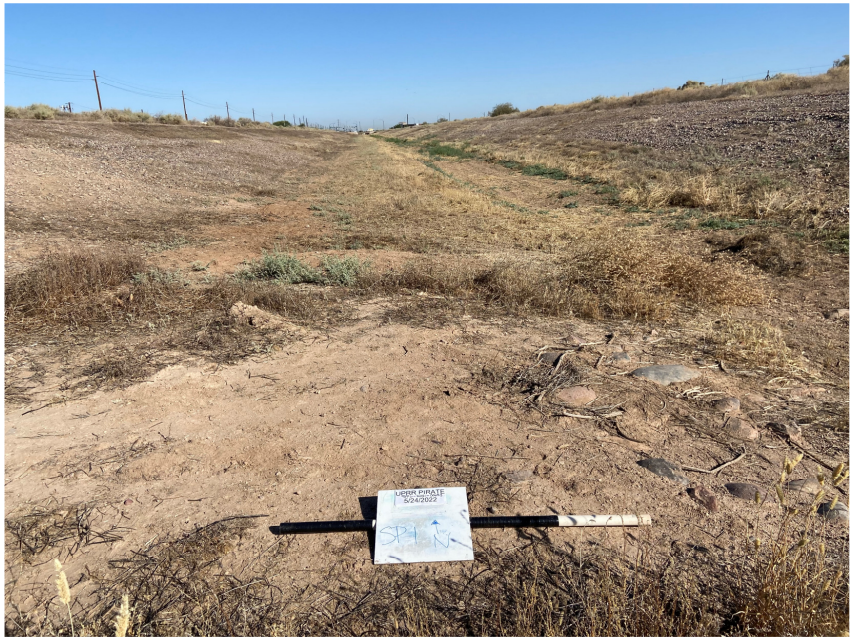


Photo 1. Looking northwest/downstream at Rittenhouse Channel/ Wash No. 1 toward the northwestern boundary of the JD survey.



Photo 2. Looking southeast/upstream at Rittenhouse Channel/Wash No. 1 toward the base of the weir at Station 71+83 (station painted on each weir).



Photo 3. Looking northwest/downstream at Rittenhouse Channel/ Wash No. 1 toward the weir at Station 71+83.



Photo 4. Looking southeast/upstream at Rittenhouse Channel/ Wash No. 1 away from the weir at Station 71+83.

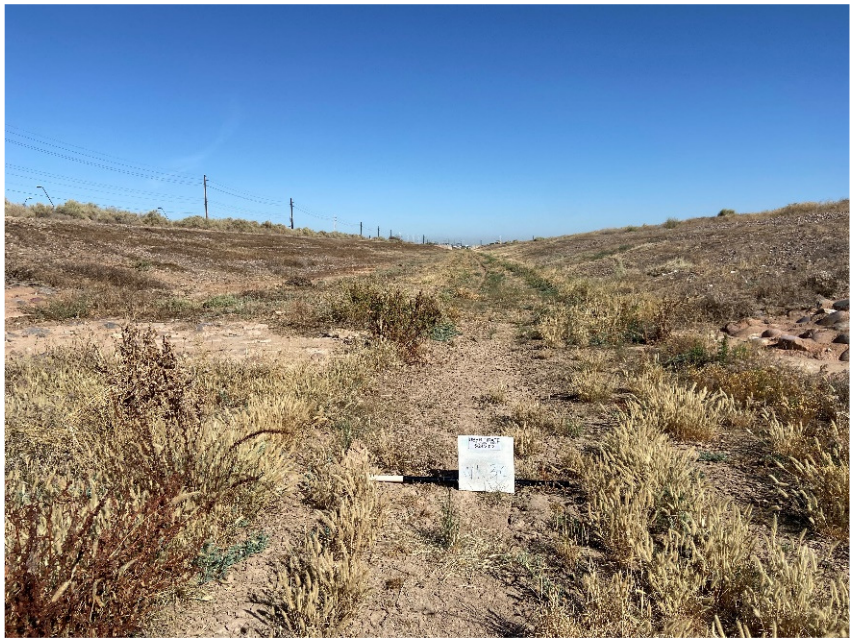


Photo 5. Looking northwest/downstream at Rittenhouse Channel/ Wash No. 1.



Photo 6. Looking southeast/upstream at Rittenhouse Channel/ Wash No. 1 toward the base of the weir at Station 80+43.



Photo 7. Looking northwest/downstream at Rittenhouse Channel/ Wash No. 1 toward the weir at Station 80+43.



Photo 8. Looking southeast/upstream at Rittenhouse Channel/ Wash No. 1 away from the weir at Station 80+43.



Photo 9. Looking northwest/downstream at Rittenhouse Channel/ Wash No. 1 from the weir at Station 90+43.



Photo 10. Looking southeast/upstream at Rittenhouse Channel/ Wash No. 1 toward the base of the weir at Station 90+43.



Photo 11. Looking northwest/downstream at Rittenhouse Channel/ Wash No. 1 from the southeastern extent of the survey area.



Photo 12. Looking southeast/upstream at Rittenhouse Channel/ Wash No. 1 from the southeastern extent of the survey area.



Photo 13. Looking northwest at typical drainage swale adjacent to UP's Phoenix Subdivision near Power Road.



Photo 14. Looking southeast at a typical UP drainage swale near Power Road; the swales do not connect to the Rittenhouse Channel.



Photo 15. Looking northwest at a typical UP drainage swale near Ellsworth Road. This swale dissipates into sheet flow.



Photo 16. Looking southeast at a typical UP drainage swale near Ellsworth Road.



Photo 17. Typical unlined irrigation ditch, looking north along Sossaman Road. This ditch is abandoned, and the field left fallow.



Photo 18. Typical unlined irrigation ditch, looking south along Sossaman Road.



Photo 19. Typical concrete-lined irrigation ditch, looking north along the orchard access road on ASLD-managed land.



Photo 20. Typical concrete-lined irrigation ditch, looking south along the orchard access road on ASLD-managed land.



Photo 21. Looking northwest/downstream at the western bank of Ellsworth Channel/Wash No. 2 near the northern boundary of the survey area. Right-of-entry to Ellsworth Channel west of Ellsworth Road was not granted. Therefore, photos 21–23 were taken from the closest publicly accessible points to this segment of the channel. Ellsworth Channel/ Wash No. 2 flows into Powerline Floodway about 2 miles north/downstream of the survey area, which in turn flows into the East Maricopa Floodway another 2 miles west/downstream.



Photo 22. Looking southwest/upstream at a gabion section stabilizing the western bank of the Ellsworth Channel/Wash No. 2.



Photo 23. Looking northwest/downstream at gabion outlet protection in Ellsworth Channel/Wash No. 2 downstream of Ellsworth Road.



Photo 24. Looking northwest/downstream at Ellsworth Channel/Wash No. 2 where it flows beneath Ellsworth Road in a two-barrel, 6’ by 10’ concrete box culvert (CBC).



Photo 25. Looking south/upstream at Ellsworth Channel/Wash No. 2 immediately upstream of the Ellsworth Road CBCs.



Photo 26. Looking north/downstream at Ellsworth Channel/Wash No. 2 from the outlet of the CBCs under a farm access road.



Photo 27. Looking south/upstream at Ellsworth Channel/Wash No. 2 where it flows beneath a farm access road in a two-barrel, 6’ by 10’ CBC.



Photo 28. Looking north/downstream at Ellsworth Channel/Wash No. 2 where it flows beneath a farm access road in a two-barrel, 6’ by 10’ CBC.



Photo 29. Looking south/upstream at Ellsworth Channel/Wash No. 2 from the inlet of the CBCs under a farm access road.



Photo 30. Looking north/downstream at Ellsworth Channel/Wash No. 2 from the outlet of the culvert where surface flows begin.



Photo 31. Looking south/upstream at Ellsworth Channel/Wash No. 2 at the southern boundary of the survey area. Surface flows enter the survey area from a drainage system that collects and conveys runoff and other ephemeral flows into the Ellsworth Channel for regional flood protection.



Photo 32. Looking south at a stand of *Typha* spp. and *Tamarix* spp. growing in an abandoned tailwater pond on May 24, 2022.



Photo 33. Looking north at the stand of *Typha* spp. growing in the abandoned tailwater pond on May 24, 2022.



Photo 34. Looking southwest on August 19, 2022, where the abandoned tailwater pond has been obliterated during site preparation for the Cubes industrial development. The large tree and vegetated berm are still visible in the center of the photo. This area is identified as a freshwater pond in the USFWS NWI data.



Photo 35. Looking north along the future alignment of Signal Butte Road where vegetation has been removed during site preparation.



Photo 37. Looking east-northeast at the staging and laydown area.



Photo 36. Looking north-northeast from the intersection of Pecos Road and the future Signal Butte Road alignment. Vegetation was cleared and grubbed to use the area as a staging and laydown area for the Pecos Road storm drain installation project. This area is identified as a freshwater forested shrub wetland in the USFWS NWI data. Photos 35–37 were taken on August 19, 2022, but conditions were similar in late May 2022.



Photo 38. Looking northwest/upstream at Wash No. 3 where it flows beneath Pecos Road through three 24" CMPs.



Photo 39. Looking southeast/downstream at Wash No. 3 south of the Pecos Road crossing. The diversion dike is to the right in the photo.



Photo 40. Looking northwest/upstream at Wash No. 3 where it ponds in a xeroriparian bosque at the base of the diversion dike.



Photo 41. Looking southeast/downstream at ponding in Wash No. 3 at the base of the diversion dike.



Photo 42. Looking northwest/upstream at the eastern side of the ponding in Wash No. 3.



Photo 43. Looking southeast/downstream at the eastern side of the ponding in Wash No. 3.



Photo 44. Looking northwest/upstream at Wash No. 3 where it flows out of the ponding area.

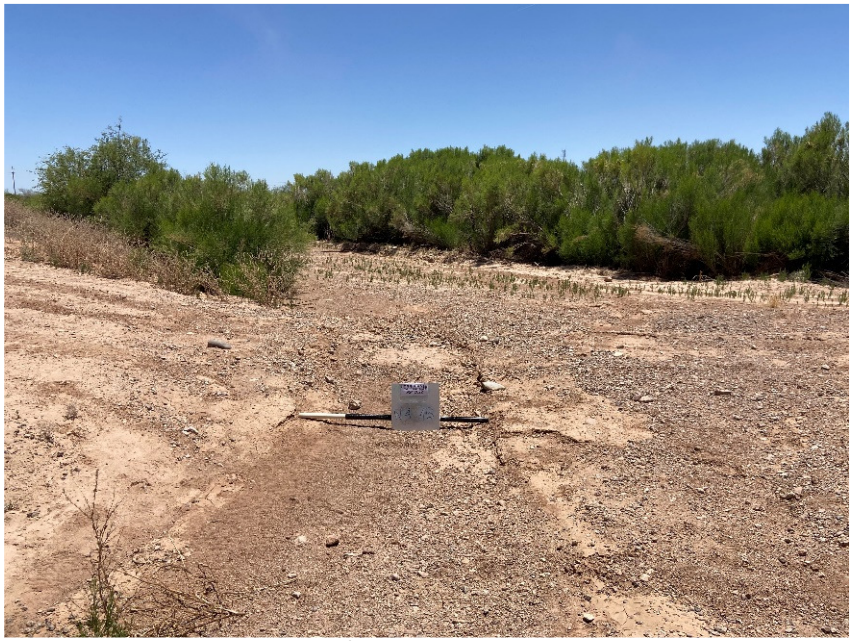


Photo 45. Looking southeast/downstream at Wash No. 3 toward the eastern edge of the survey area. Wash No. 3 crosses a 2-track outside of the survey area and appears to continue southeast.

APPENDIX C

JURISDICTIONAL DELINEATION PHYSICAL CHARACTERISTICS &
OTHER INFORMATION TABLE

Table C-1. Jurisdictional Delineation Physical Characteristics & Other Information
PIRATE Project
Corps File No. SPL-2021-00653
Survey: May 2022

		YES / NO												YES/NO
Wash No. or Name	**Road MP**	**Vegetation Difference Between Wash & Upland**	**Change in Soil Characteristics**	**Waterline Mark on Bank**	**Water Stains**	**Shelving or Cut Banks**	**Exposed Roots**	**Sediments Deposits**	**Presence of Litter or Debris**	**Wash Width (ft)**	**Wash Depth (ft or in)**	**Ground Photo Numbers**	**Existing Drainage Structure Type***	**WOUS**
Rittenhouse Channel/ Wash No. 1	Parallel to Rittenhouse Road generally between Power and Sossaman Roads (MP N/A)	x	x	x	x	x		x		30'	<1'	1-12	3 - ~12' x 70' concrete weirs	Y
Ellsworth Channel/ Wash No. 2	Parallel to Ellsworth Road between the two Pecos Road alignments (MP N/A)	x	x			x		x	x	10' - 20'	<1'	21-31	2 - 6' x 10' CBCs with wingwalls and gabion inlet/outlet; 2 - 6' x 10' CBCs with wingwalls and concrete apron inlet/outlet; 30" CPC with wingwalls	Y
Wash No. 3	Crosses Pecos Road east of Commercial Metals Company (MP N/A)	x	x	x			x	x	x	4' - 30'	<1'	38-45	3 - 24" CMPs	Y

CBC = concrete box culvert
CMP = concrete metal pipe
CPC = concrete pipe culvert
MP = milepost
N/A = not applicable

APPENDIX D

WETLAND DETERMINATION DATA FORMS

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: PIRATE Project City/County: Maricopa Sampling Date: 5.25.22

Applicant/Owner: Union Pacific Railroad Company State: AZ Sampling Point: SP1

Investigator(s): Betsi Phoebus, Sabra Bushey Section, Township, Range: S6, T2S, R7E

Landform (hillslope, terrace, etc.): Channel/floodplain Local relief (concave, convex, none): Slightly convex Slope (%): < 1%

Subregion (LRR): Interior Deserts - LRR D Lat: 33.284539° Long: -111.679033° Datum: NAD83

Soil Map Unit Name: Gilman loam (Gm) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation ✔, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

The section of the Rittenhouse Channel in the survey area was constructed in a drainage swale that developed along the UP Phoenix Subdivision and has functioned as a regional flood control channel for over 25 years. Maintenance includes periodic mowing of the banks and channel. Therefore, conditions in May 2022 are considered normal circumstances, which result in the "human-induced wetlands" atypical situation. SP1 represents portions of the channel outside of the receiving areas at the base of each weir.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 30' x 25')			
1. Centaurea melitensis (Malta star thistle)	40	Y	UPL
2. Heliotropium curassavicum (salt heliotrope)	15	Y	FACU
3. Isocoma acradenia (jimmyweed)	10	N	FACU
4. Echium vulgare (viper's bugloss)	5	N	UPL
5. Polypogon monspeliensis (rabbitsfoot)	3	N	FACW
6. Bromus madritensis (compact brome)	3	N	UPL
7. Phalaris aquatica (bulbous canarygrass)	2	N	FACU
8. Sphaeralcea munroana (globe mallow)	2	N	UPL
	80 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1. N/A			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 20 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	3	x 2 =	6
FAC species	0	x 3 =	0
FACU species	27	x 4 =	108
UPL species	50	x 5 =	250
Column Totals:	80 (A)		365 (B)

Prevalence Index = B/A = 4.6

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

FCDMC mows the majority of the Rittenhouse Channel banks and bed. In May 2022, only the vegetation growing in the receiving area of each weir was still present. A layer of dried plant fragments (leftover from mowing) covered the remainder of the bed and banks and indicate the last mowing occurred close to the time of the site visit. Vegetation in the channel (altered area) occupies a different topographic position with different hydrology from adjacent areas, so vegetation outside the channel was not used to determine typical vegetation in the channel. A ninth species in the herb stratum was also present with about 2% of the total cover, but this species could not be identified because in late May it was already too dry to recognize.

SOIL

Sampling Point: SP1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

Permission to access the Rittenhouse Channel was a "non-intrusive" ROE; therefore, soil pits could not be dug and a soil profile could not be completed. Soils are not assumed to be hydric because hydrophytic vegetation is not present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✔ Surface Soil Cracks (B6)
- ✔ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ✔ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ✔ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ✔ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes ✔ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Channel appears to be saturated and possibly inundated in an aerial photo from fall 2016 (City of Mesa 2022).

Remarks:

Hydrologic indicators present.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: PIRATE Project City/County: Maricopa Sampling Date: 5.25.22

Applicant/Owner: Union Pacific Railroad Company State: AZ Sampling Point: SP2

Investigator(s): Betsi Phoebus, Sabra Bushey Section, Township, Range: S6, T2S, R7E

Landform (hillslope, terrace, etc.): Channel/floodplain Local relief (concave, convex, none): Slightly convex Slope (%): < 1%

Subregion (LRR): Interior Deserts - LRR D Lat: 33.284504° Long: -111.678968° Datum: NAD83

Soil Map Unit Name: Gilman loam (Gm) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil ✔, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔	No _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔	No _____	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

The section of the Rittenhouse Channel in the survey area was constructed in a drainage swale that developed along the UP Phoenix Subdivision and has functioned as a regional flood control channel for over 25 years. Maintenance includes periodic mowing of the banks and channel. Therefore, conditions in May 2022 are considered normal circumstances, which result in the "human-induced wetlands" atypical situation. SP2 covers part of the receiving area at the base of the Station 71+83 weir.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 30' x 25')			
1. Polypogon monspeliensis (rabbitsfoot)	60	Y	FACW
2. Unidentified plant	20	N	UNK
3. Phalaris aquatica (bulbous canarygrass)	15	N	FACU
4. Laennecia coulteri (Coulter's horseweed)	5	N	FAC
5. Melilotus officinalis (yellow sweet clover)	5	N	FACU
6. Centaurea melitensis (Malta star thistle)	5	N	UPL
7. Bromus madritensis (compact brome)	5	N	UPL
8. Oncosiphon pilulifer (globe chamomile)	2	N	FACU
	117 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1. N/A			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 10 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✔ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

FCDMC mows the majority of the Rittenhouse Channel banks and bed. In May 2022, only the vegetation growing in the receiving area of each weir was still present. Vegetation in the channel (altered area) occupies a different topographic position with different hydrology from adjacent areas, so vegetation outside the channel was not used to determine typical vegetation in the channel. Species No. 2 in the herb stratum could not be identified because in late May it was already too dry to recognize. Other plants in SP2 included 1% Echium vulgare (viper's bugloss), 1% Heliotropium curassavicum (salt heliotrope), and 1% Physalis angulata (cutleaf groundcherry). Total cover exceeds 100% because of overlapping plants.

SOIL

Sampling Point: SP2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ No ___

Remarks:

Permission to access the Rittenhouse Channel was a "non-intrusive" ROE; therefore, soil pits could not be dug and a soil profile could not be completed. Soils are assumed to be hydric because of the presence of hydrophytic vegetation and wetland hydrology.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✔ Surface Soil Cracks (B6)
- ✔ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ✔ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ✔ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ✔ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✔ Depth (inches): _____

Water Table Present? Yes ___ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes ✔ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Channel appears to be saturated and possibly inundated in an aerial photo from fall 2016 (City of Mesa 2022).

Remarks:

Hydrologic indicators present.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: PIRATE Project City/County: Maricopa Sampling Date: 5.25.22

Applicant/Owner: Union Pacific Railroad Company State: AZ Sampling Point: SP3

Investigator(s): Betsi Phoebus, Sabra Bushey Section, Township, Range: S6, T2S, R7E

Landform (hillslope, terrace, etc.): Channel/floodplain Local relief (concave, convex, none): Slightly convex Slope (%): < 1%

Subregion (LRR): Interior Deserts - LRR D Lat: 33.284461° Long: -111.678896° Datum: NAD83

Soil Map Unit Name: Gilman loam (Gm) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil ✔, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔	No _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔	No _____	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

The section of the Rittenhouse Channel in the survey area was constructed in a drainage swale that developed along the UP Phoenix Subdivision and has functioned as a regional flood control channel for over 25 years. Maintenance includes periodic mowing of the banks and channel. Therefore, conditions in May 2022 are considered normal circumstances, which result in the "human-induced wetlands" atypical situation. SP3 covers part of the receiving area at the base of the Station 71+83 weir.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 30' x 25')			
1. Polypogon monspeliensis (rabbitsfoot)	90	Y	FACW
2. Unidentified plant	30	N	UNK
3. Bromus madritensis (compact brome)	15	N	UPL
4. Melilotus officinalis (yellow sweet clover)	10	N	FACU
5. Centaurea melitensis (Malta star thistle)	10	N	UPL
6. Bromus rubens (red brome)	5	N	UPL
7. Chenopodium album (white goosefoot)	5	N	FACU
8. Physalis angulata (cutleaf groundcherry)	5	N	UPL
	170 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1. N/A			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 5 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✔ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

FCDMC mows the majority of the Rittenhouse Channel banks and bed. In May 2022, only the vegetation growing in the receiving area of each weir was still present. Vegetation in the channel (altered area) occupies a different topographic position with different hydrology from adjacent areas, so vegetation outside the channel was not used to determine typical vegetation in the channel. Species No. 2 in the herb stratum could not be identified because in late May it was already too dry to recognize. Other plants in SP3 included 2% Heliotropium curassavicum (salt heliotrope), 1% Phalaris aquatica (bulbous canarygrass), and 1% Oncosiphon pilulifer (globe chamomile). Total cover exceeds 100% because of overlapping plants.

SOIL

Sampling Point: SP3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ No ___

Remarks:

Permission to access the Rittenhouse Channel was a "non-intrusive" ROE; therefore, soil pits could not be dug and a soil profile could not be completed. Soils are assumed to be hydric because of the presence of hydrophytic vegetation and wetland hydrology.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✔ Surface Soil Cracks (B6)
- ✔ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ✔ Water Marks (B1) (**Riverine**)
- ✔ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ✔ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ✔ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✔ Depth (inches): _____

Water Table Present? Yes ___ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes ✔ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Channel appears to be saturated and possibly inundated in an aerial photo from fall 2016 (City of Mesa 2022).

Remarks:

Hydrologic indicators present.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: PIRATE Project City/County: Maricopa Sampling Date: 5.25.22

Applicant/Owner: Union Pacific Railroad Company State: AZ Sampling Point: SP4

Investigator(s): Betsi Phoebus, Sabra Bushey Section, Township, Range: S6, T2S, R7E

Landform (hillslope, terrace, etc.): Channel/floodplain Local relief (concave, convex, none): Slightly convex Slope (%): < 1%

Subregion (LRR): Interior Deserts - LRR D Lat: 33.283064° Long: -111.676686° Datum: NAD83

Soil Map Unit Name: Gilman loam (Gm) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

The section of the Rittenhouse Channel in the survey area was constructed in a drainage swale that developed along the UP Phoenix Subdivision and has functioned as a regional flood control channel for over 25 years. Maintenance includes periodic mowing of the banks and channel. Therefore, conditions in May 2022 are considered normal circumstances, which result in the "human-induced wetlands" atypical situation. SP4 covers part of the receiving area at the base of the Station 80+43 weir.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 15' x 50')			
1. Bromus madritensis (compact brome)	70	Y	UPL
2. Physalis angulata (cutleaf groundcherry)	70	Y	UPL
3. Unidentified plant	40	N	UNK
4. Melilotus officinalis (yellow sweet clover)	25	N	FACU
5. Bromus catharticus (rescue brome)	15	N	UPL
6. Polypogon monspeliensis (rabbitsfoot)	15	N	FACW
7. Centaurea melitensis (Malta star thistle)	5	N	UPL
8. Dicoria canescens (desert twinbugs)	5	N	UPL
	245 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1. N/A			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	15	x 2 =	30
FAC species	40	x 3 =	120
FACU species	25	x 4 =	100
UPL species	165	x 5 =	825
Column Totals:	245 (A)		1,075 (B)

Prevalence Index = B/A = 4.39

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

FCDMC mows the majority of the Rittenhouse Channel banks and bed. In May 2022, only the vegetation growing in the receiving area of each weir was still present. Vegetation in the channel (altered area) occupies a different topographic position with different hydrology from adjacent areas, so vegetation outside the channel was not used to determine typical vegetation in the channel. Species No. 3 in the herb stratum could not be identified because in late May it was already too dry to recognize. Other plants in SP4 included 5% Echium vulgare (viper's bugloss), 3% Oncosiphon pilulifer (globe chamomile), and 1% Phalaris aquatica (bulbous canarygrass). Total cover exceeds 100% because of overlapping plants.

SOIL

Sampling Point: SP4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

Permission to access the Rittenhouse Channel was a "non-intrusive" ROE; therefore, soil pits could not be dug and a soil profile could not be completed. Soils are not assumed to be hydric because hydrophytic vegetation is not present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✔ Surface Soil Cracks (B6)
- ✔ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ✔ Water Marks (B1) (**Riverine**)
- ✔ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ✔ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ✔ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes ✔ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Channel appears to be saturated and possibly inundated in an aerial photo from fall 2016 (City of Mesa 2022).

Remarks:

Hydrologic indicators present.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: PIRATE Project City/County: Maricopa Sampling Date: 5.25.22

Applicant/Owner: Union Pacific Railroad Company State: AZ Sampling Point: SP5

Investigator(s): Betsi Phoebus, Sabra Bushey Section, Township, Range: S6, T2S, R7E

Landform (hillslope, terrace, etc.): Channel/floodplain Local relief (concave, convex, none): Concave Slope (%): < 1%

Subregion (LRR): Interior Deserts - LRR D Lat: 33.283086° Long: -111.676662° Datum: NAD83

Soil Map Unit Name: Gilman loam (Gm) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil ✔, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔	No _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔	No _____	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

The section of the Rittenhouse Channel in the survey area was constructed in a drainage swale that developed along the UP Phoenix Subdivision and has functioned as a regional flood control channel for over 25 years. Maintenance includes periodic mowing of the banks and channel. Therefore, conditions in May 2022 are considered normal circumstances, which result in the "human-induced wetlands" atypical situation. SP5 covers part of the receiving area at the base of the Station 80+43 weir.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 15' x 50')			
1. Polypogon monspeliensis (rabbitsfoot)	60	Y	FACW
2. Bromus madritensis (compact brome)	25	N	UPL
3. Rumex obtusifolius (bitter dock)	20	N	FAC
4. Oncosiphon pilulifer (globe chamomile)	15	N	FACU
5. Melilotus officinalis (yellow sweet clover)	5	N	FACU
6. Heliotropium curassavicum (salt heliotrope)	5	N	FACU
7. Physalis angulata (cutleaf groundcherry)	5	N	UPL
8. Centaurea melitensis (Malta star thistle)	3	N	UPL
	133 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1. N/A			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 30 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✔ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

FCDMC mows the majority of the Rittenhouse Channel banks and bed. In May 2022, only the vegetation growing in the receiving area of each weir was still present. Vegetation in the channel (altered area) occupies a different topographic position with different hydrology from adjacent areas, so vegetation outside the channel was not used to determine typical vegetation in the channel. Total cover exceeds 100% because of overlapping plants.

SOIL

Sampling Point: SP5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ No ___

Remarks:

Permission to access the Rittenhouse Channel was a "non-intrusive" ROE; therefore, soil pits could not be dug and a soil profile could not be completed. Soils are assumed to be hydric because of the presence of hydrophytic vegetation and wetland hydrology.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✔ Surface Soil Cracks (B6)
- ✔ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ✔ Water Marks (B1) (**Riverine**)
- ✔ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ✔ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ✔ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✔ Depth (inches): _____

Water Table Present? Yes ___ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✔ Depth (inches): _____

Wetland Hydrology Present? Yes ✔ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Channel appears to be saturated and possibly inundated in an aerial photo from fall 2016 (City of Mesa 2022).

Remarks:

Hydrologic indicators present.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: PIRATE Project City/County: Maricopa Sampling Date: 5.25.22

Applicant/Owner: Union Pacific Railroad Company State: AZ Sampling Point: SP6

Investigator(s): Betsi Phoebus, Sabra Bushey Section, Township, Range: S6, T2S, R7E

Landform (hillslope, terrace, etc.): Channel/floodplain Local relief (concave, convex, none): Slightly convex Slope (%): < 1%

Subregion (LRR): Interior Deserts - LRR D Lat: 33.281439° Long: -111.674059° Datum: NAD83

Soil Map Unit Name: Gilman loam (Gm) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No ✔	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

The section of the Rittenhouse Channel in the survey area was constructed in a drainage swale that developed along the UP Phoenix Subdivision and has functioned as a regional flood control channel for over 25 years. Maintenance includes periodic mowing of the banks and channel. Therefore, conditions in May 2022 are considered normal circumstances, which result in the "human-induced wetlands" atypical situation. SP6 covers part of the receiving area at the base of the Station 90+43 weir.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 10' x 10')			
1. Melilotus officinalis (yellow sweet clover)	85	Y	FACU
2. Rumex obtusifolius (bitter dock)	30	Y	FAC
3. Polypogon monspeliensis (rabbitsfoot)	5	N	FACW
4. Centaurea melitensis (Malta star thistle)	5	N	UPL
5. Heliotropium curassavicum (salt heliotrope)	2	N	FACU
6.			
7.			
8.			
	127 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1. N/A			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	5	x 2 =	10
FAC species	30	x 3 =	90
FACU species	87	x 4 =	348
UPL species	5	x 5 =	20
Column Totals:	127 (A)		468 (B)

Prevalence Index = B/A = 3.69

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

FCDMC mows the majority of the Rittenhouse Channel banks and bed. In May 2022, only the vegetation growing in the receiving area of each weir was still present. Vegetation in the channel (altered area) occupies a different topographic position with different hydrology from adjacent areas, so vegetation outside the channel was not used to determine typical vegetation in the channel. Total cover exceeds 100% because of overlapping plants.

SOIL

Sampling Point: SP6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✔

Remarks:

Permission to access the Rittenhouse Channel was a "non-intrusive" ROE; therefore, soil pits could not be dug and a soil profile could not be completed. Soils are not assumed to be hydric because hydrophytic vegetation is not present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ✔ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✔ Surface Soil Cracks (B6)
- ✔ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ✔ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ✔ Water Marks (B1) (**Riverine**)
- ✔ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ✔ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ✔ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ✔ No _____ Depth (inches): Not available

Wetland Hydrology Present? Yes ✔ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Channel appears to be saturated and possibly inundated in an aerial photo from fall 2016 (City of Mesa 2022).

Remarks:

Hydrologic indicators present. Because permission to access the Rittenhouse Channel was a "non-intrusive" ROE, soil pits could not be dug and saturation depth could not be determined.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: PIRATE Project City/County: Maricopa Sampling Date: 5.25.22

Applicant/Owner: Union Pacific Railroad Company State: AZ Sampling Point: SP7

Investigator(s): Betsi Phoebus, Sabra Bushey Section, Township, Range: S6, T2S, R7E

Landform (hillslope, terrace, etc.): Channel/floodplain Local relief (concave, convex, none): Concave Slope (%): < 1%

Subregion (LRR): Interior Deserts - LRR D Lat: 33.281480° Long: -111.674017° Datum: NAD83

Soil Map Unit Name: Gilman loam (Gm) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil ✔, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔ No _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔ No _____	
Wetland Hydrology Present?	Yes ✔ No _____	

Remarks:

The section of the Rittenhouse Channel in the survey area was constructed in a drainage swale that developed along the UP Phoenix Subdivision and has functioned as a regional flood control channel for over 25 years. Maintenance includes periodic mowing of the banks and channel. Therefore, conditions in May 2022 are considered normal circumstances, which result in the "human-induced wetlands" atypical situation. SP7 covers part of the receiving area at the base of the Station 90+43 weir.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1. N/A			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 10' x 10')			
1. Polypogon monspeliensis (rabbitsfoot)	70	Y	FACW
2. Rumex obtusifolius (bitter dock)	40	Y	FAC
3. Heliotropium curassavicum (salt heliotrope)	25	N	FACU
4. Oncosiphon pilulifer (globe chamomile)	10	N	FACU
5. Centaurea melitensis (Malta star thistle)	10	N	UPL
6. Physalis angulata (cutleaf groundcherry)	5	N	UPL
7.			
8.			
	160 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1. N/A			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 5 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✔ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

FCDMC mows the majority of the Rittenhouse Channel banks and bed. In May 2022, only the vegetation growing in the receiving area of each weir was still present. Vegetation in the channel (altered area) occupies a different topographic position with different hydrology from adjacent areas, so vegetation outside the channel was not used to determine typical vegetation in the channel. Total cover exceeds 100% because of overlapping plants.

SOIL

Sampling Point: SP7

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ **No** _____

Remarks:

Permission to access the Rittenhouse Channel was a "non-intrusive" ROE; therefore, soil pits could not be dug and a soil profile could not be completed. Soils are assumed to be hydric because of the presence of hydrophytic vegetation and wetland hydrology.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ✔ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ✔ Surface Soil Cracks (B6)
- ✔ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ✔ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ✔ Water Marks (B1) (**Riverine**)
- ✔ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ✔ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ✔ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): _____

Water Table Present? Yes _____ No ✔ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ✔ No _____ Depth (inches): Not available

Wetland Hydrology Present? Yes ✔ **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Channel appears to be saturated and possibly inundated in an aerial photo from fall 2016 (City of Mesa 2022).

Remarks:

Hydrologic indicators present. Because permission to access the Rittenhouse Channel was a "non-intrusive" ROE, soil pits could not be dug and saturation depth could not be determined.

APPENDIX E

GROUND PHOTOGRAPHS OF WETLAND DELINEATION DATA PLOTS
(MAY 25, 2022)



Photo 46. Looking southeast/upstream into sample plot 1 (SP1) at Rittenhouse Channel Station 71+83 (station painted on each weir).



Photo 47. Looking southwest into SP1.

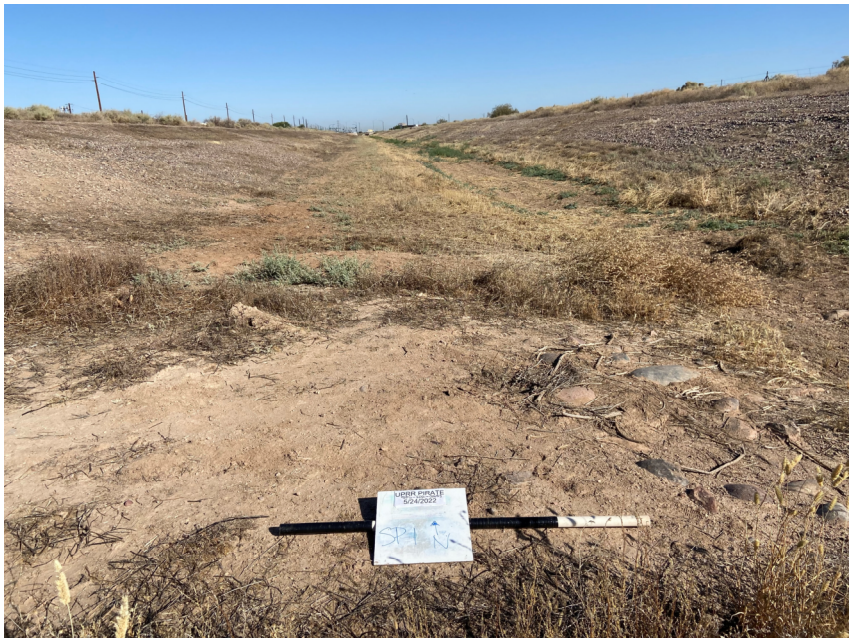


Photo 48. Looking northwest/downstream into SP1.



Photo 49. Looking northeast into SP1.



Photo 50. Looking southeast/upstream into SP2 at Rittenhouse Channel Station 71+83 (station painted on each weir).



Photo 51. Looking southwest into SP2.



Photo 52. Looking northwest/downstream into SP2.



Photo 53. Looking northeast into SP2.



Photo 54. Looking southeast/upstream into SP3 at Rittenhouse Channel Station 71+83 (station painted on each weir).



Photo 55. Looking southwest into SP3.



Photo 56. Looking northwest/downstream into SP3.



Photo 57. Looking northeast into SP3.



Photo 58. Unidentified plant in the herb stratum growing among rabbitsfoot and compact brome at SP3. This plant was found in varying densities at SP1, SP2, and SP3.



Photo 59. Close-up of unidentified plant in the herb stratum at SP3.



Photo 60. Looking southeast/upstream into SP4 at Rittenhouse Channel Station 80+43 (station painted on each weir).



Photo 61. Looking southwest into SP4.



Photo 62. Looking northwest/downstream into SP4.



Photo 63. Looking northeast into SP4.



Photo 64. Looking southeast/upstream into SP5 at Rittenhouse Channel Station 80+43 (station painted on each weir).



Photo 65. Looking southwest into SP5.



Photo 66. Looking northwest/downstream into SP5.

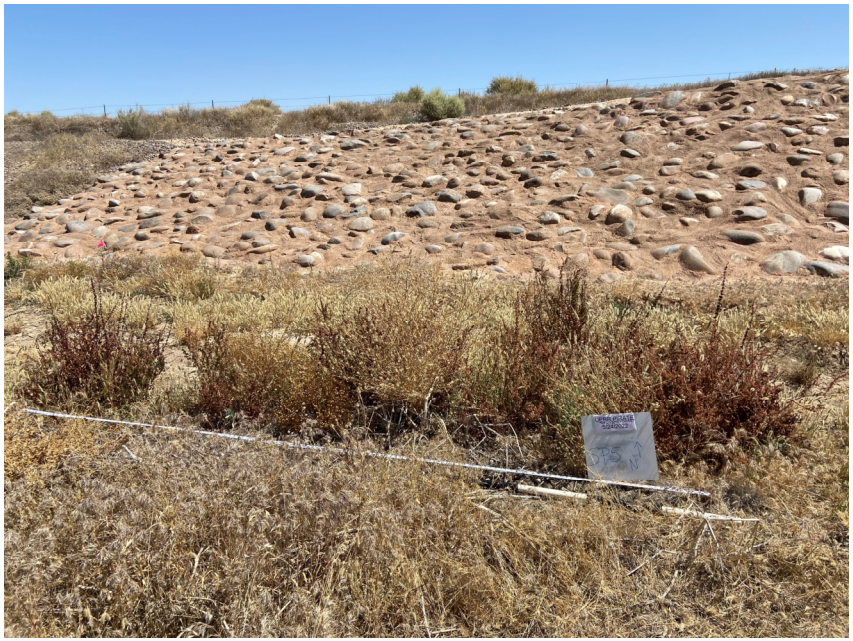


Photo 67. Looking northeast into SP5.

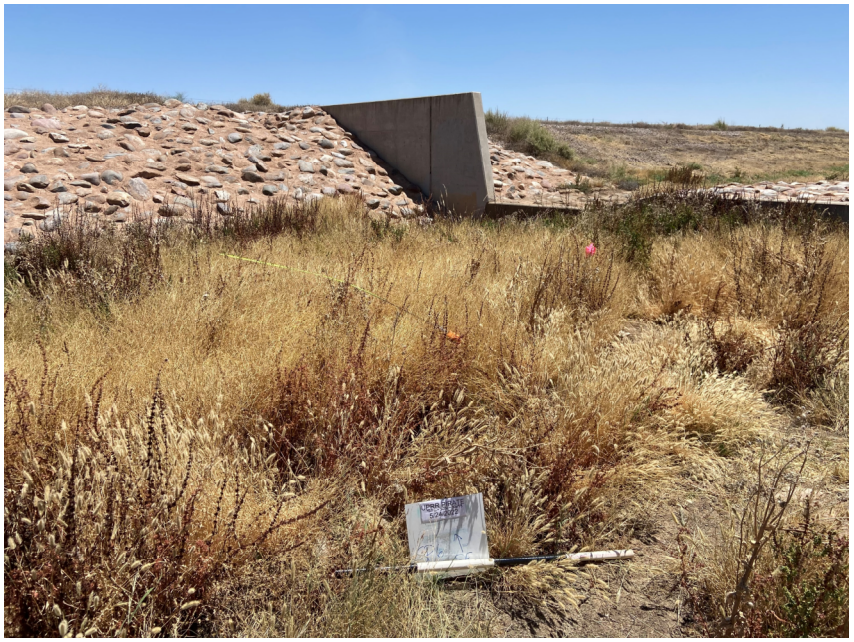


Photo 68. Looking southeast/upstream into SP6 at Rittenhouse Channel Station 90+43.



Photo 69. Looking southwest into SP6 at Rittenhouse Channel Station 90+43 (station painted on each weir).



Photo 70. Looking northwest/downstream into SP6.

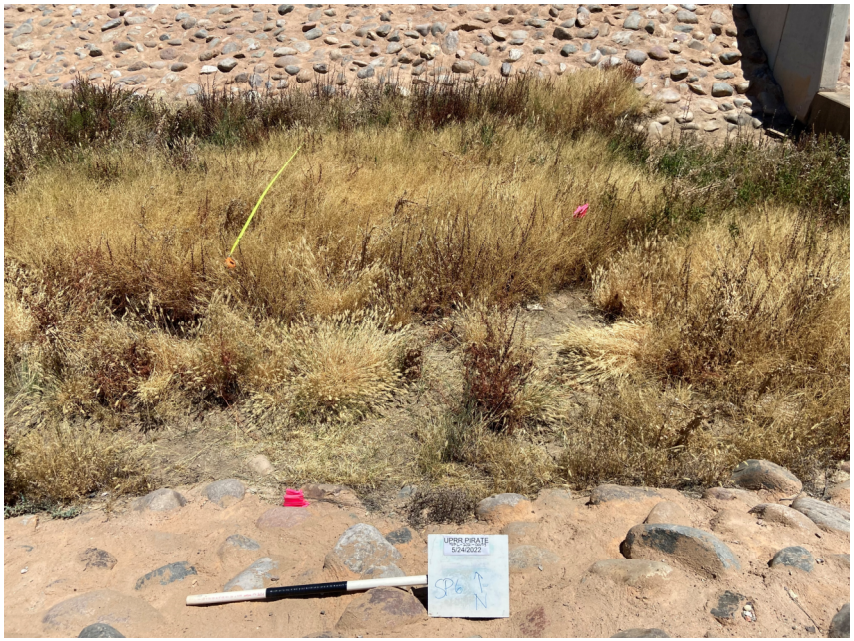


Photo 71. Looking northeast into SP6.



Photo 72. Looking southeast/upstream into SP7 at Rittenhouse Channel Station 90+43 (station painted on each weir).

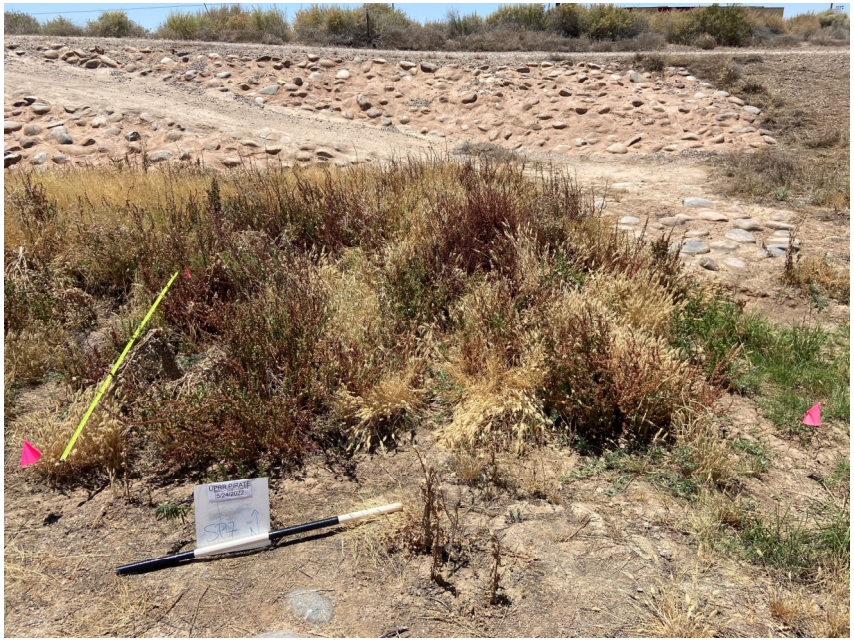


Photo 73. Looking southwest into SP7.



Photo 74. Looking northwest/downstream into SP7.



Photo 75. Looking northeast into SP7.



Photo 76. Shell of an aquatic snail found on the surface of saturated soil at the base of the weir at Rittenhouse Channel Station 90+43. SP6 and SP7 were in the receiving area at the base of this weir.

APPENDIX F

U.S. FISH AND WILDLIFE SERVICE
NATIONAL WETLANDS INVENTORY WETLAND MAPS

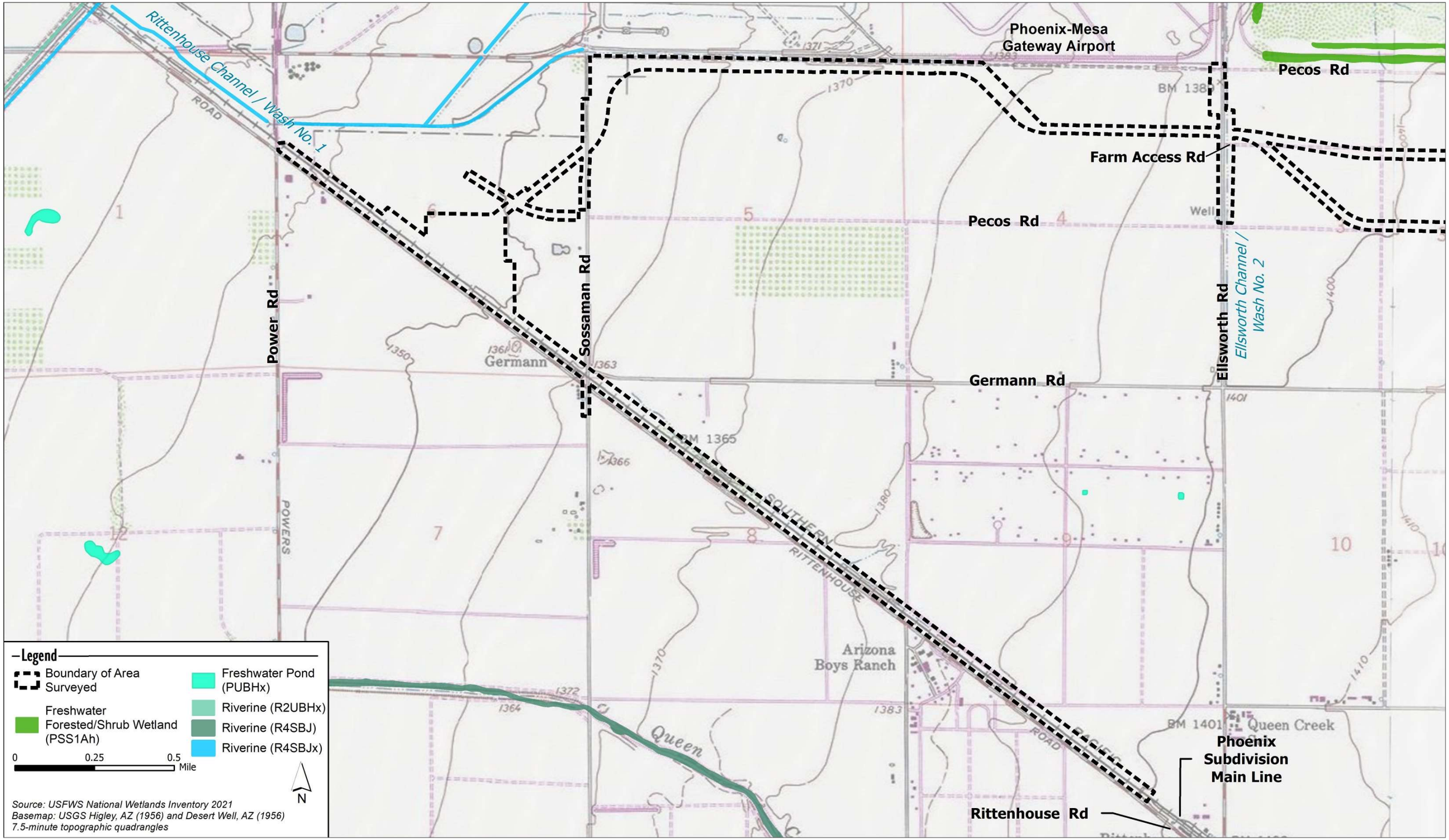


Figure F-1. NWI – Western Project Limits
PIRATE Project / Docket No. FD 36501

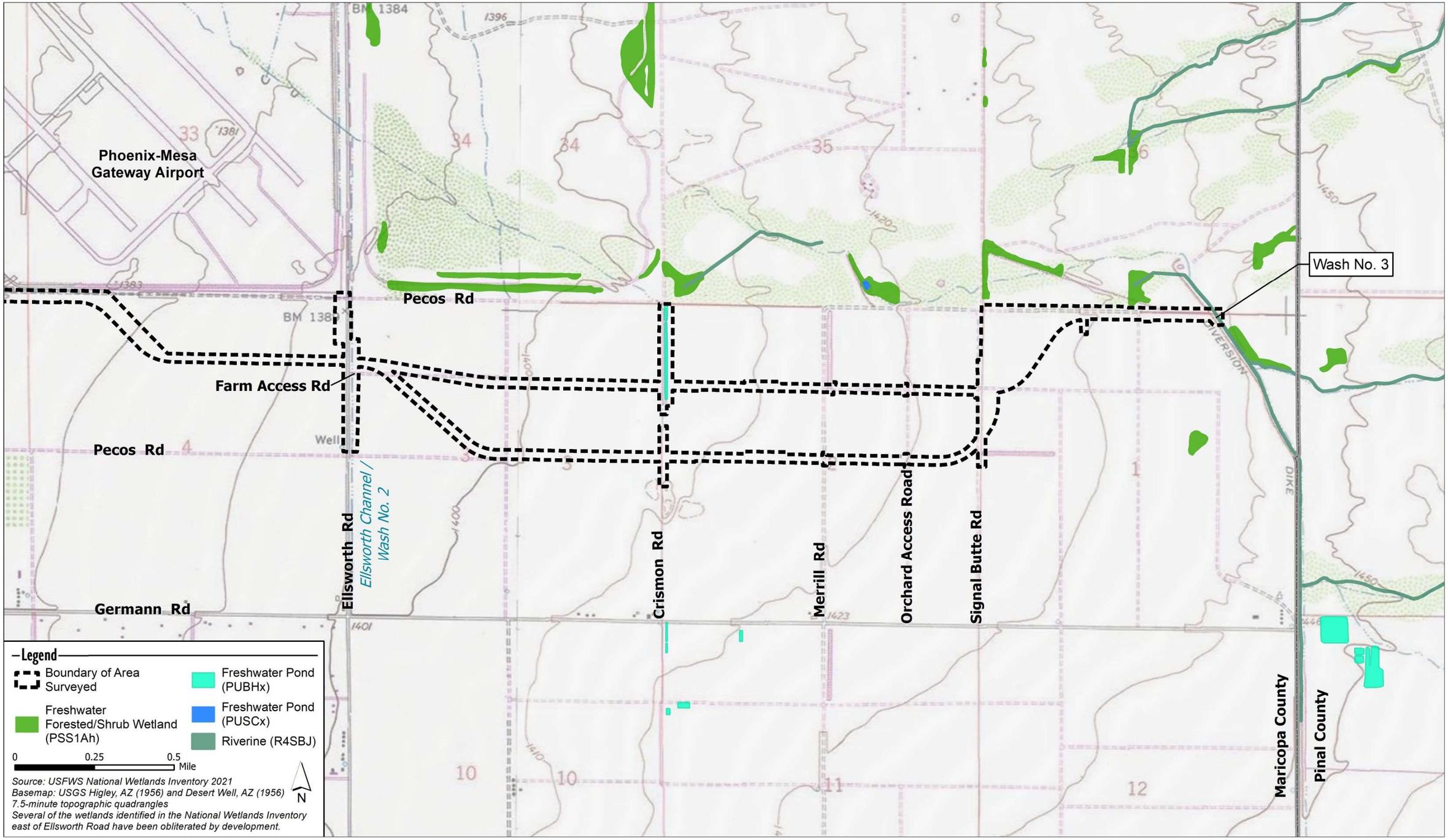


Figure F-2. NWI – Eastern Project Limits
PIRATE Project / Docket No. FD 36501

Appendix H
Farmland Conversion Form CPA-106

U.S. DEPARTMENT OF AGRICULTURE
Natural Resources Conservation Service

NRCS-CPA-106
(Rev. 1-91)

FARMLAND CONVERSION IMPACT RATING FOR CORRIDOR TYPE PROJECTS

PART I *(To be completed by Federal Agency)*	3. Date of Land Evaluation Request: **2/17/2026**	4. Sheet **1** of **1**
1. Name of Project: **Pecos Industrial Rail Access and Train Extension**	5. Federal Agency Involved: **Surface Transportation Board**	
2. Type of Project: **Rail transportation construction**	6. County: **Maricopa**	State: **Arizona**

PART II *(To be completed by NRCS)*	Date Request Received by NRCS: **2/17/2026**	2. Person Completing Form: **Steve Campbell**	
3. Does the corridor contain prime, unique statewide or local important farmland? (If no, the FPPA does not apply - Do not complete additional parts of this form).	**Yes**	4. Acres Irrigated: **204,522**	Average Farm Size: **329 Acres**
5. **Major Crop(s): Cotton, forage, wheat**	6. Farmable Land in Government Jurisdiction: **Acres: 502,029 % 8.5**	7. Amount of Farmland as Defined in FPPA: **Acres: 1,302,579 % 22.1**	
8. Name Of Land Evaluation System Used: **Irrigated National Commodity Crops Productivity Index**	9. Name of Local Site Assessment System	10. Date Land Evaluation Returned by NRCS: **2/23/2026**	

PART III *(To be completed by Federal Agency)*	Alternative Corridor for Segment ____			
	Corridor A	**Corridor B**	**Corridor C**	**Corridor D**
A. Total Acres to Be Converted Directly	144.6	152.1		
B. Total Acres to Be Converted Indirectly, Or to Receive Services				
C. Total Acres in Corridor				
PART IV *(To be completed by NRCS) Land Evaluation Information*				
A. Total Acres Prime and Unique Farmland	144.6	152.1		
B. Total Acres Statewide and Local Important Farmland	0	0		
C. Percentage of Farmland in County or Local Govt. Unit to Be Converted	0.01	0.01		
D. Percentage of Farmland in Govt. Jurisdiction with Same or Higher Relative Value	22.03	22.03		
PART V *(To be completed by NRCS) Land Evaluation Information Criterion Relative value of Farmland to Be Serviced or Converted (Scale of 0 - 100 Points)*	74	74		

PART VI *(To be completed by Federal Agency) Corridor Assessment Criteria (These criteria are explained in 7 CFR 658.5(c))*	**Maximum Points**				
1. Area in Nonurban Use	15	6	6		
2. Perimeter in Nonurban Use	10	4	4		
3. Percent Of Corridor Being Farmed	20	5	5		
4. Protection Provided by State and Local Government	20	0	0		
5. Size of Present Farm Unit Compared to Average	10	4	4		
6. Creation Of Nonfarmable Farmland	25	0	0		
7. Availability Of Farm Support Services	5	5	5		
8. On-Farm Investments	20	6	6		
9. Effects Of Conversion on Farm Support Services	25	0	0		
10. Compatibility With Existing Agricultural Use	10	0	0		
TOTAL CORRIDOR ASSESSMENT POINTS	160	30	30		
PART VII *(To be completed by Federal Agency)*					
Relative Value of Farmland (From Part V)	100	74	74		
Total Corridor Assessment (From Part VI above or a local site assessment)	160	30	30		
TOTAL POINTS *(Total of above 2 lines)*	260	104	104		

1. Corridor Selected:	2. Total Acres of Farmlands to be Converted by Project:	3. Date Of Selection:	4. Was A Local Site Assessment Used?
A	**144.6**	**11/1/2022**	YES ☐ ☐

5. Reason For Selection:

Both alternatives would have the same impact on farmland, which is well below the 160 point threshold.

DANIELLE GOSSELIN Digitally signed by DANIELLE GOSSELIN
Date: 2026.02.23 14:54:40 -05'00'

Signature of Person Completing this Part: | DATE

NOTE: Complete a form for each segment with more than one Alternate Corridor

CORRIDOR - TYPE SITE ASSESSMENT CRITERIA

The following criteria are to be used for projects that have a linear or corridor - type site configuration connecting two distant points and crossing several different tracts of land. These include utility lines, highways, railroads, stream improvements, and flood control systems. Federal agencies are to assess the suitability of each corridor - type site or design alternative for protection as farmland along with the land evaluation information.

(1) How much land is in nonurban use within a radius of 1.0 mile from where the project is intended?
More than 90 percent - 15 points
90 to 20 percent - 14 to 1 point(s)
Less than 20 percent - 0 points

(2) How much of the perimeter of the site borders on land in nonurban use?
More than 90 percent - 10 points
90 to 20 percent - 9 to 1 point(s)
Less than 20 percent - 0 points

(3) How much of the site has been farmed (managed for a scheduled harvest or timber activity) more than five of the last 10 years?
More than 90 percent - 20 points
90 to 20 percent - 19 to 1 point(s)
Less than 20 percent - 0 points

(4) Is the site subject to state or unit of local government policies or programs to protect farmland or covered by private programs to protect farmland?
Site is protected - 20 points
Site is not protected - 0 points

(5) Is the farm unit(s) containing the site (before the project) as large as the average - size farming unit in the County ? (Average farm sizes in each county are available from the NRCS field offices in each state. Data are from the latest available Census of Agriculture, Acreage or Farm Units in Operation with $1,000 or more in sales.)
As large or larger - 10 points
Below average - deduct 1 point for each 5 percent below the average, down to 0 points if 50 percent or more below average - 9 to 0 points

(6) If the site is chosen for the project, how much of the remaining land on the farm will become non-farmable because of interference with land patterns?
Acreage equal to more than 25 percent of acres directly converted by the project - 25 points
Acreage equal to between 25 and 5 percent of the acres directly converted by the project - 1 to 24 point(s)
Acreage equal to less than 5 percent of the acres directly converted by the project - 0 points

(7) Does the site have available adequate supply of farm support services and markets, i.e., farm suppliers, equipment dealers, processing and storage facilities and farmer's markets?
All required services are available - 5 points
Some required services are available - 4 to 1 point(s)
No required services are available - 0 points

(8) Does the site have substantial and well-maintained on-farm investments such as barns, other storage building, fruit trees and vines, field terraces, drainage, irrigation, waterways, or other soil and water conservation measures?
High amount of on-farm investment - 20 points
Moderate amount of on-farm investment - 19 to 1 point(s)
No on-farm investment - 0 points

(9) Would the project at this site, by converting farmland to nonagricultural use, reduce the demand for farm support services to jeopardize the continued existence of these support services and thus, the viability of the farms remaining in the area?
Substantial reduction in demand for support services if the site is converted - 25 points
Some reduction in demand for support services if the site is converted - 1 to 24 point(s)
No significant reduction in demand for support services if the site is converted - 0 points

(10) Is the kind and intensity of the proposed use of the site sufficiently incompatible with agriculture that it is likely to contribute to the eventual conversion of surrounding farmland to nonagricultural use?
Proposed project is incompatible to existing agricultural use of surrounding farmland - 10 points
Proposed project is tolerable to existing agricultural use of surrounding farmland - 9 to 1 point(s)
Proposed project is fully compatible with existing agricultural use of surrounding farmland - 0 points

Appendix I
EJScreen Report

EJSCREEN Community Report

This report summarizes environmental and residential population information for user-defined areas, and combines that data into indexes.



Summary of Analysis

Residents within this specified polygon
(Site 1, ejam_uniq_id 1)
Area in Square Miles: 34.75
Population: 35,564

Environmental and Residential Population Indicators

	VALUE	STATE AVERAGE	PERCENTILE IN STATE	USA AVERAGE	PERCENTILE IN USA	RATIO TO US AVG	RATIO TO STATE AVG
POLLUTION AND SOURCES							
Particulate Matter (PM 2.5 in ug/m3)	7.86	7.40	53	8.45	39	0.9	1.1
Ozone (ppb)	74.7	71.9	58	61.8	92	1.2	1.0
Nitrogen Dioxide (NO2)	9.3	9.3	36	7.8	67	1.2	1.0
Diesel Particulate Matter (ug/m3)	0.210	0.209	43	0.191	67	1.1	1.0
Toxic Releases to Air	870	2,800	70	4,600	56	0.2	0.3
Traffic Proximity and Volume (daily traffic count/distance to road)	1,000,000	1,900,000	41	1,700,000	55	0.6	0.6
Lead Paint Indicator (% pre-1960s housing)	2.09%	0.09	57	0.3	19	0.1	0.2
Superfund Proximity (site count/km distance)	0.84	0.41	94	0.39	89	2.1	2.1
RMP Proximity (facility count/km distance)	0.18	0.54	47	0.57	41	0.3	0.3
Hazardous Waste Proximity (facility count/km distance)	0.8	1.5	55	3.5	42	0.2	0.6
Underground Storage Tanks (UST) indicator	0.2	1.6	36	3.6	35	0.0	0.1
Wastewater Discharge Indicator (toxicity-weighted concentration/distance)	1,300	32,000	52	700,000	75	0.0	0.0
Drinking Water Non-Compliance	6.0	1.84	94	2.2	91	2.7	3.2
RESIDENTIAL POPULATION INDICATORS							
Demographic Index USA	0.73	1.53	23	1.34	27	0.5	0.5
Supplemental Demographic Index USA	0.93	1.43	11	1.64	12	0.6	0.5
% Low Income	10%	31%	16	30%	18	0.3	0.3
% in limited English-speaking Households	1%	4%	52	5%	57	0.1	0.2
% Unemployed	3%	6%	46	6%	47	0.6	0.6
% with Less Than High School Education	3%	12%	26	11%	23	0.2	0.2
% under Age 5	7%	5%	73	5%	72	1.3	1.4
% over Age 64	12%	21%	39	18%	31	0.6	0.6
% People of Color	30%	44%	37	40%	48	0.8	0.7

EJ Indexes

The summary and supplemental EJ indexes are a combination of environmental and residential population information.

For each of the environmental indicators, there is an EJ Index and a Supplemental EJ Index.

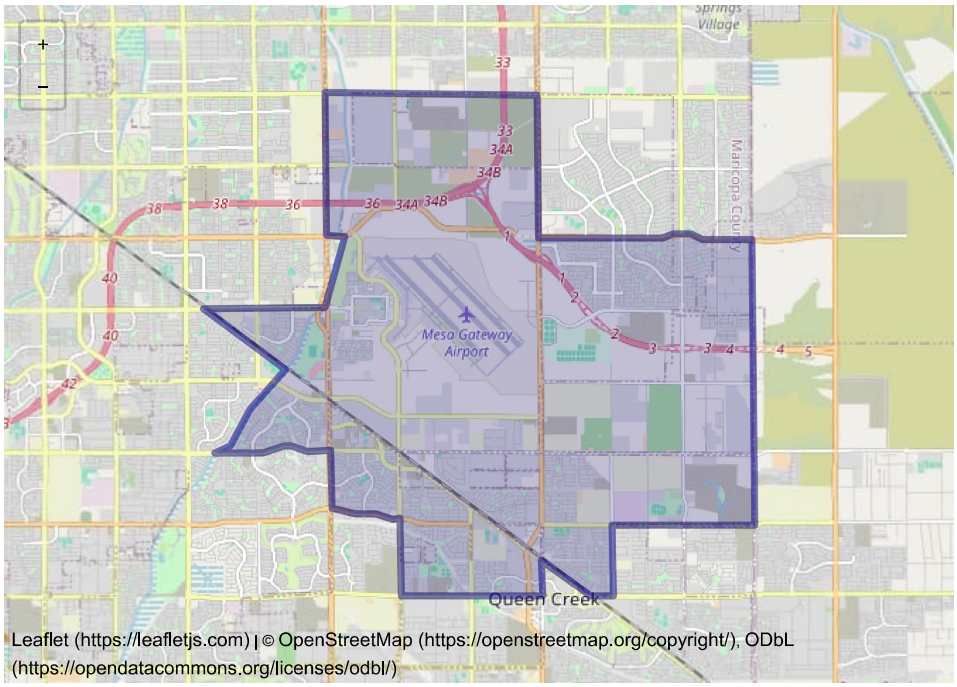
The indexes for a selected area are compared to those for all other locations in the state or nation.

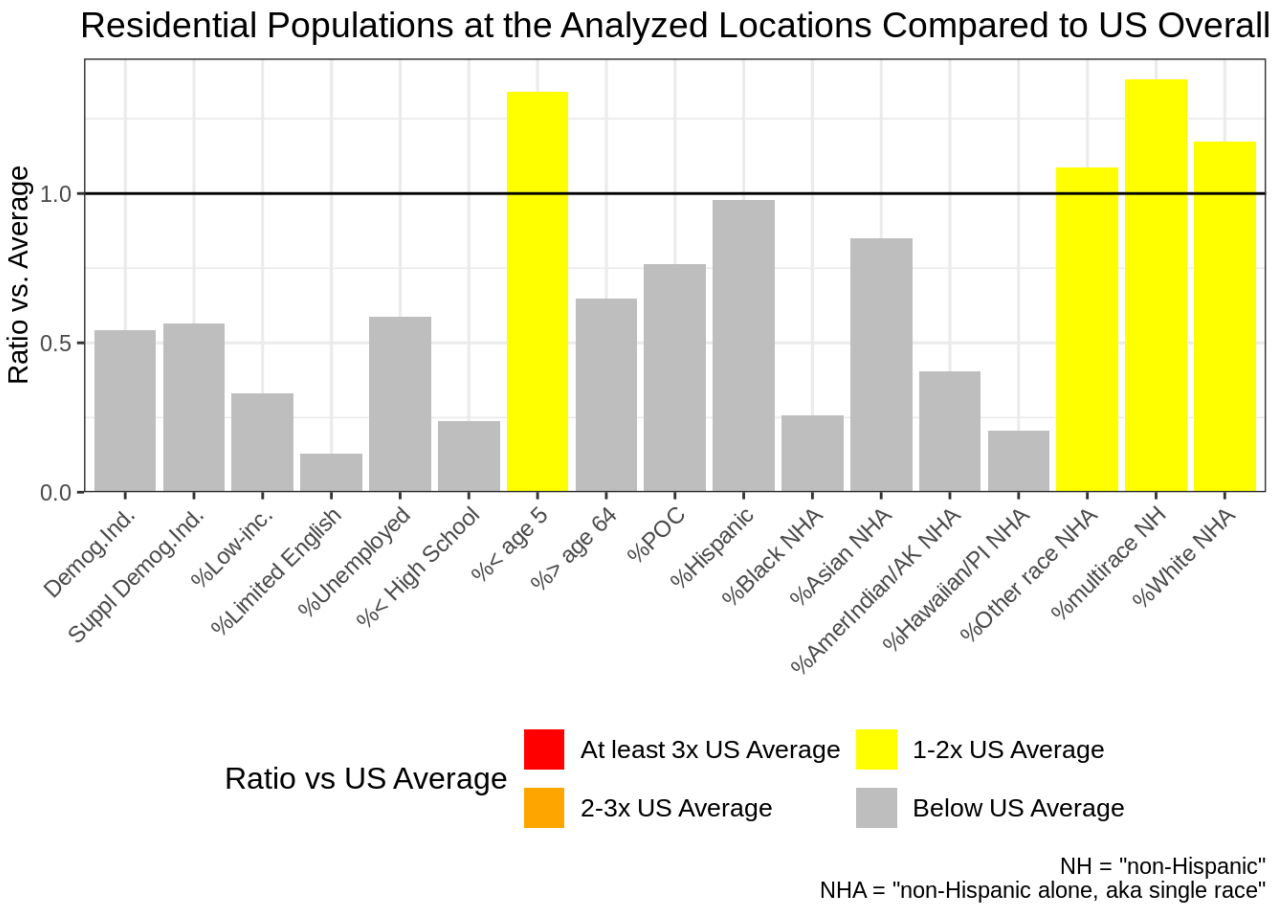
	PERCENTILE IN STATE	PERCENTILE IN USA
EJ INDEXES		
Particulate Matter Summary Index	42	35
Ozone Summary Index	42	63
Nitrogen Dioxide (NO2) Summary Index	37	50
Diesel Particulate Matter Summary Index	39	51
Toxic Releases to Air Summary Index	46	43
Traffic Proximity and Volume Summary Index	35	44
Lead Paint Summary Index	49	17
Superfund Proximity Summary Index	70	69
RMP Proximity Summary Index	44	40
Hazardous Waste Proximity Summary Index	45	38
Underground Storage Tanks Summary Index	31	28
Wastewater Discharge Summary Index	39	54
Drinking Water Non-Compliance Summary Index	63	75
SUPPLEMENTAL EJ INDEXES		
Particulate Matter Supplemental Summary Index	34	27
Ozone Supplemental Summary Index	37	61
Nitrogen Dioxide (NO2) Supplemental Summary Index	31	46
Diesel Particulate Matter Supplemental Summary Index	32	46
Toxic Releases to Air Supplemental Summary Index	40	36
Traffic Proximity and Volume Supplemental Summary Index	28	39
Lead Paint Supplemental Summary Index	48	15
Superfund Proximity Supplemental Summary Index	68	65
RMP Proximity Supplemental Summary Index	39	33
Hazardous Waste Proximity Supplemental Summary Index	38	29
Underground Storage Tanks Supplemental Summary Index	30	26
Wastewater Discharge Supplemental Summary Index	31	50
Drinking Water Non-Compliance Supplemental Summary Index	60	73

ADDITIONAL INFORMATION	VALUE	RATIO TO US AVG	RATIO TO STATE AVG
BREAKDOWN BY POPULATION GROUP			
% Hispanic or Latino	17%	1	0.6
% Black or African American (non-Hispanic, single race)	3%	0.3	0.8
% Asian (non-Hispanic, single race)	4%	0.8	1.4
% American Indian and Alaska Native (non-Hispanic, single race)	0%	0.4	0.1
% Native Hawaiian and Other Pacific Islander (non-Hispanic, single race)	0%	0.2	0.2
% Other race (non-Hispanic, single race)	0%	1.1	1.4
% Two or more races (non-Hispanic)	5%	1.4	1.4
% White (non-Hispanic, single race)	70%	1.2	1.3
LANGUAGE SPOKEN AT HOME			
% speaking Non English languages at home	13%	NA	NA
% speaking Other Indo-European at home	1%	NA	NA
% speaking Asian and Pacific Island languages at home	3%	NA	NA
% speaking Other and Unspecified languages at home	0%	NA	NA
% speaking English at home	1	NA	NA
% speaking Spanish at home	8%	NA	NA
% speaking French at home	0	NA	NA
% speaking Russian, Polish or Other Slavic at home	0	NA	NA
% speaking Indo-European at home	0	NA	NA
% speaking Vietnamese at home	0	NA	NA
% speaking Other Asian and Pacific Island languages at home	0	NA	NA
% speaking Arabic at home	0	NA	NA
LANGUAGE IN LIMITED ENGLISH SPEAKING HOUSEHOLDS			
% speaking Spanish (as % of limited English households)	32%	NA	NA

ADDITIONAL INFORMATION	VALUE	RATIO TO US AVG	RATIO TO STATE AVG
% speaking Other Indo-European languages (as % of limited English households)	0%	NA	NA
% speaking Asian-Pacific Island languages (as % of limited English households)	68%	NA	NA
% speaking Other languages (as % of limited English households)	0%	NA	NA
BREAKDOWN BY SEX			
% Males	50%	NA	NA
% Females	50%	NA	NA
HEALTH			
% with Disabilities	8%	0.6	0.6
% with Low Life Expectancy	17%	0.9	0.9
% with Heart Diseases	3	NA	NA
% of Adults with Asthma	9.50	NA	NA
% of Adults with Cancer (excluding skin cancer)	4.39	NA	NA
AGE			
% under Age 5	7%	1.3	1.4
% under age 18	31%	NA	NA
% over Age 64	12%	0.6	0.6
COMMUNITY			
Occupied Housing Units	11,000	NA	NA
Life Expectancy in Years	44	NA	NA
Per Capita Income	45,246	NA	NA
% Owner Occupied households	81%	NA	NA
POVERTY			
% of Households below Poverty Level	5%	NA	NA
FEATURES AND LOCATION INFORMATION			
Number of Sites Nearby (total unique)	1	NA	NA
Distance to Closest Site for Avg Person	0.0	NA	NA
Number of Sites Nearby (avg)	1.0	NA	NA
Number of Sites Nearby (max)	1	NA	NA
Distance to Closest Site	0.0	NA	NA
Count of National Priority List Superfund sites	3	NA	NA
Count of Treatment Storage Disposal Facilities (TSDF)	4	NA	NA
Number of Air Pollution Facilities	3	NA	NA
Number of Toxic Release Facilities	8	NA	NA
Number of Water Discharge Facilities	145	NA	NA
Number of Brownfields	0	NA	NA
Number of Schools	18	NA	NA
Number of Worship Places	4	NA	NA
Number of Hospitals	0	NA	NA
Flag for Overlapping with Tribes	0	NA	NA
Flag for Overlapping with Impaired Waters	0	NA	NA
Flag for Overlapping with Non-Attainment Areas	1	NA	NA
Flag for Overlapping with CEJST Disadvantaged Communities	0	NA	NA
Flag for Overlapping with EPA IRA Disadvantaged Communities	1	NA	NA
CLIMATE			
Estimated Fire Risk in 30 Years	84%	NA	NA
Estimated Flood Risk in 30 Years	10%	NA	NA
CRITICAL SERVICES			
Flag for Overlapping with Housing Burden Communities	0	NA	NA
Flag for Overlapping with Food Desert Areas	1	NA	NA
% Households without Broadband Internet	2%	NA	NA
% Households without Health Insurance	5%	NA	NA
Flag for Overlapping with Transportation Disadvantaged Communities	1	NA	NA
OTHER			
Total Population	35,564	NA	NA
Count of Population Age 25 up	21,372	NA	NA
Count of Households	11,000	NA	NA
Universe for % unemployed (denominator, count)	25,634	NA	NA
Count of Housing Units Built Pre 1960	244	NA	NA
Built housing units count (denominator for % pre 1960)	11,691	NA	NA
Count of Population for whom Poverty Status is Determined	34,973	NA	NA

Note: Diesel particulate matter index is from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. More information on the Air Toxics Data Update can be found at: https://www.epa.gov/haps/air-toxics-data-update (https://www.epa.gov/haps/air-toxics-data-update)





NH = "non-Hispanic"
NHA = "non-Hispanic alone, aka single race"

Report created by EJAM version 2.32.7 on February 16, 2026

Appendix J
Abbreviated Visual Impact Assessment

ABBREVIATED VISUAL IMPACT ASSESSMENT

PECOS INDUSTRIAL RAIL ACCESS AND TRAIN EXTENSION (PIRATE) PROJECT

Docket No. FD 36501 – Union Pacific Railroad Company
Construction and Operation Exemption in Maricopa County, Ariz.

February 2026~~May 2023~~

Summary

The Union Pacific Railroad Company (UP) is seeking authority from the Surface Transportation Board (Board) to construct and operate approximately 6.0 miles of new rail line in Maricopa County, Arizona (Docket No. FD 36501) to transport raw materials and commercial freight. The proposed rail line, referred to as the Pecos Industrial Rail Access and Train Extension (PIRATE), would connect UP's Phoenix Subdivision main line (Phoenix Subdivision) to industrial properties south of the ~~Phoenix~~ Mesa Gateway Airport (formerly the Phoenix-Mesa Gateway Airport) via a single-track rail line. UP also proposes to construct and operate approximately 2.5 miles of new support track along the Phoenix Subdivision between Power Road and Ellsworth Road. The Board's Office of Environmental Analysis (OEA) identified two reasonable alternatives that meet the purpose and need for PIRATE: Alternative 1 and Alternative 2.

In July 2023, OEA discovered ground disturbance within UP's right-of-way. The disturbance included grading and excavation within sensitive archaeological sites that ultimately delayed the Board's National Environmental Policy Act process from August 2023 to June 2025. In the interim, one- and two-story commercial buildings and three-story warehouses were constructed across 650 acres in multiple locations adjacent to the project limits. This rapid development has changed the visual character in the area of visual effect and limited potential views of the project. Therefore, OEA updated this report to reflect changes in the existing conditions and impacts to visual resources.

Under the No-Action Alternative, approximately 73,200 trucks per year (City of Mesa 2021) would continue to use local streets to transport industrial materials to and from the Pecos Advanced Manufacturing Zone and would continue to temporarily block farther views and increase the industrial nature of the landscape.

Under Alternative 1 or Alternative 2, visual changes would primarily be consistent with the existing visual character in scale and extent, as the proposed rail line and rail cars would maintain a similar east-west alignment as existing truck routes. Visual changes from the planned Phoenix Subdivision support tracks would be consistent with the existing visual character of the Phoenix Subdivision, as the planned support tracks would remain within UP's existing right-of-way and in close proximity to the existing tracks. In addition, some viewers may associate rail lines and rail cars with airports and industrial ~~and agricultural~~ land uses for transporting goods. However, given the expanding residential developments within the area of visual effect, the public may view the visual changes as incongruent with their desires for a residential or agricultural setting. In particular, residential developments along the Phoenix Subdivision, some of which are densely arranged, depart from the ~~overall agricultural~~ landscape character, which is transitioning from agricultural to warehouses and business parks. Therefore, these residents may view the potential changes as negative and contrasting with their expectations, despite the existing presence of the Phoenix Subdivision.

Most viewers are expected to experience low to moderate sensitivity to the potential changes depending on viewer type (e.g., residential or industrial), activity (e.g., driving local roads or working in fields), proximity to the view, and duration of impact (e.g., moving or parked trains). Viewers whose expectations, activities, proximity, and duration of impact are compatible with the visual changes would experience minimal long-term or temporary adverse visual impacts.

Other viewers, particularly residents in close proximity to the potential changes, may experience increased adverse impacts. Overall, the project is expected to have moderate to mostly high compatibility with the existing visual character. Visual quality is not expected to appreciably change.

Impacts would be similar for both alternatives and for the planned Phoenix Subdivision support tracks, with the exception of viewpoints generally between Ellsworth Road and Signal Butte Road, where Alternative 2 would be approximately 0.25 mile south of Alternative 1. This impact would be experienced at Key Observation Point (KOP) 2 ~~and KOP 5~~ and, to varying degrees, at KOP 3, where PIRATE would begin its southward curve. Because the majority of the land use south of Alternative 2 and north of Germann Road is a mix of light-industrial warehouses and vacant, former agricultural fields, impacts to sensitive viewers are expected to be minimal compared to Alternative 1.

Table S-1. Comparison of Impacts by Alternative

Impact Type	No-Action Alternative	Alternative 1 and the Planned Phoenix Subdivision Support Tracks	Alternative 2 and the Planned Phoenix Subdivision Support Tracks
Visual character	Similar to existing conditions with a slight increase in the industrial nature of the landscape due to increased truck traffic.	Moderate to mostly high compatibility with the existing visual character.	Same as Alternative 1; visual character not expected to change based on alignment location.
Visual quality	Similar to existing conditions.	No appreciable change to the components of visual quality: vividness, intactness, and unity.	Same as Alternative 1; visual quality not expected to change based on alignment location.
Sensitive viewers	Similar to existing conditions.	Low to moderate sensitivity to changes depending on viewer type, activity, proximity to the view, and duration of impact.	Similar to Alternative 1 but more pronounced for north-facing viewers on Germann Road between Ellsworth Road and Signal Butte Road, where the alignment would be approximately 0.25 mile farther south. However, few sensitive viewers are located in this predominantly light-industrial and vacant, former agricultural area.

Contents

Summary ii
Figures vi
Appendices viii
Acronyms and Abbreviations ix
Chapter 1 Introduction 1-1
Chapter 2 Studies and Coordination 2-1
2.1 Study Methods 2-1
2.2 Agency Coordination 2-2
2.3 Regulatory Context 2-2
2.3.1 Federal 2-2
2.3.2 Local 2-2
2.3.3 Other 2-2
Chapter 3 Affected Environment 3-1
3.1 Visually Prominent Project Elements 3-1
3.2 Area of Visual Effect 3-2
3.3 Overall Visual Character and Quality 3-3
3.4 KOP Existing Visual Character and Quality 3-12
~~3.4.1 KOP 1~~ 3-15
3.4.1~~2~~ KOP 2 3-18
3.4.2~~3~~ KOP 3 3-20
3.4.3~~4~~ KOP 4 3-22
~~3.4.5 KOP 5~~ 3-23
3.4.4~~5~~ KOP 6 3-24
3.4.5~~6~~ KOP 7 3-26
Chapter 4 Environmental Effect Assessment 4-1
4.1 No-Action Alternative 4-1
4.2 Alternative 1 4-1
~~4.2.1 KOP 1~~ 4-3
4.2.1~~2~~ KOP 2 4-3
4.2.2~~3~~ KOP 3 4-4
4.2.3~~4~~ KOP 4 4-4
~~4.2.5 KOP 5~~ 4-5
4.2.4~~5~~ KOP 6 4-5
4.2.5~~6~~ KOP 7 4-6
4.3 Alternative 2 4-6

Chapter 5 Recommended Mitigation 5-1
Chapter 6 References 6-1
6.1 References Cited in the 2026 *Abbreviated Visual Impact Assessment* 6-1
6.2 References Cited in the 2023 *Abbreviated Visual Impact Assessment* 6-1

Figures

Figure 3-1. View looking northeast toward Superstition Mountains from Germann Road 1,300 feet east of Ellsworth Road (2022) 3-4

~~Figure 3-2. View looking south toward Benjamin Franklin High School from general location of proposed wye~~ 3-7

Figure 3-2. View looking northeast toward Superstition Mountains from Germann Road 2,100 feet east of Ellsworth Road (2025) 3-4

Figure 3-3. Examples of warehouse architecture proliferating in the AVE (2025) 3-5

Figure 3-4. Looking northeast across a ~~Barren~~former farm field ~~looking east~~toward Old Dominion Freight Line from the ~~southeast~~intersection of Crismon Road and Alternative 1~~Pecos Road~~ (2022) 3-6

Figure 3-5. Looking east across The Cubes toward Old Dominion Freight Line from Crismon Road north of Alternative 1 (2025) 3-6

Figure 3-6~~3~~. Citrus trees between Merrill Road and Signal Butte Road, looking south (2022) .. 3-7

Figure 3-7~~5~~. Looking southeast from the Fujifilm Electronic Materials entrance at an existing industrial area (2022) 3-8

Figure 3-8~~6~~. Looking east from residential area on Pelican Drive (2022) 3-10

Figure 3-9~~7~~. Looking northeast from eastern end of Oriole Way (2022) 3-10

Figure 3-10~~8~~. Typical rail cars traveling on the Phoenix Subdivision (2022) 3-11

Figure 3-11~~9~~. Phoenix Subdivision main line track, looking northwest from Sossaman Road (2022) 3-11

Figure 3-12~~10~~. KOP Locations 3-13

Figure 3-13. Changes to the view from former KOP 1 between 2022 and 2025 3-14

Figure 3-14. Changes to the view from former KOP 5 between 2022 and 2025 3-15

~~Figure 3-11. KOP 1 looking northwest toward new construction~~ 3-16

~~Figure 3-12. KOP 1 looking north~~ 3-17

~~Figure 3-13. KOP 1 looking northeast toward vehicle storage facility~~ 3-17

Figure 3-15~~14~~. KOP 2 looking north from Germann Road approximately 0.4 mile east of Ellsworth Road (2022) 3-19

Figure 3-16. KOP 2 looking north from Germann Road approximately 0.4 mile east of Ellsworth Road (2025) 3-19

Figure 3-17~~15~~. KOP 3 looking northwest from Pecos Road approximately 0.4 mile west of 89th Place 3-21

Figure 3-18~~16~~. KOP 3 looking north from Pecos Road approximately 0.4 mile west of 89th Place 3-21

Figure 3-19~~17~~. KOP 3 looking northeast from Pecos Road approximately 0.4 mile west of 89th Place, with Four Peaks in the background 3-22

Figure 3-20~~18~~. KOP 4 looking northeast from the intersection of Pelican Drive and 191st Drive 3-23

~~Figure 3-19. KOP 5 looking north from Merrill Road approximately 0.25 mile north of Germann Road~~ 3-24

Figure 3-2120. KOP 6 looking northeast from Raven Drive cul-de-sac 3-25
Figure 3-2221. KOP 6 looking east from Raven Drive cul-de-sac 3-26
Figure 3-2322. KOP 7 looking northeast from Benjamin Franklin High School running track (2022) 3-27
Figure 3-24. KOP 7 looking northeast from Benjamin Franklin High School baseball bleachers (2025) 3-28

Appendices

Appendix A. Viewpoints Considered for Analysis

Acronyms and Abbreviations

AVE	area of visual effect
Board	Surface Transportation Board
EA	Environmental Assessment
FHWA	Federal Highway Administration
~~Fujifilm~~	~~Fujifilm Electronic Materials~~
KOP	key observation point
Mesa	City of Mesa
MGAA	Mesa Gateway Airport Authority
OEA	Office of Environmental Analysis
PAMZ	Pecos Advanced Manufacturing Zone
Phoenix Subdivision	Phoenix Subdivision main line
PIRATE	Pecos Industrial Rail Access and Train Extension
TCE	temporary construction easement
UP	Union Pacific Railroad Company
U.S.C.	United States Code
VIA	visual impact assessment

Chapter 1
Introduction

The Union Pacific Railroad Company (UP) is seeking authority from the Surface Transportation Board (Board) to construct and operate approximately 6.0 miles of new rail line in Maricopa County, Arizona (Docket No. FD 36501) for purposes of transporting raw materials and commercial freight. The proposed rail line, referred to as the Pecos Industrial Rail Access and Train Extension (PIRATE), would connect UP's Phoenix Subdivision main line (Phoenix Subdivision) to industrial properties south of the ~~Phoenix~~ Mesa Gateway Airport (formerly the Phoenix-Mesa Gateway Airport) via a single-track rail line. UP also proposes to construct and operate approximately 2.5 miles of new support track along the Phoenix Subdivision between Power Road and Ellsworth Road.

The purpose of PIRATE is to meet the transportation and logistics needs of existing and future manufacturing businesses within the Pecos Advanced Manufacturing Zone (PAMZ) and adjacent areas. The Board's Office of Environmental Analysis (OEA) identified two reasonable alternatives that meet the purpose and need for PIRATE. The two Action Alternatives (Alternative 1 and Alternative 2), the No-Action Alternative, and the planned Phoenix Subdivision support tracks are described in detail in Chapter 2 of the ~~Draft~~Final Environmental Assessment (EA) ~~being prepared for this project~~.

In July 2023, OEA discovered ground disturbance within UP's right-of-way. The disturbance included grading and excavation within sensitive archaeological sites that ultimately delayed the Board's National Environmental Policy Act process from August 2023 to June 2025. In the interim, one- and two-story commercial buildings and three-story warehouses were constructed across 650 acres in multiple locations adjacent to the project limits. This rapid development has changed the visual character in the area of visual effect (AVE) and limited potential views of the project. Therefore, OEA updated this report to reflect changes in the existing conditions and impacts to visual resources.

Chapter 2
Studies and Coordination

2.1 Study Methods

In this abbreviated visual impact assessment (VIA), OEA's analysis of the visual impacts of PIRATE and the planned Phoenix Subdivision support tracks is guided by the Federal Highway Administration's (FHWA) *Guidelines for the Visual Impact Assessment of Highway Projects* (2015). OEA considered these guidelines during this analysis because of the similar linear nature of rail and highway projects. In addition, the FHWA guidelines incorporate decades of VIA expertise dating from 1988, and they have become a standard methodology for linear projects. Regarding the FHWA process, the National Academy of Sciences notes, "Of the processes now in use, none has been shown to be more effective, more scientific, more legal, more publicly accepted, or more efficiently delivered than any other method" (National Academy of Sciences 2013).

Prior to preparing this document, OEA completed an FHWA Visual Quality Scoping Questionnaire to determine the level of VIA documentation most appropriate for this analysis. The results indicated that an Abbreviated VIA would best serve the project's needs. FHWA defines an Abbreviated VIA as follows:

> A document that succinctly reports the findings of a VIA. It includes a brief project description and a report of the findings of the VIA's establishment, inventory, analysis, and mitigation phases. Maps, aerial photography, and photographs are used sparingly and only when such illustrations reduce the need for text. An Abbreviated VIA is typically used for an EA or EIS-level project when it has been identified during scoping that there are minimal visual concerns (FHWA 2015).

The FHWA guidelines identify four stages of a VIA: establishment, inventory, analysis, and mitigation. An Abbreviated VIA applies these phases as follows (FHWA 2015):

- Establishment Phase (Chapter 3, Section 3.1 and 3.2): Provide a brief description of project elements. Identify the location and extent of the project corridor on a map, along with the AVE. Typically, it is not necessary to delineate viewsheds.
- Inventory Phase (Chapter 3, Sections 3.3 and 3.4): Briefly identify visual resources of the natural, cultural, and project environments as a description of the visual character of the project corridor; briefly identify the viewing experience of sensitive viewers; and identify existing visual quality. This phase is analogous with the affected environment description.
- Analysis Phase (Chapter 44): Define how the visual character of the corridor would change as a result of the project. Describe impacts to visual resources and the experience of viewers. Consider the compatibility of, sensitivity to, and degree of the impact to visual quality:
  - Compatibility: The ability of environment to absorb the proposed project as a result of the project and the environment having compatible visual characters.

  - Sensitivity: The ability of viewers to see and care about a project's impacts based on viewer sensitivity to changes in the visual character of visual resources.
  - Degree: Defined as either a beneficial, adverse, or neutral change to visual quality. A proposed project may benefit visual quality by enhancing visual resources or creating better views of those resources and improving the experience of visual quality by viewers. A project may adversely affect visual quality by degrading visual resources or obstructing or altering desired views.

- Mitigation Phase (Chapter 5): Describe how mitigation strategies avoid, minimize, or compensate for adverse visual impacts and how beneficial visual impacts will be incorporated in the project.

2.2 Agency Coordination

OEA did not conduct agency coordination for visual impacts because no land-managing agencies that have agency-specific VIA methods or requirements would be affected. In addition, concerns specific to visual resources or visual quality were not mentioned in response to the December 2021 agency consultation letter, during the March 2022 agency coordination meetings, during the June 2023 public comment period for the Draft EA, or during the Section 106 process and associated tribal coordination to date.

2.3 Regulatory Context

2.3.1 Federal

Under the National Environmental Policy Act of 1969 (42 U.S.C. §§ 4321–4370m-11), OEA is required to examine the potential environmental impacts of actions subject to its jurisdiction. Title 1 of the National Environmental Policy Act states that the federal government should "use all practicable means" to "assure for all Americans … aesthetically and culturally pleasing surroundings" (Subchapter 01 [42 U.S.C. § 4331(b)(2)]).

2.3.2 Local

Local planning documents do not identify visually distinctive areas or protected views in the project AVE. The ~~*Mesa 2040 General Plan*~~*Tomorrow's Mesa 2050 General Plan*, *Maricopa County Vision 2030 Comprehensive Plan*, and *Pinal County Comprehensive Plan* do not identify goals, objectives, or guidelines related to visual, aesthetic, or scenic qualities that would be affected by Alternative 1, Alternative 2, or the planned Phoenix Subdivision support tracks (City of Mesa [Mesa] 2024~~2014~~; Maricopa County 2016; Pinal County 2025~~2021~~). OEA identified no other laws, ordinances, regulations, policies, or standards that would apply to visual or aesthetic resources.

2.3.3 Other

No designated scenic byways or rivers are within the project AVE (America's Scenic Byways 2025~~n.d.~~; National Wild and Scenic Rivers System 2025~~n.d.~~). In addition, no national scenic trails, national historic trails, national recreation trails, or units of the National Park Service are within the project AVE (American Trails 2026~~n.d.~~; National Park Service 2025a, 2025b~~n.d.-a, n.d.-a~~; U.S. Geological Survey 2015~~n.d.~~).

Chapter 3
Affected Environment

3.1 Visually Prominent Project Elements

OEA is proposing two action alternatives to meet PIRATE's purpose and need. The alternatives differ only in the route the proposed rail line would follow, generally between Ellsworth Road and Signal Butte Road. In this segment, Alternative 1 would travel east–west along an alignment approximately 0.25 mile south of Pecos Road; Alternative 2 would follow an alignment approximately 0.50 mile south of Pecos Road. From a visual perspective, the proposed rail line is defined by cut and fill limits to accommodate single-track, double-track, triple-track, and access road configurations, with an option to construct up to three additional yard tracks at the PIRATE yard in the future. The planned Phoenix Subdivision support tracks are visually defined by cut and fill limits to accommodate double-track, triple-track, and access road configurations. Currently, neither the alternatives nor the planned Phoenix Subdivision support tracks include grade-separated structures.

The PIRATE railbeds and tracks would be up to 15 feet above the existing ground surface, and the trains would be approximately 15 feet tall. The proposed rail line would appear relatively flat (gently sloping upward as it heads east). UP estimates up to two trains per day (one in each direction) at an approximate maximum length of 4,500 feet would travel on PIRATE, with a single stack of 30 to 35 cars per train during initial service and 70 cars per train at full PAMZ build-out. Trains would travel ~~at 20~~between 5 and 30 miles per hour on the proposed rail line. Two to five rows of rail cars could be parked at the PIRATE yard directly south of the ~~Phoenix-~~ Mesa Gateway Airport, where two yard tracks, in addition to PIRATE, are currently proposed with three more in the future. One row of rail cars could be parked along a second run-around track generally between Crismon and Signal Butte Roads. Rail cars would also be visible at Commercial Metals Company ~~and Fujifilm Electronic Materials (Fujifilm)~~ at the eastern end of the project limits when parked during delivery of raw materials and pickup of finished product.

The ~~project~~Final EA includes representational cross-sectional diagrams of single-track segments. Tracks would be approximately 30 feet wide between the subgrade, including fill to raise the tracks. In most areas, a ditch or access road would parallel the tracks. Shoulder and ditch widths would vary.

Road crossing devices would include lighted, moving gates; alternating flashing red lights mounted on a crossbuck sign; pavement markings; and advanced warning signs. Vertical elements planned along PIRATE and the Phoenix Subdivision would match existing elements in height and form and would not exceed 32 feet tall (the fully extended mast arm of crossing gates).

UP would also construct support tracks along the Phoenix Subdivision, which would require use of a temporary construction easement (TCE) at the existing Sossaman Road crossing. The location and number of new tracks would vary, as described in the ~~project~~Final EA. No other TCEs are expected to be visible from sensitive viewing locations. Existing rail traffic on the Phoenix Subdivision consists of four trains per day: two trains traveling southeast and two trains traveling northwest. UP estimates that the Phoenix Subdivision rail traffic will increase by

~~one~~two trains per day (one in each direction for~~to~~ a total of six~~five~~ per day) by 2027. This increase on the Phoenix Subdivision is independent of PIRATE.

UP would excavate and grade ~~three (Alternative 1) or two (Alternative 2)~~ two detention basins up to 10 feet deep. These basins, at the wye,~~,~~[1] and the PIRATE yard~~, and TRW Safety Systems,~~ would temporarily hold stormwater and slowly convey runoff via culverts to the Rittenhouse Channel and/or the railbed-adjacent drainage ditches.

3.2 Area of Visual Effect

FHWA defines the area of project visibility as the AVE, which is determined by the physical constraints of the environment and the physiological limits of human sight (FHWA 2015). In 2022 and again in 2025, Jacobs' visual specialists consulted aerial photography and street views using commercial internet satellite mapping and imaging sites to determine locations from which project elements were expected to be visible. Based on this review, in 2022 OEA selected ~~seven~~24 potential viewpoints to represent sensitive views. These viewpoints extended no farther than 3.5 miles from project elements due to the relative flatness of the surrounding landscape and curvature of the earth, which restricts the extent of human vision to distances far short of the horizon. Viewed from a flat surface with eyes about 5 feet above ground, the farthest visible edge is approximately 3 miles away. Therefore, if a viewer is driving past a relatively flat ~~agricultural area (or other~~ area with few structures~~)~~, the farthest visible part of the horizon would be about 3 miles from the viewpoint (Krisciunas and Carona 2015; Healthline Media 2019). By 2025, new light-industrial, commercial, and warehouse developments in the project vicinity had reduced the AVE by blocking or limiting views of the project. At its smallest, the AVE is only about 500 feet wide between The Cubes warehouses north and south of Alternative 1.

The visual specialist conducted an initial field visit in June 2022 to photograph the landscape character and views from the ~~selected~~potential viewpoints, followed by a second field visit in September 2025 to re-photograph views from viewpoints where the existing conditions had noticeably changed. Based on information confirmed in the 2022 field visit, OEA retained only those seven viewpoints expected to provide views of the project as key observation points (KOPs) for analysis of impacts (Chapter 4 and Appendix A). Following the 2025 field visit, OEA reduced the number of KOPs from seven to five.

~~The AVE is within the Phoenix-Mesa Gateway Growth Area identified in the *Mesa 2040 General Plan*. The plan states that "this area is expected to grow by approximately 70,000 residents and 40,000 employees over the next 30 years" (Mesa 2014). Consequently,~~ ~~c~~Crews conducting fieldwork in June 2022 and September 2025 to photograph the KOPs noted a rapid pace of development within the AVE. ~~with m~~Many areas adjacent to and near the project are either newly constructed or under construction. ~~Therefore,~~ confirming OEA's 2022 expectation~~s~~ that views from some of the KOPs selected for analysis ~~will have~~would change~~d~~ prior to release of the Final EA ~~being prepared for this project~~. In such cases, development ~~would~~ further obscured views of the project from the selected KOPs, minimizing potential visual impacts in areas adjacent to current construction activities. OEA expects that views of the

[1]"Wye" refers to the Y-like formation created where two sets of tracks branch off of one line to connect to another line in different directions. The wye creates a triangle that can be used for turning locomotives or trains.

project from around the AVE, represented by the remaining KOPs (refer to Section 3.4), will continue to change as development continues apace in the project vicinity. The cumulative impacts section of the Final EA discusses the impacts of reasonably foreseeable future actions, such as development, on visual resources.

3.3 Overall Visual Character and Quality

This section briefly identifies the visual resources of the natural, cultural, and project environments as a description of the visual character of the AVE. This section also assesses existing visual quality based on the degree to which the landscape possesses the following characteristics (FHWA 1988):

- Vividness: The memorability of a landscape based on how contrasting landscape components (landcover, vegetation, and built elements) combine in striking and distinctive visual patterns.
- Intactness: The integrity of visual patterns and the degree to which the landscape is free from visual encroachment.
- Unity: The degree to which landscape elements join together to form a coherent, harmonious visual pattern, and to which the landscape is free of visual chaos.

In addition, this section identifies sensitive viewers within the affected population and existing visual quality for each KOP.

The physical attributes of existing visual resources determine the AVE's visual character. These attributes include elements such as atmospheric conditions, land, water, vegetation, animal life, buildings, structures, transportation infrastructure, and public art (FHWA 2015).

The AVE's topography is mostly flat, limiting views in undeveloped areas to no more than approximately 3.5 miles (refer to Section 3.2). However, the McDowell Mountains are visible in the distance to the northwest. The Usery Mountains are visible to the north, the Goldfield Mountains to the northeast, and the Superstition Mountains to the east of the AVE. The presence of these mountain ranges varies based on distance, intervening land uses, and atmospheric conditions (Figures 3-1 and 3-2). The San Tan Mountains are similarly visible to the south.

The landscape is transitioning from primarily vacant land and former agricultural fields to two- to three-story, light-industrial warehouses across the AVE~~west of Sossaman Road and north of Germann Road~~ (Figures 3-3 through 3-5~~3-2~~). ~~This broad area consists of flat dirt and randomly scattered, weedy vegetation of various colors, textures, and sizes that form a chaotic visual pattern.~~ Tall, broad citrus trees still occupy ~~some of~~ these remaining active farmlands adjacent to Signal Butte Road, obscuring farther views from immediately adjacent viewpoints (Figure 3-6~~3~~). These trees interject vivid green color and texture into the landscape.

However, in other areas, former farmlands are no longer cultivated and are overgrown with weeds.~~lay fallow or may be in various stages of crop growth depending on the season.~~ In such instances, views are generally open and unobstructed, and vegetation adds little visual interest (Figure 3-4). Some of the former farmlands still bear agricultural indicators like broad, open fields, rows of vegetation, and ground cover of generally consistent height, texture, and color that are marked by thin lines of the irrigation channels (Figure 3-5). Therefore, even though these areas no longer cultivated, they still contribute to an agricultural character in parts of the AVE.

Figure 3-1. View looking northeast toward Superstition Mountains from Germann Road 1,300 feet east of Ellsworth Road (2022)



Figure 3-2. View looking northeast toward Superstition Mountains from Germann Road 2,100 feet east of Ellsworth Road (2025)



Figure 3-3. Examples of warehouse architecture proliferating in the AVE (2025)









Figure 3-4. Looking northeast across a former farm field toward Old Dominion Freight Line from the intersection of Crismon Road and Alternative 1 (2022)~~Barren field looking east toward Old Dominion Freight Line from the southeast intersection of Crismon Road and Pecos Road~~



Figure 3-5. Figure Looking east across The Cubes toward Old Dominion Freight Line from Crismon Road north of Alternative 1 (2025)



~~**Figure 3-2. View looking south toward Benjamin Franklin High School from general location of proposed wye**~~



Figure 3-6~~3~~. Citrus trees between Merrill Road and Signal Butte Road, looking south (2022)



~~Small a~~Areas of residential, ~~and~~ commercial, and light-industrial warehouse development exist between 85th Place and Ellsworth Road north of Germann Road. Industrial land uses, vacant, former agricultural land, and more warehouses occupy the eastern side of the AVE between Germann Road and Pecos Road. The~~se~~ developed areas are typically surrounded by chain-link fence that encloses broad, low, windowless, neutral-colored utilitarian buildings and expansive asphalt parking lots (Figure 3-7~~5~~). Although generally limited to two or three stories tall, these buildings block farther views. Vegetation in these areas primarily consists of a few relatively small landscaped deciduous trees and shrubs or remnants of desertscrub. Overall, the ground disturbance in 2022 and 2023 to construct the wye and PIRATE yard detention basins reduced the amount of vegetation in the project limits by about 24 acres.

Figure 3-7~~5~~. Looking southeast from the Fujifilm Electronic Materials entrance at an existing industrial area (2022)



The ~~Phoenix~~ Mesa Gateway Airport is located directly northwest of the intersection of Ellsworth Road with the northern Pecos Road segment. The runways follow a diagonal northwest to southeast direction, with planes flying over the AVE during landings and takeoffs. The terminal is west of the runways and out of view of the project elements. The airport currently has three 10,000-foot runways and ~~1,000~~600 acres of developable land (MGAA 2026)~~(BEX Events 2019)~~. The airport~~ and~~ industrial land uses, and the proliferation of warehouses throughout the AVE introduce highly visually contrasting elements into the agricultural setting.

Although some agricultur~~al land uses~~ still occurs south of Germann Road, tightly spaced residential and some commercial developments have changed the open nature of the farming landscape. Dense residential areas are concentrated east of Ellsworth Road and between Hawes Road and Rittenhouse Road. A broad area of low-density residential development, much of which consists of horse properties~~y~~, exists between these two high-density areas.

West of Rittenhouse Road, the AVE is fully developed with densely spaced residential areas. A few commercial and educational facilities are scattered within the residences. Solid, approximately 6-foot-tall walls surround most of these residential areas, although some are shorter and topped with railings (Figure 3-8~~6~~). Landscaping consisting of various types of trees and shrubs lines the streets. Houses are typically two stories tall. Some residences are immediately adjacent to the Phoenix Subdivision; its slightly elevated railbed is sporadically visible beyond landscaped vegetation (Figure 3-9~~7~~). In these areas, landscaping adds visual interest, particularly the texture of trees, manicured shrub formations, and contrasting colors of flowering vegetation, resulting in moderately high visual quality. Figure 3-10~~8~~ shows an example of train traffic along the Phoenix Subdivision and Figure 3-11~~9~~ shows the existing Phoenix Subdivision main line track.

Figure 3-86. Looking east from residential area on Pelican Drive (2022)



Figure 3-97. Looking northeast from eastern end of Oriole Way (2022)



Figure 3-108. Typical rail cars traveling on the Phoenix Subdivision (2022)



Figure 3-119. Phoenix Subdivision main line track, looking northwest from Sossaman Road (2022)



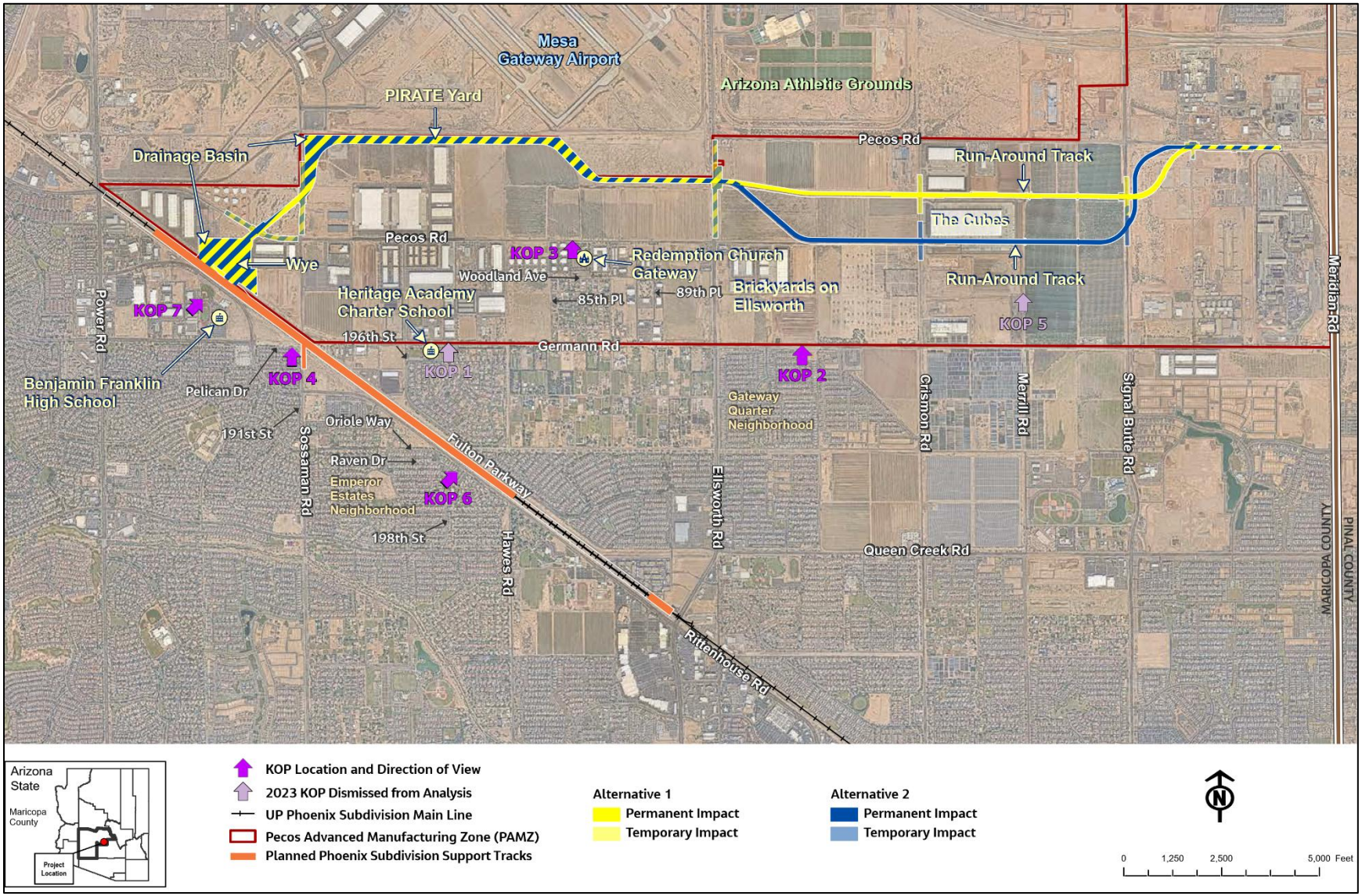
More than 6,100 trucks use local streets, particularly Pecos and Germann Roads, each month (approximately 73,200 per year; Mesa 2021) to transport industrial materials (including hazardous materials and manufactured products) to and from the PAMZ. These trucks temporarily block farther views for viewers in the immediate foreground and increase the industrial nature of the landscape as the trucks travel through it.

Overall, the AVE lacks memorable visual elements. The background mountains add some visual interest, but are subordinate to the surrounding landscape and warehouses due to distance. Some of the former agricultural landscape is ~~primarily~~ intact ~~on the west side~~ east of Sossaman Road, but it is being encroached upon and fragmented~~primarily~~ by industrial developments. ~~The broad, weedy expanse of vacant land west of Sossaman Road and east of the Phoenix Subdivision is visually chaotic.~~ These disparate land uses lack unity, or overall coherence and visual harmony, due to their contrasting visual elements. However, landscaping in residential areas west of Rittenhouse Road enhances visual quality. Therefore, visual quality within the AVE ranges from low to moderately high.

3.4 KOP Existing Visual Character and Quality

As mentioned in Section 3.2, OEA selected ~~seven~~five KOPs (KOPs 2, 3, 4, 6, and 7 ~~1 through KOP 7~~) to represent sensitive viewing locations for the impacts analysis (Figure 3-12~~10~~). VIA practitioners usually select such views because they are either critical to or representative of the visual character of either the environment or the project (FHWA 2015). However, since OEA issued the Draft EA in May 2023, light-industrial and commercial development and land use changes throughout the AVE blocked potential views of PIRATE and eliminated some locations.

Figure 3-12~~10~~. KOP Locations



Note: This graphic was revised in the 2026 VIA.

with the potential for sensitive viewers. Because of these land use changes, OEA removed two of the seven KOPs that were evaluated in the 2023 VIA from consideration: KOP 1 because new buildings north of Germann Road would block views of the project by residential and other viewers located south of Germann Road, and KOP 5 because the residences in the northwestern corner of Germann Road and Merrill Road have been demolished and the land use changed to a contractor's staging and storage area.

Figure 3-13 shows how the view toward PIRATE from former KOP 1 is now blocked by recent development. Photographs from 2022 are on the left and photographs from 2025 are on the right; the pairs progress from looking northwest, then north, and then northeast.

Figure 3-13. Changes to the view from former KOP 1 between 2022 and 2025



Figure 3-14 shows how the view toward PIRATE from former KOP 5 has changed. No sensitive viewers remain at this location. The Cubes would block views of the project across the western (left) half of the view and the former agricultural land is overgrown with weeds. The 2022 photograph is on the left and the 2025 photograph is on the right.

Figure 3-14. Changes to the view from former KOP 5 between 2022 and 2025



The following text describes the~~se seven~~five KOPs analyzed in 2025. Multiple photographs present panoramic views where the visual setting was notably different at the perimeter of the view or to best capture project elements. Otherwise, this analysis includes single photographs where the view did not, or would not, noticeably change to either side.

~~3.4.1 KOP 1~~

~~KOP 1 represents views for north-facing residents on Germann Road between 196th Street and Hawes Road. KOP 1 also captures northern views for attendees at Heritage Academy Charter School, a distinctive, 4-story, red brick school building that faces north. Residential viewers are defined as those who "live within viewing distance" of expected visual changes and include residents of single-family homes, condominiums, or apartments and others who occupy permanent shelter (FHWA 2015). Residents' "visual preferences tend toward a desire to maintain the existing landscape as it is—they settled where they are for a reason, including how their neighborhood looks. They are not very interested in change, even change that purports to improve the quality of their lives, unless they participated in defining the changes" (FHWA 2015). Schools are defined as institutional project neighbors. Viewers include employees, who can be permanent, and visitors, who receive the institution's services and are transitory. Institutions often want to express a public face and prefer to extend the duration of views of their buildings and grounds (FHWA 2015). KOP 1 also represents views of drivers and passengers traveling on Germann Road primarily as commuters, tourists, or shipping travelers. However, drivers would be more focused east or west along the road and may only fleetingly glimpse views to the north.~~

~~The visual specialist photographed KOP 1 from the sidewalk paralleling the south side of Germann Road, which is separated from the residential area by a solid, approximately 6-foot-tall wall and a row of landscaped deciduous trees. The trees' leaves form dense clusters above the height of the wall, adding to its screening effect.~~

~~Germann Road occupies a large horizontal swath of gray asphalt in the immediate foreground, beyond which commercial construction is currently underway to the northwest. Figure 3-11 depicts gray, one- to two-story buildings in various stages of construction, as well as scaffolding, fencing, orange-and-white striped roadway cones, and a bulldozer. Sporadic tall weeds and grasses adjacent to the road add slight visual interest in the form of color and texture. Boxy, gray, windowless commercial buildings appear small in the distance but effectively block farther views of the outlying mountains, which appear low due to distance. An undeveloped fallow field is directly north of this KOP. Figure 3-12 provides a somewhat open view across this field of the distant Superstition Mountains; however, short, blocky commercial buildings obscure this view to the east and west, providing only a narrow view of the mountains. A vehicle storage facility and associated landscaping set back approximately 730 feet from Germann Road to the northeast completely blocks farther views in that direction (Figure 3-13). The length of this building creates the effect of a solid brown wall beyond the grassy field. Bright blue sky, which is mostly uninterrupted, occupies the upper half of the view from KOP 1.~~

~~No visually memorable elements are visible. Commercial and industrial development in the foreground encroaches upon the background mountains, which are visible only through a narrow opening and are diminished by distance. Some of the buildings to the east and west share similar mass and height, but are not otherwise visually unified. Therefore, visual quality at KOP 1 is considered low.~~

~~Figure 3-11. KOP 1 looking northwest toward new construction~~



~~**Figure 3-12. KOP 1 looking north**~~



~~**Figure 3-13. KOP 1 looking northeast toward vehicle storage facility**~~



~~3.4.2~~3.4.1 KOP 2

KOP 2 represents views for north-facing residents on Germann Road approximately 0.4 mile east of Ellsworth Road ~~(see Section 3.4.1 for a description of residential viewers)~~. Residential viewers are defined as those who "live within viewing distance" of expected visual changes and include residents of single-family homes, condominiums, or apartments and others who occupy permanent shelter (FHWA 2015). Residents' "visual preferences tend toward a desire to maintain the existing landscape as it is—they settled where they are for a reason, including how their neighborhood looks. They are not very interested in change, even change that purports to improve the quality of their lives, unless they participated in defining the changes" (FHWA 2015). KOP 2 also represents views of drivers and passengers traveling on Germann Road primarily as commuters, tourists, or shipping travelers. However, drivers would be more focused east or west along the road and may only fleetingly glimpse views to the north.

The visual specialist photographed this view in 2022 and again in 2025 from the sidewalk paralleling the south side of Germann Road, which is separated from the residential area by a solid, approximately 6-foot-tall wall and a row of young, landscaped deciduous trees and shrubs. KOP 2 also represents views of drivers and passengers traveling on Germann Road, as described for KOP 1. Figures 3-15 and 3-16 show the change in the landscape from construction of the Brickyards on Ellsworth.

Germann Road occupies a large horizontal swath of gray asphalt in the immediate foreground ~~(Figure 3-14)~~. A circular maintenance hole is a prominent feature in the asphalt beside bright white road striping. Views beyond the road to the northwest are blocked by the Brickyards on Ellsworth, but viewers still have ~~mostly~~ uninterrupted views of the Usery Mountains to the north. A horizontal band of untended green weedy shrubs~~grasses in shades of yellow and green~~ forms ~~rows of~~ rounded clumps in the foreground, beyond which is a broad, open former agricultural field covered in tan and straw grasses. ~~Large clusters of spikey, pale brown tumbleweeds mounded together interrupt the row of grasses.~~ The low, linear roofs of Arizona Athletic Grounds~~Bell Bank Park, which opened in February 2022~~ just north of Pecos Road ~~(Visit Mesa 2022)~~, are visible as white horizontal lines just above the grassy swath. Tall lights associated with the athletic grounds~~park~~ protrude in random vertical arrangements but are mostly indiscernible due to distance. Mountains rise in the distance as a low, irregular, purple-hued mass and are ~~more distinctive~~only visible ~~in closer proximity (~~in the right side of view~~)~~. ~~The northwest and northeast views are similar.~~ Bright blue sky with a band of white and gray clouds occupies the upper half of the view.

The background mountains are distinctive but not particularly memorable because they are blocked in half of the view and their irregular shapes, patterns, and colors are diminished by distance. ~~Other than the road in the immediate foreground, the view is primarily intact, as development does not overly encroach upon the view, also due to distance. The various textures and colors in the foreground grasses and large weeds are discordant and not unified, creating a somewhat chaotic appearance.~~

The low, long, boxy warehouses of the Brickyards on Ellsworth encroach on the view and draw attention away from the remaining visible mountains. However, the warehouses are slightly lower than the mountains and they have a consistent and balanced design that does not overwhelm the view. The orange and brown are similar to the straw and tan grasses in the former farmland, which creates a harmonious blend of colors. For these reasons, visual quality at KOP 2 is considered moderate.

Figure 3-1514. KOP 2 looking north from Germann Road approximately 0.4 mile east of Ellsworth Road (2022)



Figure 3-16. KOP 2 looking north from Germann Road approximately 0.4 mile east of Ellsworth Road (2025)



~~3.4.3~~3.4.2 KOP 3

KOP 3 represents views from the Redemption Church Gateway on Pecos Road approximately 0.4 mile west of 89th Place. Churches are considered institutional neighbors ~~(see Section 3.4.1 for a description of institutional viewers)~~. Viewers include employees, who can be permanent, and visitors, who receive the institution's services and are transitory. Institutions often want to express a public face and prefer to extend the duration of views of their buildings and grounds (FHWA 2015). However, drivers would be more focused east or west along the road and may only fleetingly glimpse views to the north. KOP 3 also represents views of drivers and passengers traveling on Pecos Road, primarily as commuters, tourists, or shipping travelers. However, drivers would be more focused east or west along the road and may only fleetingly glimpse views to the north.

The visual specialist photographed this view in 2022 from the sidewalk paralleling the south side of Pecos Road at the church's west parking entrance. Because the view had not changed appreciably between 2022 and 2025, the visual specialist did not take new photographs at this location. A few new long, low warehouses were visible at the horizon to the left of the northwestern view (Figure 3-17), but they did not change the overall visual character or quality of this view. The northern and northeastern views (Figures 3-18 and 3-19) did not change.

Arranged on an angle, the church is set back between 100 and 200 feet from Pecos Road behind several rows of young, landscaped deciduous trees and shrubs that block most views from a row of low, north-facing, first-floor windows. This KOP also represents views for north-facing commercial establishments directly east of the church that are also separated from Pecos Road by a parking lot and landscaping.

Pecos Road occupies a large horizontal swath of gray asphalt in the immediate foreground (Figures 3-17~~15~~ through 3-19~~17~~). A bright orange, temporary roadwork sign is an impermanent focal point adjacent to the road. Views beyond the road to the north are mostly uninterrupted except to the west. A horizontal band of green weedy grasses in a fallow field forms rows of rounded clumps behind a tan-colored dirt road shoulder in the foreground. A few patches of yellow grasses interject the green swath. A row of low, windowless, gray, rectangular buildings and airport facilities, including an air traffic control tower, are beyond the grasses to the west (left). Mountains rise in the distance as a low, irregular, purple-hued mass, which is more distinctive in closer proximity, particularly where the jagged Four Peaks are visible (right side of view). The northwest and northeast views are similar. Bright blue sky occupies the upper half of the view.

The background mountains add visual interest, particularly to the east where they are closer, but are not striking due to distance. Other than the road and sign in the immediate foreground, the view is only slightly encroached upon by development, which is mostly visible to the west (left) in the background. For the most part, the foreground grasses share similar colors and textures that help unify the foreground, with small interruptions. For these reasons, visual quality at KOP 3 is considered moderate.

Figure 3-1715. KOP 3 looking northwest from Pecos Road approximately 0.4 mile west of 89th Place



Figure 3-1816. KOP 3 looking north from Pecos Road approximately 0.4 mile west of 89th Place



Figure 3-1917. KOP 3 looking northeast from Pecos Road approximately 0.4 mile west of 89th Place, with Four Peaks in the background



3.4.43.4.3 KOP 4

KOP 4 represents views to the northeast from a residential area at the intersection of Pelican Drive and 191st Drive, directly west of Sossaman Road and approximately 250 feet from the Phoenix Subdivision (refer to Section 3.41 for a description of residential viewers). The visual specialist photographed this view in 2022 from the sidewalk paralleling the south side of Pelican Drive. The houses in this neighborhood are two-story structures with second-floor windows. In 2025, the visual specialist did not take new photographs at this location because the homes in the neighborhood and surrounding wall had not changed.

Figure 3-2018 shows the horizontal forms made by the gray asphalt of Pelican Drive, a tan sidewalk set within red-hued gravel, and an approximately 6-foot-tall, reddish-beige, solid wall in the immediate foreground. The wall contains a brick-like pattern that further accentuates its horizontal line. However, the wall is an imposing feature given its close proximity. A red-flowering bougainvillea in front of the wall to the left adds visual interest and helps soften the wall's encroachment. The wall blocks farther views except for conspicuous vertical elements directly behind it, including a tall evergreen tree and telephone poles, with heights that vary with distance. The tree occupies a large portion of the view and adds color and texture. A few short, spindly branches right of center indicate the tops of a shrub or tree behind the wall. Telephone lines cut draping horizontal lines across a vivid blue sky. Views to either side of Figure 3-2018 are similar.

Figure 3-2018. KOP 4 looking northeast from the intersection of Pelican Drive and 191st Drive



The wall is distinctive due to its mass, but not memorable, and encroaches upon farther views. The vertical poles also encroach upon the view as they interrupt the blue sky. The tree and shrub to the left add visual interest but are not memorable as they are not particularly unique in a landscaped residential area. The repeating pattern of the wall unifies the immediate foreground, but the view is unbalanced to the left and right. For these reasons, visual quality at KOP 4 is considered moderately low.

3.4.5 KOP 5

KOP 5 represents views to the north from the north end of a small, elongated (north-south) former residential area at the northwest intersection of Germann Road and Merrill Road; it also captures views of northbound drivers on Merrill Road (see Section 0 for a description of residential viewers). Fieldwork conducted in June 2022 indicates that the residences are currently abandoned. Just south of this viewpoint, several mature, deciduous trees contrast with the agricultural land uses that surround the few abandoned residences, blocking farther views to the north.

Figure 3-19 shows a north-facing view from Merrill Road approximately 0.25 mile north of Germann Road. Merrill Road occupies the majority of this view, particularly in the immediate foreground. The edges of this flat, tan-colored dirt road converge at a vanishing point in the distance to the east (right) side of the view, drawing the eye into the scene. A row of telephone poles parallels the east side of the road, creating a repeating, diminishing vertical pattern that also disappears at the vanishing point. Rounded clumps of green, weedy grasses line the east side of the road, beyond which clusters of dark green citrus trees block farther views to the north.

~~A beige cement canal, littered with dried vegetation, parallels the west side of Merrill Road, also diminishing toward the vanishing point. Another dirt road enters Merrill Road from the west (left), crossing the canal and creating a horizontal form that echoes the rows of green grasses or crops of varying heights, tone, and texture beyond it. A low, pale-hued industrial building surrounded by parked semitrucks associated with the Old Dominion Freight Line trucking company is visible on the horizon, as are a yellow piece of construction or farming equipment and a yellow cylindrical tank. Although small, these elements interrupt otherwise unbroken views of the mountains in the distance. The mountains' prominence varies by proximity, being more visible to the center and right side of the view.~~

~~Figure 3-19. KOP 5 looking north from Merrill Road approximately 0.25 mile north of Germann Road~~



~~The background mountains add visual interest, but are not particularly striking due to distance. Although the dirt roads and row of telephone poles encroach upon the view, they are consistent with the open agricultural setting. The distant industrial buildings slightly encroach upon the agricultural scene. The landscape elements form a coherent, harmonious visual pattern that is mostly free of visual chaos. For these reasons, visual quality at KOP 5 is considered moderate.~~

~~3.4.6~~3.4.4 KOP 6

KOP 6 represents views from a pocket park at a cul-de-sac in a residential area at the end of Raven Drive directly west of the intersection of Rittenhouse Road and 198th Street. The visual specialist photographed this view in 2022, but did not in 2025 because the homes and vegetation in the neighborhood, as well as the view of the Phoenix Subdivision, had not changed.

Viewers include recreational users and adjacent residents. FHWA notes, "The visual preferences of recreational neighbors tend to be focused on, and associated with, their recreational activity. In general, they tend to prefer the status quo and are leery of visual encroachments that may cause adverse effects on the setting of their activity. They may also show willingness to entertain improvements to visual resources that enhance their recreational experience" (FHWA 2015). Refer to Section 3.41 for a description of residential viewers.

Figures 3-213~~-20~~ and 3-223~~-21~~ show highly manicured, landscaped elements in the immediate foreground beyond the paved asphalt cul-de-sac and pale cement sidewalk. The landscaped elements gradually rise in height from front to back, starting with three rows of low shrubs that are all trimmed to form boxy, flat-topped horizontal shapes that function like a solid wall. Medium-height, highly textured deciduous trees, including one with contrasting red seeds or flowers, add visual interest, as do the vivid fuchsia flowers that protrude above the shrubs. The trees cast dark shadows in the immediate foreground, as well as within their branches, increasing the perception of textural depth and varying shades of green. A thin area of mowed grass is visible behind the trees, and a white picket fence delineates the park from Rittenhouse Road behind it. Motor vehicles are the only indication of the road's presence. The Phoenix Subdivision railbed and two elevated tracks are sporadically and barely visible behind the motor vehicles, indicated by a pale-colored gravel bank topped by dark brown rails that form a single thin, horizontal line. The closest track is approximately 350 feet from the viewpoint. Low trees of varying shapes and tones occupy the horizon line. A few light posts and telephone poles and lines protrude into the bright blue sky.

Figure 3-212~~0~~. KOP 6 looking northeast from Raven Drive cul-de-sac



Figure 3-2221. KOP 6 looking east from Raven Drive cul-de-sac



The foreground landscaping adds visual interest, particularly the contrasting colors in the flowering shrubs. While such verdant vegetation is uncommon in a desert environment, it is not unique in the residential settings of the area. Therefore, the view is somewhat memorable. The park elements are free from encroachment, maintaining the integrity of the visual patterns created by the landscaping. These elements join together to form a coherent, harmonious visual pattern that is free of visual chaos, resulting in a high degree of unity. Therefore, visual quality at KOP 6 is considered moderately high.

3.4.73.4.5 KOP 7

KOP 7 represents views from the Benjamin Franklin High School running track that surrounds a football field directly south of the school's baseball diamond. The school is north of Germann Road and southwest of Rittenhouse Road. This KOP also represents views of spectators in the bleachers on the south side of the baseball diamond (refer to Section 3.41for a description of institutional viewers and 3.4.6 for a description of recreational viewers). While the 2022 photograph is from the running track, the photograph from 2025 is from the bleachers to represent the view from each location.

Figure 3-2333-22 is a slightly elevated view that looks somewhat down on the baseball field. Green grass, a cement sidewalk, and a covered chain-link fence that surrounds the ball field create strong horizontal lines in the foreground. The fence is a dominant visual feature. Most of the fence cover is tan in the immediate foreground and cobalt blue on the opposite side of the field. The Phoenix Subdivision is barely visible as a dark gray, thin, horizontal line atop a bed of light gray fill and would be more detectable when trains are traveling along the track. The Phoenix Subdivision roughly parallels the line formed by the farther fence. A short, narrow strip

of vegetation is behind and parallels the Phoenix Subdivision in the middle ground. The mountains created a low, slightly undulating, purple-hued form on the distant horizon. Lights and a telephone pole protrude vertically into the bright blue sky that occupies half of the view.

The background mountains add visual interest by breaking up the flat horizon line but are not particularly striking due to distance. The fence surrounding the ball field encroaches upon the view, and its alternating colors diminish visual integrity. Tall poles also encroach upon, and interrupt, the expanse of blue sky. The uniform color and height of the grass creates a broad, uninterrupted swath. However, the dissimilar patterns and colors in the fence do not form a harmonious visual pattern, resulting in low unity. For these reasons, visual quality at KOP 7 is considered low.

Figure 3-2322. KOP 7 looking northeast from Benjamin Franklin High School running track (2022)



Figure 3-24 shows a less-elevated view that looks through the backstop fencing and across the baseball field. The view is framed by the dominant visual feature, which is the chain-link and metal backstop. The cobalt blue fence cover, tan infield dirt, and metal rails of the backstop create strong linear and curvilinear horizontal lines. The Phoenix Subdivision is barely perceptible as a dark gray, thin, horizontal line sandwiched between the stripe of cobalt blue and a periodic series of tree canopies that grow larger toward the right side of the view. Trains traveling along the track would be visible. Low, white buildings and vertical light and telephone poles are scattered across the view beyond the trees. Overall, the chain-link and various horizontal and vertical lines create a chaotic view.

Figure 3-24. KOP 7 looking northeast from Benjamin Franklin High School baseball bleachers (2025)



Chapter 4
Environmental Effect Assessment

This chapter defines how the visual character and quality of the AVE overall, as well for each KOP, would change under the No-Action and Action Alternatives. The impact analysis for Alternatives 1 and 2 also considers visual effects from the planned Phoenix Subdivision support tracks. This chapter also analyzes impacts to the experience of viewers. This analysis defines the degree of impacts as beneficial, adverse, or neutral.

Because viewers at KOP 1 would no longer have views of the project, OEA did not carry this KOP forward for analysis of visual impacts. Because the land use has changed at KOP 5 such that no sensitive viewers would have this view and The Cubes would block half of the previously expansive view of the McDowell and Usery Mountains, OEA did not carry this KOP forward for analysis of visual impacts.

4.1 No-Action Alternative

Under the No-Action Alternative, the Board would not authorize PIRATE, and UP would not construct and operate the proposed rail line or the planned Phoenix Subdivision support tracks. Accordingly, UP would not construct the wye, elevated tracks, crossing gates, support tracks, or other associated features. Therefore, no changes would occur to visual resources from construction and operation of the proposed rail line or the planned Phoenix Subdivision support tracks. Approximately 73,200 trucks per year would continue to use local streets to transport industrial materials to and from the PAMZ (Mesa 2021). These trucks would continue to temporarily block farther views for viewers in the immediate foreground and increase the industrial nature of the landscape, which also would become increasingly industrial with planned future development.

4.2 Alternative 1

Overall, impacts under Alternative 1 and the planned Phoenix Subdivision support tracks would include long-term views of the railbeds, tracks, and trains. The tracks would be elevated no higher than approximately 15 feet above the existing ground, resulting in minimal visual impact from most viewpoints. Short-term impacts would occur from views of rail cars as they move through the AVE and temporarily block views beyond the tracks. Viewers would see a single stack of 30 to 35 cars per train during initial service and 70 cars per train at full PAMZ build-out, approximately 4,500 feet long and 15 feet high. Potential adverse impacts could result from long-term views of parked rail cars, such as at the PIRATE yard, and from views of the new wye. Impacts would result from the following project elements depending on viewing location:

- Two to five rows of parked rail cars at the PIRATE yard directly south of the ~~Phoenix~~ Mesa Gateway Airport where three tracks are currently proposed, with three more in the future.
- One row of parked rail cars along a second run-around track generally between Crismon and Signal Butte Roads.
- Parked rail cars at the Commercial Metals Company ~~and Fujifilm~~ at the eastern end of the AVE.

- Long-term views of the wye and trains traveling through it where PIRATE would connect to the existing Phoenix Subdivision adjacent to Rittenhouse Road.
- Long-term views of road-crossing devices, such as lighted moving gates, alternating flashing red lights mounted on a crossbuck sign, pavement markings, and advanced warning signs. Vertical elements planned along the proposed rail line and the existing Phoenix Subdivision would match existing elements in height and form and would not exceed 32 feet (the fully extended mast arm of crossing gates).
- Long-term views of detention basins up to 10 feet deep at the wye~~,~~ and the PIRATE yard~~, and TRW Safety Systems~~. Some viewers may see these basins as a beneficial impact, as water features are uncommon in the AVE.

Additional visual changes would result from a decrease in heavy truck traffic that currently transports cargo, much of which would be handled by train. As noted in Section 3.3, Pecos Road and to Germann Road are used monthly by more than 6,100 trucks (approximately 73,200 per year) carrying industrial materials and manufactured products to and from the PAMZ. Forty-one percent of this heavy truck traffic, or approximately 30,000 truck trips, would be removed from local roads the first year of operation.

The PIRATE footprint generally would vary depending on the need for parallel ditches and/or access roads. The proposed rail line would be about 30 feet wide, but the typical width of the alignment would expand up to about 90 feet to include adjacent shoulders and drainage ditches. At the PIRATE yard, the initial width would be about 100 feet to accommodate three tracks and an adjacent access road. Along the Phoenix Subdivision, the tracks would be widened from the existing 30 feet up to about 80 feet to accommodate two new tracks and a turnout pad. Where connecting to the wye, widths would reach up to about 110 feet where tracks are separated.

The proposed rail line east of, and including, the wye would mostly affect vacant, ~~and~~ former agricultural land, as well as smaller industrial areas that are visible to few sensitive viewers. Overall, the AVE would continue to transition to a primarily industrial landscape due to future planned developments, which can be compatible with railroad infrastructure, such as tracks and rail cars. Within the project limits, the approximate total acres of vegetation removal would include the following:

- Non-native shrublands (former ~~A~~agricultural fields): ~~152~~ 34 acres
- Developed: 2 acres
- Desert scrub: ~~275~~ 75 acres

Approximately 7.3 acres of mature citrus trees west of Signal Butte Road would be removed from the remaining active agricultural area~~s~~. However, no visually distinctive native vegetation, such as tall cacti, would be affected.

Construction activities would create temporary visual impacts from views of staging areas, heavy equipment, and personnel.

~~4.2.1 KOP 1~~

~~Located approximately 1.0 mile north of KOP 1, PIRATE would be barely visible as a horizontal line above the tall grasses in the immediate foreground and beyond the gray, blocky buildings in the middle ground. Distance and interference caused by the vegetation and buildings would make the railbed and track nearly imperceptible. Two to five rows of parked rail cars at the PIRATE yard directly south of the Phoenix-Mesa Gateway Airport are not expected to be noticeable for the same reasons. Although movement of trains along the track would call attention to PIRATE and the rail cars themselves, they would be visible for a short, but recurring, time between the buildings to the east and west. The rail cars would appear no taller than the buildings in the middle ground, which would continue to dominate much of this view. In addition, the background elements, such as distant airport structures and mountains, would help visually absorb the presence of the trains. For these reasons, the environment would be able to visually absorb the potential changes, resulting in a primarily high degree of compatibility from this view. Therefore, the visual character and visual quality of KOP 1 are not expected to noticeably change and would remain low.~~

~~A solid, approximately 6-foot-tall wall and a row of landscaped deciduous trees, which adds to the wall's screening effect, would hinder views in this direction and minimize impacts for residents along Germann Road.~~

~~Temporary construction impacts would include views of construction equipment and dust in the vicinity of the proposed rail line. These impacts would be short term and end when construction is complete.~~

~~4.2.2~~4.2.1 KOP 2

Located approximately 0.75 mile north of KOP 2, PIRATE would emerge from behind the Brickyards on Ellsworth to be visible in the right half of the view as a horizontal line above the grasses and clumps of vegetation in the ~~immediate~~ foreground. The railbed would be consistent with, and would repeat, the horizontal line created by the middle ground horizon line. The railbed would likely obscure views of the Arizona Athletic Grounds~~Bell Bank Park~~ buildings that are somewhat visible to the north, resulting in a slight beneficial impact, as the view would appear to have fewer human-made intrusions given the mostly unobtrusive nature of the railbed. The track, which would be raised up to 15 feet above the existing ground surface, would interfere with views of the distant mountains to a minor degree. Passing trains, at approximately 15 feet high, would further obscure views of the mountains. This effect would be temporary, but recurring. ~~, and would have less impact to the west side of the view where the track would be slightly farther away.~~ For these reasons, the environment would be able to visually absorb the potential changes, resulting in a moderately high degree of compatibility from this view. Therefore, the visual character and visual quality of this KOP are not expected to noticeably change and would remain moderate.

A solid, approximately 6-foot-tall wall blocks lower views of the mostly one-story houses that face this view. Rows of young shrubs and deciduous trees add to the wall's screening effect, which would increase as the vegetation matures, minimizing impacts to residents along Germann Road in this area.

Temporary construction impacts would include views of construction equipment and dust in the vicinity of the proposed rail line. These impacts would be short term and end when construction is complete.~~Construction impacts would be similar to KOP 1 but slightly more visible due to closer proximity (0.75 mile compared to 1.0 mile).~~

~~4.2.3~~4.2.2 KOP 3

PIRATE would curve toward the viewer in this view, trending diagonally from the northwest to southeast, thereby appearing closer on the east side of the view. The distance of the track from the viewer would range from approximately 0.5 to 0.3 mile northwest to northeast.

Similar to KOP 2, the railbed would appear as a horizontal line along the horizon. However, the railbed would appear wider and occupy slightly more space on the east side of the view where the track would be closer. Also similar to KOP 2, the railbed would obscure the row of low buildings to the west (left), resulting in a slight beneficial impact. The track would interfere with views of the distant mountains in the center and east side of the view to a slight degree. Passing trains would further obscure views of the mountains on a temporary, but recurring, basis. The trains would be most visible from this KOP given their proximity. The PIRATE yard, where trains may be parked on two to five yard tracks for indefinite periods of time, is not expected to be visible as these yard tracks would be farther south and east of the airport buildings, which are only minimally perceptible. For these reasons, the environment would be able to visually absorb the potential changes, resulting in a moderately high degree of compatibility from this view. Therefore, the visual character and moderate visual quality of this view would remain unchanged.

Views from the Redemption Church Gateway would be somewhat blocked as it is set back between 100 and 200 feet from Pecos Road behind several rows of young, landscaped deciduous trees and shrubs. As the vegetation matures over time, this effect would increase. Views of PIRATE from KOP 3 for people attending church services and activities, as well as employees

and patrons of the adjacent commercial enterprises, would be of short duration because their attention would be focused indoors. These factors would reduce impacts to sensitive viewers at this KOP.

Construction impacts would be similar to KOP 2~~1~~ but more visible due to closer proximity (0.3 mile compared to 1.0 mile).

~~4.2.4~~4.2.3 KOP 4

Ground-level views from KOP 4 would be obscured by the solid brick wall shown in Figure 3-20~~18~~. However, viewers at second-floor windows in the adjacent houses would be able to see beyond the wall. These viewers would see the Germann siding extension parallel to the west side of the Phoenix Subdivision main line track, which would be approximately 230 feet from the closest viewer and slightly closer than the existing main line track. Impacts of the additional track would be minimal because it would be visually consistent in form, shape, and line with the existing main line track, resulting in a high degree of compatibility. These viewers may also be able to see the drainage ditches adjacent to the Germann siding extension, as well as portions of the wye. However, a row of landscaped evergreen trees opposite the wall paralleling the north side of Pelican Drive would help obscure any second-story views of the wye.

Second-story viewers would see more trains due to the addition of a new track. The trains would be a similar type (freight) to the trains that currently use the line. Because viewers would be limited to those from the second story, and the additional track would be consistent and compatible with the existing main line track, long-term visual impacts would be minor. Therefore, the visual character and visual quality of this view are not expected to change and would remain moderately low.

Construction impacts along the Phoenix Subdivision would be similar to KOP 1 but noticeably more visible from second-floor windows due to closer proximity, as the TCE would be directly behind the brick wall. In addition, a TCE would be located along Sossaman Road immediately adjacent to this KOP. The existing brick wall would mostly obscure construction activities as described for KOP 2~~1~~, but construction would be noticeably more visible from the second-story windows of approximately six houses facing east in this area.

~~4.2.5 KOP 5~~

~~Located approximately 0.5 mile north of KOP 5, both the proposed rail line and run-around track would likely be visible as a single horizontal line in front of the parked freight trucks and Old Dominion Line building. The railbed would block some views of the parked trucks, although not likely the building itself, creating a more unbroken, uniform horizontal line delineating the base of, but not obscuring, the distant mountains. Although movement of trains along the tracks would call attention to PIRATE and the rail cars themselves, they would be visible for a short, but recurring, time. However, trains may be parked for indefinite time periods along the run-around tracks, which would be visible from this KOP. The rail cars would likely appear no taller than the freight trucks. The mountains in the background would help visually absorb the presence of the trains, resulting in a moderate degree of compatibility from this view. Therefore, a minor change to visual character is expected, primarily due to views of parked trains. This change is not expected to modify the existing moderate visual quality at this KOP.~~

~~Because the residential area adjacent to Merrill Road appears to be abandoned and dense vegetation surrounds the houses, only northbound drivers are expected to experience this specific view, minimizing impacts to sensitive viewers.~~

~~Construction impacts would be similar to KOP 1 but slightly more visible due to closer proximity.~~

~~4.2.6~~4.2.4 KOP 6

A new working track would be constructed east of the main line track and Germann siding that form the Phoenix Subdivision approximately 360 feet from this viewpoint. The height of the gravel railbed would not change, and the new support track would not be visible, as all three tracks would continue to appear as a single, thin, dark brown horizontal line. As under existing conditions, the movement of trains along the tracks would call attention to PIRATE and the rail cars themselves, and would be visible more often due to the additional support track. However, the trains would be visible for a short, but recurring, time between the landscaping and cars along Rittenhouse Road. For these reasons, the environment would be able to visually absorb the potential changes, resulting in a high degree of compatibility from this view. Therefore, no change to visual character or quality, and no perceptible impact to sensitive viewers, would occur. Visual quality would remain moderately high.

Construction impacts along the Phoenix Subdivision would be similar to KOP 2~~1~~ but noticeably more visible due to closer proximity (360 feet compared to 1.0 mile).

~~4.2.7~~4.2.5 KOP 7

This view faces the proposed wye, where two new tracks would connect to the Phoenix Subdivision. The wye would split approximately 0.3 mile northeast of the Phoenix Subdivision, with two tracks diverging toward the existing main line track in the form of opposing curves. The wye would meet the Phoenix Subdivision in two places approximately 0.2 mile east and north of this KOP and would be level with the main line track, diminishing their visibility. ~~With the exception of a few landscaped trees along Rittenhouse Road~~ All remaining vegetation would be removed from within the wye to accommodate these tracks, an adjacent detention basin, and contractor staging. The lack of vegetation and the presence of moving trains would call attention to the tracks. However, the wye would not be visible at all from the bleachers and would be only minimally visible~~, even~~ from the~~is~~ elevated viewpoint of the running track. In addition, despite the elevation of the running track~~ed viewpoint~~, the detention basin planned adjacent to the wye is not expected to be visible because it would be depressed and below the line of sight.

As under existing conditions, the trains would be visible for a short, but recurring, time just above the Benjamin Franklin High School baseball diamond outfield fence, and more trains would be visible with the addition of the wye. Trains traveling northeast from the Phoenix Subdivision along PIRATE would appear smaller with distance. For these reasons, the environment would be able to visually absorb the potential changes, resulting in a primarily high degree of compatibility from this view. Because the wye would be at most slightly perceptible and trains currently travel on the Phoenix Subdivision, no change to visual character or low visual quality is expected. People with this view include students and athletes using the high school track and spectators watching ball games. Runners would move through the area quickly and would be focused straight ahead, minimizing their exposure to the view. Spectators would be focused primarily on ball games. Both viewer types would also be exposed to this view sporadically (e.g., only when games are in process) and for short periods of time. Views from the ball field would be further reduced during any night games, when the ball field would be brightly lit and the Phoenix Subdivision and wye would be dark. Lights on passing trains may call further attention to them, as under existing conditions. For these reasons, impacts to sensitive viewers would be negligible.

Temporary construction impacts would include views of construction equipment and personnel, as well as dust, approximately 0.2 mile from this KOP. These impacts would be short term and end when construction is complete.

4.3 Alternative 2

Under Alternative 2, impacts would be the same as Alternative 1 except at KOP 2, ~~and KOP 5. In both cases,~~where PIRATE would be approximately 0.25 mile closer to the viewers~~points~~. Impacts would be similar to Alternative 1 but more heightened at KOP 2~~ and KOP 5~~ due to the closer presence of the tracks and trains. At KOP 2, views of the track and trains would decrease to the west, where the tracks would disappear behind the Brickyards on Ellsworth as they curve to the northwest toward the rail crossing of Ellsworth Road. As described for Alternative 1, the

tracks would appear as a horizontal line on the horizon ~~at both KOPs~~. Trains would appear slightly larger, resulting in no change to visual character or quality and no noticeable change to sensitive viewers, whose views would continue to be obscured, as described for Alternative 1.

Construction impacts would be the same as Alternative 1 but would be slightly more prominent due to closer proximity.

Chapter 5
Recommended Mitigation

During agency coordination in March 2022, ~~Phoenix~~ Mesa Gateway Airport staff indicated that restrictions apply to off-airport lighting installed in close proximity to the runways. For example, all lighting shall be directed downward to avoid glare due to the potential safety issues for planes landing at ~~Phoenix~~ Mesa Gateway Airport. All lighting installed as part of PIRATE and the planned Phoenix Subdivision support tracks shall comply with regulations to preserve visibility around airports, such as 14 Code of Federal Regulations 77 (Safe, Efficient Use, and Preservation of the Navigable Airspace), Arizona Revised Statute 28-8462 (Airport hazard; public nuisance; prevention and elimination), and Arizona Revised Statute 49-1102 (Shielding of outdoor light fixtures; exemptions). Project lighting shall also comply with the zoning provisions of Mesa's Airfield Overlay District, which prohibit land uses that "impair visibility in the vicinity" of the ~~Phoenix~~ Mesa Gateway Airport. Therefore, OEA is recommending mitigation that prior to project-related construction, UP shall provide ~~Phoenix~~ Mesa Gateway Airport an opportunity to review and approve the final project lighting design plans.

As demonstrated in this VIA, no substantial changes to visual character or visual quality are expected under Alternative 1, Alternative 2, or the planned Phoenix Subdivision support tracks. Impacts to viewers are expected to be minimal because many sensitive viewpoints are obscured by landscaping and/or retaining walls, as well as by development, which is ongoing and expected to increase in the future (see Cumulative Impacts section in the Final EA ~~prepared for this project).~~ In addition, viewer activity, such as attending indoor church services or watching a baseball game, would focus attention away from views of the alternatives or the planned Phoenix Subdivision support tracks at many locations. For these reasons, no additional mitigation measures are recommended for visual resources.

Chapter 6
References

6.1 References Cited in the 2026 Abbreviated Visual Impact Assessment

America's Scenic Byways. 2025. Arizona. https://scenicbyways.info/state/AZ.html. October.

American Trails. 2026. National Recreation Trails & National Water Trails. February. https://www.nrtapplication.org/trails. Accessed February 4, 2026.

City of Mesa. 2021. Pecos Industrial Rail Access and Train Extension Project, 2021 RAISE Grant Project Narrative. July.

City of Mesa. 2024. *Tomorrow's Mesa 2050 General Plan*. May. https://www.mesalistens.com/mesa-general-plan.

Federal Highway Administration. 1988. *Visual Impact Assessment for Highway Projects*. Publication No. FHWA-HI-88-054. https://www.co.monterey.ca.us/Home/ShowDocument?id=44228.

Federal Highway Administration. 2015. *Guidelines for the Visual Impact Assessment of Highway Projects*. Document FHWA-HEP-15-029. January. https://www.environment.fhwa.dot.gov/env_topics/other_topics/VIA_Guidelines_for_Highway_Projects.aspx#appd.

Healthline Media. 2019. "How Far Can We See and Why?" May 23. https://www.healthline.com/health/how-far-can-the-human-eye-see.

Krisciunas, Kevin, and Don Carona. 2015. "At What Distance Can the Human Eye Detect a Candle Flame?" July 22. Texas A&M University Department of Physics and Astronomy. https://arxiv.org/pdf/1507.06270.

Maricopa County. 2016. *Vision 2030, Maricopa County Comprehensive Plan*. January 13. https://www.maricopa.gov/ArchiveCenter/ViewFile/Item/6126.

Mesa Gateway Airport Authority. 2026. "Airport Overview." https://www.choosegatewayairport.com/airportoverview.

National Academy of Sciences. 2013. *Report 741: Evaluation of Methodologies for Visual Impact Assessments*. National Cooperative Highway Research Program. https://nap.nationalacademies.org/catalog/22644/evaluation-of-methodologies-for-visual-impact-assessments.

National Park Service. 2025a. "Arizona Parks." https://www.nps.gov/state/az/index.htm.

National Park Service. 2025b. National Park Service – National Trails, National Historic Trails Viewer. https://nps.maps.arcgis.com/apps/webappviewer/index.html?id=24fc463363f54929833580280cc1a751. Accessed February 2026.

National Wild and Scenic Rivers System. 2025. "Arizona." https://www.rivers.gov/arizona. Accessed February 4, 2026.

Pinal County. 2025. *We Create Our Future: Pinal County Comprehensive Plan*. Originally adopted 2009, re-adopted 2019, and updated 2021 and 2025. https://www.pinal.gov/DocumentCenter/View/25289/Comprehensive-Plan-Document-2019-PDF.

U.S. Geological Survey. 2015. National Scenic Trail data on the U.S. topo maps. https://www.usgs.gov/media/images/national-scenic-trail-data-us-topo-maps.

6.2 References Cited in the 2023 Abbreviated Visual Impact Assessment

American Trails. n.d. NRT Database. https://www.nrtdatabase.org/. Accessed July 28, 2022.

BEX Events. 2019. 2019 Public Works Conference. https://bex-events.com/wp-content/uploads/2019/10/Central-Arizona-Project-CAP.pdf. October. Accessed July 28, 2022.

City of Mesa. 2014. *Mesa 2040 General Plan*. June 16. https://www.mesaaz.gov/files/assets/public/v/1/business-development/planning/generalplan/mesa2040generalplan.pdf. Accessed July 5, 2022.

Visit Mesa. 2022. "Bell Bank Park Grand Opening." January 24. https://www.visitmesa.com/blog/bell-bank-park-grand-opening/. Accessed July 6, 2022.

Appendix A
Viewpoints Considered for Analysis

Tables A-1 and A-2 identify the rationale for retaining or dismissing viewpoints (VPs) from analysis as key observation points (KOP). Figure A-1 depicts the viewpoint locations. The shaded rows in Table A-1 indicate VPs selected for analysis as KOPs. OEA removed the shading from the rows for VP 1a / KOP 1 and VP 6 / KOP 5 because those locations were removed from the 2025 detailed analysis.

Table A-1. Viewpoints Considered for Analysis

VP No.	Location	Description	Retain?	Rationale	KOP No.
1	Heritage Gateway Academy	Large, 4-story school on Germann Road facing north. Views may be possible from the third and fourth floors. Views from the first and possibly second floors would be blocked by another school and industrial building ~~currently under construction~~ to the north.	N	Viewer activity would focus attention elsewhere; views likely only from third and fourth floors.	N/A
1a	Neighborhood east of Heritage Gateway Academy	Residences ~~face~~have views to the north along Germann Road, east of the academy. At 0.50 to 0.75 mile south of PIRATE, views would ~~likely~~ be ~~indistinct, obscured, or~~ blocked by buildings~~new construction~~ to the north.	N~~Y~~	In 2022, ~~V~~views of PIRATE would have been~~may be~~ obscured or indistinct~~, especially in the future~~, but this KOP represented sensitive viewers (residences and academy). In 2025, views of PIRATE would be blocked.	1
2	Gateway Quarter neighborhood	New residential area on Germann Road, east of Ellsworth Road. Views of PIRATE may be obscured by distance or would be blocked by buildings~~future construction~~ to the north; however, viewers may be able to see trains where views are not blocked.	N	VP 2a better represents these viewers.	N/A
2a	Gateway Quarter neighborhood	Same as VP 2 but slightly farther east.	Y	Residential area is most sensitive viewer type; views of trains would be more noticeable compared to views of the track.	2

VP No.	Location	Description	Retain?	Rationale	KOP No.
3	Redemption Gateway Church	Church set back from and facing Pecos Road with views to the north. View of PIRATE may be obscured by distance, but viewers may be able to see trains.	Y	Viewer activity would focus attention elsewhere, but viewers would be in closest proximity to PIRATE.	3
3a	Neighborhood south of church	Residential area south of Woodland Avenue. ~~Views from the west end of the neighborhood are currently open to the north.~~	N	Views of PIRATE would be blocked~~obscured~~ by the church and ~~new construction to the~~ other buildings north of this neighborhood. ~~Used VP 3 to represent this view.~~	N/A
3b	Neighborhood south of church	Same as VP 3a but slightly farther east.	N	Same as VP 3a.	N/A
4	Pelican Drive	Dense residential area along Pelican Drive adjacent to 191st Drive, just west of Sossaman Road. Views from the ground are blocked by a solid wall around this part of the neighborhood. Viewers on the second floor could see the Phoenix Subdivision.	N	VP 4b better captures this view.	N/A
4a	Pelican Drive	Views from the ground are partially blocked by a shorter wall around this part of the neighborhood. Viewers on the second floor could see the Phoenix Subdivision.	N	Same as VP 4.	N/A
4b	Pelican Drive	Same as VP 4a.	Y	Viewers on the second floor could see the Phoenix Subdivision. Represents views of changes on Phoenix Subdivision.	4

VP No.	Location	Description	Retain?	Rationale	KOP No.
5	ASU campus	Campus buildings east of Powers Road and north of Pecos Road. The housing at the original VP 5 is uninhabited and not accessible. A berm to the south makes it unlikely that viewers would see PIRATE.	N	No sensitive viewers and/or views.	N/A
6	Merrill Road, north of Germann Road	Small, narrow row of residences at northwest corner of Germann Road and Merrill Road. Residents along the north side of Germann Road are unlikely to see PIRATE because of vegetation that screens views from the houses. PIRATE would be visible from the north end of this area, adjacent to an abandoned ~~and~~ house.~~ In the future, views are expected to be blocked by The Cubes project that will cover the farmland west of/adjacent to the orchard in light industrial and warehouse buildings.~~	N~~Y~~	In 2022, ~~V~~views of PIRATE would have been blocked by vegetation that surrounds houses, but retained due to high viewer sensitivity of residents. In 2025, there is no potential for sensitive viewers because the area is now used for contractor staging and storage (which means viewers would be transitory), and views of PIRATE would be partially blocked by The Cubes warehouses to the northwest.	5
7	Emperor Estates	Small park at the end of a cul-de-sac on Raven Drive, directly northwest of 198th Street where it intersects Rittenhouse Road. Direct views of the Phoenix Subdivision from a private, neighborhood park.	N	VP 7a better captures this view.	N/A
7a	Emperor Estates	Same as VP 7.	Y	Same as VP 7; deciduous landscaping blocks most views. Retained due to sensitive nature of park users and adjacent residents.	6
7b	Emperor Estates	Same as VP 7.	N	VP 7a better captures this view.	N/A

VP No.	Location	Description	Retain?	Rationale	KOP No.
8	Ben Franklin High School ball field – outfield	Views of the Phoenix Subdivision and the wye from the ground blocked by a blue outfield fence.	N	No views of the Phoenix Subdivision or the wye.	N/A
8a	Benjamin Franklin High School baseball field	High school north of Germann Road and west of Rittenhouse Road with running track and baseball field. Game spectators in bleachers would directly face the Phoenix Subdivision and the proposed wye.	N	Partial screening of views of the wye; attention focused on games and only when games are occurring. VP 8b captures this view.	N/A
8b	Benjamin Franklin High School running track	The running track is elevated above the ball field. Therefore, the view toward the Phoenix Subdivision and the wye is much clearer because the track provides views across the ball field and surrounding fence toward the wye.	Y	Viewers would be limited in number, frequency, and duration, but the VP was retained due to proximity to proposed wye.	7
9	Williams Field Road	Houses on Texas Avenue are fully built out and yards fenced in with solid block walls that would preclude views. Alternate VP 09 from Williams Field Road is outside/south of the block walls. The neighborhood is too distant from PIRATE for a clear view. Also, views are likely blocked by SR 24.	N	Views obscured by distance and development.	N/A
10	222nd Street, north of PAMZ	Small, low-density residential area just north of ~~new~~ SR 24 ~~route~~. Views of PIRATE would be blocked by SR 24.	N	Views obscured by SR 24 ~~currently under construction~~.	N/A
10a	Signal Butte Road, north of PAMZ	Same as VP 10.	N	Same as VP 10.	N/A

VP No.	Location	Description	Retain?	Rationale	KOP No.
11	Desert Sky Park	Outdoor public park at northwest corner of Power Road and Desert Sky Park Road. The park is in a depression and would not have views of PIRATE. At the park entrance, existing development and vegetation would block views of PIRATE.	N	Views obscured by topography (depression), development, and vegetation.	N/A
12a	Superstition Vistas – northern viewpoint	Ironwood Road is approximately 2.3 miles north of the SR 24 future terminus. The eastern end of PAMZ is barely visible; PIRATE would be obscured by terrain and existing development.	N	Views obscured by terrain and existing development and distance.	N/A
12b	Superstition Vistas – eastern VP	Intersection of Germann Road and Schnepf Road. The eastern end of PAMZ is slightly more visible than from VP 12a, but PIRATE would be obscured by terrain and existing development. Several residences on the south side of Germann Road, east of the PAMZ; the view of PIRATE from these residences would also be obscured by terrain and existing development in the PAMZ.	N	Same as VP 12b.	N/A

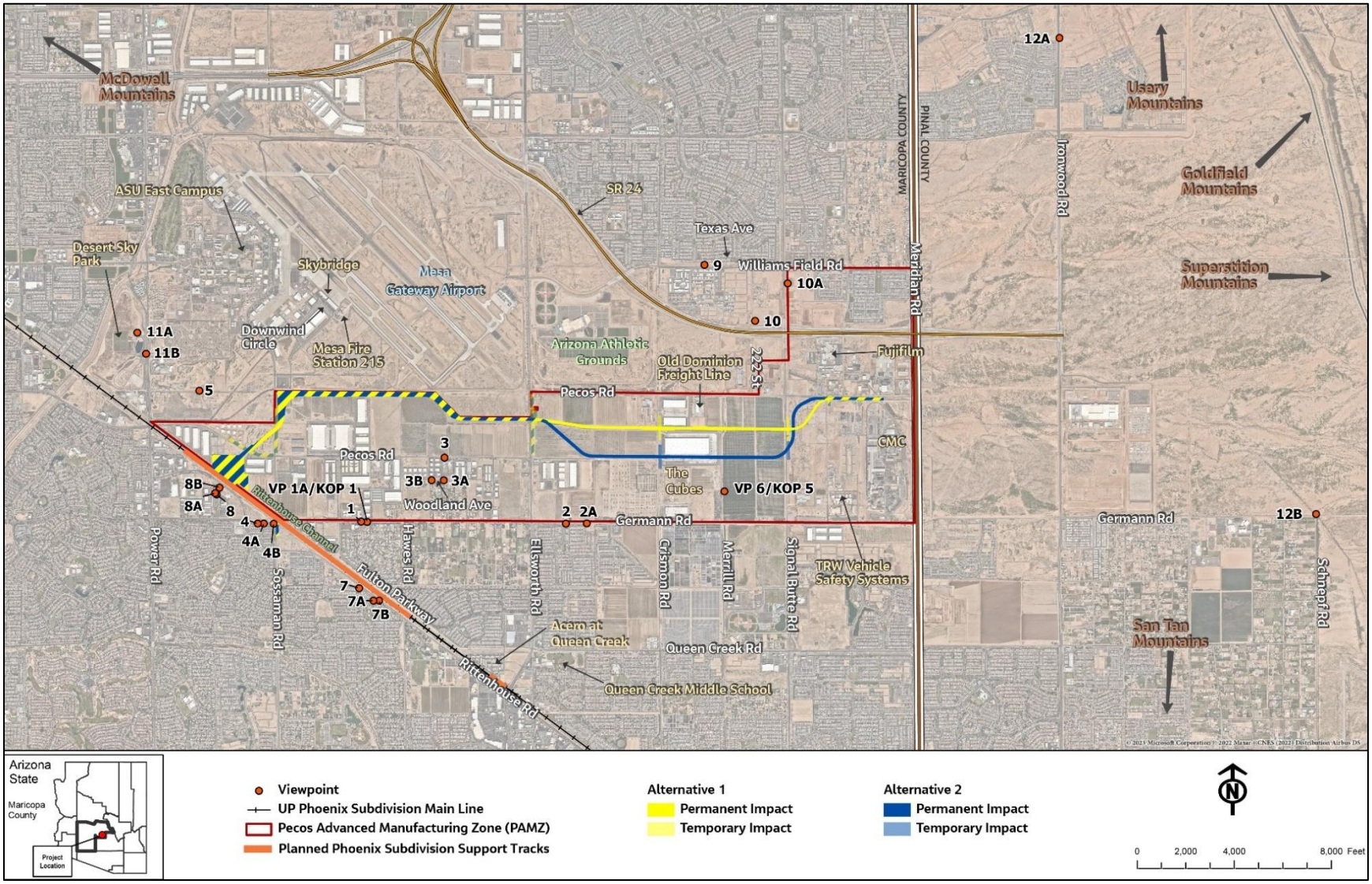
N/A = Not applicable
PAMZ = Pecos Advanced Manufacturing Zone
SR 24 = State Route 24

Table A-2. Additional Areas Considered but Dismissed

Area	Description	Rationale
Acero at Queen Creek apartment complex in the northern quadrant of the Phoenix Subdivision and Ellsworth Loop	Multi-family residential area with approximately 40 units that have a view southwest toward the Phoenix Subdivision.	Planned construction near Acero includes modifying about 800 feet of the existing tracks adjacent to the rail bridge over Ellsworth Loop. Visual impacts would be minor and temporary.
Residential area south of Queen Creek Road and east of Queen Creek Middle School	High-density residential area with several houses facing north toward PIRATE along Queen Creek Road.	Dismissed due to distance (approximately 1.5 miles to Alternative 2) and use of VP 2 as better option.
Residences south of Germann Road between Hawes Road and Ellsworth Road	Low-density residential area with north-facing views along Germann Road.	~~Many~~Nearly all the houses are set back from the road and fronted with mature vegetation, or have views that are blocked by buildings on north side of road. Views are better captured with VP 2 and/or VP 3/3a.
Residential area east of Fulton Parkway, adjacent to the existing Phoenix Subdivision	High-density residential are with several houses facing southwest toward Phoenix Subdivision.	Views toward the Phoenix Subdivision are blocked by a solid stone wall and landscaping. Existing tracks are not visible, but train cars are. Slight impact from short-term views of additional trains.
Park south of intersection of Emperor Boulevard and 198th Street	Park is sunken below grade near two high-density residential areas. Grassy area includes two basketball courts and landscaped trees. Views to the north are blocked by a solid brick wall elevated above grade.	The park's inferior (below-grade) view and solid brick walls surrounding the nearby residences block views toward the project.
~~Phoenix~~ Mesa Gateway Airport, north/northwest of PIRATE	No eastern-facing windows in the publicly accessible portions of the terminal. Also, the terminal does not face southeast toward the project.	No views of the project.

Area	Description	Rationale
Skybridge (northwest of PIRATE), South Downwind Circle	Skybridge is a private hangar for corporate jets. The entrance faces southwest (toward PIRATE); however, people would not be able to see PIRATE because of a bermed area that would block views. The "plane side" of the hangar faces northeast, away from PIRATE. Also, Skybridge is a transportation land use based at an airport. Users' sensitivity to seeing railroad infrastructure is likely low.	Limited views, which are not facing the project. Transitory viewers.
Mesa Fire Department Station 215 (north of PIRATE), South Downwind Circle	Adjacent to Skybridge. Views on the ground would likely be blocked by the same bermed area referenced above. This building has a second floor that may have windows facing south or southeast. The fire department is a municipal land use based on the runway at an airport. Users' sensitivity to seeing railroad infrastructure is likely low.	No views of the project. Transitory viewers and not a public view.

Figure A-1. Viewpoint Locations



Note: This graphic was revised in the 2026 VIA.

Appendix K1
Section 106 Memorandum of Agreement

MEMORANDUM OF AGREEMENT BETWEEN THE SURFACE TRANSPORTATION BOARD AND THE ARIZONA STATE HISTORIC PRESERVATION OFFICER

REGARDING

DOCKET NO. FD 36501 – UNION PACIFIC RAILROAD COMPANY – CONSTRUCTION AND OPERATION EXEMPTION – IN MARICOPA COUNTY

WHEREAS, on June 30, 2022, the Union Pacific Railroad Company (UP) filed a petition with the Surface Transportation Board (Board) under 49 United States Code (U.S.C.) § 10502 for an exemption from the prior approval requirements of 49 U.S.C. § 10901 to construct and operate approximately 6.0 miles of new rail line that would connect industrial properties to UP's Phoenix Subdivision main line in Maricopa County, Arizona (the Project) in Docket No. FD 36501; and

WHEREAS, as defined in 36 C.F.R. § 800.3(a), the Board has determined that the Project constitutes an Undertaking subject to review under Section 106 of the National Historic Preservation Act of 1966, as amended (NHPA), 54 U.S.C. § 306108, and its implementing regulations (36 C.F.R. Part 800); and

WHEREAS, all consulting Federal agencies (Federal Aviation Administration [FAA] and U.S. Army Corps of Engineers [Corps]) have agreed that the Board is the lead federal agency responsible for compliance with Section 106 of the NHPA for this Undertaking; and

WHEREAS, the Board's Office of Environmental Analysis (OEA) is responsible for carrying out the agency's responsibilities under the NHPA and is preparing this Memorandum of Agreement (MOA) pursuant to Section 106 of the NHPA and pursuant to 36 C.F.R. Part 800 of the Advisory Council on Historic Preservation (ACHP)'s regulations implementing Section 106; and

WHEREAS, OEA has defined the Area of Potential Effects (APE), which contains approximately 449 acres within portions of Sections 1 through 9 and 16 of Township 2 South, Range 7 East and Section 36 of Township 1 South, Range 7 East, as depicted on the U.S. Geological Survey's Higley, Ariz., and Desert Well, Ariz., 7.5-minute topographic quadrangles. The APE includes two alternatives, only one of which will be authorized for construction if the Undertaking is approved by the Board. The APE encompasses all areas of ground-disturbing physical effects that may also cause auditory, visual, or vibrational effects to historic properties as a result of the Undertaking. The Arizona State Historic Preservation Office (SHPO) concurred with OEA's definition of the initial APE (dated May 2, 2022) and revised APE (dated October 14, 2025). The APE is depicted in Attachment A; and

WHEREAS, OEA documented the cultural resources survey results in *A Class III Cultural Resources Survey for the Union Pacific Railroad Company Pecos Industrial Rail Access and Train Extension (PIRATE) Project, Mesa and Queen Creek, Maricopa County, Arizona* (Rainey and Stubing 2022), and *A Class III Addendum Cultural Resources Survey for the Union Pacific Railroad Company Pecos Industrial Rail Access and Train Extension (PIRATE) Project, Mesa and Queen Creek, Maricopa County, Arizona* (Powell 2023, revised September 2025), which OEA provided to the Consulting Parties for review and comment; and

WHEREAS, a total of 2.35 acres in the APE consists of private land that will not be acquired or accessed for the Project, is not included in the Undertaking (see Attachment B), and was not surveyed for cultural resources; and

WHEREAS, the two cultural resources surveys identified three eligible sites (AZ U:10:2[ASM], AZ U:10:152[ASM], and AZ U:10:275[ASM]), one listed site (AZ U:10:69[ASM] – listed under AZ U:10:25[ASU]), and one in-use historic structure (the Mesa to Winkelman Spur of the Southern Pacific Railroad), that OEA determined to be eligible for inclusion in the National Register of Historic Places (NRHP) with SHPO concurrence (December 20, 2022); and

WHEREAS, OEA has determined, pursuant to 36 C.F.R. § 800.5(a), that the Undertaking would have an adverse effect on four historic properties, including AZ U:10:2(ASM), AZ U:10:69(ASM), AZ U:10:152(ASM), and AZ U:10:275(ASM), which are eligible for, and/or listed on, the NRHP under Criterion D (36 C.F.R. Part 63) and would have no adverse effect to the character-defining features of the in-use historic structure; and

WHEREAS, [redacted]

WHEREAS, on July 28, 2023, OEA discovered that there had been extensive disturbance to two of the historic properties (AZ U:10:2[ASM] and AZ U:10:152[ASM]), [redacted] from construction activities by third parties on land owned by UP within the APE; and

WHEREAS, the Section 106 process did not move forward while the Board considered the applicability of Section 110(k) (anticipatory demolition) of the NHPA; and

WHEREAS, a thorough damage assessment was also conducted—*Noninvasive Cultural Resources Damage Assessment for AZ U:10:2(ASM) and AZ U:10:152(ASM), Mesa, Maricopa County, Arizona* (Powell 2024) and *Invasive Cultural Resources Damage Assessment Technical Report for AZ U:10:2(ASM), Mesa, Maricopa County, Arizona* (Luhnow et al. 2025)—that revealed five locations of disturbance, including excavation of two retention basins and removal of 40,500 cubic yards of soil and impacts to almost 18 acres of land within two NRHP-eligible sites (AZ U:10:2[ASM] and AZ U:10:152[ASM]) [redacted]; and

WHEREAS, the Board issued a decision on June 3, 2025, stating that "no determination that Section 110(k) is applicable will be issued under 36 C.F.R. § 800.9(c)," and that "the Board will continue with the Section 106 process"; and

WHEREAS, the SHPO is authorized to enter into this MOA to fulfill the role of advising and assisting federal agencies in carrying out their Section 106 responsibilities under the NHPA and its implementing regulations at 36 C.F.R. §§ 800.2(c)(1)(i) and 800.6(b), and the SHPO is a Signatory to this MOA; and

WHEREAS, UP has specific Section 106 responsibilities under this MOA and is an Invited Signatory; and

WHEREAS, part of the Undertaking will require a permit from the Corps, which has jurisdiction over activities that discharge dredged or fill materials into any waters of the United States under Section 404 of the Clean Water Act of 1972 (33 U.S.C. § 1344), the issuance of which requires Section 106 review for that Undertaking, and pursuant to 36 C.F.R. § 800.3(f), the Corps has been included in Section 106 consultation and is invited to sign this MOA as a Concurring Party; and

WHEREAS, the FAA administers regulations regarding airport-protected services, airspace notification, and filing requirements for structures that may be a potential hazard to air navigations, and the FAA has been included in Section 106 consultation pursuant to 36 C.F.R. § 800.3(f) and has been invited to sign this MOA as a Concurring Party; and

WHEREAS, the Mesa Gateway Airport Authority (MGAA) occupies the aviation infrastructure of the former Williams Air Force Base, which is adjacent to the Undertaking and the MGAA has been included in Section 106 consultation pursuant to 36 C.F.R. § 800.3(f) and has been invited to sign this MOA as a Concurring Party; and

WHEREAS, the Flood Control District of Maricopa County (FCDMC) manages the Rittenhouse and Ellsworth flood control channels and will review UP's design plans for construction and operation of the Undertaking, which may require the approval of a right-of-way permit, and pursuant to 36 C.F.R. § 800.3(f), the FCDMC has been included in Section 106 consultation and is invited to sign this MOA as a Concurring Party; and

WHEREAS, the Arizona State Land Department (ASLD) administers state trust land within the APE and a right-of-way permit will be needed to construct the Undertaking within the existing agricultural leased lands between Merrill and Signal Butte Roads, and the ASLD has been included in Section 106 consultation pursuant to 36 C.F.R. § 800.3(f) and is invited to sign this MOA as a Concurring Party; and

WHEREAS, the Arizona State Museum (ASM) has defined authorities and responsibilities under Arizona Revised Statutes (ARS) §§ 41-841 through 41-844, for portions of the Undertaking on State Lands (defined as including state, county, city, and municipal lands) and under ARS § 41-865 for private lands, and the ASM has been included in Section 106 consultation pursuant to 36 C.F.R. § 800.3(f) and has been invited to sign this MOA as a Concurring Party; and

WHEREAS, the Salt River Project Agricultural Improvement District (SRP), an agricultural improvement district organized under the laws of the State of Arizona and the Salt River Valley Water Users' Association, a corporation organized under the laws of the Territory (now State) of Arizona, and because there is SRP infrastructure within the APE, the SRP has been included in Section 106 consultation pursuant to 36 C.F.R. § 800.3(f) and has been invited to sign this MOA as a Concurring Party; and

WHEREAS, land owned by the City of Mesa (City) is included in the APE, and because the City has developed the Pecos Advanced Manufacturing Zone (PAMZ) on this land, the City has been included in Section 106 consultation pursuant to 36 C.F.R. § 800.3(f), and has been invited to sign this MOA as a Concurring Party; and

WHEREAS, the APE includes land owned by the Town of Queen Creek (Town), and, as such, the Town has been included in Section 106 consultation pursuant to 36 C.F.R. § 800.3(f) and has been invited to sign this MOA as a Concurring Party; and

WHEREAS, the San Tan Historical Society, Mesa Historical Museum, and Arizona Museum of Natural History have interest in the archaeological and historic resources within the APE and have been included in Section 106 consultation pursuant to 36 C.F.R. § 800.3(f) and have been invited to sign as Concurring Parties to this MOA; and

WHEREAS, OEA has consulted with known Native American Tribes (Descendant Communities) that may attach religious or cultural importance to affected properties pursuant to 36 C.F.R. § 800.2(c)(2)(ii)(A-F) and these tribes (the Four Southern Tribes, Hopi Tribe, Mescalero Apache Tribe, Pascua Yaqui Tribe, Pueblo of Zuni, Tonto Apache Tribe, and Yavapai-Apache Nation) have been invited to sign as Concurring Parties to this MOA; and

WHEREAS, the Four Southern Tribes, Hopi Tribe, and Pascua Yaqui Tribe have expressed interest in this Undertaking and are actively engaged in Section 106 consultation, including the development of this MOA; and

WHEREAS, the Four Southern Tribes have designated the Gila River Indian Community as the lead Tribe for the Four Southern Tribes; and

WHEREAS, the Yavapai-Apache Nation indicated that they would continue to participate in the Section 106 consultation, but do not have any concerns (Coder [Yavapai-Apache Nation] to Luhnow [Jacobs] dated May 6, 2022); and

WHEREAS, the White Mountain Apache Tribe has declined to participate in the Section 106 consultation (Altaha [White Mountain Apache Tribe] to Luhnow [Jacobs] dated May 10, 2022); and

WHEREAS, UP, SHPO, Gila River Indian Community, Salt River Pima-Maricopa Indian Community, Ak-Chin Indian Community, and Tohono O'odham Nation are in the process of developing a Memorandum of Understanding (MOU) for certain voluntary commitments to be undertaken by UP related to the Project. The Board will not be a party to this MOU and the MOU will be outside of the jurisdiction of the Board and the scope of this MOA; and

WHEREAS, OEA solicited information and concerns about the historic properties from members of the public as part of the National Environmental Policy Act in accordance with 36 C.F.R. § 800.2(d)(3); and

WHEREAS, all days referred to in this MOA are calendar days, unless otherwise noted; and

WHEREAS, in accordance with 36 C.F.R. § 800.6(a)(1), OEA has notified the ACHP of the adverse effect finding and provided the documentation specified in 36 C.F.R. § 800.11, and on December 22, 2022, and again on August 15, 2025, the ACHP chose not to participate in consultation pursuant to 36 C.F.R. § 800.6(a)(1)(iii); and

NOW, THEREFORE, the Board and the SHPO agree that this MOA shall be implemented in accordance with the following stipulations to take into account the effects of the Undertaking on historic properties.

STIPULATIONS

The Board, through OEA, shall ensure that the following measures are carried out for this Undertaking.

I. Definitions

The definitions and associated acronyms in Attachment C follow 36 C.F.R. § 800.16 and are used within this MOA. "Signatories" refers to Signatories and Invited Signatories.

II. Roles and Responsibilities

The Signatories agree that the Board is the lead agency for administering and implementing this MOA, and is responsible for ensuring that UP, as the Applicant, completes all the measures set forth in this MOA. On behalf of the Board, OEA's responsibilities under this MOA include:

- Consulting and coordinating with the Consulting Parties;
- Conducting Government-to-Government consultation with the Tribes;
- Ensuring that all Signatories carry out their responsibilities;
- Reviewing and approving all submissions to the Consulting Parties, including the additional cultural resources inventory reports (if needed),
- Overseeing and approving all cultural resource work undertaken by UP;
- Seeking SHPO concurrence with all agency compliance decisions.

UP, under direction from OEA, is responsible for:

- Retaining a qualified cultural resource contractor (Contractor) (see Stipulation III.A);
- Implementing the Historic Property Treatment Plan (HPTP);
- Conducting any additional cultural resources inventory work (if needed), Post-Review Letter Report (if needed), Variance Inventory Report (if needed), the Preliminary Reports of Findings, and final Comprehensive Data Recovery Technical Report.

III. Professional Qualifications

All work shall meet the Secretary of the Interior (SOI)'s Standards for Archaeology, Cultural Anthropology, and Historic Preservation (SOI Standards; 36 C.F.R. § 800.2(a)(1); 48 *Federal Register* [FR] Vol. 48, No. 190, 44738-44739; September 29, 1983), and any work involving state and municipal lands shall be completed in accordance with ASM standards.

A. UP shall retain a Contractor and cultural anthropologist(s) (Ethnographer) of its choice that meets the SOI's Professional Qualification Standards (36 C.F.R. § 800.2(a)(1); 48 FR Vol. 62, No. 119, 33715-33716; June 20, 1997). The Ethnographer will have demonstrated regional specialization in central and southern Arizona and will have experience working directly with the Four Southern Tribes. Cultural resources work for the Undertaking will be completed by an individual or under the direct supervision of an individual who meets the SOI's qualifications.

B. In recognition of the special expertise Tribal experts have concerning properties of traditional religious and/or cultural significance, the standards of 36 C.F.R. § 61 will not apply to tribally designated representatives carrying out identification and evaluation efforts for such properties of Tribal interest.

IV. Tribal Consultation

A. OEA shall conduct Government-to-Government consultation for the purposes of identifying, evaluating, documenting, and mitigating adverse impacts to properties of religious and cultural significance to Tribes as identified during the Section 106 consultation process.

B. Tribes that might attach religious and cultural significance to historic properties in the APE have been identified by OEA and have been invited to be Consulting Parties for this Undertaking.

C. OEA shall continue to conduct Government-to-Government consultation with Tribes throughout the duration of the Undertaking.

D. OEA acknowledges that each Tribe defines Government-to-Government consultation differently and will work individually with interested Tribes to accommodate their preferences.

E. Consultation has been initiated through formal consultation letters transmitted electronically. Continuing consultation may also include video conferences, in-person meetings, in-field meetings, or other types of meetings, as dictated by Tribal preference.

F. Tribal consultation may also include ethnographic studies to aid in identification and evaluation efforts.

V. Traditional Cultural Place

As defined in the 2024 update to *National Register Bulletin 38*, a Traditional Cultural Place (TCP) is a building, structure, object, site, or district that may be listed or eligible for listing in the NRHP for its significance to a living community because of its association with cultural beliefs, customs, or practices that are rooted in the community's history and that are important in maintaining the community's cultural identity (National Park Service 2024).

[redacted]

A. OEA will continue conducting Government-to-Government consultation with Native American Tribes to further evaluate any known and newly identified TCPs and resolve any potential effects to these properties by the Undertaking.

B. The Four Southern Tribes have indicated that a TCP evaluation study is necessary to fully address the potential effects on cultural and natural properties that may qualify as TCPs within the APE and vicinity. OEA is continuing Government-to-Government consultation with the Four Southern Tribes to outline the scope of the TCP evaluation and identify an ethnographer that is acceptable to the Tribes and meets the qualifications standards outlined in Stipulation III.

C. The ethnographer will work closely with elders and traditional cultural specialists from the Four Southern Tribes [redacted] The scope of the TCP evaluation will be determined by OEA based on communication with the ethnographer in conjunction with elders and other Native consultants.

D. The ethnographer will record the results of Tribal interviews, oral histories, background research, field visits, and other appropriate sources reviewed for the TCP study. [redacted] The ethnographer will prepare two reports. The first report will be a comprehensive summary limited to review by the Four Southern Tribes and Gila River Indian Community Tribal Historic Preservation Officer (THPO). A second redacted report will provide information sufficient to provide an evaluation of the NRHP eligibility and integrity of each TCP identified. Given the confidential nature of this information, the second report will have limited distribution designated by the Gila River Indian Community THPO. OEA will conduct Government-to-Government consultation with Gila River Indian Community THPO to discuss the results of the TCP

evaluation. In consultation with Gila River Indian Community THPO, OEA will provide a consultation letter to SHPO outlining each TCP and its NRHP eligibility determination for SHPO review and concurrence.

E. Once the TCP evaluations are complete and SHPO has concurred with the results, OEA will continue Government-to-Government consultation with the Four Southern Tribes and Gila River Indian Community THPO [redacted] OEA, the Four Southern Tribes, the Gila River Indian Community THPO and the SHPO will continue consultation to formulate mitigation measures for the resolution of the adverse effect.

VI. Construction Variance and Review Process

All construction needs cannot be anticipated in advance, and areas required for additional workspace (e.g., new design changes, access roads, ancillary facilities, reroutes, etc.) may be identified at any time following the finalization of the survey reports (Rainey and Stubing 2022; Powell 2023, revised 2025). If any newly identified construction needs would result in ground-disturbing activities outside of the surveyed areas identified in the survey reports and does not require authorization from the Board, UP will request a variance review from OEA, after having the variance APE surveyed for cultural resources by a qualified professional.

A. If no cultural resources or properties of cultural or religious significance to Tribes are present within the variance APE, the results of the Class I and Class III inventories will be reported on the SHPO Survey Report Summary Form prior to any variance issuance or use of the variance APE for Project-related activities. OEA will provide an expedited review of the variance request, not to exceed seven (7) working days following receipt, and will provide UP with written recommendations regarding the variance issuance via electronic mail (email). Consulting Parties and Tribes will be informed of these recommendations via email.

B. If cultural resources or properties of cultural or religious significance to Tribes are present within the variance APE, UP's Contractor will prepare a Variance Inventory Report and submit it via email to OEA. OEA will make determinations of eligibility and submit the Variance Inventory Report to the Consulting Parties for review and comment. The Consulting Parties will provide an expedited review within seven (7) working days or less. If no objections to the determinations of eligibility and the proposed variance are received at the end of the 7-day period, OEA shall provide UP's Contractor with written approval of the variance via email. If objections are received, additional consultation regarding the variance will follow in accordance with the dispute resolution process found in Stipulation XXII.

VII. Evaluation of Historic Properties

A. OEA has evaluated and will continue to evaluate the NRHP eligibility of cultural resources in accordance with 36 C.F.R. § 800.4(c)(1) and will follow guidance provided in the *National Register Bulletins 15* and *38*. The NRHP evaluation of any new cultural resources will be provided to the Consulting Parties during implementation of this MOA.

VIII. Resolving Adverse Effects

A. Where possible, UP shall avoid or minimize effects to historic properties through redesigning the Project or by placing infrastructure outside of historic property boundaries. Where historic properties cannot be avoided, OEA and UP shall ensure that effects to identified historic properties are resolved through the development and implementation of an HPTP (see Stipulation IX). During construction, UP shall fence sensitive archaeological sites to protect them, and a qualified archaeological monitor shall monitor all construction activities within the APE.

B. If adverse effects to any newly recorded NRHP-eligible historic property cannot be avoided, those effects would be resolved in accordance with procedures outlined in the approved HPTP (Stipulation IX).

C. A historic context about the indigenous occupation (through the protohistoric period) of the Queen Creek Delta will be prepared to National Park Service standards. The document will summarize the results of archaeological research and discuss site chronology, use, settlement, and socioeconomic changes from a cultural landscape framework. This work shall incorporate, as appropriate and with tribal coordination and approval, information from oral history and ethnography of traditional cultural practices in the region. A research design for future investigations shall be provided. An electronic version of the approved, final document will be made available on the SHPO website.

IX. Historic Properties Treatment Plan

A. OEA shall direct UP to develop an HPTP in consultation with the Consulting Parties to this MOA. The HPTP will define the specific field methodologies to be used for archaeological data recovery at sites AZ U:10:2(ASM), AZ U:10:69(ASM), AZ U:10:152(ASM), and AZ U:10:275(ASM); the procedures to be followed for archaeological monitoring of the Undertaking's construction activities as described in Stipulation VIII.A; and the process for unanticipated encounters of additional historic properties or human remains, funerary objects, sacred ceremonial objects, and objects of national or tribal patrimony that may be affected by the Undertaking. If encountered, the treatment of animal funerary remains would be the same as the treatment of human remains.

B. OEA shall ensure that the HPTP is consistent with the Secretary of Interior's Standards and Guidelines for Archaeological Documentation (48 FR 190, 44734-44737; September 29, 1983), ACHP's *Treatment of Archaeological Properties: A Handbook* (November 5, 1980), and the Rules Implementing the Arizona Antiquities Act (ARS §§ 41-841 through 41-844), and that it shall be approved and implemented prior to construction.

C. The HPTP shall include the following:

1. Previous research results, a discussion of the damage to archaeological sites discovered during the environmental and historic review of the Project, and a research design that includes the research questions to be addressed through data recovery, archival research, documentation, and interpretation, with an explanation of their relevance and importance.

2. Identification of properties or portions of the properties where data recovery is to be carried out, any property or portion of property that would be affected by the Undertaking without treatment, and a rationale for untreated portions (e.g., discussion of the sampling strategy).

3. Data recovery expectations, phased data recovery methods, and level of effort (in text and depicted on site plan view maps) required for the treatment of sites, including treatment locations and sampling methods, sample size, and procedures for selecting specific sample units.

4. Archival, field, and laboratory methods to be used, with an explanation of their relevance to the research questions.

5. Results of any Tribal consultation, that is, incorporating tribal perspectives into the cultural history, research design, analysis, interpretation, data recovery/methodology, and repatriation of human remains, funerary objects, sacred ceremonial objects, and objects of national or tribal patrimony sections. If encountered, the treatment of animal funerary remains would be the same as the treatment of human remains.

6. Protocol for documenting and repatriating human remains, funerary objects, sacred ceremonial objects, and objects of national or tribal patrimony. In the event that human remains, funerary objects, sacred ceremonial objects, and objects of national or tribal patrimony are encountered, a description will be included of the methods and procedures for the recovery, inventory, treatment, and repatriation procedures that is consistent with the Burial Discovery Agreement drafted for this Undertaking. If encountered, treatment of animal funerary remains would be the same as the treatment of human remains.

7. Methods to be used in managing and disseminating the resultant data to the professional community and the public, including a proposed schedule for Undertaking tasks and a schedule for submitting draft and final reports

(Preliminary Reports of Findings and a Comprehensive Data Recovery Technical Report) to OEA, which shall then distribute the approved documents to the Consulting Parties for review and comment.

8. Strategy for a public outreach program with the goal of disseminating information about the results of the cultural resources investigations to the public. Some examples of public outreach programs include interpretative signage at the MGAA, site tours, print media, electronic media, presentations and lectures, the historic context study, and ways to enhance local heritage education curriculum. UP, in consultation with OEA, shall develop one or more of these approaches based on the results of the cultural resources investigation.

9. Project suspension/termination plan that stipulates the procedures to be followed if the Project is halted during data recovery for any reason. The plan shall outline the steps needed to stabilize the sites and/or complete any data recovery or other treatment measures that are in progress at the time of Project termination. Additionally, the plan shall include a component outlining how documenting, reporting, securely escorting, housing, and repatriating human remains, funerary objects, sacred ceremonial objects, and objects of national or tribal patrimony will be completed.

10. Discussion of permits, personnel qualifications, coordination, and cultural sensitivity training for construction personnel.

11. Proposed disposition and curation of recovered materials and records in accordance with relevant federal, state, municipal, and private ordinances: NHPA; Arizona Antiquities Act (ARS §§ 41-841 through 41-844); State Historic Preservation Act (ARS §§ 41-861 through 41-864); and ARS §§ 41-865.

12. Procedures for monitoring, evaluating, and treating encounters of unanticipated or newly identified cultural resources during construction of the Undertaking. In the event that any such cultural deposits associated within the sites are encountered, the procedures in the Monitoring and Discovery Plan (MDP), a component of the HPTP, will be followed.

D. OEA shall submit the draft HPTP to the Signatories and Concurring Parties to this MOA for a thirty (30) day review period.

1. If any Consulting Party fails to respond with comments within thirty (30) days of receipt of the initial submission of the HPTP, OEA shall follow up with the Consulting Party by phone call or email. If the Consulting Party does not respond within seven (7) days of OEA's follow-up, OEA's responsibilities under this Stipulation are fulfilled.

2. If, as a result of this review, Consulting Parties determine that revisions of the HPTP are necessary, OEA shall direct UP to revise the HPTP. OEA shall provide the revised plan to all Consulting Parties for their review. The Consulting Parties shall have thirty (30) days from receipt of the revised plan to comment on any revisions proposed. If any Consulting Party does not respond, OEA will follow up with the Consulting Party by phone call or email. If the Consulting Party does not respond within seven (7) days of OEA's follow-up, OEA's responsibility under this Stipulation is fulfilled.

3. OEA shall ensure that any written comments received are considered during final HPTP preparation.

4. OEA shall provide the final HPTP to all Parties to this MOA.

X. Transition Between Phase I to Phase II Data Recovery

A. All archaeological sites within the APE will require complete Phase I data recovery efforts.

B. After completion of Phase I data recovery efforts, OEA shall direct UP to conduct a site visit(s) for the Consulting Parties to review the adequacy of the field investigations per the HPTP (in-field consultation). The purpose of in-field consultation is to evaluate whether Phase I data recovery efforts have been completed successfully at individual sites or if additional (Phase II) data recovery efforts are needed.

C. Tribes may request field visits separate from the other Consulting Parties.

D. Upon completion of the in-field consultation, OEA shall provide written notes of the in-field consultation session(s) and shall email the notes to all Consulting Parties. Consulting Parties shall have seven (7) days to review the in-field consultation notes and provide comments to OEA. OEA shall review any comments received and amend and distribute the final in-field consultation notes, as appropriate.

E. When the Phase I data recovery field efforts have been reviewed and are considered complete, UP shall prepare a Preliminary Report of Findings for each individual site as outlined in Stipulation XI.

F. In the event that Phase II data recovery efforts are recommended, Consulting Parties shall have seven (7) days to review the in-field consultation notes (Stipulation XI.D). If Consulting Parties agree that Phase II data recovery efforts are warranted, UP's Contractor may begin Phase II data recovery efforts at individual site(s). OEA shall direct UP to conduct a site visit(s) for the Consulting Parties at the conclusion of the Phase II data recovery efforts to review the adequacy of the field investigations per the HPTP (in-field consultation). At the completion of Phase II data recovery efforts at individual site(s), a combined Phase I and Phase II Preliminary Report of Findings shall be prepared as outlined in Stipulation XI and distributed to the Consulting Parties.

XI. Preliminary Report of Findings

A. Upon completion of the Phase I and Phase II (if necessary) data recovery fieldwork, UP shall prepare a Preliminary Report of Findings (see Stipulation X.E and X.F) for each individual site and provide it to OEA for review within fourteen (14) days of the in-field consultation meeting.

B. Each Preliminary Report of Findings shall contain the following, at a minimum:

1. A discussion of the methods and treatments used during data recovery and justification for any methods or treatments that deviated from the HPTP, referencing the communication with SHPO, ASM, and relevant land manager(s) on any modifications to the HPTP.

2. A detailed site map showing all features, damage areas, artifact concentrations, point-provenienced artifacts, and hand-excavated units at the site.

3. A general tabulation of recovered artifacts, samples, and features.

4. Recommendations for site clearance for the purposes of allowing construction to proceed.

C. Once OEA has approved an individual Preliminary Report of Findings, it shall be provided to the Consulting Parties, who shall have fourteen (14) days from receipt to review and provide written comments to OEA. If any Consulting Party does not respond within this review period, OEA shall follow up with the Consulting Party to see if they have any comments. If a Consulting Party does not respond within five (5) days of OEA's follow-up, OEA's responsibility under this Stipulation is fulfilled.

D. If revisions to a Preliminary Report of Findings are made, all Consulting Parties shall have seven (7) calendar days from receipt to review the revisions and provide comments to OEA. If any Consulting Party does not respond within this review period, OEA shall follow up with the Consulting Party to see if they have any comments. If a Consulting Party does not respond within five (5) days of OEA's follow-up, OEA's responsibility under this Stipulation is fulfilled.

XII. Comprehensive Data Recovery Technical Report

A. After completing fieldwork and Stipulation XI, UP shall prepare a draft Comprehensive Data Recovery Technical Report that summarizes all documentation, interpretations, and syntheses for all sites investigated. UP shall provide the draft Comprehensive Data Recovery Report to OEA for review within two (2) years of the completion of the fieldwork. Once OEA has approved this report, UP shall distribute it to the Consulting Parties for review and comment for a sixty (60) day review period.

B. OEA shall ensure that the Consulting Parties' comments on the draft Comprehensive Data Recovery Technical Report are addressed by UP in a revised report. Once revisions to the draft Comprehensive Data Recovery Technical Report have been completed, all Consulting Parties shall have ten (10) days from receipt to review the revisions and comment matrix and provide written comments to OEA. If any Consulting Party does not respond within ten (10) days, OEA shall follow up with the Consulting Party. If the Consulting Party does not respond within five (5) days of OEA's follow-up, OEA's responsibility under this Stipulation is fulfilled.

C. OEA shall ensure that any written comments received are taken into account during preparation of the final Comprehensive Data Recovery Technical Report.

D. The final Comprehensive Data Recovery Technical Report shall be prepared by UP and approved by OEA. Once approved, UP shall distribute the final Comprehensive Data Recovery Technical Report to all Parties to the MOA.

XIII. Construction in Non-Site Areas

Following acceptance of the final HPTP, pending compliance with all other applicable laws and regulations, and approval of the Undertaking by the Board, UP may begin construction in areas within the APE that have been subjected previously to Class III survey (Powell 2023, revised September 2025; Rainey and Stubing 2022) with negative findings on lands under any ownership or jurisdiction, subject to the jurisdiction's right-of-entry and right-of-way requirements, where all effects to historic properties and unevaluated cultural resources will be avoided and an archaeological monitor will be present during ground-disturbing activities, as per agreed-upon measures described in the approved HPTP.

XIV. Construction in Site Areas

Following fulfillment of Stipulation XI.D, resolution of the comments from the Consulting Parties on the Preliminary Report of Findings, concurrence from SHPO on the completion of data recovery program at individual site(s), and pending compliance with all other applicable laws and regulations, and approval of the Undertaking by the Board, UP may begin construction within archaeological site boundaries within the APE on lands under any ownership or jurisdiction, subject to the appropriate jurisdiction's right-of-entry and right-of-way requirement. An archaeological monitor shall be present during ground-disturbing activities, as per agreed-upon measures described in the approved HPTP.

XV. Communication Among Parties to the MOA

A. Email may serve as the official correspondence method for all communications regarding this MOA and its provisions. Attachment D provides a list of contacts and email addresses. Contact information in Attachment D may be updated as needed without an amendment to this Agreement. It is the responsibility of each

Consulting Party to immediately inform OEA of any change in name, email address, or phone number of any point of contact. OEA will forward this information to all Consulting Parties.

B. OEA may elect to create a Project-specific SharePoint website to maintain the draft final version of the Comprehensive Data Recovery Technical Report that will be distributed electronically to the Consulting Parties. Consulting Parties may request a bound hard copy instead of an electronic version.

XVI. Confidentiality

The Board shall maintain confidentiality of sensitive information regarding historic properties with religious or cultural significance to Native American Tribes to the maximum extent allowed by Federal and state law. However, any documents or records that the Board has in its possession are subject to the Freedom of Information Act (FOIA) (5 U.S.C. § 552) and its exemptions, as applicable. The Board shall evaluate whether a FOIA request for records or documents would involve a sensitive historic property or a historic property with religious or cultural significance to a Tribe. If such documents contain information that the Board is authorized to withhold from disclosure by other statues, including Section 304 of the NHPA, then the Board, through OEA, would consult with the Keeper of the NRHP and the ACHP regarding withholding the sensitive information. If a Tribally sensitive property is involved, the Board, through OEA, shall also consult with the relevant Tribe prior to making a determination in response to a FOIA request.

XVII. Public Participation

OEA shall continue to seek and consider public views in a manner that reflects the nature and complexity of the Undertaking and its potential effects on historic properties and the likely interest of the public in the effects on historic properties. OEA shall ensure that an appropriate level of public involvement is provided, in accordance with 36 C.F.R. § 800.2(d)(2). OEA shall ensure public access to findings made pursuant to this MOA and consider comments and objections by members of the public in a timely manner.

XVIII. Emergencies

Should an emergency situation occur that could affect historic properties or impact any party's ability to meet its responsibilities under this MOA, UP shall immediately notify OEA. OEA shall then immediately notify the ACHP and the SHPO of the condition that has initiated the situation and the measures taken to respond to the emergency or hazardous condition. Should the ACHP and/or the SHPO desire to provide technical assistance to OEA, they shall submit comments within seven (7) days from notification if the nature of the emergency or hazardous condition allows for such coordination.

XIX. Curation

OEA and UP shall ensure that all artifacts, samples, and records resulting from data recovery are curated in accordance with 36 C.F.R. Part 79, except as determined through consultation with Native American Tribes and carried out in accordance with Federal and state laws pertaining to the treatment and disposition of human remains, animal funerary remains, sacred ceremonial objects, and objects of national or Tribal patrimony. The Huhugam Heritage Center has the first right of refusal to serve as the Project's curation facility. The standards and guidelines of the approved curation facility shall be followed.

XX. Annual Review of the MOA, Annual Report, and Annual Meeting

A. Implementation and operation of this MOA shall be evaluated on an annual basis by all of the Consulting Parties. UP shall prepare the annual report for OEA's review. Once approved, OEA shall be responsible for distributing the annual report to all Parties and requesting whether the Parties would like to meet to discuss the annual report. The annual report shall minimally include the following:

   1. Additional historic property surveys and results, if any;
   2. Status of mitigation activities;
   3. Ongoing and completed public outreach activities;
   4. Any issues that are affecting or may affect OEA's ability to continue to meet the terms of the MOA;
   5. Any disputes and objections received, and how they were resolved;
   6. Any additional Parties that have become Signatories or Concurring Parties to this MOA in the past year; and
   7. Proposed plans for next year's activities.

B. If a Consulting Party requests to convene an in-person or virtual meeting to discuss the annual report, OEA shall review the request, and as appropriate shall schedule a meeting on or near the anniversary date of execution of this MOA. At the annual meeting, the Consulting Parties shall review the effectiveness and application of this MOA. If the Parties do not request a meeting, the annual report distribution shall be considered fulfillment of this Stipulation.

C. Within fourteen (14) days after the annual meeting, OEA shall summarize the meeting, including, if appropriate, proposed actions and how they are to be addressed, in a letter to the Consulting Parties.

XXI. Post-Review Encounters

If new cultural resources are encountered during construction or if unanticipated effects on historic properties are identified, OEA shall direct UP to implement the Project-specific MDP that is part of the HPTP.

A. In the event that an encounter of human remains, funerary objects, sacred ceremonial objects, and objects of national or tribal patrimony occurs, OEA shall ensure that UP follows the procedures outlined in the HPTP and the Project's Burial Discovery Agreement. If encountered, the treatment of animal funerary remains would be same as the treatment of human remains.

B. In the event that an encounter of archaeological or historic material not associated with ancestral remains occurs, OEA shall ensure that UP follows procedures detailed in the MDP that is part of the HPTP. Any cultural resources discovered by UP during construction or other ground-disturbing activities shall be addressed and treated promptly in consultation with appropriate parties and in accordance with all applicable laws. UP shall cease all ground-disturbing activities within 100 feet (30 meters) of any encounter and notify OEA of the encounter within 48 hours. OEA will notify SHPO and the ASM of the encounter.

C. OEA shall confer with the Consulting Parties on the NRHP eligibility of the newly discovered cultural resources. If NRHP-eligible, OEA shall ensure that treatment measures follow the final HPTP. UP shall prepare a Post-Review Letter Report detailing the encounter, documenting the NRHP eligibility of the resource, and summarizing how it will be addressed based on the previously agreed-upon guidelines in the HPTP. The Post-Review Letter Report shall be submitted to OEA for review and approval. Once approved, OEA shall distribute the Post-Review Letter Report to the Consulting Parties, and the Consulting Parties shall have seven (7) days to respond to the Post-Review Letter Report with comments. If any Party (excluding the SHPO and the ASM) does not respond within seven (7) days of OEA's follow-up, OEA shall authorize UP to proceed with the agreed-upon protocols outlined in the MDP.

XXII. Dispute Resolution

A. Should any Consulting Party to this MOA object to the manner in which the terms of the MOA are implemented, OEA shall consult with the objecting Party to resolve the objection. If OEA determines that the objections cannot be resolved, OEA shall:

   1. Forward all documentation relevant to the dispute, including OEA's proposed resolution, to the ACHP. The ACHP shall provide OEA with its opinion on the resolution of the objection within thirty (30) days of receiving adequate documentation. OEA shall prepare a final decision that will take into account any timely opinions or comments regarding the dispute from the ACHP, Signatories, and Concurring Parties and provide them with a copy of the final decision. OEA shall then proceed according to its final decision.

2. If the ACHP does not provide comments regarding the dispute within the thirty (30) day allotted time period, OEA may make a final decision on the dispute and proceed accordingly. Prior to reaching such a final decision, OEA shall prepare a written response that will take into account any timely comments regarding the dispute from the Signatories and Concurring Parties to the MOA and provide them and the ACHP with a copy of such written response.

B. Any recommendation or comment provided by the ACHP shall be understood to pertain only to the subject of the dispute. Responsibilities under this MOA that are not subject to the dispute shall remain unchanged.

XXIII. Amendments

If any Signatory determines an amendment to its terms is needed, that Party shall immediately notify OEA and request an amendment. The proposed amendment shall be submitted in draft form with the request. The Signatories to this MOA shall consult to review and consider such an amendment. If the Signatories agree to the amendment, the amendment shall become effective on the date it is signed by all Signatories. OEA shall file any amendments with the ACHP and provide copies of the executed amendment to the Parties of this MOA.

XXIV. Duration

This MOA shall commence upon execution by the Board and the SHPO and its filing with the ACHP. This MOA shall remain in effect until the completion of all mitigation commitments hereto specified, or for ten (10) years from the date of its execution, whichever is earlier and subject to the below paragraph.

At least six (6) months prior to the tenth (10) anniversary of the MOA execution date, the Signatories shall consult to determine whether this MOA should be extended. If the Signatories agree to extend the MOA, the Board, through OEA, shall update it as needed, in consultation with all Signatories. Unless otherwise agreed by and between the Signatories, the extended MOA must be signed and executed by all Signatories prior to the tenth (10) anniversary of its date of execution.

XXV. Termination

In the event that any Signatory determines that its terms will not or cannot be carried out, that Party shall immediately consult with the other Signatories to attempt to develop an amendment per Stipulation XXIII. If within thirty (30) days (or another time period agreed to by all Signatories), an amendment cannot be reached, any Signatory may terminate the MOA upon written notification to the other Signatories.

Once the MOA is terminated and prior to work continuing on the Undertaking, OEA must either (a) execute an Agreement pursuant to 36 C.F.R. § 800.6 or (b) request, take into account, and respond to the comments of ACHP under 36 C.F.R. § 800.7. OEA shall notify the Signatories as to the course of action it will pursue.

XXVI. Counterpart Signatures

This MOA may be executed in multiple counterparts, each of which, when assembled to include an original signature for each Party to sign this MOA, will constitute a complete and fully executed original. All such fully executed original counterparts collectively constitute a single MOA. Signatures transmitted by fax, email (in PDF format), and electronic signature are also permitted as binding signatures to this MOA.

Execution of this MOA by the Board and the SHPO and implementation of its terms are evidence that OEA has considered the effects of the Undertaking on historic properties and afforded the ACHP an opportunity to comment.

MEMORANDUM OF AGREEMENT BETWEEN THE SURFACE TRANSPORTATION BOARD AND THE ARIZONA STATE HISTORIC PRESERVATION OFFICER

REGARDING

DOCKET NO. FD 36501 UNION PACIFIC RAILROAD COMPANY CONSTRUCTION AND OPERATION EXEMPTION IN MARICOPA COUNTY

SIGNATORY

Surface Transportation Board

Signature: DANIELLE GOSSELIN Digitally signed by DANIELLE GOSSELIN Date: 2026.02.23 09:37:58 -05'00'

Danielle Gosselin, Director, Office of Environmental Analysis

Date: 2/23/26

MEMORANDUM OF AGREEMENT BETWEEN
THE SURFACE TRANSPORTATION BOARD AND
THE ARIZONA STATE HISTORIC PRESERVATION OFFICER

REGARDING

DOCKET NO. FD 36501 UNION PACIFIC RAILROAD COMPANY CONSTRUCTION AND OPERATION EXEMPTION IN MARICOPA COUNTY

SIGNATORY

Arizona State Historic Preservation Office

Signature:_____

Kathryn Leonard, Arizona State Historic Preservation Officer

Date: __2/10/26_____

**MEMORANDUM OF AGREEMENT BETWEEN
THE SURFACE TRANSPORTATION BOARD AND
THE ARIZONA STATE HISTORIC PRESERVATION OFFICER**

REGARDING

**DOCKET NO. FD 36501 UNION PACIFIC RAILROAD COMPANY
CONSTRUCTION AND OPERATION EXEMPTION IN
MARICOPA COUNTY**

INVITED SIGNATORY

Union Pacific Railroad Company

Signature: _____

Printed Name/Title: Kevin P. Rice, Sr. Mgr. M/W Environmental

Date: 2/20/2026

MEMORANDUM OF AGREEMENT BETWEEN
THE SURFACE TRANSPORTATION BOARD AND
THE ARIZONA STATE HISTORIC PRESERVATION OFFICER

REGARDING

DOCKET NO. FD 36501 UNION PACIFIC RAILROAD COMPANY CONSTRUCTION AND OPERATION EXEMPTION IN MARICOPA COUNTY

CONCURRING PARTY

Ak-Chin Indian Community

Signature: _____

Printed Name/Title: _____

Date: _____

MEMORANDUM OF AGREEMENT BETWEEN
THE SURFACE TRANSPORTATION BOARD AND
THE ARIZONA STATE HISTORIC PRESERVATION OFFICER

REGARDING

DOCKET NO. FD 36501 UNION PACIFIC RAILROAD COMPANY CONSTRUCTION AND OPERATION EXEMPTION IN MARICOPA COUNTY

CONCURRING PARTY

Arizona State Land Department

Signature: _____

Printed Name/Title: _____

Date: _____

MEMORANDUM OF AGREEMENT BETWEEN
THE SURFACE TRANSPORTATION BOARD AND
THE ARIZONA STATE HISTORIC PRESERVATION OFFICER

REGARDING

DOCKET NO. FD 36501 UNION PACIFIC RAILROAD COMPANY CONSTRUCTION AND OPERATION EXEMPTION IN MARICOPA COUNTY

CONCURRING PARTY

Arizona State Museum

Signature: _____

Printed Name/Title: _____

Date: _____

MEMORANDUM OF AGREEMENT BETWEEN THE SURFACE TRANSPORTATION BOARD AND THE ARIZONA STATE HISTORIC PRESERVATION OFFICER

REGARDING

DOCKET NO. FD 36501 UNION PACIFIC RAILROAD COMPANY CONSTRUCTION AND OPERATION EXEMPTION IN MARICOPA COUNTY

CONCURRING PARTY

Arizona Museum of Natural History

Signature: _____

Printed Name/Title: _____

Date: _____

MEMORANDUM OF AGREEMENT BETWEEN
THE SURFACE TRANSPORTATION BOARD AND
THE ARIZONA STATE HISTORIC PRESERVATION OFFICER

REGARDING

DOCKET NO. FD 36501 UNION PACIFIC RAILROAD COMPANY
CONSTRUCTION AND OPERATION EXEMPTION IN
MARICOPA COUNTY

CONCURRING PARTY

City of Mesa

Signature: Meghan Eaton

Printed Name/Title: Meghan Eaton/City Archaeologist

Date: 02/23/2026

MEMORANDUM OF AGREEMENT BETWEEN
THE SURFACE TRANSPORTATION BOARD AND
THE ARIZONA STATE HISTORIC PRESERVATION OFFICER

REGARDING

DOCKET NO. FD 36501 UNION PACIFIC RAILROAD COMPANY CONSTRUCTION AND OPERATION EXEMPTION IN MARICOPA COUNTY

CONCURRING PARTY

Federal Aviation Administration

Signature: _____

Printed Name/Title: _____

Date: _____

MEMORANDUM OF AGREEMENT BETWEEN
THE SURFACE TRANSPORTATION BOARD AND
THE ARIZONA STATE HISTORIC PRESERVATION OFFICER

REGARDING

DOCKET NO. FD 36501 UNION PACIFIC RAILROAD COMPANY CONSTRUCTION AND OPERATION EXEMPTION IN MARICOPA COUNTY

CONCURRING PARTY

Flood Control District of Maricopa County

Signature: _____

Printed Name/Title: _____

Date: _____

MEMORANDUM OF AGREEMENT BETWEEN
THE SURFACE TRANSPORTATION BOARD AND
THE ARIZONA STATE HISTORIC PRESERVATION OFFICER

REGARDING

DOCKET NO. FD 36501 UNION PACIFIC RAILROAD COMPANY CONSTRUCTION AND OPERATION EXEMPTION IN MARICOPA COUNTY

CONCURRING PARTY

Gila River Indian Community

Signature: _____

Printed Name/Title: _____

Date: _____

MEMORANDUM OF AGREEMENT BETWEEN
THE SURFACE TRANSPORTATION BOARD AND
THE ARIZONA STATE HISTORIC PRESERVATION OFFICER

REGARDING

DOCKET NO. FD 36501 UNION PACIFIC RAILROAD COMPANY CONSTRUCTION AND OPERATION EXEMPTION IN MARICOPA COUNTY

CONCURRING PARTY

Hopi Tribe

Signature: _____

Printed Name/Title: _____

Date: _____

MEMORANDUM OF AGREEMENT BETWEEN
THE SURFACE TRANSPORTATION BOARD AND
THE ARIZONA STATE HISTORIC PRESERVATION OFFICER

REGARDING

DOCKET NO. FD 36501 UNION PACIFIC RAILROAD COMPANY CONSTRUCTION AND OPERATION EXEMPTION IN MARICOPA COUNTY

CONCURRING PARTY

Mesa Historical Museum

Signature: _____

Printed Name/Title: _____

Date: _____

MEMORANDUM OF AGREEMENT BETWEEN
THE SURFACE TRANSPORTATION BOARD AND
THE ARIZONA STATE HISTORIC PRESERVATION OFFICER

REGARDING

DOCKET NO. FD 36501 UNION PACIFIC RAILROAD COMPANY CONSTRUCTION AND OPERATION EXEMPTION IN MARICOPA COUNTY

CONCURRING PARTY

Mescalero Apache Tribe

Signature: _____

Printed Name/Title: _____

Date: _____

MEMORANDUM OF AGREEMENT BETWEEN THE SURFACE TRANSPORTATION BOARD AND THE ARIZONA STATE HISTORIC PRESERVATION OFFICER

REGARDING

DOCKET NO. FD 36501 UNION PACIFIC RAILROAD COMPANY CONSTRUCTION AND OPERATION EXEMPTION IN MARICOPA COUNTY

CONCURRING PARTY

Mesa Gateway Airport Authority

Signature: _____

Printed Name/Title: _____

Date: _____

MEMORANDUM OF AGREEMENT BETWEEN
THE SURFACE TRANSPORTATION BOARD AND
THE ARIZONA STATE HISTORIC PRESERVATION OFFICER

REGARDING

DOCKET NO. FD 36501 UNION PACIFIC RAILROAD COMPANY CONSTRUCTION AND OPERATION EXEMPTION IN MARICOPA COUNTY

CONCURRING PARTY

Pascua Yaqui Tribe

Signature: _____

Printed Name/Title: _____

Date: _____

MEMORANDUM OF AGREEMENT BETWEEN
THE SURFACE TRANSPORTATION BOARD AND
THE ARIZONA STATE HISTORIC PRESERVATION OFFICER

REGARDING

DOCKET NO. FD 36501 UNION PACIFIC RAILROAD COMPANY CONSTRUCTION AND OPERATION EXEMPTION IN MARICOPA COUNTY

CONCURRING PARTY

Pueblo of Zuni

Signature: _____

Printed Name/Title: _____

Date: _____

MEMORANDUM OF AGREEMENT BETWEEN
THE SURFACE TRANSPORTATION BOARD AND
THE ARIZONA STATE HISTORIC PRESERVATION OFFICER

REGARDING

DOCKET NO. FD 36501 UNION PACIFIC RAILROAD COMPANY CONSTRUCTION AND OPERATION EXEMPTION IN MARICOPA COUNTY

CONCURRING PARTY

San Tan Historical Society

Signature: _____

Printed Name/Title: _____

Date: _____

MEMORANDUM OF AGREEMENT BETWEEN
THE SURFACE TRANSPORTATION BOARD AND
THE ARIZONA STATE HISTORIC PRESERVATION OFFICER

REGARDING

DOCKET NO. FD 36501 UNION PACIFIC RAILROAD COMPANY CONSTRUCTION AND OPERATION EXEMPTION IN MARICOPA COUNTY

CONCURRING PARTY

Salt River Project

Signature: _____

Printed Name/Title: _____

Date: _____

MEMORANDUM OF AGREEMENT BETWEEN
THE SURFACE TRANSPORTATION BOARD AND
THE ARIZONA STATE HISTORIC PRESERVATION OFFICER

REGARDING

DOCKET NO. FD 36501 UNION PACIFIC RAILROAD COMPANY CONSTRUCTION AND OPERATION EXEMPTION IN MARICOPA COUNTY

CONCURRING PARTY

Salt River Pima-Maricopa Indian Community

Signature: _____

Printed Name/Title: _____

Date: _____

MEMORANDUM OF AGREEMENT BETWEEN
THE SURFACE TRANSPORTATION BOARD AND
THE ARIZONA STATE HISTORIC PRESERVATION OFFICER

REGARDING

DOCKET NO. FD 36501 UNION PACIFIC RAILROAD COMPANY CONSTRUCTION AND OPERATION EXEMPTION IN MARICOPA COUNTY

CONCURRING PARTY

Tohono O'odham Nation

Signature: _____

Printed Name/Title: _____

Date: _____

MEMORANDUM OF AGREEMENT BETWEEN
THE SURFACE TRANSPORTATION BOARD AND
THE ARIZONA STATE HISTORIC PRESERVATION OFFICER

REGARDING

DOCKET NO. FD 36501 UNION PACIFIC RAILROAD COMPANY CONSTRUCTION AND OPERATION EXEMPTION IN MARICOPA COUNTY

CONCURRING PARTY

Tonto Apache Tribe

Signature: _____

Printed Name/Title: _____

Date: _____

MEMORANDUM OF AGREEMENT BETWEEN
THE SURFACE TRANSPORTATION BOARD AND
THE ARIZONA STATE HISTORIC PRESERVATION OFFICER

REGARDING

DOCKET NO. FD 36501 UNION PACIFIC RAILROAD COMPANY CONSTRUCTION AND OPERATION EXEMPTION IN MARICOPA COUNTY

CONCURRING PARTY

Town of Queen Creek

Signature: _____

Printed Name/Title: _____

Date: _____

MEMORANDUM OF AGREEMENT BETWEEN THE SURFACE TRANSPORTATION BOARD AND THE ARIZONA STATE HISTORIC PRESERVATION OFFICER

REGARDING

DOCKET NO. FD 36501 UNION PACIFIC RAILROAD COMPANY CONSTRUCTION AND OPERATION EXEMPTION IN MARICOPA COUNTY

CONCURRING PARTY

U.S. Army Corps of Engineers

Signature: _____

Printed Name/Title: _____

Date: _____

MEMORANDUM OF AGREEMENT BETWEEN
THE SURFACE TRANSPORTATION BOARD AND
THE ARIZONA STATE HISTORIC PRESERVATION OFFICER

REGARDING

DOCKET NO. FD 36501 UNION PACIFIC RAILROAD COMPANY
CONSTRUCTION AND OPERATION EXEMPTION IN
MARICOPA COUNTY

CONCURRING PARTY

Yavapai-Apache Nation

Signature: Olivia McMahon

Printed Name/Title: Olivia McMahon/Archaeologist

Date: February 10, 2026

ATTACHMENT A: PROJECT APE **(REDACTED)**

Figure A-1. Location of APE (1 of 2)

Figure A-2. Location of APE (2 of 2)

ATTACHMENT B: UP LETTER REGARDING UNSURVEYED AREAS

ATTACHMENT C: ACRONYMS, ABBREVIATIONS, AND DEFINITIONS

A. Acronyms and Abbreviations

ACHP	Advisory Council on Historic Preservation
Agreement	Memorandum of Agreement (this Agreement)
APE	Area of Potential Effects
ARS	Arizona Revised Statutes
ASLD	Arizona State Land Department
ASM	Arizona State Museum
Board	Surface Transportation Board
C.F.R.	Code of Federal Regulations
City	City of Mesa
Corps	U.S. Army Corps of Engineers
email	electronic mail
FAA	Federal Aviation Administration
FCDMC	Flood Control District of Maricopa County
FOIA	Freedom of Information Act
FR	Federal Register
HPTP	Historic Properties Treatment Plan
MDP	Monitoring and Discovery Plan
MOA	Memorandum of Agreement
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
OEA	Office of Environmental Analysis (part of the Board)
PAMZ	Pecos Advanced Manufacturing Zone
PIRATE	Pecos Industrial Rail Access and Train Extension
MGAA	Mesa Gateway Airport Authority
SHPO	State Historic Preservation Officer
SOI	Secretary of the Interior
SRP	Salt River Project Agricultural Improvement District
THPO	Tribal Historic Preservation Officer
TCP	Traditional Cultural Place
Town	Town of Queen Creek
UP	Union Pacific Railroad Company
U.S.C.	United States Code

B. Definitions

1. Adverse Effect occurs when an Undertaking may alter, directly or indirectly, any of the characteristics that qualify a historic property for inclusion in the National Register of Historic Places (NRHP) in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association (see criteria of adverse effect at § 800.5(a)(1) of Title 36 of the *Code of Federal Regulations* (36 C.F.R § 800.5[a][1])).

2. Advisory Council on Historic Preservation (ACHP) is an independent federal agency established pursuant to Section 201 of the National Historic Preservation Act (NHPA). Under Section 106 of the NHPA, the ACHP must be afforded an opportunity to comment on federal, federally assisted, or federally licensed Undertakings that may affect historic properties.

3. Archaeological Site generally means any material remains of past human life or activities in history or prehistory that are of archaeological interest, including, but not limited to, pottery, basketry, bottles, weapons, projectiles, tools, structures or portions of structures, pit houses, rock paintings, rock carvings, intaglios, graves, human remains, or any portion or piece of any of the foregoing items that are of human design, manufacture, possession, or use.

4. Area of Potential Effects (APE) means the geographic area(s) within which an Undertaking may cause changes in the character or use of historic properties, if any such properties exist. The APE is influenced by the nature and scale of an Undertaking and may be different for different kinds of effects caused by the Undertaking (36 C.F.R. § 800.16[d]). The APE must include all areas of direct, indirect, and reasonably foreseeable cumulative effects, including, but not limited to, staging areas, temporary construction easements, access roads, and utility corridors.

5. Arizona State Land Department (ASLD) administers state trust land within Arizona. They have defined authorities and responsibilities for disposition and permitting of state trust land.

6. Arizona State Museum (ASM) is the curation repository for the State of Arizona. They have defined authorities and responsibilities for permitting on state, county, city, and municipal lands. Additionally, they have responsibilities for encounters of human remains, animal funerary remains, sacred ceremonial objects, and objects of national or Tribal patrimony on privately owned and state lands.

7. Concurring Parties are those interested parties who may be asked to sign a Memorandum of Agreement (MOA) but do not have the rights to amend or terminate the MOA.

8. Consulting Parties have consultative roles in the Section 106 process and include the State Historic Preservation Officer (SHPO); Tribal Historic Preservation Officer (THPO); Tribes, land managing agencies, and local governments; applicants for federal assistance, permits, licenses or other approvals; and any party with a demonstrated legal or economic relation to the Undertaking or concern with the Undertaking's effect on historic properties (36 C.F.R. § 800.2[C]). Consulting Parties may be invited to be Concurring Parties or Signatories to an MOA.

9. Cultural Resources Survey refers to the study of an area to identify the cultural resources in that area or that may be present. This term includes Class I, Class II, and Class III surveys. Class I means a literature review/records overview. Class II means a sample inventory conducted in the field at less than 100 percent coverage. Class III means an intensive inventory conducted in the field at 100 percent survey coverage as defined by SHPO.

10. Environmental Assessment is an environmental analysis prepared pursuant to the National Environmental Policy Act (NEPA) to determine whether a federal action would significantly affect the environment and thus require a more detailed environmental impact statement.

11. Historic Property is any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the NRHP. This term includes artifacts, records, and remains that are related to and located within such properties. The phrase "eligible for inclusion on the NRHP" means properties formally determined as such by the Secretary of the Interior (SOI) or by a federal agency in consultation with SHPO. Properties that have been determined eligible for inclusion are accorded the same protections as properties listed in the NRHP (36 C.F.R. § 800.16[1][1]).

12. Historic Property Treatment Plan (HPTP) is a document that describes the archaeological methods and procedures that will be used to recover significant information on archaeological sites that will be impacted by the proposed Project.

13. In-Use Historic Structures are defined by the ASM as buildings, structures, transmission lines, pipelines, canals, trails, roads, and railroads that are greater than 50 years old but are currently operated, maintained, or repaired for original or similar purposes.

14. National Environmental Policy Act (NEPA) is a United States environmental law enacted on January 1, 1970, that promotes the enhancement of the environment.

15. National Historic Preservation Act (NHPA) of 1966, as amended, established processes to assess, designate, and protect historic and cultural resources. NHPA directs federal agencies to take into account the effect of any Undertaking on historic properties.

16. National Register of Historic Places is the official list of districts, sites, buildings, structures, and objects significant in American history, architecture, archaeology, engineering, and culture maintained by the Keeper of the NRHP on behalf of the SOI (36 C.F.R. Part 60).

17. Monitoring and Discovery Plan (MDP) is a document that describes the methods and procedures that will be followed during monitoring efforts for archaeological sites that are within the Project's APE.

18. Office of Environmental Analysis (OEA) is the office within the Surface Transportation Board responsible for directing the environmental review process, conducting independent analysis of all environmental data, and making environmental recommendations to the Surface Transportation Board.

19. Pecos Advanced Manufacturing Zone (PAMZ) is an industrial development zone within the City of Mesa that provides benefits to businesses to encourage manufacturing operations.

20. Phase I Data Recovery is a component of an eligible site's mitigation treatment and is the first phase of data recovery efforts.

21. Phase II Data Recovery is a component of an eligible site's mitigation treatment and is the final phase of data recovery efforts.

22. Signatories or Signatory are parties who assume obligations under the MOA. Signatories have the ability to terminate or agree to amend the MOA. The term includes Invited Signatories but does not include others who sign the MOA as Concurring Parties.

23. State Historic Preservation Officer (SHPO) is the official appointed or designated by the governor pursuant to Section 101(b)(1) of the NHPA to administer the state historic preservation program (36 C.F.R. § 800.16[v]).

24. Surface Transportation Board is a Federal independent regulatory agency with jurisdiction over certain surface transportation matters, including new rail line construction, abandonment, and mergers.

25. Tribal Historic Preservation Officer (THPO) is the official designated by a federally recognized Tribe to direct a program approved by the National Park Service in which the THPO must have assumed some or all of the functions of State Historic Preservation Officers on Tribal lands. This program was made possible by the provisions of Section 101(d)(2) of the NHPA.

26. Traditional Cultural Place (TCP), as defined in *National Register Bulletin 38*, is a property that is listed in or is eligible for inclusion in the NRHP because of its association with cultural practices or beliefs of a living community that are: (1) rooted in that community's history and (2) important in maintaining the continuing cultural identity of the community (see National Park Service Bulletin 38). TCPs are referred to in 36 C.F.R. § 800 as properties of religious and cultural significance, which may be historic properties as defined in 36 C.F.R. § 800.16[l][1]).

27. Undertaking is a project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a federal agency including (1) those carried out by or on behalf of the agency; (2) those carried out with federal financial assistance; and (3) those requiring a federal permit, license, or approval (36 C.F.R. § 800.16[y]).

ATTACHMENT D: CONSULTING PARTY CONTACT INFORMATION

LEAD AGENCY CONTACT INFORMATION

Surface Transportation Board

Alan Tabachnick	(202)245-0367	alan.tabachnick@stb.gov
Adam Assenza	(202)245-0301	adam.assenza@stb.gov

AGENCY CONTACT INFORMATION

Advisory Council on Historic Preservation

Rachael Mangum	(202)517-0214	mailto:rmangum@achp.gov

Arizona Museum of Natural History

Alison Stoltman	(480)644-4040	alison.stoltman@mesaaz.gov

Arizona State Land Department

Mark Edelman	(602)542-6331	medelman@azland.gov
Tiffany Grew	(602)542-6331	tgrew@azland.gov

Arizona State Museum

Patrick Lyons	(520)621-6281	plyons@arizona.edu
Bradford Stone	(520)621-4795	mailto:bstone@arizona.edu
Cristin Lucas	(520)626-0320	asm-repatriation@email.arizona.edu

Federal Aviation Administration

Tearanni Williams	(602)792-2896	tearanni.e.williams@faa.gov

Flood Control District of Maricopa County

Tom Hanson	(602)506-0372	mailto:tom.hanson@maricopa.gov
Paul Baughman	None	paul.baughman@maricopa.gov

Mesa Historic Preservation Office

Mary Kopaskie-Brown	(480)644-3850	mary.kopaskie-brown@mesaaz.gov
Matthew Kriegl	(480)644-4726	matthew.kriegl@mesaaz.gov
Kellie Rorex	(480)644-6711	kellie.rorex@mesaaz.gov
Meg Eaton	(480)644-5550	meg.easton@mesaz.gov

Mesa Historical Museum

Susan Ricci	(480)835-2286	exec@mesamuseum.org

Mesa Office of Economic Development

Nick Juszczak	(480)644-3561	nick.juszczak@mesaaz.gov

Mesa Gateway Airport Authority

Scott Brownlee	(480)988-7604	sbrownlee@gatewayairport.com
Carl D'Acosta	(480)988-7612	cd'acosta@gatewayairport.com

Salt River Project

David Rousseau	(602)236-5900	david.rousseau@srpnet.com
Dan Garcia	(602)236-2336	dan.garcia@srpnet.com

San Tan Historical Society

Keith Johanson	(480)987-8380	santanhistoricalmuseum@gmail.com

State Historic Preservation Office

Kathryn Leonard	(602)542-4009	kleonard@azstateparks.gov
Caroline Klebacha	(602)542-7140	cklebacha@azstateparks.gov
Mary-Ellen Walsh	(602)542-7120	mwalsh@azstateparks.gov

Town of Queen Creek

Heather Wilkey	(480)358-3913	heather.wilkey@queencreekaz.gov
David Lipinski	(480)358-3143	dave.lipinski@queencreekaz.gov

U.S. Army Corps of Engineers

Sallie Diebolt	(602)230-6900	splregulatoryaz@usace.army.mil
Shannon R. Morgan	(916)326-9130	shannon.r.morgan@usace.army.mil

TRIBAL CONTACT INFORMATION

Ak-Chin Indian Community

Gabriel Lopez	(520)568-1000	glopez2@ak-chin.nsn.us
Elaine Peters	(520)568-1359	epeters@ak-chin.nsn.us
Tracy Wind	(520)568-1372	twind@ak-chin.nsn.us

Hopi Tribe

Lamar Keevama	(928)734-3000	LaKeevama@hopi.nsn.us
Stewart Koyiyumptewa	(928)734-3000	skoyiyumptewa@hopi.nsn.us

Gila River Indian Community

Stephen Roe Lewis	(520)562-6000	executivemail@gric.nsn.us
Larry Benallie, Jr.	(520)562-7153	larry.benalliejr@gric.nsn.us
Reylynne Williams	(520)562-7188	reylynne.williams@gric.nsn.us
Darius Enos	(520)562-7163	darius.enos@gric.nsn.us

Mescalero Apache Tribe

Thora Walsh Padilla	(575)464-4494	tpadilla@mescaleroapachetribe.com
Holly Houghten	(575)464-3005	holly@mathpo.org

Pascua Yaqui Tribe

Julian Hernandez	(520)879-5110	jhernandez1@pascuayaqui-nsn.gov
Karl Hoerig	(520)883-5116	karl.hoerig@pascuayaqui-nsn.gov

Pueblo of Zuni

Arden Kucate	(505)782-7022	arden.kucate@ashiwi.org
Kurt Dongoske	(505)782-4814	kdongoske@gmail.com

Salt River Pima-Maricopa Indian Community

Martin Harvier	(480)362-7400	gary.bohnee@srpmic-nsn.gov
Shane Anton	(480)362-6331	shane.anton@srpmic-nsn.gov
Angela Garcia-Lewis	(480)362-6337	angela.garcia-lewis@srpmic-nsn.gov
Sunday Eiselt	(480)362-3347	sunday.eiselt@srpmic-nsn.gov
Martha Martinez	(480)362-7954	martha.martinez@srpmic-nsn.gov

Tohono O'odham Nation

Verlon Jose	(520)383-2028	mailto:verlon.jose@tonation-nsn.gov
Eric Verwys		eric.verwys@tonation-nsn.gov
Richard Saunders		richard.saunders@tonation-nsn.gov
Samuel Fayuant	(520)383-3622 x.103	samuel.fayuant@tonation-nsn.gov
Jefford Francisco	(520)383-3622 x.103	jefford.francisco@tonation.gov

Tonto Apache Tribe

Calvin Johnson	(928)474-5000 x.8126	cjohnson@tontoapache.org
Jeri DeCola	(928)474-5000 x.8101	jdecola@tontoapache.org

Yavapai-Apache Nation

Buddy Rocha		brochair@yan-tribe.org
Marley Juan	(928)567-3649	mjuan@yan-tribe.org
Olivia McMahon	(928)649-6962	Omcmahon@yan-tribe.org

PROJECT APPLICANT

Union Pacific Railroad Company

Kevin Rice	(402)544-2213	kprice@up.com

Appendix K2
Section 106 Consultation Documentation

+PIRATE Section 106 Consultation Distribution List

Agency/Tribe	1a - APE Consultation (April 6, 2022)	1b - Field Survey Memo (May 19, 2022)	2a - Survey Results, NRHP Eligibility, Finding of Project Effect, Need for MOA (September 1, 2022)	2b - MOA Meetings (October 18, 2022)	3 - Final Survey Report, Revised NRHP Eligibility (November 22, 2022)	4 - Draft MOA (December 8, 2022)	5 - Revised Draft MOA (February 8, 2023)	6 - Second Revised Draft MOA (March 10, 2023)	7 - Addendum Survey (May 19, 2023)	8 - Third Revised Draft MOA (May 26, 2023)	9 - G2G Consultation Letter (June 2, 2023)	10 - HPTP Draft (June 16, 2023)	11 - Fourth Revised Draft MOA (July 21, 2023)	12 - Damage Notification (September 13, 2023)	13 - Damage Framework Memo (November 14, 2023)	14 – Restart (August 15, 2025)	15 – Revised Addendum Survey Report (September 19, 2025)	16 – Fifth Revised Draft MOA (November 26, 2025)	17 – Stabilization Plan (January 23, 2026)	18 – Final MOA (February 9, 2026)	19 – Executed MOA (Febraury 24, 2026)
Advisory Council on Historic Properties	No	No	No	No	No	No	No	No	No	No	No	No	No	Yes	Yes	Yes	Yes	No	No	No	Yes
Ak-Chin Indian Community	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Arizona Museum of Natural History	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Arizona State Land Department	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Arizona State Museum	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Bureau of Indian Affairs	Yes	Yes	Yes	Yes	Yes	No	No	Yes	No	No	No	No	No	No	No	No	No	No	No	No	No
U.S. Army Corps of Engineers	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cox Communications	Yes	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Federal Aviation Administration	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Flood Control District of Maricopa County	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Gila River Indian Community	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Hopi Tribe	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
City of Mesa	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes
Mesa Historical Museum	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mesa Historic Preservation Office	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mescalero Apache Tribe	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Queen Creek Irrigation District	Yes	Yes	Yes	Yes	Yes	No	No	Yes	No	No	No	No	No	No	No	No	No	No	No	No	No
Pascua Yaqui Tribe	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Mesa Gateway Airport	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Town of Queen Creek	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Salt River Pima Maricopa Indian Community	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
San Tan Historical Society	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
SHPO	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
SRP	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Tohono O’odham Nation	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Tonto Apache Tribe	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Union Pacific Railroad	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Desert Archaeology. Inc.	No	No	No	No	No	No	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Yavapai-Apache Nation	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes	Yes
Pueblo of Zuni	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

SURFACE TRANSPORTATION BOARD
Washington, DC 20423

Office of Environmental Analysis

April 6, 2022

Ms. Kathryn Leonard
State Historic Preservation Officer
Arizona State Parks, State Historic Preservation Office
1110 West Washington Street, Suite 100
Phoenix, AZ 85007

Re: Docket No. FD 36501, Union Pacific Railroad Company – Construction and Operation Exemption – in Maricopa County, Ariz.; Initiation of National Historic Preservation Act Section 106 Consultation and Proposed Area of Potential Effects

Dear Ms. Leonard:

Pursuant to 49 U.S.C. § 10901, the Union Pacific Railroad Company (UP) intends to request authority from the Surface Transportation Board (Board) to construct and operate approximately six miles of new rail line in Maricopa County, Arizona. Before making its decision on whether to grant such authority, the Board must consider the potential environmental impacts of the construction and operation of UP's proposed rail line, pursuant to the National Environmental Policy Act (42 U.S.C. §§ 4321-4370m-12), Section 106 of the National Historic Preservation Act (54 U.S.C. § 306108), the Board's environmental rules at 49 C.F.R. Part 1105, and related environmental laws. With this letter, the Board's Office of Environmental Analysis (OEA) is formally initiating consultation with your office pursuant to Section 106 of the National Historic Preservation Act and to solicit your comments regarding the proposed Area of Potential Effects (APE) for cultural resources for the proposed Pecos Industrial Rail Access and Train Extension (PIRATE) rail line referenced above. The general project area of the proposed rail line is depicted on Attachment 1.

Description of the Proposed Rail Line

UP is seeking authority from the Board to construct and operate approximately six miles of new common carrier rail line that would connect UP's Phoenix Subdivision main line track in Maricopa County, Arizona, to industrial properties southeast of the Phoenix-Mesa Gateway Airport. The Phoenix Subdivision main line track borders Mesa's Pecos Advanced Manufacturing Zone (PAMZ), which incentivizes industrial development and manufacturing operations through streamlined approvals and permits. Several large industrial companies are within the PAMZ, where rail line service is currently unavailable. According to UP, the closest rail transloading facility is approximately 40 miles away in downtown Phoenix. Therefore, existing manufacturing companies rely solely on trucking for transporting manufacturing

materials and shipping final products. The purpose of the proposed rail line is to meet the transportation and logistics needs of existing and future manufacturing businesses within the PAMZ and adjacent areas. UP believes that eliminating the need to truck cargo to the downtown Phoenix transload facility would allow and encourage businesses within the area to increase their current operations because of reduced shipping costs and potential increased shipping capacity.

Proposed Area of Potential Effects

In accordance with 36 C.F.R. § 800.4 (a)(1), OEA developed a proposed APE, depicted on Attachment 2. Potential effects of construction and operation of the proposed rail line to historic resources include direct physical impacts, vibration impacts, and indirect visual, auditory (i.e., noise), and atmospheric effects (e.g., fugitive dust). The APE is approximately 12.9 miles long and includes:

- 3.4 miles along the existing UP Phoenix Subdivision rail line between Power and Ellsworth roads for the wye that would connect the Phoenix Subdivision to the proposed rail line;
- 7.1 miles of proposed new rail line alternatives that begin at a wye connection to the UP Phoenix Subdivision main line and extend to the northeast and east; and
- 2.4 miles along roadway connections and grading extensions.

The APE averages between 200 and 300 feet wide but is variable depending upon the proposed construction footprint and any construction-related activities (e.g., staging, drainage structures, and crossings).

The APE includes a buffer of 100 feet (approximately 50 feet on either side of the construction footprint) around the proposed rail line and associated road crossing designs. In areas where known constraints exist, the buffer extends 100 feet on one side of the construction footprint to account for potential refinements to the alignment and staging areas that could occur beyond the current design.

Within the APE, the proposed rail line is defined by cut and fill limits to accommodate single track, triple track, and access road configurations, with an option to construct up to three additional future support tracks in select locations. The vertical elements of the proposed rail line consist of fill (including sub-ballast and ballast), wayside signs, and crossing gates and lighting for at-grade road crossings. Vertical elements planned along the existing Phoenix Subdivision main line track would match existing elements in height and form and would not exceed 32 feet (the fully extended mast arm of crossing gates). For the proposed rail line, the maximum height of fill and ballast would not likely exceed 15 feet. Wayside signs, crossing gates, and lighting would not exceed 32 feet (the fully extended mast arm of crossing gates).

The proposed APE, including the entirety of the proposed rail line where ground disturbance is expected to occur along with the buffer, totals 457.2 acres in area. The APE consists of a portion of the existing Phoenix Subdivision main line, two alternatives that would provide new industrial lead track, and grading extensions that would connect the new industrial lead track to eastern portions of the PAMZ. The alternatives were developed to avoid future

Bureau of Indian Affairs trust land located on a portion of the former Williams Air Force Base, Superfund sites within the former Williams Air Force Base, the Phoenix-Mesa Gateway Airport, and to minimize impacts to the agricultural lands and private properties that the alignment would cross.

Alternative 1 consists of UP's proposed action/preferred alignment and is based on the 30 percent design alignment provided by UP. East of Ellsworth Road, Alternative 1 considers landowner requests that the proposed rail line follow parcel lines to the north to avoid bisecting their properties. Alternative 2 is the same as Alternative 1 west of Ellsworth Road. East of Ellsworth Road, Alternative 2 consists of an independent alignment. Both alternatives include one or two support tracks in addition to the industrial lead track to support rail operations and a staging track adjacent to the wye.

Request for Input

OEA requests that you share your initial comments regarding any known architectural, archaeological, tribal, or other historic properties that may be located in the project area and your comments regarding the proposed APE, by **Friday, May 6, 2022**. Please send your written comments electronically to Adam Assenza, OEA's project manager for the environmental review, at Adam.Assenza@stb.gov. If you have any questions or would like to discuss the proposed rail line in more detail, please contact Adam Assenza at 202-245-0301.

Sincerely,

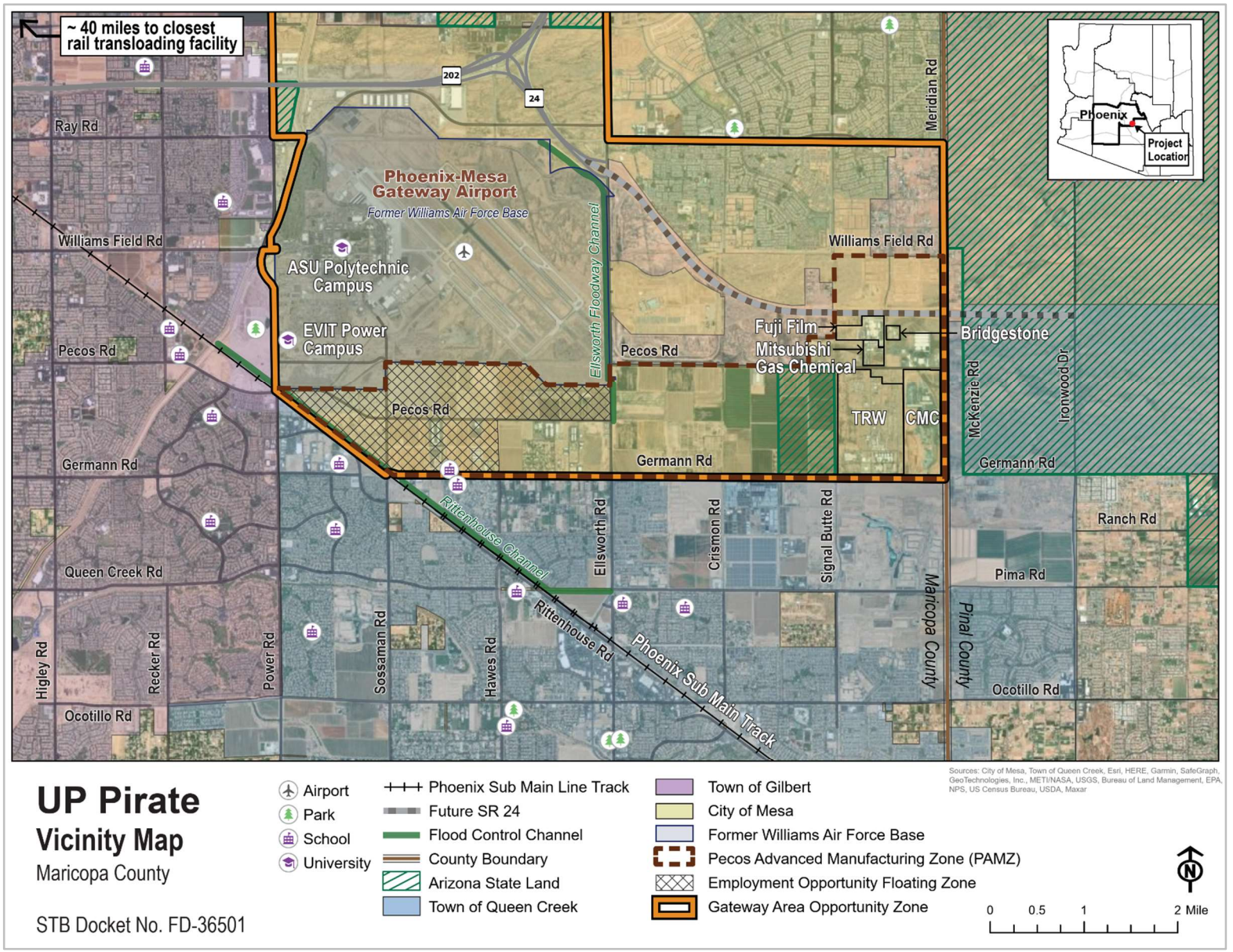


Danielle Gosselin
Director
Office of Environmental Analysis

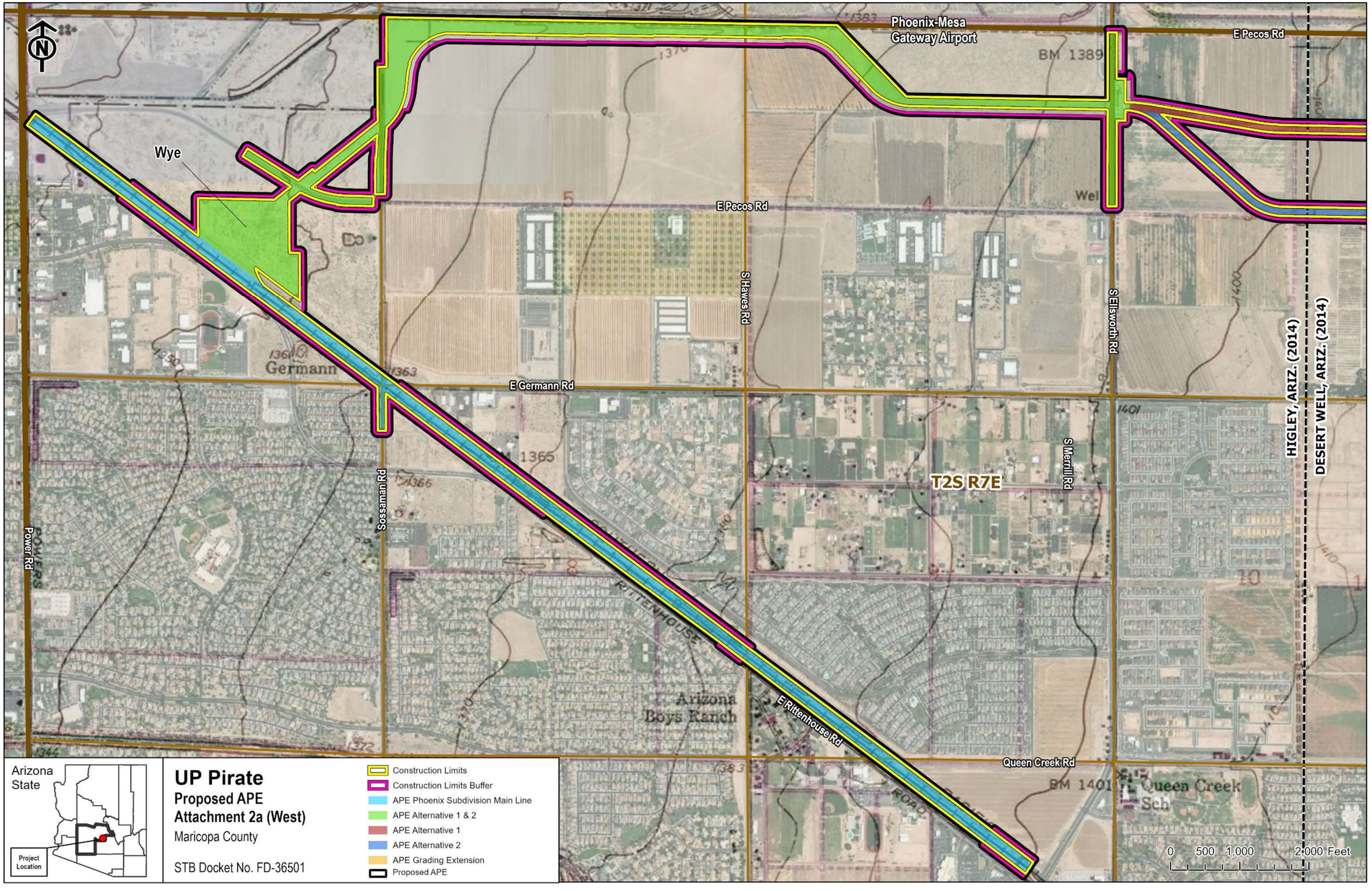
Enclosures:
Attachment 1 – Vicinity Map
Attachment 2 – Proposed APE Map (two sheets)

Cc: Adam Assenza, OEA Environmental Protection Specialist, Adam.Assenza@stb.gov
Alan Tabachnick, OEA Historic Preservation Specialist, alan.tabachnick@stb.gov
Maggie Buckley, Jacobs Project Manager, Maggie.buckley@jacobs.com

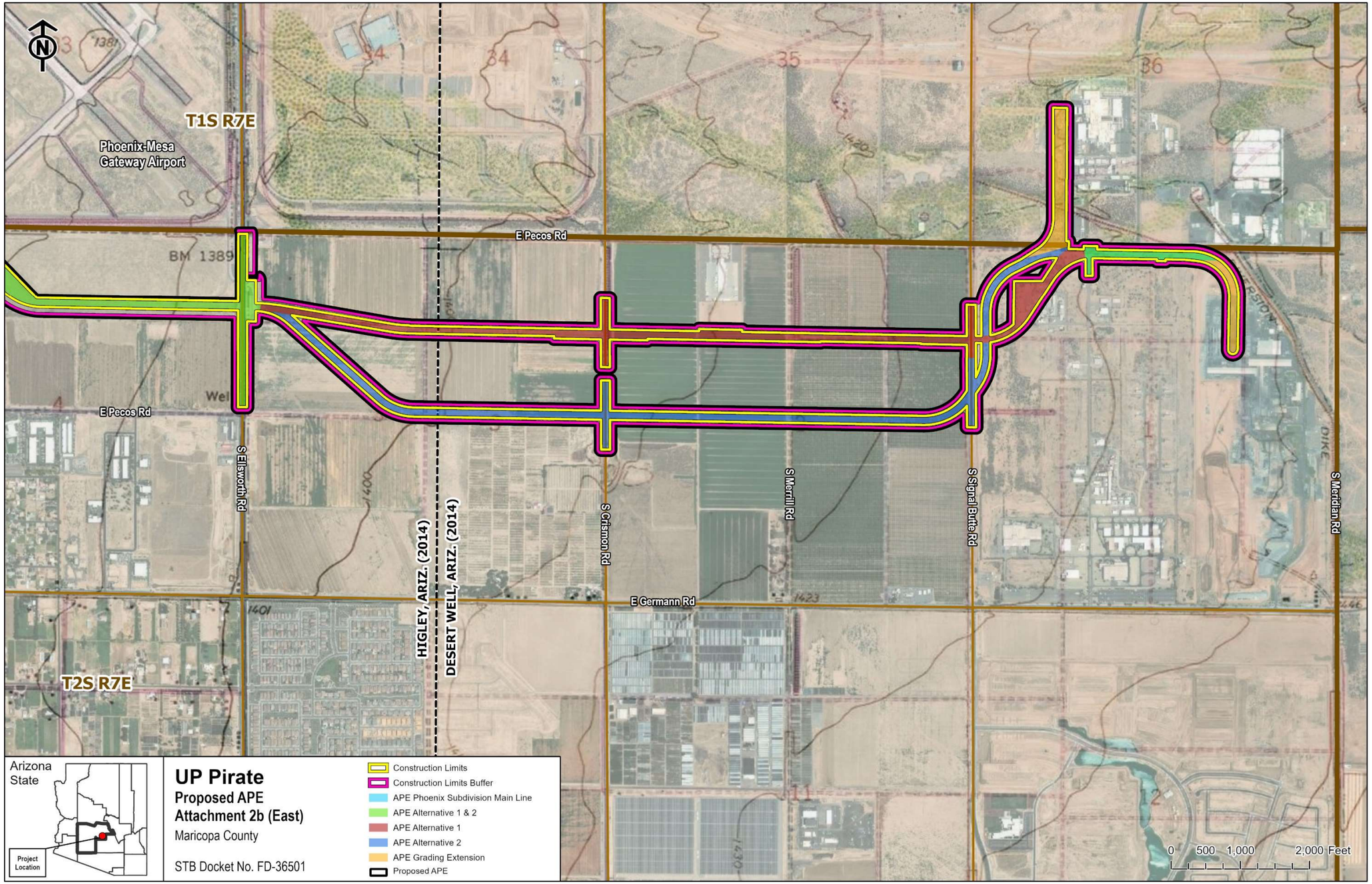
ATTACHMENT 1 – VICINITY MAP



ATTACHMENT 2 – PROPOSED APE MAP



ATTACHMENT 2 – PROPOSED APE MAP



Douglas A. Ducey
Governor

Lisa A. Atkins
Commissioner

Arizona State Land Department

1616 West Adams, Phoenix, Arizona 85007
(602) 542-4631

April 12, 2022

Michael Romero
Land Disp. Project Leader
Arizona State Land Department
1616 W. Adams
Phoenix, Arizona 85007

RE: Cultural Review for Application 16-123021-00-100 (Union Pacific Railroad Company)

Dear Mr. Romero:

Union Pacific Railroad Company filed a Right of Way (ROW) application (16-123021-00-100) with the Arizona State Land Department (ASLD) for the installation and maintenance of Pecos Industrial Rail Access and Train Extension (PIRATE) on State Trust Land in Maricopa County (T2S, R7E, Section 2), encompassing 6.072 acres. Therefore, per the 2016 Interagency Service Agreement (ISA) between the ASLD, the State Historic Preservation Office (SHPO), and the Arizona State Museum (ASM), the area cited in the above-captioned application has been reviewed in comparison to ASLD's cultural resource records. This review is undertaken to make a recommendation to ASLD's ROW Section regarding any properties which may be eligible for the Arizona Register of Historic Places that are known to be located within or nearby the requested ROW. In addition, to make a recommendation to ROW Section regarding of any efforts ASLD should ask the applicant to undertake to identify currently unknown Register eligible properties potentially affected by ASLD granting the ROW application (16-123021-00-100).

The results of this research revealed that two cultural resources inspections (2006-430.ASM, 2020-115.ASM) have been completed within but did not inventory the entire area cited in the application. No archaeological sites are currently recorded within the proposed ROW. Per SHPO Guidance Point No. 5 about relying on survey data from projects conducted more than 10 years earlier, ASLD Cultural Resources Section reviewed documentation for the outdated records and found that the methods used meet current standards for the previous projects and the surveys will not need to be updated. Therefore, the ASLD Cultural Resources Section recommends that the applicant arrange for an archaeologist permitted by the Arizona State Museum (ASM) to inspect and evaluate areas of State Trust land not previously subject to cultural resource inspection prior to ASLD granting ROW application 16-123021-00-100.

By copy of this letter to Union Pacific Railroad Company, the Arizona State Museum (ASM) has a list of permitted contract companies with the qualifications to complete standard scientific field work in Arizona. ASM can be contacted at 520-621-2096 or a list of permitted consultants can be downloaded at https://statemuseum.arizona.edu/crm/document/aaa-qualified-consultants. Once the inspection has been completed, reports submitted to the ASLD Cultural Resources Section must conform to SHPO Standards (https://azstateparks.com//shpo-survey-report-standards) for review in compliance with ASLD's statutory obligations under the State Historic Preservation Act (SHPA) (A.R.S. § 41-861 et al). The cultural resources inspection will provide a document to assist the ASLD Cultural Resources Section in determining if any cultural resources eligible for nomination to the State and Federal Registers of Historic Places are present. If register-eligible properties are present, and avoidance is not feasible, then additional fieldwork may be required.

Your continued cooperation with this office in considering the potential for impacts to Arizona's cultural resources is appreciated. If you have any comments or concerns, please contact the ASLD Cultural Resources Section at arch@azland.gov.

Sincerely,



David Schroeder
Archaeological Compliance Specialist
As agent for Arizona State Land Department

CC: Erin Davis, SHPO
Kris Anderson, Union Pacific Railroad Company

Enclosure: Tribal Consultation List
ASLD Cultural Resources Report Submittal Requirements

Arizona State Land Department Cultural Resources Section
Tribal Consultation List

If you have any comments or concerns, please provide them at this time. If there are none, this document may be retained for your records. Should you require additional documentation, i.e. maps or reports, please request via email for digital copies.

Application No.: 16-123021-00-100

Date: 4/12/2022

Tribes:

- ☐ Ak-Chin Indian Community
- ☐ Chemehuevi Indian Tribe
- ☐ Cocopah Indian Tribe
- ☐ Colorado River Indian Tribes
- ☐ Fort McDowell Yavapai Nation
- ☐ Fort Mojave Indian Tribe
- ☐ Fort Sill Apache Tribe
- ☐ Fort Yuma-Quechan Tribe
- ☒ Gila River Indian Community
- ☐ Havasupai Tribe
- ☒ Hopi Tribe
- ☐ Hualapai Tribe
- ☐ Kaibab Band of Paiute Indians
- ☒ Mescalero Apache Tribe
- ☐ Moapa Band of Paiute Indians
- ☐ Navajo Nation
- ☐ Paiute Indian Tribe of Utah
- ☒ Pascua Yaqui Tribe
- ☒ Pueblo of Zuni
- ☒ Salt River Pima-Maricopa Indian Community
- ☐ San Carlos Apache Tribe
- ☐ San Juan Southern Paiute
- ☐ Tohono O'odham Nation
- ☒ Tonto Apache Tribe
- ☐ Ute Mountain Ute
- ☒ White Mountain Apache Tribe
- ☒ Yavapai-Apache Nation
- ☐ Yavapai-Prescott Indian Tribe
- ☐ Pueblo of Acoma

Arizona State Land Department
Cultural Resources Section
Cultural Resources Report Submittal Requirements

If cultural resources work has been requested by ASLD, reports are subject to review and consultation with the State Historic Preservation Office (SHPO), under the State Historic Preservation Act, A.R.S. 41-861 *et* seq. As such, reports submitted for compliance review should be in conformance to the current reporting standards.

PLEASE NOTE: The AZSITE resource database is not reliable as a source of recent projects. Class I background records checks must include an inquiry to the Arizona State Museum's Archaeological Records Office (ASM ARO).

- For reports, please refer to the Standards for Inventory Documents Submitted for SHPO Review in Compliance with Historic Preservation Laws: https://d2umhuunwbec1r.cloudfront.net/gallery/asp-archive/SHPO/downloads/SHPO-Survey_Report_Standards-2016.pdf

- For Survey Report Summary Forms (SRSF), refer to SHPO Guidance Point No. 10: https://d2umhuunwbec1r.cloudfront.net/gallery/asp-archive/SHPO/downloads/SHPO-Guidance_Point10-2016.pdf

In addition to conformance to reporting standards, the ASLD Cultural Resources Section requests document submittals as follows:

  - Two bound original reports;
  - A pdf of the report, emailed or mailed as a disc.

In all cases, all submittals should come from the consultant that has prepared the report to ensure the document is in its original form.

All mailed documents should be sent directly to the Cultural Resources Section; not the ASLD Administrator.

If emailed, documents should be emailed directly to ARCH@azland.gov. If known, Administrator should be copied on the email.

Mail all physical documents to:

Arizona State Land Department
Cultural Resources Section
1616 West Adams Street
Phoenix, Arizona 85007

White Mountain Apache Tribe

Office of Historic Preservation
PO Box 1032
Fort Apache, AZ 85926
Ph: (928) 338-3033 Fax: (928) 338-6055

To: Danielle Gosselin, Acting Director Office of Environmental Analysis

Date: December 30, 2021

Re: *Docket No. FD 36501, Union Pacific Railroad Company Construction/Operation Exemption*

……

The White Mountain Apache Tribe Historic Preservation Office appreciates receiving information on the project dated; December 10, 2021. In regards to this, please attend to the following statement below.

Thank you for allowing the White Mountain Apache tribe the opportunity to review and respond to the above proposed construction and operation of approximately six miles of new rail line that would connect UP's Phoenix Sub main line track in Maricopa County, to industrial properties southeast of Phoenix-Mesa Gateway, Phoenix, Arizona.

Please be advised, we reviewed the consultation letter and the information provided, and we've determined the project plans will have ***"No Adverse Effected"*** to the tribe's cultural heritage resources and/or traditional cultural properties, and concur with the recommendations.

Thank you for your continued collaborations in protecting and preserving places of cultural and historical importance.

Sincerely,

Mark T. Altaha

White Mountain Apache Tribe – THPO
Historic Preservation Office

THE HOPI TRIBE

Timothy L. Nuvangyaoma
CHAIRMAN

Craig Andrews
VICE-CHAIRMAN

FEB 07 2022

January 10, 2022

Danielle Gosselin, Acting Director
Attention: Adam Assenza
Surface Transportation Board, Office of Environmental Analysis
Washington, DC 20423

Subject: Docket No. FD 36501 – Union Pacific Railroad Company –
Construction and Operation Exemption – In Maricopa County, Arizona

Dear Director Gosselin,

This letter is in response to your correspondence dated December 10, 2021, regarding Docket No. FD 36501, the Union Pacific Railroad Company proposed Pecos industrial Rail Access and Train Extension Project, to construct and operate approximately six miles of new rail line in Maricopa County, Arizona. The Hopi Cultural Preservation Office appreciates the Surface Transportation Board's solicitation of our input and your efforts to address our concerns.

The Hopi Tribe claims cultural affiliation to the earlier identifiable cultural groups in Arizona. The Hopi Cultural Preservation Office supports the identification and avoidance of our ancestral sites, and we consider the prehistoric archaeological sites of our ancestors to be Traditional Cultural Properties. We request consultation on any proposal that has the potential to adversely affect prehistoric cultural resources in Arizona.

So if the cultural resources survey of the area of potential effect identifies prehistoric sites that cannot be avoided by project activities, we request continuing consultation on this proposal including being provided with copies of the draft environmental assessment and any proposed treatment plans for review and comment.

In addition, we support project design features that if any cultural features or deposits are encountered during project activities, these activities will be discontinued in the immediate area of the remains, and the State Historic Preservation Office will be consulted to evaluate their nature and significance, and if any Native American human remains or funerary objects are discovered during construction they shall be immediately reported as required by law. Thank you for your consideration.

Respectfully,

Stewart B. Koyiyumptewa, Project Manager/THPO
Hopi Cultural Preservation Office

xc: Arizona State Historic Preservation Office

From: Assenza, Adam <Adam.Assenza@stb.gov>
Sent: Wednesday, March 23, 2022 6:07 AM
To: Buckley, Maggie <Maggie.Buckley@jacobs.com>; Michael Fulton (FCD) <Michael.Fulton@maricopa.gov>
Cc: Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>
Subject: [EXTERNAL] RE: UPRR Pecos Industrial Rail Access and Train Extension (PIRATE) Preliminary Environmental Consultation

Hello Michael,

I have received your comment:

"The Flood Control District (District) has no environmental comment or objection to the proposed Pecos Industrial Rail Access and Train Extension Project (Surface Transportation Board Docket No. FD 36501). It appears that the alignment may be adjacent to and/or impact the existing Rittenhouse Channel that is owned and maintained by the District. If so, a right of way use permit and a land right must be obtained from our office prior to any construction that impacts our project. Our right of way permit review will be conducted to ensure that the channel function remains fully intact, our ability to access and maintain the channel remains fully intact and to ensure there is a clear understanding of future maintenance responsibilities. An engineering firm on behalf of Union Pacific Railroad submitted a general concept plan to the District and applied for a right of way use permit from our office in late September 2021. More detailed plans will be required before permitting decisions can be made. In addition to a right of way use permit and land right, a floodplain use permit from our office may also be necessary as the existing channel contains a delineated floodplain that may be impacted, and the District is responsible for floodplain reviews in the City of Mesa."

It was not pushed through on our website, but was received. Did you have any additional comments since then?

Thank you,

ADAM ASSENZA
Environmental Protection Specialist (he/him)
Office of Environmental Analysis
Surface Transportation Board
P: 202-245-0301
E: Adam.Assenza@STB.gov

From: Assenza, Adam <Adam.Assenza@stb.gov>
Sent: Thursday, April 14, 2022 11:04 AM
To: Buckley, Maggie <Maggie.Buckley@jacobs.com>
Cc: Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>
Subject: [EXTERNAL] FW: QCI-XX Union Pacific Railroad Company - Surface Transportation Board

From: Maaike Hough <mhough@gcairoinc.com>
Sent: Tuesday, April 12, 2022 7:27 PM
To: Assenza, Adam <Adam.Assenza@stb.gov>
Subject: FW: QCI-XX Union Pacific Railroad Company - Surface Transportation Board

Adam,
I am not aware of any environmental, cultural or other issues in the area. We are the engineering firm for Queen Creek Irrigation District as well as New Magma Irrigation and Drainage District. I am attaching the district maps for both Irrigation Districts in this area for your reference. It does not look like your proposed alignments will impact either of the districts. If you find that there are crossings, then you will need to contact me so that we can work to do a formal submittal to the USBR and the District for approval.

If if there are any improvements along Germann between Hawes & Signal Butte then you may impact QCID'sPipeline II and we will need to conduct a further review.

Please let me know if you have any questions. Thank you.

Maaike M. Hough, P.E.

GEORGE CAIRO ENGINEERING, INC.
1630 S. Stapley Dr., Suite 117
Mesa, AZ 85204
480.921.4080, fax: 480.921.4087
www.gcairoinc.com

From: Melissa Moore <mmoore@gcairoinc.com>
Sent: Monday, April 11, 2022 11:46 AM
To: Maaike Hough <mhough@gcairoinc.com>
Subject: QCI-XX Union Pacific Railroad Company - Surface Transportation Board

Good morning Maaike,

The attached documents were mailed by Jacobs Engineering to your attention. I accidentally scanned the 2nd attachment to you directly in a different email.

Thanks,

Melissa Moore

GCE inc
GEORGE CAIRO ENGINEERING, INC.
1630 S. Stapley Dr., Suite 117
Mesa, Arizona 85204
480.921.4080 ● 480.921.4087 Fax
www.gcairoinc.com

From: Assenza, Adam <Adam.Assenza@stb.gov>
Sent: Friday, April 22, 2022 2:24 PM
To: Tabachnick, Alan <alan.tabachnick@stb.gov>; Buckley, Maggie <Maggie.Buckley@jacobs.com>; Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>
Subject: [EXTERNAL] FW: Docket No. FD 36501, Union Pacific rail line expansion, Mesa, AZ

From: Karl Hoerig <khoerig@pascuayaqui-nsn.gov>
Sent: Friday, April 22, 2022 4:51 PM
To: Assenza, Adam <Adam.Assenza@stb.gov>
Subject: Docket No. FD 36501, Union Pacific rail line expansion, Mesa, AZ

Dear Mr. Assenza,

Thank you for Danielle Gosselin's 4/6/2022 letter advising Pascua Yaqui Tribe of Union Pacific's proposal to install new rail line to manufacturing facilities south and east of Phoenix-Mesa Gateway Airport. We would like to participate in continuing consultation regarding this project. Before we can fully respond regarding potential impacts, it will be necessary for you to provide Class I and Class III historic properties survey reports that identify the historic properties that exist within the APE. We know the general vicinity of the project to be rich in ancestral sites, and expect that the APE will intersect one or more of these.

With best regards,
Karl Hoerig

Karl A. Hoerig, Ph.D.
Tribal Historic Preservation Officer
Pascua Yaqui Tribe
7777 S. Camino Huivisim, Building C
Tucson, AZ 85757
(520) 883-5116
karl.hoerig@pascuayaqui-nsn.gov

SURFACE TRANSPORTATION BOARD
Washington, DC 20423

Office of Environmental Analysis

SHPO-2022-0395 (163371) **Rec: 04-06-22**

April 6, 2022

Ms. Kathryn Leonard
State Historic Preservation Officer
Arizona State Parks, State Historic Preservation Office
1110 West Washington Street, Suite 100
Phoenix, AZ 85007

Re: Docket No. FD 36501, Union Pacific Railroad Company – Construction and Operation Exemption – in Maricopa County, Ariz.; Initiation of National Historic Preservation Act Section 106 Consultation and Proposed Area of Potential Effects

Dear Ms. Leonard:

Pursuant to 49 U.S.C. § 10901, the Union Pacific Railroad Company (UP) intends to request authority from the Surface Transportation Board (Board) to construct and operate approximately six miles of new rail line in Maricopa County, Arizona. Before making its decision on whether to grant such authority, the Board must consider the potential environmental impacts of the construction and operation of UP's proposed rail line, pursuant to the National Environmental Policy Act (42 U.S.C. §§ 4321-4370m-12), Section 106 of the National Historic Preservation Act (54 U.S.C. § 306108), the Board's environmental rules at 49 C.F.R. Part 1105, and related environmental laws. With this letter, the Board's Office of Environmental Analysis (OEA) is formally initiating consultation with your office pursuant to Section 106 of the National Historic Preservation Act and to solicit your comments regarding the proposed Area of Potential Effects (APE) for cultural resources for the proposed Pecos Industrial Rail Access and Train Extension (PIRATE) rail line referenced above. The general project area of the proposed rail line is depicted on Attachment 1.

Description of the Proposed Rail Line

UP is seeking authority from the Board to construct and operate approximately six miles of new common carrier rail line that would connect UP's Phoenix Subdivision main line track in Maricopa County, Arizona, to industrial properties southeast of the Phoenix-Mesa Gateway Airport. The Phoenix Subdivision main line track borders Mesa's Pecos Advanced Manufacturing Zone (PAMZ), which incentivizes industrial development and manufacturing operations through streamlined approvals and permits. Several large industrial companies are within the PAMZ, where rail line service is currently unavailable. According to UP, the closest rail transloading facility is approximately 40 miles away in downtown Phoenix. Therefore, existing manufacturing companies rely solely on trucking for transporting manufacturing

materials and shipping final products. The purpose of the proposed rail line is to meet the transportation and logistics needs of existing and future manufacturing businesses within the PAMZ and adjacent areas. UP believes that eliminating the need to truck cargo to the downtown Phoenix transload facility would allow and encourage businesses within the area to increase their current operations because of reduced shipping costs and potential increased shipping capacity.

Proposed Area of Potential Effects

In accordance with 36 C.F.R. § 800.4 (a)(1), OEA developed a proposed APE, depicted on Attachment 2. Potential effects of construction and operation of the proposed rail line to historic resources include direct physical impacts, vibration impacts, and indirect visual, auditory (i.e., noise), and atmospheric effects (e.g., fugitive dust). The APE is approximately 12.9 miles long and includes:

- 3.4 miles along the existing UP Phoenix Subdivision rail line between Power and Ellsworth roads for the wye that would connect the Phoenix Subdivision to the proposed rail line;
- 7.1 miles of proposed new rail line alternatives that begin at a wye connection to the UP Phoenix Subdivision main line and extend to the northeast and east; and
- 2.4 miles along roadway connections and grading extensions.

The APE averages between 200 and 300 feet wide but is variable depending upon the proposed construction footprint and any construction-related activities (e.g., staging, drainage structures, and crossings).

The APE includes a buffer of 100 feet (approximately 50 feet on either side of the construction footprint) around the proposed rail line and associated road crossing designs. In areas where known constraints exist, the buffer extends 100 feet on one side of the construction footprint to account for potential refinements to the alignment and staging areas that could occur beyond the current design.

Within the APE, the proposed rail line is defined by cut and fill limits to accommodate single track, triple track, and access road configurations, with an option to construct up to three additional future support tracks in select locations. The vertical elements of the proposed rail line consist of fill (including sub-ballast and ballast), wayside signs, and crossing gates and lighting for at-grade road crossings. Vertical elements planned along the existing Phoenix Subdivision main line track would match existing elements in height and form and would not exceed 32 feet (the fully extended mast arm of crossing gates). For the proposed rail line, the maximum height of fill and ballast would not likely exceed 15 feet. Wayside signs, crossing gates, and lighting would not exceed 32 feet (the fully extended mast arm of crossing gates).

The proposed APE, including the entirety of the proposed rail line where ground disturbance is expected to occur along with the buffer, totals 457.2 acres in area. The APE consists of a portion of the existing Phoenix Subdivision main line, two alternatives that would provide new industrial lead track, and grading extensions that would connect the new industrial lead track to eastern portions of the PAMZ. The alternatives were developed to avoid future

Bureau of Indian Affairs trust land located on a portion of the former Williams Air Force Base, Superfund sites within the former Williams Air Force Base, the Phoenix-Mesa Gateway Airport, and to minimize impacts to the agricultural lands and private properties that the alignment would cross.

Alternative 1 consists of UP's proposed action/preferred alignment and is based on the 30 percent design alignment provided by UP. East of Ellsworth Road, Alternative 1 considers landowner requests that the proposed rail line follow parcel lines to the north to avoid bisecting their properties. Alternative 2 is the same as Alternative 1 west of Ellsworth Road. East of Ellsworth Road, Alternative 2 consists of an independent alignment. Both alternatives include one or two support tracks in addition to the industrial lead track to support rail operations and a staging track adjacent to the wye.

Request for Input

OEA requests that you share your initial comments regarding any known architectural, archaeological, tribal, or other historic properties that may be located in the project area and your comments regarding the proposed APE, by **Friday, May 6, 2022**. Please send your written comments electronically to Adam Assenza, OEA's project manager for the environmental review, at Adam.Assenza@stb.gov. If you have any questions or would like to discuss the proposed rail line in more detail, please contact Adam Assenza at 202-245-0301.

Sincerely,

Danielle Gosselin
Director
Office of Environmental Analysis

Enclosures:
Attachment 1 – Vicinity Map
Attachment 2 – Proposed APE Map (two sheets)

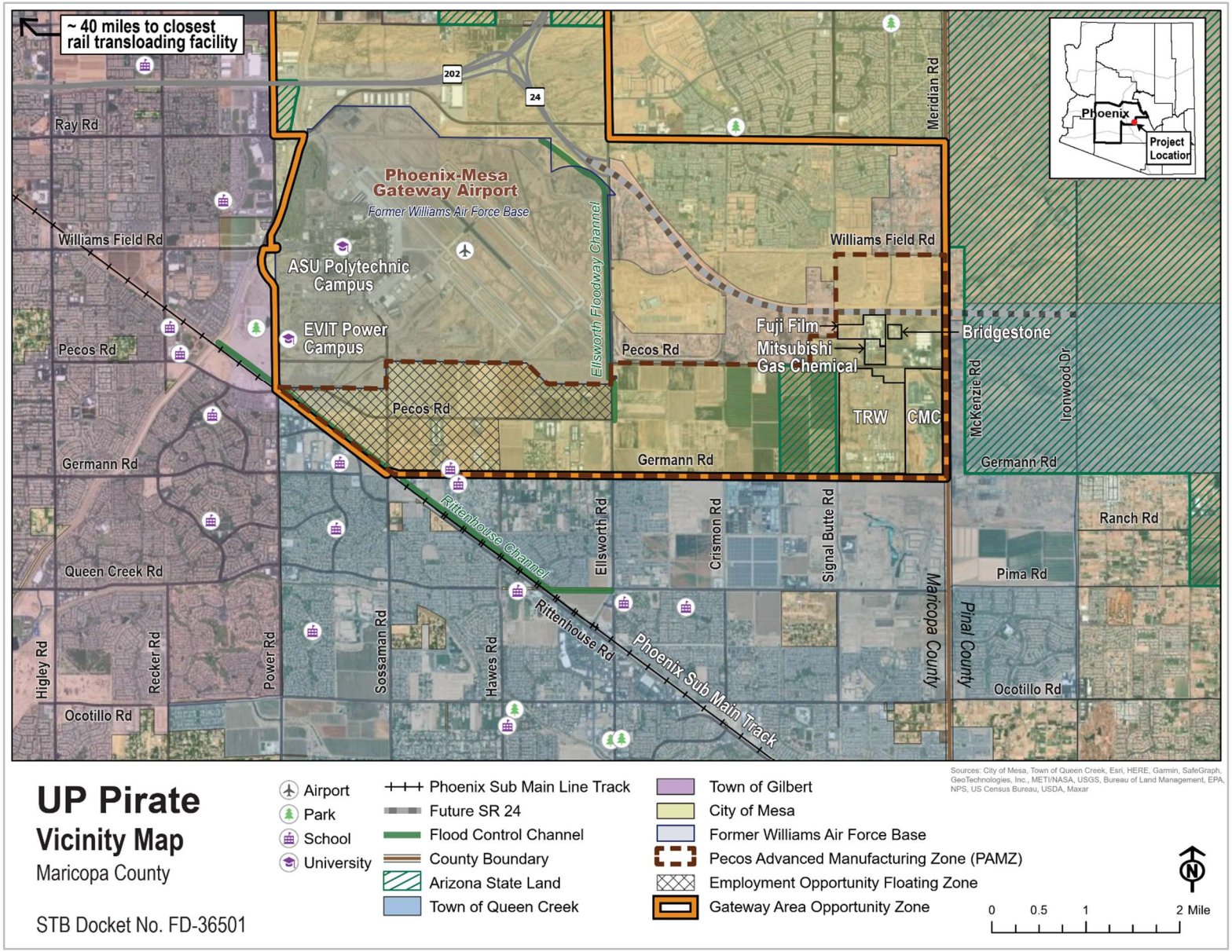
Cc: Adam Assenza, OEA Environmental Protection Specialist, Adam.Assenza@stb.gov
Alan Tabachnick, OEA Historic Preservation Specialist, alan.tabachnick@stb.gov
Maggie Buckley, Jacobs Project Manager, Maggie.buckley@jacobs.com

SHPO concurs with the definition of the area of potential effects. Please refer to our email for additional comments. Thank you!

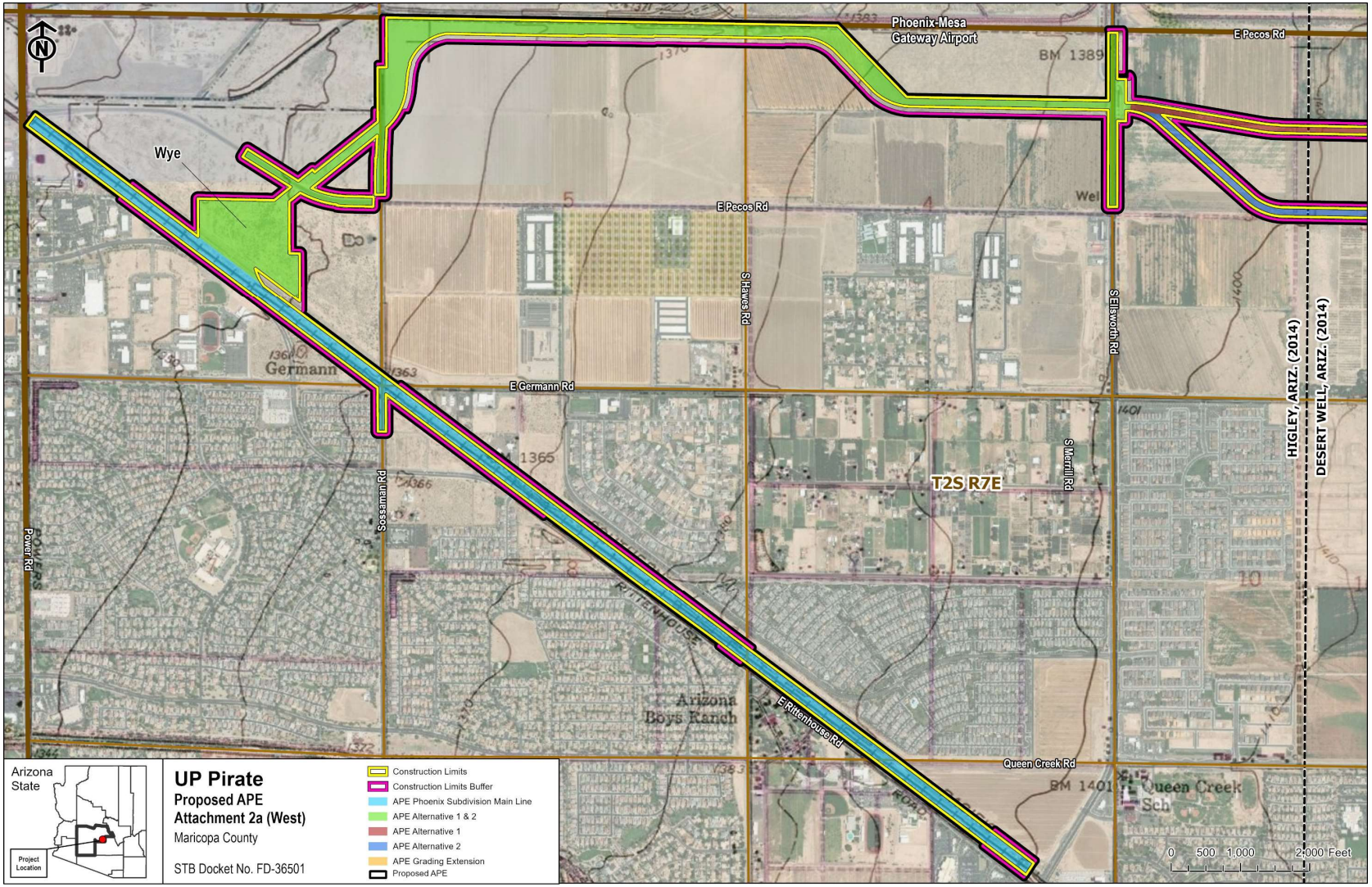
Mary Ellen Dabl 5/2/22

Arizona State Historic Preservation Office

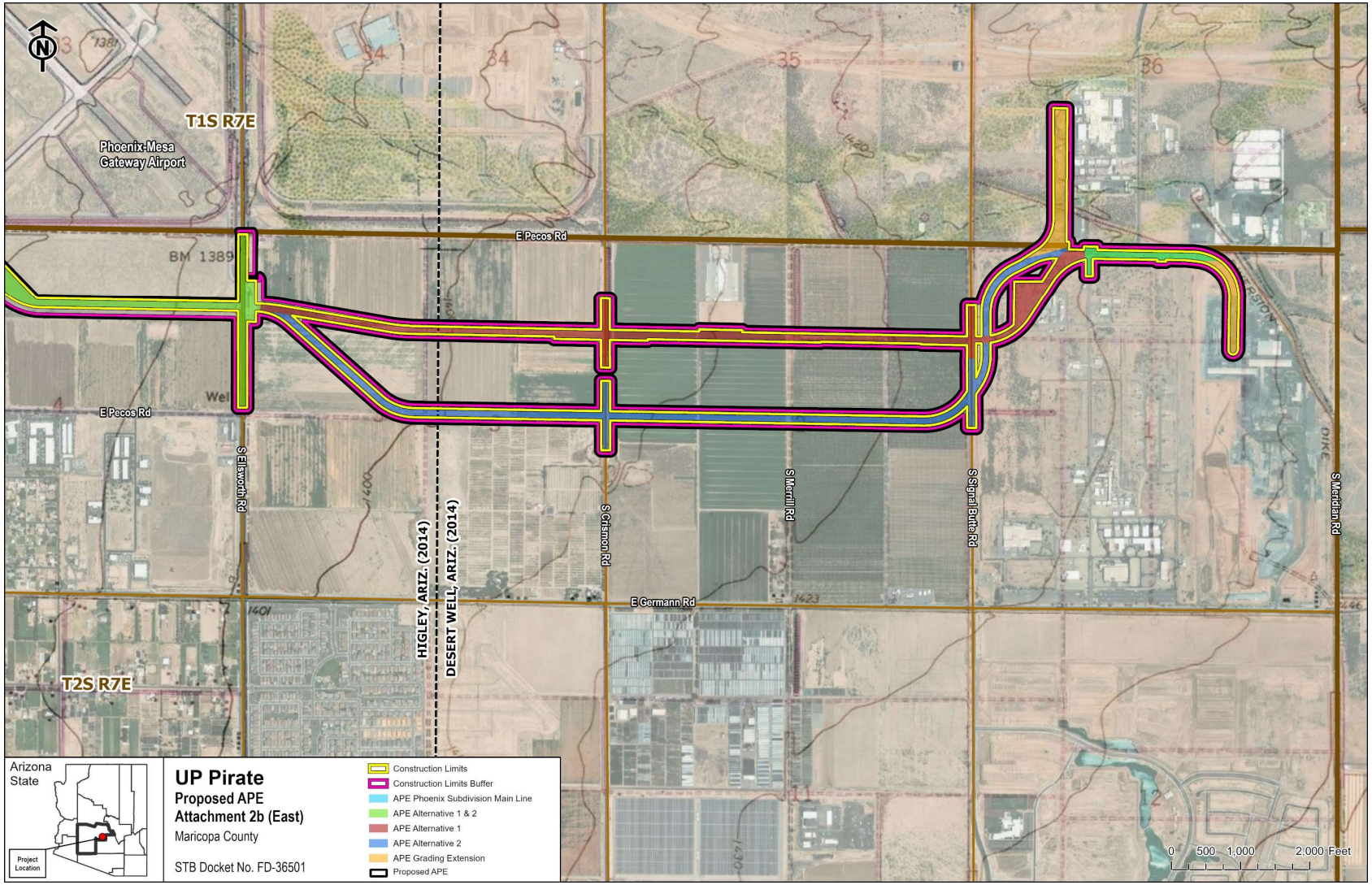
ATTACHMENT 1 – VICINITY MAP



ATTACHMENT 2 – PROPOSED APE MAP



ATTACHMENT 2 – PROPOSED APE MAP



Powell, Kris

From: Alison Stoltman <Alison.Stoltman@MesaAZ.gov>
Sent: Monday, May 2, 2022 3:14 PM
To: Buckley, Maggie; Assenza, Adam
Cc: Phoebus, Elizabeth (Betsi); Tabachnick, Alan
Subject: [EXTERNAL] RE: Docket No. FD 36501, Union Pacific Railroad Company- Construction and Operation Exemption – in Maricopa County, Ariz.; Initiation of NHPA, Section 106

Thank you Maggie, I appreciate you confirming and I hope that I didn't cause offense. I can be a worrier, but you clearly have it all in hand :)
Best wishes,

Alison Stoltman

She/her/hers
Acting Director, Arizona Museum of Natural History
53 North Macdonald, Mesa, AZ 85201
Office: 480 644 4040
Alison.Stoltman@MesaAZ.gov

From: Buckley, Maggie <Maggie.Buckley@jacobs.com>
Sent: Monday, May 02, 2022 1:35 PM
To: Assenza, Adam <adam.assenza@stb.gov>; Alison Stoltman <Alison.Stoltman@MesaAZ.gov>
Cc: Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>; Tabachnick, Alan <alan.tabachnick@stb.gov>
Subject: RE: Docket No. FD 36501, Union Pacific Railroad Company- Construction and Operation Exemption – in Maricopa County, Ariz.; Initiation of NHPA, Section 106

Hello Alison,

I just wanted to follow up and confirm that our team is following the communication protocols on the Government to Government Toolkit website. I emailed the consultation letter and proposed APE map to Shane Anton, Martha Martinez, and Angela Garcia-Lewis from the SRP-MIC on 4/6/22. We are also consulting with the Zuni Tribe and mailed a hard copy of the consultation letter and proposed APE map to their Chairman and THPO on 4/6/22.

Please don't hesitate to reach out with additional questions or concerns. Thank you,

Maggie Buckley
O: 425.233.3117
M: 206.949.5955

From: Assenza, Adam <Adam.Assenza@stb.gov>
Sent: Friday, April 29, 2022 10:20 AM
To: Alison Stoltman <Alison.Stoltman@MesaAZ.gov>
Cc: Buckley, Maggie <Maggie.Buckley@jacobs.com>; Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>; Tabachnick, Alan <alan.tabachnick@stb.gov>
Subject: [EXTERNAL] RE: Docket No. FD 36501, Union Pacific Railroad Company- Construction and Operation Exemption – in Maricopa County, Ariz.; Initiation of NHPA, Section 106

Hi Alison,

Thank you for the information. I've forwarded it to Alan Tabachnick, our historic preservation specialist at OEA, as well as the Jacobs team supporting us for incorporation into their outreach planning.

In case we already had this resource, I would rather be given the same information from multiple sources than miss anything, so I appreciate your thoroughness. If we have any questions about navigating the tool or related topics, we will reach out.

Thank you,

ADAM ASSENZA
Environmental Protection Specialist (he/him)
Office of Environmental Analysis
Surface Transportation Board
P: 202-245-0301
E: Adam.Assenza@STB.gov

From: Alison Stoltman <Alison.Stoltman@MesaAZ.gov>
Sent: Friday, April 29, 2022 12:28 PM
To: Assenza, Adam <Adam.Assenza@stb.gov>
Subject: Docket No. FD 36501, Union Pacific Railroad Company- Construction and Operation Exemption – in Maricopa County, Ariz.; Initiation of NHPA, Section 106

Hi Adam,
Thank you for your correspondence to review the Union Pacific project. The City of Mesa will be filling their review jointly, in the meantime, I wanted to make sure you have the resource, Government to Government Toolkit website. It lists the Tribes with affiliation to the area. https://sites.google.com/view/az-consultation-toolkit/home . Each has a slightly different protocol for who to contact for Section 106 review and many require notification of multiple contacts in the organization. I was sent your contact list but it only has one contact per tribal entity and so I wanted to make sure you were aware that there are others who should be informed. For example Shane Anton from SRP-MIC usually works on Section 106 but he had not received notification yet last week. According to the map, the Pueblo of Zuni is also affiliated with the proposed area.
If you are new to the website, I am happy to walk you through to where you can find the information but it's pretty intuitive. Just click on map and select the area of review and it will be obvious from there. Apologize if this is all information you have. I was simply looking to be thorough.
Best wishes on this project. You will have our joint City review next week.

Alison Stoltman
She/her/hers
Acting Director, Arizona Museum of Natural History
53 North Macdonald, Mesa, AZ 85201
Office: 480 644 4040
Alison.Stoltman@MesaAZ.gov

NOTICE - This communication may contain confidential and privileged information that is for the sole use of the intended recipient. Any

[redacted]

From: Plummer, Shannon D - (splummer) <splummer@arizona.edu>
Sent: Wednesday, May 4, 2022 12:15 PM
To: Assenza, Adam <Adam.Assenza@stb.gov>
Cc: Buckley, Maggie <Maggie.Buckley@jacobs.com>
Subject: RE: UP PIRATE Project Initiation of Section 106 Consultation

Hello Adam,
Thank you for the opportunity to review the proposed Area of Potential Effects (APE) for this project. There are multiple archaeological sites that will be crossed by the proposed APE, several of which are recommended or determined eligible to the National Register of Historic Places (NRHP). I cannot provide further recommendations at this point without knowing more specific details about the project (particularly land ownership) and being provided larger-scale maps, preferably with a USGS quadrangle maps at 1:24,000 scale (neither reduced nor enlarged).

Please let me know if you have any questions.

Thanks,
Shannon

Shannon Plummer, M.A., R.P.A.
Arizona Antiquities Act Administrator

Arizona State Museum | The University of Arizona
1013 E. University Blvd | PO Box 210026
Tucson, Arizona 85721-0026
(520) 621-4795 | (520) 621-2976 FAX
splummer@arizona.edu
www.statemuseum.arizona.edu



From: Buckley, Maggie <Maggie.Buckley@jacobs.com>
Sent: Wednesday, April 6, 2022 12:05 PM
To: Lyons, Patrick D - (plyons) <plyons@arizona.edu>
Cc: Plummer, Shannon D - (splummer) <splummer@arizona.edu>; Assenza, Adam <adam.assenza@stb.gov>; Tabachnick, Alan <alan.tabachnick@stb.gov>; Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>; Luhnow, Glennda <Glennda.Luhnow@jacobs.com>
Subject: [EXT]UP PIRATE Project Initiation of Section 106 Consultation

External Email

Hello Dr. Lyons,

The Union Pacific Railroad Company intends to request authority from the Surface Transportation Board (Board) to construct and operate approximately six miles of new rail line in Maricopa County, Arizona. With the attached letter, the Board's Office of Environmental Analysis (OEA) is formally initiating consultation with your office pursuant to Section 106 of the National Historic Preservation Act and soliciting comments regarding the proposed Area of Potential Effects for cultural resources for the proposed Pecos Industrial Rail Access and Train Extension (PIRATE) rail line.

The OEA requests your input regarding any known architectural, archaeological, tribal, or other historic properties that may be located in the project area and your comments regarding the proposed Area of Potential Effects by **Friday, May 6, 2022**. Please send your written comments electronically to Adam Assenza, the Board's OEA Project Manager, at Adam.Assenza@stb.gov. If you have any questions or would like to discuss the proposed rail line in more detail, please contact Adam Assenza at (202) 245-0301.

Thank you,

Maggie Buckley | Jacobs | Environmental Project Manager (she/her)
O: 425.233.3117 | M: 206.949.5955 | maggie.buckley@jacobs.com
999 W Riverside Avenue, Suite 500 | Spokane, WA 99201 | USA

NOTICE - This communication may contain confidential and privileged information that is for the sole use of the intended recipient. Any viewing, copying or distribution of, or reliance on this message by unintended recipients is strictly prohibited. If you have received this message in error, please notify us immediately by replying to the message and deleting it from your computer.

U.S. Department of Transportation
Federal Aviation Administration

Western-Pacific Region
Airports Division
Phoenix Airport District Office

3800 N. Central Avenue
Suite 1025, 10th Floor
Phoenix, AZ 85012

May 5, 2022

VIA EMAIL - adam.assenza@stb.gov

Ms. Adam Assenza
Project Manager
Office of Environmental Analysis
Surface Transportation Board
395 East Street SW
Washington, D.C. 20423

Subject: Proposed Area of Potential Effects (APE) for cultural resources for the proposed Pecos Industrial Rail Access and Train Extension (PIRATE) rail line.

Dear Ms. Gosselin:

The Federal Aviation Administration (FAA) has reviewed the April 6, 2022 correspondence from Ms. Danielle Gosselin on the above referenced project regarding the Area of Potential Effects (APE) for cultural and historic resources.

The direct APE is not located on airport property; therefore, the FAA does not have any information regarding any known architectural, archaeological, tribal, or other historic properties that may be located in the project APE and cannot make any determinations. The FAA recommends coordination with the Phoenix-Mesa Gateway Airport Authority (PMGAA) to discuss any visual or direct impacts regarding any existing airport historical buildings/properties and any other known/unknown resources.

The FAA recommends the STB be aware of FAA regulations and/or requirements regarding any airport protected surfaces, including, but not limited to, Runway Safety Areas, Runway Protection Zones, etc., and lighting components, including potential light glare that may have a negative impact on the airport(s), aircrafts, or the National Airspace System (NAS). Additionally, the FAA recommends the STB be aware of FAA airspace notification and filing requirements regarding proposed temporary and permanent structures that may be a hazard to air navigation.

If you have any environmental questions, please contact Denise Taylor-Sands, Environmental Protection Specialist at (602) 792-1067 or ann-denise.taylor-sands@faa.gov.

Sincerely,

MICHAEL N WILLIAMS

Digitally signed by MICHAEL N WILLIAMS
Date: 2022.05.05 09:53:12 -07'00'

Mike N. Williams, A.A.E.
Manager

cc: Adam Assenza, OEA Environmental Protection Specialist (Adam.Assenza@stb.gov)
Alan Tabachnick, OEA Historic Preservation Specialist (alan.tabachnick@stb.gov)
Maggie Buckley, Jacobs Project Manager (maggie.buckley@jacobs.com)

From: Luhnow, Glennda
Sent: Friday, May 6, 2022 10:17 AM
To: Bushey, Sabra <Sabra.Bushey@jacobs.com>; Rainey, Pamela <Pamela.Rainey@jacobs.com>
Cc: Buckley, Maggie <Maggie.Buckley@jacobs.com>; Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>
Subject: FW: Initial Section 106 Consultation-UP PIRATE Rail Line, Mesa, Maricopa County, Arizona (Docket No. FD 36501)

An update from YAN for the consultation tracking spreadsheet. 😊

Glennda Luhnow, M.A., RPA | **JACOBS** | **Manager/Archaeology and Cultural Resources** |
C: 480-510-0830 | glennda.luhnow@jacobs.com
1501 West Fountainhead Parkway, Suite 401 | Tempe, Arizona 85282 | USA

From: Chris Coder <ccoder@yan-tribe.org>
Sent: Friday, May 6, 2022 9:27 AM
To: Luhnow, Glennda <Glennda.Luhnow@jacobs.com>
Cc: Tabachnick, Alan <alan.tabachnick@stb.gov>; Assenza, Adam <Adam.Assenza@stb.gov>; Buckley, Maggie <Maggie.Buckley@jacobs.com>; Vincent Randall <vrandall@yan-tribe.org>; Yavapai Culture <YavapaiCulture@yan-tribe.org>
Subject: [EXTERNAL] RE: Initial Section 106 Consultation-UP PIRATE Rail Line, Mesa, Maricopa County, Arizona (Docket No. FD 36501)

Hi Glennda,

Ditto that. AND YES the mailing address below is correct.
Thanks for the information.
Please be informed the Yavapai-Apache Nation (YAN) of Camp Verde has NO comments to make or concerns regarding the PIRATE RAIL LINE PROJECT IN MESA.
If you require further clarification do not hesitate to contact us.

No prisoners,

Chris/Archaeologist/YAN/Camp Verde

From: Luhnow, Glennda [mailto:Glennda.Luhnow@jacobs.com]
Sent: Thursday, May 5, 2022 1:53 PM
To: Chris Coder <ccoder@yan-tribe.org>
Cc: Tabachnick, Alan <alan.tabachnick@stb.gov>; Assenza, Adam <Adam.Assenza@stb.gov>; Buckley, Maggie <Maggie.Buckley@jacobs.com>
Subject: Initial Section 106 Consultation-UP PIRATE Rail Line, Mesa, Maricopa County, Arizona (Docket No. FD 36501)

Hi Chris,

Thanks so much for your time this morning! As always, it was a pleasure to talk with you.

To follow up with our conversation, and on behalf of the Surface Transportation Board, I am attaching the Initial Section 106 consultation letter for the proposed Union Pacific Railroad (UP) PIRATE Rail Line, located in Mesa, Maricopa County, Arizona. The Board appreciates your review of the project and the letter contents, and any comments, question, or concerns you may have.

I am copying Adam Assenza, the Board's Project Manager, and Alan Tabachnick, the Board's Historic Preservation Specialist, on this email. Please feel free to reach out to them directly. The Board is very interested in any input that the Yavapai-Apache Nation may wish to share.

I'd also like to double-check the consultation address we have on file. The letter was mailed to 2400 West Datsi Street, Camp Verde, AZ 86322. Can you please confirm that is the correct address?

Thanks very much for your time. We look forward to hearing from you.

Glennda

Glennda Luhnow, M.A., RPA | **JACOBS** | **Manager/Archaeology and Cultural Resources** |
C: 480-510-0830 | glennda.luhnow@jacobs.com
1501 West Fountainhead Parkway, Suite 401 | Tempe, Arizona 85282 | USA

NOTICE - This communication may contain confidential and privileged information that is for the sole use of the intended recipient. Any viewing, copying or distribution of, or reliance on this message by unintended recipients is strictly prohibited. If you have received this message in error, please notify us immediately by replying to the message and deleting it from your computer.

Glennda Luhnow, M.A., RPA | **JACOBS** | **Manager/Archaeology and Cultural Resources** |
C: 480-510-0830 | glennda.luhnow@jacobs.com
1501 West Fountainhead Parkway, Suite 401 | Tempe, Arizona 85282 | USA

From: Luhnow, Glennda
Sent: Tuesday, May 10, 2022 9:14 AM
To: 'Altaha, Mark' <MarkAltaha@wmat.us>
Cc: Assenza, Adam <Adam.Assenza@stb.gov>; Tabachnick, Alan <alan.tabachnick@stb.gov>; Buckley, Maggie <Maggie.Buckley@jacobs.com>
Subject: RE: Initial Section 106 Consultation-UPRR PIRATE Rail Line, Mesa, Maricopa County, Arizona (Docket No. FD 36501)

Hi Mark,

Good morning! Thank you for the quick response.

To confirm, would you still like to be copied on the ongoing Section 106 consultation for the project, or would you prefer to be removed from future outreach? We appreciate the clarification.

Have a great day, and thanks again for your response,
Glennda

Glennda Luhnow, M.A., RPA | **JACOBS** | **Manager/Archaeology and Cultural Resources** |
C: 480-510-0830 | glennda.luhnow@jacobs.com
1501 West Fountainhead Parkway, Suite 401 | Tempe, Arizona 85282 | USA

From: Altaha, Mark <MarkAltaha@wmat.us>
Sent: Tuesday, May 10, 2022 5:58 AM
To: Luhnow, Glennda <Glennda.Luhnow@jacobs.com>
Cc: Assenza, Adam <Adam.Assenza@stb.gov>; Tabachnick, Alan <alan.tabachnick@stb.gov>; Buckley, Maggie <Maggie.Buckley@jacobs.com>
Subject: [EXTERNAL] Re: Initial Section 106 Consultation-UPRR PIRATE Rail Line, Mesa, Maricopa County, Arizona (Docket No. FD 36501)

Please be advised, the proposed undertaking will not have an impact on the tribe's cultural heritage resources and/or traditional cultural properties. No further consultation is necessary and/or required. Our apologies for this bad connections with the phone system as we've been having problems with the phone lines lately...but the office number is correct.

Mark Altaha - THPO
White Mountain Apache Tribe
Historic Preservation Office

Fort Apache, Arizona

From: Luhnow, Glennda <Glennda.Luhnow@jacobs.com>
Sent: Thursday, May 5, 2022 2:06:37 PM
To: Altaha, Mark
Cc: Assenza, Adam; Tabachnick, Alan; Buckley, Maggie
Subject: Initial Section 106 Consultation-UPRR PIRATE Rail Line, Mesa, Maricopa County, Arizona (Docket No. FD 36501)

Dear Mark,

Good afternoon. I hope this correspondence finds you well.

On behalf of the Surface Transportation Board, I am contacting you in regards to recent Initial Section 106 consultation for the proposed Union Pacific Railroad (UP) PIRATE Rail Line, in Mesa, Maricopa County, Arizona. You previously responded to an agency scoping letter, and stated that the White Mountain Apache Tribe had no known traditional cultural properties or tribal cultural heritage resources in the project area (12/20/2021). We thank you for that response.

The purpose of this correspondence is to inquire whether your office received the Initial Section 106 consultation materials, and if you had any comments, questions or concern relating to the contents. I would also like to double-check to see if the phone number we have for your office is correct. We attempted to contact you directly by phone earlier today at (928) 338-3033, and received an error message, which is why we are following up with email.

The Board's Project Manager, Adam Assenza, and Historic Preservation Specialist, Alan Tabachnick, are copied on this email. Please feel free to contact them directly. The Board is committed to collaborative communication through the Section 106 process, and welcomes any input from the White Mountain Apache Tribe.

Thank you very much for your time. We look forward to hearing from you.

Best Regards,
Glennda

Glennda Luhnow, M.A., RPA | **JACOBS** | **Manager/Archaeology and Cultural Resources** |
C: 480-510-0830 | glennda.luhnow@jacobs.com
1501 West Fountainhead Parkway, Suite 401 | Tempe, Arizona 85282 | USA

EI-32031

5/18/2022

Ms. Danielle Gosselin
Director
Office of Environmental Analysis
Surface Transportation Board

s

Re: Docket No. FD 36501, Union Pacific Railroad Company- Construction and Operation Exemption – in Maricopa County, Ariz.; Initiation of National Historic Preservation Act Section 106 Consultation and Proposed Area of Potential Effects

Review of cultural resources from the Arizona archaeological database AZSITE show more than 20 documented archaeological sites assigned within 0.5 miles either side of the APE central line. A Phase 2 archaeological review is warranted by a cultural resource management company. This entails a physical survey of the project area and results will determine whether testing and recovery are recommended. Consultation with associated descendants is necessary and through the Government to Government Toolkit website, the list of the Tribes with affiliation to the area can be found along with their contact details: https://sites.google.com/view/az-consultation-toolkit/home.

Further considerations and review of cultural resource compliance are deferred to the State Historic Preservation Office, attention Kathryn Leonard at kleonard@azstateparks.gov or (602) 542 4009.

Sincerely,

Maura Jackson

Maura Jackson
Historic Preservation Advisor/Planner
(480) 644-2021
historicpreservation@mesaaz.gov

Alison Stoltman
Acting Director, Arizona Museum of Natural History
(480) 644-4040
Alison.Stoltman@MesaAZ.gov

cc: Nana Appiah, Development Services Director/Historic Preservation Officer
Michelle Dahlke, Principal Planner
JD Beatty, Senior Economic Development Project Manager
Marc Ahlstrom, Assistant City Engineer

From: Diebolt, Sarah (Sallie) CIV USARMY CESPL (USA) <Sallie.Diebolt@usace.army.mil>
Sent on: Tuesday, September 6, 2022 8:32:05 PM
To: Luhnow, Glennda <Glennda.Luhnow@jacobs.com>
CC: Assenza, Adam <Adam.Assenza@stb.gov>; alan.tabachnick@stb.gov; Buckley, Maggie <Maggie.Buckley@jacobs.com>; Bushey, Sabra <Sabra.Bushey@jacobs.com>; Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>; Robinson, Lisa E CIV USARMY CESPL (USA) <Lisa.E.Robinson@usace.army.mil>
Subject: [EXTERNAL] RE: SPL-2022-00250 (UPRR Pirate) UPRR PIRATE Continuing Section 106 Consultation and Survey Report Distribution

Hello, we have received your correspondence regarding the APE for the subject project. At this point, the Arizona Regulatory Branch is unable to concur with the APE determination, however we usually defer such decisions to the lead federal agency.

The Regulatory process would involve determining any aquatic features that would be subject to the Corps' jurisdiction under Section 404 of the Clean Water Act and any permits that may be needed for discharges of fill material into those areas. In the absence of this information, we are not able to evaluate the APE for our agency action.

Please contact me with any questions or if you would like to discuss further.

Thank you.

Sallie Diebolt Branch Chief
Regulatory Division, Arizona Branch
Phoenix, AZ
Los Angeles District, U.S. Army Corps of Engineers
sallie.diebolt@usace.army.mil

Office: 602-230-6950
Government Mobile: 602-300-1761

Please do not mail hard copy documents to any Regulatory staff or office. For further details on corresponding with us, please view our special public notice at:

https://www.spl.usace.army.mil/Portals/17/docs/publicnotices/COVID19%20Regulatory_SPN.pdf?ver=2020-03-19-134532-833

Assist us in better serving you! Please complete our brief customer survey, located at the following link:
https://regulatory.ops.usace.army.mil/customer-service-survey/

From: Luhnow, Glennda <Glennda.Luhnow@jacobs.com>
Sent: Thursday, September 1, 2022 1:48 PM
To: Robinson, Lisa E CIV USARMY CESPL (USA) <Lisa.E.Robinson@usace.army.mil>
Cc: Assenza, Adam <adam.assenza@stb.gov>; Tabachnick, Alan <alan.tabachnick@stb.gov>; Buckley, Maggie <Maggie.Buckley@jacobs.com>; Bushey, Sabra <Sabra.Bushey@jacobs.com>; Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>
Subject: [Non-DoD Source] UPRR PIRATE Continuing Section 106 Consultation and Survey Report Distribution

Dear Ms. Diebolt,

As stated in previous Section 106 consultation conducted under the National Historic Preservation Act, the Union Pacific Railroad Company intends to request authority from the Surface Transportation Board (Board) to construct and operate approximately six miles of new rail line in Maricopa County, Arizona (the proposed Pecos Industrial Rail Access and Train Extension [PIRATE] rail line).

With the attached letter, the Board's Office of Environmental Analysis (OEA) is continuing Section 106 consultation with your office and soliciting comments regarding revisions to the Area of Potential Effects for cultural resources, adequacy of a Class III survey report, National Register of Historic Places site eligibility, treatment recommendations, finding of adverse effect, and a Section 106 agreement document.

The Class III cultural resources survey report has been transmitted to you via File Transfer on behalf of OEA by Jacobs Engineering Group Inc, OEA's third-party contractor. The File Transfer document will be available for 15 days and will expire on September 15, 2022. If you are not able to access the document, or the link expires, please contact Glennda Luhnow, Jacobs' cultural resources manager, at Glennda.Luhnow@jacobs.com.

OEA requests your review and comment regarding the content of this letter by **Tuesday, October 4, 2022**. Please send your written comments electronically to Alan Tabachnick, OEA's Historic Preservation Specialist, at Alan.Tabachnick@stb.gov. If you have any questions or would like to discuss the proposed project in more detail, please contact Alan Tabachnick.

Thank you,
Glennda Luhnow

Glennda Luhnow, M.A., RPA | **JACOBS** | **Manager/Archaeology and Cultural Resources** |
C: 480-510-0830 | glennda.luhnow@jacobs.com
1501 West Fountainhead Parkway, Suite 401 | Tempe, Arizona 85282 | USA

SURFACE TRANSPORTATION BOARD
Washington, DC 20423

Office of Environmental Analysis

May 19, 2022

Ms. Kathryn Leonard
State Historic Preservation Officer
Arizona State Parks
1110 West Washington St., Suite 100
Phoenix, Arizona 85007

Re: Docket No. FD 36501, Union Pacific Railroad Company – Construction and Operation Exemption – in Maricopa County, Ariz.; Informational Letter Regarding Class III Cultural Resources Survey Methods

Dear Ms. Leonard:

The Surface Transportation Board's Office of Environmental Analysis (OEA) recently initiated formal consultation with you pursuant to Section 106 of the National Historic Preservation Act on the proposed Pecos Industrial Rail Access and Train Extension (PIRATE) project, located in Maricopa County, Arizona. Initial Section 106 consultation provided an overview of the project and solicited comments on the proposed Area of Potential Effects (APE) for potential direct and indirect effects of the project on historic properties. A Class III cultural resources survey of the project APE is now being planned, and OEA is providing this short informational letter to the project's consulting parties to outline the field and reporting methods that the Class III survey will employ.

Survey Methods and Recording Standards

Jacobs Engineering Group Inc. (Jacobs) archaeologists will conduct the Class III cultural resources survey. The survey will be under the general supervision and oversight of a qualified principal investigator and a qualified project director, both listed on Jacobs' current Arizona Antiquities Act (AAA) permit (No. 2022-018bl) issued by the Arizona State Museum (ASM). The APE contains private, state, county, and municipal land. Therefore, the survey will be conducted under the provisions of Jacobs' AAA blanket permit, and ASM will issue a project-specific accession number.

A crew of four archaeologists will conduct the Class III cultural resources survey of the APE. The survey will utilize systematic, parallel pedestrian transects spaced no more than 20 meters (66 feet) apart, constituting complete (100 percent) coverage of the APE.

The Jacobs field crew will employ tablets (Samsung Galaxy TAB A) paired with Trimble R1 global navigation survey system receivers via Bluetooth, allowing for submeter

accuracy. Tablet software utilizes the Environmental Systems Research Institute Field Maps application for geospatial data collection and integrated Samsung tablet photographic capabilities. All Universal Transverse Mercator coordinates will be collected in Zone 12 North, North American Datum of 1983, Continental United States.

Prior to the field survey, Jacobs staff will upload the APE boundary and the location of previously recorded cultural resources site locations onto the Field Maps application, allowing the field crew to accurately identify the survey limits and previously recorded resources. The field crew will maintain photologs and field notes using Samsung Notes transferred to Microsoft Word documents and uploaded to the Jacobs server. The collected spatial data will be uploaded to secure cloud facilities and used to generate project and site maps.

During a field reconnaissance conducted on May 2, 2022, Jacobs confirmed that portions of the APE are completely paved and developed, and no native ground surface remains. These areas are primarily located along Rittenhouse Road (see enclosed APE map). Jacobs will photodocument, map, and discuss these areas in the project's technical report. Additional areas are located within agricultural fields and may be inaccessible at the time of the survey due to crop coverage. The field crew will revisit these areas when the crops have been harvested and incorporate the results into the project's technical report at that time.

Jacobs will define and record cultural resources sites within the APE to the standards outlined in the ASM *Archaeological Site Recording Manual*[1] and recent ASM guidance on "Historical-Period Waste Piles."[2] Any cultural resources not meeting site criteria will be recorded as an isolated occurrence or isolated feature. In-use historic structures (such as roads, canals, and railroads) will be recorded using Historic In-Use Structure Forms, as approved by the State Historic Preservation Office (SHPO)[3] and ASM.

Reporting Standards and Project Curation

Jacobs will prepare a technical report detailing the results of the Class III survey according to SHPO Survey Report Standards.[4] OEA will distribute the draft report through Section 106 consultation to the project's consulting parties for review and comment. Jacobs will address any requested revisions in a final report, which OEA will redistribute through Section 106 consultation. Following acceptance of the final report, Jacobs will curate all project documentation with ASM, as per the requirements of the AAA blanket permit.

Field Schedule

The Class III fieldwork is scheduled to begin the week of May 23, 2022. The survey and site recording are anticipated to take between 8 and 10 days to complete. If additional survey is required based on right-of-entry or agricultural crop coverage, it will be scheduled as needed.

---

[1] Fish, Paul R. 1995. *Archaeological Site Recording Manual*. Arizona State Museum, University of Arizona, Tucson.

[2] ASM. 2021. *Policy and Procedures Regarding Historical-Period Waste Piles*. Arizona State Museum, University of Arizona, Tucson.

[3] SHPO. *A Guide to Documenting Historical In-Use Structures*. Phoenix, Arizona.

[4] SHPO. *Survey Report Standards*. Phoenix, Arizona.

Contact Information

If you have any questions or comments regarding the content of this informational letter or the PIRATE project, please contact Adam Assenza, OEA's project manager for the environmental review, at Adam.Assenza@stb.gov (202-245-0301), or Alan Tabachnick, OEA's historic preservation specialist, at Alan.Tabachnick@stb.gov (202-245-0367).

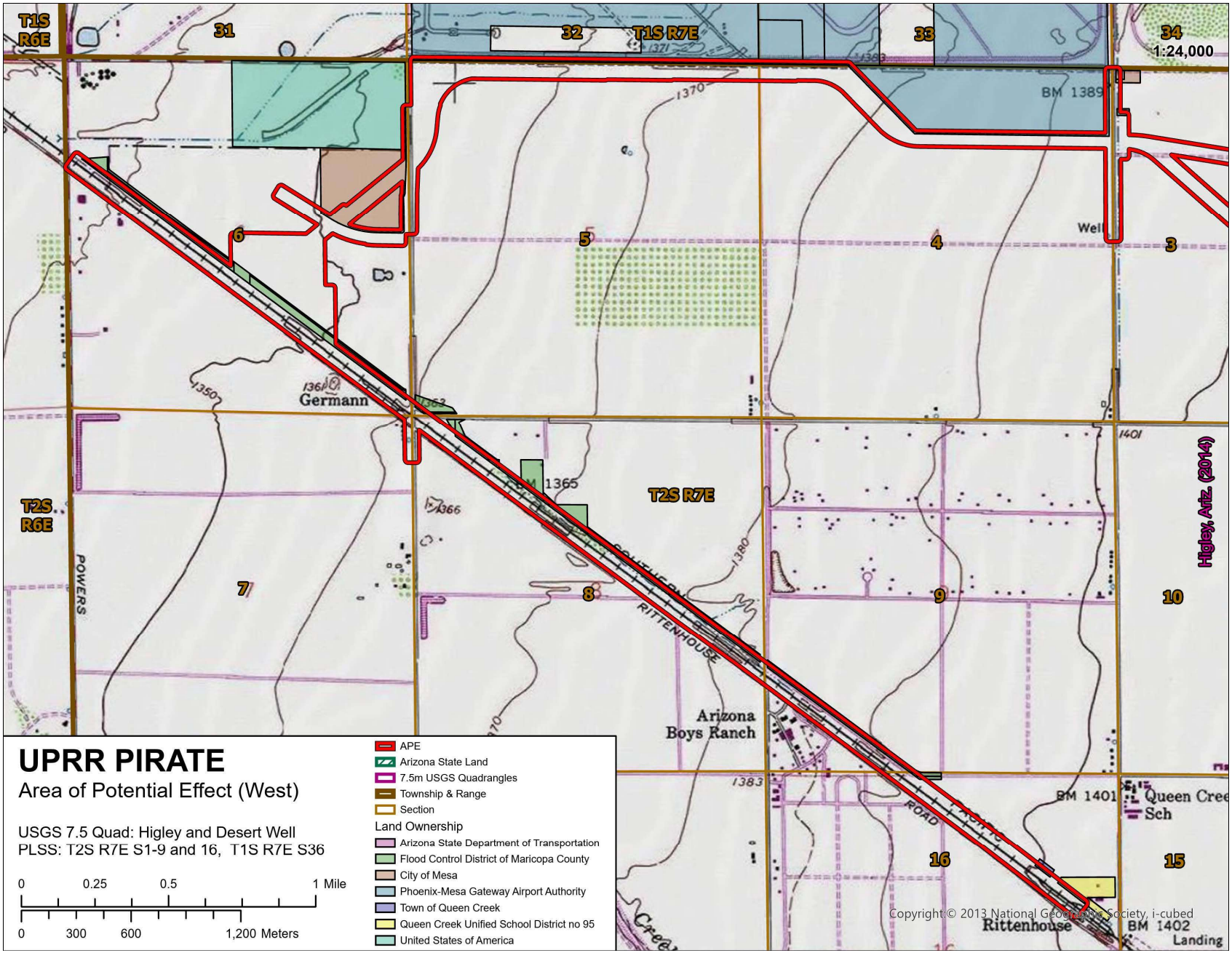
Sincerely,

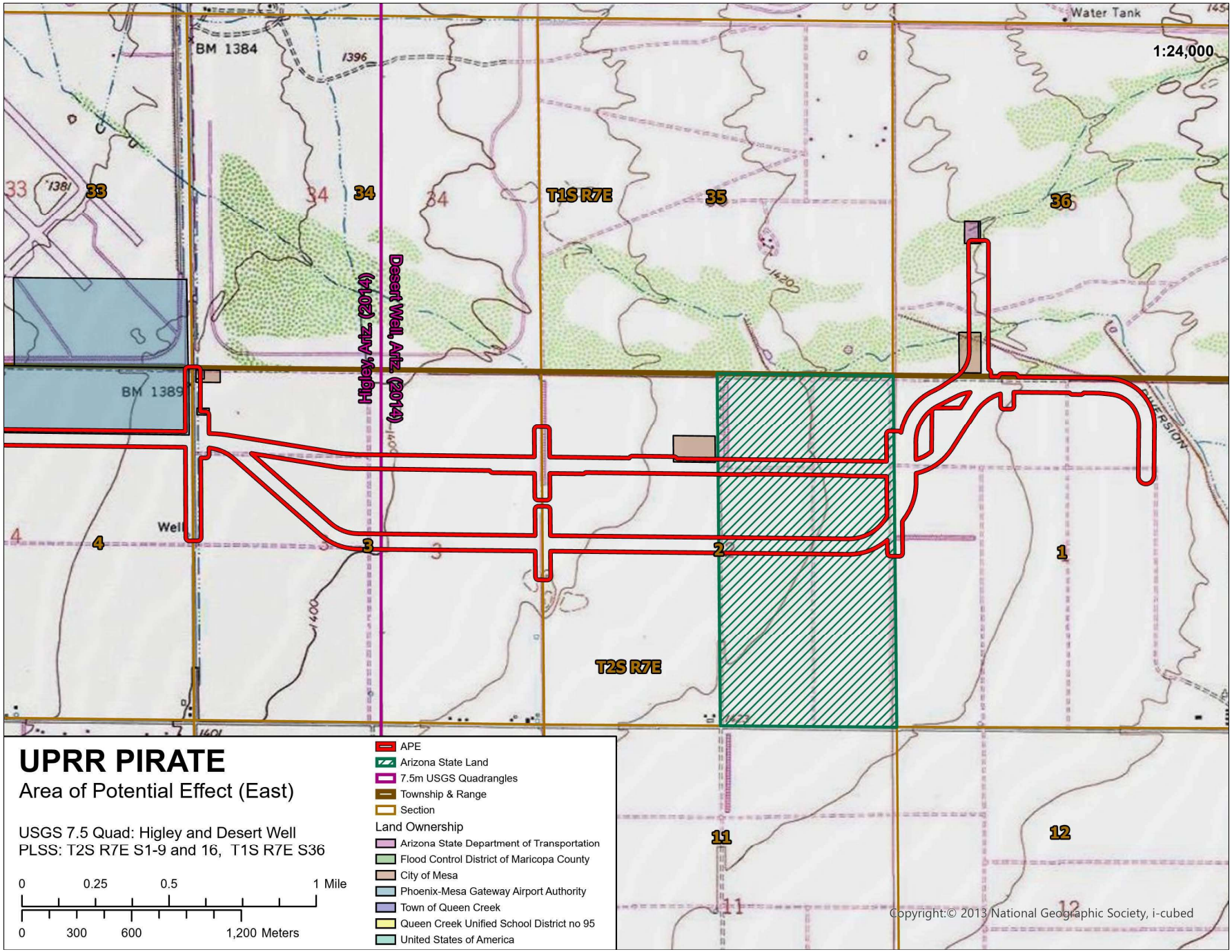


Danielle Gosselin
Director
Office of Environmental Analysis

Enclosure: APE Map (two sheets)

cc: Adam Assenza, OEA Environmental Protection Specialist, Adam.Assenza@stb.gov
Alan Tabachnick, OEA Historic Preservation Specialist, alan.tabachnick@stb.gov
Maggie Buckley, Jacobs Project Manager, Maggie.Buckley@jacobs.com


T1S R6E
31
32
T1S R7E
33
34
1:24,000
BM 1389
1370
6
5
4
3
Germann
1350
1365
T2S R6E
T2S R7E
1366
1380
1401
Higley, Ariz. (2014)
POWERS
7
8
9
10
RITTENHOUSE
Arizona Boys Ranch
1383
ROAD
BM 1401
Queen Cree
Sch
16
15
Rittenhouse
BM 1402
Landing
Copyright © 2013 National Geographic Society, i-cubed
UPRR PIRATE
Area of Potential Effect (West)
USGS 7.5 Quad: Higley and Desert Well
PLSS: T2S R7E S1-9 and 16, T1S R7E S36
0 0.25 0.5 1 Mile
0 300 600 1,200 Meters
APE
Arizona State Land
7.5m USGS Quadrangles
Township & Range
Section
Land Ownership
Arizona State Department of Transportation
Flood Control District of Maricopa County
City of Mesa
Phoenix-Mesa Gateway Airport Authority
Town of Queen Creek
Queen Creek Unified School District no 95
United States of America


1:24,000
Water Tank
BM 1384
1396
33
34
T1S R7E
35
36
Higley, Ariz. (2014)
Desert Well, Ariz. (2014)
BM 1389
Well
4
3
2
1
T2S R7E
11
12
UPRR PIRATE
Area of Potential Effect (East)
USGS 7.5 Quad: Higley and Desert Well
PLSS: T2S R7E S1-9 and 16, T1S R7E S36
0 0.25 0.5 1 Mile
0 300 600 1,200 Meters
APE
Arizona State Land
7.5m USGS Quadrangles
Township & Range
Section
Land Ownership
Arizona State Department of Transportation
Flood Control District of Maricopa County
City of Mesa
Phoenix-Mesa Gateway Airport Authority
Town of Queen Creek
Queen Creek Unified School District no 95
United States of America
Copyright:© 2013 National Geographic Society, i-cubed

From: Luhnow, Glennda
Sent: Thursday, July 7, 2022 7:45 AM
To: Rainey, Pamela <Pamela.Rainey@jacobs.com>
Cc: Bushey, Sabra <Sabra.Bushey@jacobs.com>; Buckley, Maggie <Maggie.Buckley@jacobs.com>
Subject: FW: Section 106 Consultation for UPRR Pirate Project, Mesa, AZ (STB Docket FD 36501)

Hi Pam,

Can you please update the tribal tracking spreadsheet? Thanks!

Glennda Luhnow, M.A., RPA | **JACOBS** | **Manager/Archaeology and Cultural Resources** |
C: 480-510-0830 | glennda.luhnow@jacobs.com
1501 West Fountainhead Parkway, Suite 401 | Tempe, Arizona 85282 | USA

From: Karl Hoerig <khoerig@pascuayaqui-nsn.gov>
Sent: Tuesday, July 5, 2022 4:27 PM
To: Tabachnick, Alan <alan.tabachnick@stb.gov>
Cc: Assenza, Adam <Adam.Assenza@stb.gov>; Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>; Buckley, Maggie <Maggie.Buckley@jacobs.com>; Luhnow, Glennda <Glennda.Luhnow@jacobs.com>
Subject: [EXTERNAL] Re: Section 106 Consultation for UPRR Pirate Project, Mesa, AZ (STB Docket FD 36501)

Dear Mr. Tabachnick,

Following receipt of a letter from Danielle Gosselin, on April 22 I wrote to Mr. Adam Assenza requesting that any Class I and Class III survey reports that had been completed for the proposed UPRR Pirate Project be provided so that we could evaluate whether the Pascua Yaqui Tribe should consult on the project. I do not have records indicating that I received a response, though it is certainly possible that I missed it. If there is the potential for the proposed project to affect heritage resources, including ancestral sites, Pascua Yaqui Tribe would like to be included in the Section 106 and NEPA consultation.

With best regards,
Karl Hoerig

Karl A. Hoerig, Ph.D.

Tribal Historic Preservation Officer
Pascua Yaqui Tribe
7777 S. Camino Huivisim, Building C
Tucson, AZ 85757
(520) 883-5116
karl.hoerig@pascuayaqui-nsn.gov

From: Tabachnick, Alan <alan.tabachnick@stb.gov>
Sent: Friday, June 24, 2022 8:07 AM
Cc: Assenza, Adam <Adam.Assenza@stb.gov>; Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>; Buckley, Maggie <Maggie.Buckley@jacobs.com>; Luhnow, Glennda <Glennda.Luhnow@jacobs.com>
Subject: Section 106 Consultation for UPRR Pirate Project, Mesa, AZ (STB Docket FD 36501)

CAUTION: This email originated from outside of the PYT Organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

CAUTION: This email originated from outside of the PYT Organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good morning. I am reaching out to you to follow up on our Section 106 outreach letters and emails that were sent to you in early April, 2022. We have not received a formal response from you and want to make sure that you are given the opportunity to participate in the Section 106 process if you so desire. We are preparing an Environmental Assessment for the proposed new freight line, and undertaking cultural resource investigations as part of the Section 106 process. If you would like to be a formal consulting party on the project, please let me know as soon as possible.

If you have any questions about the project, the NEPA process, or the Section 106 process, please let me know. We would be happy to schedule a meeting if that would be helpful and are always available to answer any questions you may have. Thank you very much and feel free to reach out any time.

Sincerely,

Alan Tabachnick
(he/him/his)

Historic Preservation Specialist

Office of Environmental Analysis
Surface Transportation Board
395 E Street SW
Washington, DC 20423
Office: 202-245-0367

SURFACE TRANSPORTATION BOARD
Washington, DC 20423

Office of Environmental Analysis

September 1, 2022

Ms. Kathryn Leonard
State Historic Preservation Officer
Arizona State Parks, State Historic Preservation Office
1110 West Washington Street, Suite 100
Phoenix, AZ 85007

Re: Docket No. FD 36501, Union Pacific Railroad Company – Construction and Operation Exemption – in Maricopa County, AZ; Continuation of National Historic Preservation Act Section 106 Consultation on Area of Potential Effects Revision, Class III Survey Report Adequacy, National Register of Historic Places Eligibility, Treatment Recommendations, Finding of Adverse Effect, and Section 106 Agreement Document

Dear Ms. Leonard:

On June 30, 2022, the Union Pacific Railroad Company (UP) filed a petition with the Surface Transportation Board (Board) pursuant to 49 U.S.C. § 10502 requesting authority to construct and operate approximately 6.0 miles of new rail line in Maricopa County, Arizona (the Pecos Industrial Rail Access and Train Extension [PIRATE] rail line) (Attachment 1). Before making its decision on whether to grant such authority, the Board must consider the potential environmental impacts of the construction and operation of UP's proposed rail line, pursuant to the National Environmental Policy Act (42 U.S.C. §§ 4321-4370m-12), Section 106 of the National Historic Preservation Act (54 U.S.C. § 306108), the Board's environmental rules at 49 C.F.R. Part 1105, and related environmental laws. Previous consultation pursuant to Section 106 of the National Historic Preservation Act (dated April 6, 2022) initiated the Section 106 process, outlined the project scope, notified potential consulting parties of the project's alternatives analysis, and requested concurrence on the project Area of Potential Effects (APE).

The Board's Office of Environmental Analysis (OEA) is continuing Section 106 consultation with your office to solicit your comments regarding revisions to the APE since our last letter, the cultural resources Class III Survey Report, OEA's National Register of Historic Places (NRHP) eligibility determinations, treatment recommendations, finding of adverse effect, and development of a Section 106 agreement document for the project.

Revised Area of Potential Effects

The project APE has been slightly revised since our initial Section 106 consultation letter dated April 6, 2022. Proposed grading extensions located in a portion of Township 1 South, Range 7 East, Section 36 (Gila and Salt River Baseline and Meridian [GSRB&M]) would not be constructed as part of this project and have been removed from the APE. These extensions may be constructed by others in the future depending on market conditions and the owners' needs. The removal of the grading extensions reduces the APE by 0.75 mile. Additionally, the northeastern terminus of the APE south of Pecos Road has been slightly adjusted and extended by approximately 500 feet at the approach to the Commercial Metals Company, located in a portion of Township 2 South, Range 7 East, Section 1 (GSRB&M). The revised APE is depicted on Attachments 2a and 2b and was included in the Class III survey discussed below.

Completion of Class III Survey and Draft Technical Report

Jacobs Engineering Group Inc., OEA's third-party contractor, conducted the Class III survey between May 24 and 31, 2022, and on June 14, 2022. The results are reported in *A Class III Cultural Resources Survey for the Union Pacific Railroad Company, Pecos Industrial Rail Access and Train Extension (PIRATE) Project, Mesa and Queen Creek, Maricopa County, Arizona* by Pamela J. Rainey and Michael Stubing, dated August 2022 (Class III Survey Report). A copy of the Class III Survey Report is attached for your review and comment. As explained in the Class III Survey Report and also depicted on Attachments 2a and 2b, small portions of the APE remain unsurveyed due to extensive crop coverage and limitations on right of entry.

The Class III survey identified portions of 3 previously recorded cultural resources sites (AZ U:10:2[Arizona State Museum (ASM)], AZ U:10:69[ASM], and AZ U:10:275[ASM]), 2 in-use historic structures, and 56 isolated occurrences (IOs) and isolated features (IFs) within the APE. A portion of 1 previously recorded cultural resources site (AZ U:10:152[ASM]) is plotted directly adjacent to the APE.

The IOs and IFs consist of prehistoric artifacts and historic artifacts and features (utility lines, irrigation canals/ditches, and unimproved roads). The IOs and IFs are not considered significant. They do not meet the ASM site definition, and mapping and recording have exhausted their data potential. No further cultural resources work is recommended for the 56 IOs and IFs.

Eligibility Determinations and Treatment Recommendations

Cultural Resources Sites

AZ U:10:2(ASM) is an extensive Hohokam habitation site located in the APE in the wye, along the Phoenix Subdivision main line and along the shared Alternative 1 and Alternative 2 alignment. The Arizona State Historic Preservation Office (SHPO) previously determined the site eligible for inclusion in the NRHP under Criterion D (information potential). Sites such as AZ U:10:2(ASM) have the potential to contain data that can inform research questions related to Hohokam settlement pattern, land use, trade and interaction, intrasite patterning, subsistence

strategies, and social organization, among other topics. Based on current fieldwork results, OEA agrees with SHPO's previous determination that AZ U:10:2(ASM) is eligible for the NRHP under Criterion D. AZ U:10:2(ASM) measures 3.7 by 2.5 kilometers (1,513 acres) in total size and encompasses a large portion of the APE, thus eliminating options for avoidance. Therefore, OEA recommends developing a Section 106 agreement document and a Historic Properties Treatment Plan (HPTP) to outline an appropriate level of treatment.

AZ U:10:69(ASM) is located in the APE in the shared Alternative 1 and Alternative 2 alignment. SHPO previously determined the site eligible for the NRHP under Criterion D. The portion of the site within the APE is represented by newly recorded Locus 1, a small cluster of artifacts. The boundary of AZ U:10:69(ASM) was expanded to incorporate Locus 1. The presence of multiple artifact classes in Locus 1 suggests that this area represents some degree of habitation during the Hohokam Preclassic period. The area has been subject to extensive agricultural disturbance. However, there may be potential for intact subsurface deposits, although the Class III survey results could not confirm this. Therefore, OEA is unable to evaluate the portion of AZ U:10:69(ASM) within the APE for NRHP eligibility. A determination of "unevaluated" is appropriate. Avoidance of AZ U:10:69(ASM) may be feasible based on the configuration of the final design. If avoidance is not feasible, OEA recommends developing a Section 106 agreement document and an HPTP to outline an appropriate level of treatment.

AZ U:10:152(ASM) is a large Hohokam artifact scatter that is located within the Phoenix-Mesa Gateway Airport, immediately north and adjacent to the Alternative 1 and Alternative 2 alignment of the APE. The original site recorders previously recommended the site eligible for the NRHP under Criterion D (Greenwald et al. 1994). While a sparse number of dispersed ceramics were identified to the south of the site boundary, their number and the diffuse nature of their distribution did not justify expanding the site boundary. OEA recommends cultural resources construction monitoring in the site vicinity under the provisions of a monitoring and discovery plan to be included in a Section 106 agreement document.

AZ U:10:275(ASM) is located in the APE in the Alternative 1 alignment. SHPO previously determined the site eligible for the NRHP. No criterion is cited. Within the APE, OEA expanded the previously documented site boundary to encompass a newly recorded ceramic scatter. However, the boundary of this site could not be confidently drawn due to 0 percent ground visibility within the APE to the immediate south. The types of wares in the newly recorded ceramic scatter suggest that this portion of the site represents use during the Hohokam Preclassic period. The area has been subject to extensive agricultural disturbance. However, there may be potential for intact subsurface deposits, although the Class III survey results did not confirm this. Therefore, OEA is unable to evaluate the newly recorded portion of AZ U:10:275(ASM) within the APE for NRHP eligibility. A determination of "unevaluated" is appropriate. Avoidance of AZ U:10:275(ASM) may be feasible if Alternative 1 is not authorized for construction or if Alternative 1 final design is configured to avoid the site. If avoidance is not feasible, OEA recommends developing a Section 106 agreement document and an HPTP outlining an appropriate level of treatment.

In-Use Historic Structures

Old Rittenhouse Road, formerly AZ U:10:154(ASM), is within the Phoenix Subdivision main line portion of the APE. The road runs alongside the southwest side of the railroad and can be seen intermittently between Power Road and southeast of Sossaman Road. It is currently in use as an access road to local businesses. No pavement is present, and portions of the road have been obliterated. The road terminates approximately 0.38 mile southeast of Sossaman Road, where the current alignment of Rittenhouse Road joins it. Within the APE, the road lacks integrity, and OEA agrees with SHPO's previous determination that the road is ineligible for the NRHP. OEA does not recommend any further cultural resources work for Old Rittenhouse Road.

The Mesa to Winkelman Spur of the Southern Pacific Railroad, formerly AZ U:16:299(ASM), is an in-use historic structure that is currently owned and operated by UP as the Phoenix Subdivision main line. SHPO previously determined that the rail corridor was eligible for listing on the NRHP under Criterion A for its association with early development of rail transportation within Arizona. Within the APE, the alignment retains integrity of location, workmanship, and design. While its integrity of setting, feeling, and association have been diminished slightly by adjacent modern development, it is not significant. The railroad's integrity of materials has also been slightly diminished by regular maintenance. However, it is in-kind and does not constitute a significant change. As a result, OEA has determined that the portion of the railroad in the APE contributes to the eligibility of the alignment under Criterion A. While modifications to the existing track would occur, they would not affect the railroad's integrity of location, setting, feeling, and association, so there would be no adverse effect to the railroad's eligibility under Criterion A. Further, this segment does not exhibit any unique qualities of design or construction that would be adversely affected. Therefore, OEA does not recommend any further cultural resources work for the Mesa to Winkelman Spur of the Southern Pacific Railroad.

Finding of Project Effect

If the Board grants UP's petition, UP would have approval to construct the alternative authorized by the Board in its final decision. However, based on the results of the background research and Class III cultural resources survey, a finding of adverse effect to historic properties is appropriate for any Board decision granting construction and operating authority, regardless of which alternative is authorized.

Based on the finding of adverse effect to historic properties, OEA recommends development and distribution of a Section 106 agreement document to all consulting parties for review and comment. The agreement document will contain measures to mitigate any adverse effects to historic properties, including the format and content of an HPTP. OEA requests concurrence that a Memorandum of Agreement is the appropriate Section 106 agreement document.

Request for Input

Finally, OEA requests your comments regarding the APE revisions, the adequacy of the Class III Survey Report, OEA's NRHP eligibility determinations, treatment recommendations, finding of adverse effect, and development of a Memorandum of Agreement as an appropriate Section 106 agreement document for the project by **Tuesday**, **October 4**, **2022**. If you have any questions or would like additional information, please reach out to Alan Tabachnick, at 202-245-0367.

Sincerely,

Danielle Gosselin
Director
Office of Environmental Analysis

Enclosures:

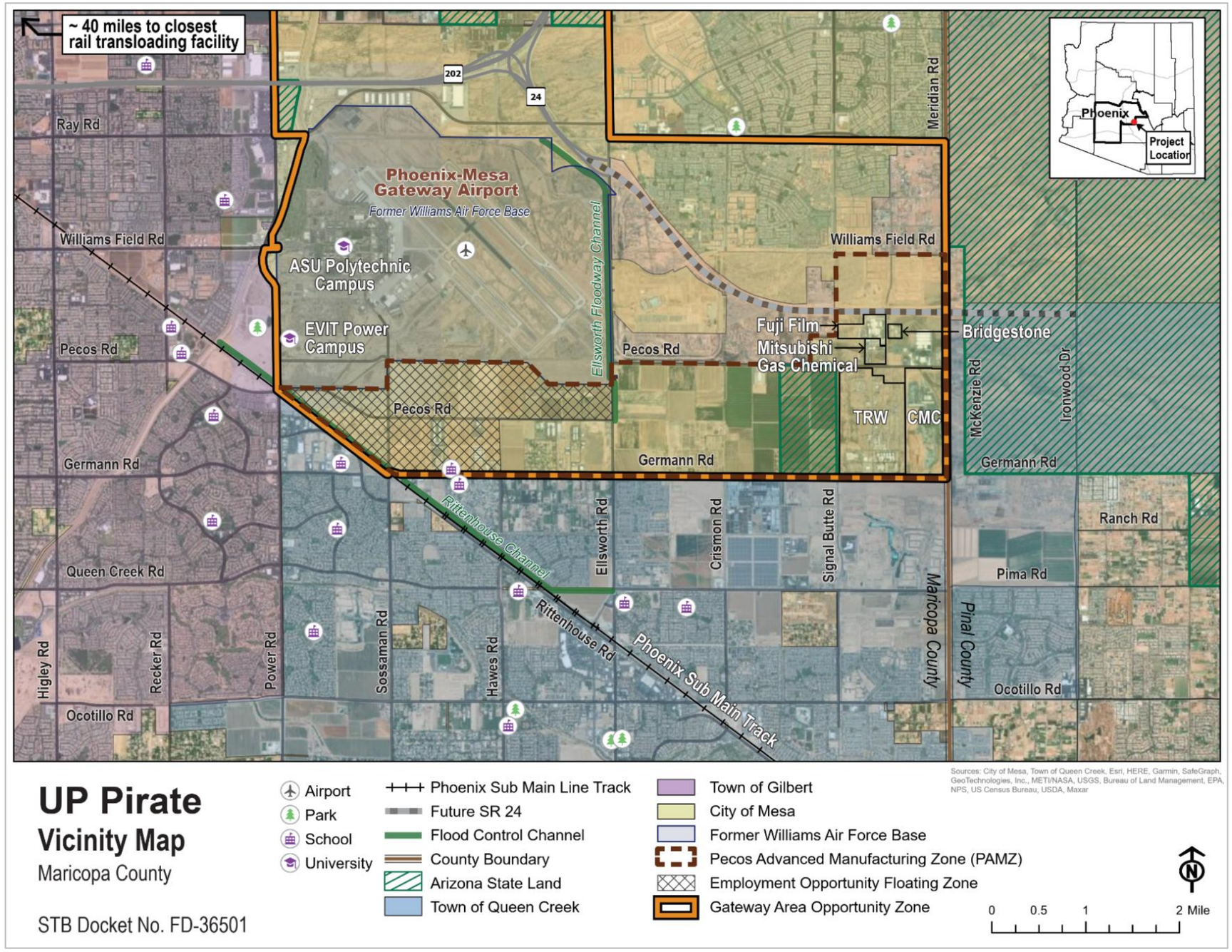
Attachment 1 – Vicinity Map
Attachment 2 – Revised APE Map (two sheets)
Attachment 3 – Cultural Resources Report

Cc: Adam Assenza, OEA Environmental Protection Specialist, Adam.Assenza@stb.gov
Alan Tabachnick, OEA Historic Preservation Specialist, Alan.Tabachnick@stb.gov
Maggie Buckley, Jacobs Project Manager, Maggie.Buckley@jacobs.com

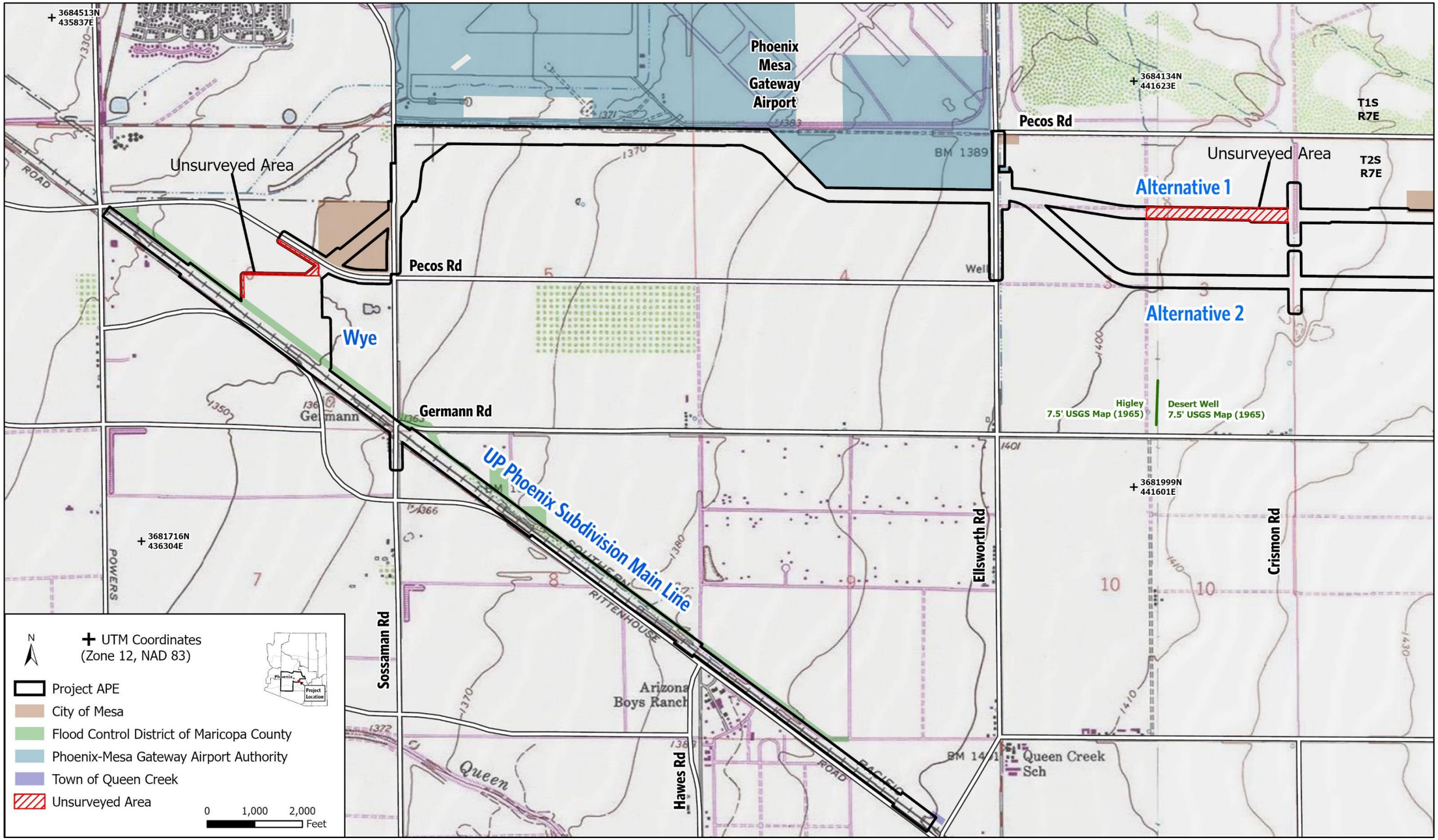
Reference Cited:

Greenwald, David H., Richard A. Anduze, and Mary-Ellen Walsh-Anduze
1994 *Archaeological Survey and Test Excavations at Williams Air Force Base, Arizona.* SWCA Archaeological Report 93-12b. SWCA Environmental Consultants, Inc., Scottsdale, Arizona.

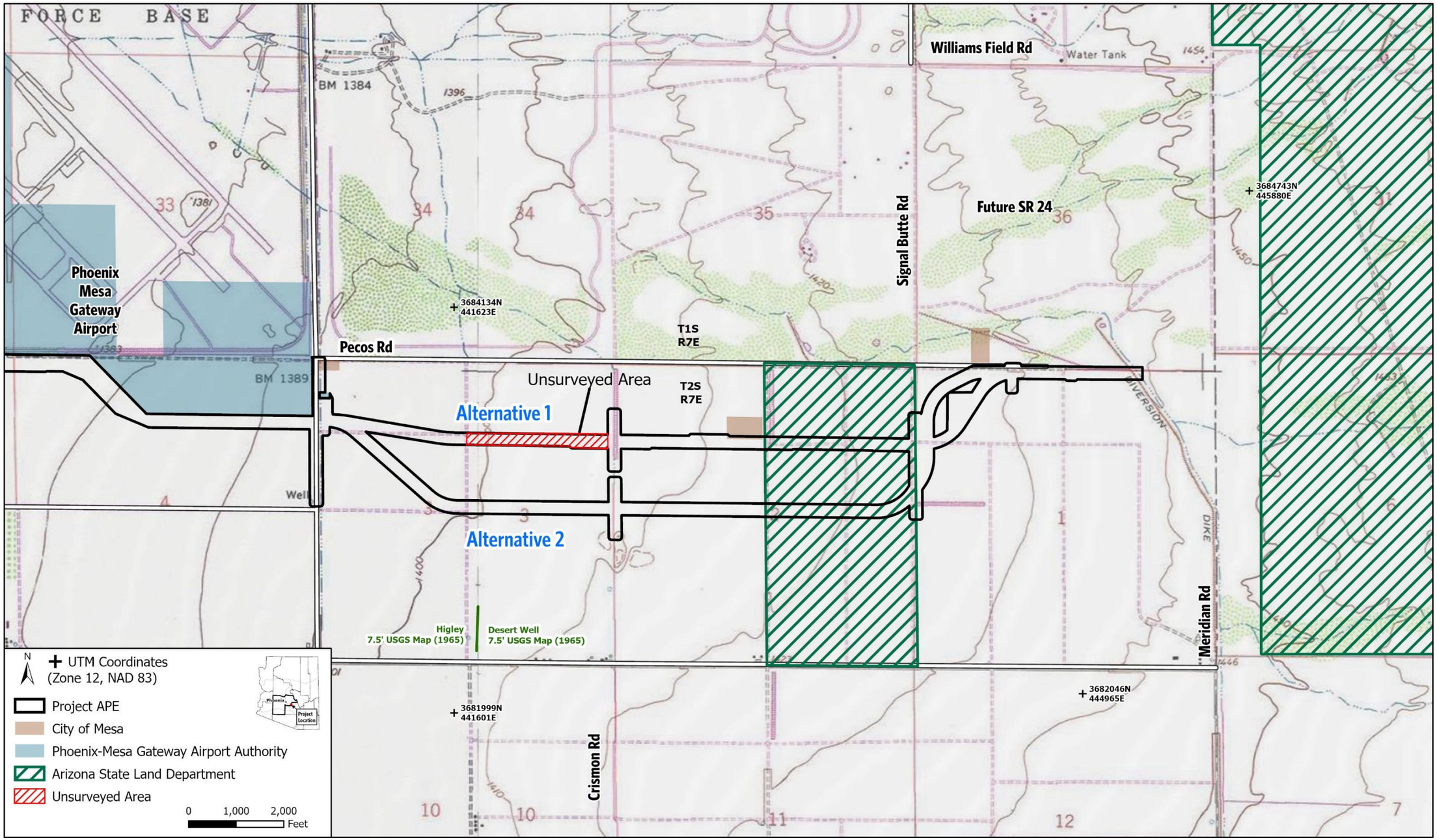
ATTACHMENT 1 – VICINITY MAP



ATTACHMENT 2a– REVISED APE MAP



ATTACHMENT 2b – REVISED APE MAP



Douglas A. Ducey
Governor

Lisa A. Atkins
Commissioner

Arizona State Land Department

1616 West Adams, Phoenix, Arizona 85007
(602) 542-4631

October 18, 2022

Michael Romero
Land Disp. Project Leader
Arizona State Land Department
1616 W. Adams
Phoenix, Arizona 85007

RE: Cultural Review for Application 16-123021-00-100 (Union Pacific Railroad Company)

Dear Mr. Romero:

Union Pacific Railroad Company filed a Right of Way (ROW) application (16-123021-00-100) with the Arizona State Land Department (ASLD) for the installation and maintenance of Pecos Industrial Rail Access and Train Extension (PIRATE) on State Trust Land (STL) in Maricopa County (T2S, R7E, Section 2), encompassing 7.257 acres. The project is seeking authority from the Surface Transportation Board (Board). Therefore, this review is solely for ASLD's compliance with the Arizona State Historic Preservation Act (A.R.S. § 41-861 et seq.) in the issuance of the requested ROW and does not fulfill either other agency's potential responsibilities under Section 106 of the National Historic Preservation Act (36 CFR Part 800).

The Boards Office of Environmental Analysis (OEA) on behalf of Union Pacific Railroad Company arranged for Jacobs Engineering Group, Inc. (Jacobs) to inspect the subject area for cultural resources. That inspection was conducted under Arizona Antiquities Act Permit No. 2022-018bl and is documented in the report titled *A Class III Cultural Resources Survey for the Union Pacific Railroad Company Pecos Industrial Rail Access and Train Extension (PIRATE) Project, Mesa and Queen Creek, Maricopa County, Arizona.* (2022). Therefore, per the 2016 Interagency Service Agreement (ISA) between the ASLD, the State Historic Preservation Office (SHPO), and the Arizona State Museum (ASM), ASLD has reviewed the report and has the following comments and recommendations.

The report indicates that Jacobs inspected 31.45 acres of State Trust land and identified six isolated features (IF) consisting of a historic utility line, two in-use dirt roads, and three canal/irrigation ditches on State Trust land. The Class III survey inspected two alternative areas. The Ifs are not considered significant. They do not meet ASM site definition, and mapping and recording have exhausted their data potential. No further cultural resource work is recommended for the IOs. Therefore, the ASLD Cultural Resources Section recommends that ASLD ROW Section grant ROW application 16-123021-00-100 with the following conditions:

Prior to any ground disturbance in areas not previously subject to a cultural resources survey, Grantee shall arrange for a permittee of the Arizona State Museum to inspect the area for cultural, historical, and paleontological remains and submit two copies and a PDF copy of the inspection report to the Arizona State Land Department Cultural Resources Section for review and approval.

If, following receipt of ASLD Cultural Resources Section approval to proceed, any additional archaeological, paleontological, or historical site or object, or Human remains or funerary object that is at least fifty years old is discovered during the course of ground disturbing activities, all work shall cease and the grantee shall notify the Director of the Arizona State Museum pursuant to A.R.S. §41-844, and Arizona State Land Department Cultural Resources Section Manager.

By copy of this letter to Jacobs Engineering Group, Inc., I have the following technical comments:

- Abstract: Project Locator UTM – only use one project UTM locator as the official project UTM locator (used by SHPO and ASM to track projects with AZSITE).

Your continued cooperation with this office in considering the potential for impacts to Arizona's cultural resources is appreciated. If you have any comments or concerns, please contact the ASLD Cultural Resources Section at arch@azland.gov.

Sincerely,

Tiffany L. Grew
Archaeological Compliance Specialist
As agent of Arizona State Land Department

CC: Erin Davis, SHPO
Adam Assenza, OEA
Alan Tabachnick, OEA
Kris Anderson, Union Pacific Railroad Company
Glennda Gene Luhnow, Jacobs Engineering Group, Inc.
Shannon Plummer, ASM

Enclosure: Tribal Consultation List

Arizona State Land Department Cultural Resources Section
Tribal Consultation List

If you have any comments or concerns, please provide them at this time. If there are none, this document may be retained for your records. Should you require additional documentation, i.e. maps or reports, please request via email for digital copies.

Application No.: 16-123021-00-100
Date: October 18, 2022

Tribes:

- ☐ Ak-Chin Indian Community
- ☐ Chemehuevi Indian Tribe
- ☐ Cocopah Indian Tribe
- ☐ Colorado River Indian Tribes
- ☐ Fort McDowell Yavapai Nation
- ☐ Fort Mojave Indian Tribe
- ☐ Fort Sill Apache Tribe
- ☐ Fort Yuma-Quechan Tribe
- ☒ Gila River Indian Community
- ☐ Havasupai Tribe
- ☒ Hopi Tribe
- ☐ Hualapai Tribe
- ☐ Kaibab Band of Paiute Indians
- ☒ Mescalero Apache Tribe
- ☐ Moapa Band of Paiute Indians
- ☐ Navajo Nation
- ☐ Paiute Indian Tribe of Utah
- ☒ Pascua Yaqui Tribe
- ☒ Pueblo of Zuni
- ☒ Salt River Pima-Maricopa Indian Community
- ☐ San Carlos Apache Tribe
- ☐ San Juan Southern Paiute
- ☐ Tohono O'odham Nation
- ☒ Tonto Apache Tribe
- ☐ Ute Mountain Ute
- ☒ White Mountain Apache Tribe
- ☒ Yavapai-Apache Nation
- ☐ Yavapai-Prescott Indian Tribe
- ☐ Pueblo of Acoma

GILA RIVER INDIAN COMMUNITY
POST OFFICE BOX 2193, SACATON, AZ 85147

TRIBAL HISTORIC PRESERVATION OFFICE

(520) 562-7162
Fax: (520) 562-5083

September 7, 2022

Danielle Gosselin, Director
Surface Transportation Board
Office of Environmental Analysis
RE: Docket No. FD 36501
395 E Street SW
Washington, DC 20423

RE: Docket No. FD 36501, Union Pacific Railroad Company, Construction and Operation Exemption, Mesa, Maricopa County, Arizona, Section 106 Consultation Area of Potential Effects (APE), Class III Survey Report, Determinations of Register Eligibility, Treatment Recommendations, Memorandum of Agreement (MOA), Adverse Effect

Dear Director Gosselin,

The Gila River Indian Community Tribal Historic Preservation Office (GRIC-THPO) has received your consultation documents dated September 1, 2022. The Union Pacific Railroad Company (UPRC) has filed a petition with the Surface Transportation Board (Board) requesting to construct and operate a 6 mile long rail line, the Pecos Industrial Rail Access and Train Extension (PIRATE), east and south of the Phoenix-Mesa Gateway Airport, Mesa, Maricopa County, Arizona. Two alternatives (Alternative 1 and 2) for construction have been archaeologically surveyed. Which alternative will be used for rail line construction has yet to be determined. Nonetheless, the Board advises that the APE has been has been modified by removing proposed grading extensions the project area.

The project area has been archaeologically surveyed. Four previously recorded sites and two in-use structures have been identified within the project area: 1) AZ U:10:2(ASM) is identified as the Germann Site, an extensive Hohokam habitation which extends across both proposed construction alternatives. The site is considered a Register eligible property which cannot be avoided. The OEA is recommending the development of an MOA and a Historic Property Treatment Plan (HPTP) to address the adverse effects of this undertaking; 2) AZ U:10:69(ASM) is identified as a large Hohokam habitation site which is considered Register eligible. The portion of the site that is located within the build alternatives has been disturbed by agricultural activities. The OEA advises that this disturbed portion of the site will be considered as unevaluated regarding Register eligibility. If the site cannot be avoided through project redesign, the OEA is recommending the development of an MOA and a HPTP to address the adverse effects of this undertaking; 3) AZ U:10:152(ASM) is identified as a large Hohokam artifact scatter that is located adjacent to the PIRATE project area and within the Phoenix-Mesa Gateway property. The site is considered a Register eligible property. Due to the sparse scatter of artifacts located within

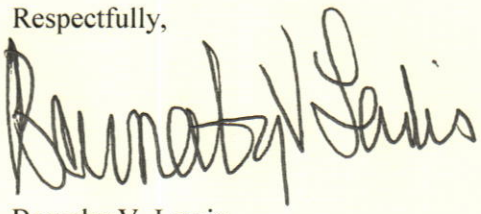
the PIRATE project area (newly identified and documented), the OEA is advising that the site boundary of AZ U:10:152(ASM) will not be expanded and that archaeological site monitoring during ground disturbing activities is recommended; 4) AZ U:10:275(ASM) is identified as the Sand Dune Site, an extensive Hohokam artifact scatter which is located within the Alternative 1 project alignment. The site is considered a Register eligible property. The portion of the site that is located within the Alternative 1 project area has been disturbed by agricultural activities. The OEA advises that this disturbed portion of the site will be considered as unevaluated regarding Register eligibility. If the site cannot be avoided through project redesign, the OEA is recommending the development of an MOA and a HPTP to address the adverse effects of this undertaking: 5) AZ U:10:154(ASM) is identified as the Old Rittenhouse Road. The road is currently in-use and is not considered a Register eligible property; and 6) AZ U:16:299(ASM) is identified as the Mesa to Winkelman Spur of the Southern Pacific Railroad. The rail road is considered a Register eligible property which will not be affected by this undertaking. The Board and the OEA are seeking concurrence with recommendations for determinations of site Register eligibility, the preparation of a MOA, and with the preparation of a HPTP to address the adverse effects of this undertaking. The Board has made a project finding of adverse effect.

The GRIC-THPO does not agree with determinations of site Register eligibility. Sites AZ U:10:69(ASM) AZ U:10:152(ASM), and AZ U:10:275(ASM) have previously been determined to be Register eligible properties. The portions of these sites that are located within the project area are therefore considered Register eligible too. A determination of "unevaluated" is not acceptable The GRIC-THPO does not support the splitting up of sites to determine which parts of the sites are Register eligible and which parts of the sites are not Register eligible. The entire site is Register eligible. We also recommend that the site boundary be expanded to include the newly documented portion of site AZ U:10:152(ASM). The Board and the OEA have also included language regarding site disturbance from agricultural activities at sites AZ U:10:69(ASM) and AZ U:10:275(ASM). Experience has demonstrated to us all that discoveries can still occur, regardless of the extent of disturbance. Assuming or underestimating the possibilities of discoveries is misguided and wrong. The agencies and archaeologists need to conduct this undertaking expecting discoveries in the disturbed areas. The changes to the APE are understood, but it is unclear from the report, maps, and consultation letter just what parts of the APE have been modified. Please clarify. There are also parts of the project area that have been marked as unsurveyed. Will those portions of the project area be archaeologically surveyed?

The GRIC-THPO concurs with a finding adverse effect for this undertaking. We also agree with recommendations for preparation of a Section 106 MOA, a HPTP, and with recommendations for archaeological site monitoring (if necessary). We look forward to reviewing and commenting on the MOA and HPTP, which include are suggested changes, when they become available. The GRIC-THPO will continue to participate in the Section 106 process of this undertaking. The proposed project area is within the ancestral lands of the Four Southern Tribes (Gila River Indian Community; Salt River Pima-Maricopa Indian Community; Ak-Chin Indian Community and the Tohono O'Odham Nation).

Thank you for consulting with the GRIC-THPO about this undertaking. If you have any questions please do not hesitate to contact our office at 520-562-7162.

Respectfully,



Barnaby V. Lewis
Tribal Historic Preservation Officer
Gila River Indian Community

ATTACHMENT 3

CONSULTATION QUESTIONNAIRE

Pascua Yaqui Tribe

Re: Docket No. FD 36501, Union Pacific Railroad Company – Construction and Operation Exemption – in Maricopa County, AZ.; Section 106 Government-to-Government Consultation and NEPA Coordination

Please check all the appropriate response(s) that apply from the list below and please feel free to use the back of this form or additional sheets if you wish to make comments.

_____ We have no interests regarding UP's proposed construction and operation exemption and further consultation with our Tribe is not required.

_____ We want to continue to receive project information by mail or email and participate in the NEPA public involvement process. Please specify email and/or mailing address.

_____

_____

_____

✓ We have an interest in UP's proposed construction and operation exemption and want to participate in government-to-government consultation.

Name of the Pascua Yaqui Tribe designated contact for the UP construction and operation exemption:

Name: Karl Hoerig Phone: (520) 883-5116

Please print email: karl.hoerig@pascuayaqui-nsn.gov

Signed: Karl Hoerig Date: 9/16/2022

Please mail to:

Alan Tabachnick, Surface Transportation Board
Re: Docket No. FD 36501
395 E Street SW
Washington, DC 20423

Or email to: Alan.Tabachnick@stb.gov

From: Bushey, Sabra <Sabra.Bushey@jacobs.com>
Sent: Monday, September 19, 2022 7:23 PM
To: Luhnow, Glennda <Glennda.Luhnow@jacobs.com>; Rainey, Pamela <Pamela.Rainey@jacobs.com>; Buckley, Maggie <Maggie.Buckley@jacobs.com>; Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>
Subject: FCDMC - 106 Response

In regards to the letter requesting comments that our office received from Danielle Gosselin, Director, Office of Environmental Analysis, dated September 1, 2022, the Flood Control District of Maricopa County (District) has no comment on the Area of Potential Effects revisions, the adequacy of the Class III Cultural Resources Survey, OEA's NRHP eligibility determinations, treatment recommendations, finding of adverse effect, or development of a Memorandum of Agreement as an appropriate Section 106 agreement document for the Union Pacific Railroad Company Pecos Industrial Rail Access and Train Extension Project (Surface Transportation Board Docket No. FD 36501). It appears that the rail alignment may impact the existing Rittenhouse Channel that is owned and maintained by the District. If so, a right of way use permit and a land right must be obtained from our office prior to any construction that impacts our project. Our right of way permit review will be conducted to ensure that the channel function remains fully intact and there is a clear understanding of future responsibilities for operation and maintenance of any facilities that may impact our channel. An engineering firm on behalf of Union Pacific Railroad submitted a general concept plan to the District and applied for a right of way use permit from our office in late September 2021. More detailed plans will be required before permitting decisions can be made. In addition to a right of way use permit and land right, a floodplain use permit from our office may also be necessary as the existing flood channel contains a delineated floodplain that may be impacted, and the District is responsible for floodplain reviews in the City of Mesa. Ed Raleigh Senior Engineering Advisor Flood Control District of Maricopa County (602)506-1501

From: Plummer, Shannon D - (splummer) <splummer@arizona.edu>
Sent: Monday, October 3, 2022 10:41 AM
To: Luhnow, Glennda <Glennda.Luhnow@jacobs.com>
Cc: Leone, Karen L - (kleone) <kleone@arizona.edu>
Subject: [EXTERNAL] RE: UPRR PIRATE Continuing Section 106 Consultation and Survey Report Distribution

Hello, Glennda,

Arizona State Museum (ASM) has reviewed *A Class III Cultural Resources Survey for the Union Pacific Railroad Company Pecos Industrial Rail Access and Train Extension (PIRATE) Project, Mesa and Queen Creek, Maricopa County, Arizona*, by P.J. Rainey and M. Stubing of Jacobs Engineering Group, Inc., dated August 2022.

ASM concurs with the Surface Transportation Board's (STB) finding of "adverse effect".
ASM has no comments on the report draft (ASM Accession 2022-0231).

Shannon Plummer, M.A.
Arizona Antiquities Act Administrator
AAA Permits Office Manager
Arizona State Museum | The University of Arizona 1013 E University Blvd | PO Box 210026
Tucson, AZ 85721-0026
(520) 621-4795 | 621-2976 FAX www.statemuseum.arizona.edu

THE UNIVERSITY OF ARIZONA
ARIZONA STATE MUSEUM

From: Luhnow, Glennda <Glennda.Luhnow@jacobs.com>
Sent: Thursday, September 1, 2022 1:27 PM
To: Lyons, Patrick D - (plyons) <plyons@arizona.edu>
Cc: Plummer, Shannon D - (splummer) <splummer@arizona.edu>; Assenza, Adam <adam.assenza@stb.gov>; Tabachnick, Alan <alan.tabachnick@stb.gov>; Buckley, Maggie <Maggie.Buckley@jacobs.com>; Bushey, Sabra <Sabra.Bushey@jacobs.com>; Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>
Subject: [EXT]UPRR PIRATE Continuing Section 106 Consultation and Survey Report Distribution

External Email

Dear Dr. Lyons,

As stated in previous Section 106 consultation conducted under the National Historic Preservation Act, the Union Pacific Railroad Company intends to request authority from the Surface Transportation Board (Board) to construct and operate approximately six miles of new rail line in Maricopa County, Arizona (the proposed Pecos Industrial Rail Access and Train Extension [PIRATE] rail line).

With the attached letter, the Board's Office of Environmental Analysis (OEA) is continuing Section 106 consultation with your office and soliciting comments regarding revisions to the Area of Potential Effects for cultural resources, adequacy of a Class III survey report, National Register of Historic Places site eligibility, treatment recommendations, finding of adverse effect, and a Section 106 agreement document.

The Class III cultural resources survey report has been transmitted to you via File Transfer on behalf of OEA by Jacobs Engineering Group Inc, OEA's third-party contractor. The File Transfer document will be available for 15 days and will expire on September 15, 2022. If you are not able to access the document, or the link expires, please contact Glennda Luhnow, Jacobs' cultural resources manager, at Glennda.Luhnow@jacobs.com.

OEA requests your review and comment regarding the content of this letter by **Tuesday, October 4, 2022**. Please send your written comments electronically to Alan Tabachnick, OEA's Historic Preservation Specialist, at Alan.Tabachnick@stb.gov. If you have any questions or would like to discuss the proposed project in more detail, please contact Alan Tabachnick.

Thank you,
Glennda Luhnow

Glennda Luhnow, M.A., RPA | **JACOBS** | **Manager/Archaeology and Cultural Resources** |
C: 480-510-0830 | glennda.luhnow@jacobs.com
1501 West Fountainhead Parkway, Suite 401 | Tempe, Arizona 85282 | USA

mesa·az
HISTORIC PRESERVATION OFFICE

10/12/2022

Glennda Luhnow
Jacobs Engineering Inc.
Glennda.Luhnow@jacobs.com
(480) 510-0830

Re: Section 106 Consultation – Docket No. FD 36501, Union Pacific Railroad Company – Construction and Operation Exemption – in Maricopa County, AZ; Continuation of National Historic Preservation Act Section 106 Consultation

Dear Applicant,

This letter is intended to respond to the need for Section 106 consultation on Area of Potential Effects Revision, Class III Survey Report Adequacy, National Register of Historic Places Eligibility, Treatment Recommendations, Finding of Adverse Effect, and Section 106 Agreement Document. Pursuant to 36 CFR 800 § 106 of the National Historic Preservation Act, the city of Mesa Historic Preservation Office has reviewed the project, which includes a request by the Union Pacific Railroad Company to the Surface Transportation Board to construct and operate approximately 6.0 miles of new rail line in Maricopa County, AZ.

The City of Mesa Historic Preservation Office concurs with the findings on the NRHP eligibility determinations on the In-Use Historic Structures. This office also concurs that a Memorandum of Agreement is appropriate for the Section 106 agreement document. This office defers concurrence on the Area of Potential Effect revisions, adequacy of the Class III Survey Report, OEA's NRHP eligibility determinations for the Cultural Resources sites, treatment recommendations, and finding of adverse effect to the State Historic Preservation Office.

Please feel free to contact me at maura.jackson@mesaaz.gov or (480) 644-2021 if there are any questions.

Sincerely,

Maura Jackson

Maura Jackson
Historic Preservation Advisor/Planner

cc: Nana Appiah, Development Services Director
Michelle Dahlke, Principal Planner
Bill Jabjiniak, Economic Development Director
Scott Butler, Assistant City Manager

SHPO-2022-0395 (165595) Rec: 09-01-22

SURFACE TRANSPORTATION BOARD
Washington, DC 20423

Office of Environmental Analysis

September 1, 2022

Ms. Kathryn Leonard
State Historic Preservation Officer
Arizona State Parks, State Historic Preservation Office
1110 West Washington Street, Suite 100
Phoenix, AZ 85007

Re: Docket No. FD 36501, Union Pacific Railroad Company – Construction and Operation Exemption – in Maricopa County, AZ; Continuation of National Historic Preservation Act Section 106 Consultation on Area of Potential Effects Revision, Class III Survey Report Adequacy, National Register of Historic Places Eligibility, Treatment Recommendations, Finding of Adverse Effect, and Section 106 Agreement Document

Dear Ms. Leonard:

On June 30, 2022, the Union Pacific Railroad Company (UP) filed a petition with the Surface Transportation Board (Board) pursuant to 49 U.S.C. § 10502 requesting authority to construct and operate approximately 6.0 miles of new rail line in Maricopa County, Arizona (the Pecos Industrial Rail Access and Train Extension [PIRATE] rail line) (Attachment 1). Before making its decision on whether to grant such authority, the Board must consider the potential environmental impacts of the construction and operation of UP's proposed rail line, pursuant to the National Environmental Policy Act (42 U.S.C. §§ 4321-4370m-12), Section 106 of the National Historic Preservation Act (54 U.S.C. § 306108), the Board's environmental rules at 49 C.F.R. Part 1105, and related environmental laws. Previous consultation pursuant to Section 106 of the National Historic Preservation Act (dated April 6, 2022) initiated the Section 106 process, outlined the project scope, notified potential consulting parties of the project's alternatives analysis, and requested concurrence on the project Area of Potential Effects (APE).

The Board's Office of Environmental Analysis (OEA) is continuing Section 106 consultation with your office to solicit your comments regarding revisions to the APE since our last letter, the cultural resources Class III Survey Report, OEA's National Register of Historic Places (NRHP) eligibility determinations, treatment recommendations, finding of adverse effect, and development of a Section 106 agreement document for the project.

Revised Area of Potential Effects

The project APE has been slightly revised since our initial Section 106 consultation letter dated April 6, 2022. Proposed grading extensions located in a portion of Township 1 South, Range 7 East, Section 36 (Gila and Salt River Baseline and Meridian [GSRB&M]) would not be constructed as part of this project and have been removed from the APE. These extensions may be constructed by others in the future depending on market conditions and the owners' needs. The removal of the grading extensions reduces the APE by 0.75 mile. Additionally, the northeastern terminus of the APE south of Pecos Road has been slightly adjusted and extended by approximately 500 feet at the approach to the Commercial Metals Company, located in a portion of Township 2 South, Range 7 East, Section 1 (GSRB&M). The revised APE is depicted on Attachments 2a and 2b and was included in the Class III survey discussed below.

Completion of Class III Survey and Draft Technical Report

Jacobs Engineering Group Inc., OEA's third-party contractor, conducted the Class III survey between May 24 and 31, 2022, and on June 14, 2022. The results are reported in *A Class III Cultural Resources Survey for the Union Pacific Railroad Company, Pecos Industrial Rail Access and Train Extension (PIRATE) Project, Mesa and Queen Creek, Maricopa County, Arizona* by Pamela J. Rainey and Michael Stubing, dated August 2022 (Class III Survey Report). A copy of the Class III Survey Report is attached for your review and comment. As explained in the Class III Survey Report and also depicted on Attachments 2a and 2b, small portions of the APE remain unsurveyed due to extensive crop coverage and limitations on right of entry.

The Class III survey identified portions of 3 previously recorded cultural resources sites (AZ U:10:2[Arizona State Museum (ASM)], AZ U:10:69[ASM], and AZ U:10:275[ASM]), 2 in-use historic structures, and 56 isolated occurrences (IOs) and isolated features (IFs) within the APE. A portion of 1 previously recorded cultural resources site (AZ U:10:152[ASM]) is plotted directly adjacent to the APE.

The IOs and IFs consist of prehistoric artifacts and historic artifacts and features (utility lines, irrigation canals/ditches, and unimproved roads). The IOs and IFs are not considered significant. They do not meet the ASM site definition, and mapping and recording have exhausted their data potential. No further cultural resources work is recommended for the 56 IOs and IFs.

Eligibility Determinations and Treatment Recommendations

Cultural Resources Sites

AZ U:10:2(ASM) is an extensive Hohokam habitation site located in the APE [redacted] The Arizona State Historic Preservation Office (SHPO) previously determined the site eligible for inclusion in the NRHP under Criterion D (information potential). Sites such as AZ U:10:2(ASM) have the potential to contain data that can inform research questions related to Hohokam settlement pattern, land use, trade and interaction, intrasite patterning, subsistence

strategies, and social organization, among other topics. Based on current fieldwork results, OEA agrees with SHPO's previous determination that AZ U:10:2(ASM) is eligible for the NRHP under Criterion D. AZ U:10:2(ASM) measures 3.7 by 2.5 kilometers (1,513 acres) in total size and encompasses a large portion of the APE, thus eliminating options for avoidance. Therefore, OEA recommends developing a Section 106 agreement document and a Historic Properties Treatment Plan (HPTP) to outline an appropriate level of treatment.

AZ U:10:69(ASM) is located in the APE [redacted]. SHPO previously determined the site eligible for the NRHP under Criterion D. The portion of the site within the APE is represented by newly recorded Locus 1, a small cluster of artifacts. The boundary of AZ U:10:69(ASM) was expanded to incorporate Locus 1. The presence of multiple artifact classes in Locus 1 suggests that this area represents some degree of habitation during the Hohokam Preclassic period. The area has been subject to extensive agricultural disturbance. However, there may be potential for intact subsurface deposits, although the Class III survey results could not confirm this. Therefore, OEA is unable to evaluate the portion of AZ U:10:69(ASM) within the APE for NRHP eligibility. A determination of "unevaluated" is appropriate. Avoidance of AZ U:10:69(ASM) may be feasible based on the configuration of the final design. If avoidance is not feasible, OEA recommends developing a Section 106 agreement document and an HPTP to outline an appropriate level of treatment.

AZ U:10:152(ASM) is a large Hohokam artifact scatter that is located within the [redacted] APE. The original site recorders previously recommended the site eligible for the NRHP under Criterion D (Greenwald et al. 1994). While a sparse number of dispersed ceramics were identified to the south of the site boundary, their number and the diffuse nature of their distribution did not justify expanding the site boundary. OEA recommends cultural resources construction monitoring in the site vicinity under the provisions of a monitoring and discovery plan to be included in a Section 106 agreement document.

AZ U:10:275(ASM) is located in the APE [redacted]. SHPO previously determined the site eligible for the NRHP. No criterion is cited. Within the APE, OEA expanded the previously documented site boundary to encompass a newly recorded ceramic scatter. However, the boundary of this site could not be confidently drawn due to 0 percent ground visibility within the APE to the immediate south. The types of wares in the newly recorded ceramic scatter suggest that this portion of the site represents use during the Hohokam Preclassic period. The area has been subject to extensive agricultural disturbance. However, there may be potential for intact subsurface deposits, although the Class III survey results did not confirm this. Therefore, OEA is unable to evaluate the newly recorded portion of AZ U:10:275(ASM) within the APE for NRHP eligibility. A determination of "unevaluated" is appropriate. Avoidance of AZ U:10:275(ASM) may be feasible [redacted]. If avoidance is not feasible, OEA recommends developing a Section 106 agreement document and an HPTP outlining an appropriate level of treatment.

In-Use Historic Structures

Old Rittenhouse Road, formerly AZ U:10:154(ASM), is within the Phoenix Subdivision main line portion of the APE. The road runs alongside the southwest side of the railroad and can be seen intermittently between Power Road and southeast of Sossaman Road. It is currently in use as an access road to local businesses. No pavement is present, and portions of the road have been obliterated. The road terminates approximately 0.38 mile southeast of Sossaman Road, where the current alignment of Rittenhouse Road joins it. Within the APE, the road lacks integrity, and OEA agrees with SHPO's previous determination that the road is ineligible for the NRHP. OEA does not recommend any further cultural resources work for Old Rittenhouse Road.

The Mesa to Winkelman Spur of the Southern Pacific Railroad, formerly AZ U:16:299(ASM), is an in-use historic structure that is currently owned and operated by UP as the Phoenix Subdivision main line. SHPO previously determined that the rail corridor was eligible for listing on the NRHP under Criterion A for its association with early development of rail transportation within Arizona. Within the APE, the alignment retains integrity of location, workmanship, and design. While its integrity of setting, feeling, and association have been diminished slightly by adjacent modern development, it is not significant. The railroad's integrity of materials has also been slightly diminished by regular maintenance. However, it is in-kind and does not constitute a significant change. As a result, OEA has determined that the portion of the railroad in the APE contributes to the eligibility of the alignment under Criterion A. While modifications to the existing track would occur, they would not affect the railroad's integrity of location, setting, feeling, and association, so there would be no adverse effect to the railroad's eligibility under Criterion A. Further, this segment does not exhibit any unique qualities of design or construction that would be adversely affected. Therefore, OEA does not recommend any further cultural resources work for the Mesa to Winkelman Spur of the Southern Pacific Railroad.

Finding of Project Effect

If the Board grants UP's petition, UP would have approval to construct the alternative authorized by the Board in its final decision. However, based on the results of the background research and Class III cultural resources survey, a finding of adverse effect to historic properties is appropriate for any Board decision granting construction and operating authority, regardless of which alternative is authorized.

Based on the finding of adverse effect to historic properties, OEA recommends development and distribution of a Section 106 agreement document to all consulting parties for review and comment. The agreement document will contain measures to mitigate any adverse effects to historic properties, including the format and content of an HPTP. OEA requests concurrence that a Memorandum of Agreement is the appropriate Section 106 agreement document.

Request for Input

Finally, OEA requests your comments regarding the APE revisions, the adequacy of the Class III Survey Report, OEA's NRHP eligibility determinations, treatment recommendations, finding of adverse effect, and development of a Memorandum of Agreement as an appropriate Section 106 agreement document for the project by **Tuesday**, **October 4**, **2022**. If you have any questions or would like additional information, please reach out to Alan Tabachnick, at 202-245-0367.

Sincerely,

Danielle Gosselin
Director
Office of Environmental Analysis

Enclosures:

Attachment 1 – Vicinity Map
Attachment 2 – Revised APE Map (two sheets)
Attachment 3 – Cultural Resources Report

Cc: Adam Assenza, OEA Environmental Protection Specialist, Adam.Assenza@stb.gov
Alan Tabachnick, OEA Historic Preservation Specialist, Alan.Tabachnick@stb.gov
Maggie Buckley, Jacobs Project Manager, Maggie.Buckley@jacobs.com

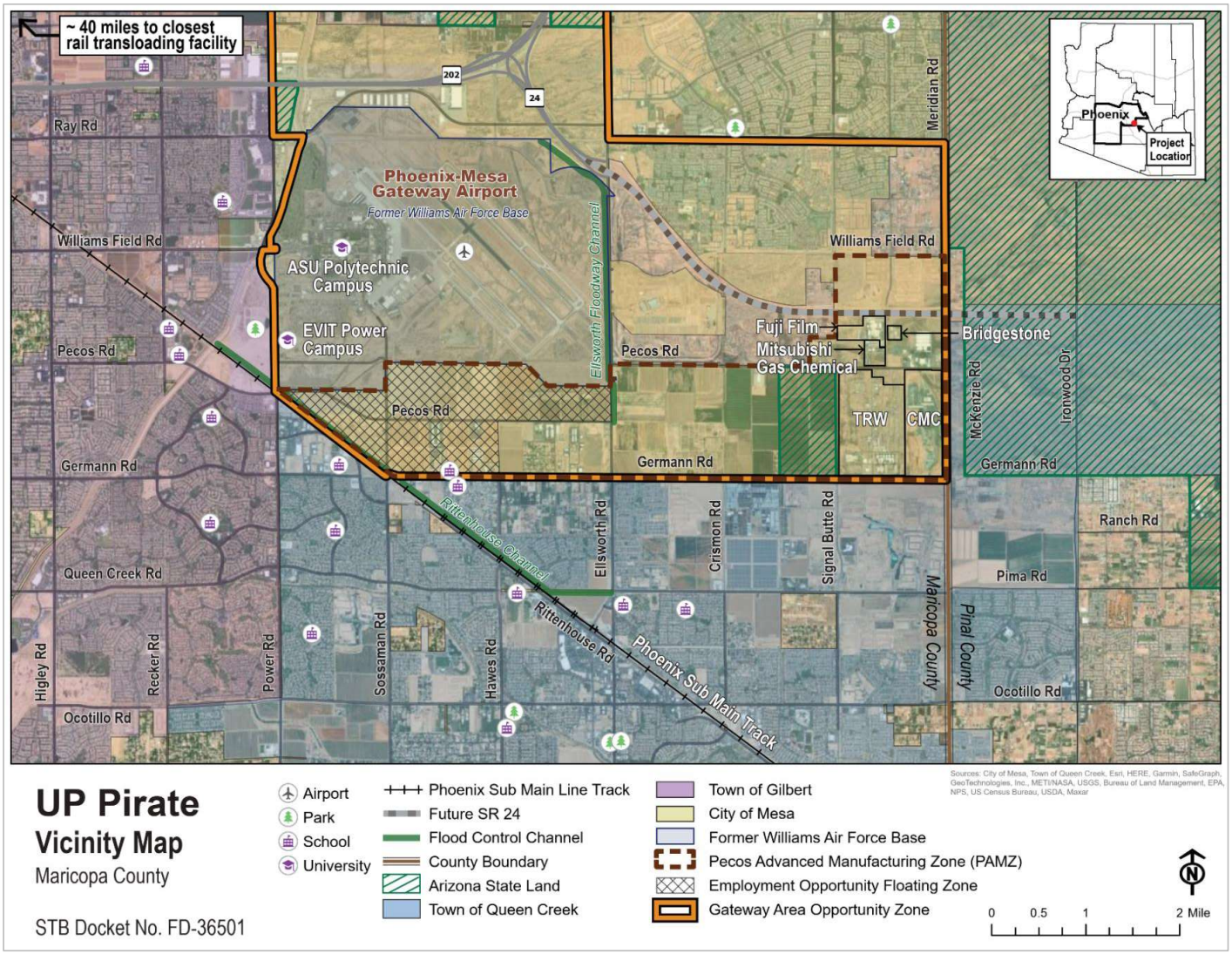
Reference Cited:

Greenwald, David H., Richard A. Anduze, and Mary-Ellen Walsh-Anduze
1994 *Archaeological Survey and Test Excavations at Williams Air Force Base, Arizona.* SWCA Archaeological Report 93-12b. SWCA Environmental Consultants, Inc., Scottsdale, Arizona.

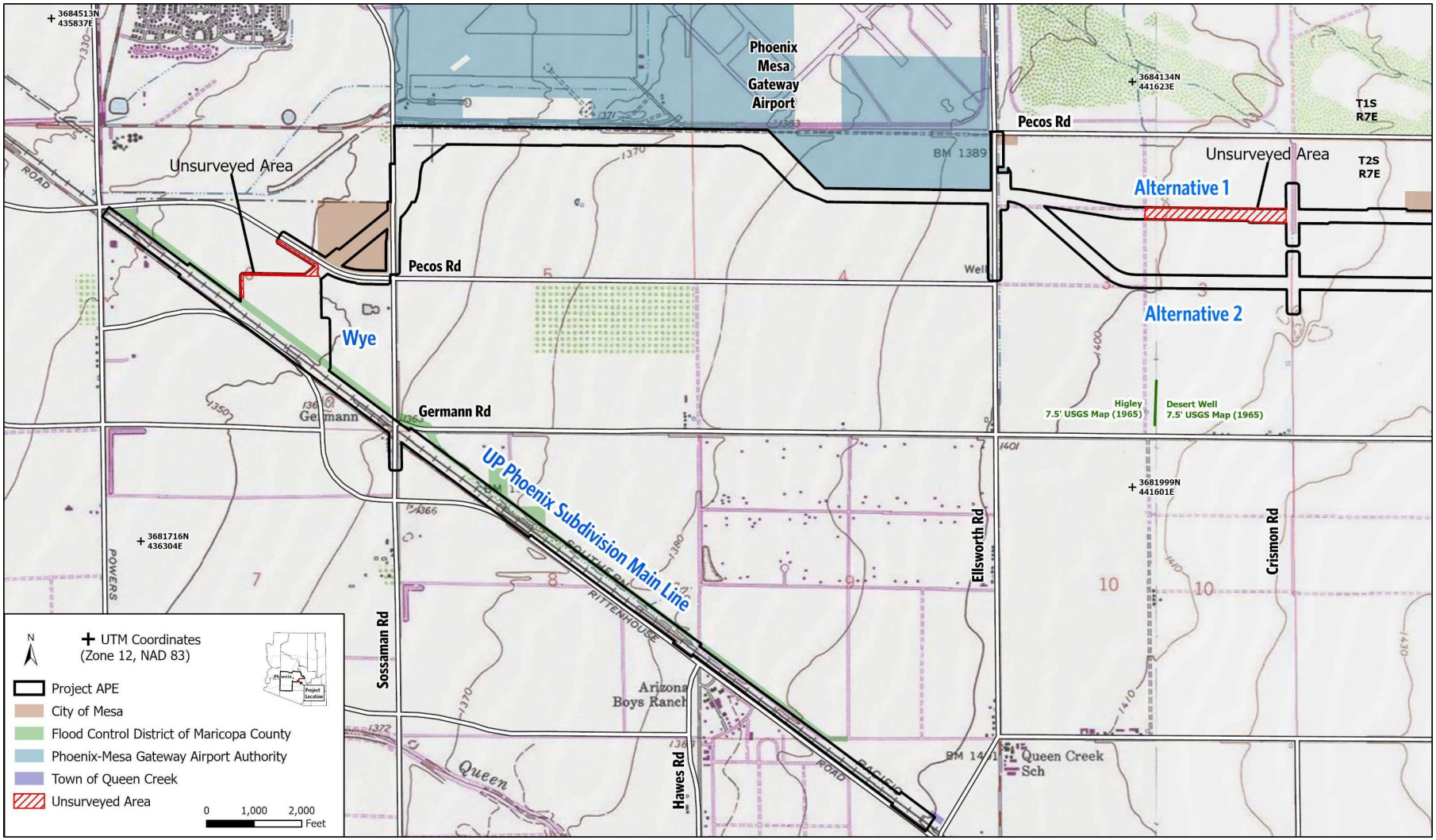
Concur.

Caroline Klebacha, M.A.
State Historic Preservation Office
September 26, 2022

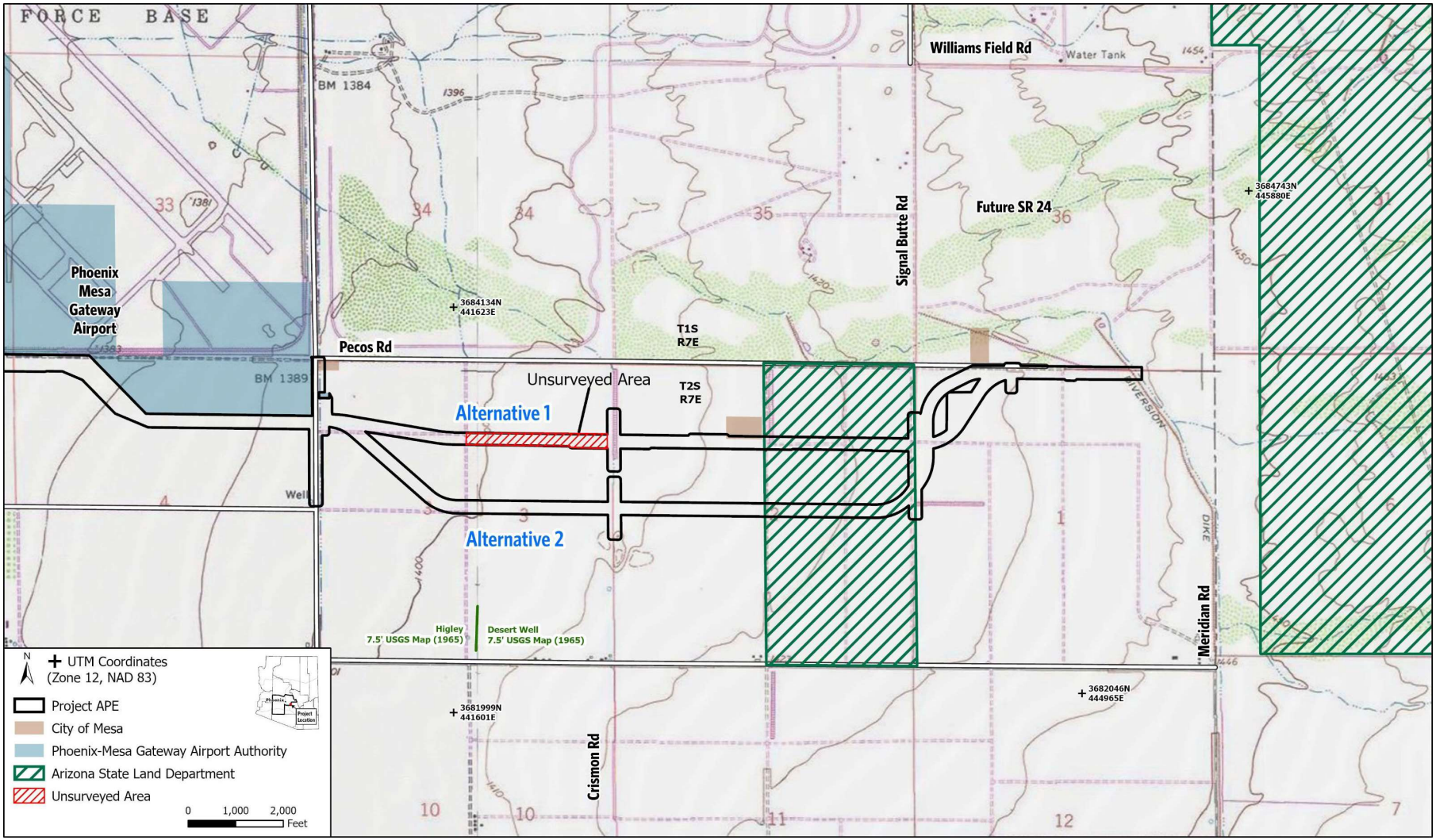
ATTACHMENT 1 – VICINITY MAP



ATTACHMENT 2a– REVISED APE MAP



ATTACHMENT 2b – REVISED APE MAP



Salt River
PIMA-MARICOPA INDIAN COMMUNITY
10,005 EAST OSBORN ROAD/SCOTTSDALE, ARIZONA 85256/ PHONE (480) 362-6325

Tribal Historic Preservation Office

TO: Danielle Gosselin, Director
Surface Transportation Board
Office of Environmental Analysis
RE: Docket No. FD 36501
395 E Street SW
Washington, DC 20423

DATE: 9/19/22

FROM: Shane Anton, Tribal Historic Preservation Officer

RE: Docket No. FD 36501, Union Pacific Railroad Company, Construction and Operation Exemption, Mesa, Maricopa County, Arizona, Section 106 Consultation Area of Potential Effects (APE), Class III Survey Report, Determinations of Register Eligibility, Treatment Recommendations, Memorandum of Agreement (MOA), Adverse Effect

Dear Director Gosselin,

The Salt River Pima Maricopa Indian Community Tribal Historic Preservation Office (SRPMIC-THPO) received your consultation documents dated September 1, 2022. The Union Pacific Railroad Company (UPRC) has filed a petition with the Surface Transportation Board (Board) requesting to construct and operate a 6 mile long rail line, the Pecos Industrial Rail Access and Train Extension (PIRATE), east and south of the Phoenix-Mesa Gateway Airport, Mesa, Maricopa County, Arizona.

Four previously recorded sites and two in-use structures have been identified within the project area:

1. AZ U:10:2(ASM), the Germann Site is an extensive Hohokam habitation that is Register eligible and that extends across both proposed construction alternatives. The OAE is recommending the development of an MOA and a Historic Property Treatment Plan (HPTP) to address the adverse effects of this undertaking.
2. AZ U:10:69(ASM) is a large Register eligible Hohokam habitation site. The OAE advises that this disturbed portion of the site will be considered as unevaluated regarding Register

eligibility. If the site cannot be avoided through project redesign, the OAE is recommending the development of an MOA and a HPTP to address the adverse effects of this undertaking.

3. 3) AZ U:10:152(ASM) is identified as a large Hohokam artifact scatter that is located adjacent to the PIRATE project area and within the Phoenix-Mesa Gateway property. The site is considered a Register eligible property. The OAE is advising that the site boundary of AZ U:10:152(ASM) will not be expanded and that archaeological site monitoring during ground disturbing activities is recommended.
4. AZ U:10:275(ASM) is identified as the Sand Dune Site, an extensive Hohokam artifact scatter. The site is considered a Register eligible property. The OAE advises that this disturbed portion of the site will be considered as unevaluated regarding Register eligibility. If the site cannot be avoided through project redesign, the OAE is recommending the development of an MOA and a HPTP to address the adverse effects of this undertaking.
5. AZ U:10:154(ASM) is identified as the Old Rittenhouse Road. The road is currently in-use and is not considered a Register eligible property.
6. AZ U:16:299(ASM) is identified as the Mesa to Winkelman Spur of the Southern Pacific Railroad. The rail road is considered a Register eligible property which will not be affected by this undertaking. The Board and the OAE are seeking concurrence with recommendations for determinations of site Register eligibility, the preparation of a MOA, and with the preparation of a HPTP to address the adverse effects of this undertaking. The Board has made a project finding of adverse effect.

The Gila River Indian Community Tribal Historic Preservation Office (GRIC-THPO) provided the following comments on September 7, 2022.

- The GRIC-THPO does not agree with determinations of site Register eligibility. Sites AZ U:10:69(ASM) AZ U:10:152(ASM), and AZ U:10:275(ASM) have previously been determined to be Register eligible properties. The portions of these sites that are located within the project area are therefore considered Register eligible…We also recommend that the site boundary be expanded to include the newly documented portion of site AZ U:10:152(ASM).
- The GRIC-THPO concurs with a finding adverse effect for this undertaking. We also agree with recommendations for preparation of a Section 106 MOA, a HPTP, and with recommendations for archaeological site monitoring (if necessary).

The SRPMIC-THPO concurs with the comments of the GRIC-THPO. We look forward to reviewing and commenting on the MOA and HPTP, which include are suggested changes, when they become available.

The proposed project area is within the ancestral lands of the Four Southern Tribes (Gila River Indian Community; Salt River Pima-Maricopa Indian Community; *Ak-Chin* Indian Community and the *Tohono O'Odham* Nation). The SRPMIC-THPO will continue to participate in the Section 106 process of this undertaking.

Thank you for consulting with the SRPMIC-THPO. Should you have questions and/or concerns about this project, please contact me directly at (480) 362-6331.

Thank you.



Shane Anton, Tribal Historic Preservation Officer
Cultural Resources Department, SRPMIC
10,005 E. Osborn Rd.
Scottsdale, Arizona 85256
Email: Shane.Anton@SRPMIC-nsn.gov
Office Tele: (480) 362-6331

From: Diebolt, Sarah (Sallie) CIV USARMY CESPL (USA) <Sallie.Diebolt@usace.army.mil>
Sent: Wednesday, October 19, 2022 9:26 AM
To: Luhnow, Glennda; alan.tabachnick@stb.gov
Cc: Assenza, Adam; Buckley, Maggie; Bushey, Sabra; Phoebus, Elizabeth (Betsi); Robinson, Lisa E CIV USARMY CESPL (USA)
Subject: [EXTERNAL] RE: SPL-2022-00250 (UPRR Pirate) UPRR PIRATE Continuing Section 106 Consultation and Survey Report Distribution

We have received Danielle Gosselin's letter dated October 18, 2022.

The Corps of Engineers Regulatory Branch does not have enough information to determine if we need to participate in 106 consultation for this project. The first step would be a jurisdictional determination to identify any waters of the United States within the project area.

If there are no jurisdictional waters present, then no Clean Water Act 404 permit would be required.

If a permit is required, the Corps would defer to the lead federal agency for the 106 consultation.

Until we are able to determine our involvement in the project, we will not be able to participate in the 106 MOA discussion.

Thank you.

Sallie Diebolt Branch Chief
Regulatory Division, Arizona Branch
Phoenix, AZ
Los Angeles District, U.S. Army Corps of Engineers
sallie.diebolt@usace.army.mil

Office: 602-230-6950
Government Mobile: 602-300-1761

Please do not mail hard copy documents to any Regulatory staff or office. For further details on corresponding with us, please view our special public notice at:

https://www.spl.usace.army.mil/Portals/17/docs/publicnotices/COVID19%20Regulatory_SPN.pdf?ver=2020-03-19-134532-833

Assist us in better serving you! Please complete our brief customer survey, located at the following link: https://regulatory.ops.usace.army.mil/customer-service-survey/

From: Diebolt, Sarah (Sallie) CIV USARMY CESPL (USA)
Sent: Tuesday, September 6, 2022 1:32 PM
To: 'Glennda.Luhnow@jacobs.com' <Glennda.Luhnow@jacobs.com>
Cc: Assenza, Adam <Adam.Assenza@stb.gov>; 'alan.tabachnick@stb.gov' <alan.tabachnick@stb.gov>; Buckley, Maggie <Maggie.Buckley@jacobs.com>; 'Sabra.Bushey@jacobs.com' <Sabra.Bushey@jacobs.com>; Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>; Robinson, Lisa E CIV USARMY CESPL (USA) <Lisa.E.Robinson@usace.army.mil>
Subject: RE: SPL-2022-00250 (UPRR Pirate) UPRR PIRATE Continuing Section 106 Consultation and Survey Report Distribution

Hello, we have received your correspondence regarding the APE for the subject project. At this point, the Arizona Regulatory Branch is unable to concur with the APE determination, however we usually defer such decisions to the lead federal agency.

The Regulatory process would involve determining any aquatic features that would be subject to the Corps' jurisdiction under Section 404 of the Clean Water Act and any permits that may be needed for discharges of fill material into those areas. In the absence of this information, we are not able to evaluate the APE for our agency action.

Please contact me with any questions or if you would like to discuss further.

Thank you.

Sallie Diebolt Branch Chief
Regulatory Division, Arizona Branch
Phoenix, AZ
Los Angeles District, U.S. Army Corps of Engineers
sallie.diebolt@usace.army.mil

Office: 602-230-6950
Government Mobile: 602-300-1761

Please do not mail hard copy documents to any Regulatory staff or office. For further details on corresponding with us, please view our special public notice at:

https://www.spl.usace.army.mil/Portals/17/docs/publicnotices/COVID19%20Regulatory_SPN.pdf?ver=2020-03-19-134532-833

Assist us in better serving you! Please complete our brief customer survey, located at the following link: https://regulatory.ops.usace.army.mil/customer-service-survey/

From: Luhnow, Glennda <Glennda.Luhnow@jacobs.com>
Sent: Thursday, September 1, 2022 1:48 PM
To: Robinson, Lisa E CIV USARMY CESPL (USA) <Lisa.E.Robinson@usace.army.mil>
Cc: Assenza, Adam <adam.assenza@stb.gov>; Tabachnick, Alan <alan.tabachnick@stb.gov>; Buckley, Maggie <Maggie.Buckley@jacobs.com>; Bushey, Sabra <Sabra.Bushey@jacobs.com>; Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>
Subject: [Non-DoD Source] UPRR PIRATE Continuing Section 106 Consultation and Survey Report Distribution

Dear Ms. Diebolt,

As stated in previous Section 106 consultation conducted under the National Historic Preservation Act, the Union Pacific Railroad Company intends to request authority from the Surface Transportation Board (Board) to construct and operate approximately six miles of new rail line in Maricopa County, Arizona (the proposed Pecos Industrial Rail Access and Train Extension [PIRATE] rail line).

With the attached letter, the Board's Office of Environmental Analysis (OEA) is continuing Section 106 consultation with your office and soliciting comments regarding revisions to the Area of Potential Effects for cultural resources, adequacy of a Class III survey report, National Register of Historic Places site eligibility, treatment recommendations, finding of adverse effect, and a Section 106 agreement document.

The Class III cultural resources survey report has been transmitted to you via File Transfer on behalf of OEA by Jacobs Engineering Group Inc, OEA's third-party contractor. The File Transfer document will be available for 15 days and will expire on September 15, 2022. If you are not able to access the document, or the link expires, please contact Glennda Luhnow, Jacobs' cultural resources manager, at Glennda.Luhnow@jacobs.com.

OEA requests your review and comment regarding the content of this letter by **Tuesday, October 4, 2022**. Please send your written comments electronically to Alan Tabachnick, OEA's Historic Preservation Specialist, at Alan.Tabachnick@stb.gov. If you have any questions or would like to discuss the proposed project in more detail, please contact Alan Tabachnick.

Thank you,
Glennda Luhnow

Glennda Luhnow, M.A., RPA | **JACOBS** | **Manager/Archaeology and Cultural Resources** |
C: 480-510-0830 | glennda.luhnow@jacobs.com
1501 West Fountainhead Parkway, Suite 401 | Tempe, Arizona 85282 | USA

NOTICE - This communication may contain confidential and privileged information that is for the sole use of the intended recipient. Any viewing, copying or distribution of, or reliance on this message by unintended recipients is strictly prohibited. If you have received this message in error, please notify us immediately by replying to the message and deleting it from your computer.

SURFACE TRANSPORTATION BOARD
Washington, DC 20423

Office of Environmental Analysis

October 18, 2022

Ms. Kathryn Leonard
State Historic Preservation Officer
Arizona State Parks, State Historic Preservation Office
1110 West Washington Street, Suite 100
Phoenix, AZ 85007

Re: Docket No. FD 36501, Union Pacific Railroad Company – Construction and Operation Exemption – in Maricopa County, Ariz.; Informational Letter Regarding Memorandum of Agreement (MOA) Development, Meetings, and Schedule

Dear Ms. Leonard:

The purpose of this letter is to provide you with information on the historic review process for the proposed construction and operation of approximately 6.0 miles of new rail line in Maricopa County, Arizona (the Pecos Industrial Rail Access and Train Extension [PIRATE] rail line). On June 30, 2022, the Union Pacific Railroad Company (UP) filed a petition with the Surface Transportation Board (Board) pursuant to 49 U.S.C. § 10502 requesting authority to construct and operate the PIRATE rail line (See attached map). Before deciding whether to approve the proposed rail line, deny it, or approve it with conditions, the Board must consider the potential environmental impacts of the construction and operation of UP's proposed rail line, pursuant to the National Environmental Policy Act (42 U.S.C. §§ 4321-4370m-12), Section 106 of the National Historic Preservation Act (NHPA) (54 U.S.C. § 306108), the Board's environmental rules at 49 C.F.R. Part 1105, and related environmental laws. Accordingly, the Board's Office of Environmental Analysis (OEA) is preparing an Environmental Assessment (EA) to assess the potential environmental and historic impacts of the proposed PIRATE rail line.

Section 106 Process to Date

On April 6, 2022, OEA initiated the Section 106 process through consultation pursuant to Section 106 of the NHPA. OEA outlined the project scope, notified potential consulting parties of the project's alternatives analysis, and requested concurrence on the Area of Potential Effects (APE). On September 1, 2022, OEA distributed a draft Class III survey report, disclosed changes to the APE, and requested concurrence from consulting parties on OEA's National Register of Historic Places (NRHP) eligibility determinations, treatment recommendations, finding of adverse effect, and development of a Section 106 Memorandum of Agreement (MOA) for the project. OEA is revising the Class III survey report based on

comments received from consulting parties and will distribute the revised report shortly. However, the Arizona State Historic Preservation Office and many of the consulting parties have already concurred on the adverse effect finding, necessitating the development of an MOA.

The next step in the Section 106 process will be to develop the MOA as well as a Historic Properties Treatment Plan (HPTP), in consultation with the consulting parties. OEA will be scheduling regular consultation meetings to discuss the MOA and the HPTP, and we hope to use these regular meetings to work together towards a successful resolution of the proposed project's adverse effect. Your input and participation are critically important to this process.

Proposed MOA Meeting Format

OEA proposes to conduct the consultation meetings virtually via Microsoft Teams to accommodate non-local consulting parties. All consulting parties will be invited to attend and encouraged to participate in the development of the MOA. At the initial meeting, we will outline the MOA schedule and document format, discuss review timelines, establish a schedule for future meetings, discuss the roles of Signatories, Invited Signatories, and Concurring Parties, and introduce the initial clauses and stipulations that will be included in the draft MOA.

OEA anticipates that the format of the MOA will generally follow the guidelines outlined in the State Historic Preservation Office's Guidance Point 12, *Drafting Section 106 Agreement Documents for Undertakings in the State of Arizona* (Arizona State Parks, 2018). A copy of this document is available online at https://azstateparks.com/shpo-guidance-points.

Proposed Dates and Times for the Initial MOA Meeting

OEA proposes three possible dates and times for the initial MOA meeting. Please review the dates and times listed below and rank them in order of convenience. Every effort will be made to accommodate all parties, but the date and time selected will be based on the preference of the majority of attendees.

____ Tuesday, November 1, 2022, between 9:00–11:00 am
____ Wednesday, November 2, 2022, between 10:30 am–12:30 pm
____ Thursday, November 3, 2022, between 1:00–3:00 pm

Please email your ranked dates to Alan.Tabachnick@stb.gov. If email is not convenient or feasible, you can also call 202-245-0367 with your preferences.

Proposed Meeting Schedule for Subsequent MOA Meetings

OEA proposes subsequent monthly Microsoft Teams meetings to outline and discuss the MOA comments and responses. Within two weeks of the initial MOA meeting, OEA will provide a draft MOA to the consulting parties for initial review and comment. OEA will circulate review copies of subsequent revisions every two weeks.

Schedule for the Development and Execution of the MOA

The target timing for MOA execution is late February 2023. The executed MOA will be appended to the Final EA when it is issued.

Contact Information

If you have any questions or comments about the proposed meeting schedule or format, or the proposed schedule for MOA development and execution, please reach out to Alan Tabachnick either via email (Alan.Tabachnick@stb.gov) or by phone (202-245-0367). We look forward to continuing consultation with you on the historic review of this project.

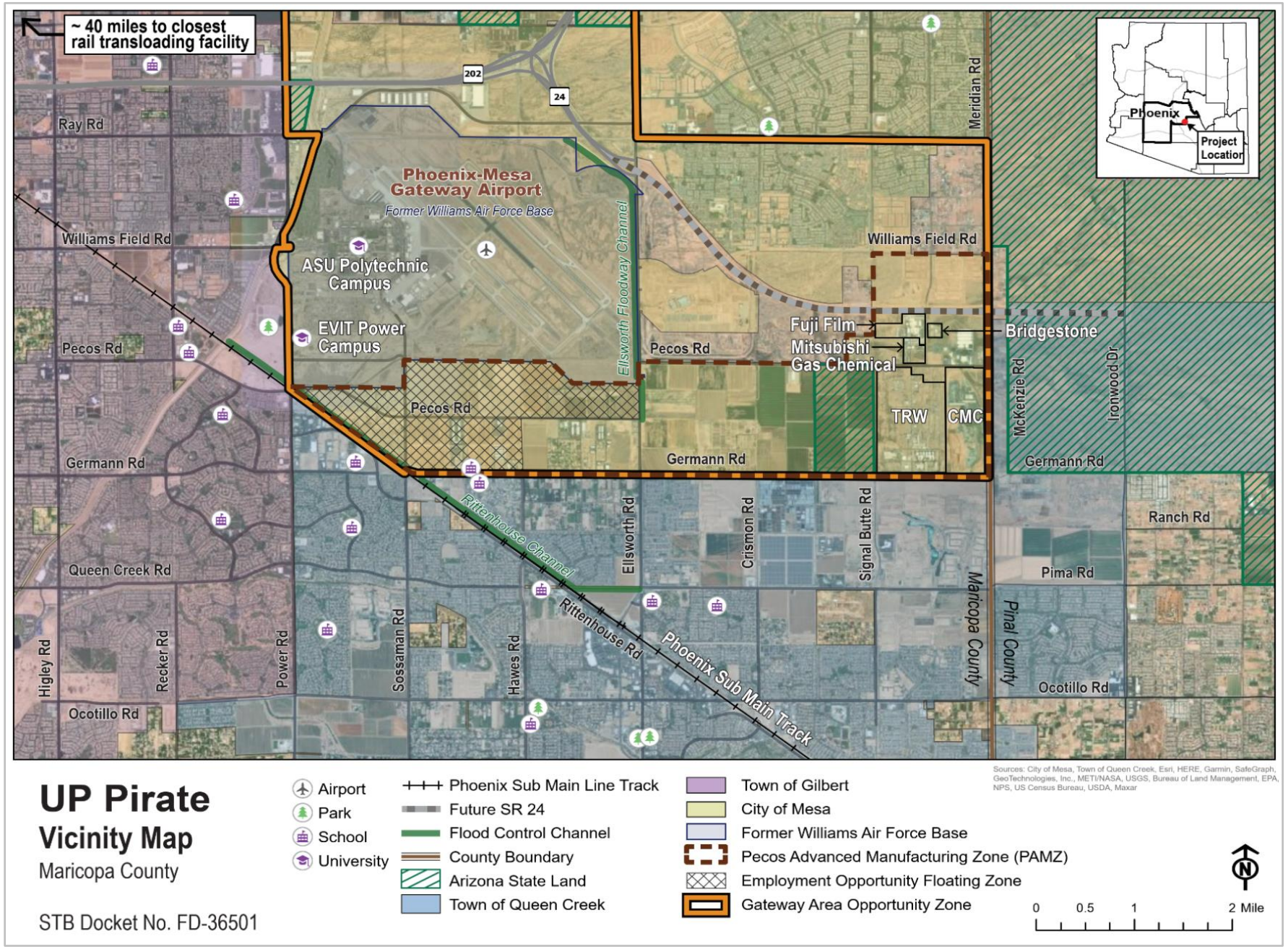
Sincerely,

Danielle Gosselin
Director
Office of Environmental Analysis

Enclosure: Vicinity Map

cc: Adam Assenza, OEA Environmental Protection Specialist, Adam.Assenza@stb.gov
Alan Tabachnick, OEA Historic Preservation Specialist, alan.tabachnick@stb.gov
Maggie Buckley, Jacobs Project Manager, Maggie.Buckley@jacobs.com

ATTACHMENT 1 – VICINITY MAP



Meeting Minutes

Subject	**Initial Section 106 MOA Meeting**		
Project	Union Pacific Railroad PIRATE Project		
Reference No.	Surface Transportation Board Docket No. FD 36501		
Date	Thursday, November 3, 2022	**Time**	1 – 3 p.m. PDT 4 – 6 p.m. EDT
Location	MS Teams		

The following notes summarize the topics discussed during the November 3, 2022 Section 106 continuing consultation meeting between the Surface Transportation Board's (Board) Office of Environmental Analysis (OEA) and representatives from several consulting agencies and Tribes. The meeting objectives were to:

1. Review information OEA previously provided about Union Pacific Railroad's (UP) proposed Pecos Industrial Rail Access and Train Extension (PIRATE) project, as well as project and schedule updates;
2. Review Section 106 consultation thus far;
3. Discuss the results of the Class III survey and project finding of adverse effect; and
4. Outline the steps for developing a memorandum of agreement (MOA) and moving forward with the Section 106 consultation process.

Welcome and Introductions

Alan Tabachnick, the Board's Deputy Federal Preservation Officer, began the introductions based on the agency roll call. The attendees then introduced themselves with their name and agency (see attached sign-in sheet for attendance).

Project Overview and Survey Results

- OEA reviewed the project's purpose and need, project description, project alternatives, and area of potential effects (APE) (refer to slides 5-10 in the attached presentation).
- OEA summarized the project's Section 106 timeline to date including: Section 106 initiation, Class III survey, continuing consultation on the draft Class III survey report, and comments from consulting parties and Tribes (slide 11).
- Jacobs summarized the results of the Class III survey, including the four historic properties that would be adversely affected if the Board decides to approve PIRATE or approve it with conditions. Jacobs also reviewed the location of the resources relative to various project components (slides 12-13).
- OEA discussed the recommended project finding of adverse effect. Based on consultation with SHPO/THPOs and consulting parties, OEA determined that an MOA is the appropriate agreement document for resolving adverse effects to the historic properties (slide 14).

Q&A: Project Overview and Survey Results

Q1: Will the PowerPoint presentation be made available to the participants?

A1: The PowerPoint presentation will be provided with the draft meeting minutes.

Q2: Are the ASLD orchards considered historic?

A2: OEA will confirm the status of the orchards on ASLD land and respond to SHPO.

Section 106 Overview and MOA Format

- OEA reviewed the history of the Section 106 consultation and discussed next steps for Section 106 and NEPA (slide 17).
- OEA introduced the SHPO Guidance Point No. 12 that directs how MOAs should be developed (slide 18).
- SHPO indicated that Guidance Point No. 12 has been internally updated to reflect current ACHP views and the updated version is not yet available to the public.
- OEA will also incorporate ACHP's agreement document guidance as they and Jacobs draft the project MOA (slide 18).
- OEA displayed the proposed outline of the MOA. For the curation stipulation, OEA would like to use the Huhugam Heritage Center as the repository (slide 19).
- OEA introduced the roles and responsibilities of the consulting parties and requested that consulting parties provide OEA with their agency's preferred role in developing the MOA (slide 20).
- The Gila River Indian Community (GRIC) indicated that the Tribes do not regularly participate as signatories unless the project directly affects Tribal lands. Tribes that do not have a direct responsibility under the project would be concurring parties.
- OEA outlined the consulting parties' comments thus far on the project and reiterated their desire to have a collaborative process. OEA extended a formal invitation to Tribes that may prefer to communicate directly through government-to-government consultation (slide 21).
- GRIC responded that these types of meetings are fine but are not considered formal consultation. GRIC reminded everyone that the Tribal relationship with the Board is government-to-government consultation. GRIC is not an interested party, but rather a Sovereign Nation, and protocol needs to be maintained. Formal consultation should be completed separately with each Tribe. The Four Southern Tribes (Ak-Chin Indian Community, GRIC, Salt River Pima-Maricopa Indian Community [SRPMIC], and Tohono O'odham Nation) would like to be consulted together.
- OEA acknowledged GRIC's preference for formal consultation and will set up additional meetings. OEA indicated that those meetings will include a senior member of OEA to show respect for Tribal participation in the process.

Q&A: Section 106 Overview and MOA Format

Q1: What types of mitigation have been discussed? SHPO wants to ensure that OEA considers other types of mitigation for public benefit.

A1: Data recovery is one type of mitigation, but many other types are available for consideration as well, such as education and public information.

Q2: Is it possible to get a hard copy of the revised survey report as well as a PDF?

A2: Yes, OEA will add the Arizona Museum of Natural History Museum to the list of consulting parties that receive a hard copy of the survey report.

Q3: Would the Tribes have a role in the MOA if the project curates at the Huhugam Heritage Center?

A3: The topic of curation is something that should be discussed further. GRIC has a repository at the Huhugam Heritage Center.

Q4: What is the land jurisdiction for the project as that can affect which type of burial agreement is developed?

A4: The land jurisdiction is mixed: privately owned, municipal, county, and state land. PIRATE would avoid the nearby federal lands.

The Board, City of Mesa, and Jacobs discussed the ongoing development in the project vicinity, especially north of Germann Road. OEA requested that the City of Mesa keep them appraised of any future development projects so the EA can accurately reflect the project area.

GRIC cautioned that activities occurring adjacent to, but not in the APE, could potentially affect historic properties. GRIC requested that communication lines be open so sites would not be inadvertently damaged prior to project commencement, as has happened on other projects in this area.

OEA stated that the other developments may not have any federal jurisdiction and would not have to comply with Section 106. OEA reiterated their role in this project and their lack of jurisdiction on adjacent areas, and confirmed that UP has not conducted ground disturbing activities.

Q5: Are any federal permits required? Does Section 4(f) apply?

A5: Yes, UP will need to obtain a Clean Water Section 404 permit. The Board is not part of the U.S. Department of Transportation; therefore, Section 4(f) does not apply.

MOA Communication Format and Meeting Schedule

- OEA provided options for communicating with consulting parties and Tribes.
- OEA discussed preferred methods for receiving comments on the draft MOA involving a draft of the document with a comment tracking matrix. Using a comment tracking matrix ensures that all comments will be documented (slide 24).
- OEA shared the estimated project milestones (slide 25).
- SHPO and SRP-MIC indicated that the schedule is very aggressive.
- SHPO indicated that agreement documents do not have a mandated timeframe.
- OEA stated that there is a close association between the completion of the EA and the MOA document.
- OEA requested more information regarding the schedule challenges for the consulting parties. How will this affect SHPO?
- SHPO noted that they are short-staffed and have a high workload, so they would need a minimum of 3 to 4 weeks to review the draft MOA. It may be possible to do it in a shorter time frame, but it would just be a cursory review.

- OEA will modify the project schedule to provide a 1 month timeframe for the first review of the draft MOA, with shorter timeframes thereafter.
- OEA reaffirmed that the first draft of the MOA will be provided to the consulting parties November 21 or sooner. OEA adjusted the due date for the first review from December 8 to around December 22. Based on this discussion, OEA cancelled the December 8, 2022 "second" MOA meeting. The next meeting is scheduled for Thursday, January 12, 2023 (see revised slides 25 and 28).

Q&A: MOA Communication Format and Meeting Schedule

Q1: SHPO inquired whether they could obtain a Microsoft Word version of the document to provide revisions and confirmed that they would also use the comment tracking matrix.

A1: OEA indicated that would be acceptable and reiterated that other agencies or Tribes should let them know if they have specific preferences for comment resolution.

Q2: The first draft of the MOA will be ready on November 21 and when is the first review deadline?

A2: OEA's intent was to provide the draft MOA for review on November 21, with 2 weeks for review, followed by a meeting on December 8 to discuss any comments. This approach allowed for ongoing revisions in shorter steps to refine the drafts and a middle ground between a 30-day review. This approach has been revised as discussed at the meeting to provide a 30-day review of the draft MOA followed by the next meeting on January 12, 2023.

Q3: Are any Tribal holidays coming up in the next few months?

A3: November 25 and December 10 are Tribal holidays for GRIC.

Action Items

The following action items were assigned during the meeting.

- OEA will confirm the status of the orchards on ASLD land and respond to SHPO.
- OEA will ensure the Arizona Museum of Natural History receives a hard copy of the revised survey report when it is distributed for consulting party review (in November 2022).
- OEA will prepare and distribute the draft MOA and comment form for consulting party review by November 21, 2022, and will confirm the comment due date when the draft MOA is distributed.
- The consulting parties will respond with any comments, using OEA's provided comment form, by the due date around December 22, 2022.

Attachments Sign-in sheet
Agenda
Meeting presentation

Distribution Meeting invitees

Attendees

Subject	**Initial Section 106 MOA Meeting**		
Project	Union Pacific Railroad PIRATE Project		
Reference No.	Surface Transportation Board Docket No. FD 36501		
Date	Thursday, November 3, 2022	**Time**	1 – 3 p.m. PDT 4 – 6 p.m. EDT
Location	MS Teams		

Groups in Attendance	Representatives
Surface Transportation Board (Board), Office of Environmental Analysis (OEA)	Adam Assenza, Environmental Protection Specialist Alan Tabachnick, Deputy Federal Preservation Officer Josh Wayland, OEA Acting Deputy Director
Jacobs (supporting the Board's OEA)	Maggie Buckley, Environmental Project Manager Betsi Phoebus, NEPA Lead Glennda Luhnow, Manager/Archaeology and Cultural Resources Pamela Rainey, Senior Archaeologist Kris Powell, Senior Archaeologist Sabra Bushey, Environmental Planner
Gila River Indian Community	Larry Benallie, Jr., Archaeological Compliance Specialist
Salt River Pima-Maricopa Indian Community	Shane Anton, Tribal Historic Preservation Officer
Arizona Museum of Natural History	Alison Stoltman, Acting Director
Arizona State Land Department	Tiffany Grew, Cultural Resources Section Michael Romero, Right-of-Way Project Leader
City of Mesa Historic Preservation Office	Maura Jackson, Historic Preservation Advisor/Planner
City of Mesa Office of Economic Development	Robert Apodaca, Deputy Director – Civil Plan Review Erik Gunderian, Deputy Transportation Director - Engineering William Jabjiniak, Economic Development Director RJ Zeder, Transportation Department Director
Flood Control District of Maricopa County	Tom Hanson, Right-of-Way Use Permitting Branch Manager
State Historic Preservation Office	Mary-Ellen Walsh, Cultural Resources Compliance Manager
Union Pacific Railroad	Kevin Rice, Sr. Manager M/W Environmental

Attendees

Initial Section 106 MOA Meeting

Invited but unable to attend:

Ak-Chin Indian Community
Hopi Tribe
Mescalero Apache Tribe
Pascua Yaqui Tribe
Pueblo of Zuni
Tohono O'odham Nation
Tonto Apache Tribe
Yavapai-Apache Nation
Arizona State Museum
Bureau of Indian Affairs
Federal Aviation Administration
Queen Creek Irrigation District
Salt River Project
San Tan Historical Society

MOA Meeting Agenda

Subject	Initial MOA Meeting		
Project	Union Pacific Railroad PIRATE Rail Line		
Reference No.	Surface Transportation Board Docket No. FD 36501		
Date	Thursday, November 3, 2022	**Time**	1 p.m. – 3 p.m. PDT 4 – 6 p.m. EDT
Location	MS Teams	**Conference Call**	+1 469-214-8538,,758285399#

Item	
1	**Welcome and Introductions**
2	**Topic 1: How Did We Get Here?** • Project Overview • Survey Results • Finding of Effect and Need for MOA • **Topic 1 Open Discussion**
3	**Topic 2: Where Are We Now?** • Section 106 History • MOA Structure • Anticipated Roles and Responsibilities • Identified Concerns • **Topic 2 Open Discussion**
4	**Topic 3: Where Are We Going?** • Communication format • Proposed schedule and timelines • **Topic 3 Open Discussion**
5	**Meeting wrap-up and final questions**

SURFACE TRANSPORTATION BOARD
Washington, DC 20423

Office of Environmental Analysis

November 22, 2022

Ms. Kathryn Leonard
State Historic Preservation Officer
Arizona State Parks, State Historic Preservation Office
1110 West Washington Street, Suite 100
Phoenix, AZ 85007

Re: Docket No. FD 36501, Union Pacific Railroad Company – Construction and Operation Exemption – in Maricopa County, AZ
Continuation of National Historic Preservation Act Section 106 Consultation

Dear Ms. Leonard:

On June 30, 2022, the Union Pacific Railroad Company (UP) filed a petition with the Surface Transportation Board (Board), pursuant to 49 U.S.C. § 10502, requesting authority to construct and operate approximately 6.0 miles of new rail line in Maricopa County, Arizona (the Pecos Industrial Rail Access and Train Extension [PIRATE]) (see Attachment 1). Before making its decision on whether to grant such authority, the Board must consider the potential environmental impacts of the construction and operation of UP's proposed rail line, pursuant to the National Environmental Policy Act (42 U.S.C. §§ 4321−4370m-12), Section 106 of the National Historic Preservation Act (54 U.S.C. § 306108), the Board's environmental rules (49 C.F.R. Part 1105), and related environmental laws.

The Board's Office of Environmental Analysis (OEA) initiated consultation pursuant to Section 106 of the National Historic Preservation Act (dated April 6, 2022) with a letter that outlined the project scope, notified potential consulting parties of the project's alternatives analysis, and requested concurrence on the project's Area of Potential Effects (APE). OEA continued Section 106 consultation with a letter to all consulting parties dated September 1, 2022. The September 1, 2022 letter addressed revisions to the APE, the adequacy of the project's cultural resources Class III survey report, OEA's National Register of Historic Places (NRHP) eligibility determinations and treatment recommendations, finding of adverse effect, and development of a Section 106 agreement document for the project.

OEA is continuing Section 106 consultation with your office to solicit comments regarding a project scope change, the adequacy of the final Class III survey report, the NRHP eligibility reevaluation of AZ U:10:69(ASM) and AZ U:10:275(ASM), a boundary change to and NRHP revaluation of AZ U:10:152(ASM), and the treatment of unsurveyed areas.

Project Scope Change

Initial build-out of the project now includes a 5,100-foot-long run-around track that would be constructed within the APE between Crismon Road and Signal Butte Road, south of the PIRATE industrial lead track. The run-around track would allow UP to change directions by shifting a train off the PIRATE industrial lead track and moving the locomotive from one end of the train to the other. UP previously proposed to construct the run-around track in the future but now plans to construct the run-around track as part of its initial build-out with the industrial lead track. This project scope change is entirely contained within the APE and would not change the potential impacts to NRHP-eligible cultural resources.

Concurrence on Final Class III Survey Report

Comments on the draft Class III survey report (Rainey and Stubing 2022) were received from the Gila River Indian Community (GRIC) Tribal Historic Preservation Office (THPO), the Salt River Pima-Maricopa Indian Community (SRPMIC) THPO, and the Arizona State Land Department. These comments and OEA's responses are included in the comment matrix (Attachment 2). All comments have been completely addressed in the final report, and OEA requests concurrence on the adequacy of the Class III survey report (Attachment 3) as a final document.

Reevaluation of NRHP Eligibility Determinations for AZ U:10:69(ASM) and AZ U:10:275(ASM)

The GRIC and SRPMIC THPOs disagreed with OEA's previous determinations of the portions of AZ U:10:69(ASM) and AZ U:10:275(ASM) within the APE as unevaluated for NRHP eligibility. GRIC and SRPMIC THPOs believe these two sites are eligible for NRHP under Criterion D in their entirety.

OEA agrees with the GRIC and SRPMIC THPOs that these two sites are eligible for the NRHP under Criterion D. The reevaluated NRHP eligibility determinations for both sites are reflected in the attached final Class III survey report. OEA requests your concurrence that AZ U:10:69(ASM) and AZ U:10:275(ASM) are eligible for the NRHP under Criterion D in their entirety for their potential to provide information on important themes relative to the Hohokam occupation of the Queen Creek Delta area.

Boundary Change and Reevaluation of NRHP Eligibility for AZ U:10:152(ASM)

The GRIC and SRPMIC THPOs also disagreed with the boundary delineation of AZ U:10:152(ASM) as outside of, but adjacent to, the APE. GRIC and SRPMIC THPOs believe that artifacts identified within the APE by the Class III survey are associated with the site and should be incorporated into an expanded site boundary. In keeping with their position that cultural resources sites should reflect NRHP eligibility in their entirety, the GRIC and SRPMIC THPOs consider AZ U:10:152(ASM), including the expanded boundary of the site within the APE, eligible for the NRHP under Criterion D.

OEA agrees with the GRIC and SRPMIC THPOs that the boundary of this site should be expanded. The revised site boundary and the reevaluation of NRHP eligibility for AZ U:10:152(ASM) is reflected in the enclosed final Class III survey report. The site boundary is now within the APE. OEA requests your concurrence with the revised site boundary of AZ U:10:152(ASM), the finding that the site is now within the APE, and the determination of AZ U:10:152(AS) as eligible for the NRHP under Criterion D for its potential to provide information on important themes relative to the Hohokam occupation of the Queen Creek Delta area.

Treatment of Unsurveyed Areas

Two areas in the APE were unsurveyed by the Class III fieldwork due to a lack of right of entry and a lack of surface visibility. OEA will require an additional cultural resources investigation of the unsurveyed areas prior to construction in the project's memorandum of agreement, which will be developed in consultation with the Section 106 consulting parties.

Maps Depicting APE Revisions

As described in the continuing Section 106 consultation letter dated September 1, 2022, slight revisions were made to the project APE. These revisions consist of the following items:

- The removal of grading extensions located in a portion of Township 1 South, Range 7 East, Section 36 (Gila and Salt River Baseline and Meridian).
- A 500-foot extension to the northeastern terminus of the APE south of Pecos Road and east of the approach to the Commercial Metals Company, located in a portion of Township 2 South, Range 7 East, Section 1 (Gila and Salt River Baseline and Meridian).

The GRIC and SRPMIC THPOS requested maps depicting the locations of the APE changes during Section 106 consultation. OEA is including these maps for your review as attachments to this letter (Attachment 4).

Request for Input

Thank you for your continued cooperation during the Section 106 historic review process for this project. OEA requests your concurrence regarding the above topics by **Tuesday, December 21**, **2022**. If you have any additional questions, please reach out to Alan Tabachnick, at 202-245-0367.

Sincerely,



Danielle Gosselin
Director
Office of Environmental Analysis

Enclosures:

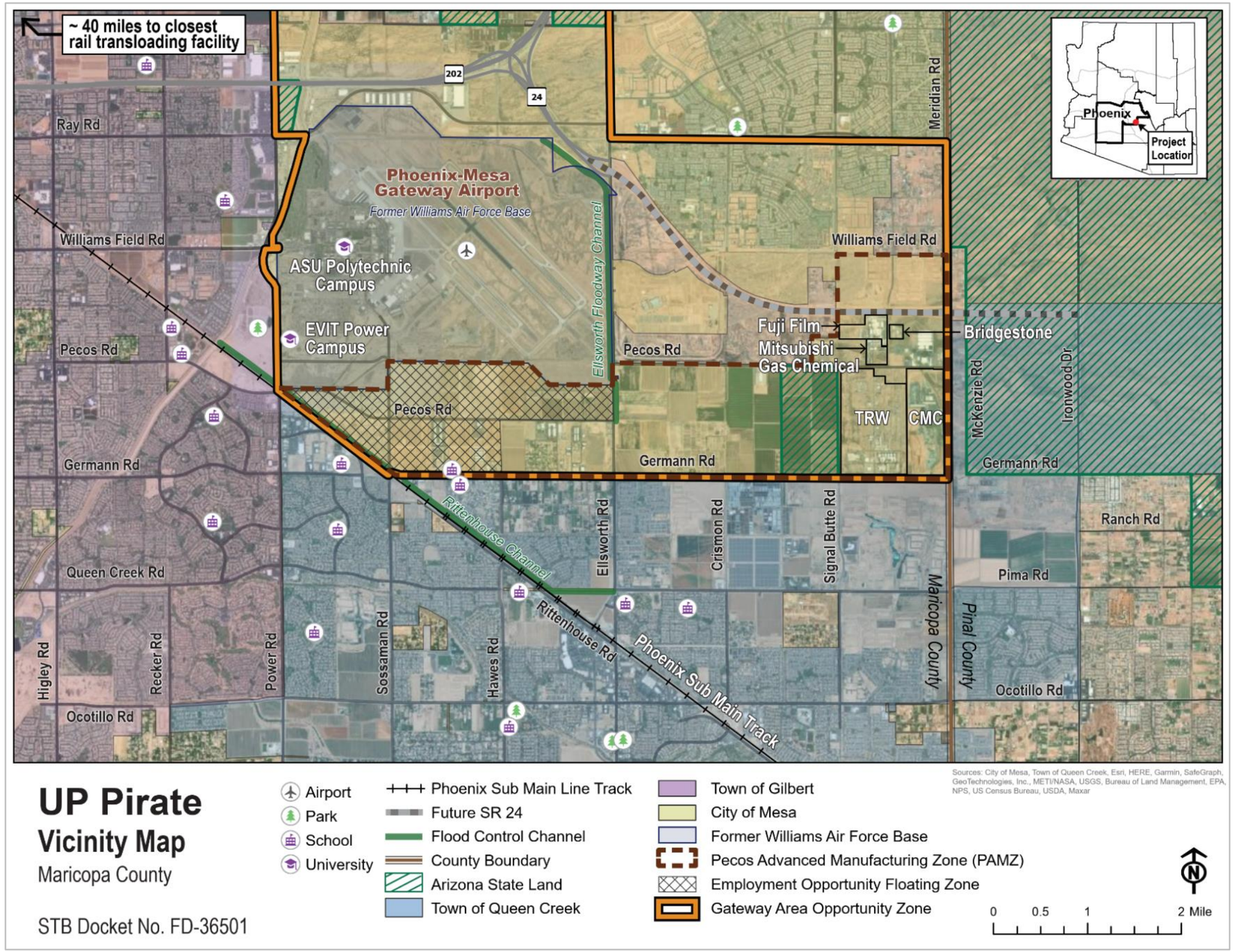
Attachment 1 - Vicinity Map
Attachment 2 - Comment Matrix
Attachment 3 - Final Class III Survey Report
Attachment 4 - Revised APE Maps (two sheets)

Cc: Adam Assenza, OEA Environmental Protection Specialist, Adam.Assenza@stb.gov
Alan Tabachnick, OEA Historic Preservation Specialist, Alan.Tabachnick@stb.gov
Maggie Buckley, Jacobs Project Manager, Maggie.Buckley@jacobs.com

References Cited:

Rainey, Pamela J., and Michael Stubing
2022 *A Class III Cultural Resources Survey for the Union Pacific Railroad Company Pecos Industrial Rail Access and Train Extensions (PIRATE) Project, Mesa and Queen Creek, Maricopa County, Arizona*. Jacobs Project Report No. 2022-006. Jacobs Engineering Group Inc., Tempe, Arizona.

ATTACHMENT 1 - VICINITY MAP

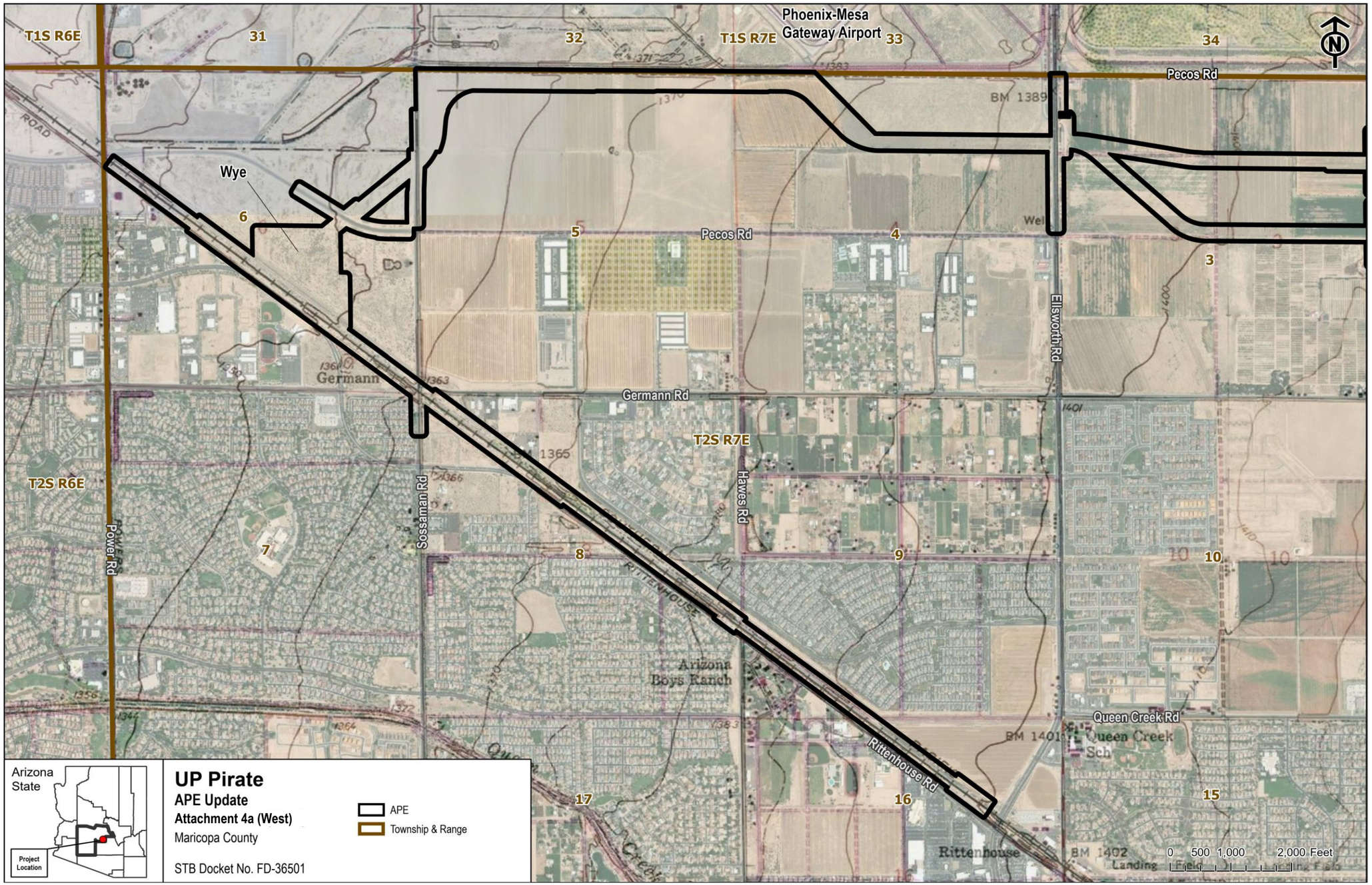


ATTACHMENT 2 - COMMENT MATRIX

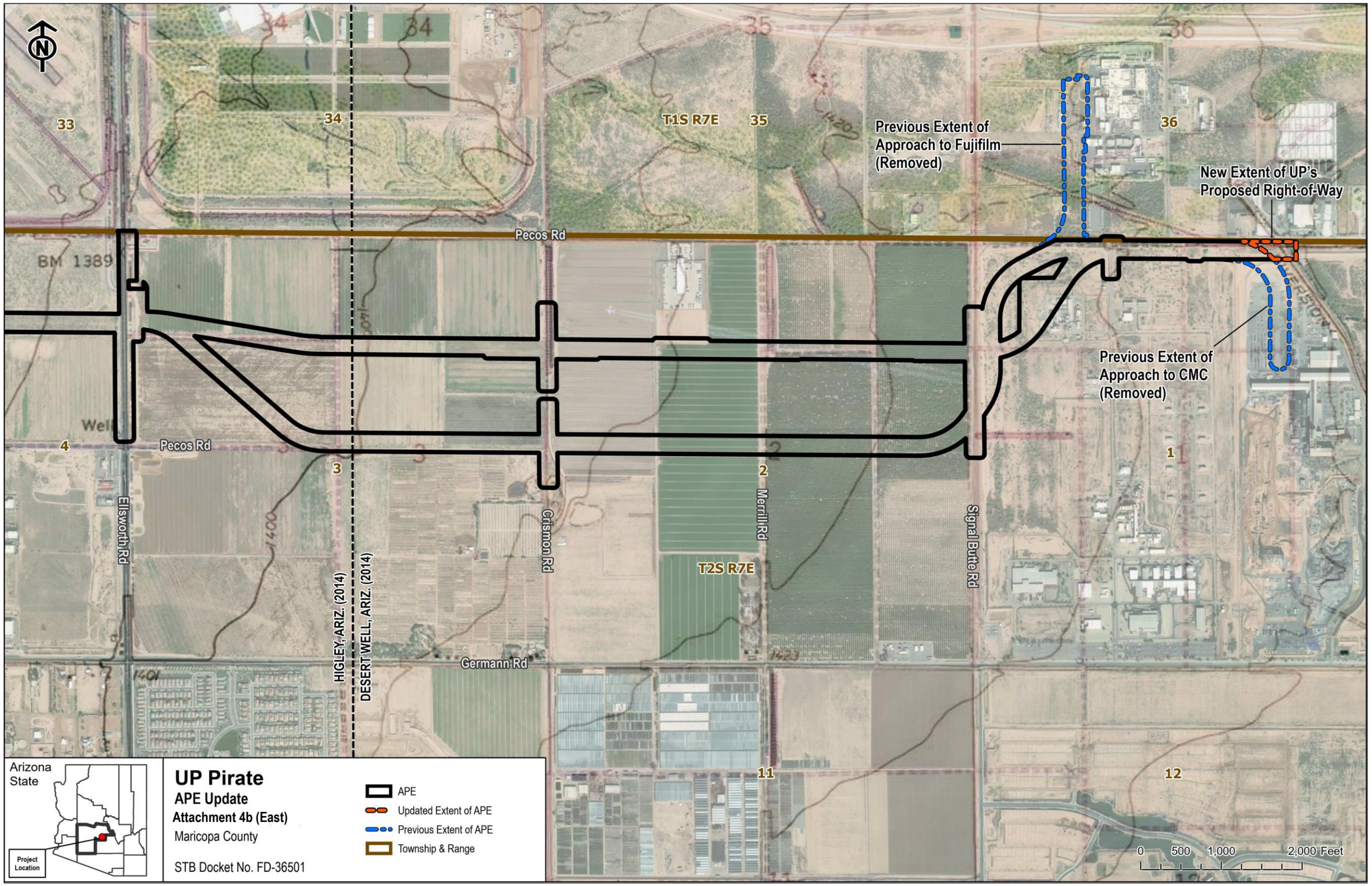
Comment Originator(s)	Comments	OEA's Proposed Resolution
Gila River Indian Community with Salt River Pima-Maricopa Indian Community concurrence	Sites AZ U:10:69, 152, and 275(ASM) – the newly recorded portions of these sites should be considered eligible for the NRHP.	Eligibility has been changed from unevaluated to eligible under Criterion D.
Gila River Indian Community with Salt River Pima-Maricopa Indian Community concurrence	Boundary for AZ U:10:152(ASM) should be expanded to include the new artifacts.	Boundary has been extended to include the new artifacts.
Gila River Indian Community with Salt River Pima-Maricopa Indian Community concurrence	Language concerning agricultural disturbance at site AZ U:10:69 and 275(ASM).	OEA did not intend to imply that no cultural resources would be present under areas with agricultural disturbance, only that it was not possible to confirm based on the survey results alone. OEA acknowledged that despite the disturbances, potential for intact subsurface deposits may exist. For clarification, the language has thus been changed from: *The area has been subject to extensive agricultural disturbance; however, there may be potential for intact subsurface deposits to exist, although this could not be confidently assessed based on the Class III survey results. Therefore, OEA recommends that the newly recorded portion of AZ U:10:69(ASM within the APE is unevaluated for NRHP eligibility.* – TO – *The area has been subject to extensive agricultural disturbance; however, there is potential for intact subsurface deposits to exist. Therefore, OEA recommends that the newly recorded portion of AZ U:10:69(ASM) within the APE is eligible for the NRHP under Criterion D.* This statement will apply to AZ U:10:69(ASM) and AZ U:10:275(ASM) as well as AZ U:10:152(ASM).

Comment Originator(s)	Comments	OEA's Proposed Resolution
Gila River Indian Community with Salt River Pima-Maricopa Indian Community concurrence	APE changes are unclear.	The APE changes were described in the previous consultation letter (dated 9/1/2022) and a figure showing the new APE. A revised figure of the APE is included with this continuing Section 106 consultation letter that depicts the changes.
Gila River Indian Community with Salt River Pima-Maricopa Indian Community concurrence	Will unsurveyed portions be surveyed in the future?	Provisions for conducting additional survey of unsurveyed areas will be contained in the memorandum of agreement.
ASLD	Include only one project UTM in Abstract	Revised as requested.

ATTACHMENT 4a - REVISED APE MAP (1 of 2)



ATTACHMENT 4b - REVISED APE MAP (2 of 2)



SHPO-2022-0395 (166744) Rec: 11-22-22

SURFACE TRANSPORTATION BOARD
Washington, DC 20423

Office of Environmental Analysis

November 22, 2022

Ms. Kathryn Leonard
State Historic Preservation Officer
Arizona State Parks, State Historic Preservation Office
1110 West Washington Street, Suite 100
Phoenix, AZ 85007

Re: Docket No. FD 36501, Union Pacific Railroad Company – Construction and Operation Exemption – in Maricopa County, AZ
Continuation of National Historic Preservation Act Section 106 Consultation

Dear Ms. Leonard:

On June 30, 2022, the Union Pacific Railroad Company (UP) filed a petition with the Surface Transportation Board (Board), pursuant to 49 U.S.C. § 10502, requesting authority to construct and operate approximately 6.0 miles of new rail line in Maricopa County, Arizona (the Pecos Industrial Rail Access and Train Extension [PIRATE]) (see Attachment 1). Before making its decision on whether to grant such authority, the Board must consider the potential environmental impacts of the construction and operation of UP's proposed rail line, pursuant to the National Environmental Policy Act (42 U.S.C. §§ 4321−4370m-12), Section 106 of the National Historic Preservation Act (54 U.S.C. § 306108), the Board's environmental rules (49 C.F.R. Part 1105), and related environmental laws.

The Board's Office of Environmental Analysis (OEA) initiated consultation pursuant to Section 106 of the National Historic Preservation Act (dated April 6, 2022) with a letter that outlined the project scope, notified potential consulting parties of the project's alternatives analysis, and requested concurrence on the project's Area of Potential Effects (APE). OEA continued Section 106 consultation with a letter to all consulting parties dated September 1, 2022. The September 1, 2022 letter addressed revisions to the APE, the adequacy of the project's cultural resources Class III survey report, OEA's National Register of Historic Places (NRHP) eligibility determinations and treatment recommendations, finding of adverse effect, and development of a Section 106 agreement document for the project.

OEA is continuing Section 106 consultation with your office to solicit comments regarding a project scope change, the adequacy of the final Class III survey report, the NRHP eligibility reevaluation of AZ U:10:69(ASM) and AZ U:10:275(ASM), a boundary change to and NRHP revaluation of AZ U:10:152(ASM), and the treatment of unsurveyed areas.

Project Scope Change

Initial build-out of the project now includes a 5,100-foot-long run-around track that would be constructed within the APE between Crismon Road and Signal Butte Road, south of the PIRATE industrial lead track. The run-around track would allow UP to change directions by shifting a train off the PIRATE industrial lead track and moving the locomotive from one end of the train to the other. UP previously proposed to construct the run-around track in the future but now plans to construct the run-around track as part of its initial build-out with the industrial lead track. This project scope change is entirely contained within the APE and would not change the potential impacts to NRHP-eligible cultural resources.

Concur

Concurrence on Final Class III Survey Report

Comments on the draft Class III survey report (Rainey and Stubing 2022) were received from the Gila River Indian Community (GRIC) Tribal Historic Preservation Office (THPO), the Salt River Pima-Maricopa Indian Community (SRPMIC) THPO, and the Arizona State Land Department. These comments and OEA's responses are included in the comment matrix (Attachment 2). All comments have been completely addressed in the final report, and OEA requests concurrence on the adequacy of the Class III survey report (Attachment 3) as a final document.

Concur

Reevaluation of NRHP Eligibility Determinations for AZ U:10:69(ASM) and AZ U:10:275(ASM)

The GRIC and SRPMIC THPOs disagreed with OEA's previous determinations of the portions of AZ U:10:69(ASM) and AZ U:10:275(ASM) within the APE as unevaluated for NRHP eligibility. GRIC and SRPMIC THPOs believe these two sites are eligible for NRHP under Criterion D in their entirety.

OEA agrees with the GRIC and SRPMIC THPOs that these two sites are eligible for the NRHP under Criterion D. The reevaluated NRHP eligibility determinations for both sites are reflected in the attached final Class III survey report. OEA requests your concurrence that AZ U:10:69(ASM) and AZ U:10:275(ASM) are eligible for the NRHP under Criterion D in their entirety for their potential to provide information on important themes relative to the Hohokam occupation of the Queen Creek Delta area.

Concur

Boundary Change and Reevaluation of NRHP Eligibility for AZ U:10:152(ASM)

The GRIC and SRPMIC THPOs also disagreed with the boundary delineation of AZ U:10:152(ASM) as outside of, but adjacent to, the APE. GRIC and SRPMIC THPOs believe that artifacts identified within the APE by the Class III survey are associated with the site and should be incorporated into an expanded site boundary. In keeping with their position that cultural resources sites should reflect NRHP eligibility in their entirety, the GRIC and SRPMIC THPOs consider AZ U:10:152(ASM), including the expanded boundary of the site within the APE, eligible for the NRHP under Criterion D.

OEA agrees with the GRIC and SRPMIC THPOs that the boundary of this site should be expanded. The revised site boundary and the reevaluation of NRHP eligibility for AZ U:10:152(ASM) is reflected in the enclosed final Class III survey report. The site boundary is now within the APE. OEA requests your concurrence with the revised site boundary of AZ U:10:152(ASM), the finding that the site is now within the APE, and the determination of AZ U:10:152(AS) as eligible for the NRHP under Criterion D for its potential to provide information on important themes relative to the Hohokam occupation of the Queen Creek Delta area.

Concur

Treatment of Unsurveyed Areas

Two areas in the APE were unsurveyed by the Class III fieldwork due to a lack of right of entry and a lack of surface visibility. OEA will require an additional cultural resources investigation of the unsurveyed areas prior to construction in the project's memorandum of agreement, which will be developed in consultation with the Section 106 consulting parties.

Concur

Maps Depicting APE Revisions

As described in the continuing Section 106 consultation letter dated September 1, 2022, slight revisions were made to the project APE. These revisions consist of the following items:

- The removal of grading extensions located in a portion of Township 1 South, Range 7 East, Section 36 (Gila and Salt River Baseline and Meridian).
- A 500-foot extension to the northeastern terminus of the APE south of Pecos Road and east of the approach to the Commercial Metals Company, located in a portion of Township 2 South, Range 7 East, Section 1 (Gila and Salt River Baseline and Meridian).

We also note the removal of grading extensions located in T2S, R7E, Sec. 1

The GRIC and SRPMIC THPOS requested maps depicting the locations of the APE changes during Section 106 consultation. OEA is including these maps for your review as attachments to this letter (Attachment 4).

Request for Input

Thank you for your continued cooperation during the Section 106 historic review process for this project. OEA requests your concurrence regarding the above topics by **Tuesday, December 21**, **2022**. If you have any additional questions, please reach out to Alan Tabachnick, at 202-245-0367.

Sincerely,

Danielle Gosselin
Director
Office of Environmental Analysis

Enclosures:

Attachment 1 - Vicinity Map
Attachment 2 - Comment Matrix
Attachment 3 - Final Class III Survey Report
Attachment 4 - Revised APE Maps (two sheets)

Cc: Adam Assenza, OEA Environmental Protection Specialist, Adam.Assenza@stb.gov
Alan Tabachnick, OEA Historic Preservation Specialist, Alan.Tabachnick@stb.gov
Maggie Buckley, Jacobs Project Manager, Maggie.Buckley@jacobs.com

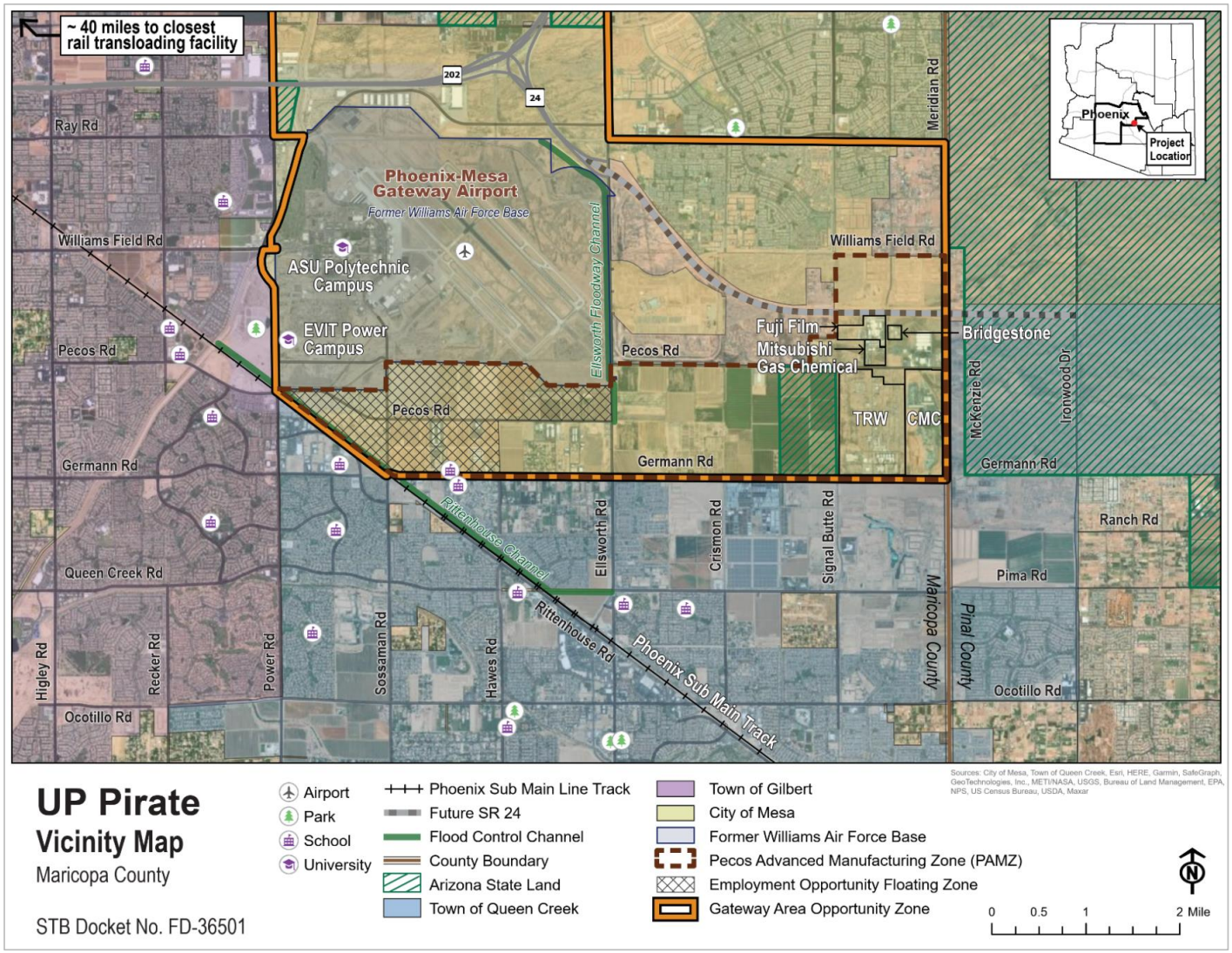
References Cited:

Rainey, Pamela J., and Michael Stubing
2022 *A Class III Cultural Resources Survey for the Union Pacific Railroad Company Pecos Industrial Rail Access and Train Extensions (PIRATE) Project, Mesa and Queen Creek, Maricopa County, Arizona*. Jacobs Project Report No. 2022-006. Jacobs Engineering Group Inc., Tempe, Arizona.

Concur.

Caroline Klebacha, M.A.
State Historic Preservation Office
12/20/2022

ATTACHMENT 1 - VICINITY MAP

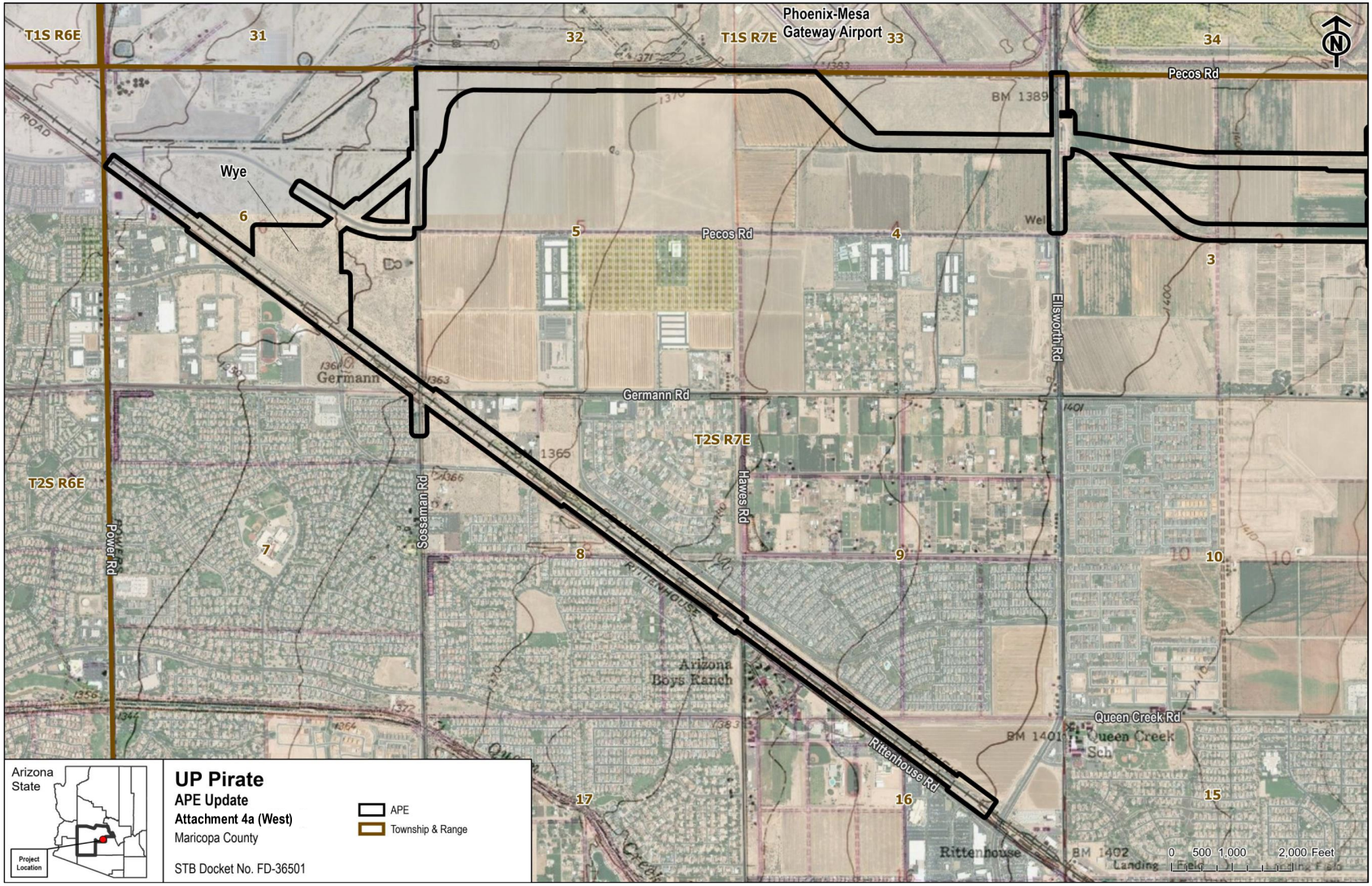


ATTACHMENT 2 - COMMENT MATRIX

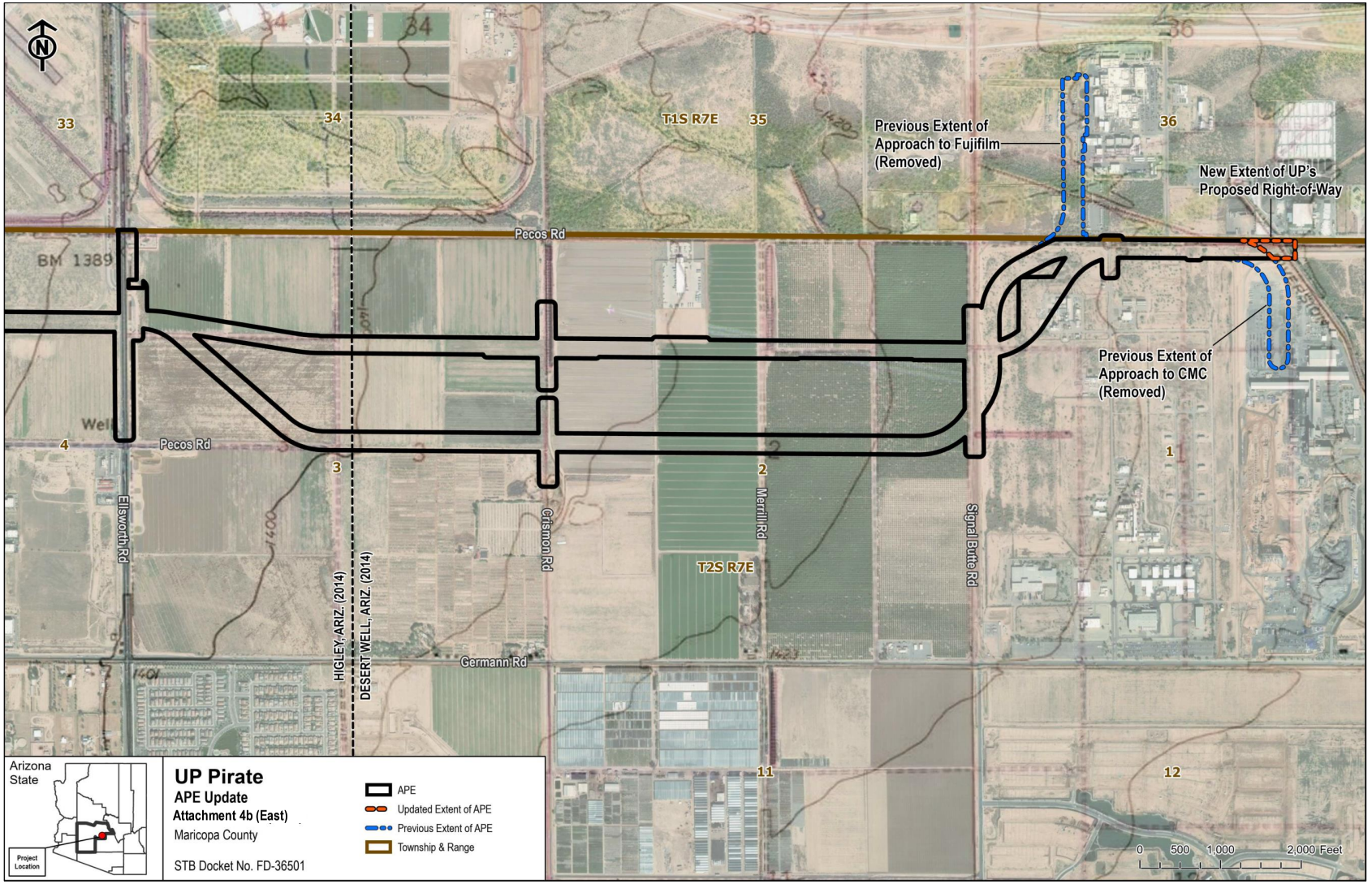
Comment Originator(s)	Comments	OEA's Proposed Resolution
Gila River Indian Community with Salt River Pima-Maricopa Indian Community concurrence	Sites AZ U:10:69, 152, and 275(ASM) – the newly recorded portions of these sites should be considered eligible for the NRHP.	Eligibility has been changed from unevaluated to eligible under Criterion D.
Gila River Indian Community with Salt River Pima-Maricopa Indian Community concurrence	Boundary for AZ U:10:152(ASM) should be expanded to include the new artifacts.	Boundary has been extended to include the new artifacts.
Gila River Indian Community with Salt River Pima-Maricopa Indian Community concurrence	Language concerning agricultural disturbance at site AZ U:10:69 and 275(ASM).	OEA did not intend to imply that no cultural resources would be present under areas with agricultural disturbance, only that it was not possible to confirm based on the survey results alone. OEA acknowledged that despite the disturbances, potential for intact subsurface deposits may exist. For clarification, the language has thus been changed from: *The area has been subject to extensive agricultural disturbance; however, there may be potential for intact subsurface deposits to exist, although this could not be confidently assessed based on the Class III survey results. Therefore, OEA recommends that the newly recorded portion of AZ U:10:69(ASM within the APE is unevaluated for NRHP eligibility.* – TO – *The area has been subject to extensive agricultural disturbance; however, there is potential for intact subsurface deposits to exist. Therefore, OEA recommends that the newly recorded portion of AZ U:10:69(ASM) within the APE is eligible for the NRHP under Criterion D.* This statement will apply to AZ U:10:69(ASM) and AZ U:10:275(ASM) as well as AZ U:10:152(ASM).

Comment Originator(s)	Comments	OEA's Proposed Resolution
Gila River Indian Community with Salt River Pima-Maricopa Indian Community concurrence	APE changes are unclear.	The APE changes were described in the previous consultation letter (dated 9/1/2022) and a figure showing the new APE. A revised figure of the APE is included with this continuing Section 106 consultation letter that depicts the changes.
Gila River Indian Community with Salt River Pima-Maricopa Indian Community concurrence	Will unsurveyed portions be surveyed in the future?	Provisions for conducting additional survey of unsurveyed areas will be contained in the memorandum of agreement.
ASLD	Include only one project UTM in Abstract	Revised as requested.

ATTACHMENT 4a - REVISED APE MAP (1 of 2)



ATTACHMENT 4b - REVISED APE MAP (2 of 2)



World leaders in creating a safe and efficient system of airports
We value Integrity, Collaboration and Innovation!

From: Luhnow, Glennda <Glennda.Luhnow@jacobs.com>
Sent: Tuesday, November 22, 2022 15:24
To: Williams, Mike N (FAA) <Mike.N.Williams@faa.gov>
Cc: Tabachnick, Alan <alan.tabachnick@stb.gov>; Assenza, Adam <adam.assenza@stb.gov>; Buckley, Maggie <Maggie.Buckley@jacobs.com>; McNeish, Sabra <Sabra.McNeish@jacobs.com>; Rainey, Pamela <Pamela.Rainey@jacobs.com>; Powell, Kris <Kris.Powell@jacobs.com>
Subject: UPRR PIRATE Continuing Section 106 Consultation: Final Class III Report, Scope Change, NRHP Re-evaluation, Boundary Change

Dear Mr. Williams,

As stated in previous Section 106 consultation conducted under the National Historic Preservation Act, the Union Pacific Railroad Company intends to request authority from the Surface Transportation Board (Board) to construct and operate approximately six miles of new rail line in Maricopa County, Arizona (the proposed Pecos Industrial Rail Access and Train Extension [PIRATE] rail line).

With the attached letter, the Board's Office of Environmental Analysis (OEA) is continuing Section 106 consultation with your office and soliciting concurrence on the final Class III survey report, National Register of Historic Places (NRHP) site re-evaluation, a scope change, and a boundary change for AZ U:16:152(ASM).

The final Class III cultural resources survey report has been transmitted to you via File Transfer on behalf of OEA by Jacobs Engineering Group Inc, OEA's third-party contractor. The File Transfer document will be available for 15 days and will expire on December 6, 2022. If you are not able to access the document, or the link expires, please contact Glennda Luhnow, Jacobs' cultural resources manager, at Glennda.Luhnow@jacobs.com.

OEA requests your review and concurrence regarding the content of this letter by **Tuesday, December 21, 2022**. Please address any questions electronically to Alan Tabachnick, OEA's Deputy Federal Preservation Officer, at Alan.Tabachnick@stb.gov.

Thank you,
Glennda Luhnow

Glennda Luhnow, M.A., RPA | **JACOBS** | **Manager/Archaeology and Cultural Resources** |
C: 480-510-0830 | glennda.luhnow@jacobs.com
1501 West Fountainhead Parkway, Suite 401 | Tempe, Arizona 85282 | USA

NOTICE - This communication may contain confidential and privileged information that is for the sole use of the intended recipient. Any viewing, copying or distribution of, or reliance on this message by unintended recipients is strictly prohibited. If you have received this message in error, please notify us immediately by replying to the message and deleting it from your computer.

From: Plummer, Shannon D - (splummer) <splummer@arizona.edu>
Sent: Tuesday, November 29, 2022 10:58 AM
To: Luhnow, Glennda <Glennda.Luhnow@jacobs.com>
Cc: Leone, Karen L - (kleone) <kleone@arizona.edu>
Subject: [EXTERNAL] RE: UPRR PIRATE Continuing Section 106 Consultation: Final Class III Report, Scope Change, NRHP Re-evaluation, Boundary Change

Good morning, Glennda,
Arizona State Museum (ASM) has reviewed the revised version of *A Class III Cultural Resources Survey for the Union Pacific Railroad Company Pecos Industrial Rail Access and Train Extension (PIRATE) Project, Mesa and Queen Creek, Maricopa County, Arizona* by P.J. Rainey and M. Stubing of Jacobs Engineering Group, Inc., dated August (Revised November 2022).

ASM has no comments on the revised report (ASM Accession 2022-0231).

Thanks!
Shannon

Shannon Plummer, M.A., R.P.A.
Arizona Antiquities Act Administrator

Arizona State Museum | The University of Arizona
1013 E. University Blvd | PO Box 210026
Tucson, Arizona 85721-0026
(520) 621-4795
www.statemuseum.arizona.edu

From: Luhnow, Glennda <Glennda.Luhnow@jacobs.com>
Sent: Tuesday, November 22, 2022 3:20 PM
To: Lyons, Patrick D - (plyons) <plyons@arizona.edu>
Cc: Plummer, Shannon D - (splummer) <splummer@arizona.edu>; Tabachnick, Alan <alan.tabachnick@stb.gov>; Assenza, Adam <adam.assenza@stb.gov>; Buckley, Maggie <Maggie.Buckley@jacobs.com>; Rainey, Pamela <Pamela.Rainey@jacobs.com>; Powell, Kris <Kris.Powell@jacobs.com>; McNeish, Sabra <Sabra.McNeish@jacobs.com>
Subject: [EXT]UPRR PIRATE Continuing Section 106 Consultation: Final Class III Report, Scope Change, NRHP Re-evaluation, Boundary Change

External Email

Dear Dr. Lyons,

As stated in previous Section 106 consultation conducted under the National Historic Preservation Act, the Union Pacific Railroad Company intends to request authority from the Surface Transportation Board (Board) to construct and operate approximately six miles of new rail line in Maricopa County, Arizona (the proposed Pecos Industrial Rail Access and Train Extension [PIRATE] rail line).

With the attached letter, the Board's Office of Environmental Analysis (OEA) is continuing Section 106 consultation with your office and soliciting concurrence on the final Class III survey report, National Register of Historic Places (NRHP) site re-evaluation, a scope change, and a boundary change for AZ U:16:152(ASM).

The final Class III cultural resources survey report has been transmitted to you via File Transfer on behalf of OEA by Jacobs Engineering Group Inc, OEA's third-party contractor. The File Transfer document will be available for 15 days and will expire on December 6, 2022. If you are not able to access the document, or the link expires, please contact Glennda Luhnow, Jacobs' cultural resources manager, at Glennda.Luhnow@jacobs.com.

OEA requests your review and concurrence regarding the content of this letter by **Tuesday, December 21, 2022**. Please address any questions electronically to Alan Tabachnick, OEA's Deputy Federal Preservation Officer, at Alan.Tabachnick@stb.gov.

Thank you,
Glennda Luhnow

Glennda Luhnow, M.A., RPA | **JACOBS** | **Manager/Archaeology and Cultural Resources** |
C: 480-510-0830 | glennda.luhnow@jacobs.com
1501 West Fountainhead Parkway, Suite 401 | Tempe, Arizona 85282 | USA

NOTICE - This communication may contain confidential and privileged information that is for the sole use of the intended recipient. Any viewing, copying or distribution of, or reliance on this message by unintended recipients is strictly prohibited. If you have received this message in error, please notify us immediately by replying to the message and deleting it from your computer.

From: Cantley, Garry <Garry.Cantley@bia.gov>
Sent: Tuesday, November 29, 2022 1:40 PM
To: Tabachnick, Alan <alan.tabachnick@stb.gov>
Cc: Luhnow, Glennda <Glennda.Luhnow@jacobs.com>; Assenza, Adam <adam.assenza@stb.gov>; Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>; Buckley, Maggie <Maggie.Buckley@jacobs.com>
Subject: Re: [EXTERNAL] UP PIRATE Section 106 Informational Memo-MOA Meeting Schedule

Alan,
Thanks for the message.
I don't think it's necessary for you to keep me on the distribution list.
But I stand by to assist in any manner you may wish.

Garry J. Cantley
Regional Archeologist
BIA Western Regional Office
2600 North Central Avenue, Suite 400
Phoenix, Arizona 85004-3008
(602) 379-6750
(602) 240-8447 direct
(602) 418-8503 cell
Regular day off is 2nd Friday of each pay period.

From: Tabachnick, Alan <alan.tabachnick@stb.gov>
Sent: Tuesday, November 29, 2022 11:28 AM
To: Cantley, Garry <Garry.Cantley@bia.gov>
Cc: Luhnow, Glennda <Glennda.Luhnow@jacobs.com>; Assenza, Adam <Adam.Assenza@stb.gov>; Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>; Buckley, Maggie <Maggie.Buckley@jacobs.com>
Subject: RE: [EXTERNAL] UP PIRATE Section 106 Informational Memo-MOA Meeting Schedule

Garry, thanks for the continued support and your availability for any questions or concerns that may come up. Things seem to be progressing well and we will continue to work on developing the MOA with all of the tribes and the other consulting parties. We will reach out to you if anything comes up. Would you still like to be included on distributions, updates, and meeting invitations? If you don't feel the need for that, just let me know. As I noted before, we will of

course reach out if anything develops that is potentially challenging or problematic. Hope you had a nice holiday break and things are well.

From: Cantley, Garry <Garry.Cantley@bia.gov>
Sent: Saturday, October 22, 2022 3:06 PM
To: Tabachnick, Alan <alan.tabachnick@stb.gov>
Cc: Luhnow, Glennda <Glennda.Luhnow@jacobs.com>
Subject: Re: [EXTERNAL] UP PIRATE Section 106 Informational Memo-MOA Meeting Schedule

Alan,
Thanks for the message.
Since there is no action before BIA, I don't think there is any need for us to formally participate in the 106 consultation process.
Regardless, I stand by to assist and address any questions you might have.
Best of luck with the project, sir.

Garry J. Cantley
Regional Archeologist
BIA Western Regional Office
2600 North Central Avenue, Suite 400
Phoenix, Arizona 85004-3008
(602) 379-6750
(602) 240-8447 direct
(602) 418-8503 cell
Regular day off is 2nd Friday of each pay period.

From: Luhnow, Glennda <Glennda.Luhnow@jacobs.com>
Sent: Tuesday, October 18, 2022 2:27 PM
To: Cantley, Garry <Garry.Cantley@bia.gov>
Cc: Dawes, Tamera <Tamera.Dawes@bia.gov>; Assenza, Adam <adam.assenza@stb.gov>; Tabachnick, Alan <alan.tabachnick@stb.gov>; Bushey, Sabra <Sabra.Bushey@jacobs.com>; Buckley, Maggie <Maggie.Buckley@jacobs.com>; Rainey, Pamela <Pamela.Rainey@jacobs.com>; Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>
Subject: [EXTERNAL] UP PIRATE Section 106 Informational Memo-MOA Meeting Schedule

This email has been received from outside of DOI - Use caution before clicking on links, opening attachments, or responding.

Dear Mr. Cantley,

As stated in previous Section 106 consultation conducted under the National Historic Preservation Act, the Union Pacific Railroad Company intends to request authority from the Surface Transportation Board (Board) to construct and operate approximately six miles of new rail line in Maricopa County, Arizona (the proposed Pecos Industrial Rail Access and Train Extension [PIRATE] rail line).

From: Luhnow, Glennda
Sent: Monday, December 5, 2022 7:08 AM
To: Williams, Mike N (FAA)
Cc: Tabachnick, Alan; Assenza, Adam; Buckley, Maggie; McNeish, Sabra; Rainey, Pamela; Powell, Kris
Subject: RE: UPRR PIRATE Continuing Section 106 Consultation: Final Class III Report, Scope Change, NRHP Re-evaluation, Boundary Change

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Mike,

Good morning! Thank you for your response.

Have a great day,
Glennda

Glennda Luhnow, M.A., RPA | **JACOBS** | **Manager/Archaeology and Cultural Resources** |
C: 480-510-0830 | glennda.luhnow@jacobs.com
1501 West Fountainhead Parkway, Suite 401 | Tempe, Arizona 85282 | USA

From: Williams, Mike N (FAA) <Mike.N.Williams@faa.gov>
Sent: Monday, December 5, 2022 7:03 AM
To: Luhnow, Glennda <Glennda.Luhnow@jacobs.com>
Cc: Tabachnick, Alan <alan.tabachnick@stb.gov>; Assenza, Adam <adam.assenza@stb.gov>; Buckley, Maggie <Maggie.Buckley@jacobs.com>; McNeish, Sabra <Sabra.McNeish@jacobs.com>; Rainey, Pamela <Pamela.Rainey@jacobs.com>; Powell, Kris <Kris.Powell@jacobs.com>
Subject: [EXTERNAL] RE: UPRR PIRATE Continuing Section 106 Consultation: Final Class III Report, Scope Change, NRHP Re-evaluation, Boundary Change

Glenda, Thank you for sending this.

The FAA Phoenix Airports District Office has no comments.

Mike N Williams
Manager, PHX-600
Phoenix Airports District Office
Office of Airports
Western-Pacific Region
3800 N Central Avenue
Suite 1025, 10th Floor
Phoenix, AZ 85012
602-792-1064
FAX 602-792-1061
mike.n.williams@faa.gov

From: Luhnow, Glennda
Sent: Thursday, December 8, 2022 11:44 AM
To: Dan M Garcia <Dan.Garcia@srpnet.com>; Tabachnick, Alan <alan.tabachnick@stb.gov>
Cc: Assenza, Adam <adam.assenza@stb.gov>; Buckley, Maggie <Maggie.Buckley@jacobs.com>; Powell, Kris <Kris.Powell@jacobs.com>; Rainey, Pamela <Pamela.Rainey@jacobs.com>
Subject: RE: RE: UPRR PIRATE Continuing S106 Consultation Dated 11/22/22

Hi Dan,

Good morning! Hope you are doing well.

The shapefiles for the sites investigated by the PIRATE Class III survey are attached. Please let me know if you have any difficulties opening the data.

Have a great Thursday!
g

Glennda Luhnow, M.A., RPA | **JACOBS** | **Manager/Archaeology and Cultural Resources** |
C: 480-510-0830 | glennda.luhnow@jacobs.com
1501 West Fountainhead Parkway, Suite 401 | Tempe, Arizona 85282 | USA

From: Dan M Garcia <Dan.Garcia@srpnet.com>
Sent: Friday, December 2, 2022 4:12 PM
To: Tabachnick, Alan <alan.tabachnick@stb.gov>
Cc: Assenza, Adam <adam.assenza@stb.gov>; Buckley, Maggie <Maggie.Buckley@jacobs.com>; Luhnow, Glennda <Glennda.Luhnow@jacobs.com>
Subject: [EXTERNAL] RE: UPRR PIRATE Continuing S106 Consultation Dated 11/22/22

Dear Mr. Tabachnick,

Salt River Project is in receipt of STB's Section 106 consultation package dated 11/22/22. I have reviewed the revised report and attachments and SRP concurs with the finding of adverse effect, NRHP eligibility determinations, need for additional surveys, and expansions of archaeological site boundaries described. We would appreciate a copy of the GIS shapefile/geodatabase of the revised site locations, as SRP has a number of ongoing power projects in this area. Also, please note that a number of SRP transmission and distribution facilities are described as Isolated Occurrences of Cultural Materials on page 85 of the report. Specifically, Isolated Features 28, 29, 30, and 31 are in-use modern maintained SRP Critical Energy Infrastructure and need not be recorded as cultural resources or evaluated for NRHP eligibility. Please let me know if you have any questions.

Dan Garcia
Archaeologist - Senior Cultural Resource Management Specialist
SRP | Biological and Cultural Resource Services | PAB359
P.O. Box 52025, Phoenix, AZ 85072-2025
P: (602) 236-2336 | **M**: (480) 213-1177

NOTICE - This communication may contain confidential and privileged information that is for the sole use of the intended recipient. Any viewing, copying or distribution of, or reliance on this message by unintended recipients is strictly prohibited. If you have received this message in error, please notify us immediately by replying to the message and deleting it from your computer.

Jacobs Engineering Group Inc. (Jacobs) will send you a Microsoft Teams meeting invitation in the coming days. If you have any technical questions about the Teams platform or how to participate, please contact Glennda Luhnow at Glennda.luhnow@jacobs.com.

Please feel free to contact Alan Tabachnick, OEA's Deputy Federal Preservation Officer, at Alan.Tabachnick@stb.gov with any questions about the draft MOA and the upcoming meeting.

Sincerely,
Glennda Luhnow

Glennda Luhnow, M.A., RPA | **JACOBS** | **Manager/Archaeology and Cultural Resources** |
C: 480-510-0830 | glennda.luhnow@jacobs.com
1501 West Fountainhead Parkway, Suite 401 | Tempe, Arizona 85282 | USA

NOTICE - This communication may contain confidential and privileged information that is for the sole use of the intended recipient. Any viewing, copying or distribution of, or reliance on this message by unintended recipients is strictly prohibited. If you have received this message in error, please notify us immediately by replying to the message and deleting it from your computer.

Luhnow, Glennda

From: Luhnow, Glennda
Sent: Thursday, December 8, 2022 5:00 PM
To: AZSHPO - AZPARKS
Cc: Tabachnick, Alan; Assenza, Adam; Buckley, Maggie; McNeish, Sabra; Powell, Kris; Rainey, Pamela
Subject: UPRR PIRATE Draft MOA Submittal 1 for Review
Attachments: UPRR PIRATE MOA Draft Submittal 1_12082022.pdf; UPRR PIRATE Draft MOA Comment Form.docx; UPRR PIRATE MOA Draft Submittal 1_12082022.docx

Dear Ms. Leonard,

As the Surface Transportation Board (Board) Office of Environmental Analysis (OEA) stated in previous Section 106 consultation conducted under the National Historic Preservation Act, on June 30, 2022, the Union Pacific Railroad Company filed a petition with the Board requesting authority to construct and operate approximately six miles of new rail line in Maricopa County, Arizona (the proposed Pecos Industrial Rail Access and Train Extension [PIRATE] rail line).

OEA conducted a virtual meeting with the Section 106 consulting parties on November 3, 2022, to discuss the development of a project Memorandum of Agreement (MOA). The initial draft MOA is attached for your review, along with a Comment Form for your use as you review the document.

A virtual meeting to discuss the comments will be held on **Thursday, January 12, 2023, at 1-3 pm (Arizona time)/3–5 pm (Eastern time).** To facilitate the meeting discussion, OEA requests that you provide your comments on the attached Comment Form by COB on **Monday, January 9, 2023**.

Jacobs Engineering Group Inc. (Jacobs) will send you a Microsoft Teams meeting invitation in the coming days. If you have any technical questions about the Teams platform or how to participate, please contact Glennda Luhnow at Glennda.luhnow@jacobs.com.

Please feel free to contact Alan Tabachnick, OEA's Deputy Federal Preservation Officer, at Alan.Tabachnick@stb.gov with any questions about the draft MOA and the upcoming meeting.

Sincerely,
Glennda Luhnow

Glennda Luhnow, M.A., RPA | **JACOBS** | **Manager/Archaeology and Cultural Resources** |
C: 480-510-0830 | glennda.luhnow@jacobs.com
1501 West Fountainhead Parkway, Suite 401 | Tempe, Arizona 85282 | USA

From: Edward Raleigh (FCD) <Edward.Raleigh@Maricopa.Gov>
Sent: Wednesday, December 28, 2022 9:37 AM
To: Luhnow, Glennda
Cc: Tabachnick, Alan; Assenza, Adam; Buckley, Maggie; McNeish, Sabra; Powell, Kris; Rainey, Pamela
Subject: [EXTERNAL] FW: UPRR PIRATE Draft MOA Submittal 1 for Review
Attachments: UPRR PIRATE MOA Draft Submittal 1_12082022.pdf; UPRR PIRATE Draft MOA Comment Form.docx

Follow Up Flag: Follow up
Flag Status: Flagged

The Flood Control District of Maricopa County has no comments on the UPRR PIRATE MOA Draft Submittal. As described in lines 72 to 74 of the draft MOA, any impact to Flood Control District projects or land will require that a permit be obtained from our office. We do not see a need for the Flood Control District to sign the MOA as a concurring party unless there is a requirement that we must do so to allow the process to proceed.

Ed Raleigh
Senior Engineering Advisor
Flood Control District of Maricopa County
(602)506-4704
Cell: (602)526-6018

From: Michael Fulton (FCD) <Michael.Fulton@maricopa.gov>
Sent: Friday, December 9, 2022 1:30 PM
To: Edward Raleigh (FCD) <Edward.Raleigh@Maricopa.Gov>
Subject: FW: UPRR PIRATE Draft MOA Submittal 1 for Review

Would you please review and prepare draft comments (if any) on behalf of the District? I see mention of FCD beginning at line 72.

Mike

From: Luhnow, Glennda <Glennda.Luhnow@jacobs.com>
Sent: Thursday, December 8, 2022 4:34 PM
To: Michael Fulton (FCD) <Michael.Fulton@maricopa.gov>
Cc: Tabachnick, Alan <alan.tabachnick@stb.gov>; Assenza, Adam <adam.assenza@stb.gov>; Buckley, Maggie <Maggie.Buckley@jacobs.com>; McNeish, Sabra <Sabra.McNeish@jacobs.com>; Powell, Kris <Kris.Powell@jacobs.com>; Rainey, Pamela <Pamela.Rainey@jacobs.com>
Subject: UPRR PIRATE Draft MOA Submittal 1 for Review

Dear Mr. Fulton,

As the Surface Transportation Board (Board) Office of Environmental Analysis (OEA) stated in previous Section 106 consultation conducted under the National Historic Preservation Act, on June 30, 2022, the Union Pacific Railroad Company filed a petition with the Board requesting authority to construct and operate approximately six miles of new rail line in Maricopa County, Arizona (the proposed Pecos Industrial Rail Access and Train Extension [PIRATE] rail line).

Salt River
PIMA-MARICOPA INDIAN COMMUNITY
10,005 EAST OSBORN ROAD/SCOTTSDALE, ARIZONA 85256/ PHONE (480) 362-6325

Tribal Historic Preservation Office

TO: Danielle Gosselin, Director
Surface Transportation Board
Office of Environmental Analysis
RE: Docket No. FD 36501
395 E Street SW
Washington, DC 20423

DATE: 1/6/2023

FROM: Shane Anton, Tribal Historic Preservation Officer

RE: Docket No. FD 36501, Union Pacific Railroad Company – Construction and Operation Exemption – in Maricopa County, AZ
Continuation of National Historic Preservation Act Section 106 Consultation

Dear Director Gosselin,

The Salt River Pima Maricopa Indian Community Tribal Historic Preservation Office (SRPMIC-THPO) received your consultation documents dated November 22, 2022. OEA is continuing Section 106 consultation to solicit comments regarding a project scope change, the adequacy of the final Class III survey report, the NRHP eligibility reevaluation of AZ U:10:69(ASM) and AZ U:10:275(ASM), a boundary change to and NRHP revaluation of AZ U:10:152(ASM), and the treatment of unsurveyed areas.

Project Scope Change: Initial build-out of the project now includes a 5,100-foot-long run-around track that would be constructed within the APE between Crismon Road and Signal Butte Road, south of the PIRATE industrial lead track. This project scope change is entirely contained within the APE and would not change the potential impacts to NRHP-eligible cultural resources.

> SRPMIC THPO concurs that the scope change is entirely contained within the APE and would not change the potential impacts to NRHP-eligible cultural resources.

Concurrence on Final Class III Survey Report: Comments on the draft Class III survey report (Rainey and Stubing 2022) and OEA's responses are included in the comment matrix (Attachment 2 of your letter dated November 22, 2022). OEA therefore requests concurrence on the adequacy

of the Class III survey report (Attachment 3 of your letter dated November 22, 2022) as a final document.

> SRPMIC THPO has reviewed the comment matrix and the corresponding changes in the Class III survey report and concurs that the report is adequate.

Reevaluation of NRHP Eligibility Determinations for AZ U:10:69(ASM) and AZ U:10:275(ASM): OEA agrees with the GRIC and SRPMIC THPOs that these two sites are eligible for the NRHP under Criterion D. The reevaluated NRHP eligibility determinations for both sites are reflected in the attached final Class III survey report.

> SRPMIC THPO concurs with the reevaluation of AZ U:10:69(ASM) and AZ U:10:275(ASM) as eligible for the NRHP under Criterion D and acknowledges that the eligibility determinations for both sites are reflected in the attached final Class III survey report.

Boundary Change and Reevaluation of NRHP Eligibility for AZ U:10:152(ASM): OEA agrees with the GRIC and SRPMIC THPOs that the boundary of this site should be expanded. The revised site boundary and the reevaluation of NRHP eligibility for AZ U:10:152(ASM) is reflected in the enclosed final Class III survey report. The site boundary is now within the APE.

> SRPMIC THPO concurs with the revised site boundary of AZ U:10:52 (ASM) within the APE and agrees that the site in its entirety is eligible for the NRHP under Criterion D.

Treatment of Unsurveyed Areas: OEA will require an additional cultural resources investigation of the unsurveyed areas prior to construction in the project's memorandum of agreement

> SRPMIC THPO concurs that additional cultural resources investigations of the unsurveyed areas should be completed prior to construction in the memorandum of agreement.

Maps Depicting APE Revisions: As described in the continuing Section 106 consultation letter dated September 1, 2022, slight revisions were made to the project APE.

> SRPMIC THPO has reviewed and acknowledges the revisions to the project APE

The proposed project area is within the ancestral lands of the Four Southern Tribes (Gila River Indian Community; Salt River Pima-Maricopa Indian Community; *Ak-Chin* Indian Community and the *Tohono O'Odham* Nation). The SRPMIC THPO will continue to participate in the Section 106 process of this undertaking, but defers to the GRIC THPO as the consultation lead for this project.

Thank you for consulting with the SRPMIC-THPO. Should you have questions and/or concerns about this project, please contact me directly at (480) 362-6331.

Thank you.



Shane Anton, Tribal Historic Preservation Officer
Cultural Resources Department, SRPMIC
10,005 E. Osborn Rd.
Scottsdale, Arizona 85256
Email: Shane.Anton@SRPMIC-nsn.gov
Office Tele: (480) 362-6331

mesa·az
OFFICE OF ECONOMIC DEVELOPMENT
selectmesa.com

120 N. Center St.
PO Box 1466
Mesa, Arizona 85211-1466

January 17, 2023

Ms. Danielle Gosselin
Director, Office of Environmental Analysis
Surface Transportation Board

Re: Docket No. FD 36501, Union Pacific Railroad Company – Construction and Operation Exemption – in Maricopa County, AZ
Continuation of National Historic Preservation Act Section 106 Consultation

Dear Ms. Gosselin,

This letter is intended to respond to the request for input on the proposed PIRATE rail project per Section 106 consultation. Input from the city of Mesa Historic Preservation Office is requested on the following items:

- Project scope change.
- Adequacy of the Class III survey report as a final document.
- AZ U:10:69(ASM) and AZ U:10:275(ASM) as eligible for the NRHP under Criterion D in their entirety for their potential to provide information on important themes relative to the Hohokam occupation of the Queen Creek Delta area.
- AZ U:10:152(ASM) as eligible for the NRHP under Criterion D for its potential to provide information on important themes relative to the Hohokam occupation of the Queen Creek Delta area; associated boundary change.
- Treatment of un-surveyed areas.

Pursuant to 36 CFR 800 § 106 of the National Historic Preservation Act, this office has reviewed the project in consultation with the City of Mesa Archaeologist, Alison Stoltman. We have no additional comments on the above items.

Sincerely,

William J. Jabjiniak
Economic Development Director

cc: Adam Assenza, OEA Environmental Protection Specialist
Alan Tabachnick, OEA Historic Preservation Specialist
Maggie Buckley, Jacobs Project Manager
Mary Kopaskie-Brown, Planning Director/Historic Preservation Officer
Robert Apodaca, Deputy Director, Development Services Department – Civil Plan Review
Alison Stoltman, Museum Education Curator
Maura Jackson, Planner II

480.644.2398 (tel)
480.644.3458 (fax)

Luhnow, Glennda

From: Luhnow, Glennda
Sent: Thursday, December 8, 2022 5:00 PM
To: AZSHPO - AZPARKS
Cc: Tabachnick, Alan; Assenza, Adam; Buckley, Maggie; McNeish, Sabra; Powell, Kris; Rainey, Pamela
Subject: UPRR PIRATE Draft MOA Submittal 1 for Review
Attachments: UPRR PIRATE MOA Draft Submittal 1_12082022.pdf; UPRR PIRATE Draft MOA Comment Form.docx; UPRR PIRATE MOA Draft Submittal 1_12082022.docx

Dear Ms. Leonard,

As the Surface Transportation Board (Board) Office of Environmental Analysis (OEA) stated in previous Section 106 consultation conducted under the National Historic Preservation Act, on June 30, 2022, the Union Pacific Railroad Company filed a petition with the Board requesting authority to construct and operate approximately six miles of new rail line in Maricopa County, Arizona (the proposed Pecos Industrial Rail Access and Train Extension [PIRATE] rail line).

OEA conducted a virtual meeting with the Section 106 consulting parties on November 3, 2022, to discuss the development of a project Memorandum of Agreement (MOA). The initial draft MOA is attached for your review, along with a Comment Form for your use as you review the document.

A virtual meeting to discuss the comments will be held on **Thursday, January 12, 2023, at 1-3 pm (Arizona time)/3–5 pm (Eastern time).** To facilitate the meeting discussion, OEA requests that you provide your comments on the attached Comment Form by COB on **Monday, January 9, 2023**.

Jacobs Engineering Group Inc. (Jacobs) will send you a Microsoft Teams meeting invitation in the coming days. If you have any technical questions about the Teams platform or how to participate, please contact Glennda Luhnow at Glennda.luhnow@jacobs.com.

Please feel free to contact Alan Tabachnick, OEA's Deputy Federal Preservation Officer, at Alan.Tabachnick@stb.gov with any questions about the draft MOA and the upcoming meeting.

Sincerely,
Glennda Luhnow

Glennda Luhnow, M.A., RPA | **JACOBS** | **Manager/Archaeology and Cultural Resources** |
C: 480-510-0830 | glennda.luhnow@jacobs.com
1501 West Fountainhead Parkway, Suite 401 | Tempe, Arizona 85282 | USA

STB Docket Number FD 36501

Union Pacific Railroad Company – Construction and Operation Exemption – In Maricopa County, Ariz.

Section 106 Consulting Parties Review: Draft Memorandum of Agreement (MOA)
Please return to Office of Environmental Analysis (OEA): OEA by January 9, 2023

Tribe or Agency: Arizona State Museum

Contact Person: Shannon Plummer splummer@arizona.edu

#	Section	Line(s)	Comment
1	Page 1	38	Unnecessary quotation marks after "Arizona"
2	VIII.A	240	Add "Rules Implementing the" before "Arizona Antiquities Act"
3	VIII.B	275	Change "41-847" to "41-844"
4	VIII.B	276-277	Remove "State Burial Law for Private Land" and just list ARS §41-865. ("State Burial Law" is a colloquial, not formal name for the statute)
5	VIII.B	283-284	Specify that the protocol for documenting ancestral remains will include human remains, funerary objects, sacred ceremonial objects, and objects of national or tribal patrimony to be consistent with the language used in ARS 41-844.
6	VIII.B	287	Please change "Burial Agreement" to "Burial Discovery Agreement"
7	VIII.B	300	Specify that the protocol for documenting ancestral remains will include human remains, funerary objects, sacred ceremonial objects, and objects of national or tribal patrimony to be consistent with the language used in ARS 41-844.
8	XV	443	Change "standard" to "standards".
9	XVII.A	479	Please change "Burial Agreement" to "Burial Discovery Agreement"
10	XVII.B	487	Please add that ASM will also be contacted in the event of unanticipated discovery of cultural resources during construction.
11	Attachment D	785-787	Please add ASM's Repatriation Coordinator to the list of ASM contacts: Cristin Lucas / 520-626-0320 / asm-repatriation@email.arizona.edu
12			
13			
14			
15			
16			
17			
18			
19			

#	Section	Line(s)	Comment
20			

STB Docket Number FD 36501

Union Pacific Railroad Company – Construction and Operation Exemption – In Maricopa County, Ariz.

Section 106 Consulting Parties Review: Draft Memorandum of Agreement (MOA)
Please return to Office of Environmental Analysis (OEA): OEA by January 9, 2023

Tribe or Agency: City of Mesa

Contact Person: Maura Jackson and Alison Stoltman

#	Section	Line(s)	Comment
1	Stipulations III Professional Qualifications	154	Question for ASM- Does the Secretary of Interiors standards for a Principal Investigator reach the standards required for the Arizona Antiquities Act. One archaeological site affected is U:10:2 on county, municipal as well as private land.
2	Stipulations III Professional Qualifications	160	Replace “Indian Tribes” with “Native American Tribes” On line 108 the term “Native American Tribes” was used.
3	Stipulations IV Area of Potential Effect	165	Take out “historic” and replace with “cultural” That includes historic and archaeological resources.
4	Stipulations VI Finding of Effect	223	UP shall hire a cultural resource management company / qualified archaeologists to monitor.
5	Stipulations VIII B Historic Properties Treatment Plan	243	A qualified archaeologist or with the aid of a cultural resource management company.
6	Stipulations VIII B Historic Properties Treatment Plan	255	And repatriation.
7	Stipulations VIII B Historic Properties Treatment Plan	287	And process for repatriation.
8	Stipulations XII Confidentiality	402	Replace “Indian Tribes” with “Native American Tribes”.
9	Stipulations Curation	439	Replace “Indian Tribes” with “Native American Tribes”.
10	Attachment D Consulting Party Contact Information	781	Remove Emily Early from the list.
11			
12			
13			
14			
15			

STB Docket Number FD 36501

Union Pacific Railroad Company – Construction and Operation Exemption – In Maricopa County, Ariz.

Section 106 Consulting Parties Review: Draft Memorandum of Agreement (MOA)
Please return to Office of Environmental Analysis (OEA): OEA by January 9, 2023

Tribe or Agency: State Historic Preservation Office

Contact Person: Caroline Klebacha, Archaeological Compliance Specialist

#	Section	Line(s)	Comment
1	Recitals	19-20	This is a S106 document; do not address other environmental regulations
2	Recitals	21-28	Combine into one recital; limit it to S106
3	Recitals	29-31	APE is insufficiently defined; need some details here
4	Recitals	39	"and which" – delete "which"
5	Recitals	40	Should this be Office, not Officer?
6	Recitals	40	Concurrence for the revised report is December 20, 2022.
7	Recitals	55-56	Recital is not necessary, but you do need a statement that federal agencies (Corps and FAA) have agreed STB takes the lead on all S106 for the undertaking (except perhaps government-to-government consultation with Tribes)
8	Recitals	57-62	Combine into one recital
9	Recitals	63-67	Combine into one recital
10	Recitals	66	Add "the" before FAA
11	Recitals	68-71	Combine into one recital
12	Recitals	72-77	Combine into one recital
13	Recitals	78-82	Combine into one recital
14	Recitals	83-88	Combine into one recital
15	Recitals	89-93	Combine into one recital
16	Recitals	94-100	Combine into one recital
17	Recitals	101-104	Combine into one recital
18	Recitals	121	Not sure if this recital is necessary. Would be included if it was a NEPA substitution
19	Recitals	122-123	Delete ", as shown in the attached letter (Attachment B)"
20	I	138-141	Why include definitions if they follow regs?
21	II	145	"The Board's" – Not OEA on behalf of the Board?

#	Section	Line(s)	Comment
22	III	156	Insert Paragraph A.
23	III	161	Insert Paragraph B., starting at, “OEA acknowledges that Indian Tribes…”
24	V(B)	196	SHPO cannot agree to a reduced consultation period at this time. We recommend a 14-30 day review depending on the results of the survey.
25	V(C)	203	SHPO cannot agree to a reduced consultation period at this time. We recommend a 14-30 day review.
26	VII	221	Insert Paragraph B.
27	VII	222	Re: development of an HPTP- Was any other mitigation proposed? Does this satisfy the Tribes? Need to think out of the box – Also, Where’s the public benefit?
28	VIII(B)	263	Include expectations of findings
29	VIII(C)	303	Not necessary. Delete.
30	VIII(D)(1)	309	May versus Shall regarding follow up with consulting parties
31	VIII(D)(1)	309	Include methods for follow up
32	VIII(D)(2)	315	SHPO cannot agree to a reduced consultation period at this time. We recommend a 14-30 day review.
33	VIII(D)(2)	317	May versus Shall regarding follow up with consulting parties
34	X(D)	371	Timeline for drafting the data recovery report?
35	X(F)	385	Insert “; substantive comments may require further review following Stipulation X.E.”
36	XX	559	Counterpart Signatures: Renumber “XXII”
37	(XXII)	566-568	Remove intent, this is not part of the Stipulations.
38	Attachment A	639	Delete extra period
39	Attachment D	773	Does not include contact information for SHPO, UP, or ACHP

STB Docket Number FD 36501

Union Pacific Railroad Company – Construction and Operation Exemption – In Maricopa County, Ariz.

Section 106 Consulting Parties Review: Draft Memorandum of Agreement (MOA)
Please return to Office of Environmental Analysis (OEA): OEA by January 9, 2023

Tribe or Agency: Salt River Project (SRP)

Contact Person: Dan Garcia

#	Section	Line(s)	Comment
1	Recitals	88-89	Replace text with "WHEREAS, Salt River Project (SRP) collectively refers to the Salt River Project Agricultural Improvement District, an agricultural improvement district organized under the laws of the State of Arizona and the Salt River Valley Water Users' Association, a corporation organized under the laws of the Territory (now State) of Arizona; and"
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			

Formatted: Normal, Indent: Left: 0"

#	Section	Line(s)	Comment
20			

STB Docket Number FD 36501

Union Pacific Railroad Company – Construction and Operation Exemption – In Maricopa County, Ariz.

Section 106 Consulting Parties Review: Draft Memorandum of Agreement (MOA)
Please return to Office of Environmental Analysis (OEA): OEA by January 9, 2023

Tribe or Agency:

Contact Person:

#	Section	Line(s)	Comment
1	X	341-387	UPRR requests that the data recovery efforts be completed in 'zones' so that priority areas to be completed first are the wye and any portion on the new industrial lead. The secondary 'zone' would be any areas of proposed work along the mainline track including the Germann Siding extension and the Working Track. UPRR requests that the priority zone (as identified above) be completed first and approved for construction prior to the secondary zone due to the priority zone being critical path for the overall project schedule.
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			

Formatted: Indent: Left: 0.25", Hanging: 0.25"

#	Section	Line(s)	Comment
20			

Meeting Minutes

Subject	**Section 106 MOA Comment Resolution Meeting**		
Project	Union Pacific Railroad PIRATE Project		
Reference No.	Surface Transportation Board Docket No. FD 36501		
Date	Thursday, January 26, 2023	**Time**	1 – 3 p.m. MST 3 – 5 p.m. EST
Location	MS Teams		

The following notes summarize the topics discussed during the January 26, 2023 Section 106 continuing consultation meeting between the Surface Transportation Board's (Board) Office of Environmental Analysis (OEA) and representatives from several consulting agencies and Tribes. The meeting objectives were to:

1. Review information OEA previously provided about Union Pacific Railroad's (UP) proposed Pecos Industrial Rail Access and Train Extension (PIRATE) project, schedule updates, and the Section 106 consultation thus far;
2. Review and resolve comments submitted on the initial draft memorandum of agreement (MOA); and
3. Discuss the next steps in the Section 106 consultation process.

Welcome and Introductions

Adam Assenza, the Board's Environmental Protection Specialist, began the introductions based on the agency roll call. The attendees then introduced themselves with their name and agency or Tribe (see attached sign-in sheet for attendance).

Project Snapshot

- OEA reviewed the Section 106 undertaking, project description, project alternatives, area of potential effects (APE), and culturally sensitive areas (refer to slides 5-8 in the attached presentation).
- OEA reviewed the results of the Class III survey, including the four historic properties that would be adversely affected if the Board decides to approve PIRATE with conditions (slide 9).
- OEA reviewed the recommended project finding of adverse effect (slide 10). Based on consultation with SHPO/THPOs and consulting parties, OEA has been developing an MOA for resolving adverse effects to the historic properties.

Reviewing the MOA – Comments and Review Process

- Jacobs explained that they would review each comment received thus far, make real-time revisions to the MOA as needed, and accept and address additional MOA comments during this portion of the meeting. Jacobs also explained how the MOA and comment resolution matrix would be distributed to the consulting parties when ready (slides 11 and 12).
- Jacobs summarized comments received on the draft MOA prior to the meeting (see slide 13).

Jacobs then led a real-time review of the MOA comments and suggested edits, focusing on text modified per comments received thus far. OEA indicated that new comments will also be accepted and addressed during the meeting.

- The Board's General Counsel has not yet reviewed the MOA. The General Counsel will review the revised MOA when it is distributed to the consulting parties and may have additional comments.
- The attached comment resolution form provides a summary of the revisions made and accepted in response to comments received from the consulting parties. The following bullets summarize comments and edits that were discussed at the meeting.
    - SHPO requested that acreage be added to the APE description (page 1).
    - SHPO agreed that NEPA references on page 4 can be retained. SHPO will send language to clarify that the NEPA reference is for public involvement purposes (page 4).
    - SHPO requested that signatories be reviewed and identified correctly. Concurring parties can request through OEA to have their status changed to invited signatory (page 4).
    - SRP-MIC, GRIC, and Pascua Yaqui indicated they prefer the term "Native American Tribes" instead of "Indian Tribes" (page 5).
    - SRP-MIC asked about the reference to Bulletins 15 and 38 in Stipulation VI(A). Assessing the sites as potential TCPs as per guidance in Bulletin 38 is important because several TCPs are within several 100 feet of the project. OEA revised Stipulation VI(A) to reflect the current status of the TCP evaluation by adding the verbiage "and will continue to evaluate" to this stipulation. The consulting parties agreed this verbiage is appropriate. SRP-MIC stated that the HPTP should emphasize continuous Native American/O'odham occupation of the area from prehistory through the current times in the research design and culture history. The HPTP research themes and culture history should further emphasize the cultural continuity of the O'odham people in the interpretation of the archaeological record in the Queen Creek basin (page 6).
    - SHPO agreed with GRIC and suggested a historic context study for the Queen Creek valley to be developed in collaboration with the Tribes. SHPO noted the potential for an ethnographic study in addition to standard mitigation (i.e., data recovery) already proposed. This study could have some public benefit through interpretive applications. SHPO noted that the MOA is the binding document and should have statements about this study, but that the MOA does not need to have details (page 6).
    - OEA added repatriation language and also a stipulation for a TCP evaluation and cultural landscape study (page 8).
    - Jacobs asked GRIC, SRP-MIC, and Pascua Yaqui specifically about Section IX (Tribal Consultation) to make sure the THPOs concur with that stipulation. GRIC concurred, SRP-MIC deferred to GRIC, and Pascua Yaqui said Section IX "looks adequate" (page 10).
    - SHPO clarified that statement in Line 601 does not belong in the stipulation section but should be reformatted to be outside of the last stipulation (page 6).
    - GRIC inquired about the intent of Counterpart Signatures. It was clarified that each signatory gets their own page to sign and send back, and SHPO signs last. GRIC was satisfied with this clarification.
    - Retain Heather Wilke as the Town of Queen Creek contact (page 28 or Appendix C).

- Add Reylynne Williams and Darius Enos to the GRIC contacts (page 28 or Appendix C).
- Add Carl D'Acosta to the Phoenix-Mesa Gateway Airport contacts (page 27 or Appendix C).
- Add Michael Romero to the ASLD contacts (page 27 or Appendix C) and add ASLD to Attachment B.
- OEA will add TCP to the acronyms and to the definitions section.

Consideration of UP's General Implementation Request

OEA thanked the group for working through the MOA comment resolution process, and then introduced UP's implementation request and asked for feedback (slide 14).

- SHPO asked if the phases would have a lot of time between them. If so, a programmatic agreement would be more appropriate for this project. OEA said probably not much delay, but OEA has some concerns that phasing the data recovery in this way will prevent the data recovery and analysis from focusing on the holistic landscape approach.
- OEA requested that UP provide additional details about the implementation request. UP explained the request a little more with respect to differences between constructing the new track versus constructing along existing track. UP discussed concerns about safety and risk of schedule delays when working around existing "live" track. UP would like to construct the wye and the rest of the industrial lead first as the critical path.
- GRIC indicated that UP's proposal would not be in the best interest of the Tribes and GRIC does not agree that this is reasonable request. In the project area, you never know what will happen or what will be found during a data recovery effort until after it starts. It's not a reasonable request for construction to come in right after data recovery is complete. SRP-MIC concurred with GRIC. SHPO asked for more information to be provided with the revised MOA so they can review the request.
- OEA welcomed other comments on UP's request after the consulting parties have more time to consider it.
- The City of Mesa Economic Development Department mentioned concerns over safety and traffic; they would like UP's request to be considered because of the multiple roadway crossings that would be constructed as part of the new rail line.
- OEA indicated that the data recovery effort will require extensive planning, consultation, and coordination, and needs to consider safety and traffic impacts. UP's request adds to the complexity of the undertaking and likely increases the logistical challenges.

Open Discussion / Questions

Jacobs opened up the floor for discussion (slides 15-17).

Q1: What concerns do consulting parties have with respect to the use of the term "Indian Tribes"?

A1: Consulting parties would like consistent language and terms throughout the MOA. They would like to use the THPOs preferred language and terminology.

Q2: GRIC asked when the HPTP will be ready for review/comment.

A2: Jacobs reviewed the upcoming Section 106 milestones. The Board's General Counsel will review the revised MOA concurrently with the consulting parties. OEA anticipates the HPTP (and the final MOA) will be ready for consulting party review in March 2023. This schedule is proposed and may change.

Q3: OEA asked if the consulting parties would like a similar comment resolution session for the HPTP.

A3: No answer from the attendees. OEA added that these real-time reviews work well, save time, and they would like to do something similar for the HPTP. The HPTP is key to resolving the project's adverse effects and it's important to have a good document developed with consulting party input. OEA concluded by stressing that it's important to hear people's points of view and where everyone is coming from.

Action Items

The following action items were assigned during the meeting.

- OEA will revise the MOA to capture statements of mitigation such as a historic context study in the revised MOA since it is the legally binding document.
- OEA will prepare and distribute the revised MOA and comment form for consulting party review in February 2023, with a 30-day review period.
- The consulting parties will respond with any comments, using OEA's provided comment form, by the due date in March 2023.

Attachments List of attendees
Agenda
Meeting presentation
Draft MOA comment resolution matrix

Distribution Meeting invitees

Attendees

Subject	**Section 106 MOA Comment Resolution Meeting**		
Project	Union Pacific Railroad PIRATE Project		
Reference No.	Surface Transportation Board Docket No. FD 36501		
Date	Thursday, January 26, 2023	**Time**	1 – 3 p.m. MST 3 – 5 p.m. EST
Location	MS Teams		

Groups in Attendance	Representatives
Surface Transportation Board (Board), Office of Environmental Analysis (OEA)	Adam Assenza, Environmental Protection Specialist Alan Tabachnick, Deputy Federal Preservation Officer
Jacobs (supporting the Board's OEA)	Maggie Buckley, Environmental Project Manager Glennda Luhnow, Manager/Archaeology and Cultural Resources (Phoenix) Betsi Phoebus, NEPA Lead Kris Powell, Senior Archaeologist
Gila River Indian Community	Larry Benallie, Jr., Archaeological Compliance Specialist
Pascua Yaqui Tribe	Karl Hoerig, Tribal Historic Preservation Officer
Salt River Pima-Maricopa Indian Community	Shane Anton, Tribal Historic Preservation Officer Sunday Eiselt, Tribal Historic Preservation Office Archaeologist
Arizona Museum of Natural History	Alison Stoltman, Acting Deputy Director
Arizona State Land Department	Tiffany Grew, Archaeological Compliance Specialist Michael Romero, Right-of-Way Project Leader
Arizona State Museum	Shannon Plummer, Arizona Antiquities Act Administrator
City of Mesa Historic Preservation Office	Maura Jackson, Historic Preservation Advisor/Planner Mary Kopaskie-Brown, Planning Director and Historic Preservation Officer
City of Mesa Office of Economic Development	William Jabjiniak, Economic Development Director
Phoenix-Mesa Gateway Airport	Carl D'Acosta, Environmental & Safety Coordinator
State Historic Preservation Office	Caroline Klebacha, Archaeological Compliance Specialist Mary-Ellen Walsh, Cultural Resources Compliance Manager
Town of Queen Creek	Dave Lipinski, Capital Improvements Director
Union Pacific Railroad	Kevin Rice, Sr., Manager M/W Environmental

Attendees

Section 106 MOA Comment Resolution Meeting

Invited but unable to attend:

Ak-Chin Indian Community
Hopi Tribe
Mescalero Apache Tribe
Pueblo of Zuni
Tohono O'odham Nation
Tonto Apache Tribe
Yavapai-Apache Nation
Federal Aviation Administration
Flood Control District of Maricopa County
Salt River Project
San Tan Historical Society
U.S. Army Corps of Engineers

MOA Meeting 2 Agenda

Subject	Second MOA Meeting – Comment Resolution		
Project	Union Pacific Railroad PIRATE Rail Line		
Reference No.	Surface Transportation Board Docket No. FD 36501		
Date	Thursday, January 12, 2023	**Time**	1 – 3 p.m. MST 3 – 5 p.m. EST
Location	**MS Teams**	**Conference**	**Call: 1 (602) 609-7361** **Code: 638 547 530#**

Item	Topic
1	**Welcome and Introductions**
2	**Project Snapshot** • Section 106 undertaking • Description of project and area of potential effects • Identification and evaluation of historic properties • Adverse effect determination
3	**Reviewing the MOA–Comment Resolution Process** • General housekeeping • Electronic version of MOA will be shared on screen • Review will follow the MOA content (WHEREAS clauses, Stipulations, and Attachments)
4	**Open Discussion and Meeting Summary** • Section 106 timeline • Project milestones • Contacts
5	**Adjourn**

Luhnow, Glennda

From: Luhnow, Glennda
Sent: Friday, February 10, 2023 10:03 AM
To: AZSHPO - AZPARKS
Cc: Tabachnick, Alan; Assenza, Adam; Buckley, Maggie; McNeish, Sabra; Powell, Kris; Rainey, Pamela
Subject: UPRR PIRATE Revised Draft MOA and Meeting Materials
Attachments: 2023 0126 UP PIRATE S106 MOA Mtg Minutes, PowerPoint, Comment Resolution Matrix.pdf; PIRATE_Revised Draft MOA_230902.pdf; UPRR PIRATE Revised Draft MOA Comment Form.docx

Dear Ms. Leonard,

As the Surface Transportation Board's (Board) Office of Environmental Analysis (OEA) stated in previous Section 106 consultation conducted under the National Historic Preservation Act, on June 30, 2022, the Union Pacific Railroad Company (UP) filed a petition with the Board requesting authority to construct and operate approximately six miles of new rail line in Maricopa County, Arizona (the proposed Pecos Industrial Rail Access and Train Extension [PIRATE] rail line).

OEA conducted a virtual meeting with the Section 106 consulting parties on January 26, 2023, to resolve comments on the project's draft Memorandum of Agreement (MOA). At that meeting, an implementation request from UP specific to data recovery and construction sequencing was discussed. In further consideration of the implementation request, OEA determined that such sequencing is not feasible and will not be utilized.

The revised draft MOA, meeting minutes from the January 26th meeting, and a comment resolution form summarizing changes in the revised draft MOA, are attached for your information and review. A blank Comment Form is also attached for your use as you review the revised draft MOA. Please provide us with any last comments by March 3rd. We appreciate everyone's thorough review of the first draft of the MOA and that when you look over the revised MOA you will see that we addressed all of the Consulting Parties comments and requests. We look forward to any additional input you wish to provide and hope to circulate a final version of the MOA in the near future.

Please feel free to contact Alan Tabachnick, OEA's Deputy Federal Preservation Officer, at Alan.Tabachnick@stb.gov with any questions about the Section 106 process or the revised MOA. And thanks again for all of your input on this project – we appreciate it.

Thank you,
Glennda Luhnow

Glennda Luhnow, M.A., RPA | **JACOBS** | **Manager/Archaeology and Cultural Resources** |
C: 480-510-0830 | glennda.luhnow@jacobs.com
1501 West Fountainhead Parkway, Suite 401 | Tempe, Arizona 85282 | USA

Powell, Kris

From: Eiselt, Sunday <Sunday.Eiselt@srpmic-nsn.gov>
Sent: Monday, February 27, 2023 3:01 PM
To: Luhnow, Glennda; Powell, Kris
Cc: Anton, Shane; Garcia-Lewis, Angela; Martinez, Martha; Tabachnick, Alan
Subject: [EXTERNAL] RE: UPRR PIRATE Revised Draft MOA and Meeting Materials

Follow Up Flag: Follow up
Flag Status: Flagged

Dear Glenna and Kris.

SRPMIC-THPO has reviewed the revised draft MOA for the PIRATE project and have no comments at this time. The edits reflect our understanding of the Changes that SRPMIC and GRIC THPOs requested.

Thank you

B. Sunday Eiselt Ph.D
THPO Archaeologist
Salt River Pima-Maricopa Indian Community
10,005 E. Osborn Road
Scottsdale, AZ 85256
Sunday.Eiselt@srpmic-nsn.gov
Office: (480) 362 3347

From: Luhnow, Glennda <Glennda.Luhnow@jacobs.com>
Sent: Friday, February 10, 2023 10:45 AM
To: Bohnee, Gary <Gary.Bohnee@SRPMIC-nsn.gov>
Cc: Anton, Shane <Shane.Anton@SRPMIC-nsn.gov>; Garcia-Lewis, Angela <Angela.Garcia-Lewis@SRPMIC-nsn.gov>; Eiselt, Sunday <Sunday.Eiselt@srpmic-nsn.gov>; Martinez, Martha <Martha.Martinez@SRPMIC-nsn.gov>; Tabachnick, Alan <alan.tabachnick@stb.gov>; Assenza, Adam <adam.assenza@stb.gov>; Buckley, Maggie <Maggie.Buckley@jacobs.com>; McNeish, Sabra <Sabra.McNeish@jacobs.com>; Rainey, Pamela <Pamela.Rainey@jacobs.com>; Powell, Kris <Kris.Powell@jacobs.com>
Subject: UPRR PIRATE Revised Draft MOA and Meeting Materials

ATTENTION: This email came from an external source. Do not open attachments or click on links from unknown senders or unexpected emails.

Dear President Harvier,

As the Surface Transportation Board's (Board) Office of Environmental Analysis (OEA) stated in previous Section 106 consultation conducted under the National Historic Preservation Act, on June 30, 2022, the Union Pacific Railroad Company (UP) filed a petition with the Board requesting authority to construct and operate approximately six miles of new rail line in Maricopa County, Arizona (the proposed Pecos Industrial Rail Access and Train Extension [PIRATE] rail line).

OEA conducted a virtual meeting with the Section 106 consulting parties on January 26, 2023, to resolve comments on the project's draft Memorandum of Agreement (MOA). At that meeting, an implementation request from UP specific to data recovery and construction sequencing was discussed. In further consideration of the implementation request, OEA determined that such sequencing is not feasible and will not be utilized.

The revised draft MOA, meeting minutes from the January 26th meeting, and a comment resolution form summarizing changes in the revised draft MOA, are attached for your information and review. A blank Comment Form is also attached for your use as you review the revised draft MOA. Please provide us with any last comments by March 3rd. We appreciate everyone's thorough review of the first draft of the MOA and that when you look over the revised MOA you will see that we addressed all of the Consulting Parties comments and requests. We look forward to any additional input you wish to provide and hope to circulate a final version of the MOA in the near future.

Please feel free to contact Alan Tabachnick, OEA's Deputy Federal Preservation Officer, at Alan.Tabachnick@stb.gov with any questions about the Section 106 process or the revised MOA. And thanks again for all of your input on this project – we appreciate it.

Thank you,
Glennda Luhnow

Glennda Luhnow, M.A., RPA | **JACOBS** | **Manager/Archaeology and Cultural Resources** |
C: 480-510-0830 | glennda.luhnow@jacobs.com
1501 West Fountainhead Parkway, Suite 401 | Tempe, Arizona 85282 | USA

NOTICE - This communication may contain confidential and privileged information that is for the sole use of the intended recipient. Any viewing, copying or distribution of, or reliance on this message by unintended recipients is strictly prohibited. If you have received this message in error, please notify us immediately by replying to the message and deleting it from your computer.

Powell, Kris

From: Alison Stoltman <alison.stoltman@MesaAZ.gov>
Sent: Thursday, March 2, 2023 12:58 PM
To: Luhnow, Glennda
Cc: Tabachnick, Alan; Assenza, Adam; Buckley, Maggie; McNeish, Sabra; Powell, Kris; Rainey, Pamela
Subject: [EXTERNAL] RE: UPRR PIRATE Revised Draft MOA and Meeting Materials

Thank you Glenda. I do not have any comments. The MOA looks thorough and accurate. There will be a formal response from the City of Mesa staff involved coming.
I understand that there is no meeting today. Is that correct?

Alison Stoltman
She/her/hers
Acting Deputy Director
Arizona Museum of Natural History
53 North Macdonald, Mesa, AZ 85201
Office: 480 644 4040
Alison.Stoltman@MesaAZ.gov

From: Luhnow, Glennda <Glennda.Luhnow@jacobs.com>
Sent: Friday, February 10, 2023 9:26 AM
To: Alison Stoltman <alison.stoltman@MesaAZ.gov>
Cc: Tabachnick, Alan <alan.tabachnick@stb.gov>; Assenza, Adam <adam.assenza@stb.gov>; Buckley, Maggie <Maggie.Buckley@jacobs.com>; McNeish, Sabra <Sabra.McNeish@jacobs.com>; Powell, Kris <Kris.Powell@jacobs.com>; Rainey, Pamela <Pamela.Rainey@jacobs.com>
Subject: UPRR PIRATE Revised Draft MOA and Meeting Materials

Dear Ms. Stoltman,

As the Surface Transportation Board's (Board) Office of Environmental Analysis (OEA) stated in previous Section 106 consultation conducted under the National Historic Preservation Act, on June 30, 2022, the Union Pacific Railroad Company (UP) filed a petition with the Board requesting authority to construct and operate approximately six miles of new rail line in Maricopa County, Arizona (the proposed Pecos Industrial Rail Access and Train Extension [PIRATE] rail line).

OEA conducted a virtual meeting with the Section 106 consulting parties on January 26, 2023, to resolve comments on the project's draft Memorandum of Agreement (MOA). At that meeting, an implementation request from UP specific to data recovery and construction sequencing was discussed. In further consideration of the implementation request, OEA determined that such sequencing is not feasible and will not be utilized.

The revised draft MOA, meeting minutes from the January 26th meeting, and a comment resolution form summarizing changes in the revised draft MOA, are attached for your information and review. A blank Comment Form is also attached for your use as you review the revised draft MOA. Please provide us with any last comments by March 3rd. We appreciate everyone's thorough review of the first draft of the MOA and that when you look over the revised MOA you will see that we addressed all of the Consulting Parties comments and requests. We look forward to any additional input you wish to provide and hope to circulate a final version of the MOA in the near future.

Please feel free to contact Alan Tabachnick, OEA's Deputy Federal Preservation Officer, at Alan.Tabachnick@stb.gov with any questions about the Section 106 process or the revised MOA. And thanks again for all of your input on this project – we appreciate it.

Thank you,
Glennda Luhnow

Glennda Luhnow, M.A., RPA | **JACOBS** | **Manager/Archaeology and Cultural Resources** |
C: 480-510-0830 | glennda.luhnow@jacobs.com
1501 West Fountainhead Parkway, Suite 401 | Tempe, Arizona 85282 | USA

NOTICE - This communication may contain confidential and privileged information that is for the sole use of the intended recipient. Any viewing, copying or distribution of, or reliance on this message by unintended recipients is strictly prohibited. If you have received this message in error, please notify us immediately by replying to the message and deleting it from your computer.

STB Docket Number FD 36501

Union Pacific Railroad Company – Construction and Operation Exemption – In Maricopa County, Ariz.

Section 106 Consulting Parties Review: Revised Draft Memorandum of Agreement (MOA)
Please return to Office of Environmental Analysis (OEA): OEA by March 3, 2023

Tribe or Agency: Arizona State Museum

Contact Person: Shannon Plummer / splummer@arizona.edu

#	Section	Line(s)	Comment
1	Page 8	Lines 296 and 297	Please change "…documenting, interpretating [sic], reporting, and curating ancestral remains and associated sacred materials…" to "…documenting, reporting, securely housing, and repatriating human remains, funerary belongings, sacred ceremonial objects, and objects of national or tribal patrimony…"
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			

Phoebus, Elizabeth (Betsi)

From:	Powell, Kris
Sent:	Tuesday, March 7, 2023 2:00 PM
To:	Tabachnick, Alan; Assenza, Adam
Cc:	Buckley, Maggie; Luhnow, Glennda; Phoebus, Elizabeth (Betsi)
Subject:	FW: UPRR PIRATE Revised Draft MOA and Meeting Materials

See below. GRIC has no comments on the MOA.

Kris Powell, M.A., RPA (she/her) | JACOBS | **Senior Archaeologist**
C: 602-463-5843 | kris.powell@jacobs.com
1501 West Fountainhead Parkway, Suite 401 | Tempe, Arizona 85282 | USA

From: Larry Benallie Jr <Larry.BenallieJr@gric.nsn.us>
Sent: Tuesday, March 7, 2023 1:57 PM
To: Powell, Kris <Kris.Powell@jacobs.com>
Subject: [EXTERNAL] RE: UPRR PIRATE Revised Draft MOA and Meeting Materials

We don't have any additional comments at this time. Thank you for contacting us.

Larry Benallie, Jr.
Archaeological Compliance Specialist
Tribal Historic Preservation Office
Gila River Indian Community
P.O. Box 2193
Sacaton, Arizona 85147
(520) 562-7153
Larry.BenallieJr@gric.nsn.us

Government to Government Consultation Toolkit

From: Powell, Kris <Kris.Powell@jacobs.com>
Sent: Friday, March 3, 2023 1:29 PM
To: Larry Benallie Jr <Larry.BenallieJr@gric.nsn.us>
Subject: FW: UPRR PIRATE Revised Draft MOA and Meeting Materials

CAUTION: The sender prvs=7426338883=kris.powell@jacobs.com is from outside of GRIC. Do not open attachments or click on any links if you do not recognize the sender.

Hi Larry:

Always nice chatting with you. Here is the MOA email that was sent a couple of weeks ago.

Let me know if you have any questions or need anything…

Best,

Kris Powell, M.A., RPA (she/her) | JACOBS | **Senior Archaeologist**
C: 602-463-5843 | kris.powell@jacobs.com
1501 West Fountainhead Parkway, Suite 401 | Tempe, Arizona 85282 | USA

From: Luhnow, Glennda <Glennda.Luhnow@jacobs.com>
Sent: Friday, February 10, 2023 10:24 AM
To: executivemail@gric.nsn.us
Cc: barnaby.lewis@gric.nsn.us; Larry Benallie Jr <Larry.BenallieJr@gric.nsn.us>; Reylynne Williams <Reylynne.Williams@gric.nsn.us>; darius.enos@gric.nsn.us; Tabachnick, Alan <alan.tabachnick@stb.gov>; Assenza, Adam <adam.assenza@stb.gov>; Buckley, Maggie <Maggie.Buckley@jacobs.com>; McNeish, Sabra <Sabra.McNeish@jacobs.com>; Powell, Kris <Kris.Powell@jacobs.com>; Rainey, Pamela <Pamela.Rainey@jacobs.com>
Subject: UPRR PIRATE Revised Draft MOA and Meeting Materials

Dear Governor Lewis,

As the Surface Transportation Board's (Board) Office of Environmental Analysis (OEA) stated in previous Section 106 consultation conducted under the National Historic Preservation Act, on June 30, 2022, the Union Pacific Railroad Company (UP) filed a petition with the Board requesting authority to construct and operate approximately six miles of new rail line in Maricopa County, Arizona (the proposed Pecos Industrial Rail Access and Train Extension [PIRATE] rail line).

OEA conducted a virtual meeting with the Section 106 consulting parties on January 26, 2023, to resolve comments on the project's draft Memorandum of Agreement (MOA). At that meeting, an implementation request from UP specific to data recovery and construction sequencing was discussed. In further consideration of the implementation request, OEA determined that such sequencing is not feasible and will not be utilized.

The revised draft MOA, meeting minutes from the January 26th meeting, and a comment resolution form summarizing changes in the revised draft MOA, are attached for your information and review. A blank Comment Form is also attached for your use as you review the revised draft MOA. Please provide us with any last comments by March 3rd. We appreciate everyone's thorough review of the first draft of the MOA and that when you look over the revised MOA you will see that we addressed all of the Consulting Parties comments and requests. We look forward to any additional input you wish to provide and hope to circulate a final version of the MOA in the near future.

Please feel free to contact Alan Tabachnick, OEA's Deputy Federal Preservation Officer, at Alan.Tabachnick@stb.gov with any questions about the Section 106 process or the revised MOA. And thanks again for all of your input on this project – we appreciate it.

Thank you,
Glennda Luhnow

Glennda Luhnow, M.A., RPA | JACOBS | **Manager/Archaeology and Cultural Resources |**
C: 480-510-0830 | glennda.luhnow@jacobs.com
1501 West Fountainhead Parkway, Suite 401 | Tempe, Arizona 85282 | USA

NOTICE - This communication may contain confidential and privileged information that is for the sole use of the intended recipient. Any viewing, copying or distribution of, or reliance on this message by unintended recipients is strictly prohibited. If you have received this message in error, please notify us immediately by replying to the message and deleting it from your computer.

SURFACE TRANSPORTATION BOARD
Washington, DC 20423

Office of Environmental Analysis

March 10, 2022

Ms. Kathryn Leonard
State Historic Preservation Officer
Arizona State Parks, State Historic Preservation Office
1110 West Washington Street, Suite 100
Phoenix, AZ 85007

Re: Docket No. FD 36501, Union Pacific Railroad Company – Construction and Operation Exemption – in Maricopa County, AZ
Continuation of National Historic Preservation Act Section 106 Consultation

Dear Ms. Leonard:

On June 30, 2022, the Union Pacific Railroad Company (UP) filed a petition with the Surface Transportation Board (Board), pursuant to 49 U.S.C. § 10502, requesting authority to construct and operate approximately 6.0 miles of new rail line in Maricopa County, Arizona (the Pecos Industrial Rail Access and Train Extension [PIRATE]). Before making its decision on whether to grant such authority, the Board must consider the potential environmental impacts of the construction and operation of UP's proposed rail line, pursuant to the National Environmental Policy Act (42 U.S.C. §§ 4321−4370m-12), Section 106 of the National Historic Preservation Act (54 U.S.C. § 306108), the Board's environmental rules (49 C.F.R. Part 1105), and related environmental laws.

The Board's Office of Environmental Analysis (OEA) initiated consultation pursuant to Section 106 of the National Historic Preservation Act (dated April 6, 2022) with a letter that outlined the project scope, notified potential consulting parties of the project's alternatives analysis, and requested concurrence on the project's Area of Potential Effects (APE). OEA continued Section 106 consultation with letters to all consulting parties dated September 1 and November 22, 2022. The September 1, 2022 letter addressed revisions to the APE, the adequacy of the project's cultural resources Class III survey report (Rainey and Stubing 2022), OEA's National Register of Historic Places (NRHP) eligibility determinations and treatment recommendations, the finding of adverse effect, and development of a Section 106 agreement document for the project. The November 22, 2022 letter addressed a project scope change, future treatment of unsurveyed areas, and changes to the Class III survey report. In this letter, OEA also requested concurrence on the adequacy of the revised Class III survey report as a final document.

On January 26, 2023, OEA conducted a virtual meeting with the Section 106 consulting parties to resolve comments on the project's draft Memorandum of Agreement (MOA). At that

meeting, OEA presented an implementation request UP made as part of their comments on the draft MOA related to the completion of data recovery in zones to accommodate construction sequencing. Based on the discussion with the meeting participants and further consideration by OEA, OEA determined that such sequencing is not feasible and will not be implemented.

OEA is continuing Section 106 consultation with your office to solicit comments regarding revisions to the draft MOA as described below.

Revisions to the Draft MOA

On February 10, 2023, the revised draft MOA (Draft 2), minutes from the January 26 meeting, and comment resolution form summarizing changes were provided to the consulting parties with a response date of March 3, 2023. Comments received during the consulting party review of the revised draft MOA were largely minor and have been addressed as shown in the attached comment resolution form (Attachment 1). As part of this consulting party review, UP provided a substantive comment requesting the ability to begin construction in non-site areas that have been previously surveyed with negative results prior to completion of the data recovery program. Refer to comment 18 in the attached comment matrix. Facilitating this request would require editing an existing stipulation and adding a new stipulation to the revised draft MOA. These revisions would consist of:

1. Revising Stipulation X(C) to include the words "within site boundaries". The revised stipulation would read as follows (the additional text is emphasized):

   > Following fulfilment of Stipulation X(B), resolution of the comments from the Consulting Parties in the preliminary data recovery report, and concurrence from SHPO on the completion of the data recovery program, OEA, at its discretion and pending compliance with all other applicable laws and regulations, may authorize UP to begin construction <u>within site boundaries</u> on lands under any ownership or jurisdiction, subject to the appropriate jurisdiction's right-of-entry and right-of-way requirements, where provisions of the final HPTP have been implemented.

2. Adding a new stipulation (Stipulation XI) titled "Authorization of Construction in Non-Site Areas". The proposed language is derived from SHPO's agreement document template and would read as follows:

   > Following acceptance of the final HPTP, the OEA, at its discretion and pending compliance with all other applicable laws and regulations and approval of the Undertaking by the Board, may authorize UP to begin construction in non-site areas that have been subjected to Class III survey (Rainey and Stubing 2022) with negative findings on lands under any ownership or jurisdiction, subject to the jurisdiction's right-of-entry and right-of-way requirements, where all effects to historic properties and unevaluated cultural resources will be avoided and a cultural resource monitor will be present during ground disturbing activities as per agreed upon- measures described in the approved HPTP.

Request for Input

Please review this language and let us know if you have any concerns with or comments on the proposed Stipulation XI and proposed revision to Stipulation X(C). As noted above, all ground disturbing activities will be monitored by a qualified archaeological monitor.

Thank you for your continued cooperation during the Section 106 historic review process for this project. OEA requests your feedback regarding the revisions to the draft MOA described above by **Friday, March 17, 2023**. Given the minor nature of the comments provided on Draft 2 of the MOA, OEA anticipates providing the final MOA for signature in late March. If you have any additional questions, please reach out to Alan Tabachnick, at 202-245-0367.

Sincerely,

Danielle Gosselin
Director
Office of Environmental Analysis

Enclosures:

Attachment 1 - Comment Matrix

Cc: Adam Assenza, OEA Environmental Protection Specialist, Adam.Assenza@stb.gov
Alan Tabachnick, OEA Federal Preservation Officer, Alan.Tabachnick@stb.gov
Maggie Buckley, Jacobs Project Manager, Maggie.Buckley@jacobs.com

References Cited:

Rainey, Pamela J., and Michael Stubing
2022 *A Class III Cultural Resources Survey for the Union Pacific Railroad Company Pecos Industrial Rail Access and Train Extensions (PIRATE) Project, Mesa and Queen Creek, Maricopa County, Arizona*. Jacobs Project Report No. 2022-006. Jacobs Engineering Group Inc., Tempe, Arizona.

ATTACHMENT 1 - COMMENT MATRIX

#	Section	Line(s)	Comment	Comment Resolution
Reviewer: Mary Ellen Walsh, State Historic Preservation Office				
1	Title	2-3	Remove UP from the title – only signatories are in the title.	Removed.
2	Recitals	30	Replace prepared with "conducted".	Replaced.
3	Recitals	37-38	Move SHPO concurrence date to the determination of eligibility clause (line 42 in the first clause on page 2).	Moved.
4	Recitals	48	Remove "as a Signatory".	Removed.
5	Recitals	53	Change "all federal agencies have agreed" to "all consulting federal agencies (Federal Aviation Administration [FAA] and the U.S. Army Corps of Engineers [Corps]) have agreed".	Changed.
6	Recitals	85-86	Delete "collectively refers to the Salt River Project" and move (SRP) to after District.	Revised.
7	Recitals	126-128	Delete "and that" and move "[A]ll work shall meet…" to the beginning of Stipulation III.	Revised; text moved to an introductory paragraph prior to Stipulation III(A).
8	Stipulation IV	156	Not really needed; referenced in Attachment A.	No change. Per discussion with SHPO on 3.6.23, Stipulation IV will remain.
9	Stipulation VII(A)	207	Change "the effect of the Undertaking" to "the physical, auditory, visual, and vibration effects of the Undertaking".	Changed.
10	Stipulation VII(A)	210-212	Delete the last two sentences of Stipulation VII(A).	No change. SHPO maintains that these sentences are redundant. Per discussion with SHPO on 3.6.23, these sentences will remain.

#	Section	Line(s)	Comment	Comment Resolution
11	Stipulation VIII(B)	286	Change “interpretative signage at the property” to “interpretive signage at the PMGA”.	Changed.
12	Stipulation IX(F)	345	Remove “tribal” before identification and evaluation efforts.	Removed.
13	Stipulation X(B)	361	Add timeframe when preliminary data recovery report will be completed.	Added.
14	Stipulation X(D)	380-381	Increase review period for draft data recovery report from 30 days to 60 days.	Revised.
15	Stipulation XIII	422	Redundant stipulation in recital. What is the public education benefit?	No change. Per discussion with SHPO on 3.6.23, stipulation is retained. Public education benefits are discussed in HPTP. See comment 11 above.
16	Stipulation XX	542	Add “and its filing with ACHP” to the end of the first sentence.	Added (now Stipulation XXI).
Reviewer: Shannon Plummer, Arizona State Museum				
17	Stipulation VIII(B)	295-296	Change “…documenting, interpretating, report, and curating ancestral remains and associated sacred materials…” to “…documenting, reporting, securely housing, and repatriating human remains, funerary belongings, sacred ceremonial objects, and objects of national or tribal patrimony…”.	Changed.

#	Section	Line(s)	Comment	Comment Resolution
Reviewer: Kevin Rice, Union Pacific Railroad				
18	Stipulation X	347	UPRR requests that the stipulations be adjusted in the MOA allowing construction to commence in areas considered to be clear of culturally sensitive artifacts per the Class III Survey Report dated August 2022 (revised November 2022) if final STB Board approval of the project is received.	• Added new Stipulation XI to govern construction in non-site areas. • Added "within site boundaries" to Stipulation X(C) to differentiate between work in sites vs. non-site areas.
Reviewer: Larry Benallie, Jr., Gila River Indian Community				
19	--	--	No additional comments at this time.	Thank you.
Reviewer: Sunday Eiselt, Salt River Pima-Maricopa Indian Community				
20	--	--	No comments at this time. The edits reflect our understanding of the changes that the Salt River Pima-Maricopa Indian Community and Gila River Indian Community THPOs requested.	Thank you.
Reviewer: Alison Stoltman, Arizona Museum of Natural History				
21	--	--	No comments. The MOA looks thorough and accurate. The City of Mesa will provide a formal response.	Thank you.

From: Plummer, Shannon D - (splummer) <splummer@arizona.edu>
Sent: Monday, March 13, 2023 8:42 AM
To: Powell, Kris
Subject: [EXTERNAL] RE: UPRR Pirate Continuing Section 106 Consultation Revised MOA

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Kris,
ASM has no problem with the proposed revision to Stipulation X(C) and the newly proposed Stipulation XI. Thank you for the opportunity to review.

Thanks,
Shannon

Shannon Plummer, M.A., R.P.A.
Arizona Antiquities Act Administrator

Arizona State Museum | The University of Arizona
1013 E. University Blvd | PO Box 210026
Tucson, Arizona 85721-0026
(520) 621-4795
www.statemuseum.arizona.edu

From: Powell, Kris <Kris.Powell@jacobs.com>
Sent: Friday, March 10, 2023 1:33 PM
To: Lyons, Patrick D - (plyons) <plyons@arizona.edu>
Cc: Plummer, Shannon D - (splummer) <splummer@arizona.edu>; Tabachnick, Alan <alan.tabachnick@stb.gov>; Assenza, Adam <adam.assenza@stb.gov>; Buckley, Maggie <Maggie.Buckley@jacobs.com>; McNeish, Sabra <Sabra.McNeish@jacobs.com>; Luhnow, Glennda <Glennda.Luhnow@jacobs.com>; Rainey, Pamela <Pamela.Rainey@jacobs.com>
Subject: [EXT]UPRR Pirate Continuing Section 106 Consultation Revised MOA

External Email

Dear Dr. Lyons:

As the Surface Transportation Board's (Board) Office of Environmental Analysis (OEA) stated in previous Section 106 consultation conducted under the National Historic Preservation Act, on June 30, 2022, the Union Pacific Railroad Company (UP) filed a petition with the Board requesting authority to construct and operate approximately six miles of new rail line in Maricopa County, Arizona (the proposed Pecos Industrial Rail Access and Train Extension [PIRATE] rail line).

With the attached letter, OEA is continuing Section 106 consultation with your office and soliciting feedback regarding revisions to the draft Memorandum of Agreement (MOA) based upon comments provided during consulting party review. OEA requests your feedback regarding the revisions described in the attached letter by **Friday, March 17, 2023**. Please feel free to contact Alan Tabachnick, OEA's Federal Preservation Officer, at Alan.Tabachnick@stb.gov with any questions about the Section 106 process or the revised MOA.

From: Eiselt, Sunday <Sunday.Eiselt@srpmic-nsn.gov>
Sent: Tuesday, March 14, 2023 9:40 AM
To: Powell, Kris; Bohnee, Gary
Cc: Anton, Shane; Garcia-Lewis, Angela; Martinez, Martha; Tabachnick, Alan; Assenza, Adam; Buckley, Maggie; McNeish, Sabra; Rainey, Pamela; Luhnow, Glennda
Subject: [EXTERNAL] RE: UPRR Pirate Continuing Section 106 Consultation Revised MOA

Follow Up Flag: Follow up
Flag Status: Flagged

Good morning Kris. We have reviewed the contents of your March 10, 2023 notification of final changes to the MOA for the PIRATE Project (Docket No. FD 36501). The changes are minor. SRPMIC THPO Has no further comment.

Thank you

B. Sunday Eiselt Ph.D
THPO Archaeologist
Salt River Pima-Maricopa Indian Community
10,005 E. Osborn Road
Scottsdale, AZ 85256
Sunday.Eiselt@srpmic-nsn.gov
Office: (480) 362 3347

From: Powell, Kris <Kris.Powell@jacobs.com>
Sent: Friday, March 10, 2023 3:10 PM
To: Bohnee, Gary <Gary.Bohnee@SRPMIC-nsn.gov>
Cc: Anton, Shane <Shane.Anton@SRPMIC-nsn.gov>; Eiselt, Sunday <Sunday.Eiselt@srpmic-nsn.gov>; Garcia-Lewis, Angela <Angela.Garcia-Lewis@SRPMIC-nsn.gov>; Martinez, Martha <Martha.Martinez@SRPMIC-nsn.gov>; Tabachnick, Alan <alan.tabachnick@stb.gov>; Assenza, Adam <adam.assenza@stb.gov>; Buckley, Maggie <Maggie.Buckley@jacobs.com>; McNeish, Sabra <Sabra.McNeish@jacobs.com>; Rainey, Pamela <Pamela.Rainey@jacobs.com>; Luhnow, Glennda <Glennda.Luhnow@jacobs.com>
Subject: UPRR Pirate Continuing Section 106 Consultation Revised MOA

ATTENTION: This email came from an external source. Do not open attachments or click on links from unknown senders or unexpected emails.

Good Afternoon President Harvier:

From: Tiffany Grew <tgrew@azland.gov>
Sent: Wednesday, March 15, 2023 10:09 AM
To: Powell, Kris
Cc: Michael Romero; Tabachnick, Alan; Assenza, Adam; Buckley, Maggie; McNeish, Sabra; Luhnow, Glennda; Rainey, Pamela
Subject: [EXTERNAL] RE: UPRR Pirate Continuing Section 106 Consultation Revised MOA

Good morning, Kris.

ASLD would like to opt out of being a signatory to the Section 106 MOA since there are no significant cultural resources on the STL involved in this project. Therefore, the ASLD Cultural Resource Section has no comments on the draft of the MOA.

Thank you,

Tiffany L. Grew | Archaeological Compliance Specialist
As agent for Arizona State Land Department
P: 602-542-2679
1110 W. Washington Street | Phoenix, AZ 85007 | tgrew@azland.gov



Funding Arizona Public Schools and Institutions since 1915

From: Powell, Kris <Kris.Powell@jacobs.com>
Sent: Friday, March 10, 2023 1:36 PM
To: Mark Edelman <medelman@azland.gov>
Cc: Tiffany Grew <tgrew@azland.gov>; Michael Romero <mromero@azland.gov>; Tabachnick, Alan <alan.tabachnick@stb.gov>; Assenza, Adam <adam.assenza@stb.gov>; Buckley, Maggie <Maggie.Buckley@jacobs.com>; McNeish, Sabra <Sabra.McNeish@jacobs.com>; Luhnow, Glennda <Glennda.Luhnow@jacobs.com>; Rainey, Pamela <Pamela.Rainey@jacobs.com>
Subject: UPRR Pirate Continuing Section 106 Consultation Revised MOA

Good Afternoon Mr. Edelman:

As the Surface Transportation Board's (Board) Office of Environmental Analysis (OEA) stated in previous Section 106 consultation conducted under the National Historic Preservation Act, on June 30, 2022, the Union Pacific Railroad Company (UP) filed a petition with the Board requesting authority to construct and operate approximately six miles of new rail line in Maricopa County, Arizona (the proposed Pecos Industrial Rail Access and Train Extension [PIRATE] rail line).

With the attached letter, OEA is continuing Section 106 consultation with your office and soliciting feedback regarding revisions to the draft Memorandum of Agreement (MOA) based upon comments provided during consulting party review. OEA requests your feedback regarding the revisions described in the attached letter by **Friday, March 17, 2023**. Please feel free to contact Alan Tabachnick, OEA's Federal Preservation Officer, at Alan.Tabachnick@stb.gov with any questions about the Section 106 process or the revised MOA.

From: Maribeth Smith <Maribeth.Smith@MesaAZ.gov> on behalf of William Jabjiniak <William.Jabjiniak@mesaaz.gov>
Sent: Wednesday, March 15, 2023 5:17 PM
To: Powell, Kris
Cc: Tabachnick, Alan; Assenza, Adam; Buckley, Maggie; Luhnow, Glennda; Rainey, Pamela; McNeish, Sabra; William Jabjiniak
Subject: [EXTERNAL] RE: UPRR Pirate Continuing Section 106 Consultation Revised MOA
Attachments: PIRATE Contg 106 #4__City of Mesa.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Good afternoon Ms. Powell,

City of Mesa representatives have reviewed the attached letter dated March 10, 2023, regarding revisions to the draft Memorandum of Agreement (MOA) based upon comments provided during consulting party review. The City of Mesa does not have any comments or concerns with the proposed Stipulation XI and proposed revision to Stipulation X(C).

We look forward to receiving the final MOA.

Sincerely,

William J. Jabjiniak
Economic Development Director
City of Mesa Office of Economic Development
120 N Center St | Mesa, AZ 85201
480.644.3561 | www.selectmesa.com | Sign up for Mesa's E-Newsletter
Office hours are Monday - Thursday, 7 a.m. to 6 p.m.; closed on Fridays, holidays, and weekends.








From: Powell, Kris <Kris.Powell@jacobs.com>
Sent: Friday, March 10, 2023 1:45 PM
To: William Jabjiniak <William.Jabjiniak@mesaaz.gov>
Cc: Tabachnick, Alan <alan.tabachnick@stb.gov>; Assenza, Adam <adam.assenza@stb.gov>; Buckley, Maggie <Maggie.Buckley@jacobs.com>; Luhnow, Glennda <Glennda.Luhnow@jacobs.com>; Rainey, Pamela <Pamela.Rainey@jacobs.com>; McNeish, Sabra <Sabra.McNeish@jacobs.com>
Subject: UPRR Pirate Continuing Section 106 Consultation Revised MOA

Good Afternoon Mr. Jabjiniak:

As the Surface Transportation Board's (Board) Office of Environmental Analysis (OEA) stated in previous Section 106 consultation conducted under the National Historic Preservation Act, on June 30, 2022, the Union Pacific Railroad Company (UP) filed a petition with the Board requesting authority to construct and operate approximately six miles of new rail line in Maricopa County, Arizona (the proposed Pecos Industrial Rail Access and Train Extension [PIRATE] rail line).

From: Mary Kopaskie-Brown <Mary.Kopaskie-Brown@mesaaz.gov>
Sent: Wednesday, March 15, 2023 1:10 PM
To: Powell, Kris
Cc: Michelle Dahlke; Maura Jackson; Alison Stoltman; Tabachnick, Alan; Assenza, Adam; Buckley, Maggie; Luhnow, Glennda; Rainey, Pamela; McNeish, Sabra
Subject: [EXTERNAL] RE: UPRR Pirate Continuing Section 106 Consultation

Follow Up Flag: Follow up
Flag Status: Flagged

Good afternoon Kris

The City of Mesa reviewed the document and has no further comments.

Thank you for reaching out to us!

Mary Kopaskie-Brown, AICP, OPPI, CIP
Planning Director
City of Mesa
480-644-3850
mary.kopaskie-brown@mesaaz.gov
M-Th (7am to 6pm) – Closed Holidays and Fridays

mesa·az

From: Powell, Kris <Kris.Powell@jacobs.com>
Sent: Friday, March 10, 2023 2:20 PM
To: Mary Kopaskie-Brown <Mary.Kopaskie-Brown@mesaaz.gov>
Cc: Maura Jackson <Maura.Jackson@mesaaz.gov>; Michelle Dahlke <Michelle.Dahlke@mesaaz.gov>; Tabachnick, Alan <alan.tabachnick@stb.gov>; Assenza, Adam <adam.assenza@stb.gov>; Buckley, Maggie <Maggie.Buckley@jacobs.com>; Luhnow, Glennda <Glennda.Luhnow@jacobs.com>; Rainey, Pamela <Pamela.Rainey@jacobs.com>; McNeish, Sabra <Sabra.McNeish@jacobs.com>
Subject: UPRR Pirate Continuing Section 106 Consultation

Good Afternoon Ms. Kopaskie-Brown:

As the Surface Transportation Board's (Board) Office of Environmental Analysis (OEA) stated in previous Section 106 consultation conducted under the National Historic Preservation Act, on June 30, 2022, the Union Pacific Railroad Company (UP) filed a petition with the Board requesting authority to construct and operate approximately six miles of new rail line in Maricopa County, Arizona (the proposed Pecos Industrial Rail Access and Train Extension [PIRATE] rail line).

With the attached letter, OEA is continuing Section 106 consultation with your office and soliciting feedback regarding revisions to the draft Memorandum of Agreement (MOA) based upon comments provided during consulting party review. OEA requests your feedback regarding the revisions described in the attached letter by **Friday, March 17, 2023**. Please feel free to contact Alan Tabachnick, OEA's Federal Preservation Officer, at Alan.Tabachnick@stb.gov with any questions about the Section 106 process or the revised MOA.

From: Edward Raleigh (FCD) <Edward.Raleigh@Maricopa.Gov>
Sent: Thursday, March 16, 2023 2:30 PM
To: Powell, Kris
Cc: Tabachnick, Alan; Assenza, Adam; Buckley, Maggie; Luhnow, Glennda; McNeish, Sabra; Rainey, Pamela; Michael Fulton (FCD); Tom Hanson (FCD)
Subject: [EXTERNAL] [WARNING: ATTACHMENT UNSCANNED]FW: UPRR Pirate Continuing Section 106 Consultation Revised MOA
Attachments: PIRATE Contg 106 #4__MCFCD.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Kris,

The Flood Control District has no comments on the proposed revisions to the draft MOA.

Edward Raleigh
Sr. Engineering Advisor
Flood Control District
2801 W Durango St Phoenix, AZ 85009
O: 602-506-4704 **C:** 602-526-6018
E: Edward.Raleigh@Maricopa.Gov
[Maricopa.Gov]
Facebook | Instagram | Twitter | YouTube | LinkedIn

From: Powell, Kris <Kris.Powell@jacobs.com>
Sent: Friday, March 10, 2023 2:10 PM
To: Michael Fulton (FCD) <Michael.Fulton@maricopa.gov>
Cc: Tabachnick, Alan <alan.tabachnick@stb.gov>; Assenza, Adam <adam.assenza@stb.gov>; Buckley, Maggie <Maggie.Buckley@jacobs.com>; Luhnow, Glennda <Glennda.Luhnow@jacobs.com>; McNeish, Sabra <Sabra.McNeish@jacobs.com>; Rainey, Pamela <Pamela.Rainey@jacobs.com>
Subject: [WARNING: ATTACHMENT UNSCANNED]UPRR Pirate Continuing Section 106 Consultation Revised MOA

Good Afternoon Mr. Fulton:

As the Surface Transportation Board's (Board) Office of Environmental Analysis (OEA) stated in previous Section 106 consultation conducted under the National Historic Preservation Act, on June 30, 2022, the Union Pacific Railroad Company (UP) filed a petition with the Board requesting authority to construct and operate approximately six miles of new rail line in Maricopa County, Arizona (the proposed Pecos Industrial Rail Access and Train Extension [PIRATE] rail line).

With the attached letter, OEA is continuing Section 106 consultation with your office and soliciting feedback regarding revisions to the draft Memorandum of Agreement (MOA) based upon comments provided during consulting party review. OEA requests your feedback regarding the revisions described in the attached letter by **Friday, March 17, 2023**. Please feel free to contact Alan Tabachnick, OEA's Federal Preservation Officer, at Alan.Tabachnick@stb.gov with any questions about the Section 106 process or the revised MOA.

From: Carl D'Acosta <CD'Acosta@gatewayairport.com>
Sent: Thursday, March 16, 2023 12:21 PM
To: Powell, Kris
Cc: Tony Bianchi
Subject: [EXTERNAL] RE: UPRR Pirate Continuing Section 106 Consultation Revised MOA

Follow Up Flag: Follow up
Flag Status: Flagged

Thank you Kris,
The Phoenix Mesa Gateway Airport Authority does not have any comments or feedback regarding the revisions to the draft MOA.
Thank you for the opportunity to review.
Thanks
Carl

Carl J. D'Acosta, M.S., C.M.
Environmental & Safety Coordinator
Phoenix-Mesa Gateway Airport Authority
5835 S Sossaman Rd
Mesa, AZ 85212-6014
Office: 480-988-7612
cdacosta@gatewayairport.com
www.gatewayairport.com

Phoenix-Mesa Gateway Airport | 2019 Arizona Airport of the Year

Please be advised that our office hours are Monday - Thursday 7 a.m. to 6 p.m. We are closed Fridays.

From: Powell, Kris <Kris.Powell@jacobs.com>
Sent: Friday, March 10, 2023 2:55 PM
To: Tony Bianchi <TBianchi@gatewayairport.com>
Cc: Carl D'Acosta <CD'Acosta@gatewayairport.com>; Tabachnick, Alan <alan.tabachnick@stb.gov>; Assenza, Adam <adam.assenza@stb.gov>; Buckley, Maggie <Maggie.Buckley@jacobs.com>; McNeish, Sabra <Sabra.McNeish@jacobs.com>; Luhnow, Glennda <Glennda.Luhnow@jacobs.com>; Rainey, Pamela <Pamela.Rainey@jacobs.com>
Subject: UPRR Pirate Continuing Section 106 Consultation Revised MOA

CAUTION: External mail. Be careful with links and attachments

Good Afternoon Mr. Bianchi:

As the Surface Transportation Board's (Board) Office of Environmental Analysis (OEA) stated in previous Section 106 consultation conducted under the National Historic Preservation Act, on June 30, 2022, the Union Pacific Railroad Company (UP) filed a petition with the Board requesting authority to construct and operate approximately six miles of

From: Alison Stoltman <alison.stoltman@MesaAZ.gov>
Sent: Friday, March 17, 2023 12:28 PM
To: Powell, Kris
Cc: Assenza, Adam; Tabachnick, Alan; Buckley, Maggie; McNeish, Sabra; Luhnow, Glennda; Rainey, Pamela
Subject: [EXTERNAL] RE: UPRR Pirate Continuing Section 106 Consultation Revised MOA

I do not have any additional comments.
Thank you.

Alison Stoltman
She/her/hers
Acting Deputy Director
Arizona Museum of Natural History
53 North Macdonald, Mesa, AZ 85201
Office: 480 644 4040
Alison.Stoltman@MesaAZ.gov

From: Powell, Kris <Kris.Powell@jacobs.com>
Sent: Friday, March 10, 2023 1:41 PM
To: Alison Stoltman <alison.stoltman@MesaAZ.gov>
Cc: Assenza, Adam <adam.assenza@stb.gov>; Tabachnick, Alan <alan.tabachnick@stb.gov>; Buckley, Maggie <Maggie.Buckley@jacobs.com>; McNeish, Sabra <Sabra.McNeish@jacobs.com>; Luhnow, Glennda <Glennda.Luhnow@jacobs.com>; Rainey, Pamela <Pamela.Rainey@jacobs.com>
Subject: UPRR Pirate Continuing Section 106 Consultation Revised MOA

Good Afternoon Ms. Stolsman:

As the Surface Transportation Board's (Board) Office of Environmental Analysis (OEA) stated in previous Section 106 consultation conducted under the National Historic Preservation Act, on June 30, 2022, the Union Pacific Railroad Company (UP) filed a petition with the Board requesting authority to construct and operate approximately six miles of new rail line in Maricopa County, Arizona (the proposed Pecos Industrial Rail Access and Train Extension [PIRATE] rail line).

With the attached letter, OEA is continuing Section 106 consultation with your office and soliciting feedback regarding revisions to the draft Memorandum of Agreement (MOA) based upon comments provided during consulting party review. OEA requests your feedback regarding the revisions described in the attached letter by **Friday, March 17, 2023**. Please feel free to contact Alan Tabachnick, OEA's Federal Preservation Officer, at Alan.Tabachnick@stb.gov with any questions about the Section 106 process or the revised MOA.

We appreciate everyone's thorough review of the second draft of the MOA and hope to provide the final MOA for signature in late March.

Sincerely,

Kris Powell, M.A., RPA (she/her) | **JACOBS** | **Senior Archaeologist**
C: 602-463-5843 | kris.powell@jacobs.com
1501 West Fountainhead Parkway, Suite 401 | Tempe, Arizona 85282 | USA

NOTICE - This communication may contain confidential and privileged information that is for the sole use of the intended recipient. Any viewing, copying or distribution of, or reliance on this message by unintended recipients is strictly prohibited. If you have received this message in error, please notify us immediately by replying to the message and deleting it from your computer.

From: Kevin Rice <kprice@up.com>
Sent: Tuesday, March 21, 2023 11:42 AM
To: Powell, Kris
Cc: Tabachnick, Alan; Assenza, Adam; Buckley, Maggie; McNeish, Sabra; Rainey, Pamela; Luhnow, Glennda
Subject: [EXTERNAL] RE: UPRR Pirate Continuing Section 106 Consultation Revised MOA

Follow Up Flag: Follow up
Flag Status: Flagged

Alan and Glennda,

Thank you for the opportunity to comment on the revisions to the draft EA.

Union Pacific concurs with the changes and has no additional comments on the draft MOA.

Kevin Rice, PE
Sr. Manager M/W Environmental
Union Pacific Railroad
(402) 544-2213

From: Powell, Kris <Kris.Powell@jacobs.com>
Sent: Friday, March 10, 2023 4:19 PM
To: Kevin Rice <kprice@up.com>
Cc: Tabachnick, Alan <alan.tabachnick@stb.gov>; Assenza, Adam <adam.assenza@stb.gov>; Buckley, Maggie <Maggie.Buckley@jacobs.com>; McNeish, Sabra <Sabra.McNeish@jacobs.com>; Rainey, Pamela <Pamela.Rainey@jacobs.com>; Luhnow, Glennda <Glennda.Luhnow@jacobs.com>
Subject: UPRR Pirate Continuing Section 106 Consultation Revised MOA

*** PROCEED WITH CAUTION - This email was sent from outside the Company ***

Good Afternoon Mr. Rice:

As the Surface Transportation Board's (Board) Office of Environmental Analysis (OEA) stated in previous Section 106 consultation conducted under the National Historic Preservation Act, on June 30, 2022, the Union Pacific Railroad Company (UP) filed a petition with the Board requesting authority to construct and operate approximately six miles of new rail line in Maricopa County, Arizona (the proposed Pecos Industrial Rail Access and Train Extension [PIRATE] rail line).

With the attached letter, OEA is continuing Section 106 consultation with your office and soliciting feedback regarding revisions to the draft Memorandum of Agreement (MOA) based upon comments provided during consulting party review. OEA requests your feedback regarding the revisions described in the attached letter by **Friday, March 17, 2023**. Please feel free to contact Alan Tabachnick, OEA's Federal Preservation Officer, at Alan.Tabachnick@stb.gov with any questions about the Section 106 process or the revised MOA.

BUILDING AMERICA®

May 17, 2023

Mr. Adam Assenza
Environmental Protection Specialist
Office of Environmental Analysis
Surface Transportation Board
395 E Street, S.W.
Washington, D.C. 20423

Re: STB Docket No. FD 36501, Union Pacific Railroad –Two Un-surveyed Portions of APE

Dear Mr. Assenza:

As it relates to the PIRATE Industrial Lead project, with regards to the two un-surveyed areas depicted in the enclosed documents (titled Unsurveyed Not Acquired East v5.jpg & Unsurveyed Not Acquired West v5.jpg), “buffer areas”, shown as highlighted in yellow and are not currently owned by Union Pacific Railroad (UPRR), UPRR will not:

- Acquire or attempt to acquire the buffer areas
- Acquire temporary construction easements on the buffer areas
- Perform any work in the buffer areas

If there is any additional information or clarification needed with regards to the buffer areas, please don’t hesitate to contact me.

Sincerely,



Kevin Rice

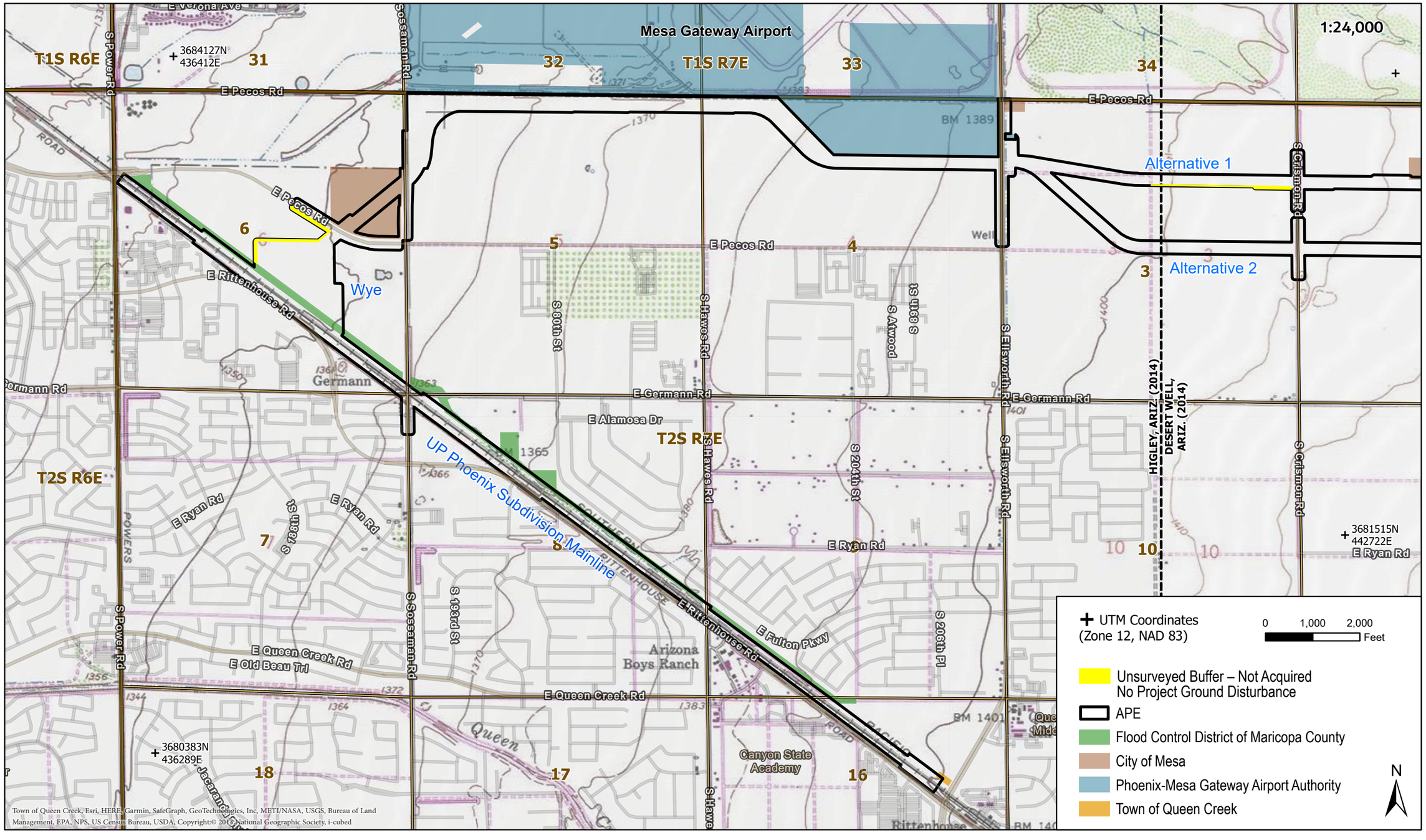
Senior Manager M/W Environmental

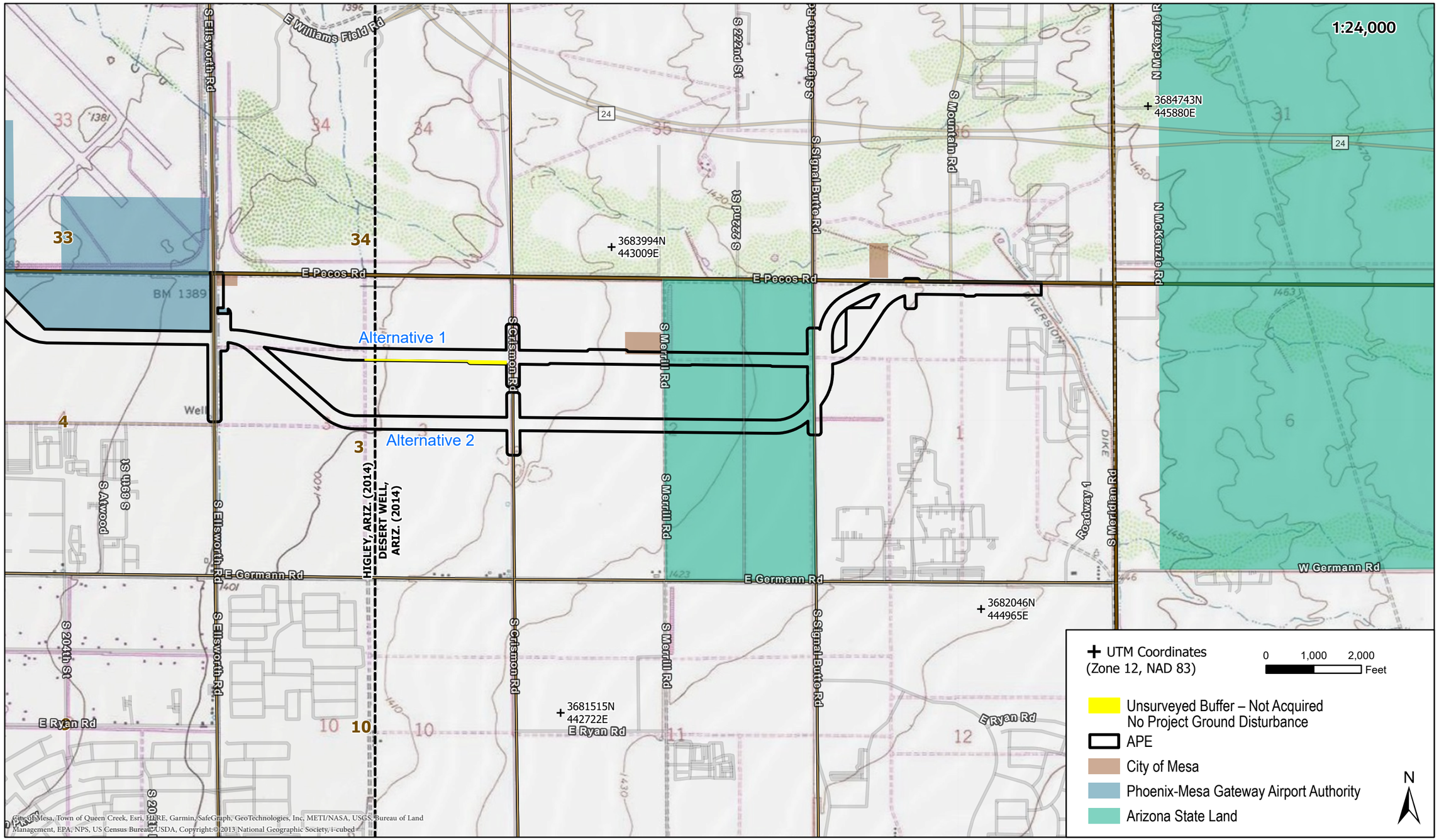
Union Pacific Railroad

UNION PACIFIC RAILROAD
1400 Douglas Street, 9th Floor
Omaha, Nebraska 68179

Kevin Rice
Senior Manager M/W Environmental
Engineering

P 402-544-2213
E kprice@up.com


1:24,000
Mesa Gateway Airport
T1S R6E
T1S R7E
T2S R6E
T2S R7E
31
32
33
34
6
5
4
3
7
8
18
17
16
10
E Pecos Rd
E Rittenhouse Rd
E Germann Rd
E Alamosa Dr
E Ryan Rd
E Queen Creek Rd
E Old Beau Trl
E Fulton Pkwy
S Power Rd
S Sossaman Rd
S Hawes Rd
S Ellsworth Rd
S Crismon Rd
S 80th St
S 88th St
S Atwood
S 204th St
S 206th Pl
S 193rd St
S 183rd St
Alternative 1
Alternative 2
Wye
UP Phoenix Subdivision Mainline
Germann
Arizona Boys Ranch
Canyon State Academy
BM 1389
BM 1401
3684127N
436412E
3681515N
442722E
3680383N
436289E
UTM Coordinates
(Zone 12, NAD 83)
0 1,000 2,000
Feet
Unsurveyed Buffer – Not Acquired
No Project Ground Disturbance
APE
Flood Control District of Maricopa County
City of Queen Creek
Phoenix-Mesa Gateway Airport Authority
Town of Queen Creek
N
Town of Queen Creek, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA, Copyright© 2013 National Geographic Society, i-cubed


1:24,000
E Williams Field Rd
S Ellsworth Rd
S 222nd St
S Signal Butte Rd
S Mountain Rd
N Mckenzie Rd
24
3684743N
445880E
33
34
E Pecos Rd
3683994N
443009E
BM 1389
Alternative 1
S Crismon Rd
S Merrill Rd
4
3
Alternative 2
HIGLEY, ARIZ. (2014)
DESERT WELL,
ARIZ. (2014)
S 196th St
S Atwood
S Ellsworth Rd
E Germann Rd
Roadway 1
S Meridian Rd
W Germann Rd
3682046N
444965E
S 204th St
E Ryan Rd
10
3681515N
442722E
12
UTM Coordinates
(Zone 12, NAD 83)
0
1,000
2,000
Feet
Unsurveyed Buffer – Not Acquired
No Project Ground Disturbance
APE
City of Mesa
Phoenix-Mesa Gateway Airport Authority
Arizona State Land
N
City of Mesa, Town of Queen Creek, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA, Copyright:© 2013 National Geographic Society, i-cubed

From: Caroline Klebacha <cklebacha@azstateparks.gov>
Sent: Thursday, March 23, 2023 7:49 AM
To: Powell, Kris
Cc: Luhnow, Glennda; Buckley, Maggie; Rainey, Pamela; McNeish, Sabra; Assenza, Adam; Tabachnick, Alan
Subject: [EXTERNAL] Re: UPRR Pirate Continuing Section 106 Consultation Revised MOA

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Kris,

We have reviewed and discussed the new language and have no comments at this time.

Please note that Kathrine has not reviewed this MOA yet due to time constraints, so please provide the full 30 days for her to adequately review the agreement document.

Thank you,

Caroline

Caroline Klebacha, M.A.
Archaeological Compliance Specialist
State Historic Preservation Office
A Division of Arizona State Parks & Trails
Please use azshpo@azstateparks.gov for all consultation!

1110 West Washington Street, Suite 100
Phoenix, AZ 85007-2957
Phone: 602-542-7140
Email: cklebacha@azstateparks.gov
Web: http://AZStateParks.com/SHPO



On Mon, Mar 13, 2023 at 1:24 PM AZSHPO - AZPARKS <azshpo@azstateparks.gov> wrote:

> SHPO-2021-1360 (168234)
>
> ---------- Forwarded message ---------
> From: **Powell, Kris** <Kris.Powell@jacobs.com>
> Date: Fri, Mar 10, 2023 at 3:05 PM
> Subject: UPRR Pirate Continuing Section 106 Consultation Revised MOA
> To: AZSHPO@azstateparks.gov <AZSHPO@azstateparks.gov>
> Cc: Tabachnick, Alan <alan.tabachnick@stb.gov>, Assenza, Adam <adam.assenza@stb.gov>, Buckley, Maggie

<Maggie.Buckley@jacobs.com>, McNeish, Sabra <Sabra.McNeish@jacobs.com>, Rainey, Pamela <Pamela.Rainey@jacobs.com>, Luhnow, Glennda <Glennda.Luhnow@jacobs.com>

Good Afternoon Ms. Leonard:

As the Surface Transportation Board's (Board) Office of Environmental Analysis (OEA) stated in previous Section 106 consultation conducted under the National Historic Preservation Act, on June 30, 2022, the Union Pacific Railroad Company (UP) filed a petition with the Board requesting authority to construct and operate approximately six miles of new rail line in Maricopa County, Arizona (the proposed Pecos Industrial Rail Access and Train Extension [PIRATE] rail line).

With the attached letter, OEA is continuing Section 106 consultation with your office and soliciting feedback regarding revisions to the draft Memorandum of Agreement (MOA) based upon comments provided during consulting party review. OEA requests your feedback regarding the revisions described in the attached letter by **Friday, March 17, 2023**. Please feel free to contact Alan Tabachnick, OEA's Federal Preservation Officer, at Alan.Tabachnick@stb.gov with any questions about the Section 106 process or the revised MOA.

We appreciate everyone's thorough review of the second draft of the MOA and hope to provide the final MOA for signature in late March.

Sincerely,

Kris Powell, M.A., RPA (she/her) | **JACOBS** | **Senior Archaeologist**

C: 602-463-5843 | kris.powell@jacobs.com
1501 West Fountainhead Parkway, Suite 401 | Tempe, Arizona 85282 | USA

NOTICE - This communication may contain confidential and privileged information that is for the sole use of the intended recipient. Any viewing, copying or distribution of, or reliance on this message by unintended recipients is strictly prohibited. If you have received this message in error, please notify us immediately by replying to the message and deleting it from your computer.

SURFACE TRANSPORTATION BOARD
Washington, DC 20423

Office of Environmental Analysis

May 19, 2023

Ms. Kathryn Leonard
Arizona State Parks, State Historic Preservation Office
1110 West Washington Street, Suite 100
Phoenix, AZ 85007

Re: Docket No. FD 36501, Union Pacific Railroad Company – Construction and Operation Exemption – in Maricopa County, AZ, Continuation of National Historic Preservation Act Section 106 Consultation on Unsurveyed Areas within the Area of Potential Effects, Class III Addendum Survey Report Adequacy, and Continued Project Finding of Adverse Effect

Dear Ms. Leonard:

On June 30, 2022, the Union Pacific Railroad Company (UP) filed a petition with the Surface Transportation Board (Board) pursuant to 49 U.S.C. § 10502 requesting authority to construct and operate approximately 6.0 miles of new rail line in Maricopa County, Arizona (the Pecos Industrial Rail Access and Train Extension [PIRATE] project) (Attachment A). Before making its decision on whether to grant such authority, the Board must consider the potential environmental impacts of the construction and operation of UP's proposed rail line, pursuant to the National Environmental Policy Act (42 U.S.C. §§ 4321-4370m-12), Section 106 of the National Historic Preservation Act (54 U.S.C. § 306108), the Board's environmental rules at 49 C.F.R. Part 1105, and related environmental laws.

The Board's Office of Environmental Analysis (OEA) initiated consultation pursuant to Section 106 of the National Historic Preservation Act on April 6, 2022. OEA continued Section 106 consultation through the fall of 2022 addressing the project Area of Potential Effects (APE), the Class III survey report, unsurveyed areas in the APE, National Register of Historic Places (NRHP) eligibility determinations, and treatment recommendations. Beginning in January and continuing through the spring of 2023, OEA completed a series of consultation letters and virtual meetings for developing a Memorandum of Agreement (MOA).

OEA is continuing Section 106 consultation with your office and soliciting comments regarding unsurveyed areas within the project APE that will not be acquired for project construction, the adequacy of a Class III addendum survey report, and a continued project finding of "adverse effect."

Unsurveyed Areas Within the APE

On behalf of the OEA, Jacobs Engineering Group Inc. (Jacobs), OEA's third-party contractor, conducted a Class III cultural resources survey of the project's APE in May and June of 2022 (Rainey and Stubing 2022). The APE averages between 200 and 300 feet wide but is variable depending upon the proposed construction footprint and any construction-related activities (staging, drainage structures, and crossings). As defined, the APE includes a buffer of 100 feet (approximately 50 feet on either side of the

construction footprint) around the proposed rail line and associated road crossing designs. In areas where known constraints exist, the buffer extends 100 feet on a single side of the construction footprint.

The Class III survey identified 4 previously recorded cultural resources sites (AZ U:10:2[ASM], AZ U:10:69[ASM], AZ U:10:152[ASM] and AZ U:10:275[ASM]), 2 in-use historic structures, and 53 isolated occurrences (IOs) and isolated features (IFs) within the APE (Rainey and Stubing 2022). At the time of the Class III survey, two discontinuous areas totaling 15.39 acres in the project APE could not be investigated due to access issues and poor ground visibility.

A total of 4.91 acres of the previously surveyed areas are within the APE buffer and will not be acquired by UP or be subject to project ground disturbance. Given that these areas will not be acquired for project construction, access to these areas has not been granted to conduct a Class III survey. These areas are depicted on Attachment B. UP has provided a letter confirming that these areas will not be acquired, nor would they be subject to any temporary or permanent project ground disturbance (Attachment C). OEA requests your concurrence that no further cultural resources investigations are required for the areas depicted on Attachment B.

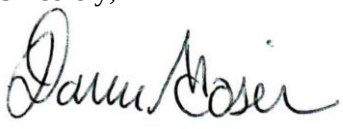
Class III Addendum Survey

On behalf of OEA, Jacobs recently conducted a Class III addendum survey of previously unsurveyed areas within the APE that have been acquired by UP and will be subject to project ground disturbance if the project is approved by the Board. This Class III survey investigated a total of 10.48 additional acres within the project APE. The Class III addendum survey resulted in the new recording of portions of previously documented sites AZ U:10:2(ASM) and AZ U:10:275(ASM). Based on the results of the Class III addendum survey, previously defined adverse effects to these sites will remain the same. The treatment of the adverse effect is addressed in the MOA and the upcoming Historic Properties Treatment Plan (HPTP). A copy of the Class III addendum survey report (Powell 2023) is attached for your review and comment (Attachment D).

Request for Input

Please review the information contained in this letter and the Class III addendum survey report and provide OEA with any comments by June 19, 2023. Thank you very much for your continued involvement and input on this project. Please feel free to contact Alan Tabachnick, OEA's Federal Preservation Officer, Alan.Tabachnick@stb.gov with any questions about the APE or the Class III addendum survey report.

Sincerely,



Danielle Gosselin
Director
Office of Environmental Analysis

Enclosures:

Attachment A – Vicinity Map
Attachment B – Project Location Maps depicting Previously Unsurveyed Areas and Class III Addendum Survey Areas

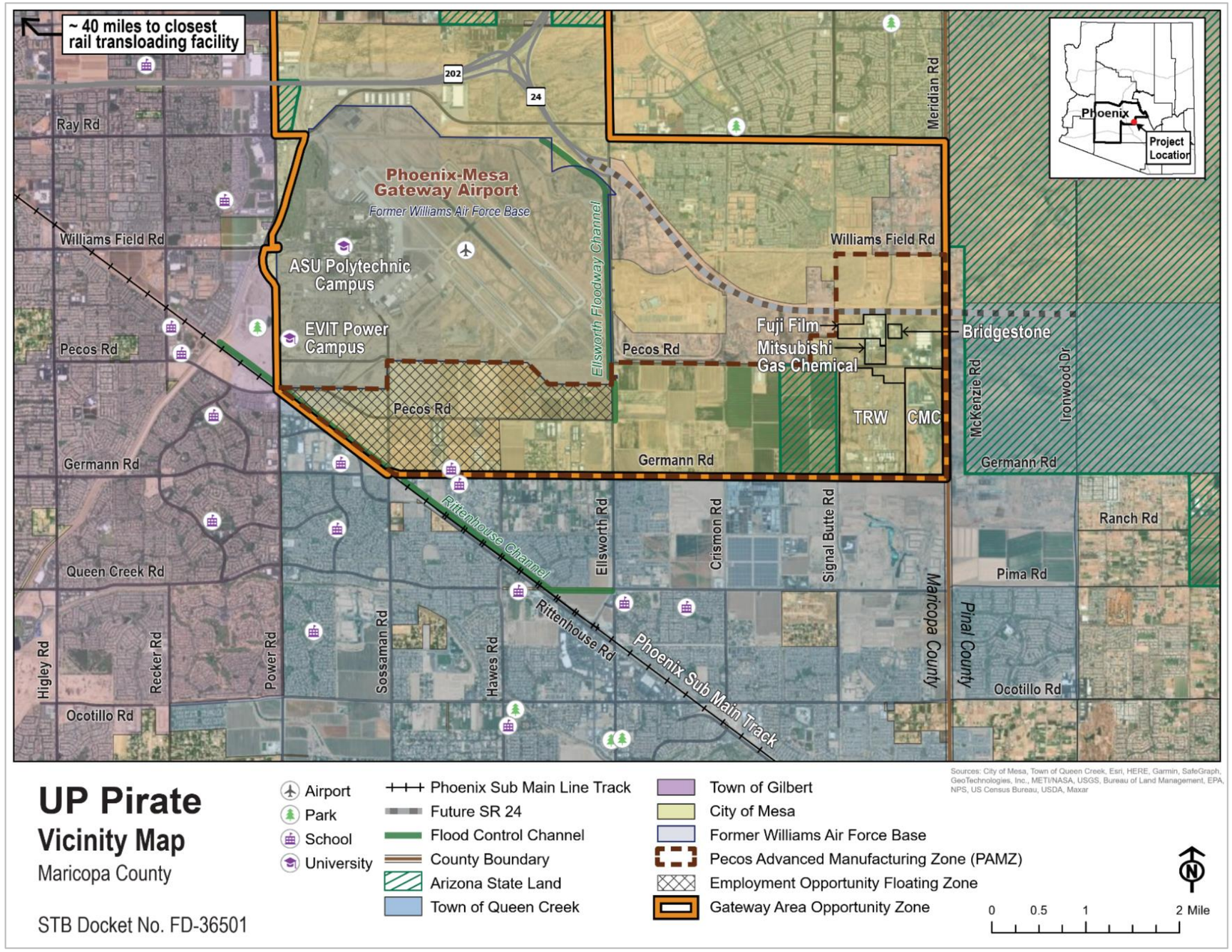
Attachment C – Letter from UP Regarding Unsurveyed Areas within the Project Buffer
Attachment D – *A Class III Addendum Cultural Resources Survey for the Union Pacific Railroad Company Pecos Industrial Rail Access and Train Extension (PIRATE) Project, Mesa and Queen Creek, Maricopa County, Arizona.* (Powell 2023)

Cc: Adam Assenza, OEA Environmental Protection Specialist, Adam.Assenza@stb.gov
Alan Tabachnick, OEA Federal Preservation Officer, Alan.Tabachnick@stb.gov
Maggie Buckley, Jacobs Project Manager, Maggie.Buckley@jacobs.com
Caroline Klebacha, Archaeological Compliance Specialist, cklebacha@azstateparks.gov

References Cited:

Rainey, Pamela J., and Michael Stubing
2022 *A Class III Cultural Resources Survey for the Union Pacific Railroad Company Pecos Industrial Rail Access and Train Extensions (PIRATE) Project, Mesa and Queen Creek, Maricopa County, Arizona*. Jacobs Project Report No. 2022-006. Jacobs Engineering Group Inc., Tempe, Arizona.

ATTACHMENT A – VICINITY MAP



UP Pirate

Vicinity Map

Maricopa County

STB Docket No. FD-36501

Airport
Park
School
University

Phoenix Sub Main Line Track
Future SR 24
Flood Control Channel
County Boundary
Arizona State Land
Town of Queen Creek

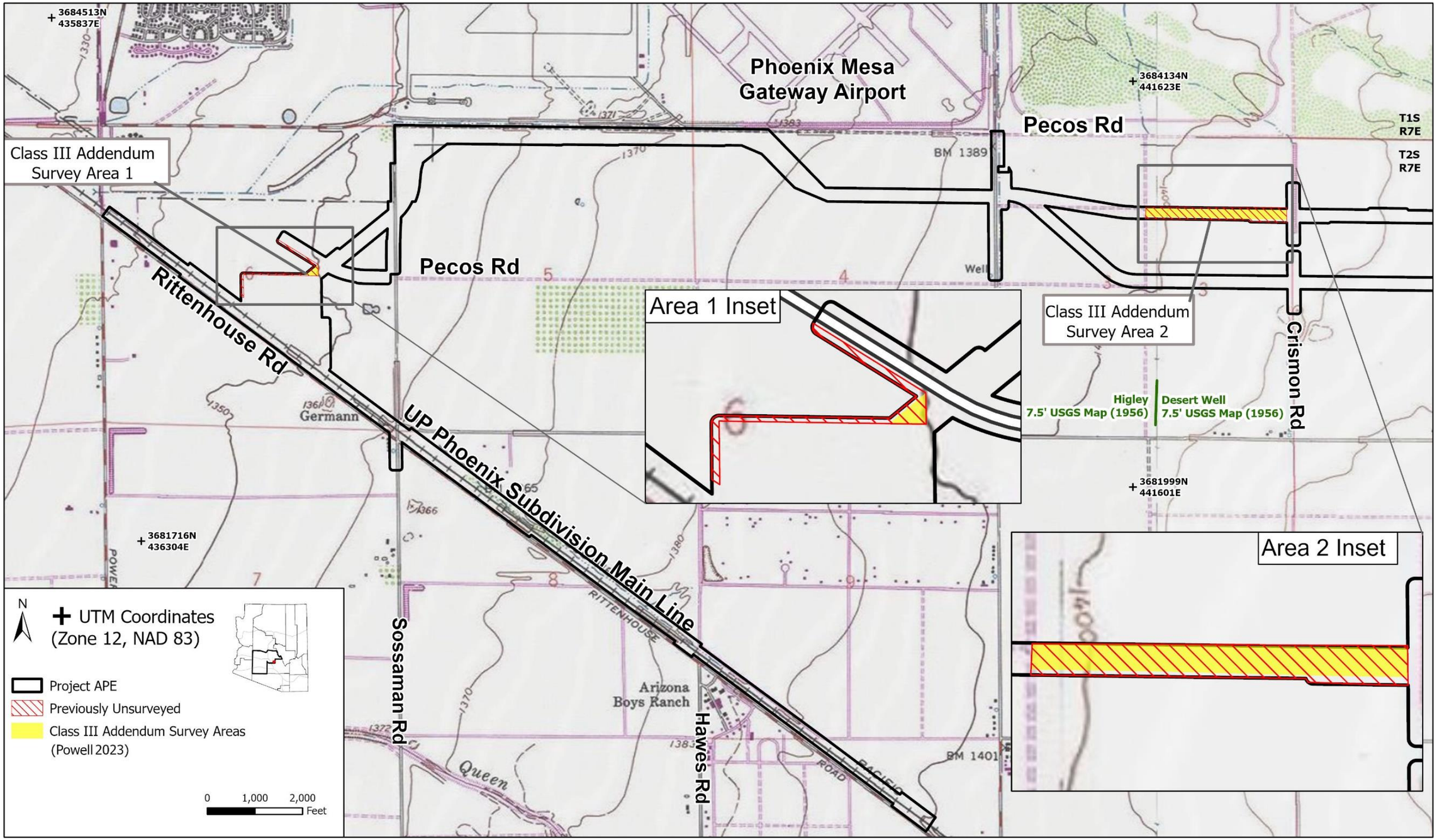
Town of Gilbert
City of Mesa
Former Williams Air Force Base
Pecos Advanced Manufacturing Zone (PAMZ)
Employment Opportunity Floating Zone
Gateway Area Opportunity Zone

Sources: City of Mesa, Town of Queen Creek, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc., METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA, Maxar

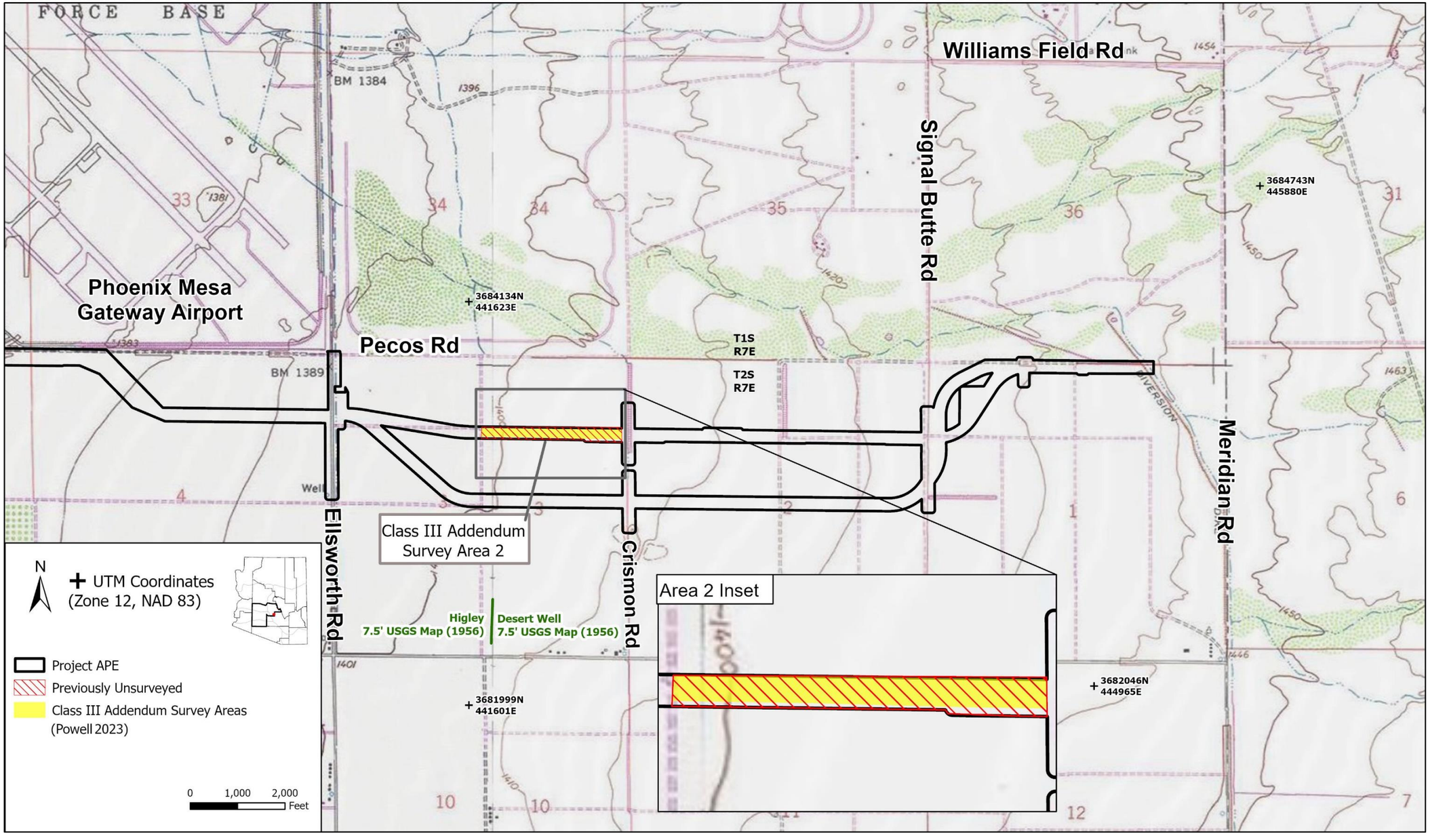
N

0 0.5 1 2 Mile

ATTACHMENT B1– PROJECT LOCATION MAPS DEPICTING PREVIOUSLY UNSURVEYED AREAS AND CLASS III ADDENDUM SURVEY AREAS



ATTACHMENT B2– PROJECT LOCATION MAPS DEPICTING PREVIOUSLY UNSURVEYED AREAS AND THE CLASS III ADDENDUM SURVEY AREA



ATTACHMENT C - LETTER FROM UP REGARDING UNSURVEYED AREAS WITHIN THE PROJECT BUFFER

BUILDING AMERICA®

May 17, 2023

Mr. Adam Assenza
Environmental Protection Specialist
Office of Environmental Analysis
Surface Transportation Board
395 E Street, S.W.
Washington, D.C. 20423

Re: STB Docket No. FD 36501, Union Pacific Railroad –Two Un-surveyed Portions of APE

Dear Mr. Assenza:

As it relates to the PIRATE Industrial Lead project, with regards to the two un-surveyed areas depicted in the enclosed documents (titled Unsurveyed Not Acquired East v5.jpg & Unsurveyed Not Acquired West v5.jpg), “buffer areas”, shown as highlighted in yellow and are not currently owned by Union Pacific Railroad (UPRR), UPRR will not:

- Acquire or attempt to acquire the buffer areas
- Acquire temporary construction easements on the buffer areas
- Perform any work in the buffer areas

If there is any additional information or clarification needed with regards to the buffer areas, please don’t hesitate to contact me.

Sincerely,



Kevin Rice

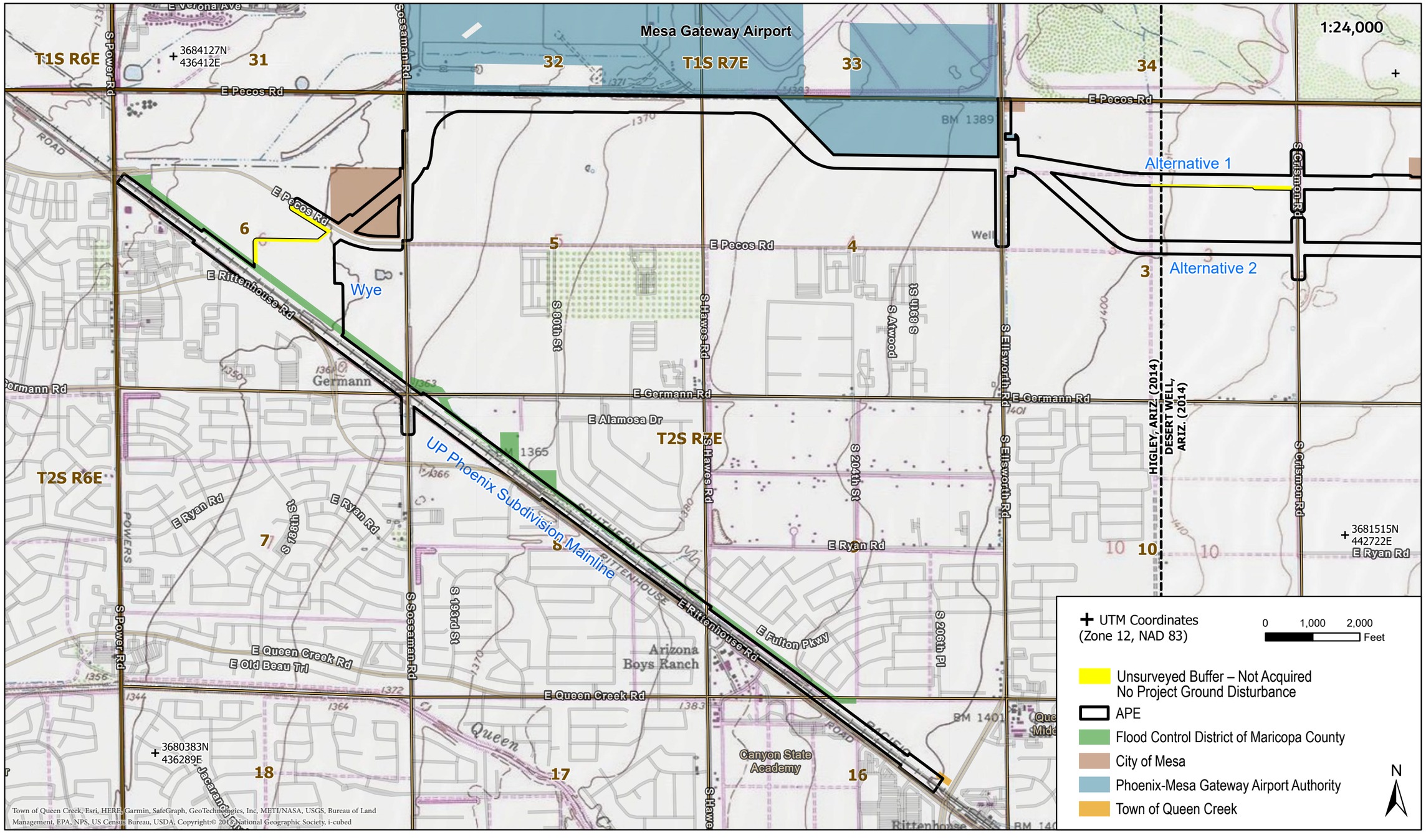
Senior Manager M/W Environmental

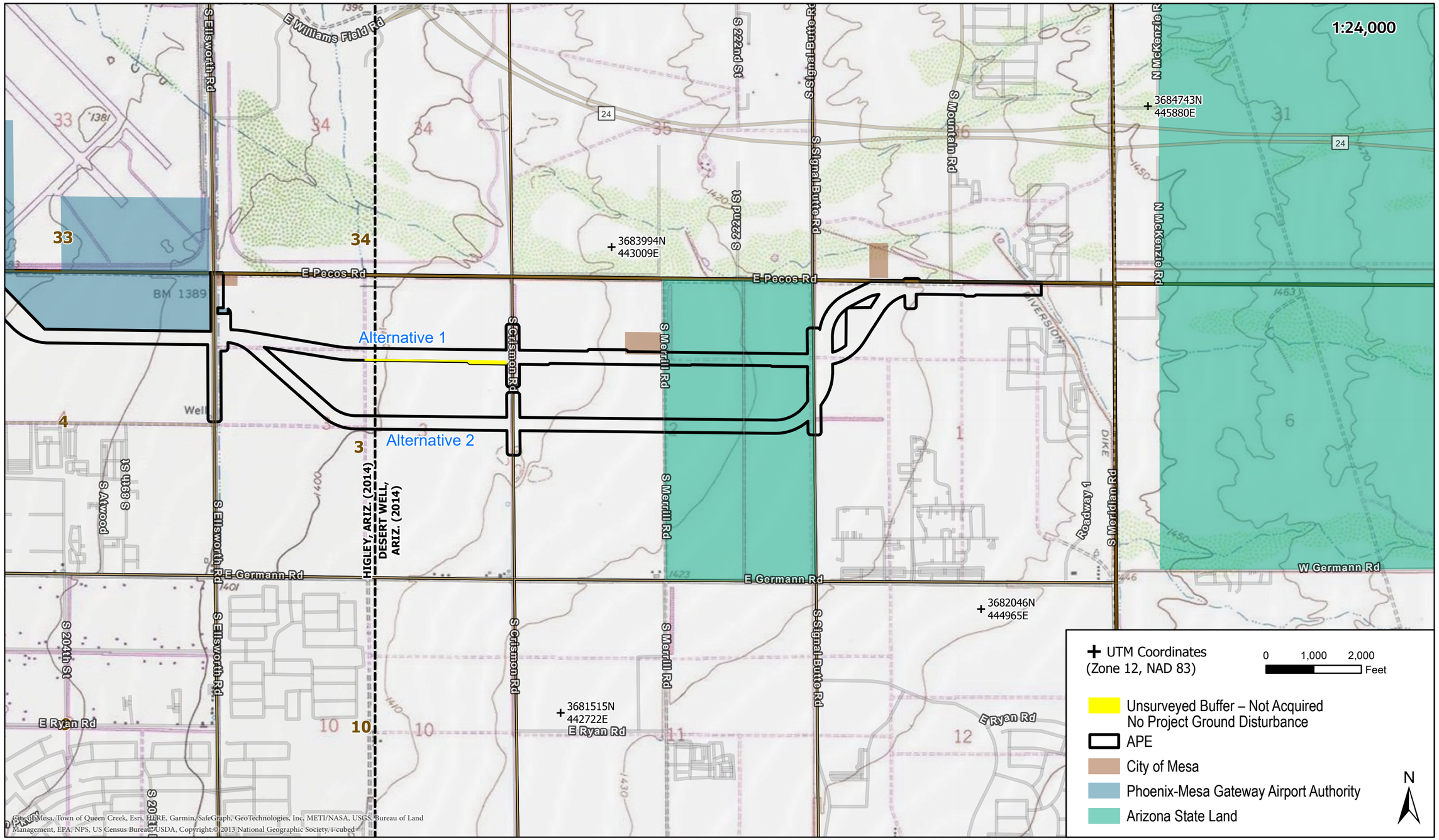
Union Pacific Railroad

UNION PACIFIC RAILROAD
1400 Douglas Street, 9th Floor
Omaha, Nebraska 68179

Kevin Rice
Senior Manager M/W Environmental
Engineering

P 402-544-2213
E kprice@up.com


1:24,000
Mesa Gateway Airport
T1S R6E
T1S R7E
T2S R6E
T2S R7E
31
32
33
34
6
5
4
3
7
8
18
17
16
10
E Pecos Rd
E Rittenhouse Rd
E Germann Rd
E Alamosa Dr
E Ryan Rd
E Queen Creek Rd
E Old Beau Trl
E Fulton Pkwy
S Power Rd
S Sossaman Rd
S Hawes Rd
S Ellsworth Rd
S Crismon Rd
S 80th St
S 88th St
S Atwood
S 204th St
S 206th Pl
S 193rd St
S 183rd St
Alternative 1
Alternative 2
Wye
UP Phoenix Subdivision Mainline
Germann
Arizona Boys Ranch
Canyon State Academy
BM 1389
BM 1401
3684127N
436412E
3681515N
442722E
3680383N
436289E
UTM Coordinates
(Zone 12, NAD 83)
0 1,000 2,000
Feet
Unsurveyed Buffer – Not Acquired
No Project Ground Disturbance
APE
Flood Control District of Maricopa County
City of Queen Creek
Phoenix-Mesa Gateway Airport Authority
Town of Queen Creek
N
Town of Queen Creek, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA, Copyright© 2013 National Geographic Society, i-cubed


1:24,000
E Williams Field Rd
S Ellsworth Rd
S 222nd St
S Signal Butte Rd
S Mountain Rd
N Mckenzie Rd
24
3684743N
445880E
33
34
E Pecos Rd
3683994N
443009E
BM 1389
Alternative 1
S Crismon Rd
S Merrill Rd
4
3
Alternative 2
HIGLEY, ARIZ. (2014)
DESERT WELL,
ARIZ. (2014)
S 196th St
S Atwood
S Ellsworth Rd
E Germann Rd
Roadway 1
S Meridian Rd
W Germann Rd
3682046N
444965E
S 204th St
E Ryan Rd
10
3681515N
442722E
12
UTM Coordinates
(Zone 12, NAD 83)
0
1,000
2,000
Feet
Unsurveyed Buffer – Not Acquired
No Project Ground Disturbance
APE
City of Mesa
Phoenix-Mesa Gateway Airport Authority
Arizona State Land
N
City of Mesa, Town of Queen Creek, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA, Copyright:© 2013 National Geographic Society, i-cubed

Salt River
PIMA-MARICOPA INDIAN COMMUNITY
10,005 EAST OSBORN ROAD/SCOTTSDALE, ARIZONA 85256/ PHONE (480) 362-6325

Tribal Historic Preservation Office

TO: Danielle Gosselin, Director
Surface Transportation Board
Office of Environmental Analysis
RE: Docket No. FD 36501
395 E Street SW
Washington, DC 20423

DATE: 5/25/2023

FROM: Shane Anton, Tribal Historic Preservation Officer

RE: Docket No. FD 36501, Union Pacific Railroad Company –Class III Addendum

Dear Director Gosselin,

The Salt River Pima Maricopa Indian Community (SRP-MIC) Tribal Historic Preservation Office (THPO) received your consultation documents via email on May 19, 2023. On June 30, 2022, the Union Pacific Railroad Company (UP) filed a petition with the Board requesting authority to construct and operate approximately six miles of new rail line in Maricopa County, Arizona (the proposed Pecos Industrial Rail Access and Train Extension [PIRATE] rail line).

A Class III survey of the Area of Potential Effects (APE) was previously conducted in May/June 2022 (Rainey and Stubing 2022). At the time of that survey, two discontinuous areas totaling 15.39 acres in the project APE and APE buffer could not be investigated due to access issues and poor ground visibility. A total of 4.91 acres of these areas are within the APE buffer and will not be acquired by UP or be subject to project ground disturbance. UP has committed in writing to avoidance of these locations. The remaining 10.48 acres in the APE and buffer have now been subject to Class III survey. The results of the survey are presented in a Class III addendum report entitled *A Class III Addendum Cultural Resources Survey for the Union Pacific Railroad Company Pecos Industrial Rail Access and Train Extension (PIRATE) Project, Mesa and Queen Creek, Maricopa County, Arizona* (Powell 2023).

SRP-MIC THPO has reviewed the report and concurs on its adequacy. SRP-MIC THPO also agrees with the summary and management recommendations for AZ U:10:2(ASM) (the Germann Site) and AZ U:10:275(ASM) (The Sand Dune Site). These sites will be adversely impacted by

the project. A Memorandum of Agreement to address the resolution of adverse effects is being developed and specific mitigation procedures will be outlined in a Historic Properties Treatment Plan (HPTP). Given the extensive agricultural disturbance in the immediate vicinity of AZ U:10:275(ASM), boundary testing within 50 feet of the surface site boundary is recommended for inclusion in the HPTP.

The SRPMIC THPO will continue to participate in the Section 106 process of this undertaking, but defers to the GRIC THPO as the consultation lead for this project.

Thank you for consulting with the SRPMIC-THPO. Should you have questions and/or concerns about this project, please contact me directly at (480) 362-6331.

Thank you.



Shane Anton, Tribal Historic Preservation Officer
Cultural Resources Department, SRPMIC
10,005 E. Osborn Rd.
Scottsdale, Arizona 85256
Email: Shane.Anton@SRPMIC-nsn.gov
Office Tele: (480) 362-6331

From:	Ryan, Alexandra R (Alex) CIV USARMY CESPL (USA)
To:	Powell, Kris
Cc:	Assenza, Adam; Tabachnick, Alan; Buckley, Maggie; McNeish, Sabra; Phoebus, Elizabeth (Betsi); Luhnow, Glennda; Rainey, Pamela
Subject:	[EXTERNAL] RE: UPPR Pirate - Addendum Survey Report
Date:	Thursday, May 25, 2023 12:32:26 PM

Good morning,

Thank you for providing the Class III Addendum Survey Report and continued consultation. The Corps has no comments at this time as the addendum and un-surveyed buffer areas are outside the Corps' limited permit area.

Thank you,
Alex

Alexandra Ryan
Project Manager
Regulatory Division, Arizona Branch
Los Angeles District, U.S. Army Corps of Engineers

Office: 602-230-6954
Mobile: 602-284-2642

Please do not mail hard copy documents to any Regulatory staff or office. For further details on corresponding with us, please view our special public notice at: https://www.spl.usace.army.mil/Portals/17/docs/publicnotices/COVID19%20Regulatory_SPN.pdf?ver=2020-03-19-134532-833

From: Powell, Kris <Kris.Powell@jacobs.com>
Sent: Friday, May 19, 2023 11:08 AM
To: Regulatory, SPL AZ <splregulatoryaz@usace.army.mil>
Cc: Ryan, Alexandra R (Alex) CIV USARMY CESPL (USA) <Alexandra.Ryan@usace.army.mil>; Assenza, Adam <adam.assenza@stb.gov>; Tabachnick, Alan <alan.tabachnick@stb.gov>; Buckley, Maggie <Maggie.Buckley@jacobs.com>; McNeish, Sabra <Sabra.McNeish@jacobs.com>; Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>; Luhnow, Glennda <Glennda.Luhnow@jacobs.com>; Rainey, Pamela <Pamela.Rainey@jacobs.com>
Subject: [Non-DoD Source] UPPR Pirate - Addendum Survey Report

Good Morning Ms. Diebolt:

As the Surface Transportation Board's (Board) Office of Environmental Analysis (OEA) stated in previous Section 106 consultation conducted under the National Historic Preservation Act, on June 30, 2022, the Union Pacific Railroad Company (UP) filed a petition with the Board requesting authority to construct and operate approximately six miles of new rail line in Maricopa County, Arizona (the proposed Pecos Industrial Rail Access and Train Extension [PIRATE] rail line).

A Class III survey of the area of potential effects (APE) was previously conducted in May/June 2022

(Rainey and Stubing 2022). At the time of that survey, two discontinuous areas totaling 15.39 acres in the project APE and APE buffer could not be investigated due to access issues and poor ground visibility. A total of 4.91 acres of these areas are within the APE buffer and will not be acquired by UP or be subject to project ground disturbance. UP has committed to avoidance of these locations (UP Letter to OEA, May 17, 2023, attached).

The remaining 10.48 acres in the APE and buffer have now been subject to Class III survey. The results of the survey are presented in a Class III addendum report entitled "*A Class III Addendum Cultural Resources Survey for the Union Pacific Railroad Company Pecos Industrial Rail Access and Train Extension (PIRATE) Project, Mesa and Queen Creek, Maricopa County, Arizona"* (Powell 2023).

The Class III addendum survey report has been transmitted to you via File Transfer on behalf of OEA by Jacobs Engineering Group Inc, OEA's third-party contractor. The File Transfer document will be available for 15 days and will expire on June 3, 2023. If you are not able to access the document, or the link expires, please contact Glennda Luhnow, Jacobs' cultural resources manager, at Glennda.Luhnow@jacobs.com. A hard copy of the report can be furnished to you at your request.

With the attached letter, OEA is continuing Section 106 consultation with your office and requesting concurrence on the adequacy of the Class III addendum survey report and agreement that the 4.91 acres in the APE and buffer do not require any further cultural resources work. OEA requests your response to this letter by June 19, 2023. Please address any questions electronically to Alan Tabachnick, OEA's Federal Preservation Officer, at Alan.Tabachnick@stb.gov.

Thank you.

Kris Powell, M.A., RPA (she/her) | **JACOBS** | **Senior Archaeologist**
C: 602-463-5843 | kris.powell@jacobs.com
1501 West Fountainhead Parkway, Suite 401 | Tempe, Arizona 85282 | USA

PTO May 12, 2023 and June 19 thru June 26, 2023

NOTICE - This communication may contain confidential and privileged information that is for the sole use of the intended recipient. Any viewing, copying or distribution of, or reliance on this message by unintended recipients is strictly prohibited. If you have received this message in error, please notify us immediately by replying to the message and deleting it from your computer.

SURFACE TRANSPORTATION BOARD
Washington, DC 20423

Office of Environmental Analysis

May 26, 2023

Ms. Kathryn Leonard
State Historic Preservation Officer
Arizona State Parks, State Historic Preservation Office
1110 West Washington Street, Suite 100
Phoenix, AZ 85007

Re: Docket No. FD 36501, Union Pacific Railroad Company – Construction and Operation Exemption – in Maricopa County, AZ, Continuation of National Historic Preservation Act Section 106 Consultation on Revised Draft MOA, and Continued Project Finding of Adverse Effect

Dear Ms. Leonard:

On June 30, 2022, the Union Pacific Railroad Company (UP) filed a petition with the Surface Transportation Board (Board) pursuant to 49 U.S.C. § 10502 requesting authority to construct and operate approximately 6.0 miles of new rail line in Maricopa County, Arizona (the Pecos Industrial Rail Access and Train Extension [PIRATE] project) (Attachment A). Before making its decision on whether to grant such authority, the Board must consider the potential environmental impacts of the construction and operation of UP's proposed rail line, pursuant to the National Environmental Policy Act (42 U.S.C. §§ 4321-4370m-12), Section 106 of the National Historic Preservation Act (54 U.S.C. § 306108), the Board's environmental rules at 49 C.F.R. Part 1105, and related environmental laws.

The Board's Office of Environmental Analysis (OEA) initiated consultation pursuant to Section 106 of the National Historic Preservation Act on April 6, 2022. OEA continued Section 106 consultation through the fall of 2022 addressing the project Area of Potential Effects (APE), the Class III survey report, unsurveyed areas in the APE, National Register of Historic Places (NRHP) eligibility determinations, and treatment recommendations. Beginning in January and continuing through the spring of 2023, OEA completed a series of consultation letters and virtual meetings for developing a Memorandum of Agreement (MOA) to address the project finding of "adverse effect."

MOA Revisions

OEA provided the first draft of the MOA to consulting parties on December 8, 2022, and conducted a virtual meeting with the Section 106 consulting parties to resolve comments on January 26, 2023. OEA sent the second draft of the MOA to consulting parties on February 10, 2023. Comments received on the second draft of the MOA were largely minor. On March 10, 2023, OEA sent the consulting parties a consultation letter detailing two revisions [revising Stipulation X(C) and addition of a new Stipulation XI – Authorization of Construction in Non-Site Areas] to the MOA. The State Historic Preservation Office (SHPO) reviewed the third draft of the MOA in anticipation of signing the agreement and requested revisions to the following areas of the MOA:

1. The Advisory Council on Historic Preservation (ACHP) has shifted their terminology of "indirect" vs. "direct" APE. Previously, indirect effects were only auditory, visual and vibrational effects. Current ACHP guidance indicates that project construction can also have direct auditory, visual and vibrational effects. The APE has been revised to reflect this new terminology.
2. SHPO inquired as to the role and responsibility of the Consulting Parties, with specific reference to the United States Army Corps of Engineers (Corps). Upon further communication between OEA and the Corps, the Corps has agreed to be Concurring Party to the MOA. The MOA has been updated accordingly.
3. SHPO requested that the MOA contain a more robust discussion of identification, evaluation, and effects determinations specific to Traditional Cultural Properties (TCPs) throughout the MOA. Discussion of TCPs has been added to the MOA as requested.
4. SHPO inquired about the status of unsurveyed portions of the APE. An addendum survey was conducted in April 2023, resulting in the complete cultural resources inventory of the project construction footprint (Powell 2023). No additional historic properties were identified by the survey. Two small segments of the project buffer have not been surveyed, will never be acquired by UP, and do not include any project ground disturbance. Attachment B shows the location of these buffer areas. UP has committed to full avoidance of these unacquired areas in a letter dated May 17, 2023, which is attached to the Revised Draft MOA. A copy of the addendum survey report was circulated to the Consulting Parties for review and comment on May 19, 2023. The MOA has been modified to remove the discussion of unsurveyed portions of the project.

A comment tracking table detailing other minor comments provided by the SHPO and the Corps is provided as Attachment C. The Revised Draft MOA is provided as Attachment D.

Request for Input

OEA is continuing Section 106 consultation with your office and soliciting comments regarding the enclosed Revised Draft MOA and a continued project finding of "adverse effect."

Please review the information contained in this letter, the Revised Draft MOA, and the comment tracking table, and provide OEA with any comments or concerns by June 25, 2023. Thank you very much for your continued involvement and input on this project. Please feel free to contact Alan Tabachnick, OEA's Federal Preservation Officer, Alan.Tabachnick@stb.gov with any questions about the MOA.

Sincerely,



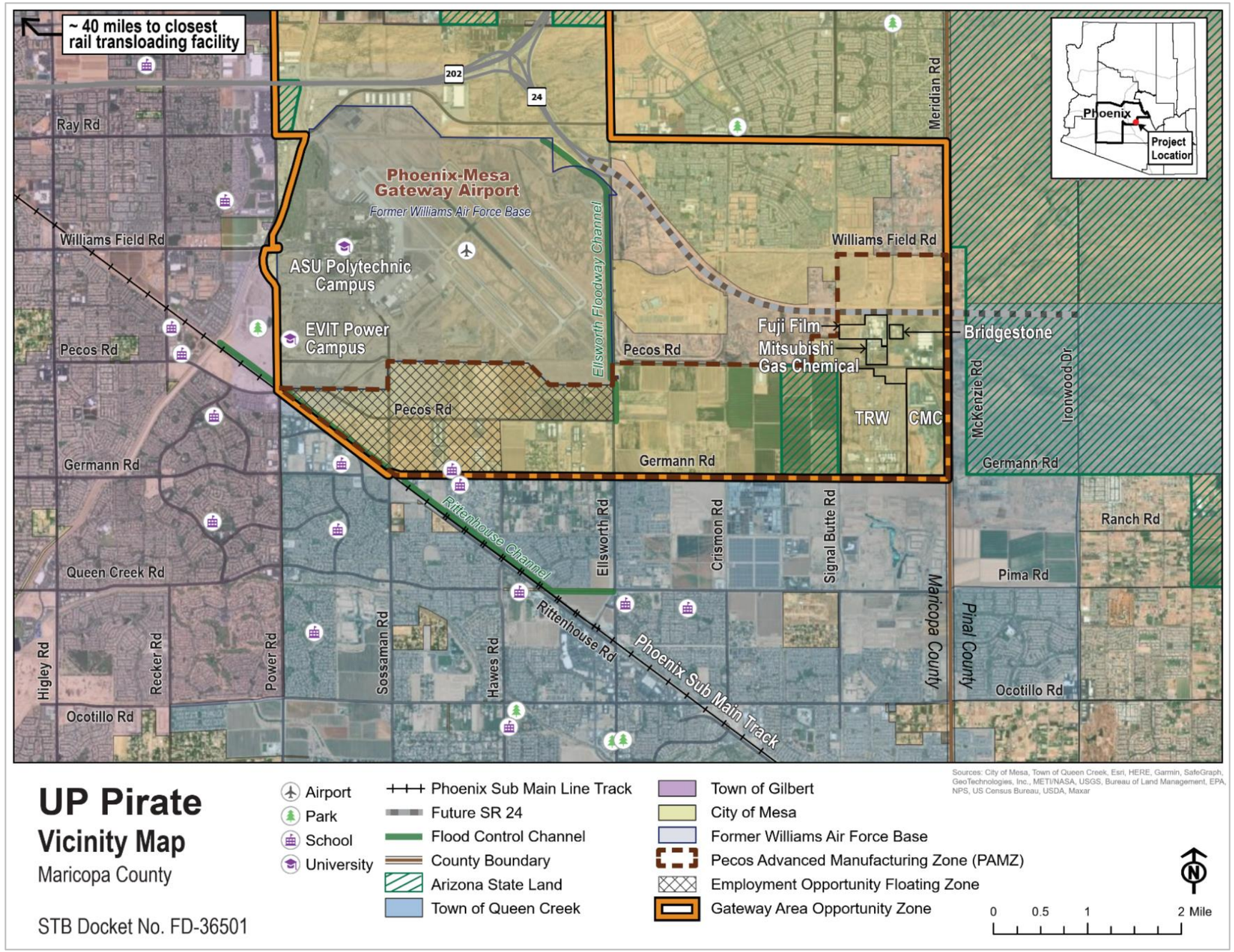
Danielle Gosselin
Director
Office of Environmental Analysis

Enclosures:

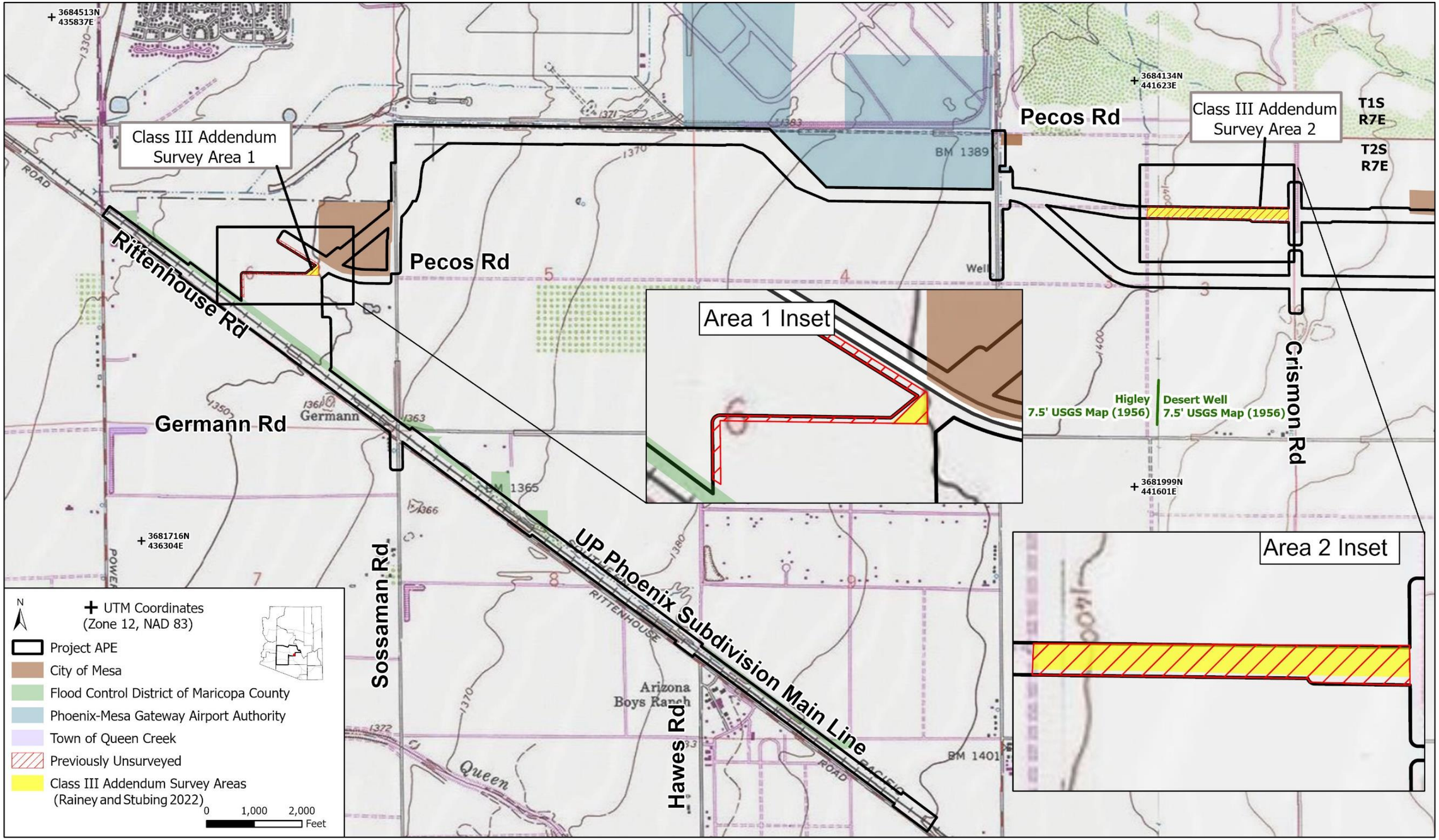
Attachment A – Vicinity Map
Attachment B – Project Location Maps
Attachment C – MOA Comment Tracking Table
Attachment D – Revised Draft MOA (May 2023)

Cc: Adam Assenza, OEA Environmental Protection Specialist, Adam.Assenza@stb.gov
Alan Tabachnick, OEA Federal Preservation Officer, Alan.Tabachnick@stb.gov
Maggie Buckley, Jacobs Project Manager, Maggie.Buckley@jacobs.com
Caroline Klebacha, Archaeological Compliance Specialist, cklebacha@azstateparks.gov

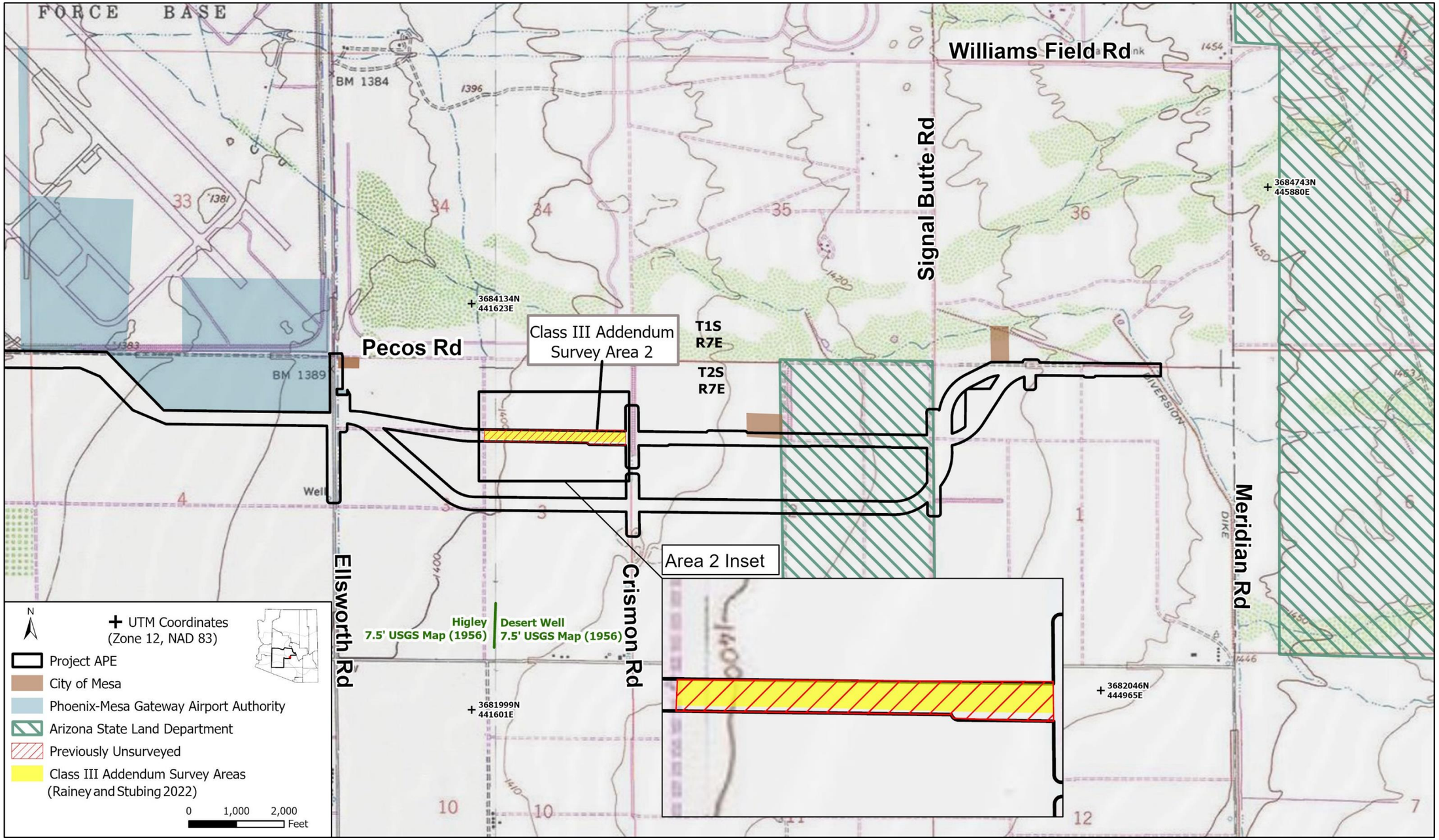
ATTACHMENT A – VICINITY MAP



ATTACHMENT B.1– PROJECT LOCATION MAPS DEPICTING PREVIOUSLY UNSURVEYED AREAS AND THE RESULTS OF THE CLASS III ADDENDUM SURVEY REPORT



ATTACHMENT B.2– PROJECT LOCATION MAPS DEPICTING PREVIOUSLY UNSURVEYED AREAS AND THE RESULTS OF THE CLASS III ADDENDUM SURVEY REPORT



ATTACHMENT C

STB Docket Number FD 36501

Union Pacific Railroad Company – Construction and Operation Exemption – In Maricopa County, Arizona

Section 106 Consulting Parties Review: Revised Draft Memorandum of Agreement (MOA), May 26,2023

#	Section	Line(s)	Comment	Comment Resolution
Reviewer: Kathryn Leonard, State Historic Preservation Officer SHPO 2021-1360(168462)				
1	WHEREAS	Pg 2	Has ACHP been notified.	Yes, ACHP has been notified on 12/22/22 and declined to participate – noted in the last WHEREAS.
2	WHEREAS	Pg 2	Discussion on the two in-use structures for the project – This is a somewhat awkward way of saying that character defining features would not be altered and there would be no loss of integrity	Revised: but would not be adversely affected by the Undertaking *as the character defining features would not be altered and there would be no loss of integrity.*
3	WHEREAS	Pg 2	Why is Corps a concurring party and not an invited signatory?	Corps is a Concurring Party, as per their response on 4/28/2023.
4	WHEREAS	Pg 2	Why is the FAA not an invited Signatory?	The FAA does not have jurisdiction in the project APE; FAA indicated that PMGA has authority of the adjacent airport property.
5	WHEREAS	Pg 2	Why is PMGA not an invited Signatory?	ACHP does not recognize state or municipal agencies as Invited Signatories, only as Concurring Parties.
6	WHEREAS	Pg 2	If FCDMC is a landowner, they should be an invited signatory	ACHP does not recognize state or municipal agencies as Invited Signatories, only as Concurring Parties.
7	WHEREAS	Pg 3	If ASLD is a landowner, they should be an invited signatory	ACHP does not recognize state or municipal agencies as Invited Signatories, only as Concurring Parties.

#	Section	Line(s)	Comment	Comment Resolution
8	WHEREAS	Pg 3	Why is the City of Mesa not an invited signatory?	ACHP does not recognize state or municipal agencies as Invited Signatories, only as Concurring Parties.
9	WHEREAS	Pg 3	Why is the Town of Queen Creek not an invited signatory?	ACHP does not recognize state or municipal agencies as Invited Signatories, only as Concurring Parties.
10	WHEREAS	Pg 4	Why is the ACHP not part of the Now, Therefore statement?	ACHP has declined to participate in this agreement.
11	Stipulation IV	Pg 5	APE – Per the ACHP "auditory, visual, and vibrational effects are still direct effect" Recommend distinguishing ground disturbance APE vs. auditory, visual and vibrational rather than direct or indirect.	Language has been modified based on the ACHP 2019 memo on APE definition. Additional clarifications were made with SHPO assistance.
12	Stipulation IV	Pg 5	Remove APE for cumulative effects	Removed.
13	Stipulation VI	Pg 6	What about determinations of effect and treatment mitigations	Added following: If any newly recorded eligible site(s) cannot be avoided, the site(s) will be mitigated in accordance with procedures outlined in the approved HPTP.
14	Stipulation VIII	Pg 7	Remove TCP section in HPTP	Removed and added to new Stipulation on TCPs.
15	Stipulation IX	Pg 9	Move Tribal Consultation Stipulations up. Are we saying that TCP identification efforts are incomplete?	Stipulation moved earlier in the document. TCP process is further outlined in the new TCP stipulation.
16	Stipulation XX	Pg 15	Invited Signatory should be removed given the definition of Signatory in Attachment B	Invited signatory is removed in amendment and termination stipulations.
17	Attachment A	Pg 40	Fix APE Definitions to match earlier definition (see Comment 11)	Completed.
18	WHEREAS	Pg 2	In discussion with Kathryn Leonard (SHPO), added whereas to address areas not going to be surveyed.	Added.

#	Section	Line(s)	Comment	Comment Resolution
19	Stipulation VII.B	Pg 8	Modify stipulation (previously talked about future addendum survey) to indicate addendum survey has been completed	Added.
20	WHEREAS	Pg 4	Add two TCP WHEREAS clauses to indicate that the broader cultural resources in the Queen Creek Area are significant to the Four Southern Tribes and that there were prior ethnographic studies covering part of the area.	TCPs have been identified in the area, but language has been modified to indicate that OEA commits to continuing identification and evaluation efforts.
21	WHEREAS	Pg 4	TCP WHEREAS clauses – SHPO indicated that the physical APE was discussed, but that indirect was not addressed for the clauses.	Since TCPs are considered sensitive information, we included the word “near” to the WHEREAS clause to address SHPOs comment on indirect APE. Locational information on TCPs are generally not included in public documentation.
22	Stipulation VI – APE	Pg 8	APE was modified per SHPO language.	We noted that we had an incorrect statement regarding the indirect APE. Originally it was stated as 0.5 mile from the physical APE. However, cultural resource documentation (consultation letters and the cultural report) indicate that it was only 50 feet on either side. So this was corrected in the MOA – with language that indicates that opportunity to further expand the indirect APE through consultation with consulting parties.
23	Stipulation VII	Pg 8	Update stipulation with concurrence date when the Addendum report has been reviewed.	This will be added when appropriate.
24	Stipulation VIII	Pg 9	Stipulation VIII.B. had a sentence on the end that really needs to be put under Stipulation IX.	The sentence was moved to Stipulation IX.
25	Stipulation X	Pg 11	HPTP – Will the TCP identification efforts be complete? If so, HPTP could provide a work plan for resolution of adverse effects.	No, the TCP identification is ongoing.
26	Stipulation XI	Pg 14	Add a special provision that any consulting tribe may request a separate field visit	Added.
27	Stipulation XIV	Pg 17	Here and elsewhere – What is Board	The Board is the Surface Transportation Board, the lead federal agency for the project. OEA is a part of the STB and responsible for carrying out the environmental analysis.

#	Section	Line(s)	Comment	Comment Resolution
Reviewer: Winston S. Zack, USACE				
28	WHEREAS	Pg 2	I'm assuming that SHPO has concurred with the adverse effect? If so, this needs to be stated here or in an appropriate whereas clause.	The date of SHPO concurrence was added to lines 57-58.
29	WHEREAS	Pg 2	This should be incorporated into the 3rd WHEREAS where "lead agency" is first discussed. This would make the 3rd WHEREAS clause more meaningful and avoid unnecessary redundancy here.	Thank you for the comment. Organization of the MOA follows AZ SHPO Guidance Point No. 12 and ACHP guidance. No revisions were made.
30	WHEREAS	Pg 2	WHEREAS, part of the Board's Undertaking will require a permit from the U.S. Army Corps of Engineers (Corps), which has jurisdiction over activities that discharge dredge or fill into any waters of the United States under Section 404 of the Clean Water Act of 1972 (33 U.S.C. § 1344), the issuance of which requires Section 106 review for that Undertaking and pursuant to 36 C.F.R. § 800.3(f), the Corps has been included in Section 106 consultation and is invited to sign this MOA as a Concurring Party; and This should be incorporated into the 3rd WHEREAS where "lead agency" is first discussed. This will make the 3rd WHEREAS clause more meaningful and avoid unnecessary redundancy here.	Revisions to the text were accepted. See response to comment #29 for organizational format of the MOA.
31	WHEREAS	Pg 3	… have been invited to sign this MOA as Concurring Parties to ~~this MOA~~; and	Thank you for confirming your role in this Section 106 Agreement Document. Your proposed edit was accepted.
32	WHEREAS	Pg 3	So, this hasn't been completed [public involvement]? Why not?	Thank you for the comment. The Draft EA has not been published for public comment, so "will seek" is appropriate. OEA anticipates publishing the Draft EA in late May 2023. No revisions are necessary.
33	WHEREAS	Pg 4	This is not an accurate citation of the '800' regulations. Please revise to document the appropriate citation.	Revised to 36 C.F.R. § 800(d)(3).

#	Section	Line(s)	Comment	Comment Resolution
34	WHEREAS	Pg 4	This WHEREAS is unnecessary and redundant. Stipulation I, below, discusses definitions in 800.16 which includes 'days' (800.16(h)). Alternatively, update this WHEREAS to identify that all definition as used in 800.16 are applicable within this MOA. Or something to that effect.	Thank you for your comments. No revisions are necessary. See response to comment #29 for organizational format of the MOA.
35	WHEREAS	Pg 4	WHEREAS, in accordance with 36 C.F.R. § 800.6(a)(1), OEA has notified the ACHP of the adverse effect finding and provided the documentation specified in 36 C.F.R. § 800.11(e), and in a letter dated on December 22, 2022, the ACHP chose not to participate in consultation pursuant to 36 C.F.R. § 800.6(a)(1)(iii); and This is an assumption per the ACHPs normal response method of sending letters. This language was added to broadly identify that the ACHP responded 'in writing' to OEA.	Thank you for the comment. No revisions are necessary since the notification to ACHP was done through the e106 process. The proposed edits were not accepted.
36	Stipulation V.A.	Pg 5	This can be removed as it is addressed in WHEREAS clause above (e.g. unnecessarily redundant) and does not include any Stipulation responsibilities of UP. From here forward, I'll address redundant items addressed in WHEREAS clauses in comments simply as 'Redundant'.	Thank you for your comment. No revisions are necessary. See response to comment #29 for organizational format of the MOA.
37	Stipulation VI.A.	Pg 6	Which sites? Redundant.	Thank you for your comment. This includes all known sites and unknown sites associated with the project. No revisions are necessary. See response to comment #29 for organizational format of the MOA.
38	Stipulation VI.A	Pg 6	Indefinitely? Or is there a specified review period? Review and comment periods throughout this MOA need specified review time periods.	Thank you for your comment. Specific timeframes are included in Stipulations VII.C., X.B., X.C., XI.A, XI.B., XI.D., XI.E, XVI.,XVIII.C., XIX.B., XIX.C., XX.A., XXII, XXIII, No revisions are necessary.

#	Section	Line(s)	Comment	Comment Resolution
39	Stipulation VI.B	Pg 6	Will the SHPO be consulted with? If so, address that here. This stipulation is overly broad and vague.	Thank you for your comment. This includes SHPO – per Attachment A, the definitions of "Consulting Parties." No revisions are necessary.
40	Stipulation VII.A	Pg 6	Redundant	Thank you for your comment. No revisions are necessary. See response to comment #29 for organizational format of the MOA.
41	Stipulation VII.B	Pg 6	Will any parties be consulted here regarding avoidance and minimization strategies? Non-specific "buffer zone" Not specific	Thank you for your comment. Detailed information on monitoring is discussed in the HPTP, which was outlined in detail in Stipulation VIII (now Stipulation X). Monitoring will occur for all construction activities, so the term "buffer zone" was removed.
42	Stipulation VII.B	Pg 6	B. Where possible, UP shall endeavor to avoid or minimize ~~impacts~~ effects to historic properties through the redesign of Project elements and by placing infrastructure outside of ~~archaeological site~~ historic property boundaries. During construction, UP shall fence sensitive archaeological sites to protect them and shall monitor construction activities near site areas within a buffer zone UP shall retain a Contractor that meets the qualifications outlined in Stipulation III of this MOA to conduct cultural resources monitoring, as needed. Where historic properties cannot be avoided, OEA and UP shall ensure that impacts to the historic properties are mitigated through the development and implementation of an HPTP.	Thank you for your comment. The terms "effects" and "historic property" have been revised in this document.
43	Stipulation VIII	Pg 6	I've stopped reviewing this MOA at this point: Reason is as follows: 1. Too much redundancy in Stipulations that is otherwise addressed in the WHEREAS clauses. 2. Lack of specific details, information, timeframes, etc. within a lot of the Stipulations largely "unenforceable".	Thank you for your review. The Draft MOA has been reviewed numerous times by the consulting parties, including the SHPO. The document and much of its language follows SHPO and ACHP guidance points on the development of Agreement documents. Specific details, information, and timeframes can be found in Stipulations VII.C., X.B., X.C., XI.A, XI.B., XI.D., XI.E, XVI.,XVIII.C., XIX.B., XIX.C., XX.A., XXII, XXIII.

ATTACHMENT D – REVISED DRAFT MOA

From: Carl D'Acosta
Sent on: Tuesday, May 30, 2023 7:24:32 AM
To: Luhnow, Glennda
Subject: [EXTERNAL] RE: UPRR PIRATE Continuing Section 106 Consultation-Revised Draft MOA

Thank you
PMGAA does not have any additional comments. Thank you for the opportunity to review.

Carl D'Acosta

Carl J. D'Acosta, M.S., C.M.
Environmental & Safety Coordinator
Phoenix-Mesa Gateway Airport Authority
5835 S Sossaman Rd
Mesa, AZ 85212-6014
Office: 480-988-7612
cdacosta@gatewayairport.com
www.gatewayairport.com

Phoenix-Mesa Gateway Airport | 2019 Arizona Airport of the Year

Please be advised that our office hours are Monday - Thursday 7 a.m. to 6 p.m. We are closed Fridays.

From: Luhnow, Glennda <Glennda.Luhnow@jacobs.com>
Sent: Friday, May 26, 2023 1:24 PM
To: Tony Bianchi <TBianchi@gatewayairport.com>
Cc: Carl D'Acosta <CD'Acosta@gatewayairport.com>; Tabachnick, Alan <alan.tabachnick@stb.gov>; Assenza, Adam <adam.assenza@stb.gov>; Buckley, Maggie <Maggie.Buckley@jacobs.com>; McNeish, Sabra <Sabra.McNeish@jacobs.com>; Powell, Kris <Kris.Powell@jacobs.com>; Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>
Subject: UPRR PIRATE Continuing Section 106 Consultation-Revised Draft MOA

CAUTION: External mail. Be careful with links and attachments

Dear Mr. Bianchi,

As the Surface Transportation Board's (Board) Office of Environmental Analysis (OEA) stated in previous Section 106 consultation conducted under the National Historic Preservation Act, on June 30, 2022, the Union Pacific Railroad Company (UP) filed a petition with the Board requesting authority to construct and operate approximately six miles of new rail line in Maricopa County, Arizona (the proposed Pecos Industrial Rail Access and Train Extension [PIRATE] rail line).

OEA has circulated three versions of the project's draft Memorandum of Agreement (MOA). The most recent version was circulated on March 10, 2023. Substantive comments were received from the Arizona State Historic Preservation Office (SHPO). Comments were also received from the United States Army Corps of Engineers (Corps). The attached Section 106 consultation letter and comment resolution matrix provides more detail on the scope of the comments submitted by SHPO and the Corps. The resolution of these comments is presented in the attached Revised Draft MOA.

OEA appreciates your thorough review of the attached Revised Draft MOA. A blank Comment Form is also attached for your use as you review the document. Please provide us with any last comments by June 25, 2023. We look forward to any additional input you wish to provide and hope to circulate a final version of the MOA in the near future.

Please feel free to contact Alan Tabachnick, OEA's Federal Preservation Officer, at Alan.Tabachnick@stb.gov with any questions about the Section 106 process or the Revised Draft MOA. And thanks again for all of your input on this project – we appreciate it.

Regards,
Glennda Luhnow

Glennda Luhnow, M.A., RPA | **JACOBS** | **Manager/Archaeology and Cultural Resources** |
C: 480-510-0830 | glennda.luhnow@jacobs.com
1501 West Fountainhead Parkway, Suite 401 | Tempe, Arizona 85282 | USA

NOTICE - This communication may contain confidential and privileged information that is for the sole use of the intended recipient. Any viewing, copying or distribution of, or reliance on this message by unintended recipients is strictly prohibited. If you have received this message in error, please notify us immediately by replying to the message and deleting it from your computer.

From: Eiselt, Sunday
Sent on: Monday, June 5, 2023 3:39:30 PM
To: Luhnow, Glennda; Bohnee, Gary
CC: Anton, Shane; Garcia-Lewis, Angela; Martinez, Martha; Tabachnick, Alan; Assenza, Adam; Buckley, Maggie; Powell, Kris; Phoebus, Elizabeth (Betsi); McNeish, Sabra; Larry Benallie Jr
Subject: [EXTERNAL] RE: UPRR PIRATE Continuing Section 106 Consultation-Revised Draft MOA
Attachments: SRPMIC THPO Response STB Pirate Revised MOA3.pdf (186.89 KB)

Dear Glennda

Attached is a signed concurrence memo for:

Docket No. FD 36501, Union Pacific Railroad Company – Construction and Operation Exemption – in Maricopa County, AZ, Continuation of National Historic Preservation Act Section 106 Consultation on Revised Draft MOA, and Continued Project Finding of Adverse Effect

The SRP-MIC THPO has reviewed the third draft of the MOA. The SRP-MIC THPO concurs with the finding of "adverse effect" and agrees with the revisions to the MOA.

1. Current ACHP guidance indicates that the project construction can also have direct auditory, visual, and vibrational effects. The APE has been revised to reflect this new terminology.

2. Upon further communication between OEA and the Corps, the Corps has agreed to be a Concurring Party to the MOA. The MOA has been updated accordingly.

3. A more robust discussion of TCPs has been added to the MOA as requested.

4. An addendum survey was conducted in April 2023. No additional historic properties were identified by the survey. Two small segments of the project buffer have not been surveyed, will never be acquired by UP, and do not include any project ground disturbance. A copy of the addendum survey report was circulated to the Consulting Parties for review and comment on May 19, 2023. The MOA has been modified to remove the discussion of unsurveyed portions of the project.

The SRP-MIC THPO will continue to participate in this undertaking. The SRP-MIC THPO defers to the Gila River Indian Community THPO as lead in the consultation process for this project.

Let us know if you have any questions.

B. Sunday Eiselt Ph.D
THPO Archaeologist
Salt River Pima-Maricopa Indian Community
10,005 E. Osborn Road
Scottsdale, AZ 85256
Sunday.Eiselt@srpmic-nsn.gov
Office: (480) 362 3347

From: Luhnow, Glennda <Glennda.Luhnow@jacobs.com>
Sent: Friday, May 26, 2023 12:39 PM
To: Bohnee, Gary <Gary.Bohnee@SRPMIC-nsn.gov>
Cc: Anton, Shane <Shane.Anton@SRPMIC-nsn.gov>; Garcia-Lewis, Angela <Angela.Garcia-Lewis@SRPMIC-nsn.gov>; Martinez, Martha <Martha.Martinez@SRPMIC-nsn.gov>; Eiselt, Sunday <Sunday.Eiselt@srpmic-nsn.gov>; Tabachnick, Alan <alan.tabachnick@stb.gov>; Assenza, Adam <adam.assenza@stb.gov>; Buckley, Maggie <Maggie.Buckley@jacobs.com>; Powell, Kris <Kris.Powell@jacobs.com>; Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>; McNeish, Sabra <Sabra.McNeish@jacobs.com>
Subject: UPRR PIRATE Continuing Section 106 Consultation-Revised Draft MOA

ATTENTION: This email came from an external source. Do not open attachments or click on links from unknown senders or unexpected emails.

Dear President Harvier,

As the Surface Transportation Board's (Board) Office of Environmental Analysis (OEA) stated in previous Section 106 consultation conducted under the National Historic Preservation Act, on June 30, 2022, the Union Pacific Railroad Company (UP) filed a petition with the Board requesting authority to construct and operate approximately six miles of new rail line in Maricopa County, Arizona (the proposed Pecos Industrial Rail Access and Train Extension [PIRATE] rail line).

OEA has circulated three versions of the project's draft Memorandum of Agreement (MOA). The most recent version was circulated on March 10, 2023. Substantive comments were received from the Arizona State Historic Preservation Office (SHPO). Comments were also received from the United States Army Corps of Engineers (Corps). The attached Section 106 consultation letter and comment resolution matrix provides more detail on the scope of the comments submitted by SHPO and the Corps. The resolution of these comments is presented in the attached Revised Draft MOA.

OEA appreciates your thorough review of the attached Revised Draft MOA. A blank Comment Form is also attached for your use as you review the document. Please provide us with any last comments by June 25, 2023. We look forward to any additional input you wish to provide and hope to circulate a final version of the MOA in the near future.

Please feel free to contact Alan Tabachnick, OEA's Federal Preservation Officer, at Alan.Tabachnick@stb.gov with any questions about the Section 106 process or the Revised Draft MOA. And thanks again for all of your input on this project – we appreciate it.

Regards,
Glennda Luhnow

Glennda Luhnow, M.A., RPA | **JACOBS** | **Manager/Archaeology and Cultural Resources** |
C: 480-510-0830 | glennda.luhnow@jacobs.com
1501 West Fountainhead Parkway, Suite 401 | Tempe, Arizona 85282 | USA

NOTICE - This communication may contain confidential and privileged information that is for the sole use of the intended recipient. Any viewing, copying or distribution of, or reliance on this message by unintended recipients is strictly prohibited. If you have received this message in error, please notify us immediately by replying to the message and deleting it from your computer.

Salt River
PIMA-MARICOPA INDIAN COMMUNITY
10,005 EAST OSBORN ROAD/SCOTTSDALE, ARIZONA 85256/ PHONE (480) 362-6325

Tribal Historic Preservation Office

TO: Danielle Gosselin
Director, Office of Environmental Analysis
Surface Transportation Board
395 E Street SW
Washington DC 20423

DATE: 6/5/2023

FROM: Shane Anton, Tribal Historic Preservation Officer

RE: Docket No. FD 36501, Union Pacific Railroad Company – Construction and Operation Exemption – in Maricopa County, AZ, Continuation of National Historic Preservation Act Section 106 Consultation on Revised Draft MOA, and Continued Project Finding of Adverse Effect

Dear Director Gosselin

The Salt River Pima-Maricopa Indian Community (SRP-MIC) Tribal Historic Preservation Office (THPO) has received your consultation documents dated May 26, 2023. On June 30, 2022, the Union Pacific Railroad Company (UP) filed a petition with the Surface Transportation Board (Board) pursuant to 49 U.S.C. § 10502 requesting authority to construct and operate approximately 6.0 miles of new rail line in Maricopa County, Arizona (the Pecos Industrial Rail Access and Train Extension [PIRATE] project).

The Board's Office of Environmental Analysis (OEA) initiated consultation pursuant to Section 106 of the National Historic Preservation Act on April 6, 2022. OEA continued Section 106 consultation through the fall of 2022 addressing the project Area of Potential Effects (APE), the Class III survey report, unsurveyed areas in the APE, National Register of Historic Places (NRHP) eligibility determinations, and treatment recommendations. Beginning in January and continuing through the spring of 2023, OEA completed a series of consultation letters and virtual meetings for developing a Memorandum of Agreement (MOA) to address the project finding of "adverse effect."

On March 10, 2023, OEA sent the consulting parties a consultation letter detailing two revisions [revising Stipulation X(C) and addition of a new Stipulation XI – Authorization of Construction in Non-Site Areas] to the MOA. The State Historic Preservation Office (SHPO) reviewed the third draft of the MOA in anticipation of signing the agreement and requested several revisions to the

MOA. These revisions addressed terminology over indirect and direct effects, the participation of the United States Army Corps of Engineers (USACE) as a Consulting Party, a more robust discussion of Traditional Cultural Properties (TCPs) throughout the MOA, and the status of unsurveyed portions of the APE.

The SRP-MIC THPO has reviewed the third draft of the MOA. The SRP-MIC THPO concurs with the finding of "adverse effect" and agrees with the revisions to the MOA.

1. Current ACHP guidance indicates that the project construction can also have direct auditory, visual, and vibrational effects. The APE has been revised to reflect this new terminology.
2. Upon further communication between OEA and the Corps, the Corps has agreed to be a Concurring Party to the MOA. The MOA has been updated accordingly.
3. A more robust discussion of TCPs has been added to the MOA as requested.
4. An addendum survey was conducted in April 2023. No additional historic properties were identified by the survey. Two small segments of the project buffer have not been surveyed, will never be acquired by UP, and do not include any project ground disturbance. A copy of the addendum survey report was circulated to the Consulting Parties for review and comment on May 19, 2023. The MOA has been modified to remove the discussion of unsurveyed portions of the project.

The proposed project area is within the ancestral lands of the Four Southern Tribes (Gila River Indian Community; Salt River Pima-Maricopa Indian Community; *Ak-Chin* Indian Community and the *Tohono O'Odham* Nation). The SRP-MIC THPO will continue to participate in this undertaking. The SRP-MIC THPO defers to the Gila River Indian Community THPO as lead in the consultation process for this project.

Thank you for consulting with the SRP-MIC THPO. Should you have questions and/or concerns about this project, please contact me directly at (480) 362-6331.

Sincerely,



Shane Anton, Tribal Historic Preservation Officer
Cultural Resources Department, SRPMIC
10,005 E. Osborn Rd., Scottsdale, Arizona 85256
Email: Shane.Anton@SRPMIC-nsn.gov
Office Tele: (480) 362-6331

From: Ryan, Alexandra R (Alex) CIV USARMY CESPL (USA)
Sent on: Monday, June 12, 2023 8:21:33 AM
To: Luhnow, Glennda
CC: Tabachnick, Alan; Assenza, Adam; Buckley, Maggie; McNeish, Sabra; Powell, Kris
Subject: [EXTERNAL] RE: UPRR PIRATE Continuing Section 106 Consultation-Revised Draft MOA

Good morning,

Thank you for your review and consideration of the Corps' comments. One additional comment:

- On page 2, line 73, please revise the phrase "dredge or fill" to read "dredged or fill material" as this is the language used in our regulations.

Additionally, there is no need to continue to send/copy emails to splregulatoryaz@usace.army.mil. This inbox is typically used for submissions where a Project Manager has not yet been assigned. All future correspondence may be sent directly to me.

Thank you,
Alex

Alexandra Ryan
Project Manager
Regulatory Division, Arizona Branch
Los Angeles District, U.S. Army Corps of Engineers

Office: 602-230-6954
Mobile: 602-284-2642

Please do not mail hard copy documents to any Regulatory staff or office. For further details on corresponding with us, please view our special public notice at:
https://www.spl.usace.army.mil/Portals/17/docs/publicnotices/COVID19%20Regulatory_SPN.pdf?ver=2020-03-19-134532-833

From: Luhnow, Glennda <Glennda.Luhnow@jacobs.com>
Sent: Friday, May 26, 2023 1:33 PM
To: Regulatory, SPL AZ <splregulatoryaz@usace.army.mil>
Cc: Ryan, Alexandra R (Alex) CIV USARMY CESPL (USA) <Alexandra.Ryan@usace.army.mil>; Tabachnick, Alan <alan.tabachnick@stb.gov>; Assenza, Adam <adam.assenza@stb.gov>; Buckley, Maggie <Maggie.Buckley@jacobs.com>; McNeish, Sabra <Sabra.McNeish@jacobs.com>; Powell, Kris <Kris.Powell@jacobs.com>
Subject: [Non-DoD Source] UPRR PIRATE Continuing Section 106 Consultation-Revised Draft MOA

Dear Ms. Diebolt,

As the Surface Transportation Board's (Board) Office of Environmental Analysis (OEA) stated in previous Section 106 consultation conducted under the National Historic Preservation Act, on June 30, 2022, the Union Pacific Railroad Company (UP) filed a petition with the Board requesting authority to construct and operate approximately six miles of new rail line in Maricopa County, Arizona (the proposed Pecos Industrial Rail Access and Train Extension [PIRATE] rail line).

OEA has circulated three versions of the project's draft Memorandum of Agreement (MOA). The most recent version was circulated on March 10, 2023. Substantive comments were received from the Arizona State Historic Preservation Office (SHPO). Comments were also received from the United States Army Corps of Engineers (Corps). The attached Section 106 consultation letter and comment resolution matrix provides more detail on the scope of the comments submitted by SHPO and the Corps. The resolution of these comments is presented in the attached Revised Draft MOA.

OEA appreciates your thorough review of the attached Revised Draft MOA. A blank Comment Form is also attached for your use as you review the document. Please provide us with any last comments by June 25, 2023. We look forward to any additional input you wish to provide and hope to circulate a final version of the MOA in the near future.

Please feel free to contact Alan Tabachnick, OEA's Federal Preservation Officer, at Alan.Tabachnick@stb.gov with any questions about the Section 106 process or the Revised Draft MOA. And thanks again for all of your input on this project – we appreciate it.

Regards,
Glennda Luhnow

Glennda Luhnow, M.A., RPA | **JACOBS** | **Manager/Archaeology and Cultural Resources** |
C: 480-510-0830 | glennda.luhnow@jacobs.com
1501 West Fountainhead Parkway, Suite 401 | Tempe, Arizona 85282 | USA

NOTICE - This communication may contain confidential and privileged information that is for the sole use of the intended recipient. Any viewing, copying or distribution of, or reliance on this message by unintended recipients is strictly prohibited. If you have received this message in error, please notify us immediately by replying to the message and deleting it from your computer.

From: Mary Kopaskie-Brown
Sent on: Monday, June 26, 2023 8:02:23 AM
To: Luhnow, Glennda
CC: William Jabjiniak; Alison Stoltman; Maura Jackson; Michelle Dahlke; Tabachnick, Alan; Assenza, Adam; Buckley, Maggie; McNeish, Sabra; Powell, Kris
Subject: [EXTERNAL] RE: UPRR PIRATE Continuing Section 106 Consultation-Revised Draft MOA
Attachments: 2023-06 MOA - PIRATE - City of Mesa.pdf (138.8 KB)

Good morning Glennda

Please find attached.

Please let us know if you have questions.

Thank you!

Mary Kopaskie-Brown, AICP, OPPI, CIP
Planning Director
City of Mesa
480-644-3850
mary.kopaskie-brown@mesaaz.gov
M-Th (7am to 6pm) – Closed Holidays and Fridays

mesa·az

From: Luhnow, Glennda <Glennda.Luhnow@jacobs.com>
Sent: Friday, May 26, 2023 1:22 PM
To: Mary Kopaskie-Brown <Mary.Kopaskie-Brown@mesaaz.gov>
Cc: Maura Jackson <Maura.Jackson@MesaAZ.gov>; Michelle Dahlke <Michelle.Dahlke@mesaaz.gov>; Tabachnick, Alan <alan.tabachnick@stb.gov>; Assenza, Adam <adam.assenza@stb.gov>; Buckley, Maggie <Maggie.Buckley@jacobs.com>; McNeish, Sabra <Sabra.McNeish@jacobs.com>; Powell, Kris <Kris.Powell@jacobs.com>
Subject: UPRR PIRATE Continuing Section 106 Consultation-Revised Draft MOA

Dear Ms. Kopaskie-Brown,

As the Surface Transportation Board's (Board) Office of Environmental Analysis (OEA) stated in previous Section 106 consultation conducted under the National Historic Preservation Act, on June 30, 2022, the Union Pacific Railroad Company (UP) filed a petition with the Board requesting authority to construct and operate approximately six miles of new rail line in Maricopa County, Arizona (the proposed Pecos Industrial Rail Access and Train Extension [PIRATE] rail line).

OEA has circulated three versions of the project's draft Memorandum of Agreement (MOA). The most recent version was circulated on March 10, 2023. Substantive comments were received from the Arizona State Historic Preservation Office (SHPO). Comments were also received from the United States Army Corps of Engineers (Corps). The attached Section 106 consultation letter and comment resolution matrix provides more detail on the scope of the comments submitted by SHPO and the Corps. The resolution of these comments is presented in the attached Revised Draft MOA.

OEA appreciates your thorough review of the attached Revised Draft MOA. A blank Comment Form is also attached for your use as you review the document. Please provide us with any last comments by June 25, 2023. We look forward to any additional input you wish to provide and hope to circulate a final version of the MOA in the near future.

Please feel free to contact Alan Tabachnick, OEA's Federal Preservation Officer, at Alan.Tabachnick@stb.gov with any questions about the Section 106 process or the Revised Draft MOA. And thanks again for all of your input on this project – we appreciate it.

Regards,

Glennda Luhnow

Glennda Luhnow, M.A., RPA | **JACOBS** | **Manager/Archaeology and Cultural Resources** |
C: 480-510-0830 | glennda.luhnow@jacobs.com
1501 West Fountainhead Parkway, Suite 401 | Tempe, Arizona 85282 | USA

NOTICE - This communication may contain confidential and privileged information that is for the sole use of the intended recipient. Any viewing, copying or distribution of, or reliance on this message by unintended recipients is strictly prohibited. If you have received this message in error, please notify us immediately by replying to the message and deleting it from your computer.

mesa·az
HISTORIC PRESERVATION OFFICE

June 13, 2023

Ms. Danielle Gosselin
Director, Office of Environmental Analysis
Surface Transportation Board
Washington, DC 20423

Re: Docket No. FD 36501, Union Pacific Railroad Company – Construction and Operation Exemption – in Maricopa County, AZ. Continuation of National Historic Preservation Act Section 106 Consultation on Revised Draft Memorandum of Agreement, and Continued Project Finding of Adverse Effect

Dear Ms. Gosselin:

Further to your request of May 26, 2023, we are pleased to provide you with our response to the request for Section 106 consultation input on the proposed Pecos Industrial Rail Access and Train Extension (PIRATE) Project Revised Draft Memorandum of Agreement (MOA).

Pursuant to 36 CFR 800 §106 of the National Historic Preservation Act, the Mesa Historic Preservation Office has reviewed the project in consultation with the City of Mesa Archaeologist. We find the revisions to be appropriate and have no additional comments on the MOA.

Thank you for the opportunity to review and provide input on this important project.

Sincerely,

Mary Kopaskie-Brown
Historic Preservation Officer
mary.kopaskie-brown@mesaaz.gov
(480) 644-3850

Alison Stoltman
Acting Deputy Director/City Archaeologist
Arizona Museum of Natural History
alison.stoltman@mesaaz.gov
(480) 644-4040

cc: Bill Jabjiniak, Economic Development Department Director
Mary Kopaskie-Brown, Planning Director/Historic Preservation Officer
Michelle Dahlke, Principal Planner
Robert Apodaca, Deputy Director, Development Services Department – Civil Plan Review
Glennda Luhnow, M.A., RPA - Manager/Archaeology and Cultural Resources, Jacobs

From: Heather Wilkey
Sent on: Friday, June 16, 2023 10:19:48 AM
To: Luhnow, Glennda
CC: Powell, Kris; dave.lipinski@queencreekaz.gov; Assenza, Adam; Tabachnick, Alan; Buckley, Maggie; McNeish, Sabra; Phoebus, Elizabeth (Betsi); Rainey, Pamela
Subject: Re: [EXTERNAL] Re: UPPR Pirate - Addendum Survey Report

Glennda,

Thank you, the Town of Queen Creek has no comments on the MOA or the addendum at this time.

Heather Wilkey
Intergovernmental Relations Director
t: (480) 358--3913
e: heather.wilkey@queencreekaz.gov
22358 S Ellsworth Road, Queen Creek, AZ 85142
Office hours: Monday – Thursday, 7 a.m. – 6 p.m., closed on Fridays



TOWN OF
QUEEN CREEK
ARIZONA

Emails generated by council members, members of Town commissions and committees and by staff and that pertain to Town business are public records. These emails are preserved as required by law and generally are available for public inspection. Email correspondence is regularly reviewed by members of the public, media outlets and reporters. To ensure compliance with the Open Meeting Law, members of the Town Council, Commissions and Committees should not forward or copy e-mail correspondence to other members of the Council, boards or commissions and should not use reply all when responding to this message. Any questions should be directed to the Town Attorney: (602) 285-5000.

On Jun 7, 2023, at 6:21 AM, Luhnow, Glennda <Glennda.Luhnow@jacobs.com> wrote:

Dear Heather,

Good morning. The MOA and the addendum report are two different documents. We are seeking concurrence on both documents.

- If you have comments on the MOA, please provide those by email or formal letter. Once any comments are received on the MOA following this round of Section 106 consultation, they will be addressed and a Final MOA will be circulated for signature.
- If you have comments on the addendum report, please provide those by email or formal letter. If you don't have comments, you can indicate your concurrence on the report by email or formal letter.

Please don't hesitate to call Alan or myself if you have other questions.

Have a great day,
Glennda

Glennda Luhnow, M.A., RPA | **JACOBS** | **Manager/Archaeology and Cultural Resources** |
C: 480-510-0830 | glennda.luhnow@jacobs.com
1501 West Fountainhead Parkway, Suite 401 | Tempe, Arizona 85282 | USA

From: Heather Wilkey <heather.wilkey@queencreekaz.gov>
Sent: Tuesday, June 6, 2023 5:42 PM
To: Luhnow, Glennda <Glennda.Luhnow@jacobs.com>

Cc: Powell, Kris <Kris.Powell@jacobs.com>; dave.lipinski@queencreekaz.gov; Assenza, Adam <adam.assenza@stb.gov>; Tabachnick, Alan <alan.tabachnick@stb.gov>; Buckley, Maggie <Maggie.Buckley@jacobs.com>; McNeish, Sabra <Sabra.McNeish@jacobs.com>; Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>; Rainey, Pamela <Pamela.Rainey@jacobs.com>
Subject: Re: [EXTERNAL] Re: UPPR Pirate - Addendum Survey Report

Thank you for the clarification Glennda. Will you be requesting a final concurrence via the MOU at a future date?

Heather Wilkey
Intergovernmental Relations Director
t: (480) 358--3913
e: heather.wilkey@queencreekaz.gov
22358 S Ellsworth Road, Queen Creek, AZ 85142
Office hours: Monday – Thursday, 7 a.m. – 6 p.m., closed on Fridays

TOWN OF QUEEN CREEK ARIZONA

Emails generated by council members, members of Town commissions and committees and by staff and that pertain to Town business are public records. These emails are preserved as required by law and generally are available for public inspection. Email correspondence is regularly reviewed by members of the public, media outlets and reporters. To ensure compliance with the Open Meeting Law, members of the Town Council, Commissions and Committees should not forward or copy e-mail correspondence to other members of the Council, boards or commissions and should not use reply all when responding to this message. Any questions should be directed to the Town Attorney: (602) 285-5000.

On Tue, Jun 6, 2023 at 5:33 PM Luhnow, Glennda <Glennda.Luhnow@jacobs.com> wrote:

> Dear Heather,
>
> Good afternoon. My apologies for any confusion between the email and Section 106 letter.
>
> The intent of the letter and cover email is to request review of the addendum survey report, and to provide any comments you may have on the document. If you have comments on the document, please provide them via email or formal letter so they can be addressed in a revised report.
>
> If you do not have any comments, and concur with the content and adequacy of the addendum survey report, please indicate by email correspondence or formal letter.
>
> We appreciate your review. Thank you very much for your response and have a great rest of your evening.
>
> Regards,
> Glennda
>
> **Glennda Luhnow, M.A., RPA** | **JACOBS** | **Manager/Archaeology and Cultural Resources** |
> C: 480-510-0830 | glennda.luhnow@jacobs.com
> 1501 West Fountainhead Parkway, Suite 401 | Tempe, Arizona 85282 | USA
>
> ---
>
> **From:** Heather Wilkey <heather.wilkey@queencreekaz.gov>
> **Sent:** Tuesday, June 6, 2023 4:52 PM
> **To:** Powell, Kris <Kris.Powell@jacobs.com>
> **Cc:** dave.lipinski@queencreekaz.gov; Assenza, Adam <adam.assenza@stb.gov>; Tabachnick, Alan <alan.tabachnick@stb.gov>; Buckley, Maggie <Maggie.Buckley@jacobs.com>; McNeish, Sabra <Sabra.McNeish@jacobs.com>; Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>; Luhnow, Glennda <Glennda.Luhnow@jacobs.com>; Rainey, Pamela <Pamela.Rainey@jacobs.com>
> **Subject:** [EXTERNAL] Re: UPPR Pirate - Addendum Survey Report
>
> Kris,

With this communication, could you please advise if you are seeking the Town of Queen Creek's sign off on the attached documentation or just whether or not we have any comments by your 06/19 deadline? In a previous section 106 we were involved in, the Town did not provide concurrence until the final documentation was issued- so I just wanted to ensure we were clear on the ask contained here, since "concurrence" is referenced below in the e-mail but "comments" are referenced in the attached pdf letter.

Thank you,

Heather Wilkey
Intergovernmental Relations Director
t: (480) 358--3913
e: heather.wilkey@queencreekaz.gov
22358 S Ellsworth Road, Queen Creek, AZ 85142
Office hours: Monday – Thursday, 7 a.m. – 6 p.m., closed on Fridays



TOWN OF
QUEEN CREEK
ARIZONA

Emails generated by council members, members of Town commissions and committees and by staff and that pertain to Town business are public records. These emails are preserved as required by law and generally are available for public inspection. Email correspondence is regularly reviewed by members of the public, media outlets and reporters. To ensure compliance with the Open Meeting Law, members of the Town Council, Commissions and Committees should not forward or copy e-mail correspondence to other members of the Council, boards or commissions and should not use reply all when responding to this message. Any questions should be directed to the Town Attorney: (602) 285-5000.

On Fri, May 19, 2023 at 11:03 AM Powell, Kris <Kris.Powell@jacobs.com> wrote:

> Good Morning Ms. Wilkey:
>
> As the Surface Transportation Board's (Board) Office of Environmental Analysis (OEA) stated in previous Section 106 consultation conducted under the National Historic Preservation Act, on June 30, 2022, the Union Pacific Railroad Company (UP) filed a petition with the Board requesting authority to construct and operate approximately six miles of new rail line in Maricopa County, Arizona (the proposed Pecos Industrial Rail Access and Train Extension [PIRATE] rail line).
>
> A Class III survey of the area of potential effects (APE) was previously conducted in May/June 2022 (Rainey and Stubing 2022). At the time of that survey, two discontinuous areas totaling 15.39 acres in the project APE and APE buffer could not be investigated due to access issues and poor ground visibility. A total of 4.91 acres of these areas are within the APE buffer and will not be acquired by UP or be subject to project ground disturbance. UP has committed to avoidance of these locations (UP Letter to OEA, May 17, 2023, attached).
>
> The remaining 10.48 acres in the APE and buffer have now been subject to Class III survey. The results of the survey are presented in a Class III addendum report entitled "*A Class III Addendum Cultural Resources Survey for the Union Pacific Railroad Company Pecos Industrial Rail Access and Train Extension (PIRATE) Project, Mesa and Queen Creek, Maricopa County, Arizona"* (Powell 2023).
>
> The Class III addendum survey report has been transmitted to you via File Transfer on behalf of OEA by Jacobs Engineering Group Inc, OEA's third-party contractor. The File Transfer document will be available for 15 days and will expire on June 3, 2023. If you are not able to access the document, or the link expires, please contact Glennda Luhnow, Jacobs' cultural resources manager, at Glennda.Luhnow@jacobs.com. A hard copy of the report can be furnished to you at your request.
>
> With the attached letter, OEA is continuing Section 106 consultation with your office and requesting concurrence on the adequacy of the Class III addendum survey report and agreement that the 4.91 acres in the APE and buffer do not require any further cultural resources work. OEA requests your response to this letter by June 19, 2023. Please address any questions electronically to Alan Tabachnick, OEA's Federal Preservation Officer, at Alan.Tabachnick@stb.gov.
>
> Thank you.

Kris Powell, M.A., RPA (she/her) | **JACOBS** | **Senior Archaeologist**
C: 602-463-5843 | kris.powell@jacobs.com
1501 West Fountainhead Parkway, Suite 401 | Tempe, Arizona 85282 | USA

PTO May 12, 2023 and June 19 thru June 26, 2023

NOTICE - This communication may contain confidential and privileged information that is for the sole use of the intended recipient. Any viewing, copying or distribution of, or reliance on this message by unintended recipients is strictly prohibited. If you have received this message in error, please notify us immediately by replying to the message and deleting it from your computer.

NOTICE - This communication may contain confidential and privileged information that is for the sole use of the intended recipient. Any viewing, copying or distribution of, or reliance on this message by unintended recipients is strictly prohibited. If you have received this message in error, please notify us immediately by replying to the message and deleting it from your computer.

NOTICE - This communication may contain confidential and privileged information that is for the sole use of the intended recipient. Any viewing, copying or distribution of, or reliance on this message by unintended recipients is strictly prohibited. If you have received this message in error, please notify us immediately by replying to the message and deleting it from your computer.

Powell, Kris

From: Luhnow, Glennda
Sent: Monday, June 26, 2023 10:28 AM
To: Tabachnick, Alan
Cc: Assenza, Adam; Buckley, Maggie; Powell, Kris; Phoebus, Elizabeth (Betsi)
Subject: Summary of SHPO Comments on UPRR PIRATE MOA
Attachments: UPRR PIRATE Draft MOA Comment Form SHPO.docx; SHPO_First Revised Draft MOA Comments_03032023.pdf; Informal SHPO Comments on Third Revised Draft MOA_Pre Distribution.docx; UPRR PIRATE Second Revised Draft MOA Combined Comment Matrix.docx

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Alan,

I have gone through the communications and have compiled the following summary of SHPO review comments:

- 11/3/2022: MOA Initiation meeting. SHPO had questions about the historic orchards and noted that they are short-staffed. SHPO discussed the revision to Guidance Point 12, and indicated they would provide new and improved guidance.
- 12/8/2022: Draft MOA circulated to all CPs for review, SHPO provided comments (see attached).
- 1/28/2023: Draft MOA Comment Resolution meeting. SHPO requested acreage to be added to the APE description, requested that concurring parties and signatories be reviewed, and requested a historic context study.
- 2/8/2023: First Revised Draft MOA circulated to all CPs for review, SHPO provided comments (see attached).
- 3/23/2023: Second Revised Draft MOA circulated to all CPs for review. SHPO provided comments (see attached).
- 4/4/2023: Meet with SHPO to discuss comments on Second Revised Draft MOA. Receipt of full comments. Substantive comments about TCP identification and evaluation.
- 4/20/2023: Meet with SHPO to discuss comments on Second Revised Draft MOA
- 4/23/2023: SHPO receives Third Revised Draft in tracked changes for informal review.
- 5/5/2023: SHPO offers comments on the Third Revised Draft in tracked changes (see attached). Substantive comments about the APE.
- 5/26/2023: Third Revised Draft MOA circulated to all CPs for review.
- 6/23/2023: In status email, SHPO indicates that they have organization and redundancy issues with the Third Revised Draft MOA.

I am attaching the comments from SHPO. I believe Kris also had some informal conversations with SHPO in late October, prior to the MOA initiation meeting.

They did offer some comments about redundancy and combining recital clauses early on. These were addressed.

Thanks,
g

Glennda Luhnow, M.A., RPA | **JACOBS** | **Manager/Archaeology and Cultural Resources** |

C: 480-510-0830 | glennda.luhnow@jacobs.com
1501 West Fountainhead Parkway, Suite 401 | Tempe, Arizona 85282 | USA

STB Docket Number FD 36501

Union Pacific Railroad Company – Construction and Operation Exemption – In Maricopa County, Ariz.

Section 106 Consulting Parties Review: Revised Draft Memorandum of Agreement (MOA)
Please return to Office of Environmental Analysis (OEA): OEA by June 25, 2023

Tribe or Agency: SHPO

SHPO Project No.: SHPO-2021-1360

Contact Person: Caroline Klebacha

#	Section	Line(s)	Comment
1	General	n/a	SHPO previously stated that our guidance document was out of date almost as soon as we put it up and that we work internally with a document that has notes from ACHP trainings and comments on other PAs – it is continuously updated. The organizational and other changes we originally requested reflect that. Specifically, the templates include stips for PAs when APE is not well-defined and effects of undertaking not known – as this has been determined, the redundancies should be removed. And yes, I still think it was a very good first draft! As more information was added, it became a little clumsy/awkward.
2	General	n/a	To clarify on your response to SHPO comments regarding signatory status, only those entities with S106 responsibilities are signatories and invited signatories pursuant 36 CFR 800.
3	Recital	17-18	Revise to state that federal agencies (list them) consulting on the undertaking agree that the Board is the lead federal agency for the Undertaking
4		24, 29-32 33	Recent discussion with ACHP suggests changing physical APE back to direct APE is appropriate (line 24). We also recommend revising for clarity line 29 beginning with "The physical APE…" to "The APE encompasses all areas of ground-disturbing activity that may result in physical, auditory, visual and/or vibrational effects to historic properties;" and note that Line 33 states the APE is described in Attachment A; only a map is necessary so revise to "…as depicted in Attachment A;" and
5		49-51 52-53	We recommend combining these two recitals and inserting it after current line 37 to keep the discussion about the APE together. Suggested language: **WHEREAS,** a total of 4.91 acres in the APE is private land and it will not be acquired or accessed. The land will be avoided for any current or future activities relating to the current Undertaking (see Attachment B), and this area was not surveyed for cultural resources; and

#	Section	Line(s)	Comment
6		42-44	Remove this recital – 4.91 acres are addressed separately and the rest is covered in the addendum survey.
7		38-41 45-48	We recommend combining these 2 recitals and moving it to after APE is defined: **WHEREAS**, the APE (with the exception of the 4.91 acres of private land) has been surveyed to identify historic properties as reported in *A Class III Cultural Resources Survey for the Union Pacific Railroad Company Pecos Industrial Rail Access and Train Extension (PIRATE) Project, Mesa and Queen Creek, Maricopa County, Arizona* (Rainey and Stubing 2022) and *A Class III Addendum Cultural Resources Survey for the Union Pacific Railroad Company Pecos Industrial Rail Access and Train Extension (PIRATE) Project, Mesa and Queen Creek, Maricopa County, Arizona* (Powell 2023), which OEA provided to the Consulting Parties for review and comment; and
8		34-37	We recommend revising this recital as follows: **WHEREAS**, the two surveys identified four archaeological sites (AZ U:10:2[ASM], AZ U:10:69[ASM], AZ U:10:152[ASM], and AZ U:10:275[ASM]), and one historic in-use structure (the Mesa to Winkelman Spur of the Southern Pacific Railroad), determined by OAE to be eligible for inclusion in the National Register of Historic Places (NRHP), with SHPO concurrence (December 20, 2022); and
9		54-58 59-63	We recommend combining recitals as follows; "WHEREAS, OEA has determined…that the Undertaking would have an adverse effect on four historic properties including sites AZ U:10:2(ASM), AZ U:10:69(ASM), AZ U:10:152(ASM) and AZ U:10:275(ASM), and no adverse effect to the character-defining features of the historic railroad spur; and
10		136-145	We recommend moving this up after the recital addressing the criteria of adverse effect. Also revised line 141-145: **Whereas**, the Four Southern Tribes, based on prior ethnographic studies, have identified TCPs that may be effected by the undertaking and OEA has commit to continuing identification and evaluation efforts…." If there is a TCP, the affiliated tribes should be invited signatories (or at least GRIC).
11	Stip I	165-167	You don't need an attachment if you are following 36 CFR 800.16. Also, list of acronyms is more of a NEPA thing and shouldn't be necessary as they are written out first.
12	Stip I	165-167	Since you define "Signatories" here as required or full signatories and invited signatories, you should remove all subsequent reference in the document to Invited Signatories (line 174, 425, 628, 635, 656, 657, 659, 661)

#	Section	Line(s)	Comment
13	Stip III.B	192-194	Preferred SHPO language is: “In recognition of the special expertise tribal experts have concerning properties of traditional religious and/or cultural significance, the standards of 36 CFR § 61 will not apply to tribally designated representatives carrying out identification and evaluation efforts for such properties of tribal interest.”
14	Stip V.A.	225	Please change “impacts” to “effects”
15	Stip V.B.	227	Please change “impacts” to “effects”
16	Stip V.B	228-230	Statement that GRIC is taking the lead should be in the recitals and does not need to be repeated here.
17	Stip VI	260-274	This stipulation should only address potential changes/modifications to the APE – all else is redundant and should be removed.
18	Stip VI.B	275-279	This is not how indirect APE should be defined; please remove it in its entirety (if you have to keep this section at all).
19	Stip. VII	285-300, 301	We recommend changing the title to “Construction Variance and Review Process” and removing A and B, as they are redundant with information presented in recitals. We recommend the following language:

#	Section	Line(s)	Comment
20	Stip. VII.C	301	All construction needs cannot be anticipated in advance, and areas required for additional work space (e.g., access roads, ancillary facilities, reroutes, etc.) may be identified at any time following the acceptance of the Inventory Report(s) by the consulting parties. If any newly identified construction needs would result in ground disturbing activities outside of the surveyed areas identified in the Inventory Report, UP will request a variance review from the OEA, after having the variance APE surveyed for cultural resources by a qualified professional. **A.** If no cultural resources or properties of cultural or religious significance to Tribes are present within the variance APE, the results of the Class I and Class III inventories will be reported on the SHPO Survey Report Summary Form (SRSF) prior to any variance issuance or use for project-related activities. The OEA will provide an expedited review of the variance request, not to exceed five (5) working days following receipt, and will provide UP with written recommendations regarding the variance issuance via electronic mail. **B.** If cultural resources or properties of cultural or religious significance to Tribes are present within the variance APE, the Proponent's archaeologist will prepare a Variance Inventory Report, and submit it via electronic mail to the OEA; the OEA will make DOEs and submit the Variance Inventory Report to the consulting parties for review and comment. The consulting parties will provide an expedited review within five (5) working days or less. If no objections to the DOEs and the proposed variance are received at the end of the 5-day period, the OEA shall provide UP's archaeologist with written approval of the variance via electronic mail. If objections are received, additional consultation regarding the variance will ensue in accordance with the dispute resolution process found in [reference the Dispute Resolution stipulation here].
21	Stip. IX	320	Please remove Stip. A (it's redundant), and change title to "Resolving Adverse Effects"
22	Stip. X	360	Create "C" beginning with "The HPTP shall include the following:" and replace bullets with numbers
23	Stip. X	413	Construction personnel education and safety is generally not part of the HPTP; recommend revising this to read: Discussion of permits, personnel qualifications, coordination and cultural sensitivity training for construction personnel.
24	Stip. XI.E	484	Please add: More time may be requested if revisions are substantive.
25	Stip. XII	501-502	"cultural resource monitor" is elsewhere referred to as "archaeological monitor". Consider changing for consistency.
26	Stip. XV	530-541	We're not sure why Section 304 is invoked here… this Section is about allowing access of the public to the Section 106 process, which should include review of this agreement. This stip should provide more

#	Section	Line(s)	Comment
			specificity on how the agency plans to address the regulatory requirement for public consultation.
27	Stip XVI	550	Re: coordination - What follow up will occur on the part of the agency to provide detail on how the response was handled, whether there were discoveries, and how those discoveries were/will be addressed post emergency?
28	Stip. XVII	558-560	Delete “If artifacts, samples, and records … meeting the standards outlined in 36 C.F.R. 79.”
29	Stip. XVIII	569	This should refer to “additional” historic property surveys and results, if any.
30	Stip. XVIII	571	There is not a stipulation for public education activities in the document
31	Stip. XVIII	578	This annual meeting should not be limited to a virtual meeting.

STB Docket Number FD 36501

Union Pacific Railroad Company – Construction and Operation Exemption – In Maricopa County, Ariz.

Section 106 Consulting Parties Review: Revised Draft Memorandum of Agreement (MOA)
Please return to Office of Environmental Analysis (OEA): OEA by June 25, 2023

Tribe or Agency: Arizona State Museum

Contact Person: Shannon Plummer

#	Section	Line(s)	Comment
1	X.A. (p. 9)	347-349	Change “animal funerary remains” to “funerary objects” to be consistent with the language in state law. After the sentence, it may be added that animal funerary remains shall be treated in the same manner as human remains.
2	X.B. (p. 10)	378-380	Change “animal funerary remains” to “funerary objects” to be consistent with the language in state law. After the sentence, it may be added that animal funerary remains shall be treated in the same manner as human remains.
3	X.B. (p. 10)	384-388	Change “animal funerary remains” to “funerary objects” to be consistent with the language in state law. After the sentence, it may be added that animal funerary remains shall be treated in the same manner as human remains.
4	X.B. (p. 11)	410	Change “funerary belonging” to “funerary object” to be consistent with the language in state law.
5	XIX (P. 16)	595-596	Change “animal funerary remains” to “funerary objects” to be consistent with the language in state law. After the sentence, it may be added that animal funerary remains shall be treated in the same manner as human remains.
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			

#	Section	Line(s)	Comment
17			
18			
19			
20			

SURFACE TRANSPORTATION BOARD
Washington, DC 20423

Office of Environmental Analysis

June 2, 2023

President Martin Harvier
Salt River Pima Maricopa Indian Community
10005 East Osborn Road
Scottsdale, AZ 85256

Re: Docket No. FD 36501, Union Pacific Railroad Company – Construction and Operation Exemption – in Maricopa County, Ariz., Continuation of National Historic Preservation Act Section 106 Consultation and Request for Ongoing Government-to-Government Consultation on Traditional Cultural Places Identification and National Register of Historic Places Evaluation Study and Cultural Landscape Study

Dear President Harvier:

On June 30, 2022, the Union Pacific Railroad Company (UP) filed a petition with the Surface Transportation Board (Board) pursuant to 49 U.S.C. § 10502 requesting authority to construct and operate approximately 6.0 miles of new rail line in Maricopa County, Arizona (the Pecos Industrial Rail Access and Train Extension [PIRATE] project) (see attached map). Before making its decision on whether to grant such authority, the Board must consider the potential environmental and historic impacts of the construction and operation of UP's proposed rail line, pursuant to the National Environmental Policy Act (42 U.S.C. §§ 4321-4370m-12), Section 106 of the National Historic Preservation Act (54 U.S.C. § 306108), the Board's environmental rules at 49 C.F.R. Part 1105, and related environmental laws.

The Board's Office of Environmental Analysis (OEA) initiated consultation pursuant to Section 106 of the National Historic Preservation Act on April 6, 2022, outlined the project and requested concurrence on the project's area of potential effects (APE). OEA continued Section 106 consultation through the Fall of 2022 and requested concurrence on the adequacy of a final Class III survey report, the National Register of Historic Places (NRHP) eligibility determinations for in-use historic structures and archaeological sites, an adverse effect finding, and the future investigation of unsurveyed areas in the APE. Based on OEA's determination of a finding of adverse effect to historic properties, OEA conducted a series of virtual meetings to develop a Memorandum of Agreement (MOA) in 2023.

OEA is currently conducting Government-to-Government consultation to identify any NRHP eligible properties of traditional religious and cultural importance to Native American Tribes in the APE and its vicinity. OEA recognizes that Native American Tribes have traditional ties to the landscape and that Tribes possess special expertise in assessing the eligibility of historic properties that may hold religious and cultural significance to them.

Accordingly, OEA is including Stipulations in the MOA to identify and evaluate specific historic properties or places within the project APE and vicinity that may have special importance to your Tribe. If you have concerns about the project and areas of traditional importance, OEA respectfully requests a Government-to-Government meeting to discuss these concerns so that these areas may be properly and

thoughtfully addressed. Any information you choose to share in Government-to-Government meetings will be protected and treated as confidential based on your directives.

OEA appreciates your consideration and requests your response by July 1, 2023. However, we will continue to follow up with you after that date. We appreciate your continued involvement and input in the environmental and historic review of this project. Please feel free to contact Alan Tabachnick, the Board's Federal Preservation Officer, at Alan.Tabachnick@stb.gov or by phone at 202-934-8469 with any questions.

Sincerely,



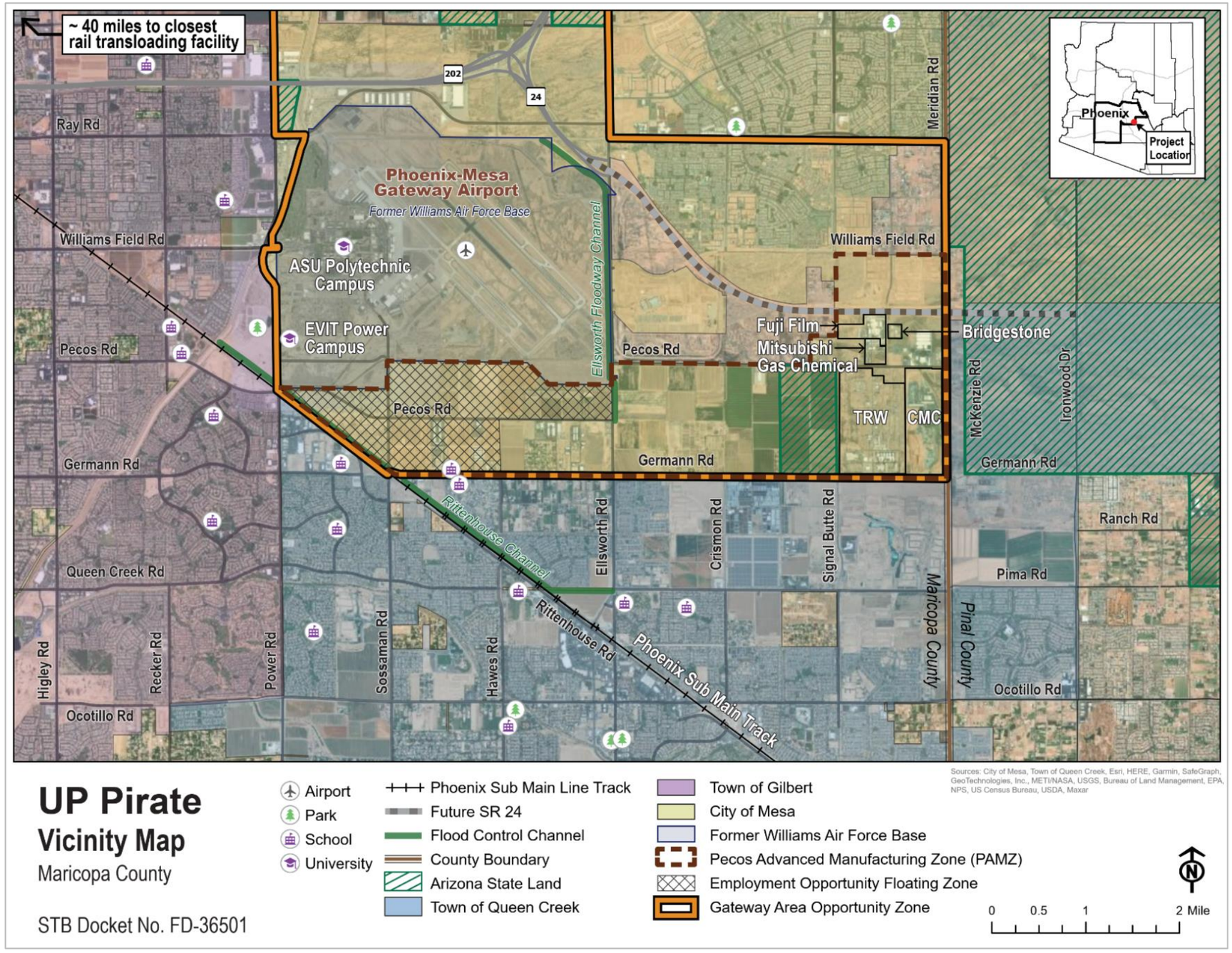
Danielle Gosselin
Director
Office of Environmental Analysis

Enclosures:

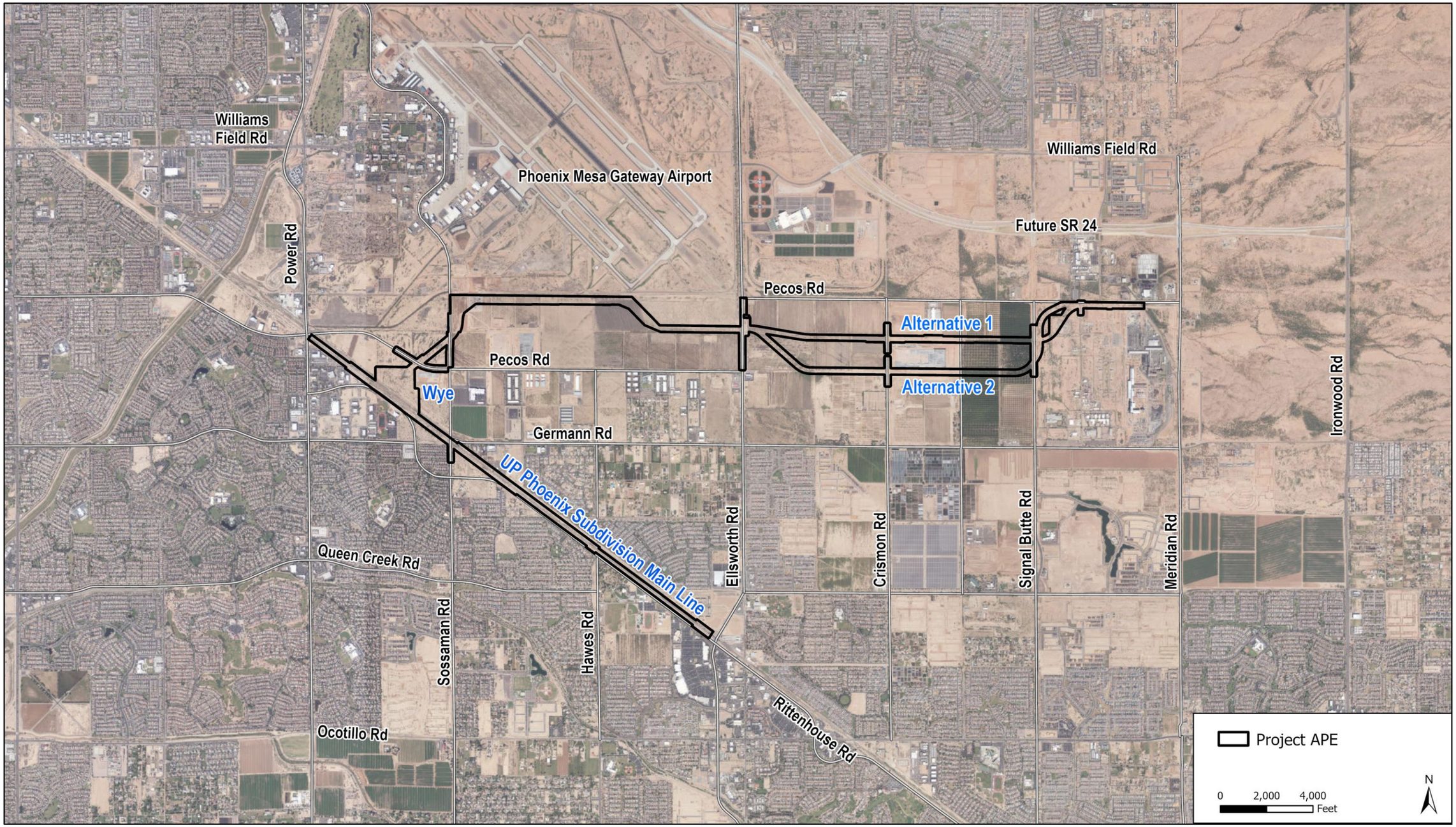
Attachment A – Vicinity Map
Attachment B – Project Location Map

Cc: Adam Assenza, Environmental Protection Specialist, Adam.Assenza@stb.gov
Alan Tabachnick, Federal Preservation Officer, Alan.Tabachnick@stb.gov
Maggie Buckley, Jacobs Project Manager, Maggie.Buckley@jacobs.com
Shane Anton, THPO, Shane.Anton@SRPMIC-nsn.gov
Martha Martinez, NAGPRA Coordinator, Martha.Martinez@SRPMIC-nsn.gov
Angela Garcia-Lewis, Cultural Resources Compliance Supervisor, Angela.Garcia-Lewis@SRPMIC-nsn.gov
Sunday Eiselt, THPO Archaeologist, Sunday.Eiselt@srpmic-nsn.gov

ATTACHMENT A – VICINITY MAP



ATTACHMENT B– PROJECT LOCATION MAP



Salt River
PIMA-MARICOPA INDIAN COMMUNITY
10,005 EAST OSBORN ROAD/SCOTTSDALE, ARIZONA 85256/ PHONE (480) 362-6325

Tribal Historic Preservation Office

TO: Danielle Gosselin
Director
Office of Environmental Analysis
Surface Transportation Board
Washington, DC 20423

DATE: 6/15/2023

FROM: Shane Anton, Tribal Historic Preservation Officer

RE: Docket No. FD 36501, Union Pacific Railroad Company – Construction and Operation Exemption – in Maricopa County, Ariz., Continuation of National Historic Preservation Act Section 106 Consultation and Request for Ongoing Government-to-Government Consultation on Traditional Cultural Places Identification and National Register of Historic Places Evaluation Study and Cultural Landscape Study

Dear Director Gosselin

The Salt River Pima-Maricopa Indian Community (SRP-MIC) Tribal Historic Preservation Office (THPO) has received your consultation documents dated June 2, 2023. On June 30, 2022, the Union Pacific Railroad Company (UP) filed a petition with the Surface Transportation Board (Board) pursuant to 49 U.S.C. § 10502 requesting authority to construct and operate approximately 6.0 miles of new rail line in Maricopa County, Arizona (the Pecos Industrial Rail Access and Train Extension [PIRATE] project) (see attached map). Before making its decision on whether to grant such authority, the Board must consider the potential environmental and historic impacts of the construction and operation of UP's proposed rail line, pursuant to the National Environmental Policy Act (42 U.S.C. §§ 4321-4370m-12), Section 106 of the National Historic Preservation Act (54 U.S.C. § 306108), the Board's environmental rules at 49 C.F.R. Part 1105, and related environmental laws. The Board continues to maintain a finding of adverse effect for this undertaking.

The Office of Environmental Analysis (OEA) is currently conducting Government-to-Government consultation to identify any NRHP eligible properties of traditional religious and cultural importance in the APE and its vicinity as per Stipulations set forth in the Memorandum of Agreement (MOA) for this project. OAE is requesting a Government-to-Government meeting to

discuss Traditional Cultural Places (TCPs) and National Register of Historic Places evaluation for historic properties that may have special importance to the Tribe.

The SRP-MIC THPO has considered this request and agrees that a Government-to-Government meeting to discuss places of traditional religious and cultural importance is necessary. Please contact our office with proposed dates, time, and location for these additional consultation meetings.

The proposed project area is within the ancestral lands of the Four Southern Tribes (Gila River Indian Community; Salt River Pima-Maricopa Indian Community; *Ak-Chin* Indian Community and the *Tohono O'Odham* Nation). The SRPMIC-THPO will continue to participate in this undertaking.

Thank you for consulting with the SRP-MIC THPO. Should you have questions and/or concerns about this project, please contact me directly at (480) 362-6331.

Sincerely,



Shane Anton, Tribal Historic Preservation Officer
Cultural Resources Department, SRPMIC
10,005 E. Osborn Rd., Scottsdale, Arizona 85256
Email: Shane.Anton@SRPMIC-nsn.gov
Office Tele: (480) 362-6331

SURFACE TRANSPORTATION BOARD
Washington, DC 20423

Office of Environmental Analysis

June 16, 2023

Ms. Kathryn Leonard
Arizona State Parks, State Historic Preservation Office
1110 West Washington Street, Suite 100
Phoenix, AZ 85007

Re: Docket No. FD 36501, Union Pacific Railroad Company – Construction and Operation Exemption – In Maricopa County, Ariz., Continuation of National Historic Preservation Act Section 106 Consultation on Historic Properties Treatment Plan

Dear Ms. Leonard:

On June 30, 2022, the Union Pacific Railroad Company (UP) filed a petition with the Surface Transportation Board (Board) pursuant to 49 U.S.C. § 10502 requesting authority to construct and operate approximately 6.0 miles of new rail line in Maricopa County, Arizona (the Pecos Industrial Rail Access and Train Extension [PIRATE] project) (Attachments A and B). Before making its decision on whether to grant such authority, the Board must consider the potential environmental impacts of the construction and operation of UP's proposed rail line, pursuant to the National Environmental Policy Act (42 U.S.C. §§ 4321-4370m-12), Section 106 of the National Historic Preservation Act (54 U.S.C. § 306108), the Board's environmental rules at 49 C.F.R. Part 1105, and related environmental laws.

The Board's Office of Environmental Analysis (OEA) initiated consultation pursuant to Section 106 of the National Historic Preservation Act on April 6, 2022. OEA continued Section 106 consultation through the fall of 2022 addressing the project Area of Potential Effects (APE), the Class III survey report, unsurveyed areas in the APE, National Register of Historic Places eligibility determinations, and treatment recommendations. Beginning in January and continuing through the spring of 2023, OEA completed a series of consultation letters and virtual meetings for developing a Memorandum of Agreement (MOA).

OEA is continuing Section 106 consultation with your office and soliciting comments regarding the treatment of historic properties, as described in the Historic Properties Treatment Plan (HPTP). The general content of the HPTP is outlined in the MOA and contains provisions to guide future steps for the resolution of adverse effects to historic properties.

HPTP Content

Based on the results of the Class III cultural resource surveys (Rainey and Stubing 2022; Powell 2023), four cultural resources sites (AZ U:10:2[ASM], AZ U:10:69[ASM], AZ U:10:152[ASM], and AZ U:10:275[ASM]) are within the APE and require further treatment. The HPTP contains the research design and methods to guide data recovery fieldwork, analysis, and reporting for these sites; a Monitoring and Discovery Plan for project cultural resources construction monitoring; and other general provisions.

In addition, it is recognized that these four sites are part of a larger cultural landscape within the Queen Creek Delta that is significant to the Four Southern Tribes (the Ak-Chin Indian Community; the Gila River Indian Community, the Salt River Pima-Maricopa Indian Community; and the Tohono O'odham Nation). The HPTP contains a general discussion for the development of a historic context study and a cultural landscape study to identify and evaluate the intangible significance of these places.

HPTP Meetings

OEA proposes to conduct a series of virtual meetings to discuss the HPTP content, address any questions, and resolve any comments. An email will be sent to you in the coming weeks to provide potential dates for the HPTP meeting schedule.

Request for Input

Please review the information contained in this letter and the HPTP and provide OEA with any comments by July 15, 2023. Thank you very much for your continued involvement and input on this project. Please feel free to contact Alan Tabachnick, OEA's Federal Preservation Officer, at Alan.Tabachnick@stb.gov with any questions about the HPTP or upcoming HPTP meetings.

Sincerely,



Danielle Gosselin
Director
Office of Environmental Analysis

Enclosures:

Attachment A – Vicinity Map
Attachment B – Project Location Map

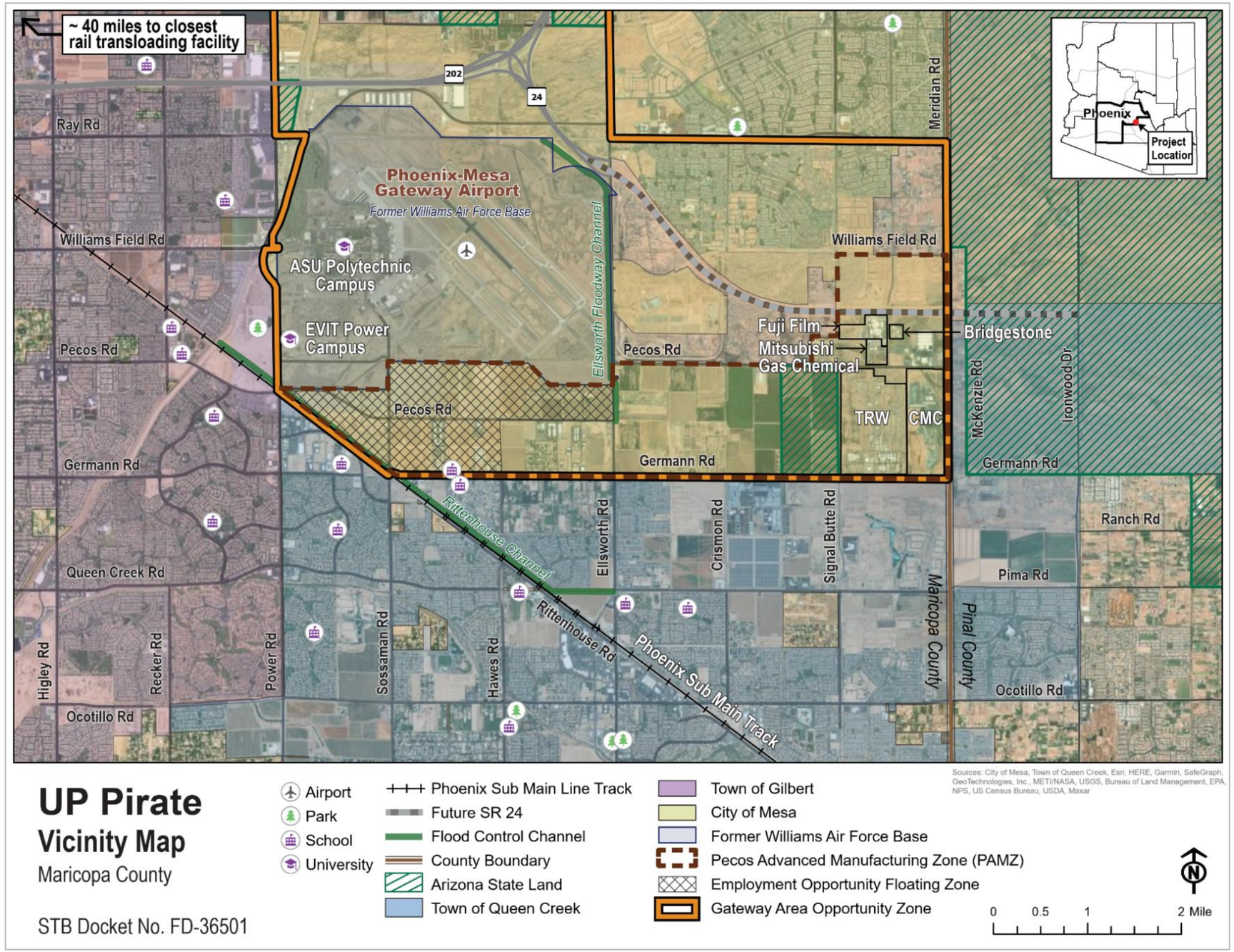
Cc: Adam Assenza, OEA Environmental Protection Specialist, Adam.Assenza@stb.gov
Alan Tabachnick, OEA Federal Preservation Officer, Alan.Tabachnick@stb.gov
Maggie Buckley, Jacobs Project Manager, Maggie.Buckley@jacobs.com
Caroline Klebacha, Archaeological Compliance Specialist, cklebacha@azstateparks.gov

References Cited:

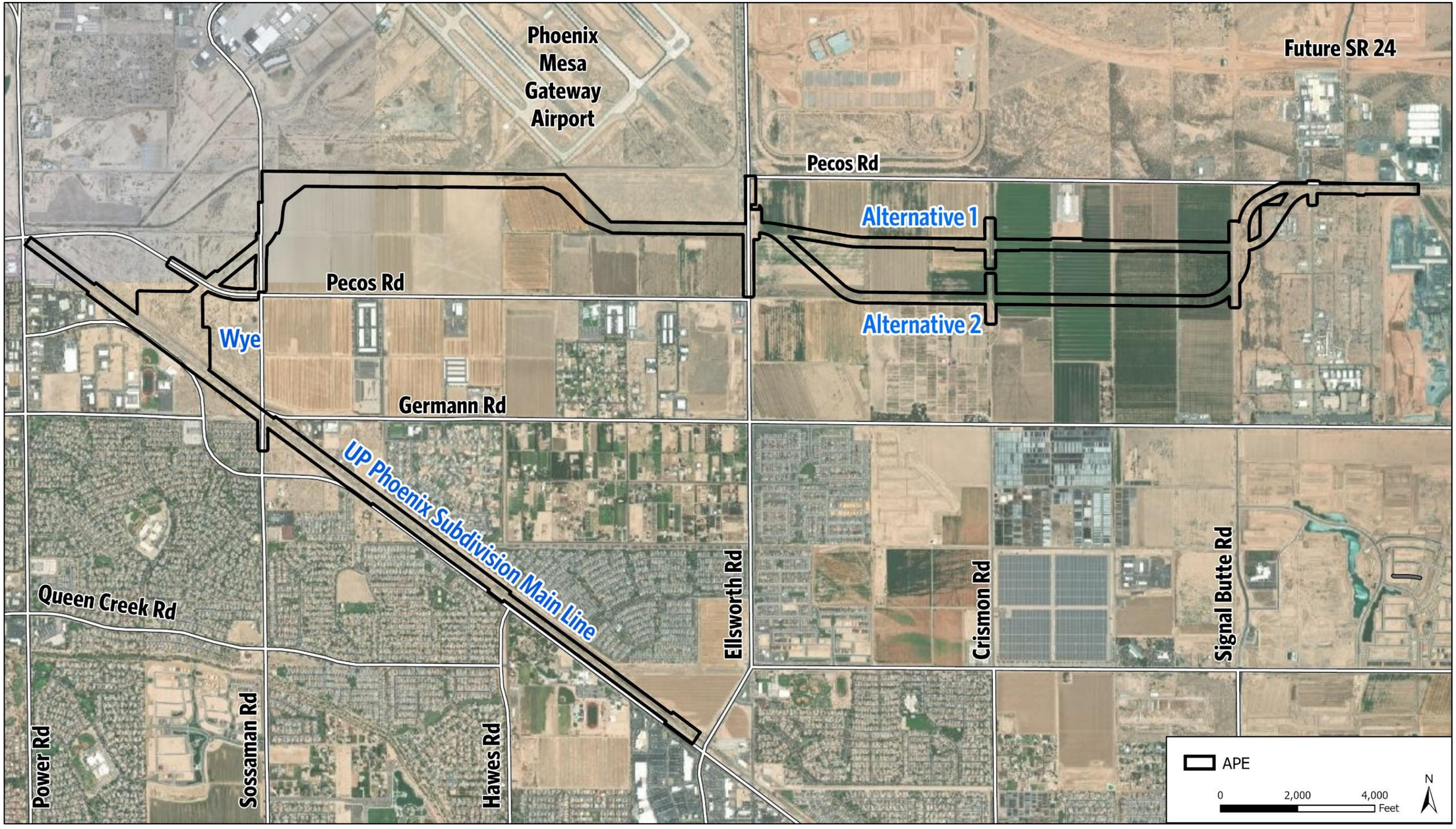
Rainey, Pamela J., and Michael Stubing
2022 *A Class III Cultural Resources Survey for the Union Pacific Railroad Company Pecos Industrial Rail Access and Train Extensions (PIRATE) Project, Mesa and Queen Creek, Maricopa County, Arizona*. Jacobs Project Report No. 2022-006. Jacobs Engineering Group Inc., Tempe, Arizona.

Powell, Kris
2023 *A Class III Addendum Cultural Resources Survey for the Union Pacific Railroad Company Pecos Industrial Rail Access and Train Extension (PIRATE) Project, Mesa and Queen Creek, Maricopa County, Arizona.* Jacobs Engineering Group Inc., Tempe, Arizona.

ATTACHMENT A – VICINITY MAP



ATTACHMENT B– PROJECT LOCATION MAP



From: Dan M Garcia
Sent on: Thursday, June 22, 2023 1:29:23 PM
To: Tabachnick, Alan; Luhnow, Glennda
CC: Assenza, Adam; Buckley, Maggie; Phoebus, Elizabeth (Betsi); Powell, Kris
Subject: [EXTERNAL] RE: Continuing Section 106 Consultation--UPRR PIRATE Draft HPTP

Hello Alan and Glennda,

I have completed a review of the draft HPTP and have no comments.

As a reminder, SRP operates and maintains a number of power assets within or adjacent to the projects area. In addition to any AZ511/BlueStake notifications, please submit detailed plans for excavations in the vicinity of existing power poles or buried lines to the SRP project plans submittal portal (https://srpnet.com/about/land/secure/plansubmittal.aspx) to ensure that all work takes place a safe distance from SRP power infrastructure. Please feel free to reach out with any questions.

Dan Garcia
Archaeologist - Senior Cultural Resource Management Specialist
SRP | Biological and Cultural Resource Services | PAB359
P.O. Box 52025, Phoenix, AZ 85072-2025
P: (602) 236-2336 | **M**: (480) 213-1177

From: Luhnow, Glennda <Glennda.Luhnow@jacobs.com>
Sent: Friday, June 16, 2023 9:08 AM
To: David Rousseau <David.Rousseau@srpnet.com>
Cc: Dan M Garcia <Dan.Garcia@srpnet.com>; Tabachnick, Alan <alan.tabachnick@stb.gov>; Assenza, Adam <adam.assenza@stb.gov>; Buckley, Maggie <Maggie.Buckley@jacobs.com>; Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>; Powell, Kris <Kris.Powell@jacobs.com>
Subject: Continuing Section 106 Consultation--UPRR PIRATE Draft HPTP

CAUTION: This email originated from outside the organization
Beware of suspicious links, files, or requests. When in doubt report as phishing.

Dear Mr. Rousseau,

As the Surface Transportation Board's (Board) Office of Environmental Analysis (OEA) stated in previous Section 106 consultation conducted under the National Historic Preservation Act, on June 30, 2022, the Union Pacific Railroad Company (UP) filed a petition with the Board requesting authority to construct and operate approximately six miles of new rail line in Maricopa County, Arizona (the proposed Pecos Industrial Rail Access and Train Extension [PIRATE] rail line).

OEA is now circulating a Historic Properties Treatment Plan (HPTP) for your review and comment. The draft HPTP has been prepared in accordance with Stipulation X of the project's revised draft Memorandum of Agreement (MOA) and contains measures for the resolution of adverse effects to four cultural resources sites. Provisions conducting cultural resources monitoring during construction and for preparing a Traditional Cultural Properties (TCP) identification and evaluation study, a cultural landscape study, and a historic context are also outlined in the HPTP. A blank comment matrix is provided for your review of the draft HPTP.

The draft HPTP is available for download from a secure File Transfer (FT) site. Instructions for accessing the FT for download will be transmitted electronically to you, and the document will be accessible for 15 days (June 30, 2023). If you have any issues downloading the document, or require the FT link to be resent to you, please contact Glennda Luhnow at Glennda.luhnow@jacobs.com. A hard copy of the draft HPTP can be sent to you at your request.

OEA proposes to conduct a virtual meeting to resolve comments on the draft HPTP in July 2023, and will circulate a proposed schedule in the coming weeks.

We look forward to your input and appreciate receiving your comments on the draft HPTP by **July 15, 2023**. Please feel free to contact Alan Tabachnick, OEA's Federal Preservation Officer, at Alan.Tabachnick@stb.gov with any questions about the Section 106 process or

the draft HPTP. Thank you for your continued participation in the Section 106 process for the PIRATE project.

Regards,
Glennda Luhnow

Glennda Luhnow, M.A., RPA | **JACOBS** | **Manager/Archaeology and Cultural Resources** |
C: 480-510-0830 | glennda.luhnow@jacobs.com
1501 West Fountainhead Parkway, Suite 401 | Tempe, Arizona 85282 | USA

NOTICE - This communication may contain confidential and privileged information that is for the sole use of the intended recipient. Any viewing, copying or distribution of, or reliance on this message by unintended recipients is strictly prohibited. If you have received this message in error, please notify us immediately by replying to the message and deleting it from your computer.

Salt River
PIMA-MARICOPA INDIAN COMMUNITY
10,005 EAST OSBORN ROAD/SCOTTSDALE, ARIZONA 85256/ PHONE (480) 362-6325

Tribal Historic Preservation Office

TO: Danielle Gosselin
Director
Office of Environmental Analysis
Surface Transportation Board
Washington, DD 20423

DATE: 6/27/2023

FROM: Shane Anton, Tribal Historic Preservation Officer

RE: Docket No. FD 36501, Union Pacific Railroad Company – Construction and Operation Exemption – In Maricopa County, Ariz., Continuation of National Historic Preservation Act Section 106 Consultation on Historic Properties Treatment Plan

Dear Director Gosselin

The Salt River Pima-Maricopa Indian Community Tribal Historic Preservation Office (SRPMIC THPO) has received your consultation documents dated June 16, 2023. The Office of Environmental Analysis (OEA) is continuing Section 106 consultation and soliciting comments regarding the treatment of historic properties, as described in the Historic Properties Treatment Plan (HPTP). Based on the results of the Class III cultural resource surveys (Rainey and Stubing 2022; Powell 2023), four cultural resources sites (AZ U:10:2[ASM], AZ U:10:69[ASM], AZ U:10:152[ASM], and AZ U:10:275[ASM]) are within the APE and require further treatment. The HPTP contains the research design and methods to guide data recovery fieldwork, analysis, and reporting for these sites; a Monitoring and Discovery Plan for project cultural resources construction monitoring; and other general provisions.

The OEA recognizes that these four sites are part of a larger cultural landscape within the Queen Creek Delta that is significant to the Four Southern Tribes. The HPTP contains a general discussion for the development of a historic context study and a cultural landscape study to identify and evaluate the intangible significance of these places.

The SRPMIC THPO has reviewed the HPTP and finds it to be an adequate planning document for the purposes of the undertaking. SRPMIC THPO has the following comments and questions.

1. Section 2.3, first paragraph. Remove the first two sentences. Start the paragraph with, "The Akimel O'Odham maintain deep ancestral ties to the landscape through their rich oral traditions and song culture" (or something to that effect). The theories of early archaeologists doesn't matter to our current thinking on continuity.
2. Section 2.4.2.3 Midvale Site. This site is also known as "Two Ponds" by the O'Odham. Turney mapped two reservoir features (or wells) at this site in the 1940s.
3. Section 2.4.3, end of second paragraph: This description fits with the historic village drift pattern identified by Ezell (Darling and Ravesloot) and post-Classic/protohistoric settlement pattern as you reference in the research design section on Settlement and Community Organization.
4. Section 3.1 Chronology: Should include a research question regarding Protohistoric/Historic use of the APE
5. Section 3.2 Settlement Patterns and Community Organization. A question about Protohistoric/Historic settlement pattern, community organization.
6. Section 4.1. Tribal Involvement. Is it the case that the GRIC CRMP is participating in fieldwork and analysis? Are arrangements already made that GRIC CRMP will provide the bioarchaeological support? If so, please state as such.
7. 5.3.1. Ceramic Analysis. Will there be any attempt to identify historic O'Odham ceramics? Does the Jacobs analyst(s) have experience identifying historic O'Odham and Piipaash ceramics? If not, then GRIC CRMP ceramicists could be consulted.
8. Section 6.1 Third Paragraph. Should GRIC THPO also be identified here?
9. Section 6.3 Historic Context Study. Will this be completed according to SHPO standards for distribution by SHPO? If so, please state as such.
10. Section 8.2. Tribal Monitoring. This paragraph may not be necessary but SRPMIC THPO defers to GRIC THPO to make this determination.

The proposed project area is within the ancestral lands of the Four Southern Tribes (Gila River Indian Community; Salt River Pima-Maricopa Indian Community; *Ak-Chin* Indian Community and the *Tohono O'Odham* Nation). The SRPMIC THPO will continue to participate in this undertaking, but defers to the GRIC THPO as lead in consultation for the project.

Thank you for consulting with the SRPMIC THPO. Should you have questions and/or concerns about this project, please contact me directly at (480) 362-6331.

Sincerely,



Shane Anton, Tribal Historic Preservation Officer
Cultural Resources Department, SRPMIC
10,005 E. Osborn Rd., Scottsdale, Arizona 85256
Email: Shane.Anton@SRPMIC-nsn.gov
Office Tele: (480) 362-6331

STB Docket Number FD 36501

Union Pacific Railroad Company – Construction and Operation Exemption – In Maricopa County, Ariz.

Section 106 Consulting Parties Review: Draft Historic Properties Treatment Plan

Please return to the Office of Environmental Analysis (OEA) by July 15, 2023

Tribe or Agency: SHPO

Contact Person: Caroline Klebacha

#	Section	Pg(s)	Comment
1	TOC: Appendices and Appendix A	V, A-1 and following	The MOA does not belong in the HPTP. Remove.
2	Abstract	Viii	Other Involved Agencies: Why is ADEQ included? They are not part of the MOA. If they are only involved for Dust or SWPPP, they do not need to be listed here.
3	Abstract	Viii	Description of Project/Undertaking: Paragraph 2 of section, include the addendum report as well as the original Class III.
4	Abstract	Viii	Description of Project/Undertaking: Move paragraphs 2-4 of this section to the comments. They do not describe the undertaking.
5	1.1 Introduction	1	Paragraph 2: The PIRATE yard is not defined in the APE description. This may need to be added to the MOA as well.
6	1.1 Introduction	2	Last paragraph: include the addendum report as well as the original Class III.
7	1.2 Regulatory Context	4	Last sentence: Change “document” to “treatment plan” or “HPTP.” It is unclear if you are referring to the MOA or the HPTP.
8	1.3 APE Definition	4	Include acreage and land owners.
9	Map figures		Include station numbers on the maps.
10	Figure 2a Figure 2b	6, 7	This map needs to be updated to reflect the addendum survey. Also, “buffer” is confusing as it is a part of the APE. You can just describe it as “Unsurveyed – Not Acquired. No Project Ground Disturbance”
11	Figure 3	8	Add the PIRATE Yard to the map.
12	2.1.4 Climate	10	Close parenthesis on “(Western Regional Climate Center 2023.”
13	Table 1	19-20	Specify in the Table title that the sites are outside of the APE.
14	2.4.2.3 Midvale Site and general comment for all site names	22 and throughout	Add the site number to the header. Please remove all site names from the document and refer to sites by their site numbers.
15	4.3 (general) Treatment		For each site, add a map showing the prescribed treatments. These maps should include site boundary, site boundary buffer, APE, station numbers, trench locations, stripping areas (when known), hand

#	Section	Pg(s)	Comment
	maps		excavation units (when known), and any areas that cannot be tested and will be monitored instead.
16	4.3 (general) Affected Acres		How many acres of the site (total) are within the APE? Please include for each Site-Specific Data Recovery Plan.
17	4.3.1	51	No site buffer is provided for AZ U:10:2(ASM).
18	Site buffers		Ten feet a sufficient boundary buffer. Fifty feet is standard. If cultural resources are identified within the boundary buffer, what procedures will follow?
19	5.2.1 Pollen	61	Last sentence: Provide date for Kapp et al.
20	6.1 G2G Consultation	66	Specify that GRIC THPO has been delegated as the lead.
21	6.2 TCP Evaluation	66-67	The TCP Evaluation is not a part of this document. After the first paragraph, you can say that the parameters of the survey will be developed and outlined in a separate document in coordination with OEA and the Four Southern Tribes and that distribution of any subsequent documents will be restricted.
22	7.2 Curation	69	Per section 7.4.1, the report will be curate as ASM. Move the following language in section 7.4.1 to section 7.2 and reword as necessary: ASM is not accepting collections from private land projects and would not serve as the data recovery repository. Artifacts and other project records would be curated at a separate institution meeting the requirements of 36 C.F.R. Part 79.
23	Table 5	70-71	Add “calendar” to Rows 10, 11 and 15 under Duration. Or specify in a footnote that “All days are calendar days.”
24	7.4 and 7.4.1	72	Add “Agreements” to the headers.
25	7.4.3	72	Please confirm that no Dust Control Permit is required from Maricopa County per Rule 310.
26	8.3.1	75	A word is missing following “construction” in this sentence: The purpose of the pre-field meeting would be to introduce the cultural resources monitor(s) and tribal monitor to the construction, inspectors, and supervisory personnel, …
27	Appendix C	C-1	What treatment will be applied to the portion of the APE within AZ U:10:2(ASM) northeast of the wye?

STB Docket Number FD 36501

Union Pacific Railroad Company – Construction and Operation Exemption – In Maricopa County, Ariz.

Section 106 Consulting Parties Review: Draft Historic Properties Treatment Plan

Please return to the Office of Environmental Analysis (OEA) by July 15, 2023

Tribe or Agency: City of Mesa

Contact Person: Mary Kopaskie-Brown, Planning Director, and Historic Preservation Officer

#	Section	Line(s)	Comment
1	4.7	7- 12	There appears to be an inconsistency of who is required to report discovery of ancestors. In Section 4 it states: "*In the event of human remains…**OEA and SHPO** would be notified of the find and would contact the **ASM Repatriation Coordinator...**".* In Section 8.6.2 it states: "*If human remains, animal mortuary remains, funerary belongings, sacred ceremonial objects, or objects of national or tribal patrimony are encountered on state, municipal, county, or private lands after construction begins, the person in charge of the construction shall require construction to immediately cease within 100 feet of the area of the encounter, take steps to protect the encounter, and immediately report it to the **OEA**. OEA shall notify and consult with the **Director of ASM** and any land-managing agency (as appropriate) within 24 hours of the encounter."* This should be clarified.
2	7.4.1	1	Any data recovery of AZ U:10:2 at the wye, mentioned in 4.3.1, is currently on City of Mesa land. As such, it would be subject to an AAA project specific permit. Monitoring of City of Mesa land in this area will also warrant an AAA project specific permit.
3	7.4.1	4	Inconsistency in language. Reference to ASM project specific permit but in 8.1.1 is referred to as a AAA project specific permit
4	8.10	4	Has a repository been identified?
5			
6			
7			
8			
9			

#	Section	Line(s)	Comment
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			

STB Docket Number FD 36501

Union Pacific Railroad Company – Construction and Operation Exemption – In Maricopa County, Ariz.

Section 106 Consulting Parties Review: Draft Historic Properties Treatment Plan

Please return to the Office of Environmental Analysis (OEA) by July 15, 2023

Tribe or Agency: Arizona State Museum

Contact Person: Shannon Plummer – splummer@arizona.edu

#	Section	Line(s)	Comment
1	Throughout document		Arizona's Tribal nations have unanimously asked the archaeological community to refrain from using colloquial site names and to rely on site numbers instead. It is acceptable to use the colloquial site names in parentheses to clarify discussions. Please correct throughout the document.
2	1.2, 2nd paragraph	3rd	The statutes cited in association with State Historic Preservation Act are incorrect. The AZ SHPA is ARS § 41-864 et seq. ARS § 41-841 et seq. is the Arizona Antiquities Act (AAA).
3	1.2 2nd paragraph	last	Arizona Revised Statute § 41-844 outlines protocols for the treatment and disposition of human remains, funerary objects, sacred ceremonial objects, and objects of national or tribal patrimony. Arizona Revised Statute § 41-865 pertains to the treatment and disposition of human remains and funerary objects only. Please correct this statement. Animal mortuary features are not named in the statutes but are requested for repatriation as sacred ceremonial objects.
4	2.1.4, 1st paragraph	5	Western Regional Climate Center 2023 is not in the references
5	2.2.1, page 14, 2nd paragraph	3	Water and Ravesloot 2001 is in the references as Waters and Ravesloot. Which is correct?
6	2.4.3		There are maps depicting the locations of previous research within the project area within the boundaries of AZ U:10:2(ASM), but not for the other sites. Please add.
7	4.2.4, 1st paragraph		Please explain how it will be determined which features are "warranted" for Phase II investigation.
8	4.3		Please note that all artifacts recovered from features on city, county, or state land must be collected.
9	4.3.1, page 51		Please include a map of each site depicting the specific locations where work will occur, based on the text. For example Where is "the southeast side of the Phoenix Substation…between construction stations 1471+50 and 1595+50"?
10	4.3.1, page 52	Last	Subsurface collection: Rare or unique historic artifacts should be collected. Also, there is no discussion of the historic period anywhere else in the report. If a historic component is anticipated at any of the sites, please add more information about that.
11	4.6		Please note that all artifacts recovered from features on city, county, or state land must be collected.
12	4.7		Please be advised that ASM cannot enforce the treatment and repatriation of sacred ceremonial objects or objects of national or tribal

#	Section	Line(s)	Comment
			patrimony on private land, as § 41-865 extends only to human remains and funerary objects. However, a landowner may choose to repatriate additional items known to be significant to descendant communities, and the treatment and disposition of these objects may be outlined in the BDA.
13	Section 4.7		Change “funerary belongings” to “funerary objects” here and throughout document
14	4.7 Header		Revise heading to “Human Remains, Funerary Objects, Sacred Ceremonial Objects, and Objects of National and Tribal Patrimony” to follow language in A.R.S. 41-844 and 41-865
15	4.7, Entire		Please change “burial” to “mortuary” and change “excavate” and “excavation” to “recovered” and “recovery” to follow preferred respectful terminology when discussing human remains and protected cultural materials. The full table can be found here: https://statemuseum.arizona.edu/crm/document/respectful-terminology-repatriation
16	4.7, 2nd paragraph		Please be advised that ASM does not enforce work stoppage when sacred ceremonial objects and objects of national or patrimony in non-funerary contexts are encountered.
17	4.7, 3rd paragraph	1	The first part of this sentence includes cultural materials that may occur outside of mortuary contexts, while the second half refers to “ the burial feature.” For clarity, please just refer to the “feature” or revise to indicate that you are referring to mortuary features.
18	4.7, 3rd paragraph		Please add that cremated remains will be recovered with the sedimentary matrix in which they were deposited (unscreened), and the surrounding sediment will be screened through 1/8-inch mesh. Also add that the contents of intact cremation vessels will not be disturbed for documentation.
19	4.7, 3rd paragraph		Add that mortuary features will be fully recovered, and recovered remains and funerary objects will be housed in all natural materials.
20	4.7, Entire		Change “cultural materials of national or tribal patrimony” to “objects of national or tribal patrimony”; change “sacred ceremonial cultural materials” to “sacred ceremonial objects”; and change “animal burial” to “animal mortuary feature”
21	4.7, 1st three bullets		These lists of materials that may be subject to repatriation are from the GRIC Standard Burial Discovery Agreement and are the result of consultation between ASM and GRIC. This should be acknowledged in the text because if remains with a different cultural affiliation are encountered, then the potential sacred ceremonial objects may be different for that descendant community. Alternatively, the lists of sacred ceremonial objects and objects of national or tribal patrimony do not need to be included in the work plan; they may be provided by claimant tribe or, in the case of the SRP-MIC and GRIC Standard BDAs, listed in the BDA.
22	4.7, pg. 59	Last bullet	Revise to “preventing photography of human remains, funerary objects, and other cultural materials subject to repatriation”
23	4.7, pg. 59	Last	Please remove “laboratory” before “facility” to avoid terminology associated with research specimens when discussing human remains.
24	4.7		Include the procedures and standards that will be used for human remains documentation and include reference(s). State that no destructive documentation of human remains and funerary objects will occur.
25	5.1, 4th paragraph	2nd	Please note that artifacts recovered from city, county, or state land cannot be “culled” without prior approval from ASM.

#	Section	Line(s)	Comment
26	5.2.1, pg. 61, 3rd paragraph	Last	Please add the year associated with the Kapp et al. reference
27	5.3.6		Historic artifacts are mentioned earlier in the text. If they are anticipated, please include the standards that will be used in the analysis of various historic artifact classes.
28	7.1		State that if human remains are encountered, a Report of Remains will be submitted to ASM and claimant tribes.
29	7.2, 1st paragraph		Materials recovered from city, county, or state land must be curated at ASM or an ASM-approved facility.
30	7.2, 3rd paragraph		Change “secure laboratory” to “secure facility”
31	7.4.1		It states here that an AAA permit will not be required for data recovery; however, it specifies elsewhere in the report that work will occur on land owned by the City of Mesa and Maricopa County. Please clarify.
32	7.7		Please note that if the project is terminated, the final report submitted in support of AAA compliance must still meet ASM’s minimum standards.
33	8.4		Table 6: This information would be easier to understand if the locations were also presented on a map.
34	8.5		General Methods: “Non-feature artifacts” is confusing. Please rewrite to indicate that artifacts identified outside of features will not be collected (if I’m understanding the phrase correctly).
35	8.6, 1st paragraph		Revise to “human remains, funerary belongings, sacred ceremonial objects, and objects of national or tribal patrimony” to follow the language in A.R.S. 41-844 and 41-865.
36	8.6.1, page 78, 4th paragraph		All artifacts recovered from features on state land must be collected.
37	8.6.2 2nd paragraph		Please refer to comments #12 and #16
38	8.9, 3rd paragraph		Revise to “If human remains are identified, a Report of Remains…”
39	Appendix B		Please add a map depicting the project area and sites with a USGS topographic map background at a 1:24,000 scale, neither reduced nor enlarged. Please also include a map depicting both land ownership and site locations. This information can be added to one of the maps in this Appendix, it doesn’t have to be a separate map.

SURFACE TRANSPORTATION BOARD
Washington, DC 20423

Office of Environmental Analysis

July 21, 2023

Ms. Kathryn Leonard
State Historic Preservation Officer
Arizona State Parks, State Historic Preservation Office
1110 West Washington Street, Suite 100
Phoenix, AZ 85007

Re: Docket No. FD 36501, Union Pacific Railroad Company – Construction and Operation Exemption – in Maricopa County, AZ, Continuation of National Historic Preservation Act Section 106 Consultation on Revised Draft MOA, and Continued Project Finding of Adverse Effect

Dear Ms. Leonard:

On June 30, 2022, the Union Pacific Railroad Company (UP) filed a petition with the Surface Transportation Board (Board) pursuant to 49 U.S.C. § 10502 requesting authority to construct and operate approximately 6.0 miles of new rail line in Maricopa County, Arizona (the Pecos Industrial Rail Access and Train Extension [PIRATE] project) (Attachment A). Before making its decision on whether to grant such authority, the Board must consider the potential environmental impacts of the construction and operation of UP's proposed rail line, pursuant to the National Environmental Policy Act (42 U.S.C. §§ 4321-4370m-12), Section 106 of the National Historic Preservation Act (54 U.S.C. § 306108), the Board's environmental rules at 49 C.F.R. Part 1105, and related environmental laws.

The Board's Office of Environmental Analysis (OEA) initiated consultation pursuant to Section 106 of the National Historic Preservation Act on April 6, 2022. OEA continued Section 106 consultation through the fall of 2022 addressing the project Area of Potential Effects (APE), the Class III survey report, unsurveyed areas in the APE, National Register of Historic Places (NRHP) eligibility determinations, and treatment recommendations. Beginning in January 2023, OEA circulated draft versions of a Memorandum of Agreement (MOA) to address the project finding of "adverse effect."

MOA Revisions

OEA provided the first draft of the MOA to consulting parties on December 8, 2022 and conducted a virtual meeting with the Section 106 consulting parties to resolve comments on January 26, 2023. OEA sent the second draft of the MOA to consulting parties on February 10, 2023. Comments received on the second draft of the MOA were largely minor. On March 10, 2023, OEA sent the consulting parties a consultation letter detailing two revisions [revising Stipulation X(C) and addition of a new Stipulation XI – Authorization of Construction in Non-Site Areas] to the MOA. The State Historic Preservation Office (SHPO) requested revisions to the MOA regarding "indirect" and "direct" APE terminology, clarifications of the roles of specific Concurring Parties, clarifications regarding unsurveyed areas in the APE, and the inclusion of a more robust discussion of identification, evaluation, and effect specific to Traditional

Cultural Properties (TCPs). These revisions were implemented in a third revised MOA and circulated to the consulting parties on May 26, 2023.

Minor comments on the third revised MOA were received from the Arizona State Museum (ASM) and the United States Army Corps of Engineers (Corps) and are addressed in the revised Draft MOA. The SHPO provided additional comments that focused on the flow and clarity of the MOA. These comments are largely organizational in nature. Introduction of new language for Stipulation VII was provided by the SHPO and fully implemented in the revised MOA.

- Stipulation VII is now renamed "Construction Variance and Review Process." The Stipulation now contains a more detailed summary of the process for conducting the Section 106 review and approval process in the event locations outside of the APE are required for construction.

A comment tracking table detailing other minor comments provided by the SHPO, ASM, and the Corps is provided as Attachment B.

Request for Concurrence

OEA is continuing Section 106 consultation with your office and requesting your concurrence on the enclosed revised Draft MOA and a continued project finding of "adverse effect."

Please review the information contained in this letter, the revised Draft MOA, and the comment tracking table, and provide OEA with any final questions or concerns by August 4, 2023. OEA will reach out to you directly during this 15-day review period to inquire about any final questions you may have. Thank you very much for your continued involvement and input on this project. Please feel free to contact Alan Tabachnick, STB's Federal Preservation Officer, Alan.Tabachnick@stb.gov with any questions about the MOA.

Sincerely,



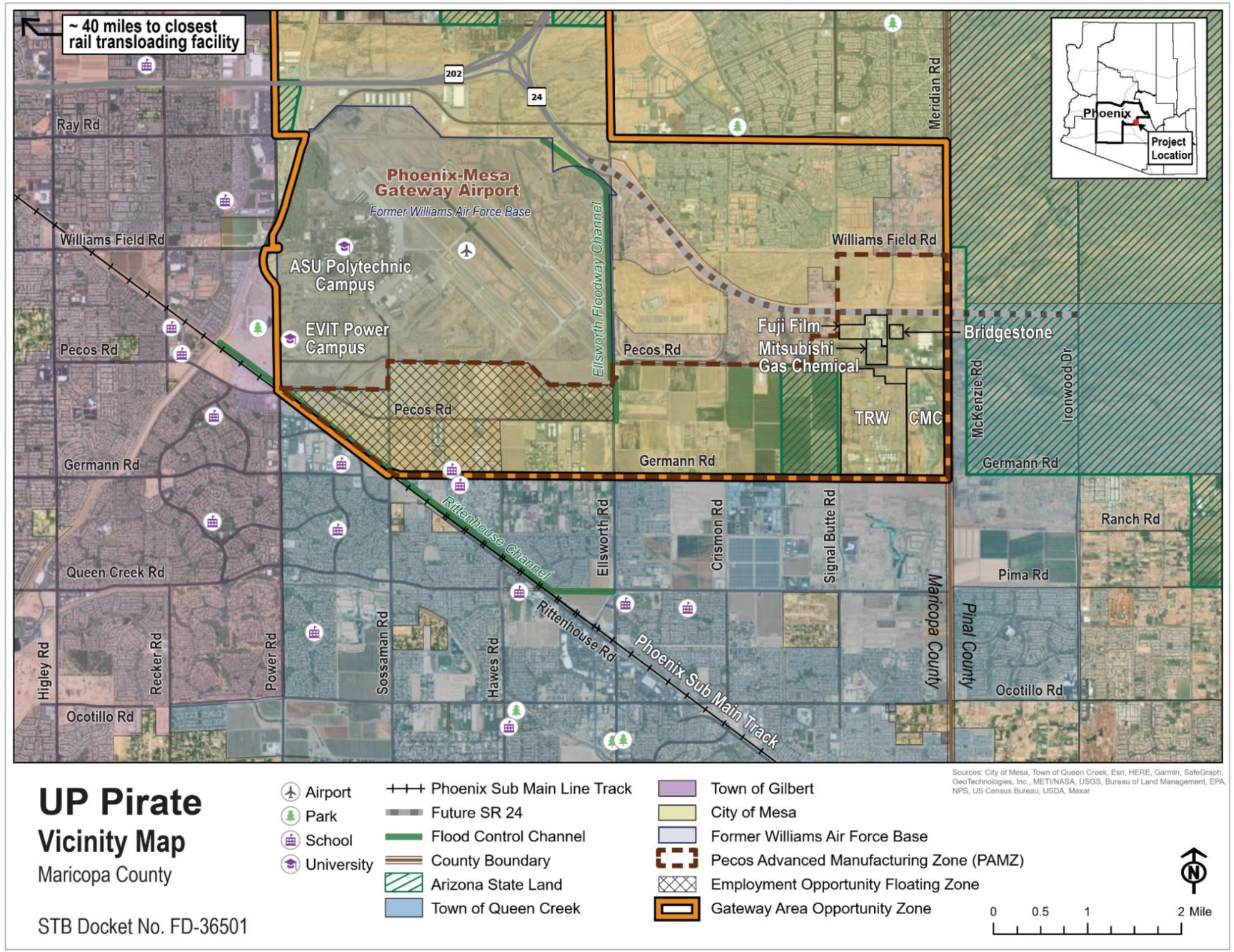
Danielle Gosselin
Director
Office of Environmental Analysis

Enclosures:

Attachment A – Vicinity Map
Attachment B – MOA Comment Tracking Table

Cc: Adam Assenza, OEA Environmental Protection Specialist, Adam.Assenza@stb.gov
Alan Tabachnick, OEA Federal Preservation Officer, Alan.Tabachnick@stb.gov
Maggie Buckley, Jacobs Project Manager, Maggie.Buckley@jacobs.com
Caroline Klebacha, Archaeological Compliance Specialist, cklebacha@azstateparks.gov

ATTACHMENT A – VICINITY MAP



ATTACHMENT B – MOA COMMENT TRACKING MATRIX

STB Docket Number FD 36501
Union Pacific Railroad Company – Construction and Operation Exemption – In Maricopa County, Arizona
Section 106 Consulting Parties Review: Draft Memorandum of Agreement (MOA), 4th Draft MOA
Comment Response Matrix

No.	Section	Line(s)	Comment	Comment Resolution
Reviewer: State Historic Preservation Office				
1	General	N/A	SHPO previously stated that our guidance document was out of date almost as soon as we put it up and that we work internally with a document that has notes from ACHP trainings and comments on other PAs – it is continuously updated. The organizational and other changes we originally requested reflect that. Specifically, the templates include stips for PAs when APE is not well-defined and effects of undertaking not known – as this has been determined, the redundancies should be removed. And yes, I still think it was a very good first draft! As more information was added, it became a little clumsy/awkward.	No resolution needed.
2	General	N/A	To clarify on your response to SHPO comments regarding signatory status, only those entities with S106 responsibilities are signatories and invited signatories pursuant 36 CFR 800.	No resolution needed.
3	Recital	17-18	Revise to state that federal agencies (list them) consulting on the undertaking agree that the Board is the lead federal agency for the Undertaking	Revised as requested
4	Recitals	24, 29-32 33	Recent discussion with ACHP suggests changing physical APE back to direct APE is appropriate (line 24). We also recommend revising for clarity line 29 beginning with "The physical APE…" to "The APE encompasses all areas of ground-disturbing activity that may result in physical, auditory, visual and/or vibrational effects to historic properties;" and note that Line 33 states the APE is described in Attachment A; only a map is necessary so revise to "…as depicted in Attachment A;" and	Language revised as requested.
5	Recitals	49-51 52-53	We recommend combining these two recitals and inserting it after current line 37 to keep the discussion about the APE together. Suggested language: **WHEREAS,** a total of 4.91 acres in the APE is private land and it will not be acquired or accessed. The land will be avoided for any current or future activities relating to the current Undertaking (see Attachment B), and this area was not surveyed for cultural resources; and	Language revised as requested. Based on further discussion with SHPO, clause was included below Comment 7.
6	Recitals	42-44	Remove this recital – 4.91 acres are addressed separately and the rest is covered in the addendum survey.	Removed as requested.
7	Recitals	38-41 45-48	We recommend combining these 2 recitals and moving it to after APE is defined: **WHEREAS**, the APE (with the exception of the 4.91 acres of private land) has been surveyed to identify historic properties as reported in *A Class III Cultural Resources Survey for the Union Pacific Railroad Company Pecos Industrial Rail Access and Train Extension (PIRATE) Project, Mesa and Queen Creek, Maricopa County, Arizona* (Rainey and Stubing 2022) and *A Class III Addendum Cultural Resources Survey for the Union Pacific Railroad Company Pecos Industrial Rail Access and Train Extension (PIRATE) Project, Mesa and Queen Creek, Maricopa County, Arizona* (Powell 2023), which OEA provided to the Consulting Parties for review and comment; and	Revised as requested and moved under APE definition.
8	Recitals	34-37	We recommend revising this recital as follows: **WHEREAS**, the two surveys identified four archaeological sites (AZ U:10:2[ASM], AZ U:10:69[ASM], AZ U:10:152[ASM], and AZ U:10:275[ASM]), and one historic in-use structure (the Mesa to Winkelman Spur of the Southern Pacific Railroad), determined by OAE to be eligible for inclusion in the National Register of Historic Places (NRHP), with SHPO concurrence (December 20, 2022); and	Revised as requested.
9	Recitals	54-58 59-63	We recommend combining recitals as follows; "WHEREAS, OEA has determined…that the Undertaking would have an adverse effect on four historic properties including sites AZ U:10:2(ASM), AZ U:10:69(ASM), AZ U:10:152(ASM) and AZ U:10:275(ASM), and no adverse effect to the character-defining features of the historic railroad spur; and	Revised as requested.
10	Recitals	136-145	We recommend moving this up after the recital addressing the criteria of adverse effect. Also revised line 141-145: **Whereas**, the Four Southern Tribes, based on prior ethnographic studies, have identified TCPs that may be effected by the undertaking and OEA has commit to continuing identification and evaluation efforts…." If there is a TCP, the affiliated tribes should be invited signatories (or at least GRIC).	Moved and revised as requested. Tribes were asked whether they wanted to be invited signatories. GRIC, SRPMIC, and Pascua Yaqui responded, and all wished to be CPs. Based on further discussion, the clause regarding the importance of the greater cultural landscape directly below this clause.
11	Stip I	165-167	You don't need an attachment if you are following 36 CFR 800.16. Also, list of acronyms is more of a NEPA thing and shouldn't be necessary as they are written out first.	We are respectfully keeping the attachment and acronym list, as it is standard to OEA agreement documents.

No.	Section	Line(s)	Comment	Comment Resolution
12	Stip I	165-167	Since you define “Signatories” here as required or full signatories and invited signatories, you should remove all subsequent reference in the document to Invited Signatories (line 174, 425, 628, 635, 656, 657, 659, 661)	All subsequent references to Invited Signatories removed, except in “Definitions” in Attachment C.
13	Stip III.B	192-194	Preferred SHPO language is: “In recognition of the special expertise tribal experts have concerning properties of traditional religious and/or cultural significance, the standards of 36 CFR § 61 will not apply to tribally designated representatives carrying out identification and evaluation efforts for such properties of tribal interest.”	Revised as requested.
14	Stip V.A.	225	Please change “impacts” to “effects”	Revised as requested.
15	Stip V.B.	227	Please change “impacts” to “effects”	Revised as requested.
16	Stip V.B	228-230	Statement that GRIC is taking the lead should be in the recitals and does not need to be repeated here.	Revised as requested.
17	Stip VI	260-274	This stipulation should only address potential changes/modifications to the APE – all else is redundant and should be removed.	Title changed to “Modifications to the APE”. Former Stipulations VI A and VI B have been removed.
18	Stip VI.B	275-279	This is not how indirect APE should be defined; please remove it in its entirety (if you have to keep this section at all).	Stipulation VI B has been removed.
19	Stip. VII	285-300, 301	We recommend changing the title to “Construction Variance and Review Process” and removing A and B, as they are redundant with information presented in recitals. We recommend the following language (see comment 20).	Title of stipulation changed.
20	Stip. VII.C	301	All construction needs cannot be anticipated in advance, and areas required for additional work space (e.g., access roads, ancillary facilities, reroutes, etc.) may be identified at any time following the acceptance of the Inventory Report(s) by the consulting parties. If any newly identified construction needs would result in ground disturbing activities outside of the surveyed areas identified in the Inventory Report, UP will request a variance review from the OEA, after having the variance APE surveyed for cultural resources by a qualified professional. If no cultural resources or properties of cultural or religious significance to Tribes are present within the variance APE, the results of the Class I and Class III inventories will be reported on the SHPO Survey Report Summary Form (SRSF) prior to any variance issuance or use for project-related activities. The OEA will provide an expedited review of the variance request, not to exceed five (5) working days following receipt, and will provide UP with written recommendations regarding the variance issuance via electronic mail. If cultural resources or properties of cultural or religious significance to Tribes are present within the variance APE, the Proponent’s archaeologist will prepare a Variance Inventory Report, and submit it via electronic mail to the OEA; the OEA will make DOEs and submit the Variance Inventory Report to the consulting parties for review and comment. The consulting parties will provide an expedited review within five (5) working days or less. If no objections to the DOEs and the proposed variance are received at the end of the 5-day period, the OEA shall provide UP’s archaeologist with written approval of the variance via electronic mail. If objections are received, additional consultation regarding the variance will ensue in accordance with the dispute resolution process found in [reference the Dispute Resolution stipulation here].	Respectfully changed “Inventory Report” to “Survey Report” and ”Proponent” to “Applicant” to be consistent with the rest of the document. Defined DOE, since it was not previously defined. All other language accepted verbatim.
21	Stip. IX	320	Please remove Stip. A (it’s redundant), and change title to “Resolving Adverse Effects”	Revised as requested. Stipulation A has been removed.
22	Stip. X	360	Create “C” beginning with “The HPTP shall include the following:” and replace bullets with numbers	Revised as requested.
23	Stip. X	413	Construction personnel education and safety is generally not part of the HPTP; recommend revising this to read: Discussion of permits, personnel qualifications, coordination and cultural sensitivity training for construction personnel.	Revised as requested.
24	Stip. XI.E	484	Please add: More time may be requested if revisions are substantive.	Revised as requested.
25	Stip. XII	501-502	“cultural resource monitor” is elsewhere referred to as “archaeological monitor”. Consider changing for consistency.	Changed to “archaeological monitor” for consistency.
26	Stip. XV	530-541	We’re not sure why Section 304 is invoked here… this Section is about allowing access of the public to the Section 106 process, which should include review of this agreement. This stip should provide more specificity on how the agency plans to address the regulatory requirement for public consultation.	As per additional clarification provided by SHPO, all references to Section 304 were removed from this stipulation. No additional specificity required regarding agency plans for public consultation is needed.
27	Stip. XVI	550	Re: coordination - What follow up will occur on the part of the agency to provide detail on how the response was handled, whether there were discoveries, and how those discoveries were/will be addressed post emergency?	As per additional clarification provided by SHPO, no response or revision is required.
28	Stip. XVII	558-560	Delete “If artifacts, samples, and records … meeting the standards outlined in 36 C.F.R. 79.”	Revised as requested.
29	Stip. XVIII	569	This should refer to “additional” historic property surveys and results, if any.	Revised as requested.
30	Stip. XVIII	571	There is not a stipulation for public education activities in the document.	Bullet point struck.
31	Stip. XVIII	578	This annual meeting should not be limited to a virtual meeting.	Revised to read “in person or virtual.”

No.	Section	Line(s)	Comment	Comment Resolution
32	Global		Fix formatting inconsistencies throughout.	Revised as requested.
33	Global		Double check cross-referenced stipulations throughout.	Reviewed as requested and modified accordingly.
34	Title	1	Delete “Revised Draft”.	Revised as requested.
35	Title and Signature Pages	7	Delete “Arizona”.	Revised as requested.
36	Footnote		Delete “Arizona”.	Revised as requested.
37	Recitals	61	Delete “to determine if TCPs are present in the Project APE”.	Revised as requested.
38	Recitals	64	Add “it” to “but **it** has not been”.	Revised as requested.
39	Recitals	70	Add “Section 106” before “responsibilities”.	Revised as requested.
40	Recitals	75-76	Delete “,” and add “and” after 36 C.F.R. § 800.3(f).	Revised as requested.
41	Recitals	83	Add “Authority after “Airport” and update acronym to “(PMGAA)”.	Revised as requested.
42	Recitals	120	Delete “a” before concurring Parties.	Revised as requested.
43	Recitals	125	Delete “,” after “Pueblo of Zuni”.	Revised as requested.
44	Stipulation	183	Change Section “IV” to Subpart “B” of Section III.	Revised as requested.
45	Stipulation	186	Make “Tribal Consultation” Section “IV”.	Revised as requested.
46	Stipulation	224	Two Subpart “Bs”. Update.	Revised as requested.
47	Stipulation	224, 230	Change “Ethnographer” to “ethnographer”.	Revised as requested.
48	Stipulation	318	Add subpart “B” to paragraph starting “OEA shall ensure that the HPTP…”.	Revised as requested.
49	Stipulation	324	Delete subpart B(original)/C (after the comment 17), which starts UP shall prepare and submit the draft HPTP…” Redundant with D/E.	Revised as requested.
50	Stipulation	528	Change “;” to “,” after “Annual Review of the MOA”.	Revised as requested.
51	Stipulation	561	Reformat to be a subpart “A”.	Revised as requested.
52	Stipulation	562	Add “occurs” after “tribal patrimony”.	Revised as requested.
53	Attachment D		Change phone number for Kathryn Leonard to (602) 542-4009.	Revised as requested.
Reviewer: Shannon Plummer, Arizona State Museum				
32	Stipulation X(A)	347-349	Change “animal funerary remains” to “funerary objects” to consistent with the language in state law. After the sentence, it may be added that animal funerary remains shall be treated the same as human remains.	Revised as requested.
33	Stipulation X(B)	378-380	Change “animal funerary remains” to “funerary objects” to consistent with the language in state law. After the sentence, it may be added that animal funerary remains shall be treated the same as human remains.	Revised as requested.
34	Stipulation X(B)	384-388	Change “animal funerary remains” to “funerary objects” to consistent with the language in state law. After the sentence, it may be added that animal funerary remains shall be treated the same as human remains.	Revised as requested.
35	Stipulation X(B)	410	Change “funerary belonging” to “funerary object” to be consistent with the language in state law.	Revised as requested.
36	Stipulation XIX	595-596	Change “animal funerary remains” to “funerary objects” to consistent with the language in state law. After the sentence, it may be added that animal funerary remains shall be treated the same as human remains.	Revised as requested.
Reviewer: Alex Ryan, U.S. Army Corps of Engineers				
37	Recitals	No line specified	Revised the phase “dredge or fill” to “dredged or fill materials” as this is the language used in our regulations.	Revised as requested.

Powell, Kris

From: Williams, Mike N (FAA) <Mike.N.Williams@faa.gov>
Sent: Saturday, July 29, 2023 7:52 AM
To: Powell, Kris
Cc: Tabachnick, Alan; Assenza, Adam; Buckley, Maggie; Phoebus, Elizabeth (Betsi); Luhnow, Glennda
Subject: [EXTERNAL] RE: Continuing Section 106 Consultation - UPPR Pirate Revised MOA

Follow Up Flag: Follow up
Flag Status: Flagged

Kris, We have no objections nor additional comments on the Revised Draft MOA.

Thanks!

Mike N Williams
Manager, PHX-600
Phoenix Airports District Office
Office of Airports
Western-Pacific Region
3800 N Central Avenue
Suite 1025, 10th Floor
Phoenix, AZ 85012
602-792-1064
FAX 602-792-1061
mike.n.williams@faa.gov

World leaders in creating a safe and efficient system of airports
We value Integrity, Collaboration and Innovation!

From: Powell, Kris <Kris.Powell@jacobs.com>
Sent: Friday, July 21, 2023 14:19
To: Williams, Mike N (FAA) <Mike.N.Williams@faa.gov>
Cc: Tabachnick, Alan <alan.tabachnick@stb.gov>; Assenza, Adam <adam.assenza@stb.gov>; Buckley, Maggie <Maggie.Buckley@jacobs.com>; Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>; Luhnow, Glennda <Glennda.Luhnow@jacobs.com>
Subject: Continuing Section 106 Consultation - UPPR Pirate Revised MOA

Good Afternoon Mr. Williams:

As the Surface Transportation Board's (Board) Office of Environmental Analysis (OEA) stated in previous Section 106 consultation conducted under the National Historic Preservation Act, on June 30, 2022, the Union Pacific Railroad Company (UP) filed a petition with the Board requesting authority to construct and operate approximately six miles of new rail line in Maricopa County, Arizona (the proposed Pecos Industrial Rail Access and Train Extension [PIRATE] rail line).

OEA has circulated four versions of the project's draft Memorandum of Agreement (MOA). The most recent version was circulated on May 26, 2023. Editorial comments were received from the Arizona State Historic Preservation Office (SHPO). Minor comments were also received from the United States Army Corps of Engineers (Corps) and the Arizona State Museum (ASM). The attached Section 106 consultation letter and comment resolution matrix provides a summary of the comments submitted by SHPO, ASM, and the Corps. The resolution of these comments is presented in the attached Revised Draft MOA.

OEA requests your concurrence on the attached Revised Draft MOA by August 4, 2023. OEA will reach out to you directly during this 15-day review period to inquire about any final questions you may have. Please feel free to contact Alan Tabachnick, STB's Federal Preservation Officer, at Alan.Tabachnick@stb.gov with any questions about the Section 106 process or the Revised Draft MOA. And thanks again for all of your input on this project – we appreciate it.

Regards,

Kris Powell, M.A., RPA (she/her) | **JACOBS** | **Senior Archaeologist**
C: 602-463-5843 | kris.powell@jacobs.com
1501 West Fountainhead Parkway, Suite 401 | Tempe, Arizona 85282 | USA

PTO August 17 thru August 23

NOTICE - This communication may contain confidential and privileged information that is for the sole use of the intended recipient. Any viewing, copying or distribution of, or reliance on this message by unintended recipients is strictly prohibited. If you have received this message in error, please notify us immediately by replying to the message and deleting it from your computer.

From: Tiffany Grew
Sent on: Tuesday, August 1, 2023 4:15:23 PM
To: Powell, Kris
CC: Assenza, Adam; Tabachnick, Alan; Buckley, Maggie; Luhnow, Glennda; Phoebus, Elizabeth (Betsi); Medelman@azland.gov; Michael Romero; Archaeology - Land
Subject: [EXTERNAL] RE: Continuing Section 106 Consultation - UPPR Pirate Revised MOA

Good afternoon,

The ASLD Cultural Resource Section agrees with the continued finding of "adverse effect" for the project and have no comments on the revised Draft MOA.
Thank you,

Tiffany L. Grew | Archaeological Compliance Specialist
As agent for Arizona State Land Department
P: 602-542-2679
1110 W. Washington Street | Phoenix, AZ 85007 | tgrew@azland.gov

Funding Arizona Public Schools and Institutions since 1915

---------- Forwarded message ---------
From: **Powell, Kris** <Kris.Powell@jacobs.com>
Date: Fri, Jul 21, 2023 at 1:57 PM
Subject: Continuing Section 106 Consultation - UPPR Pirate Revised MOA
To: Mark Edelman <medelman@azland.gov>
Cc: Tiffany Grew <tgrew@azland.gov>, Assenza, Adam <adam.assenza@stb.gov>, Tabachnick, Alan <alan.tabachnick@stb.gov>, Buckley, Maggie <Maggie.Buckley@jacobs.com>, Luhnow, Glennda <Glennda.Luhnow@jacobs.com>, Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>, Michael Romero <mromero@azland.gov>

Good Afternoon Mr. Edelman:

As the Surface Transportation Board's (Board) Office of Environmental Analysis (OEA) stated in previous Section 106 consultation conducted under the National Historic Preservation Act, on June 30, 2022, the Union Pacific Railroad Company (UP) filed a petition with the Board requesting authority to construct and operate approximately six miles of new rail line in Maricopa County, Arizona (the proposed Pecos Industrial Rail Access and Train Extension [PIRATE] rail line).

OEA has circulated four versions of the project's draft Memorandum of Agreement (MOA). The most recent version was circulated on May 26, 2023. Editorial comments were received from the Arizona State Historic Preservation Office (SHPO). Minor comments were also received from the United States Army Corps of Engineers (Corps) and the Arizona State Museum (ASM). The attached Section 106 consultation letter and comment resolution matrix provides a summary of the comments submitted by SHPO, ASM, and the Corps. The resolution of these comments is presented in the attached Revised Draft MOA.

OEA requests your concurrence on the attached Revised Draft MOA by August 4, 2023. OEA will reach out to you directly during this 15-day review period to inquire about any final questions you may have. Please feel free to contact Alan Tabachnick, STB's Federal Preservation Officer, at Alan.Tabachnick@stb.gov with any questions about the Section 106 process or the Revised Draft MOA. And thanks again for all of your input on this project – we appreciate it.

Regards,

Kris Powell, M.A., RPA (she/her) | **JACOBS** | **Senior Archaeologist**
C: 602-463-5843 | kris.powell@jacobs.com
1501 West Fountainhead Parkway, Suite 401 | Tempe, Arizona 85282 | USA

PTO August 17 thru August 23

NOTICE - This communication may contain confidential and privileged information that is for the sole use of the intended recipient. Any viewing, copying or distribution of, or reliance on this message by unintended recipients is strictly prohibited. If you have received this message in error, please notify us immediately by replying to the message and deleting it from your computer.

From: Williams, Mike N (FAA)
Sent on: Saturday, July 29, 2023 7:52:28 AM
To: Powell, Kris
CC: Tabachnick, Alan; Assenza, Adam; Buckley, Maggie; Phoebus, Elizabeth (Betsi); Luhnow, Glennda
Subject: [EXTERNAL] RE: Continuing Section 106 Consultation - UPPR Pirate Revised MOA

Kris, We have no objections nor additional comments on the Revised Draft MOA.

Thanks!

Mike N Williams
Manager, PHX-600
Phoenix Airports District Office
Office of Airports
Western-Pacific Region
3800 N Central Avenue
Suite 1025, 10th Floor
Phoenix, AZ 85012
602-792-1064
FAX 602-792-1061
mike.n.williams@faa.gov

World leaders in creating a safe and efficient system of airports
We value Integrity, Collaboration and Innovation!

From: Powell, Kris <Kris.Powell@jacobs.com>
Sent: Friday, July 21, 2023 14:19
To: Williams, Mike N (FAA) <Mike.N.Williams@faa.gov>
Cc: Tabachnick, Alan <alan.tabachnick@stb.gov>; Assenza, Adam <adam.assenza@stb.gov>; Buckley, Maggie <Maggie.Buckley@jacobs.com>; Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>; Luhnow, Glennda <Glennda.Luhnow@jacobs.com>
Subject: Continuing Section 106 Consultation - UPPR Pirate Revised MOA

Good Afternoon Mr. Williams:

As the Surface Transportation Board's (Board) Office of Environmental Analysis (OEA) stated in previous Section 106 consultation conducted under the National Historic Preservation Act, on June 30, 2022, the Union Pacific Railroad Company (UP) filed a petition with the Board requesting authority to construct and operate approximately six miles of new rail line in Maricopa County, Arizona (the proposed Pecos Industrial Rail Access and Train Extension [PIRATE] rail line).

OEA has circulated four versions of the project's draft Memorandum of Agreement (MOA). The most recent version was circulated on May 26, 2023. Editorial comments were received from the Arizona State Historic Preservation Office (SHPO). Minor comments were also received from the United States Army Corps of Engineers (Corps) and the Arizona State Museum (ASM). The attached Section 106 consultation letter and comment resolution matrix provides a summary of the comments submitted by SHPO, ASM, and the Corps. The resolution of these comments is presented in the attached Revised Draft MOA.

OEA requests your concurrence on the attached Revised Draft MOA by August 4, 2023. OEA will reach out to you directly during this 15-day review period to inquire about any final questions you may have. Please feel free to contact Alan Tabachnick, STB's Federal Preservation Officer, at Alan.Tabachnick@stb.gov with any questions about the Section 106 process or the Revised Draft MOA. And thanks again for all of your input on this project – we appreciate it.

Regards,

Kris Powell, M.A., RPA (she/her) | **JACOBS** | **Senior Archaeologist**
C: 602-463-5843 | kris.powell@jacobs.com
1501 West Fountainhead Parkway, Suite 401 | Tempe, Arizona 85282 | USA

PTO August 17 thru August 23

NOTICE - This communication may contain confidential and privileged information that is for the sole use of the intended recipient. Any viewing, copying or distribution of, or reliance on this message by unintended recipients is strictly prohibited. If you have received this message in error, please notify us immediately by replying to the message and deleting it from your computer.

From: Edward Raleigh (FCD)
Sent on: Friday, August 4, 2023 10:05:31 AM
To: Powell, Kris; Michael Fulton (FCD)
CC: Assenza, Adam; Tabachnick, Alan; Buckley, Maggie; Phoebus, Elizabeth (Betsi); Luhnow, Glennda; Scott Vogel (FCD)
Subject: [EXTERNAL] RE: Continuing Section 106 Consultation - UPPR Pirate Revised MOA

On behalf of the Flood Control District of Maricopa County, I have no issue or comment on the subject revised MOA. Thanks for inviting FCDMC to sign as a concurring partner, but since it is not required that we do so, it is unlikely that we will send this to our Board of Directors for a signature. Please send future correspondence to Scott Vogel, acting Chief Engineer and General Manger, Scott.Vogel@maricopa.gov, as Mike Fulton is retiring and today is his last day at the District.

Edward Raleigh
Sr. Engineering Advisor
Flood Control District
2801 W Durango St Phoenix, AZ 85009
O: 602-506-4704 **C:** 602-526-6018
E: Edward.Raleigh@Maricopa.Gov
[Maricopa.Gov]
Facebook | Instagram | Twitter | YouTube | LinkedIn

From: Powell, Kris <Kris.Powell@jacobs.com>
Sent: Friday, July 21, 2023 2:01 PM
To: Michael Fulton (FCD) <Michael.Fulton@maricopa.gov>
Cc: Assenza, Adam <adam.assenza@stb.gov>; Tabachnick, Alan <alan.tabachnick@stb.gov>; Buckley, Maggie <Maggie.Buckley@jacobs.com>; Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>; Luhnow, Glennda <Glennda.Luhnow@jacobs.com>; Edward Raleigh (FCD) <Edward.Raleigh@Maricopa.Gov>
Subject: Continuing Section 106 Consultation - UPPR Pirate Revised MOA

Good Afternoon Mr. Fulton:

As the Surface Transportation Board's (Board) Office of Environmental Analysis (OEA) stated in previous Section 106 consultation conducted under the National Historic Preservation Act, on June 30, 2022, the Union Pacific Railroad Company (UP) filed a petition with the Board requesting authority to construct and operate approximately six miles of new rail line in Maricopa County, Arizona (the proposed Pecos Industrial Rail Access and Train Extension [PIRATE] rail line).

OEA has circulated four versions of the project's draft Memorandum of Agreement (MOA). The most recent version was circulated on May 26, 2023. Editorial comments were received from the Arizona State Historic Preservation Office (SHPO). Minor comments were also received from the United States Army Corps of Engineers (Corps) and the Arizona State Museum (ASM). The attached Section 106 consultation letter and comment resolution matrix provides a summary of the comments submitted by SHPO, ASM, and the Corps. The resolution of these comments is presented in the attached Revised Draft MOA.

OEA requests your concurrence on the attached Revised Draft MOA by August 4, 2023. OEA will reach out to you directly during this 15-day review period to inquire about any final questions you may have. Please feel free to contact Alan Tabachnick, STB's Federal Preservation Officer, at Alan.Tabachnick@stb.gov with any questions about the Section 106 process or the Revised Draft MOA. And thanks again for all of your input on this project – we appreciate it.

Regards,

Kris Powell, M.A., RPA (she/her) | **JACOBS** | **Senior Archaeologist**
C: 602-463-5843 | kris.powell@jacobs.com
1501 West Fountainhead Parkway, Suite 401 | Tempe, Arizona 85282 | USA

PTO August 17 thru August 23

NOTICE - This communication may contain confidential and privileged information that is for the sole use of the intended recipient. Any viewing, copying or distribution of, or reliance on this message by unintended recipients is strictly prohibited. If you have received this message in error, please notify us immediately by replying to the message and deleting it from your computer.

From: Luhnow, Glennda
Sent: Tuesday, August 8, 2023 8:03 AM
To: Larry Benallie Jr; Powell, Kris
Cc: Tabachnick, Alan
Subject: RE: Field View August 16th, early morning

Hi Larry,

Thank you for your response. Given the damage to the archaeological sites, the MOA and HPTP will need to be revisited. There is no need for any further review of those documents at this time.

We are profoundly saddened and angered by this damage. The Director of the Office of Environmental Analysis (OEA), Alan Tabachnick (STB's Federal Preservation Officer), and STB's counsel, have been, and continue to be, in communication with UP. The August 16th onsite meeting is an opportunity for us to speak face-to-face about how the damage occurred, future steps, and repercussions. OEA is continuing to investigate this very difficult situation and we will be working with them on the damage assessment process. Additional more detailed information will be shared with you over the coming days. Feel free to contact me, or you can reach out to Alan Tabachnick (alan.tabachnick@stb.gov, 202-934-8469) at any time to discuss the project and this situation.

Thanks again for reaching out to us.
g

Glennda Luhnow, M.A., RPA | **JACOBS** | **Manager/Archaeology and Cultural Resources** |
C: 480-510-0830 | glennda.luhnow@jacobs.com
1501 West Fountainhead Parkway, Suite 401 | Tempe, Arizona 85282 | USA

From: Larry Benallie Jr <Larry.BenallieJr@gric.nsn.us>
Sent: Monday, August 7, 2023 10:53 AM
To: Powell, Kris <Kris.Powell@jacobs.com>; Luhnow, Glennda <Glennda.Luhnow@jacobs.com>
Subject: [EXTERNAL] FW: Field View August 16th, early morning

Due date for HPTP comments was August 4, 2023? Will that be revised? Do you remember when I told the Surface Transportation Board that private development of the project area was proceeding at a fast speed. I asked how are you going to avoid damaging sites? Obviously that went over everyone's head.

Larry Benallie, Jr.
Archaeological Compliance Specialist
Tribal Historic Preservation Office
Gila River Indian Community
P.O. Box 2193
Sacaton, Arizona 85147
(520) 562-7153
Larry.BenallieJr@gric.nsn.us

Government to Government Consultation Toolkit

From: Tabachnick, Alan <alan.tabachnick@stb.gov>
Sent: Monday, August 7, 2023 6:27:21 AM
To: Anton, Shane <Shane.Anton@SRPMIC-nsn.gov>
Cc: Luhnow, Glennda <Glennda.Luhnow@jacobs.com>; Powell, Kris <Kris.Powell@jacobs.com>; Buckley, Maggie <Maggie.Buckley@jacobs.com>; Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>; Assenza, Adam <Adam.Assenza@stb.gov>
Subject: Field View August 16th, early morning

ATTENTION: This email came from an external source. Do not open attachments or click on links from unknown senders or unexpected emails.

Hi. We are setting up a field meeting to view the damage to the sites that we discussed last week, early in the morning on Wednesday, August 16th. The damage was caused by the construction of two drainage basins within UP ROW and within the APE for the Pirate project. The construction was undertaken by the adjacent developers/property owners, with the approval of UP. [redacted]. We will be sending out maps and photos and more description soon.

I talked with Barnaby on Friday and he is free that morning. I hope you are able to join us as well. I am reaching out to the SHPO to invite them as well. I wanted to contact you as quickly as I could to give you as much notice as possible. More details will follow in the next few days. Let me know if you have any questions. Thanks very much.

Alan Tabachnick

Federal Preservation Officer
Surface Transportation Board
Office of Environmental Analysis
395 E St SW
Washington, DC 20423

202-245-0367 (o)
202-934-8469 (c)
alan.tabachnick@stb.gov

From: Maribeth Smith on behalf of William Jabjiniak
Sent on: Wednesday, August 2, 2023 11:32:15 AM
To: Powell, Kris
CC: Assenza, Adam; Tabachnick, Alan; Buckley, Maggie; Phoebus, Elizabeth (Betsi); Luhnow, Glennda; Mary Kopaskie-Brown; William Jabjiniak; Nana Appiah; Robert Apodaca
Subject: [EXTERNAL] RE: Continuing Section 106 Consultation - UPPR Pirate Revised MOA

Good morning Ms. Powell,

City of Mesa representatives have reviewed the July 21, 2023, Section 106 consultation letter and comment resolution matrix and concur with the Revised Draft MOA.

Thank you for the opportunity to provide input.

Sincerely,

William J. Jabjiniak
Economic Development Director
City of Mesa Office of Economic Development
120 N Center St | Mesa, AZ 85201
480.644.3561 | www.selectmesa.com | Sign up for Mesa's E-Newsletter
Office hours are Monday - Thursday, 7 a.m. to 6 p.m.; closed on Fridays, holidays, and weekends.

From: Powell, Kris <Kris.Powell@jacobs.com>
Sent: Friday, July 21, 2023 2:16 PM
To: William Jabjiniak <William.Jabjiniak@mesaaz.gov>
Cc: Assenza, Adam <adam.assenza@stb.gov>; Tabachnick, Alan <alan.tabachnick@stb.gov>; Buckley, Maggie <Maggie.Buckley@jacobs.com>; Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>; Luhnow, Glennda <Glennda.Luhnow@jacobs.com>
Subject: Continuing Section 106 Consultation - UPPR Pirate Revised MOA

Good Afternoon Mr. Jabjiniak:

As the Surface Transportation Board's (Board) Office of Environmental Analysis (OEA) stated in previous Section 106 consultation conducted under the National Historic Preservation Act, on June 30, 2022, the Union Pacific Railroad Company (UP) filed a petition with the Board requesting authority to construct and operate approximately six miles of new rail line in Maricopa County, Arizona (the proposed Pecos Industrial Rail Access and Train Extension [PIRATE] rail line).

OEA has circulated four versions of the project's draft Memorandum of Agreement (MOA). The most recent version was circulated on May 26, 2023. Editorial comments were received from the Arizona State Historic Preservation Office (SHPO). Minor comments were also received from the United States Army Corps of Engineers (Corps) and the Arizona State Museum (ASM). The attached Section 106 consultation letter and comment resolution matrix provides a summary of the comments submitted by SHPO, ASM, and the Corps. The resolution of these comments is presented in the attached Revised Draft MOA.

OEA requests your concurrence on the attached Revised Draft MOA by August 4, 2023. OEA will reach out to you directly during this 15-day review period to inquire about any final questions you may have. Please feel free to contact Alan Tabachnick, STB's Federal Preservation Officer, at Alan.Tabachnick@stb.gov with any questions about the Section 106 process or the Revised Draft MOA. And thanks again for all of your input on this project – we appreciate it.

Regards,

Kris Powell, M.A., RPA (she/her) | **JACOBS** | **Senior Archaeologist**
C: 602-463-5843 | kris.powell@jacobs.com
1501 West Fountainhead Parkway, Suite 401 | Tempe, Arizona 85282 | USA

PTO August 17 thru August 23

NOTICE - This communication may contain confidential and privileged information that is for the sole use of the intended recipient. Any viewing, copying or distribution of, or reliance on this message by unintended recipients is strictly prohibited. If you have received this message in error, please notify us immediately by replying to the message and deleting it from your computer.

From: Caroline Klebacha
Sent on: Tuesday, August 1, 2023 1:43:07 PM
To: Powell, Kris
CC: Kathryn Leonard; Tabachnick, Alan; Assenza, Adam; Buckley, Maggie; Phoebus, Elizabeth (Betsi); Luhnow, Glennda; mwalsh@azstateparks.gov
Subject: [EXTERNAL] Re: Continuing Section 106 Consultation - UPPR Pirate Revised MOA

Good afternoon,

Thank you for the opportunity to review this MOA. As you know, due to scheduling conflicts, Kathryn was not able to review the most recent drafts of the MOA. Kathryn, Mary-Ellen, and I were able to review this draft. We have one comment for the current version.

- Stipulation V, Subpart C states that the scale of the TCP evaluation would be "determined by OEA based on communication with the ethnographer in conjunction with elders and other Native consultants." We believe it might be better phrased to state, OEA will collaborate with the ethnographer and Tribes to determine the scale of the TCP evaluation.

Sincerely,

Caroline

Caroline Klebacha, M.A.
Archaeological Compliance Specialist
State Historic Preservation Office
A Division of Arizona State Parks & Trails
Please use azshpo@azstateparks.gov for all consultation!

1110 West Washington Street, Suite 100
Phoenix, AZ 85007-2957
Phone: 602-542-7140
Email: cklebacha@azstateparks.gov
Web: http://AZStateParks.com/SHPO

On Fri, Jul 21, 2023 at 2:08 PM Powell, Kris <Kris.Powell@jacobs.com> wrote:

> Good Afternoon Ms. Leonard:
>
> As the Surface Transportation Board's (Board) Office of Environmental Analysis (OEA) stated in previous Section 106 consultation conducted under the National Historic Preservation Act, on June 30, 2022, the Union Pacific Railroad Company (UP) filed a petition with the Board requesting authority to construct and operate approximately six miles of new rail line in Maricopa County, Arizona (the proposed Pecos Industrial Rail Access and Train Extension [PIRATE] rail line).
>
> OEA has circulated four versions of the project's draft Memorandum of Agreement (MOA). The most recent version was circulated on May 26, 2023. Editorial comments were received from the Arizona State Historic Preservation Office (SHPO). Minor comments were also received from the United States Army Corps of Engineers (Corps) and the Arizona State Museum (ASM). The attached Section 106 consultation letter and comment resolution matrix provides a summary of the comments submitted by SHPO, ASM, and the Corps. The resolution of these comments is presented in the attached Revised Draft MOA.
>
> OEA requests your concurrence on the attached Revised Draft MOA by August 4, 2023. OEA will reach out to you directly during this 15-day review period to inquire about any final questions you may have. Please feel free to contact Alan Tabachnick, STB's Federal Preservation Officer, at Alan.Tabachnick@stb.gov with any questions about the Section 106 process or the Revised Draft MOA. And thanks again for all of your input on this project – we appreciate it.
>
> Regards,
>
> **Kris Powell, M.A., RPA (she/her)** | **JACOBS** | **Senior Archaeologist**
>
> C: 602-463-5843 | kris.powell@jacobs.com
> 1501 West Fountainhead Parkway, Suite 401 | Tempe, Arizona 85282 | USA
>
> **PTO August 17 thru August 23**
>
> ---
>
> NOTICE - This communication may contain confidential and privileged information that is for the sole use of the intended recipient. Any viewing, copying or distribution of, or reliance on this message by unintended recipients is strictly prohibited. If you have received this message in error, please notify us immediately by replying to the message and deleting it from your computer.

From: Eiselt, Sunday
Sent on: Friday, August 4, 2023 2:44:58 PM
To: Powell, Kris; Luhnow, Glennda
Subject: [EXTERNAL] RE: Continuing Section 106 Consultation - UPRR Pirate Revised MOA

Hi Kris and Glennda. We realize the deadline for concurrence on the final Draft MOA is today (August 4), but we would like an extension to the end of next week – August 11 - in order to confer with GRIC THPO over the recent events. Thank you in advance.

B. Sunday Eiselt Ph.D
THPO Archaeologist
Salt River Pima-Maricopa Indian Community
10,005 E. Osborn Road
Scottsdale, AZ 85256
Sunday.Eiselt@srpmic-nsn.gov
Office: (480) 362 3347

From: Powell, Kris <Kris.Powell@jacobs.com>
Sent: Friday, July 21, 2023 2:35 PM
To: Bohnee, Gary <Gary.Bohnee@SRPMIC-nsn.gov>
Cc: Anton, Shane <Shane.Anton@SRPMIC-nsn.gov>; Garcia-Lewis, Angela <Angela.Garcia-Lewis@SRPMIC-nsn.gov>; Eiselt, Sunday <Sunday.Eiselt@srpmic-nsn.gov>; Martinez, Martha <Martha.Martinez@SRPMIC-nsn.gov>; Assenza, Adam <adam.assenza@stb.gov>; Tabachnick, Alan <alan.tabachnick@stb.gov>; Buckley, Maggie <Maggie.Buckley@jacobs.com>; Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>; Luhnow, Glennda <Glennda.Luhnow@jacobs.com>
Subject: Continuing Section 106 Consultation - UPRR Pirate Revised MOA

ATTENTION: This email came from an external source. Do not open attachments or click on links from unknown senders or unexpected emails.

Good Afternoon President Harvier:

As the Surface Transportation Board's (Board) Office of Environmental Analysis (OEA) stated in previous Section 106 consultation conducted under the National Historic Preservation Act, on June 30, 2022, the Union Pacific Railroad Company (UP) filed a petition with the Board requesting authority to construct and operate approximately six miles of new rail line in Maricopa County, Arizona (the proposed Pecos Industrial Rail Access and Train Extension [PIRATE] rail line).

OEA has circulated four versions of the project's draft Memorandum of Agreement (MOA). The most recent version was circulated on May 26, 2023. Editorial comments were received from the Arizona State Historic Preservation Office (SHPO). Minor comments were also received from the United States Army Corps of Engineers (Corps) and the Arizona State Museum (ASM). The attached Section 106 consultation letter and comment resolution matrix provides a summary of the comments submitted by SHPO, ASM, and the Corps. The resolution of these comments is presented in the attached Revised Draft MOA.

OEA requests your concurrence on the attached Revised Draft MOA by August 4, 2023. OEA will reach out to you directly during this 15-day review period to inquire about any final questions you may have. Please feel free to contact Alan Tabachnick, STB's Federal Preservation Officer, at Alan.Tabachnick@stb.gov with any questions about the Section 106 process or the Revised Draft MOA. And thanks again for all of your input on this project – we appreciate it.

Regards,

Kris Powell, M.A., RPA (she/her) | **JACOBS** | **Senior Archaeologist**
C: 602-463-5843 | kris.powell@jacobs.com
1501 West Fountainhead Parkway, Suite 401 | Tempe, Arizona 85282 | USA

PTO August 17 thru August 23

NOTICE - This communication may contain confidential and privileged information that is for the sole use of the intended recipient. Any viewing, copying or distribution of, or reliance on this message by unintended recipients is strictly prohibited. If you have received this message in error, please notify us immediately by replying to the message and deleting it from your computer.

From: Ryan, Alexandra R (Alex) CIV USARMY CESPL (USA)
Sent on: Thursday, July 27, 2023 8:56:25 AM
To: Powell, Kris
CC: Tabachnick, Alan; Assenza, Adam; Buckley, Maggie; McNeish, Sabra; Luhnow, Glennda
Subject: [EXTERNAL] RE: UPRR PIRATE Continuing Section 106 Consultation-Revised Draft MOA

Good morning,

This office has received the revised draft MOA sent via email on July 21, 2023. All future correspondence regarding this project should remain addressed to Sallie Diebolt but sent directly to me at this email address.

The Corps has no further comments at this time. We appreciate the continued coordination and opportunity to review.

For situational awareness, I will be out of the office from Aug. 1 – Aug. 8.

Thank you,
Alex

Alexandra Ryan
Project Manager
Regulatory Division, Arizona Branch
Los Angeles District, U.S. Army Corps of Engineers

Office: 602-230-6954
Mobile: 602-284-2642

Please do not mail hard copy documents to any Regulatory staff or office. For further details on corresponding with us, please view our special public notice at:
https://www.spl.usace.army.mil/Portals/17/docs/publicnotices/COVID19%20Regulatory_SPN.pdf?ver=2020-03-19-134532-833

SURFACE TRANSPORTATION BOARD
Washington, DC 20423

Office of Environmental Analysis

Ms. Kathryn Leonard
State Historic Preservation Officer
Arizona State Parks, State Historic Preservation Office
1110 West Washington Street, Suite 100
Phoenix, AZ 85007

September 13, 2023

Re: Docket No. FD 36501, Union Pacific Railroad Company – Construction and Operation Exemption – in Maricopa County, Ariz., Continuation of National Historic Preservation Act Section 106 Consultation on Archaeological Site Damage

Dear Ms. Leonard:

This Section 106 consultation letter provides all consulting parties with a summary of the current information about the archaeological site disturbances and damage that has occurred on land owned by the Union Pacific Railroad Company (UP) in the area of potential effects (APE) for the above-referenced proceeding. In addition, this letter sets out the site protection measures that UP is taking to protect against further damage. Lastly, the Surface Transportation Board's (Board's) Office of Environmental Analysis (OEA) announces that it will hold a virtual public meeting on **Wednesday, October 4, 2023, from 10:00 a.m. to 12:00 p.m.** (Arizona time), to discuss these issues further.

Background

On June 30, 2022, UP filed a petition with the Board pursuant to 49 U.S.C. § 10502 requesting authority to construct and operate approximately 6.0 miles of new rail line in Maricopa County, Arizona (the Pecos Industrial Rail Access and Train Extension [PIRATE]) (Attachment A – Project Location). Before making its decision on whether to grant such authority, the Board must consider the potential environmental and historic impacts of the construction and operation of UP's proposed rail line, pursuant to the National Environmental Policy Act (NEPA) (42 U.S.C. §§ 4321-4370m-11), Section 106 of the National Historic Preservation Act (NHPA) (54 U.S.C. § 306108), the Board's environmental rules at 49 C.F.R. Part 1105, and related environmental laws.

OEA initiated consultation pursuant to Section 106 of the NHPA on April 6, 2022. During the remainder of 2022, OEA developed the APE, conducted two Class III surveys, assessed surveyed areas in the APE, made National Register of Historic Places (NRHP) eligibility determinations, and developed treatment recommendations. Beginning in January 2023 and continuing through July 2023, OEA circulated draft versions of a Memorandum of Agreement (MOA) to address the project's adverse effect finding.

On May 31, 2023, OEA issued a Draft Environmental Assessment (Draft EA) addressing potential environmental and historic impacts for public review and comment. On July 28, 2023, OEA learned that there had been significant ground disturbance and damage to archaeological resources in the APE, including within the proposed right-of-way. Such activities should not have

taken place because the environmental and historic review for this project is still ongoing, and the Board has yet to issue a decision authorizing construction and operation of the proposed rail line.

OEA promptly investigated the situation and directed UP to cease and desist and to immediately take steps to secure the right-of-way within the APE to prevent further damage. OEA notified the State Historic Preservation Officer (SHPO), the Gila River Indian Community Tribal Historic Preservation Officer (THPO), and the Salt River Pima-Maricopa Indian Community THPO of the damage on August 4, 2023. OEA notified the Hopi Tribe and the Pascua Yaqui Tribe THPOs on August 9, 2023 and had additional conversations with the Tohono O'odham Nation THPO. OEA also notified the U.S. Army Corps of Engineers on September 5, 2023.

On August 16, 2023, OEA and Jacobs Engineering Group Inc. (Jacobs), OEA's independent third-party contractor, conducted an in-person field meeting with the Gila River Indian Community THPO, Salt River Pima-Maricopa Indian Community THPO staff, Tohono O'odham Nation THPO staff, and SHPO staff. On August 17, 2023, OEA and Jacobs conducted an in-person field meeting with UP. On August 18, 2023, OEA and Jacobs presented information about the damage to the Four Southern Tribes Working Group, in a meeting hosted by the Salt River Pima-Maricopa Indian Community. Representatives of the Gila River Indian Community, the Salt River Pima-Maricopa Indian Community, the Tohono O'odham Nation, the Ak-Chin Indian Community, SHPO, the Arizona Museum of Natural History, and other historic preservation agencies and professionals attended the meeting.

On August 24, 2023, Peter Steere, the Tohono O'odham Nation THPO, requested that the EA process be put on hold until a damage assessment report is completed, and potential mitigation to address the damage and any related legal issues are resolved. Other affected tribes made similar requests at OEA's meetings (August 16 and 18, 2023). Given all of these circumstances, OEA issued a notice on August 31, 2023, announcing that issuance of a Final EA in this proceeding would be delayed until further notice.

Overview of the Board's Role and Regulatory Authority

Based on questions asked by the Four Southern Tribes (Ak-Chin Indian Community, Tohono O'odham Nation, Salt River Pima-Maricopa Indian Community, Gila River Indian Community) and SHPO at the in-field meeting on August 16, 2023, and at the Four Southern Tribes Working Group meeting on August 18, 2023, OEA is providing a short overview to clarify and explain the Board's regulatory authority and environmental and historic review process for PIRATE. Specifically, to meet the Board's obligations under NEPA and Section 106, OEA is conducting an environmental and historic review, analyzing potential environmental and historic impacts of PIRATE. In the Final EA, OEA will address all comments on the Draft EA and make final environmental and historic mitigation recommendations to the Board. The Board will then consider the entire record, including the Draft EA, the Final EA, all environmental and historic comments received, and OEA's final environmental and historic mitigation recommendations, as well as the transportation merits, in deciding whether to authorize the construction and operation of PIRATE and what mitigation to impose.

Summary of the Archaeological Site Damage in the Area of Potential Effects

As discussed in more detail in Attachment E, on July 28, 2023, Jacobs conducted a review of Google Earth imagery (dated April 2023). The review of aerial imagery identified substantial ground disturbance in the wye and along the proposed PIRATE alignment east of Sossaman Road. This information was immediately shared with OEA and UP, and OEA conducted emergency meetings with UP and Jacobs on July 28th and again on July 31, 2023. At the July 28, 2023 meeting, UP stated that they had no knowledge of the disturbance within the APE.

On August 1, 2023, the Board sent UP a formal letter requesting that a number of immediate actions be taken to prevent any further disturbance on UP property in the APE (Attachment B – Board Letter to UP), and Jacobs' archaeologists visited the APE to provide an initial assessment of the extent of the disturbance. On August 11, 2023, Jacobs' archaeologists investigated an additional area of disturbance observed on aerial imagery. Then on August 16, 2023, Jacobs' archaeologists observed a third-party utility contractor clearing vegetation adjacent to UP's Phoenix Subdivision main line tracks in the APE.

As of the date of this letter, five areas of site damage on UP's property in the APE have been identified (Attachment C – Maps of Archaeological Site Damage Areas and Attachment D – Photographs of Archaeological Site Damage Areas). This damage includes sites of great significance and sensitivity to Native American Tribes. The following is a preliminary summary of the damage within each of the five areas based on the information available to date:

- **Damage Area 1.** Damage Area 1 is in the wye. Based on the available information, Power Industrial, located adjacent to and west of the wye, excavated a large retention basin up to 5 feet deep on UP-owned property in the APE. Adjacent to the retention basin, additional grading to 1 foot deep was also noted. Approximately 8.5 acres of UP property in the APE has been damaged. Clayco, the general contractor for Power Industrial, apparently used this area for construction staging and storage during construction of the Power Industrial development. This ground disturbance is entirely within the boundary of AZ U:10:2(ASM). During excavation of the retention basin, Clayco almost wholly removed Artifact Concentration 1 and impacted Artifact Concentration 2. A large spoils pile is located within the retention basin in the wye. OEA, Jacobs, and UP are conducting additional investigations into the origin of the material in the spoils pile. OEA will share the results of these investigations with the consulting parties as soon as they are completed.

- **Damage Area 2.** Damage Area 2 is in the proposed PIRATE alignment east of, and adjacent to, Sossaman Road. Based on the available information, Greystar, developer of the private Unbound Gateway/Gateway Grand industrial park located adjacent to and southwest of the APE, excavated a retention basin on UP-owned property on the east side of Sossaman Road from the southern fence line of the Phoenix-Mesa Gateway Airport to a point approximately 0.5 mile to the south. This basin is approximately 2 feet deep and is partially within the boundary of AZ U:10:2(ASM). In addition, excavation and grading of a drainage channel as part of the Unbound Gateway/Gateway Grand construction has occurred within the site boundary. Approximately 6.3 acres of UP property in the APE has been damaged.

- **Damage Area 3.** Damage Area 3 is in the proposed PIRATE alignment east of Sossaman Road and approximately 2,400 feet east of Damage Area 2. This disturbance is associated with the private Pecos Gateway Industrial Complex development located adjacent to the south

of UP's property and the APE. Grading to a depth of approximately 6 inches has occurred within the boundary of AZ U:10:152(ASM). Within the site boundary, a former two-track dirt access road has been graded and improved to a 30-foot-wide construction access road. Approximately 1.9 acres of UP's property in the APE has been damaged. Apparently, the newly disturbed area at AZ U:10:152(ASM) was used for construction storage.

- **Damage Area 4**. Damage Area 4 is in the wye. This disturbance is associated with the private Pecos Pacific development located adjacent to and east of UP-owned property and the APE. Clayco, the general contractor for Pecos Pacific development, appears to have graded to a depth of approximately 6 inches within the boundary of AZ U:10:2(ASM) on UP-owned property and within the APE. Approximately 0.6 acre of UP's property in the APE has been damaged.

- **Damage Area 5**. Damage Area 5 is along the UP Phoenix Subdivision main line within the boundary of AZ U:10:2(ASM) and the APE. Pauley Construction, Inc., the general contractor for Lumen/Century Link, has cleared approximately 1,200 feet of brush. This work was halted by Jacobs' archaeologists on August 16, 2023. Two trucks were stopped onsite and were directed to dump their contents near where the materials were originally removed. Jacobs' archaeologists observed that the truckloads predominantly consisted of vegetation, with a very small amount of soil present. Damage in this area appears to consist of soil being moved, rather than removed from the site surface. Surface soil has been disturbed to a depth of approximately 2 inches. Approximately 0.6 acre of UPs property in the APE has been damaged.

In sum, approximately 17.9 acres of the APE in archaeological site boundaries have been damaged. An additional 24.0 acres of UP's property in the APE outside of the archaeological site boundaries has been disturbed. More detailed investigations into the extent of the damage and disturbance are ongoing. Major and extensive damage has occurred to AZ U:10:2(ASM). Approximately 16.0 acres of this site has been damaged within the APE. Moderate damage has occurred to AZ U:10:152(ASM). Approximately 1.9 acres of this site has been damaged within the APE. OEA found no damage to AZ U:10:69(ASM) and is investigating potential damage to AZ U:10:275(ASM) associated with recent realignment and paving of Crismon Road in the APE.

Timeline

A timeline of the damage discovery and communications between OEA, UP, SHPO, the Advisory Council on Historic Preservation (ACHP), the Gila River Indian Community THPO, the Salt River Pima-Maricopa Indian Community THPO, the Tohono O'odham Nation THPO, the Pascua Yaqui Tribe THPO, and the Hopi Tribe THPO is included as Attachment E. This timeline reflects the information known by OEA to date. OEA will update the consulting parties on a regular basis as new or updated information becomes available and will schedule additional field visits with the consulting parties as appropriate.

Site Protection Measures

UP is currently implementing the following site protection measures under the oversight of OEA and Jacobs' qualified archaeologists.

- Jacobs' archaeologists monitored the demobilization of Power Industrial equipment in the wye between August 10 and 18, 2023. This action is complete.
- UP employed a survey contractor to survey their property boundaries. This work began on August 15, 2023, and is ongoing.
- Jacobs' archaeologists monitored the placement of signs along UP's property boundary in the wye and east of Sossaman Road between August 14 and 17, 2023. Additional signs will be placed east of Ellsworth Road, between Pecos and Sossaman roads, and along portions of the Phoenix Subdivision.
- UP has employed a security patrol (Garda World) to patrol their property as of August 17, 2023. This patrol is ongoing on a Monday–Friday schedule between 7:00 a.m. – 3:00 p.m.
- Jacobs' archaeologists started monitoring UP's installation of temporary construction fencing on August 25, 2023.
- Demobilization of equipment by subcontractors to Alcorn Construction on UP-owned property adjacent to the Pecos Gateway Industrial Complex occurred on August 25, August 31, and September 1, 2023. The demobilization on August 31 and September 1, 2023, was monitored by Jacobs' archaeologists.
- UP has blocked the construction access road east of Sossaman Road. Jacobs' archaeologists monitored the road blockage, which took place on August 25, 2023. UP will not allow further use of this road.
- UP has agreed to install monitored security camera stations along the right-of-way in areas that have previously been surveyed where no cultural resources have been found to be present. This will provide additional security and protection along the APE.

Upcoming Virtual Meeting

OEA is requesting your attendance at an upcoming virtual meeting on **Wednesday, October 4, 2023 from 10:00 a.m. to 12:00 p.m.** (Arizona time) to discuss the damage to archaeological sites in greater detail. The intent of this virtual meeting is to outline next steps in the Section 106 process, discuss in more detail the steps that are currently being taken to protect the sites from further damage, develop next steps for a more comprehensive damage assessment, and explore any other matters of concern.

OEA looks forward to working with all of the consulting parties on possible next steps to complete the Section 106 process. Please contact Alan Tabachnick, Alan.Tabachnick@stb.gov, with any questions or concerns. We hope you can join the October 4, 2023 virtual meeting and look forward to speaking with you then.

Sincerely,



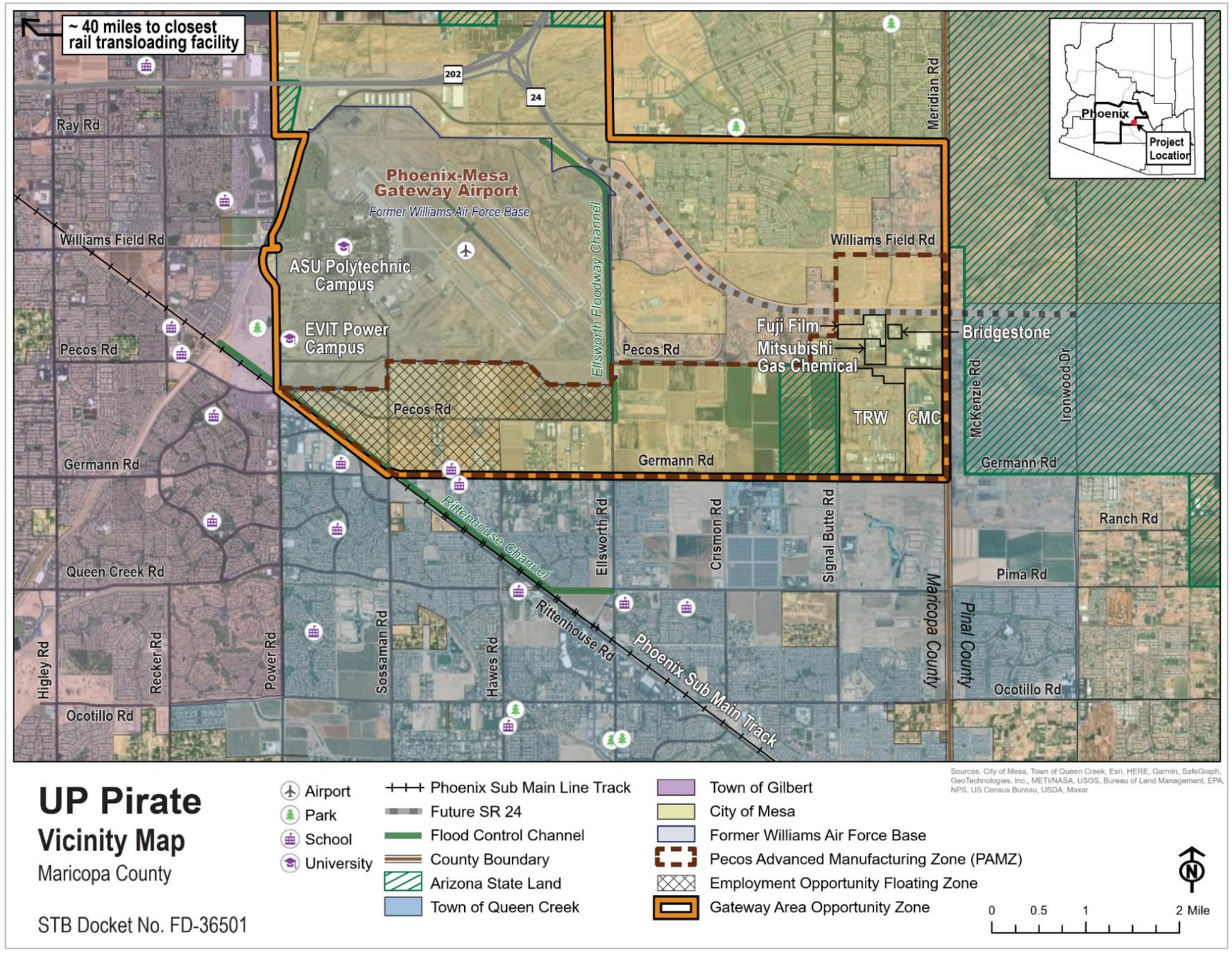
Danielle Gosselin
Director
Office of Environmental Analysis

Enclosures:

Attachment A – Project Location
Attachment B – Board Letter to UP (August 1, 2023)
Attachment C – Maps of Archaeological Site Damage Areas
Attachment D – Photographs of Archaeological Site Damage Areas
Attachment E – Timeline

Cc: Adam Assenza, OEA Environmental Protection Specialist, Adam.Assenza@stb.gov
Alan Tabachnick, OEA Federal Preservation Officer, Alan.Tabachnick@stb.gov
Maggie Buckley, Jacobs Project Manager, Maggie.Buckley@jacobs.com
Caroline Klebacha, Archaeological Compliance Specialist, cklebacha@azstateparks.gov

ATTACHMENT A – PROJECT LOCATION



ATTACHMENT B – BOARD LETTER TO UP (AUGUST 1, 2023)

SURFACE TRANSPORTATION BOARD
Washington, DC 20423

Office of Environmental Analysis

August 1, 2023

Kevin Rice
Sr. Manager M/W Environmental
Union Pacific Railroad
1400 Douglas Street, 9th Floor
Omaha, NE 68179

RE: Docket No. FD 36501, Union Pacific Railroad Company – Construction and Operation Exemption in Maricopa County, Arizona; Recently Discovered Ground Disturbance Within the APE

Dear Mr. Rice,

As you know, the Surface Transportation Board's (Board) Office of Environmental Analysis (OEA) is close to finishing its environmental and historic review of Union Pacific Railroad Company's (UP) proposed 6-mile rail construction in Mesa, Arizona (known as PIRATE). On Friday, July 28, 2023, OEA discovered land altering activities within the current Area of Potential Effects (APE) for the historic review of PIRATE under Section 106 of the National Historic Preservation Act, resulting in damage to sensitive archaeological sites that are eligible for listing in the National Register of Historic Places. Specifically, during analysis of current aerial photography of the project area, OEA noted that approximately six acres of land on UP property and within the APE had been graded and disturbed in the area of the proposed new wye connection to the UP mainline. Additional research revealed that this land is being prepared for a drainage basin tied to the Power Industrial development, which is currently under construction. OEA also identified three other possible locations within current UP property where the APE may have been disturbed. Enclosed is a map noting the locations of these disturbances.

These developments are very concerning and improper because the environmental and historic review for this project is still ongoing, and the Board has yet to issue a decision authorizing the proposed construction and operation of PIRATE. In addition, these land disturbances could end up significantly delaying completion of the historic review because a Memorandum of Agreement setting out agreed-to historic mitigation has not yet been executed. OEA plans to consult with the Section 106 consulting parties to appropriately address this issue.

ATTACHMENT E – TIMELINE

This timeline of the damage discovery and communications between OEA, UP, SHPO, ACHP, the Gila River Indian Community THPO, the Salt River Pima-Maricopa Indian Community THPO, the Tohono O'odham Nation THPO, the Pascua Yaqui Tribe's THPO, and the Hopi Tribe's THPO reflects the information known by OEA to date. OEA will update the consulting parties on a regular basis as new or updated information becomes available and will schedule additional field visits with the consulting parties as appropriate.

- In December 2022, Clayco, a contractor of Power Industrial, excavated a large retention basin up to five feet deep in the wye area, on UP's property and within the APE, based on an agreement with UP (in Damage Area 1). Neither OEA nor Jacobs were apprised of this construction.
- In May 2023, Derek Builders, a contractor of Greystar (the developer of the private Unbound Gateway/Gateway Grand industrial park) excavated a retention basin along Sossaman Road, on UP's property and within the APE, based on an agreement with UP (in Damage Area 2). Neither OEA nor Jacobs were apprised of this construction.
- On July 28, 2023, OEA's review of aerial imagery showed noticeable damage in the wye and east of Sossaman Road (in Damage Area 3).
- On the same day, July 28, 2023, OEA and Jacobs contacted UP and had initial discussions about this damage to find out if UP knew about the disturbances and excavations on their land.
- On August 1, 2023, the Director of OEA wrote a letter to UP outlining the damage based on the aerial imagery and requested that UP investigate the cause of the disturbance and take steps to immediately cease any further disturbance.
- On August 1, 2023, Jacobs' archaeologists conducted an initial field assessment to document the extent of the disturbance.
- On August 2, 2023, OEA, Jacobs, and UP discussed the developments adjacent to the wye and proposed PIRATE alignment in a meeting. At that time, OEA and Jacobs learned that UP had entered into an agreement with Power Industrial to construct a retention basin in the wye (within the APE). The retention basin excavated by Clayco was intended to serve Power Industrial's temporary offsite drainage during construction.
- On August 3, 2023, OEA, Jacobs, and UP had an additional meeting and learned that UP also had entered into an agreement with Unbound Gateway to construct a retention basin in the UP right-of-way.
- On August 4, 2023, OEA notified SHPO and the Gila River Indian Community and Salt River Pima-Maricopa Indian Community Tribal Historic Preservation Officers (THPOs) of the extent of this damage and scheduled a field visit in the coming days.
- On August 7, 2023, SHPO contacted the Advisory Council on Historic Preservation (ACHP) to notify them of the site damage. ACHP subsequently contacted OEA's Federal Preservation Officer (FPO) for a summary.
- On August 8, 2023, OEA contacted ACHP.

- On August 8, 2023, OEA, Jacobs, and UP discussed the steps UP was taking to install protective measures for the damaged sites. OEA requested that UP attend an in-person meeting on August 17, 2023, to review the damage and discuss future steps.
- On August 9, 2023, OEA's FPO was contacted by the Tohono O'odham Nation THPO, who requested a summary of the damage and an invitation to the site visit.
- On August 9, 2023, OEA notified the Pascua Yaqui Tribe and the Hopi Tribe of the site damage.
- On August 10, 2023, the Pascua Yaqui THPO contacted OEA's FPO and requested a summary of the site damage.
- On August 10, 2023, Jacobs developed an electronic data layer to document the protective measures to be implemented in the coming weeks. UP is installing the protective measures.
- On August 10, 2023, on behalf of OEA, Jacobs sent a formal invitation and agenda for the site visit (held on August 16, 2023) to the Four Southern Tribes and SHPO.
- On August 10, 2023, Jacobs (utilizing Secretary of the Interior-qualified personnel) began monitoring the demobilization of Clayco's Power Industrial equipment in the wye. This was completed on August 18, 2023.
- On August 10, 2023, review of aerial imagery revealed additional ground disturbance in the southeastern portion of the wye (in Damage Area 4).
- On August 11, 2023, Jacobs assessed the newly identified damage in the wye.
- On August 11, 2023, on behalf of OEA, Jacobs sent a formal invitation to UP for the UP site visit (held on August 17, 2023).
- On August 11, 2023, OEA contacted ACHP to further discuss the situation.
- On August 14, 2023, Jacobs met with UP's contractor for the protective measures in the field to begin installing signage on existing fences on UP's land, and to demarcate locations of interim signage.
- Signs were placed along UP's property boundary in the wye and east of Sossaman Road and the sign placement was monitored by Jacobs' archaeologists between August 14 and 17, 2023. Additional signs will be placed east of Ellsworth Road and between Pecos and Sossaman roads.
- On August 15, 2023, UP began a property boundary survey of their land in the APE. That work is ongoing.
- On August 16, 2023, Jacobs' archaeologists observed Pauley Construction, Inc., removing vegetation in UP's right-of-way along the Phoenix Subdivision mainline. This work was stopped by Jacobs' archaeologists and UP (Damage Area 5).
- UP employed a security patrol (Garda World) to begin patrolling their property on August 17, 2023. This patrol is ongoing on a Monday–Friday schedule between 7:00 a.m. – 3:00 p.m.

- Fencing installation began on August 25, 2023, and is being monitored by Jacobs' archaeologists.
- On August 31 and September 1, 2023, demobilization of equipment associated with the Pecos Gateway Industrial Complex occurred and is complete. The demobilization was monitored by Jacobs' archaeologists.
- The access road east of Sossaman Road was blocked by UP on August 25, 2023. No further use of this road is allowed by UP.
- On August 23, 2023, UP, OEA, and Jacobs initiated a weekly meeting to track and confirm action items related to protective measures.
- On August 28, 2023, UP provided copies of pertinent agreements and communications with external parties.
- On September 5, 2023, OEA met with UP to discuss the situation and UP stated that it intended to be involved in trying to resolve the Section 106 issues.

SURFACE TRANSPORTATION BOARD

Washington, DC 20423

Office of Environmental Analysis

To:	Section 106 Consulting Parties
From:	Alan Tabachnick, Federal Preservation Officer, Surface Transportation Board
Date:	November 14, 2023
Subject:	**Proposed Framework for Comprehensive Archaeological Site Damage Assessment under Section 106 of the National Historic Preservation Act**
Project:	**Surface Transportation Board Docket No. 36501 Union Pacific Railroad Company Pecos Industrial Rail Access and Train Extension (PIRATE)**

The Surface Transportation Board's (Board) Office of Environmental Analysis (OEA) is continuing the Section 106 process of the National Historic Preservation Act for the proposed Pecos Industrial Rail Access and Train Extension (PIRATE) rail line, located in Maricopa County, Arizona. Union Pacific Railroad Company (UP) is requesting authority from the Board to construct and operate approximately 6.0 miles of new rail line (Attachment 1 – Project Location).

OEA initiated the Section 106 process in April 2022, conducted field investigations and documentation through spring 2023, determined that multiple archaeological sites remained eligible for listing on the National Register of Historic Places (NRHP), and determined that the project would have an adverse effect on historic properties. OEA developed a Memorandum of Agreement that was circulated for final review in July 2023. On July 28, 2023, OEA discovered significant ground disturbance and damage to archaeological sites within the Area of Potential Effects (APE) and within the project right-of-way (ROW) on land owned by UP. OEA is continuing Section 106 consultation with the Section 106 consulting parties regarding the damage.

This memorandum presents a draft approach to undertaking the next step in the damage assessment process: the preparation of a detailed, comprehensive damage assessment report which will examine and document the damage to known NRHP-eligible archaeological sites located within the APE.

SUMMARY OF THE ARCHAEOLOGICAL SITE DAMAGE WITHIN THE APE

OEA identified five areas of site damage on UP's property in the APE (Attachment 2 – Overview of Archaeological Site Damage Areas within UP-Owned Land). This damage includes sites of great significance and sensitivity to Native American Tribes. Table 1 provides a preliminary summary of the damage within each of the five areas based on the information available to date.

Table 1. Preliminary Summary of Archaeological Site Damage on UP-Owned Land

Damage Area	Location in APE	Site Damaged	Damage Acreage	Developer	Type of Damage
Damage Area 1	In the wye	AZ U:10:2(ASM)	8.5 acres	Power Industrial	Excavation of a retention basin; additional grading; construction staging and storage
Damage Area 2	East of and adjacent to Sossaman Road	AZ U:10:2(ASM)	6.3 acres	Greystar	Excavation of a retention basin; excavation and grading of a drainage channel
Damage Area 3	East of Sossaman Road and Damage Area 2	AZ U:10:152(ASM)	1.9 acres	Pecos Gateway Industrial Complex	Grading to create a construction access road; construction storage
Damage Area 4	In the wye	AZ U:10:2(ASM)	0.6 acres	Pecos Pacific development	Grading
Damage Area 5	UP Phoenix Subdivision main line	AZ U:10:2(ASM)	0.6 acres	Lumen/ Century Link	Vegetation clearing

In summary, approximately 17.9 acres of land within the APE and within the NRHP-eligible archaeological site boundaries have been damaged. Major and extensive damage has occurred to AZ U:10:2(ASM). Approximately 16.0 acres of this site have been damaged within the APE. Moderate damage has occurred to AZ U:10:152(ASM). Approximately 1.9 acres of this site have been damaged within the APE.

COMPREHENSIVE DAMAGE ASSESSMENT AND DAMAGE ASSESSMENT WORK PLAN

The preliminary damage assessment memo contained initial information to provide the consulting parties with a brief overview and general extent of the archaeological damage identified on UP-owned land within the APE. Assessment fieldwork and a comprehensive assessment report is needed to fully document the extent and magnitude of the damage. The damage assessment fieldwork and report will focus on the following:

- Summarize pre-damage conditions at AZ U:10:2(ASM) and AZ U:10:152(ASM).
- Quantify the extent of the damage at AZ U:10:2(ASM) and AZ U:10:152(ASM).
- Assess the potential for intact subsurface archaeological deposits remaining in the damaged areas.

The exact methodology necessary to obtain the information needed to complete the damage assessment report will be outlined in a damage assessment work plan presenting the data collection methods and fieldwork goals. This damage assessment work plan will be provided to the consulting parties for their review and concurrence. The damage assessment work plan will include a description of the methodology and timeline for implementation of the following:

- Characterize pre-damage conditions at each site based on a comprehensive review of previously conducted survey, testing, data recovery, and geomorphological assessments.
- Quantify the extent of the damaged areas by detailed topographic mapping.
- Assess soil conditions in the damaged areas by geomorphological investigations and the possible use of nonintrusive remote sensing techniques.
- Identify potentially disturbed features through an examination of the sidewalls and bases of the excavated retention basins within AZ U:10:2(ASM).
- Compare the originally recorded and remnant post-disturbance artifact assemblages within AZ U:10:2(ASM) Artifact Concentrations 1 and 2.
- Develop methods specific to a tiered evaluation of the damaged areas based on level of damage magnitude (e.g., more resources would be focused on evaluating Damage Areas 1 and 2, whereas evaluation of Damage Areas 3 through 5 would consist mostly of a resurvey of the areas).
- Conduct screening investigations of the spoils pile in the wye.
- Determine treatment of vegetation piles along the UPRR Phoenix Subdivision mainline.

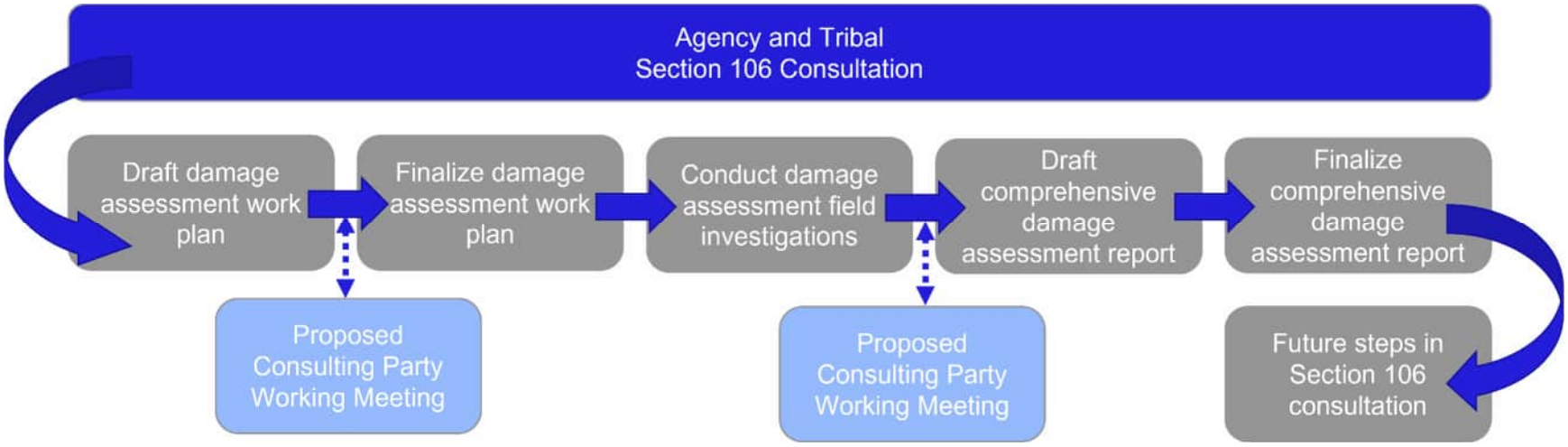
NEXT STEPS

OEA welcomes your input regarding the damage assessment methods proposed in this memorandum during the November 21, 2023, Section 106 consultation meeting. OEA would also like to discuss the steps in this damage assessment as shown on Figure 1.

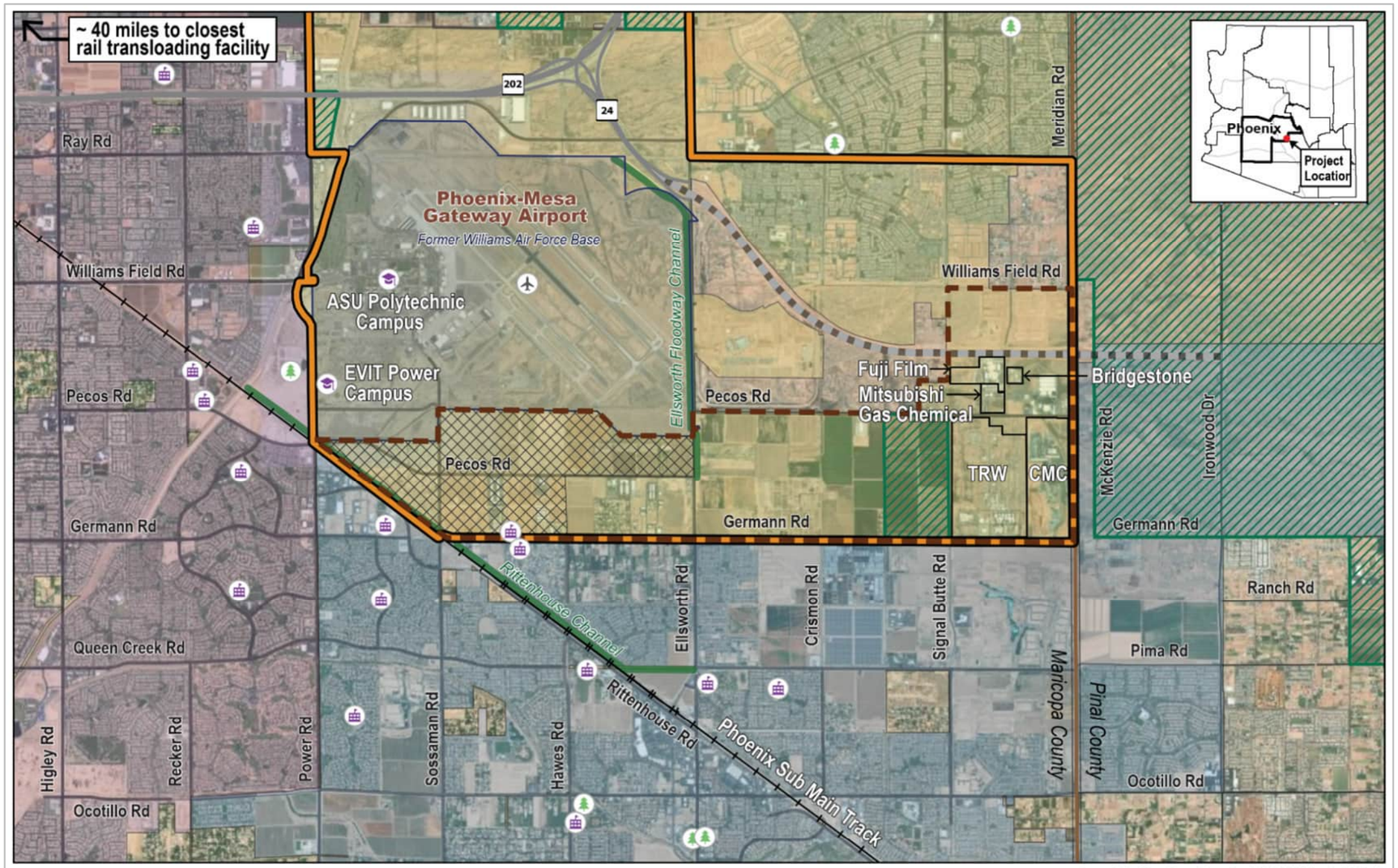
Enclosures:

Attachment 1 – Project Location
Attachment 2 – Overview of Archaeological Site Damage Areas within UP-Owned Land

Figure 1. Comprehensive Site Damage Assessment Process



ATTACHMENT 1
PROJECT LOCATION


~ 40 miles to closest rail transloading facility
202
24
Ray Rd
Williams Field Rd
Pecos Rd
Germann Rd
Queen Creek Rd
Ocotillo Rd
Higley Rd
Recker Rd
Power Rd
Sossaman Rd
Hawes Rd
Ellsworth Rd
Crismon Rd
Signal Butte Rd
Meridian Rd
McKenzie Rd
Ironwood Dr
Ranch Rd
Pima Rd
Maricopa County
Pinal County
Phoenix-Mesa Gateway Airport
Former Williams Air Force Base
ASU Polytechnic Campus
EVIT Power Campus
Ellsworth Floodway Channel
Rittenhouse Channel
Rittenhouse Rd
Phoenix Sub Main Track
Fuji Film
Mitsubishi Gas Chemical
Bridgestone
TRW
CMC
Phoenix
Project Location
UP Pirate
Vicinity Map
Maricopa County
STB Docket No. FD-36501
Airport
Park
School
University
Phoenix Sub Main Line Track
Future SR 24
Flood Control Channel
County Boundary
Arizona State Land
Town of Queen Creek
Town of Gilbert
City of Mesa
Former Williams Air Force Base
Pecos Advanced Manufacturing Zone (PAMZ)
Employment Opportunity Floating Zone
Gateway Area Opportunity Zone
Sources: City of Mesa, Town of Queen Creek, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc., METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA, Maxar
N
0
0.5
1
2 Mile

ATTACHMENT 2 – OVERVIEW OF ARCHAEOLOGICAL SITE DAMAGE AREAS ON UP-OWNED LAND

SURFACE TRANSPORTATION BOARD
Washington, DC 20423

Office of Environmental Analysis

August 15, 2025

Ms. Kathryn Leonard
Arizona State Parks, State Historic Preservation Office
1110 West Washington Street, Suite 100
Phoenix, AZ 85007

Re: Docket No. FD 36501, Union Pacific Railroad Company – Construction and Operation Exemption – in Maricopa County, Ariz.; Continuation of National Historic Preservation Act Section 106 Consultation

Dear Ms. Leonard:

Union Pacific Railroad Company (UP) is seeking authority from the Surface Transportation Board (Board) to construct and operate approximately 6.0 miles of new rail line in Maricopa County, Arizona (Docket No. FD 36501) (Pecos Industrial Rail Access and Train Extension or PIRATE) (See attached map). In July 2023, while the environmental and historic review process was still pending, the Board's Office of Environmental Analysis (OEA) learned that there had been significant ground disturbance and damage to archaeological resources in the Area of Potential Effects (APE). Between July 2023 and June 2025, OEA completed a damage assessment and on June 3, 2025, the Board issued a decision stating that it would not issue a finding that Section 110(k) of the National Historic Preservation Act (NHPA) applies to PIRATE. Accordingly, the purpose of this letter is to reinitiate the Section 106 process, explain next steps, and provide notice of a consulting parties meeting to be held on September 15, 2025.

Status of the Section 106 Process

Prior to July 2023, OEA had completed three of the four steps in the Section 106 process (initiating the Section 106 process, identifying historic properties, assessing adverse effect) and was close to finishing the final step, addressing the undertaking's adverse effect on historic properties. OEA had prepared a Memorandum of Agreement (MOA) and an Historic Properties Treatment Plan (HPTP) in consultation with the Section 106 consulting parties and was about to circulate the final version for signatures when the damage was discovered.

Because the Board recently issued a decision holding that it would not issue a finding that Section 110(k) applies in this proceeding, OEA is now resuming the Section 106 process and will update three documents that had not been finalized prior to the discovery of damage within the APE. OEA will work closely with the Section 106 consulting parties to: 1) revise and finalize the Class III Addendum Report to address remaining comments from 2023 (this report primarily documents fieldwork in additional areas of the APE that were inaccessible during the initial 2022 survey); 2) revise the MOA to address the damage and any potential updates to the mitigation

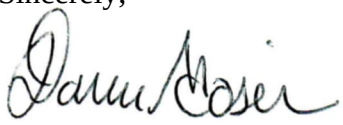
measures; and 3) revise the HPTP to reflect any modifications to the research approach and the mitigation measures and to address any outstanding comments.

Consulting Parties Meeting

OEA will provide additional information on the next steps in the Section 106 process at an upcoming virtual consulting party meeting on **Monday**, **September 15**, **2025**, **from 11:00 a.m. to 12:00 p.m.** (PDT) (2:00 p.m. to 3 p.m. EDT). A meeting invitation will follow by email.

Please contact Alan Tabachnick, Alan.Tabachnick@stb.gov, with any questions or concerns.

Sincerely,

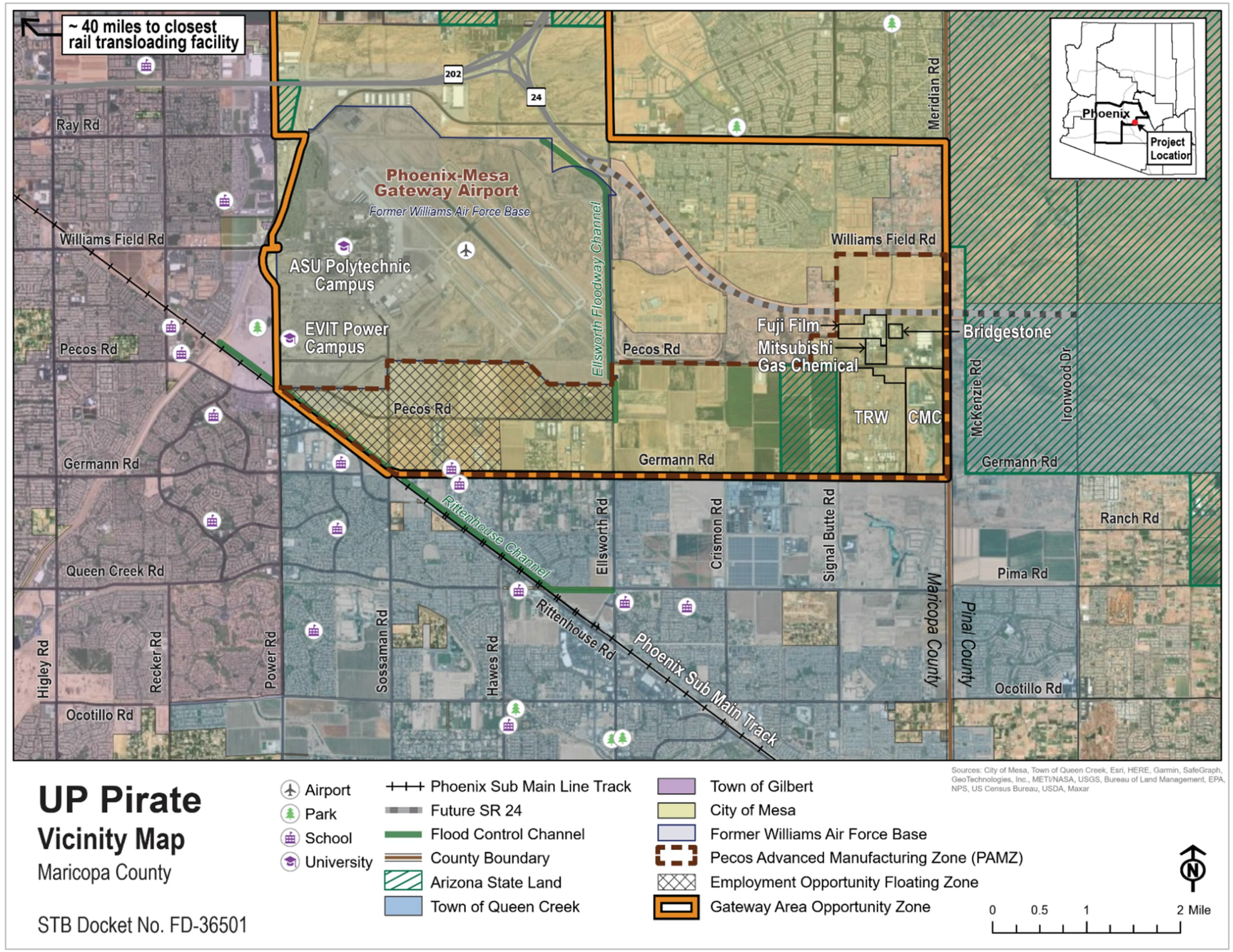


Danielle Gosselin
Director
Office of Environmental Analysis

Enclosure: Project Location Map

cc: Caroline Klebacha, Archaeological Compliance Specialist, cklebacha@azstateparks.gov
Mary-Ellen Walsh, Cultural Resources Compliance Program Manager, mwalsh@azstateparks.gov
Adam Assenza, OEA Environmental Protection Specialist, Adam.Assenza@stb.gov
Alan Tabachnick, OEA Federal Preservation Officer, Alan.Tabachnick@stb.gov
Maggie Buckley, Jacobs Project Manager, Maggie.Buckley@jacobs.com

ATTACHMENT A – PROJECT LOCATION



December 22, 2022

Mr. Alan Tabachnick
Deputy FPO/Historic Preservation Specialist
Surface Transportation Board
Office of Environmental Analysis
395 E Street, SW
Washington, DC 20423

Ref: *Pecos Industrial Rail Access and Train Extension Project*
City of Mesa, Town of Queen Creek, Maricopa County, Arizona
ACHP Project Number: 19032

Dear Mr. Tabachnick:

On December 8, 2022, the Advisory Council on Historic Preservation (ACHP) received your notification and supporting documentation regarding the potential adverse effects of the referenced undertaking on a property or properties listed or eligible for listing in the National Register of Historic Places. Based upon the information you provided, we have concluded that Appendix A, *Criteria for Council Involvement in Reviewing Individual Section 106 Cases*, of Section 106 of the National Historic Preservation Act (NHPA) and its implementing regulations, "Protection of Historic Properties" (36 CFR Part 800), does not apply to this undertaking. Accordingly, we do not believe our participation in the consultation to resolve adverse effects is needed.

However, if we receive a request for participation from the Arizona State Historic Preservation Officer (SHPO), Tribal Historic Preservation Officer, affected Indian tribe, a consulting party, or other party, we may reconsider this decision. Should the undertaking's circumstances change, consulting parties cannot come to consensus, or you need further advisory assistance to conclude the consultation process, please contact us.

Pursuant to 36 CFR § 800.6(b)(1)(iv), you will need to file the final Section 106 agreement document (Agreement), developed in consultation with the Arizona SHPO and any other consulting parties, and related documentation with the ACHP at the conclusion of the consultation process. The filing of the Agreement and supporting documentation with the ACHP is required in order to complete the requirements of Section 106 of the NHPA.

Thank you for providing us with your notification of adverse effect. If you have any questions or require our further assistance, please contact Ms. Emily Choi at (202) 517-0207 or by e-mail at echoi@achp.gov and reference the ACHP Project Number above.

Sincerely,

LaShavio Johnson

LaShavio Johnson
Historic Preservation Technician
Office of Federal Agency Programs

From: jroth@azstateparks.gov on behalf of AZSHPO - AZPARKS
Sent on: Friday, August 15, 2025 12:57:26 PM
To: Powell, Kris
Subject: [EXTERNAL] Re: UPRR PIRATE - Continuing Section 106 Consultation - September 15, 2025 Meeting

Follow up: Follow up
Start date: Thursday, August 14, 2025 5:00:00 PM
Due date: Thursday, August 14, 2025 5:00:00 PM

This Message Is From an External Sender
This message came from outside your organization.

Received...Thank You.

Please note that we work in order of receipt of each project (as received in the azshpo inbox). Unless an existing agreement says otherwise, SHPO is mandated a 30 calendar-day review for federal projects, and a 30 business-day review for state projects. Please do not reach out asking for an update prior to the close of review time.

Arizona State Historic Preservation Office

On Fri, Aug 15, 2025 at 10:50 AM Powell, Kris <Kris.Powell@jacobs.com> wrote:

> Dear Ms. Leonard:
>
> As the Surface Transportation Board's (Board) Office of Environmental Analysis (OEA) stated in previous Section 106 consultation conducted under the National Historic Preservation Act, on June 30, 2022, the Union Pacific Railroad Company (UP) filed a petition with the Board requesting authority to construct and operate approximately six miles of new rail line in Maricopa County, Arizona (the proposed Pecos Industrial Rail Access and Train Extension [PIRATE] rail line).
>
> In July 2023, while the environmental and historic review process was still pending, the Board's OEA learned that there had been significant ground disturbance and damage to archaeological resources in the Area of Potential Effects. Between July 2023 and June 2025, OEA completed a damage assessment and on June 3, 2025, the Board issued a decision stating that it would not issue a finding that Section 110(k) of the National Historic Preservation Act applies to PIRATE. Accordingly, the attached letter reinitiates the Section 106 process, explains next steps, and provides notice of a virtual consulting parties meeting to be held on September 15, 2025. A formal Teams invitation will be provided in the coming days.
>
> Please feel free to contact Alan Tabachnick, STB's Federal Preservation Officer, at Alan.Tabachnick@stb.gov with any questions.
>
> Thank you,
>
> **Kris Powell, M.A., RPA (she/her)** | **JACOBS** | **Senior Archaeologist and Principal Investigator**

C: 602-463-5843 | kris.powell@jacobs.com
1501 West Fountainhead Parkway, Suite 401 | Tempe, Arizona 85282 | USA

NOTICE - This communication may contain confidential and privileged information that is for the sole use of the intended recipient. Any viewing, copying or distribution of, or reliance on this message by unintended recipients is strictly prohibited. If you have received this message in error, please notify us immediately by replying to the message and deleting it from your computer.

SURFACE TRANSPORTATION BOARD
Washington, DC 20423

Office of Environmental Analysis

September 19, 2025

Ms. Kathryn Leonard
Arizona State Parks, State Historic Preservation Office
1110 West Washington Street, Suite 100
Phoenix, AZ 85007

Re: Docket No. FD 36501, Union Pacific Railroad Company – Construction and Operation Exemption – in Maricopa County, AZ: Revised Addendum Survey Report

Dear Ms. Leonard:

Union Pacific Railroad Company is seeking authority from the Surface Transportation Board (Board) to construct and operate approximately 6.0 miles of new rail line in Maricopa County, Arizona (Docket No. FD 36501) (Pecos Industrial Rail Access and Train Extension or PIRATE) (see map, Attachment A). In July 2023, while the environmental and historical review process for PIRATE was still pending, the Board's Office of Environmental Analysis (OEA) learned that there had been significant ground disturbance and damage to archaeological resources in the project's Area of Potential Effects (APE). Between July 2023 and June 2025, OEA completed an assessment of the damage. On June 3, 2025, the Board issued a decision finding that no determination that Section 110(k) of the National Historic Preservation Act is applicable will be issued in this proceeding and that the Board will continue with the Section 106 process for the project.

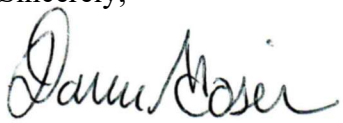
Prior to July 2023, OEA had completed three of the four steps in the Section 106 process (initiating the Section 106 process, identifying historic properties, assessing adverse effect) and was close to finishing the final step, addressing the undertaking's adverse effect on historic properties. OEA had prepared a draft Memorandum of Agreement (MOA) and a draft Historic Properties Treatment Plan to address the project's "adverse effect" finding. OEA was about to circulate the final version of the MOA for signatures when the damage was discovered. After the Board's recent 110k decision, OEA is now continuing with the final step (step four) of the Section 106 process.

Addendum Survey Report Revisions

As part of the Section 106 process, OEA provided a draft of an Addendum Survey Report[1] to consulting parties on May 19, 2023. The purpose of the Addendum Survey Report was to document previously unsurveyed areas within the project APE. The Arizona State Historic Preservation Office (SHPO) and the Arizona State Museum provided comments on the draft Addendum Survey Report. These comments were minor and are fully addressed in the revised final Addendum Survey Report, which is available for download via a secure file transfer link in the accompanying transmittal email. Attachment B contains a summary of the comments and OEA's responses.

OEA is continuing Section 106 consultation with your office and is providing you with the revised final Addendum Survey Report. As noted above, a link to the revised final Addendum Survey Report can be found in the accompanying transmittal email. Thank you very much for your continued involvement and input on this project. Please feel free to contact Alan Tabachnick, the Board's Federal Preservation Officer (Alan.Tabachnick@stb.gov), with any comments or questions.

Sincerely,



Danielle Gosselin
Director
Office of Environmental Analysis

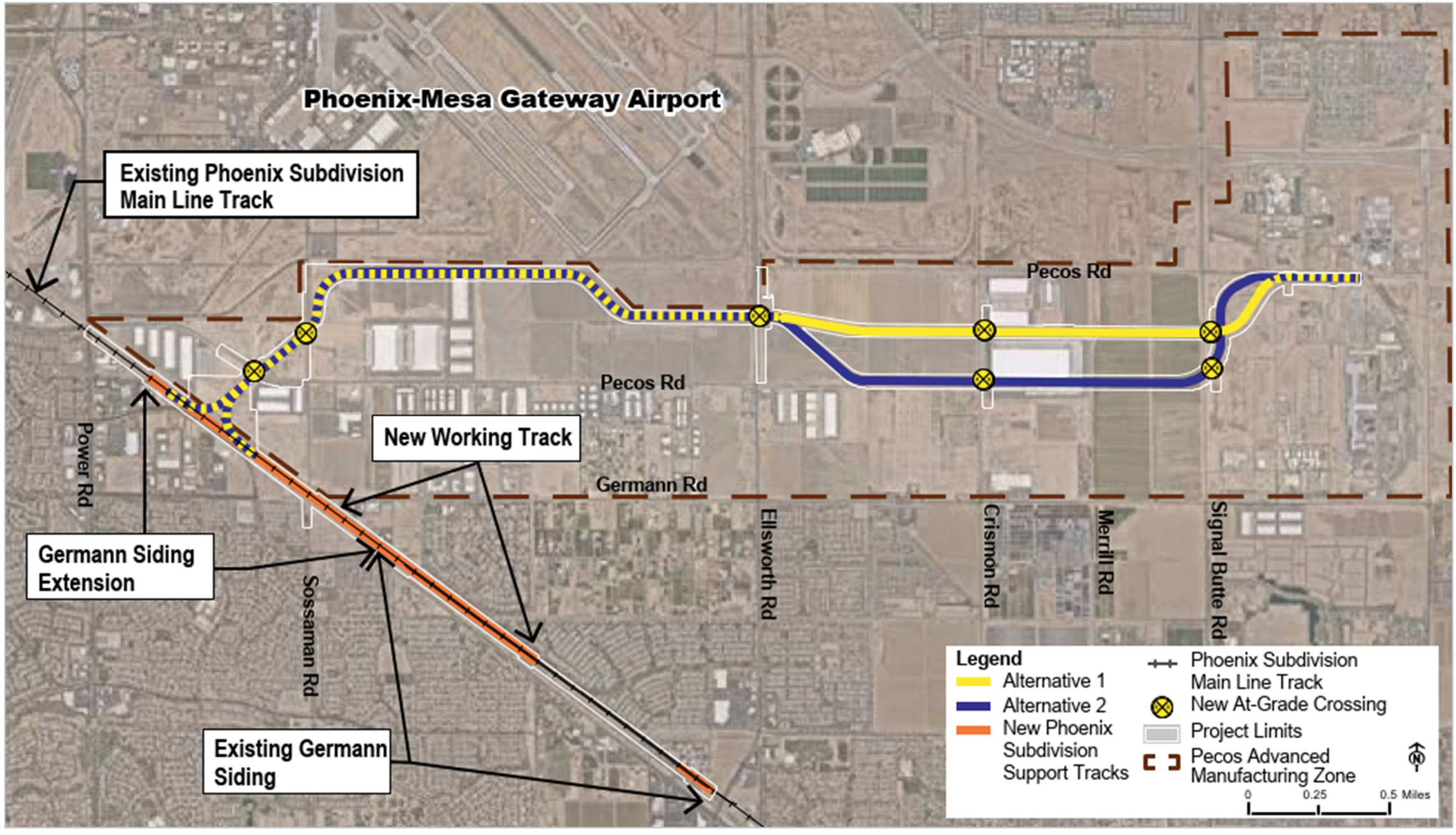
Enclosures:

Attachment A – PIRATE Location Map
Attachment B – Revised Addendum Survey Report Comment Tracking Matrix

Cc: Adam Assenza, OEA Environmental Protection Specialist, Adam.Assenza@stb.gov
Alan Tabachnick, Board's Federal Preservation Officer, Alan.Tabachnick@stb.gov
Maggie Buckley, Jacobs Project Manager, Maggie.Buckley@jacobs.com
Caroline Klebacha, Archaeological Compliance Specialist, cklebacha@azstateparks.gov
Mary-Ellen Walsh, Cultural Resources Compliance Program Manager, mwalsh@azstateparks.gov

[1] Powell, Kris. 2025. *A Class III Addendum Cultural Resources Survey for the Union Pacific Railroad Company Pecos Industrial Rail Access and Train Extension (PIRATE) Project, Mesa and Queen Creek, Maricopa County, Arizona.* Report No. 2023-005. Jacobs Engineering Group Inc., Tempe, AZ.

ATTACHMENT A – PIRATE LOCATION MAP



ATTACHMENT B – REVISED ADDENDUM SURVEY REPORT COMMENT TRACKING MATRIX

STB Docket Number FD 36501

Union Pacific Railroad Company – Construction and Operation Exemption – In Maricopa County, Arizona

Section 106 Consulting Parties Review: Addendum Survey

#	Section	Page	Comment	Comment Resolution
Reviewer: Caroline Klebacha, State Historic Preservation Office SHPO 2021-1360				
1	Entire Report	N/A	The definition of the APE is confusing. The APE includes the construction footprint buffer, it should be referred to as the APE.	References to the APE “buffer” have been omitted.
2	Entire Report	N/A	We also had concerns about how the 4.91 acres were defined in the report. The language should be consistent between the documents	The unsurveyed acreage is 2.35 acres. It has been clarified that this acreage will not be acquired by UP.
3	Table 1A	N/A	It is unclear whether artifacts were identified within the site boundary of AZ U:10:275(ASM). Elsewhere in the report it says that artifacts were observed but were consistent with previous recording.	Artifacts observed have been included in an updated table.
4	Entire report		The term “surface site boundary” is used in this report and not used in the previous report, either define the term or drop off the “surface” designation of the site boundary.	The word “surface” has been omitted.
Reviewer: Shannon Plummer, Arizona State Museum				
1	Title Page		Revise ASM Accession No. from 2022-0231 to 2023-0244	Revised as requested.
2	Title Page		Remove Arizona Antiquities Blanket Permit No. because the survey was not conducted on state lands.	Revised as requested.
3	Entire Report		When ASM sites are updated, a minimum of 1 photo is required for each site. Please include a photo of Site AZ U:10:275(ASM) or include the site in the caption of Figure 6, if the site is within view.	Photos of AZ U:10:275(ASM) are included.

Outlook

Fw: [EXTERNAL] Re: UPRR PIRATE Continuing Section 106 Consultation-Revised Final Addendum Survey Report

From: Caroline Klebacha <cklebacha@azstateparks.gov>
Sent: Tuesday, October 14, 2025 12:42 PM
To: Luhnow, Glennda <Glennda.Luhnow@jacobs.com>
Cc: Tabachnick, Alan <alan.tabachnick@stb.gov>; Assenza, Adam <adam.assenza@stb.gov>; Buckley, Maggie <Maggie.Buckley@jacobs.com>; Powell, Kris <Kris.Powell@jacobs.com>; McNeish, Sabra <Sabra.McNeish@jacobs.com>; Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>
Subject: [EXTERNAL] Re: UPRR PIRATE Continuing Section 106 Consultation-Revised Final Addendum Survey Report

This Message Is From an External Sender
This message came from outside your organization.

Good morning,

Thank you for submitting the addendum report to our office for review. SHPO has no comments.

Sincerely,

Caroline Klebacha, M.A.
Archaeology Compliance Specialist
State Historic Preservation Office
1110 West Washington Street, Suite 100
Phoenix, AZ 85007-2957

Phone: 602-542-7140
Email: cklebacha@azstateparks.gov
Web: http://AZStateParks.com/SHPO

Please use azshpo@azstateparks.gov for initial consultation!

ARIZONA STATE PARKS & TRAILS

On Fri, Sep 19, 2025 at 1:48 PM AZSHPO - AZPARKS <azshpo@azstateparks.gov> wrote:

SHPO-2021-1360 (183062)

---------- Forwarded message ---------
From: **Luhnow, Glennda** <Glennda.Luhnow@jacobs.com>
Date: Fri, Sep 19, 2025 at 11:40 AM
Subject: UPRR PIRATE Continuing Section 106 Consultation-Revised Final Addendum Survey Report
To: AZSHPO - AZPARKS <azshpo@azstateparks.gov>, Caroline Klebacha <cklebacha@azstateparks.gov>, mwalsh@azstateparks.gov <mwalsh@azstateparks.gov>
Cc: Tabachnick, Alan <alan.tabachnick@stb.gov>, Assenza, Adam <adam.assenza@stb.gov>, Buckley, Maggie <Maggie.Buckley@jacobs.com>, Powell, Kris <Kris.Powell@jacobs.com>, McNeish, Sabra <Sabra.McNeish@jacobs.com>, Phoebus, Elizabeth (Betsi) <Betsi.Phoebus@jacobs.com>

Dear Ms. Leonard:

On June 30, 2022, the Union Pacific Railroad Company (UP) filed a petition with the Surface Transportation Board (Board) requesting authority to construct and operate approximately six miles of new rail line in Maricopa County, Arizona (the proposed Pecos Industrial Rail Access and Train Extension [PIRATE] rail line). The Board's Office of Environmental Analysis (OEA) is now continuing with the final step of the Section 106 process for the project.

As part of the Section 106 process. OEA provided a draft Addendum Survey Report (Powell 2023) to consulting parties on May 19, 2023 and requested comments. All comments have been fully addressed in the revised final Addendum Survey Report, which is available for download by clicking on the following secure file transfer link within the next 14 days: Link for Addendum Survey Report.

Please feel free to contact Alan Tabachnick, the Board's Federal Preservation Officer, at Alan.Tabachnick@stb.gov with any questions.

Respectfully,

Glennda Luhnow

Glennda Luhnow, M.A., RPA | JACOBS | Manager/Archaeology and Cultural Resources |

C: 480-510-0830 | glennda.luhnow@jacobs.com
1501 West Fountainhead Parkway, Suite 401 | Tempe, Arizona 85282 | USA

SURFACE TRANSPORTATION BOARD
Washington, DC 20423

Office of Environmental Analysis

November 26, 2025

Ms. Kathryn Leonard
State Historic Preservation Officer
Arizona State Parks, State Historic Preservation Office
1110 West Washington Street, Suite 100
Phoenix, AZ 85007

Re: Docket No. FD 36501, Union Pacific Railroad Company – Construction and Operation Exemption – in Maricopa County, Arizona: Revised Draft Memorandum of Agreement

Dear Ms. Kathryn Leonard:

Union Pacific Railroad Company is seeking authority from the Surface Transportation Board (Board) to construct and operate approximately 6.0 miles of new rail line in Maricopa County, Arizona (Docket Number [No.] FD 36501) (Pecos Industrial Rail Access and Train Extension or PIRATE) (refer to map, Attachment A). In July 2023, while the environmental and historical review process for PIRATE was still pending, the Board's Office of Environmental Analysis (OEA) learned that ground disturbance to archaeological resources had occurred in the project's Area of Potential Effects. Between July 2023 and June 2025, OEA completed an assessment of the damage under Section 110(k) of the National Historic Preservation Act (NHPA). On June 3, 2025, the Board issued a decision finding that Section 110(k) of the NHPA is not applicable and that the Board will continue with the Section 106 process for the project.

Prior to July 2023, OEA had completed three of the four steps in the Section 106 process (initiation, identification of historic properties, and assessment of effects). The fourth step in the Section 106 process (resolution of adverse effect) was in progress when the ground disturbance was discovered in July 2023. After the Board's Section 110(k) decision, OEA is now continuing with the final step (resolution of adverse effects) of the Section 106 process.

Revised Memoranda of Agreement

To address the project's adverse effects, OEA circulated the following four drafts of a Memorandum of Agreement (MOA) prior to discovery of the ground disturbance:

- First Draft MOA: Distributed for review and comment on December 9, 2022
- Revised First Draft MOA: Revised and redistributed for review and comment on February 10, 2023
- Second Revised Draft MOA: Revised and redistributed for review and comment on March 10, 2023

- Third Revised Draft MOA: Revised and redistributed for review and comment on May 26, 2023
- Fourth Revised Draft MOA: Revised and redistributed for review and comment on July 21, 2023

The Fifth Revised Draft MOA is enclosed as a separate document (Attachment B). The Fifth Revised Draft MOA includes new clauses and stipulations related to the archaeological site damage and streamlines the transition between data recovery phases (See Attachment C). The Fifth Revised Draft MOA also includes minor editorial and grammatical changes. These changes are not substantive, and are not comprehensively summarized in Attachment C.

OEA is continuing Section 106 consultation with your office and providing you with the Fifth Revised Draft MOA for review and comment. We request any comments you may have by December 30, 2025. Thank you for your continued involvement and input on this project. Please feel free to contact Alan Tabachnick, the Board's Federal Preservation Officer, at email address alan.tabachnick@stb.gov with any comments or questions.

Sincerely,

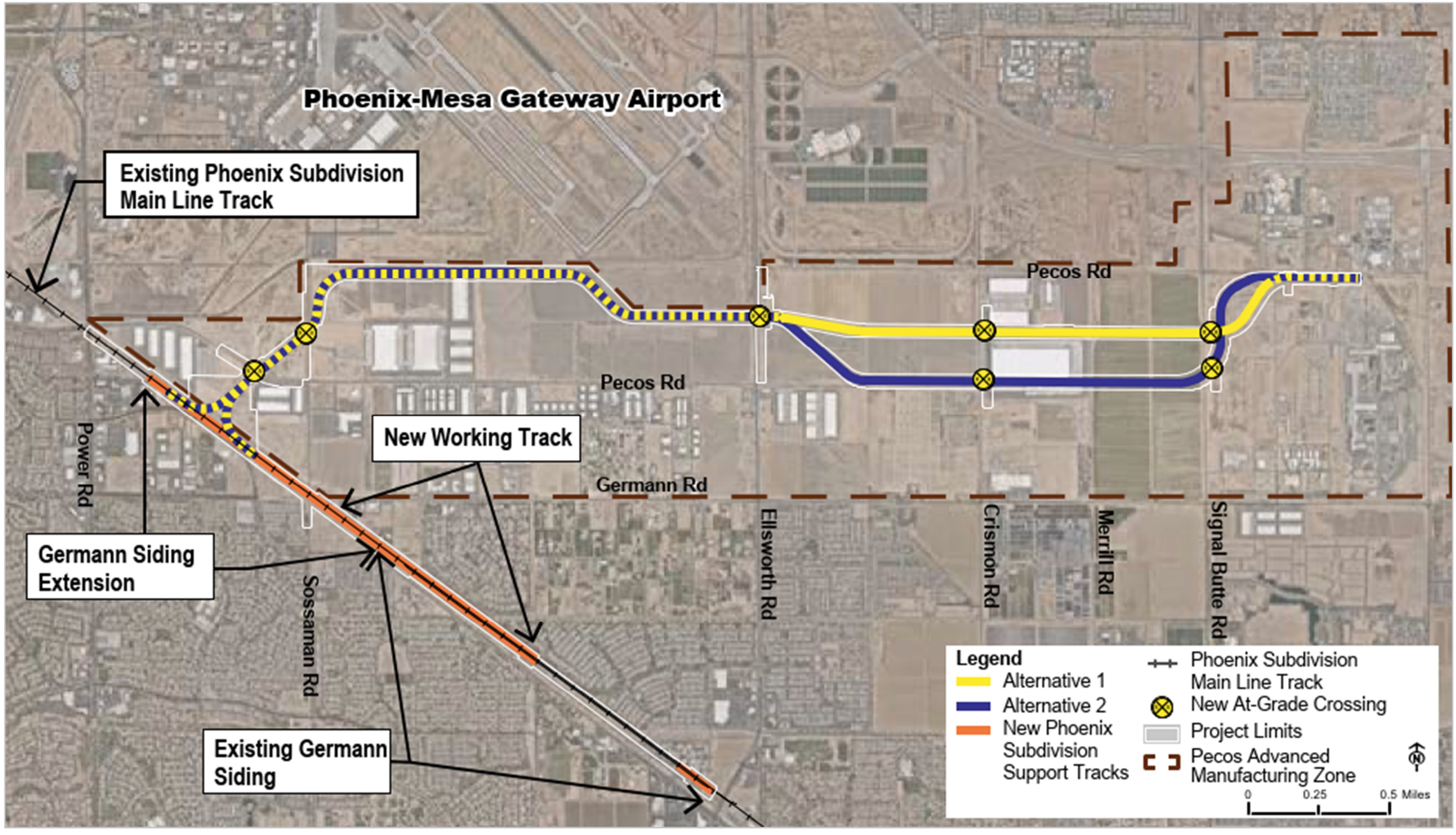
Danielle Gosselin
Director
Office of Environmental Analysis

Enclosures:

Attachment A – PIRATE Location Map
Attachment B – Fifth Revised Draft MOA (enclosed separately)
Attachment C – Fifth Revised Draft MOA Revision Summary

Cc: Adam Assenza, OEA Environmental Protection Specialist, adam.assenza@stb.gov
Alan Tabachnick, Board's Federal Preservation Officer, alan.tabachnick@stb.gov
Maggie Buckley, Jacobs Project Manager, maggie.buckley@jacobs.com
Caroline Klebacha, Archaeological Compliance Specialist, cklebacha@azstateparks.gov
Mary-Ellen Walsh, Cultural Resources Compliance Program Manager, mwalsh@azstateparks.gov

ATTACHMENT A – PIRATE LOCATION MAP



ATTACHMENT B – FIFTH REVISED DRAFT MOA (ENCLOSED SEPARATELY)

ATTACHMENT C – FIFTH REVISED DRAFT MOA REVISION SUMMARY

Docket Number FD 36501
Union Pacific Railroad Company – Construction and Operation Exemption – In Maricopa County
Section 106 Consulting Parties Review: Draft Memorandum of Agreement (MOA), 5th Transmittal
Overview of OEA Revisions

No.	Section	Line(s)	Summary of Revision	Notes
1	Throughout		Minor additions and edits for clarity and accuracy	
2	WHEREAS	51-53	Added WHEREAS clause regarding Identification of Damage	
2	WHEREAS	54-57	Added WHEREAS clause regarding Damage Assessment process	
4	WHEREAS	58-61	Added WHEREAS clause regarding Section 110k	
5	WHEREAS	N/A	Removed "OEA commits to continuing identification and evaluation effects" but discussed in Stipulation VIII.	
6	WHEREAS	111-114	Modified discussion of City of Mesa and PAMZ	
7	Stipulation V	211-215	Added additional information on existing TCPs in the Project APE	
8	Stipulation V.C	225	Added "and traditional cultural specialists"	
9	Stipulation VII	261	Added "and does not require authorization from the Board"	
10	Stipulation XVIII	N/A	Removed "OEA shall continue to use the procedures for public involvement under NEPA to solicit information and concerns about historic properties from members of the public" – discussed in the WHEREAS 143-149	
11	Stipulation X.C.1	323	Added "a discussion of damage" to address the damage to archaeological sites to the HPTP outline	
12	Stipulation X.C.3	332	Added "phased data recovery methods" to address comment on the HPTP	
13	Stipulation X.C.10	374	Added "escorting and" to the documentation of recovery of ancestors	
14	Stipulation X.D.2	396-404	Modification of time limit for response for HPTP review	
15	Stipulation XXI.C	575-577	Removed review limits and time frame for annual meeting notes	
16	Stipulation XIV	486	Added report revision date	
17	Stipulation XI-XIII	408-491	Added new stipulations to address transition between Phase I and Phase II Data Recovery and subsequent reporting per comment from the HPTP consultation	
18	Stipulation XV	493-502	Added stipulation regarding Construction in Site Areas	
19	Stipulation XXIII.B	626-627	Removed "OEA" and changed sentence "Responsibilities under this MOA not subject to dispute shall remain unchanged" (623-624)	
20	Attachment C	Definitions	Added definitions for Phase I and Phase II Data Recovery	

From:	Powell, Kris
Sent:	Friday, January 23, 2026 2:22 PM
To:	Kathryn Leonard
Cc:	Caroline Klebacha; mwalsh@azstateparks.gov; Gosselin, Danielle; Assenza, Adam; Tabachnick, Alan; Buckley, Maggie; Phoebus, Elizabeth (Betsi); McNeish, Sabra; Luhnow, Glennda; AZSHPO - AZPARKS
Subject:	UPRR Pirate - Continuing Section 106 Consultation - Stabilization Plan
Attachments:	UP PIRATE Stabilization Plan_Final.pdf

Dear Ms. Leonard:

As the Surface Transportation Board's (Board) Office of Environmental Analysis (OEA) stated in previous Section 106 consultation conducted under the National Historic Preservation Act, on June 30, 2022, the Union Pacific Railroad (UP) filed a petition with the Board requesting authority to construct and operate approximately six miles of new rail line in Maricopa County, Arizona (the proposed Pecos Industrial Rail Access and Train Extension [PIRATE] rail line).

In early November 2025, erosional activity was identified in Damage Area 1 that is impacting intact portions of the archaeological site AZ U:10:2(ASM). At the request of OEA, OEA's third-party consultant, Jacobs, drafted a site stabilization plan outlining measures to mitigate the erosion and maintain the integrity of intact surface portions of the site.

Given the sensitivity of the site and the quick progression of erosion, please contact Alan Tabachnick, STB's Federal Preservation Officer, at Alan.Tabachnick@stb.gov, if you have questions or concerns regarding the attached stabilization plan or the next steps in the process.

Sent on behalf of Alan Tabachnick, STB's Federal Preservation Officer.

Kind Regards,

Kris Powell, M.A., RPA | JACOBS | **Senior Archaeologist and Principal Investigator |**
C: 602-463-5843 | kris.powell@jacobs.com
1501 West Fountainhead Parkway, Suite 401 | Tempe, Arizona 85282 | USA

From:	Powell, Kris
Sent:	Monday, February 9, 2026 2:29 PM
To:	Kathryn Leonard
Cc:	mwalsh@azstateparks.gov; Caroline Klebacha; Gosselin, Danielle; Assenza, Adam; Tabachnick, Alan; Buckley, Maggie; Phoebus, Elizabeth (Betsi); McNeish, Sabra; Luhnow, Glennda; AZSHPO - AZPARKS
Subject:	UP PIRATE - Continuing Section 106 Consultation - Final MOA
Attachments:	UP PIRATE FINAL MOA PDF 2-9-26.pdf; PIRATE_Final MOA Transmittal Letter_SHPO.pdf; UP PIRATE FINAL MOA Redline 2-9-26.docx
Importance:	High

Dear Ms. Leonard:

On June 30, 2022, the Union Pacific Railroad Company (UP) filed a petition with the Board requesting authority to construct and operate approximately six miles of new rail line in Maricopa County, Arizona (the proposed Pecos Industrial Rail Access and Train Extension [PIRATE] rail line).

Over the past three years, OEA has circulated five drafts of the project's Memorandum of Agreement (MOA) for review and comment to the Section 106 consulting parties under the National Historic Preservation Act. OEA has revised each of the subsequent drafts to address the comments and input from the Section 106 consulting parties. We are now providing you with the Final MOA, along with a Comment/Response Table that reflects comments and input received on the Fifth Revised Draft MOA (November 26, 2026).

Please return the attached Final MOA with your signature by February 23, 2026. If you have questions, or require more information, please do not hesitate to contact Alan Tabachnick, the Board's Federal Preservation Officer, at Alan.Tabachnick@stb.gov. Thank you for your continued participation in the Section 106 process.

Sent on behalf of Alan Tabachnick, the Board's Federal Preservation Officer.

Kind regards,

Kris Powell, M.A., RPA | JACOBS | **Senior Archaeologist and Principal Investigator |**
C: 602-463-5843 | kris.powell@jacobs.com
1501 West Fountainhead Parkway, Suite 401 | Tempe, Arizona 85282 | USA

SURFACE TRANSPORTATION BOARD
Washington, DC 20423

Office of Environmental Analysis

February 9, 2026

Ms. Kathryn Leonard
State Historic Preservation Officer
Arizona State Parks, State Historic Preservation Office
1110 West Washington Street, Suite 100
Phoenix, AZ 85007

Re: Docket No. FD 36501, Union Pacific Railroad Company – Construction and Operation Exemption – in Maricopa County, Arizona: Final Memorandum of Agreement

Dear Ms. Leonard:

Union Pacific Railroad Company is seeking authority from the Surface Transportation Board (Board) to construct and operate approximately 6.0 miles of new rail line in Maricopa County, Arizona (Docket No. FD 36501) (Pecos Industrial Rail Access and Train Extension or PIRATE) (See map, Attachment A). In July 2023, while the environmental and historical review process for PIRATE was still pending, the Board's Office of Environmental Analysis (OEA) learned that ground disturbance to archaeological resources had occurred in the project's Area of Potential Effects. Between July 2023 and June 2025, OEA completed an assessment of the damage under Section 110(k) of the National Historic Preservation Act (NHPA). On June 3, 2025, the Board issued a decision finding that Section 110(k) of the NHPA is not applicable and that the Board will continue with the Section 106 process for the project.

Prior to July 2023, OEA had completed three of the four steps in the Section 106 process (initiation, identification of historic properties, and assessment of effects). The fourth step in the Section 106 process (resolution of adverse effect) was in progress when the ground disturbance was discovered in July 2023. After the Board's Section 110(k) decision, OEA is continuing with the final step (resolution of adverse effects) of the Section 106 process.

Memoranda of Agreement

To address the project's adverse effects, OEA circulated the following drafts of a Memorandum of Agreement (MOA):

- First Draft MOA: Distributed for review and comment on December 9, 2022
- Revised First Draft MOA: Revised and redistributed for review and comment on February 10, 2023

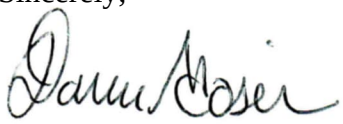
- Second Revised Draft MOA: Revised and redistributed for review and comment on March 10, 2023
- Third Revised Draft MOA: Revised and redistributed for review and comment on May 26, 2023
- Fourth Revised Draft MOA: Revised and redistributed for review and comment on July 21, 2023
- Fifth Revised Draft MOA: Revised and redistributed for review and comment on November 26, 2025

The Final MOA is enclosed (Attachment B) for your review. The Final MOA includes map updates showing current ownership as well as clarifying changes to existing stipulations. These changes are not substantive and are comprehensively summarized in the enclosed Comment/Response Table (Attachment C).

Request for Concurrence and Signature

OEA is continuing Section 106 consultation with your office and is requesting your concurrence on the project's adverse effect finding and signature on the enclosed Final MOA. Please return the Final MOA with your signature to Alan Tabachnick electronically by **February 23, 2026**. Thank you very much for your continued involvement and input on this project. Please feel free to contact Alan Tabachnick, STB's Federal Preservation Officer, Alan.Tabachnick@stb.gov with any questions about the Final MOA.

Sincerely,



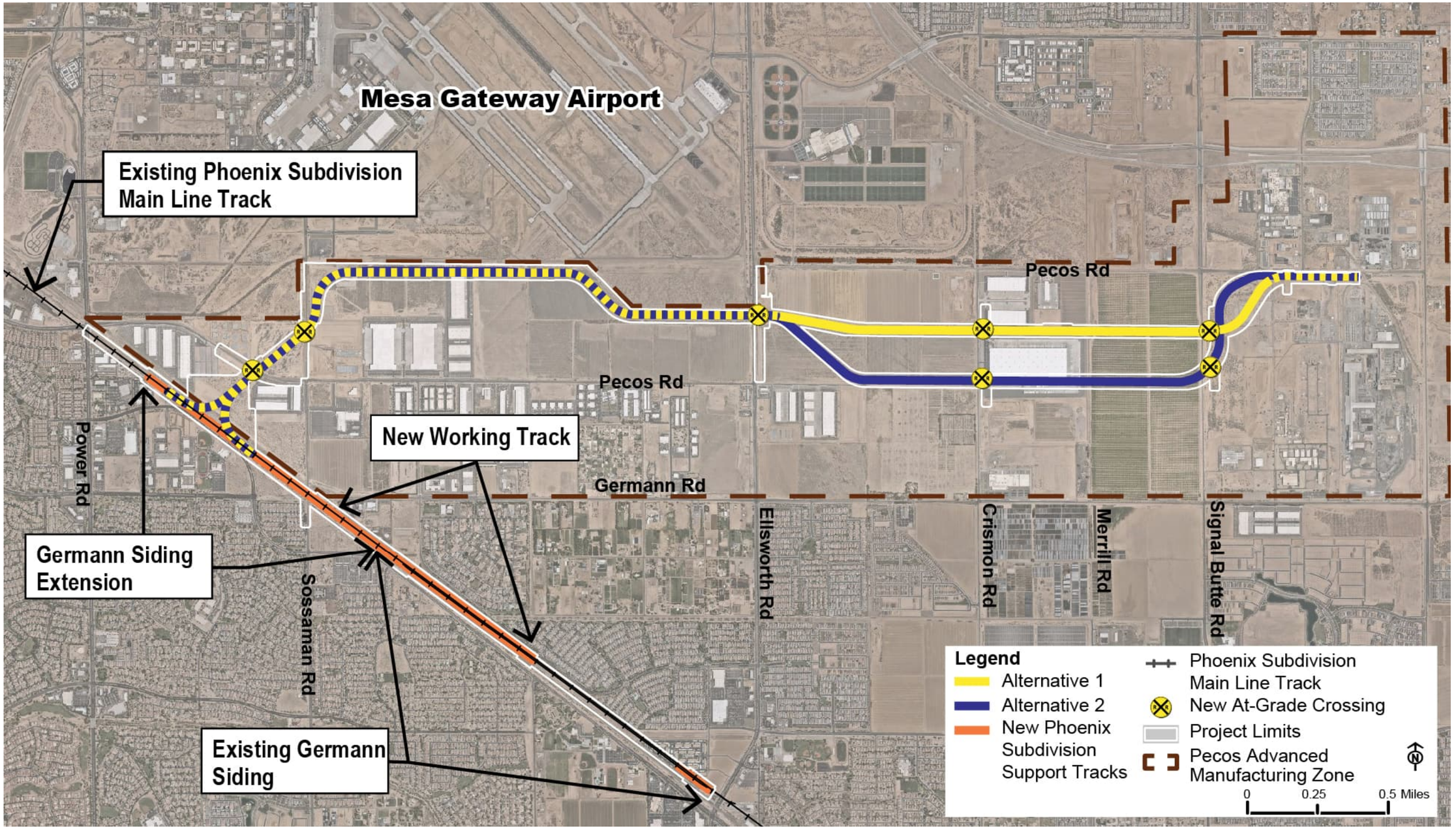
Danielle Gosselin
Director
Office of Environmental Analysis

Enclosures:

Attachment A – PIRATE Location Map
Attachment B – Final MOA (February 9, 2026)
Attachment C – MOA Comment/Response Table

Cc: Adam Assenza, OEA Environmental Protection Specialist, Adam.Assenza@stb.gov
Alan Tabachnick, Board's Federal Preservation Officer, Alan.Tabachnick@stb.gov
Maggie Buckley, Jacobs Project Manager, Maggie.Buckley@jacobs.com
Caroline Klebacha, Archaeological Compliance Specialist, cklebacha@azstateparks.gov
Mary-Ellen Walsh, Cultural Resources Compliance Program Manager, mwalsh@azstateparks.gov

ATTACHMENT A – PIRATE LOCATION MAP



ATTACHMENT B – FINAL MEMORANDUM OF AGREEMENT (SEPARATE ENCLOSURE)

ATTACHMENT C - MOA COMMENT/RESPONSE TABLE

From:	Powell, Kris
Sent:	Tuesday, February 24, 2026 9:16 AM
To:	Williams, Tearanni E (FAA); santanhistoricalmuseum@gmail.com; exec@mesamuseum.org; Alison Stoltman; glopez2@ak-chin.nsn.us; lakeevama@hopi.nsn.us; Executive Mail; tpadilla@mescaleroapachetribe.com; Julian Hernandez; Bohnee, Gary; Verlon M. Jose; cjohnson@tontoapache.org; 'Arden Kucate'; Kathryn Leonard; david.rousseau@srpnet.com; splregulatoryaz@usace.army.mil; Kevin Rice, PE; Heather Wilkey; Scott Brownlee; Tom Hanson (FCD); Lyons, Patrick D - (plyons); Mark Edelman; Nick Juszczak; charliebacaiv@yan-tribe.org
Cc:	Assenza, Adam; Tabachnick, Alan; Gosselin, Danielle; Buckley, Maggie; Phoebus, Elizabeth (Betsi); McNeish, Sabra; Luhnow, Glennda; Tracy Wind; Elaine F. Peters; Stewart Koyiyumptewa; Reylynne Williams; Larry Benallie Jr; Darius Enos; Holly Houghten; Karl Hoerig; Anton, Shane; mwalsh@azstateparks.gov; kdongoske@gmail.com; Garcia-Lewis, Angela; Eiselt, Sunday; Martinez, Martha; eric.verwys@tonation-nsn.gov; richard.saunders@tonation-nsn.gov; samuel.fayuant@tonation-nsn.gov; jdecola@tontoapache.org; Dan M Garcia; Caroline Klebacha; AZSHPO - AZPARKS; Tiffany Grew; Stone, Bradford William - (bstone); Matthew Kriegl; Kellie Rorex; paul.baughman@maricopa.gov; Carl D'Acosta; Dave Lipinski; Sarah Herr; Morgan, Shannon R CIV SPK; mjuan@yan-tribe.org; Olivia McMahon
Subject:	UP PIRATE - Continuing Section 106 Consultation - Final Executed MOA
Attachments:	UP PIRATE FINAL MOA 2-20-26 EXECUTED.pdf
Importance:	High

Dear Consulting Parties:

On June 30, 2022, the Union Pacific Railroad Company (UP) filed a petition with the Board requesting authority to construct and operate approximately six miles of new rail line in Maricopa County, Arizona (the proposed Pecos Industrial Rail Access and Train Extension [PIRATE] rail line).

Over the past three years, the Surface Transportation Board's Office of Environmental Analysis (OEA) has circulated six drafts of the project's Memorandum of Agreement (MOA) for review and comment to the Section 106 consulting parties under the National Historic Preservation Act. OEA has revised each of the subsequent drafts to address the comments and input from the Section 106 consulting parties. The Final MOA was circulated on February 9, 2026, and OEA is now providing you with the executed agreement.

OEA has filed the fully executed MOA with the Advisory Council on Historic Preservation and is providing the attached copy to all Section 106 consulting parties. Along with the rest of the record in this proceeding, the fully executed MOA is available on the Board's website (www.stb.gov). OEA is continuing to revise the draft Historic Properties Treatment Plan (HPTP) and will be seeking additional input from the Section 106 consulting parties soon.

Thank you for your continued participation in the historic review process. Should you have any questions, please contact Alan Tabachnick, the Board's Federal Preservation Officer, at Alan.Tabachnick@stb.gov.

Sent on behalf of Alan Tabachnick, the Board's Federal Preservation Officer.

Kind Regards,

Kris Powell, M.A., RPA | JACOBS | **Senior Archaeologist and Principal Investigator |**
C: 602-463-5843 | kris.powell@jacobs.com
1501 West Fountainhead Parkway, Suite 401 | Tempe, Arizona 85282 | USA

MEMORANDUM OF AGREEMENT BETWEEN THE SURFACE TRANSPORTATION BOARD AND THE ARIZONA STATE HISTORIC PRESERVATION OFFICER

REGARDING

DOCKET NO. FD 36501 – UNION PACIFIC RAILROAD COMPANY – CONSTRUCTION AND OPERATION EXEMPTION – IN MARICOPA COUNTY

WHEREAS, on June 30, 2022, the Union Pacific Railroad Company (UP) filed a petition with the Surface Transportation Board (Board) under 49 United States Code (U.S.C.) § 10502 for an exemption from the prior approval requirements of 49 U.S.C. § 10901 to construct and operate approximately 6.0 miles of new rail line that would connect industrial properties to UP's Phoenix Subdivision main line in Maricopa County, Arizona (the Project) in Docket No. FD 36501; and

WHEREAS, as defined in 36 C.F.R. § 800.3(a), the Board has determined that the Project constitutes an Undertaking subject to review under Section 106 of the National Historic Preservation Act of 1966, as amended (NHPA), 54 U.S.C. § 306108, and its implementing regulations (36 C.F.R. Part 800); and

WHEREAS, all consulting Federal agencies (Federal Aviation Administration [FAA] and U.S. Army Corps of Engineers [Corps]) have agreed that the Board is the lead federal agency responsible for compliance with Section 106 of the NHPA for this Undertaking; and

WHEREAS, the Board's Office of Environmental Analysis (OEA) is responsible for carrying out the agency's responsibilities under the NHPA and is preparing this Memorandum of Agreement (MOA) pursuant to Section 106 of the NHPA and pursuant to 36 C.F.R. Part 800 of the Advisory Council on Historic Preservation (ACHP)'s regulations implementing Section 106; and

WHEREAS, OEA has defined the Area of Potential Effects (APE), which contains approximately 449 acres within portions of Sections 1 through 9 and 16 of Township 2 South, Range 7 East and Section 36 of Township 1 South, Range 7 East, as depicted on the U.S. Geological Survey's Higley, Ariz., and Desert Well, Ariz., 7.5-minute topographic quadrangles. The APE includes two alternatives, only one of which will be authorized for construction if the Undertaking is approved by the Board. The APE encompasses all areas of ground-disturbing physical effects that may also cause auditory, visual, or vibrational effects to historic properties as a result of the Undertaking. The Arizona State Historic Preservation Office (SHPO) concurred with OEA's definition of the initial APE (dated May 2, 2022) and revised APE (dated October 14, 2025). The APE is depicted in Attachment A; and

WHEREAS, OEA documented the cultural resources survey results in *A Class III Cultural Resources Survey for the Union Pacific Railroad Company Pecos Industrial Rail Access and Train Extension (PIRATE) Project, Mesa and Queen Creek, Maricopa County, Arizona* (Rainey and Stubing 2022), and *A Class III Addendum Cultural Resources Survey for the Union Pacific Railroad Company Pecos Industrial Rail Access and Train Extension (PIRATE) Project, Mesa and Queen Creek, Maricopa County, Arizona* (Powell 2023, revised September 2025), which OEA provided to the Consulting Parties for review and comment; and

WHEREAS, a total of 2.35 acres in the APE consists of private land that will not be acquired or accessed for the Project, is not included in the Undertaking (see Attachment B), and was not surveyed for cultural resources; and

WHEREAS, the two cultural resources surveys identified three eligible sites (AZ U:10:2[ASM], AZ U:10:152[ASM], and AZ U:10:275[ASM]), one listed site (AZ U:10:69[ASM] – listed under AZ U:10:25[ASU]), and one in-use historic structure (the Mesa to Winkelman Spur of the Southern Pacific Railroad), that OEA determined to be eligible for inclusion in the National Register of Historic Places (NRHP) with SHPO concurrence (December 20, 2022); and

WHEREAS, OEA has determined, pursuant to 36 C.F.R. § 800.5(a), that the Undertaking would have an adverse effect on four historic properties, including AZ U:10:2(ASM), AZ U:10:69(ASM), AZ U:10:152(ASM), and AZ U:10:275(ASM), which are eligible for, and/or listed on, the NRHP under Criterion D (36 C.F.R. Part 63) and would have no adverse effect to the character-defining features of the in-use historic structure; and

WHEREAS, [redacted]

WHEREAS, on July 28, 2023, OEA discovered that there had been extensive disturbance to two of the historic properties (AZ U:10:2[ASM] and AZ U:10:152[ASM]), [redacted] from construction activities by third parties on land owned by UP within the APE; and

WHEREAS, the Section 106 process did not move forward while the Board considered the applicability of Section 110(k) (anticipatory demolition) of the NHPA; and

WHEREAS, a thorough damage assessment was also conducted—*Noninvasive Cultural Resources Damage Assessment for AZ U:10:2(ASM) and AZ U:10:152(ASM), Mesa, Maricopa County, Arizona* (Powell 2024) and *Invasive Cultural Resources Damage Assessment Technical Report for AZ U:10:2(ASM), Mesa, Maricopa County, Arizona* (Luhnow et al. 2025)—that revealed five locations of disturbance, including excavation of two retention basins and removal of 40,500 cubic yards of soil and impacts to almost 18 acres of land within two NRHP-eligible sites (AZ U:10:2[ASM] and AZ U:10:152[ASM]) [redacted]; and

WHEREAS, the Board issued a decision on June 3, 2025, stating that "no determination that Section 110(k) is applicable will be issued under 36 C.F.R. § 800.9(c)," and that "the Board will continue with the Section 106 process"; and

WHEREAS, the SHPO is authorized to enter into this MOA to fulfill the role of advising and assisting federal agencies in carrying out their Section 106 responsibilities under the NHPA and its implementing regulations at 36 C.F.R. §§ 800.2(c)(1)(i) and 800.6(b), and the SHPO is a Signatory to this MOA; and

WHEREAS, UP has specific Section 106 responsibilities under this MOA and is an Invited Signatory; and

WHEREAS, part of the Undertaking will require a permit from the Corps, which has jurisdiction over activities that discharge dredged or fill materials into any waters of the United States under Section 404 of the Clean Water Act of 1972 (33 U.S.C. § 1344), the issuance of which requires Section 106 review for that Undertaking, and pursuant to 36 C.F.R. § 800.3(f), the Corps has been included in Section 106 consultation and is invited to sign this MOA as a Concurring Party; and

WHEREAS, the FAA administers regulations regarding airport-protected services, airspace notification, and filing requirements for structures that may be a potential hazard to air navigations, and the FAA has been included in Section 106 consultation pursuant to 36 C.F.R. § 800.3(f) and has been invited to sign this MOA as a Concurring Party; and

WHEREAS, the Mesa Gateway Airport Authority (MGAA) occupies the aviation infrastructure of the former Williams Air Force Base, which is adjacent to the Undertaking and the MGAA has been included in Section 106 consultation pursuant to 36 C.F.R. § 800.3(f) and has been invited to sign this MOA as a Concurring Party; and

WHEREAS, the Flood Control District of Maricopa County (FCDMC) manages the Rittenhouse and Ellsworth flood control channels and will review UP's design plans for construction and operation of the Undertaking, which may require the approval of a right-of-way permit, and pursuant to 36 C.F.R. § 800.3(f), the FCDMC has been included in Section 106 consultation and is invited to sign this MOA as a Concurring Party; and

WHEREAS, the Arizona State Land Department (ASLD) administers state trust land within the APE and a right-of-way permit will be needed to construct the Undertaking within the existing agricultural leased lands between Merrill and Signal Butte Roads, and the ASLD has been included in Section 106 consultation pursuant to 36 C.F.R. § 800.3(f) and is invited to sign this MOA as a Concurring Party; and

WHEREAS, the Arizona State Museum (ASM) has defined authorities and responsibilities under Arizona Revised Statutes (ARS) §§ 41-841 through 41-844, for portions of the Undertaking on State Lands (defined as including state, county, city, and municipal lands) and under ARS § 41-865 for private lands, and the ASM has been included in Section 106 consultation pursuant to 36 C.F.R. § 800.3(f) and has been invited to sign this MOA as a Concurring Party; and

WHEREAS, the Salt River Project Agricultural Improvement District (SRP), an agricultural improvement district organized under the laws of the State of Arizona and the Salt River Valley Water Users' Association, a corporation organized under the laws of the Territory (now State) of Arizona, and because there is SRP infrastructure within the APE, the SRP has been included in Section 106 consultation pursuant to 36 C.F.R. § 800.3(f) and has been invited to sign this MOA as a Concurring Party; and

WHEREAS, land owned by the City of Mesa (City) is included in the APE, and because the City has developed the Pecos Advanced Manufacturing Zone (PAMZ) on this land, the City has been included in Section 106 consultation pursuant to 36 C.F.R. § 800.3(f), and has been invited to sign this MOA as a Concurring Party; and

WHEREAS, the APE includes land owned by the Town of Queen Creek (Town), and, as such, the Town has been included in Section 106 consultation pursuant to 36 C.F.R. § 800.3(f) and has been invited to sign this MOA as a Concurring Party; and

WHEREAS, the San Tan Historical Society, Mesa Historical Museum, and Arizona Museum of Natural History have interest in the archaeological and historic resources within the APE and have been included in Section 106 consultation pursuant to 36 C.F.R. § 800.3(f) and have been invited to sign as Concurring Parties to this MOA; and

WHEREAS, OEA has consulted with known Native American Tribes (Descendant Communities) that may attach religious or cultural importance to affected properties pursuant to 36 C.F.R. § 800.2(c)(2)(ii)(A-F) and these tribes (the Four Southern Tribes, Hopi Tribe, Mescalero Apache Tribe, Pascua Yaqui Tribe, Pueblo of Zuni, Tonto Apache Tribe, and Yavapai-Apache Nation) have been invited to sign as Concurring Parties to this MOA; and

WHEREAS, the Four Southern Tribes, Hopi Tribe, and Pascua Yaqui Tribe have expressed interest in this Undertaking and are actively engaged in Section 106 consultation, including the development of this MOA; and

WHEREAS, the Four Southern Tribes have designated the Gila River Indian Community as the lead Tribe for the Four Southern Tribes; and

WHEREAS, the Yavapai-Apache Nation indicated that they would continue to participate in the Section 106 consultation, but do not have any concerns (Coder [Yavapai-Apache Nation] to Luhnow [Jacobs] dated May 6, 2022); and

WHEREAS, the White Mountain Apache Tribe has declined to participate in the Section 106 consultation (Altaha [White Mountain Apache Tribe] to Luhnow [Jacobs] dated May 10, 2022); and

WHEREAS, UP, SHPO, Gila River Indian Community, Salt River Pima-Maricopa Indian Community, Ak-Chin Indian Community, and Tohono O'odham Nation are in the process of developing a Memorandum of Understanding (MOU) for certain voluntary commitments to be undertaken by UP related to the Project. The Board will not be a party to this MOU and the MOU will be outside of the jurisdiction of the Board and the scope of this MOA; and

WHEREAS, OEA solicited information and concerns about the historic properties from members of the public as part of the National Environmental Policy Act in accordance with 36 C.F.R. § 800.2(d)(3); and

WHEREAS, all days referred to in this MOA are calendar days, unless otherwise noted; and

WHEREAS, in accordance with 36 C.F.R. § 800.6(a)(1), OEA has notified the ACHP of the adverse effect finding and provided the documentation specified in 36 C.F.R. § 800.11, and on December 22, 2022, and again on August 15, 2025, the ACHP chose not to participate in consultation pursuant to 36 C.F.R. § 800.6(a)(1)(iii); and

NOW, THEREFORE, the Board and the SHPO agree that this MOA shall be implemented in accordance with the following stipulations to take into account the effects of the Undertaking on historic properties.

STIPULATIONS

The Board, through OEA, shall ensure that the following measures are carried out for this Undertaking.

I. Definitions

The definitions and associated acronyms in Attachment C follow 36 C.F.R. § 800.16 and are used within this MOA. "Signatories" refers to Signatories and Invited Signatories.

II. Roles and Responsibilities

The Signatories agree that the Board is the lead agency for administering and implementing this MOA, and is responsible for ensuring that UP, as the Applicant, completes all the measures set forth in this MOA. On behalf of the Board, OEA's responsibilities under this MOA include:

- Consulting and coordinating with the Consulting Parties;
- Conducting Government-to-Government consultation with the Tribes;
- Ensuring that all Signatories carry out their responsibilities;
- Reviewing and approving all submissions to the Consulting Parties, including the additional cultural resources inventory reports (if needed),
- Overseeing and approving all cultural resource work undertaken by UP;
- Seeking SHPO concurrence with all agency compliance decisions.

UP, under direction from OEA, is responsible for:

- Retaining a qualified cultural resource contractor (Contractor) (see Stipulation III.A);
- Implementing the Historic Property Treatment Plan (HPTP);
- Conducting any additional cultural resources inventory work (if needed), Post-Review Letter Report (if needed), Variance Inventory Report (if needed), the Preliminary Reports of Findings, and final Comprehensive Data Recovery Technical Report.

III. Professional Qualifications

All work shall meet the Secretary of the Interior (SOI)'s Standards for Archaeology, Cultural Anthropology, and Historic Preservation (SOI Standards; 36 C.F.R. § 800.2(a)(1); 48 *Federal Register* [FR] Vol. 48, No. 190, 44738-44739; September 29, 1983), and any work involving state and municipal lands shall be completed in accordance with ASM standards.

A. UP shall retain a Contractor and cultural anthropologist(s) (Ethnographer) of its choice that meets the SOI's Professional Qualification Standards (36 C.F.R. § 800.2(a)(1); 48 FR Vol. 62, No. 119, 33715-33716; June 20, 1997). The Ethnographer will have demonstrated regional specialization in central and southern Arizona and will have experience working directly with the Four Southern Tribes. Cultural resources work for the Undertaking will be completed by an individual or under the direct supervision of an individual who meets the SOI's qualifications.

B. In recognition of the special expertise Tribal experts have concerning properties of traditional religious and/or cultural significance, the standards of 36 C.F.R. § 61 will not apply to tribally designated representatives carrying out identification and evaluation efforts for such properties of Tribal interest.

IV. Tribal Consultation

A. OEA shall conduct Government-to-Government consultation for the purposes of identifying, evaluating, documenting, and mitigating adverse impacts to properties of religious and cultural significance to Tribes as identified during the Section 106 consultation process.

B. Tribes that might attach religious and cultural significance to historic properties in the APE have been identified by OEA and have been invited to be Consulting Parties for this Undertaking.

C. OEA shall continue to conduct Government-to-Government consultation with Tribes throughout the duration of the Undertaking.

D. OEA acknowledges that each Tribe defines Government-to-Government consultation differently and will work individually with interested Tribes to accommodate their preferences.

E. Consultation has been initiated through formal consultation letters transmitted electronically. Continuing consultation may also include video conferences, in-person meetings, in-field meetings, or other types of meetings, as dictated by Tribal preference.

F. Tribal consultation may also include ethnographic studies to aid in identification and evaluation efforts.

V. Traditional Cultural Place

As defined in the 2024 update to *National Register Bulletin 38*, a Traditional Cultural Place (TCP) is a building, structure, object, site, or district that may be listed or eligible for listing in the NRHP for its significance to a living community because of its association with cultural beliefs, customs, or practices that are rooted in the community's history and that are important in maintaining the community's cultural identity (National Park Service 2024).

[redacted]

A. OEA will continue conducting Government-to-Government consultation with Native American Tribes to further evaluate any known and newly identified TCPs and resolve any potential effects to these properties by the Undertaking.

B. The Four Southern Tribes have indicated that a TCP evaluation study is necessary to fully address the potential effects on cultural and natural properties that may qualify as TCPs within the APE and vicinity. OEA is continuing Government-to-Government consultation with the Four Southern Tribes to outline the scope of the TCP evaluation and identify an ethnographer that is acceptable to the Tribes and meets the qualifications standards outlined in Stipulation III.

C. The ethnographer will work closely with elders and traditional cultural specialists from the Four Southern Tribes [redacted] The scope of the TCP evaluation will be determined by OEA based on communication with the ethnographer in conjunction with elders and other Native consultants.

D. The ethnographer will record the results of Tribal interviews, oral histories, background research, field visits, and other appropriate sources reviewed for the TCP study. [redacted] The ethnographer will prepare two reports. The first report will be a comprehensive summary limited to review by the Four Southern Tribes and Gila River Indian Community Tribal Historic Preservation Officer (THPO). A second redacted report will provide information sufficient to provide an evaluation of the NRHP eligibility and integrity of each TCP identified. Given the confidential nature of this information, the second report will have limited distribution designated by the Gila River Indian Community THPO. OEA will conduct Government-to-Government consultation with Gila River Indian Community THPO to discuss the results of the TCP

evaluation. In consultation with Gila River Indian Community THPO, OEA will provide a consultation letter to SHPO outlining each TCP and its NRHP eligibility determination for SHPO review and concurrence.

E. Once the TCP evaluations are complete and SHPO has concurred with the results, OEA will continue Government-to-Government consultation with the Four Southern Tribes and Gila River Indian Community THPO [redacted] OEA, the Four Southern Tribes, the Gila River Indian Community THPO and the SHPO will continue consultation to formulate mitigation measures for the resolution of the adverse effect.

VI. Construction Variance and Review Process

All construction needs cannot be anticipated in advance, and areas required for additional workspace (e.g., new design changes, access roads, ancillary facilities, reroutes, etc.) may be identified at any time following the finalization of the survey reports (Rainey and Stubing 2022; Powell 2023, revised 2025). If any newly identified construction needs would result in ground-disturbing activities outside of the surveyed areas identified in the survey reports and does not require authorization from the Board, UP will request a variance review from OEA, after having the variance APE surveyed for cultural resources by a qualified professional.

A. If no cultural resources or properties of cultural or religious significance to Tribes are present within the variance APE, the results of the Class I and Class III inventories will be reported on the SHPO Survey Report Summary Form prior to any variance issuance or use of the variance APE for Project-related activities. OEA will provide an expedited review of the variance request, not to exceed seven (7) working days following receipt, and will provide UP with written recommendations regarding the variance issuance via electronic mail (email). Consulting Parties and Tribes will be informed of these recommendations via email.

B. If cultural resources or properties of cultural or religious significance to Tribes are present within the variance APE, UP's Contractor will prepare a Variance Inventory Report and submit it via email to OEA. OEA will make determinations of eligibility and submit the Variance Inventory Report to the Consulting Parties for review and comment. The Consulting Parties will provide an expedited review within seven (7) working days or less. If no objections to the determinations of eligibility and the proposed variance are received at the end of the 7-day period, OEA shall provide UP's Contractor with written approval of the variance via email. If objections are received, additional consultation regarding the variance will follow in accordance with the dispute resolution process found in Stipulation XXII.

VII. Evaluation of Historic Properties

A. OEA has evaluated and will continue to evaluate the NRHP eligibility of cultural resources in accordance with 36 C.F.R. § 800.4(c)(1) and will follow guidance provided in the *National Register Bulletins 15* and *38*. The NRHP evaluation of any new cultural resources will be provided to the Consulting Parties during implementation of this MOA.

VIII. Resolving Adverse Effects

A. Where possible, UP shall avoid or minimize effects to historic properties through redesigning the Project or by placing infrastructure outside of historic property boundaries. Where historic properties cannot be avoided, OEA and UP shall ensure that effects to identified historic properties are resolved through the development and implementation of an HPTP (see Stipulation IX). During construction, UP shall fence sensitive archaeological sites to protect them, and a qualified archaeological monitor shall monitor all construction activities within the APE.

B. If adverse effects to any newly recorded NRHP-eligible historic property cannot be avoided, those effects would be resolved in accordance with procedures outlined in the approved HPTP (Stipulation IX).

C. A historic context about the indigenous occupation (through the protohistoric period) of the Queen Creek Delta will be prepared to National Park Service standards. The document will summarize the results of archaeological research and discuss site chronology, use, settlement, and socioeconomic changes from a cultural landscape framework. This work shall incorporate, as appropriate and with tribal coordination and approval, information from oral history and ethnography of traditional cultural practices in the region. A research design for future investigations shall be provided. An electronic version of the approved, final document will be made available on the SHPO website.

IX. Historic Properties Treatment Plan

A. OEA shall direct UP to develop an HPTP in consultation with the Consulting Parties to this MOA. The HPTP will define the specific field methodologies to be used for archaeological data recovery at sites AZ U:10:2(ASM), AZ U:10:69(ASM), AZ U:10:152(ASM), and AZ U:10:275(ASM); the procedures to be followed for archaeological monitoring of the Undertaking's construction activities as described in Stipulation VIII.A; and the process for unanticipated encounters of additional historic properties or human remains, funerary objects, sacred ceremonial objects, and objects of national or tribal patrimony that may be affected by the Undertaking. If encountered, the treatment of animal funerary remains would be the same as the treatment of human remains.

B. OEA shall ensure that the HPTP is consistent with the Secretary of Interior's Standards and Guidelines for Archaeological Documentation (48 FR 190, 44734-44737; September 29, 1983), ACHP's *Treatment of Archaeological Properties: A Handbook* (November 5, 1980), and the Rules Implementing the Arizona Antiquities Act (ARS §§ 41-841 through 41-844), and that it shall be approved and implemented prior to construction.

C. The HPTP shall include the following:

1. Previous research results, a discussion of the damage to archaeological sites discovered during the environmental and historic review of the Project, and a research design that includes the research questions to be addressed through data recovery, archival research, documentation, and interpretation, with an explanation of their relevance and importance.

2. Identification of properties or portions of the properties where data recovery is to be carried out, any property or portion of property that would be affected by the Undertaking without treatment, and a rationale for untreated portions (e.g., discussion of the sampling strategy).

3. Data recovery expectations, phased data recovery methods, and level of effort (in text and depicted on site plan view maps) required for the treatment of sites, including treatment locations and sampling methods, sample size, and procedures for selecting specific sample units.

4. Archival, field, and laboratory methods to be used, with an explanation of their relevance to the research questions.

5. Results of any Tribal consultation, that is, incorporating tribal perspectives into the cultural history, research design, analysis, interpretation, data recovery/methodology, and repatriation of human remains, funerary objects, sacred ceremonial objects, and objects of national or tribal patrimony sections. If encountered, the treatment of animal funerary remains would be the same as the treatment of human remains.

6. Protocol for documenting and repatriating human remains, funerary objects, sacred ceremonial objects, and objects of national or tribal patrimony. In the event that human remains, funerary objects, sacred ceremonial objects, and objects of national or tribal patrimony are encountered, a description will be included of the methods and procedures for the recovery, inventory, treatment, and repatriation procedures that is consistent with the Burial Discovery Agreement drafted for this Undertaking. If encountered, treatment of animal funerary remains would be the same as the treatment of human remains.

7. Methods to be used in managing and disseminating the resultant data to the professional community and the public, including a proposed schedule for Undertaking tasks and a schedule for submitting draft and final reports

(Preliminary Reports of Findings and a Comprehensive Data Recovery Technical Report) to OEA, which shall then distribute the approved documents to the Consulting Parties for review and comment.

8. Strategy for a public outreach program with the goal of disseminating information about the results of the cultural resources investigations to the public. Some examples of public outreach programs include interpretative signage at the MGAA, site tours, print media, electronic media, presentations and lectures, the historic context study, and ways to enhance local heritage education curriculum. UP, in consultation with OEA, shall develop one or more of these approaches based on the results of the cultural resources investigation.

9. Project suspension/termination plan that stipulates the procedures to be followed if the Project is halted during data recovery for any reason. The plan shall outline the steps needed to stabilize the sites and/or complete any data recovery or other treatment measures that are in progress at the time of Project termination. Additionally, the plan shall include a component outlining how documenting, reporting, securely escorting, housing, and repatriating human remains, funerary objects, sacred ceremonial objects, and objects of national or tribal patrimony will be completed.

10. Discussion of permits, personnel qualifications, coordination, and cultural sensitivity training for construction personnel.

11. Proposed disposition and curation of recovered materials and records in accordance with relevant federal, state, municipal, and private ordinances: NHPA; Arizona Antiquities Act (ARS §§ 41-841 through 41-844); State Historic Preservation Act (ARS §§ 41-861 through 41-864); and ARS §§ 41-865.

12. Procedures for monitoring, evaluating, and treating encounters of unanticipated or newly identified cultural resources during construction of the Undertaking. In the event that any such cultural deposits associated within the sites are encountered, the procedures in the Monitoring and Discovery Plan (MDP), a component of the HPTP, will be followed.

D. OEA shall submit the draft HPTP to the Signatories and Concurring Parties to this MOA for a thirty (30) day review period.

1. If any Consulting Party fails to respond with comments within thirty (30) days of receipt of the initial submission of the HPTP, OEA shall follow up with the Consulting Party by phone call or email. If the Consulting Party does not respond within seven (7) days of OEA's follow-up, OEA's responsibilities under this Stipulation are fulfilled.

2. If, as a result of this review, Consulting Parties determine that revisions of the HPTP are necessary, OEA shall direct UP to revise the HPTP. OEA shall provide the revised plan to all Consulting Parties for their review. The Consulting Parties shall have thirty (30) days from receipt of the revised plan to comment on any revisions proposed. If any Consulting Party does not respond, OEA will follow up with the Consulting Party by phone call or email. If the Consulting Party does not respond within seven (7) days of OEA's follow-up, OEA's responsibility under this Stipulation is fulfilled.

3. OEA shall ensure that any written comments received are considered during final HPTP preparation.

4. OEA shall provide the final HPTP to all Parties to this MOA.

X. Transition Between Phase I to Phase II Data Recovery

A. All archaeological sites within the APE will require complete Phase I data recovery efforts.

B. After completion of Phase I data recovery efforts, OEA shall direct UP to conduct a site visit(s) for the Consulting Parties to review the adequacy of the field investigations per the HPTP (in-field consultation). The purpose of in-field consultation is to evaluate whether Phase I data recovery efforts have been completed successfully at individual sites or if additional (Phase II) data recovery efforts are needed.

C. Tribes may request field visits separate from the other Consulting Parties.

D. Upon completion of the in-field consultation, OEA shall provide written notes of the in-field consultation session(s) and shall email the notes to all Consulting Parties. Consulting Parties shall have seven (7) days to review the in-field consultation notes and provide comments to OEA. OEA shall review any comments received and amend and distribute the final in-field consultation notes, as appropriate.

E. When the Phase I data recovery field efforts have been reviewed and are considered complete, UP shall prepare a Preliminary Report of Findings for each individual site as outlined in Stipulation XI.

F. In the event that Phase II data recovery efforts are recommended, Consulting Parties shall have seven (7) days to review the in-field consultation notes (Stipulation XI.D). If Consulting Parties agree that Phase II data recovery efforts are warranted, UP's Contractor may begin Phase II data recovery efforts at individual site(s). OEA shall direct UP to conduct a site visit(s) for the Consulting Parties at the conclusion of the Phase II data recovery efforts to review the adequacy of the field investigations per the HPTP (in-field consultation). At the completion of Phase II data recovery efforts at individual site(s), a combined Phase I and Phase II Preliminary Report of Findings shall be prepared as outlined in Stipulation XI and distributed to the Consulting Parties.

XI. Preliminary Report of Findings

A. Upon completion of the Phase I and Phase II (if necessary) data recovery fieldwork, UP shall prepare a Preliminary Report of Findings (see Stipulation X.E and X.F) for each individual site and provide it to OEA for review within fourteen (14) days of the in-field consultation meeting.

B. Each Preliminary Report of Findings shall contain the following, at a minimum:

1. A discussion of the methods and treatments used during data recovery and justification for any methods or treatments that deviated from the HPTP, referencing the communication with SHPO, ASM, and relevant land manager(s) on any modifications to the HPTP.

2. A detailed site map showing all features, damage areas, artifact concentrations, point-provenienced artifacts, and hand-excavated units at the site.

3. A general tabulation of recovered artifacts, samples, and features.

4. Recommendations for site clearance for the purposes of allowing construction to proceed.

C. Once OEA has approved an individual Preliminary Report of Findings, it shall be provided to the Consulting Parties, who shall have fourteen (14) days from receipt to review and provide written comments to OEA. If any Consulting Party does not respond within this review period, OEA shall follow up with the Consulting Party to see if they have any comments. If a Consulting Party does not respond within five (5) days of OEA's follow-up, OEA's responsibility under this Stipulation is fulfilled.

D. If revisions to a Preliminary Report of Findings are made, all Consulting Parties shall have seven (7) calendar days from receipt to review the revisions and provide comments to OEA. If any Consulting Party does not respond within this review period, OEA shall follow up with the Consulting Party to see if they have any comments. If a Consulting Party does not respond within five (5) days of OEA's follow-up, OEA's responsibility under this Stipulation is fulfilled.

XII. Comprehensive Data Recovery Technical Report

A. After completing fieldwork and Stipulation XI, UP shall prepare a draft Comprehensive Data Recovery Technical Report that summarizes all documentation, interpretations, and syntheses for all sites investigated. UP shall provide the draft Comprehensive Data Recovery Report to OEA for review within two (2) years of the completion of the fieldwork. Once OEA has approved this report, UP shall distribute it to the Consulting Parties for review and comment for a sixty (60) day review period.

B. OEA shall ensure that the Consulting Parties' comments on the draft Comprehensive Data Recovery Technical Report are addressed by UP in a revised report. Once revisions to the draft Comprehensive Data Recovery Technical Report have been completed, all Consulting Parties shall have ten (10) days from receipt to review the revisions and comment matrix and provide written comments to OEA. If any Consulting Party does not respond within ten (10) days, OEA shall follow up with the Consulting Party. If the Consulting Party does not respond within five (5) days of OEA's follow-up, OEA's responsibility under this Stipulation is fulfilled.

C. OEA shall ensure that any written comments received are taken into account during preparation of the final Comprehensive Data Recovery Technical Report.

D. The final Comprehensive Data Recovery Technical Report shall be prepared by UP and approved by OEA. Once approved, UP shall distribute the final Comprehensive Data Recovery Technical Report to all Parties to the MOA.

XIII. Construction in Non-Site Areas

Following acceptance of the final HPTP, pending compliance with all other applicable laws and regulations, and approval of the Undertaking by the Board, UP may begin construction in areas within the APE that have been subjected previously to Class III survey (Powell 2023, revised September 2025; Rainey and Stubing 2022) with negative findings on lands under any ownership or jurisdiction, subject to the jurisdiction's right-of-entry and right-of-way requirements, where all effects to historic properties and unevaluated cultural resources will be avoided and an archaeological monitor will be present during ground-disturbing activities, as per agreed-upon measures described in the approved HPTP.

XIV. Construction in Site Areas

Following fulfillment of Stipulation XI.D, resolution of the comments from the Consulting Parties on the Preliminary Report of Findings, concurrence from SHPO on the completion of data recovery program at individual site(s), and pending compliance with all other applicable laws and regulations, and approval of the Undertaking by the Board, UP may begin construction within archaeological site boundaries within the APE on lands under any ownership or jurisdiction, subject to the appropriate jurisdiction's right-of-entry and right-of-way requirement. An archaeological monitor shall be present during ground-disturbing activities, as per agreed-upon measures described in the approved HPTP.

XV. Communication Among Parties to the MOA

A. Email may serve as the official correspondence method for all communications regarding this MOA and its provisions. Attachment D provides a list of contacts and email addresses. Contact information in Attachment D may be updated as needed without an amendment to this Agreement. It is the responsibility of each

Consulting Party to immediately inform OEA of any change in name, email address, or phone number of any point of contact. OEA will forward this information to all Consulting Parties.

B. OEA may elect to create a Project-specific SharePoint website to maintain the draft final version of the Comprehensive Data Recovery Technical Report that will be distributed electronically to the Consulting Parties. Consulting Parties may request a bound hard copy instead of an electronic version.

XVI. Confidentiality

The Board shall maintain confidentiality of sensitive information regarding historic properties with religious or cultural significance to Native American Tribes to the maximum extent allowed by Federal and state law. However, any documents or records that the Board has in its possession are subject to the Freedom of Information Act (FOIA) (5 U.S.C. § 552) and its exemptions, as applicable. The Board shall evaluate whether a FOIA request for records or documents would involve a sensitive historic property or a historic property with religious or cultural significance to a Tribe. If such documents contain information that the Board is authorized to withhold from disclosure by other statues, including Section 304 of the NHPA, then the Board, through OEA, would consult with the Keeper of the NRHP and the ACHP regarding withholding the sensitive information. If a Tribally sensitive property is involved, the Board, through OEA, shall also consult with the relevant Tribe prior to making a determination in response to a FOIA request.

XVII. Public Participation

OEA shall continue to seek and consider public views in a manner that reflects the nature and complexity of the Undertaking and its potential effects on historic properties and the likely interest of the public in the effects on historic properties. OEA shall ensure that an appropriate level of public involvement is provided, in accordance with 36 C.F.R. § 800.2(d)(2). OEA shall ensure public access to findings made pursuant to this MOA and consider comments and objections by members of the public in a timely manner.

XVIII. Emergencies

Should an emergency situation occur that could affect historic properties or impact any party's ability to meet its responsibilities under this MOA, UP shall immediately notify OEA. OEA shall then immediately notify the ACHP and the SHPO of the condition that has initiated the situation and the measures taken to respond to the emergency or hazardous condition. Should the ACHP and/or the SHPO desire to provide technical assistance to OEA, they shall submit comments within seven (7) days from notification if the nature of the emergency or hazardous condition allows for such coordination.

XIX. Curation

OEA and UP shall ensure that all artifacts, samples, and records resulting from data recovery are curated in accordance with 36 C.F.R. Part 79, except as determined through consultation with Native American Tribes and carried out in accordance with Federal and state laws pertaining to the treatment and disposition of human remains, animal funerary remains, sacred ceremonial objects, and objects of national or Tribal patrimony. The Huhugam Heritage Center has the first right of refusal to serve as the Project's curation facility. The standards and guidelines of the approved curation facility shall be followed.

XX. Annual Review of the MOA, Annual Report, and Annual Meeting

A. Implementation and operation of this MOA shall be evaluated on an annual basis by all of the Consulting Parties. UP shall prepare the annual report for OEA's review. Once approved, OEA shall be responsible for distributing the annual report to all Parties and requesting whether the Parties would like to meet to discuss the annual report. The annual report shall minimally include the following:

   1. Additional historic property surveys and results, if any;
   2. Status of mitigation activities;
   3. Ongoing and completed public outreach activities;
   4. Any issues that are affecting or may affect OEA's ability to continue to meet the terms of the MOA;
   5. Any disputes and objections received, and how they were resolved;
   6. Any additional Parties that have become Signatories or Concurring Parties to this MOA in the past year; and
   7. Proposed plans for next year's activities.

B. If a Consulting Party requests to convene an in-person or virtual meeting to discuss the annual report, OEA shall review the request, and as appropriate shall schedule a meeting on or near the anniversary date of execution of this MOA. At the annual meeting, the Consulting Parties shall review the effectiveness and application of this MOA. If the Parties do not request a meeting, the annual report distribution shall be considered fulfillment of this Stipulation.

C. Within fourteen (14) days after the annual meeting, OEA shall summarize the meeting, including, if appropriate, proposed actions and how they are to be addressed, in a letter to the Consulting Parties.

XXI. Post-Review Encounters

If new cultural resources are encountered during construction or if unanticipated effects on historic properties are identified, OEA shall direct UP to implement the Project-specific MDP that is part of the HPTP.

A. In the event that an encounter of human remains, funerary objects, sacred ceremonial objects, and objects of national or tribal patrimony occurs, OEA shall ensure that UP follows the procedures outlined in the HPTP and the Project's Burial Discovery Agreement. If encountered, the treatment of animal funerary remains would be same as the treatment of human remains.

B. In the event that an encounter of archaeological or historic material not associated with ancestral remains occurs, OEA shall ensure that UP follows procedures detailed in the MDP that is part of the HPTP. Any cultural resources discovered by UP during construction or other ground-disturbing activities shall be addressed and treated promptly in consultation with appropriate parties and in accordance with all applicable laws. UP shall cease all ground-disturbing activities within 100 feet (30 meters) of any encounter and notify OEA of the encounter within 48 hours. OEA will notify SHPO and the ASM of the encounter.

C. OEA shall confer with the Consulting Parties on the NRHP eligibility of the newly discovered cultural resources. If NRHP-eligible, OEA shall ensure that treatment measures follow the final HPTP. UP shall prepare a Post-Review Letter Report detailing the encounter, documenting the NRHP eligibility of the resource, and summarizing how it will be addressed based on the previously agreed-upon guidelines in the HPTP. The Post-Review Letter Report shall be submitted to OEA for review and approval. Once approved, OEA shall distribute the Post-Review Letter Report to the Consulting Parties, and the Consulting Parties shall have seven (7) days to respond to the Post-Review Letter Report with comments. If any Party (excluding the SHPO and the ASM) does not respond within seven (7) days of OEA's follow-up, OEA shall authorize UP to proceed with the agreed-upon protocols outlined in the MDP.

XXII. Dispute Resolution

A. Should any Consulting Party to this MOA object to the manner in which the terms of the MOA are implemented, OEA shall consult with the objecting Party to resolve the objection. If OEA determines that the objections cannot be resolved, OEA shall:

   1. Forward all documentation relevant to the dispute, including OEA's proposed resolution, to the ACHP. The ACHP shall provide OEA with its opinion on the resolution of the objection within thirty (30) days of receiving adequate documentation. OEA shall prepare a final decision that will take into account any timely opinions or comments regarding the dispute from the ACHP, Signatories, and Concurring Parties and provide them with a copy of the final decision. OEA shall then proceed according to its final decision.

2. If the ACHP does not provide comments regarding the dispute within the thirty (30) day allotted time period, OEA may make a final decision on the dispute and proceed accordingly. Prior to reaching such a final decision, OEA shall prepare a written response that will take into account any timely comments regarding the dispute from the Signatories and Concurring Parties to the MOA and provide them and the ACHP with a copy of such written response.

B. Any recommendation or comment provided by the ACHP shall be understood to pertain only to the subject of the dispute. Responsibilities under this MOA that are not subject to the dispute shall remain unchanged.

XXIII. Amendments

If any Signatory determines an amendment to its terms is needed, that Party shall immediately notify OEA and request an amendment. The proposed amendment shall be submitted in draft form with the request. The Signatories to this MOA shall consult to review and consider such an amendment. If the Signatories agree to the amendment, the amendment shall become effective on the date it is signed by all Signatories. OEA shall file any amendments with the ACHP and provide copies of the executed amendment to the Parties of this MOA.

XXIV. Duration

This MOA shall commence upon execution by the Board and the SHPO and its filing with the ACHP. This MOA shall remain in effect until the completion of all mitigation commitments hereto specified, or for ten (10) years from the date of its execution, whichever is earlier and subject to the below paragraph.

At least six (6) months prior to the tenth (10) anniversary of the MOA execution date, the Signatories shall consult to determine whether this MOA should be extended. If the Signatories agree to extend the MOA, the Board, through OEA, shall update it as needed, in consultation with all Signatories. Unless otherwise agreed by and between the Signatories, the extended MOA must be signed and executed by all Signatories prior to the tenth (10) anniversary of its date of execution.

XXV. Termination

In the event that any Signatory determines that its terms will not or cannot be carried out, that Party shall immediately consult with the other Signatories to attempt to develop an amendment per Stipulation XXIII. If within thirty (30) days (or another time period agreed to by all Signatories), an amendment cannot be reached, any Signatory may terminate the MOA upon written notification to the other Signatories.

Once the MOA is terminated and prior to work continuing on the Undertaking, OEA must either (a) execute an Agreement pursuant to 36 C.F.R. § 800.6 or (b) request, take into account, and respond to the comments of ACHP under 36 C.F.R. § 800.7. OEA shall notify the Signatories as to the course of action it will pursue.

XXVI. Counterpart Signatures

This MOA may be executed in multiple counterparts, each of which, when assembled to include an original signature for each Party to sign this MOA, will constitute a complete and fully executed original. All such fully executed original counterparts collectively constitute a single MOA. Signatures transmitted by fax, email (in PDF format), and electronic signature are also permitted as binding signatures to this MOA.

Execution of this MOA by the Board and the SHPO and implementation of its terms are evidence that OEA has considered the effects of the Undertaking on historic properties and afforded the ACHP an opportunity to comment.

MEMORANDUM OF AGREEMENT BETWEEN THE SURFACE TRANSPORTATION BOARD AND THE ARIZONA STATE HISTORIC PRESERVATION OFFICER

REGARDING

DOCKET NO. FD 36501 UNION PACIFIC RAILROAD COMPANY CONSTRUCTION AND OPERATION EXEMPTION IN MARICOPA COUNTY

SIGNATORY

Surface Transportation Board

Signature: DANIELLE GOSSELIN Digitally signed by DANIELLE GOSSELIN Date: 2026.02.23 09:37:58 -05'00'

Danielle Gosselin, Director, Office of Environmental Analysis

Date: 2/23/26

MEMORANDUM OF AGREEMENT BETWEEN
THE SURFACE TRANSPORTATION BOARD AND
THE ARIZONA STATE HISTORIC PRESERVATION OFFICER

REGARDING

DOCKET NO. FD 36501 UNION PACIFIC RAILROAD COMPANY CONSTRUCTION AND OPERATION EXEMPTION IN MARICOPA COUNTY

SIGNATORY

Arizona State Historic Preservation Office

Signature:_____

Kathryn Leonard, Arizona State Historic Preservation Officer

Date: __2/10/26_____

**MEMORANDUM OF AGREEMENT BETWEEN
THE SURFACE TRANSPORTATION BOARD AND
THE ARIZONA STATE HISTORIC PRESERVATION OFFICER**

REGARDING

**DOCKET NO. FD 36501 UNION PACIFIC RAILROAD COMPANY
CONSTRUCTION AND OPERATION EXEMPTION IN
MARICOPA COUNTY**

INVITED SIGNATORY

Union Pacific Railroad Company

Signature: _____

Printed Name/Title: Kevin P. Rice, Sr. Mgr. M/W Environmental

Date: 2/20/2026

MEMORANDUM OF AGREEMENT BETWEEN
THE SURFACE TRANSPORTATION BOARD AND
THE ARIZONA STATE HISTORIC PRESERVATION OFFICER

REGARDING

DOCKET NO. FD 36501 UNION PACIFIC RAILROAD COMPANY CONSTRUCTION AND OPERATION EXEMPTION IN MARICOPA COUNTY

CONCURRING PARTY

Ak-Chin Indian Community

Signature: _____

Printed Name/Title: _____

Date: _____

MEMORANDUM OF AGREEMENT BETWEEN
THE SURFACE TRANSPORTATION BOARD AND
THE ARIZONA STATE HISTORIC PRESERVATION OFFICER

REGARDING

DOCKET NO. FD 36501 UNION PACIFIC RAILROAD COMPANY CONSTRUCTION AND OPERATION EXEMPTION IN MARICOPA COUNTY

CONCURRING PARTY

Arizona State Land Department

Signature: _____

Printed Name/Title: _____

Date: _____

MEMORANDUM OF AGREEMENT BETWEEN
THE SURFACE TRANSPORTATION BOARD AND
THE ARIZONA STATE HISTORIC PRESERVATION OFFICER

REGARDING

DOCKET NO. FD 36501 UNION PACIFIC RAILROAD COMPANY CONSTRUCTION AND OPERATION EXEMPTION IN MARICOPA COUNTY

CONCURRING PARTY

Arizona State Museum

Signature: _____

Printed Name/Title: _____

Date: _____

MEMORANDUM OF AGREEMENT BETWEEN THE SURFACE TRANSPORTATION BOARD AND THE ARIZONA STATE HISTORIC PRESERVATION OFFICER

REGARDING

DOCKET NO. FD 36501 UNION PACIFIC RAILROAD COMPANY CONSTRUCTION AND OPERATION EXEMPTION IN MARICOPA COUNTY

CONCURRING PARTY

Arizona Museum of Natural History

Signature: _____

Printed Name/Title: _____

Date: _____

MEMORANDUM OF AGREEMENT BETWEEN
THE SURFACE TRANSPORTATION BOARD AND
THE ARIZONA STATE HISTORIC PRESERVATION OFFICER

REGARDING

DOCKET NO. FD 36501 UNION PACIFIC RAILROAD COMPANY
CONSTRUCTION AND OPERATION EXEMPTION IN
MARICOPA COUNTY

CONCURRING PARTY

City of Mesa

Signature: Meghan Eaton

Printed Name/Title: Meghan Eaton/City Archaeologist

Date: 02/23/2026

MEMORANDUM OF AGREEMENT BETWEEN
THE SURFACE TRANSPORTATION BOARD AND
THE ARIZONA STATE HISTORIC PRESERVATION OFFICER

REGARDING

DOCKET NO. FD 36501 UNION PACIFIC RAILROAD COMPANY CONSTRUCTION AND OPERATION EXEMPTION IN MARICOPA COUNTY

CONCURRING PARTY

Federal Aviation Administration

Signature: _____

Printed Name/Title: _____

Date: _____

MEMORANDUM OF AGREEMENT BETWEEN
THE SURFACE TRANSPORTATION BOARD AND
THE ARIZONA STATE HISTORIC PRESERVATION OFFICER

REGARDING

DOCKET NO. FD 36501 UNION PACIFIC RAILROAD COMPANY CONSTRUCTION AND OPERATION EXEMPTION IN MARICOPA COUNTY

CONCURRING PARTY

Flood Control District of Maricopa County

Signature: _____

Printed Name/Title: _____

Date: _____

MEMORANDUM OF AGREEMENT BETWEEN
THE SURFACE TRANSPORTATION BOARD AND
THE ARIZONA STATE HISTORIC PRESERVATION OFFICER

REGARDING

DOCKET NO. FD 36501 UNION PACIFIC RAILROAD COMPANY CONSTRUCTION AND OPERATION EXEMPTION IN MARICOPA COUNTY

CONCURRING PARTY

Gila River Indian Community

Signature: _____

Printed Name/Title: _____

Date: _____

MEMORANDUM OF AGREEMENT BETWEEN
THE SURFACE TRANSPORTATION BOARD AND
THE ARIZONA STATE HISTORIC PRESERVATION OFFICER

REGARDING

DOCKET NO. FD 36501 UNION PACIFIC RAILROAD COMPANY CONSTRUCTION AND OPERATION EXEMPTION IN MARICOPA COUNTY

CONCURRING PARTY

Hopi Tribe

Signature: _____

Printed Name/Title: _____

Date: _____

MEMORANDUM OF AGREEMENT BETWEEN
THE SURFACE TRANSPORTATION BOARD AND
THE ARIZONA STATE HISTORIC PRESERVATION OFFICER

REGARDING

DOCKET NO. FD 36501 UNION PACIFIC RAILROAD COMPANY CONSTRUCTION AND OPERATION EXEMPTION IN MARICOPA COUNTY

CONCURRING PARTY

Mesa Historical Museum

Signature: _____

Printed Name/Title: _____

Date: _____

MEMORANDUM OF AGREEMENT BETWEEN
THE SURFACE TRANSPORTATION BOARD AND
THE ARIZONA STATE HISTORIC PRESERVATION OFFICER

REGARDING

DOCKET NO. FD 36501 UNION PACIFIC RAILROAD COMPANY CONSTRUCTION AND OPERATION EXEMPTION IN MARICOPA COUNTY

CONCURRING PARTY

Mescalero Apache Tribe

Signature: _____

Printed Name/Title: _____

Date: _____

MEMORANDUM OF AGREEMENT BETWEEN THE SURFACE TRANSPORTATION BOARD AND THE ARIZONA STATE HISTORIC PRESERVATION OFFICER

REGARDING

DOCKET NO. FD 36501 UNION PACIFIC RAILROAD COMPANY CONSTRUCTION AND OPERATION EXEMPTION IN MARICOPA COUNTY

CONCURRING PARTY

Mesa Gateway Airport Authority

Signature: _____

Printed Name/Title: _____

Date: _____

MEMORANDUM OF AGREEMENT BETWEEN
THE SURFACE TRANSPORTATION BOARD AND
THE ARIZONA STATE HISTORIC PRESERVATION OFFICER

REGARDING

DOCKET NO. FD 36501 UNION PACIFIC RAILROAD COMPANY CONSTRUCTION AND OPERATION EXEMPTION IN MARICOPA COUNTY

CONCURRING PARTY

Pascua Yaqui Tribe

Signature: _____

Printed Name/Title: _____

Date: _____

MEMORANDUM OF AGREEMENT BETWEEN
THE SURFACE TRANSPORTATION BOARD AND
THE ARIZONA STATE HISTORIC PRESERVATION OFFICER

REGARDING

DOCKET NO. FD 36501 UNION PACIFIC RAILROAD COMPANY CONSTRUCTION AND OPERATION EXEMPTION IN MARICOPA COUNTY

CONCURRING PARTY

Pueblo of Zuni

Signature: _____

Printed Name/Title: _____

Date: _____

MEMORANDUM OF AGREEMENT BETWEEN
THE SURFACE TRANSPORTATION BOARD AND
THE ARIZONA STATE HISTORIC PRESERVATION OFFICER

REGARDING

DOCKET NO. FD 36501 UNION PACIFIC RAILROAD COMPANY CONSTRUCTION AND OPERATION EXEMPTION IN MARICOPA COUNTY

CONCURRING PARTY

San Tan Historical Society

Signature: _____

Printed Name/Title: _____

Date: _____

MEMORANDUM OF AGREEMENT BETWEEN
THE SURFACE TRANSPORTATION BOARD AND
THE ARIZONA STATE HISTORIC PRESERVATION OFFICER

REGARDING

DOCKET NO. FD 36501 UNION PACIFIC RAILROAD COMPANY CONSTRUCTION AND OPERATION EXEMPTION IN MARICOPA COUNTY

CONCURRING PARTY

Salt River Project

Signature: _____

Printed Name/Title: _____

Date: _____

MEMORANDUM OF AGREEMENT BETWEEN
THE SURFACE TRANSPORTATION BOARD AND
THE ARIZONA STATE HISTORIC PRESERVATION OFFICER

REGARDING

DOCKET NO. FD 36501 UNION PACIFIC RAILROAD COMPANY CONSTRUCTION AND OPERATION EXEMPTION IN MARICOPA COUNTY

CONCURRING PARTY

Salt River Pima-Maricopa Indian Community

Signature: _____

Printed Name/Title: _____

Date: _____

MEMORANDUM OF AGREEMENT BETWEEN
THE SURFACE TRANSPORTATION BOARD AND
THE ARIZONA STATE HISTORIC PRESERVATION OFFICER

REGARDING

DOCKET NO. FD 36501 UNION PACIFIC RAILROAD COMPANY CONSTRUCTION AND OPERATION EXEMPTION IN MARICOPA COUNTY

CONCURRING PARTY

Tohono O'odham Nation

Signature: _____

Printed Name/Title: _____

Date: _____

MEMORANDUM OF AGREEMENT BETWEEN
THE SURFACE TRANSPORTATION BOARD AND
THE ARIZONA STATE HISTORIC PRESERVATION OFFICER

REGARDING

DOCKET NO. FD 36501 UNION PACIFIC RAILROAD COMPANY CONSTRUCTION AND OPERATION EXEMPTION IN MARICOPA COUNTY

CONCURRING PARTY

Tonto Apache Tribe

Signature: _____

Printed Name/Title: _____

Date: _____

MEMORANDUM OF AGREEMENT BETWEEN
THE SURFACE TRANSPORTATION BOARD AND
THE ARIZONA STATE HISTORIC PRESERVATION OFFICER

REGARDING

DOCKET NO. FD 36501 UNION PACIFIC RAILROAD COMPANY CONSTRUCTION AND OPERATION EXEMPTION IN MARICOPA COUNTY

CONCURRING PARTY

Town of Queen Creek

Signature: _____

Printed Name/Title: _____

Date: _____

MEMORANDUM OF AGREEMENT BETWEEN THE SURFACE TRANSPORTATION BOARD AND THE ARIZONA STATE HISTORIC PRESERVATION OFFICER

REGARDING

DOCKET NO. FD 36501 UNION PACIFIC RAILROAD COMPANY CONSTRUCTION AND OPERATION EXEMPTION IN MARICOPA COUNTY

CONCURRING PARTY

U.S. Army Corps of Engineers

Signature: _____

Printed Name/Title: _____

Date: _____

MEMORANDUM OF AGREEMENT BETWEEN
THE SURFACE TRANSPORTATION BOARD AND
THE ARIZONA STATE HISTORIC PRESERVATION OFFICER

REGARDING

DOCKET NO. FD 36501 UNION PACIFIC RAILROAD COMPANY
CONSTRUCTION AND OPERATION EXEMPTION IN
MARICOPA COUNTY

CONCURRING PARTY

Yavapai-Apache Nation

Signature: Olivia McMahon

Printed Name/Title: Olivia McMahon/Archaeologist

Date: February 10, 2026

ATTACHMENT A: PROJECT APE **(REDACTED)**

Figure A-1. Location of APE (1 of 2)

Figure A-2. Location of APE (2 of 2)

ATTACHMENT B: UP LETTER REGARDING UNSURVEYED AREAS

ATTACHMENT C: ACRONYMS, ABBREVIATIONS, AND DEFINITIONS

A. Acronyms and Abbreviations

ACHP	Advisory Council on Historic Preservation
Agreement	Memorandum of Agreement (this Agreement)
APE	Area of Potential Effects
ARS	Arizona Revised Statutes
ASLD	Arizona State Land Department
ASM	Arizona State Museum
Board	Surface Transportation Board
C.F.R.	Code of Federal Regulations
City	City of Mesa
Corps	U.S. Army Corps of Engineers
email	electronic mail
FAA	Federal Aviation Administration
FCDMC	Flood Control District of Maricopa County
FOIA	Freedom of Information Act
FR	Federal Register
HPTP	Historic Properties Treatment Plan
MDP	Monitoring and Discovery Plan
MOA	Memorandum of Agreement
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
OEA	Office of Environmental Analysis (part of the Board)
PAMZ	Pecos Advanced Manufacturing Zone
PIRATE	Pecos Industrial Rail Access and Train Extension
MGAA	Mesa Gateway Airport Authority
SHPO	State Historic Preservation Officer
SOI	Secretary of the Interior
SRP	Salt River Project Agricultural Improvement District
THPO	Tribal Historic Preservation Officer
TCP	Traditional Cultural Place
Town	Town of Queen Creek
UP	Union Pacific Railroad Company
U.S.C.	United States Code

B. Definitions

1. Adverse Effect occurs when an Undertaking may alter, directly or indirectly, any of the characteristics that qualify a historic property for inclusion in the National Register of Historic Places (NRHP) in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association (see criteria of adverse effect at § 800.5(a)(1) of Title 36 of the *Code of Federal Regulations* (36 C.F.R § 800.5[a][1])).

2. Advisory Council on Historic Preservation (ACHP) is an independent federal agency established pursuant to Section 201 of the National Historic Preservation Act (NHPA). Under Section 106 of the NHPA, the ACHP must be afforded an opportunity to comment on federal, federally assisted, or federally licensed Undertakings that may affect historic properties.

3. Archaeological Site generally means any material remains of past human life or activities in history or prehistory that are of archaeological interest, including, but not limited to, pottery, basketry, bottles, weapons, projectiles, tools, structures or portions of structures, pit houses, rock paintings, rock carvings, intaglios, graves, human remains, or any portion or piece of any of the foregoing items that are of human design, manufacture, possession, or use.

4. Area of Potential Effects (APE) means the geographic area(s) within which an Undertaking may cause changes in the character or use of historic properties, if any such properties exist. The APE is influenced by the nature and scale of an Undertaking and may be different for different kinds of effects caused by the Undertaking (36 C.F.R. § 800.16[d]). The APE must include all areas of direct, indirect, and reasonably foreseeable cumulative effects, including, but not limited to, staging areas, temporary construction easements, access roads, and utility corridors.

5. Arizona State Land Department (ASLD) administers state trust land within Arizona. They have defined authorities and responsibilities for disposition and permitting of state trust land.

6. Arizona State Museum (ASM) is the curation repository for the State of Arizona. They have defined authorities and responsibilities for permitting on state, county, city, and municipal lands. Additionally, they have responsibilities for encounters of human remains, animal funerary remains, sacred ceremonial objects, and objects of national or Tribal patrimony on privately owned and state lands.

7. Concurring Parties are those interested parties who may be asked to sign a Memorandum of Agreement (MOA) but do not have the rights to amend or terminate the MOA.

8. Consulting Parties have consultative roles in the Section 106 process and include the State Historic Preservation Officer (SHPO); Tribal Historic Preservation Officer (THPO); Tribes, land managing agencies, and local governments; applicants for federal assistance, permits, licenses or other approvals; and any party with a demonstrated legal or economic relation to the Undertaking or concern with the Undertaking's effect on historic properties (36 C.F.R. § 800.2[C]). Consulting Parties may be invited to be Concurring Parties or Signatories to an MOA.

9. Cultural Resources Survey refers to the study of an area to identify the cultural resources in that area or that may be present. This term includes Class I, Class II, and Class III surveys. Class I means a literature review/records overview. Class II means a sample inventory conducted in the field at less than 100 percent coverage. Class III means an intensive inventory conducted in the field at 100 percent survey coverage as defined by SHPO.

10. Environmental Assessment is an environmental analysis prepared pursuant to the National Environmental Policy Act (NEPA) to determine whether a federal action would significantly affect the environment and thus require a more detailed environmental impact statement.

11. Historic Property is any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the NRHP. This term includes artifacts, records, and remains that are related to and located within such properties. The phrase "eligible for inclusion on the NRHP" means properties formally determined as such by the Secretary of the Interior (SOI) or by a federal agency in consultation with SHPO. Properties that have been determined eligible for inclusion are accorded the same protections as properties listed in the NRHP (36 C.F.R. § 800.16[1][1]).

12. Historic Property Treatment Plan (HPTP) is a document that describes the archaeological methods and procedures that will be used to recover significant information on archaeological sites that will be impacted by the proposed Project.

13. In-Use Historic Structures are defined by the ASM as buildings, structures, transmission lines, pipelines, canals, trails, roads, and railroads that are greater than 50 years old but are currently operated, maintained, or repaired for original or similar purposes.

14. National Environmental Policy Act (NEPA) is a United States environmental law enacted on January 1, 1970, that promotes the enhancement of the environment.

15. National Historic Preservation Act (NHPA) of 1966, as amended, established processes to assess, designate, and protect historic and cultural resources. NHPA directs federal agencies to take into account the effect of any Undertaking on historic properties.

16. National Register of Historic Places is the official list of districts, sites, buildings, structures, and objects significant in American history, architecture, archaeology, engineering, and culture maintained by the Keeper of the NRHP on behalf of the SOI (36 C.F.R. Part 60).

17. Monitoring and Discovery Plan (MDP) is a document that describes the methods and procedures that will be followed during monitoring efforts for archaeological sites that are within the Project's APE.

18. Office of Environmental Analysis (OEA) is the office within the Surface Transportation Board responsible for directing the environmental review process, conducting independent analysis of all environmental data, and making environmental recommendations to the Surface Transportation Board.

19. Pecos Advanced Manufacturing Zone (PAMZ) is an industrial development zone within the City of Mesa that provides benefits to businesses to encourage manufacturing operations.

20. Phase I Data Recovery is a component of an eligible site's mitigation treatment and is the first phase of data recovery efforts.

21. Phase II Data Recovery is a component of an eligible site's mitigation treatment and is the final phase of data recovery efforts.

22. Signatories or Signatory are parties who assume obligations under the MOA. Signatories have the ability to terminate or agree to amend the MOA. The term includes Invited Signatories but does not include others who sign the MOA as Concurring Parties.

23. State Historic Preservation Officer (SHPO) is the official appointed or designated by the governor pursuant to Section 101(b)(1) of the NHPA to administer the state historic preservation program (36 C.F.R. § 800.16[v]).

24. Surface Transportation Board is a Federal independent regulatory agency with jurisdiction over certain surface transportation matters, including new rail line construction, abandonment, and mergers.

25. Tribal Historic Preservation Officer (THPO) is the official designated by a federally recognized Tribe to direct a program approved by the National Park Service in which the THPO must have assumed some or all of the functions of State Historic Preservation Officers on Tribal lands. This program was made possible by the provisions of Section 101(d)(2) of the NHPA.

26. Traditional Cultural Place (TCP), as defined in *National Register Bulletin 38*, is a property that is listed in or is eligible for inclusion in the NRHP because of its association with cultural practices or beliefs of a living community that are: (1) rooted in that community's history and (2) important in maintaining the continuing cultural identity of the community (see National Park Service Bulletin 38). TCPs are referred to in 36 C.F.R. § 800 as properties of religious and cultural significance, which may be historic properties as defined in 36 C.F.R. § 800.16[l][1]).

27. Undertaking is a project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a federal agency including (1) those carried out by or on behalf of the agency; (2) those carried out with federal financial assistance; and (3) those requiring a federal permit, license, or approval (36 C.F.R. § 800.16[y]).

ATTACHMENT D: CONSULTING PARTY CONTACT INFORMATION

LEAD AGENCY CONTACT INFORMATION

Surface Transportation Board

Alan Tabachnick	(202)245-0367	alan.tabachnick@stb.gov
Adam Assenza	(202)245-0301	adam.assenza@stb.gov

AGENCY CONTACT INFORMATION

Advisory Council on Historic Preservation

Rachael Mangum	(202)517-0214	mailto:rmangum@achp.gov

Arizona Museum of Natural History

Alison Stoltman	(480)644-4040	alison.stoltman@mesaaz.gov

Arizona State Land Department

Mark Edelman	(602)542-6331	medelman@azland.gov
Tiffany Grew	(602)542-6331	tgrew@azland.gov

Arizona State Museum

Patrick Lyons	(520)621-6281	plyons@arizona.edu
Bradford Stone	(520)621-4795	mailto:bstone@arizona.edu
Cristin Lucas	(520)626-0320	asm-repatriation@email.arizona.edu

Federal Aviation Administration

Tearanni Williams	(602)792-2896	tearanni.e.williams@faa.gov

Flood Control District of Maricopa County

Tom Hanson	(602)506-0372	mailto:tom.hanson@maricopa.gov
Paul Baughman	None	paul.baughman@maricopa.gov

Mesa Historic Preservation Office

Mary Kopaskie-Brown	(480)644-3850	mary.kopaskie-brown@mesaaz.gov
Matthew Kriegl	(480)644-4726	matthew.kriegl@mesaaz.gov
Kellie Rorex	(480)644-6711	kellie.rorex@mesaaz.gov
Meg Eaton	(480)644-5550	meg.easton@mesaz.gov

Mesa Historical Museum

Susan Ricci	(480)835-2286	exec@mesamuseum.org

Mesa Office of Economic Development

Nick Juszczak	(480)644-3561	nick.juszczak@mesaaz.gov

Mesa Gateway Airport Authority

Scott Brownlee	(480)988-7604	sbrownlee@gatewayairport.com
Carl D'Acosta	(480)988-7612	cd'acosta@gatewayairport.com

Salt River Project

David Rousseau	(602)236-5900	david.rousseau@srpnet.com
Dan Garcia	(602)236-2336	dan.garcia@srpnet.com

San Tan Historical Society

Keith Johanson	(480)987-8380	santanhistoricalmuseum@gmail.com

State Historic Preservation Office

Kathryn Leonard	(602)542-4009	kleonard@azstateparks.gov
Caroline Klebacha	(602)542-7140	cklebacha@azstateparks.gov
Mary-Ellen Walsh	(602)542-7120	mwalsh@azstateparks.gov

Town of Queen Creek

Heather Wilkey	(480)358-3913	heather.wilkey@queencreekaz.gov
David Lipinski	(480)358-3143	dave.lipinski@queencreekaz.gov

U.S. Army Corps of Engineers

Sallie Diebolt	(602)230-6900	splregulatoryaz@usace.army.mil
Shannon R. Morgan	(916)326-9130	shannon.r.morgan@usace.army.mil

TRIBAL CONTACT INFORMATION

Ak-Chin Indian Community

Gabriel Lopez	(520)568-1000	glopez2@ak-chin.nsn.us
Elaine Peters	(520)568-1359	epeters@ak-chin.nsn.us
Tracy Wind	(520)568-1372	twind@ak-chin.nsn.us

Hopi Tribe

Lamar Keevama	(928)734-3000	LaKeevama@hopi.nsn.us
Stewart Koyiyumptewa	(928)734-3000	skoyiyumptewa@hopi.nsn.us

Gila River Indian Community

Stephen Roe Lewis	(520)562-6000	executivemail@gric.nsn.us
Larry Benallie, Jr.	(520)562-7153	larry.benalliejr@gric.nsn.us
Reylynne Williams	(520)562-7188	reylynne.williams@gric.nsn.us
Darius Enos	(520)562-7163	darius.enos@gric.nsn.us

Mescalero Apache Tribe

Thora Walsh Padilla	(575)464-4494	tpadilla@mescaleroapachetribe.com
Holly Houghten	(575)464-3005	holly@mathpo.org

Pascua Yaqui Tribe

Julian Hernandez	(520)879-5110	jhernandez1@pascuayaqui-nsn.gov
Karl Hoerig	(520)883-5116	karl.hoerig@pascuayaqui-nsn.gov

Pueblo of Zuni

Arden Kucate	(505)782-7022	arden.kucate@ashiwi.org
Kurt Dongoske	(505)782-4814	kdongoske@gmail.com

Salt River Pima-Maricopa Indian Community

Martin Harvier	(480)362-7400	gary.bohnee@srpmic-nsn.gov
Shane Anton	(480)362-6331	shane.anton@srpmic-nsn.gov
Angela Garcia-Lewis	(480)362-6337	angela.garcia-lewis@srpmic-nsn.gov
Sunday Eiselt	(480)362-3347	sunday.eiselt@srpmic-nsn.gov
Martha Martinez	(480)362-7954	martha.martinez@srpmic-nsn.gov

Tohono O'odham Nation

Verlon Jose	(520)383-2028	mailto:verlon.jose@tonation-nsn.gov
Eric Verwys		eric.verwys@tonation-nsn.gov
Richard Saunders		richard.saunders@tonation-nsn.gov
Samuel Fayuant	(520)383-3622 x.103	samuel.fayuant@tonation-nsn.gov
Jefford Francisco	(520)383-3622 x.103	jefford.francisco@tonation.gov

Tonto Apache Tribe

Calvin Johnson	(928)474-5000 x.8126	cjohnson@tontoapache.org
Jeri DeCola	(928)474-5000 x.8101	jdecola@tontoapache.org

Yavapai-Apache Nation

Buddy Rocha		brochair@yan-tribe.org
Marley Juan	(928)567-3649	mjuan@yan-tribe.org
Olivia McMahon	(928)649-6962	Omcmahon@yan-tribe.org

PROJECT APPLICANT

Union Pacific Railroad Company

Kevin Rice	(402)544-2213	kprice@up.com

Appendix L
List of Preparers

Surface Transportation Board, Office of Environmental Analysis

Name	Title
Danielle Gosselin	Director, Office of Environmental Analysis
Lemuel Thomas	Deputy Director, Office of Environmental Analysis
Adam Assenza	Environmental Protection Specialist/Project Manager
Alan Tabachnick	Federal Preservation Officer

Contractors and Consultants

Jacobs supported the Surface Transportation Board's Office of Environmental Analysis with completing the environmental analyses and preparing the~~is~~ Draft and Final Environmental Assessments.

Name	Project Role
Maggie Buckley	Project Manager
Betsi Phoebus	NEPA Lead, Jurisdictional Delineation Report Including Wetlands, Abbreviated Visual Impact Assessment
Jordan Rae Aguirre	Traffic Report
Ravi Ambadipudi	Traffic Report
Peter Barney	Geographic Information Systems
Alyssa Boerst	NEPA Generalist, Comment Resolution
Jennifer Cyr	Technical Editor
Joe D'Onofrio	Noise and Vibration Analysis
Paul Gamarra	Hazardous Materials and Waste Sites
Susan Haupt	Air Quality and Climate Change, Noise and Vibration, Transportation and Safety
Sara Hoeber	Graphics
Michael Hoffmann	Transportation and Safety
Bailey Homan	Traffic Report
Jessica Jones	Geographic Information Systems
Jenna Kent	Geographic Information Systems, Cultural Resources
Glennda Luhnow	Archaeological and Historic Resources, Class III Cultural Resources Survey Report, Historic Properties Treatment Plan

Name	Project Role
Sabra McNeish	Proposed Action and Alternatives, Geology and Soils, Water Resources, Coordination and Compliance, Jurisdictional Delineation Report Including Wetlands, Farmland, Comment Resolution
Anil Mudigonda	Traffic Report, Transportation and Safety
Kay Nicholson	Biological Evaluation
Julie Philippon	Archaeological and Historic Resources, Biological Resources
Kris Powell	Archaeological and Historic Resources, Memorandum of Agreement, Historic Properties Treatment Plan, Comment Resolution
Pamela Rainey	Class III Cultural Resources Survey Report
Leanne Rutland	Community Engagement Plan, Public Involvement
Nancy Shelton	Land Use and Farmland
Patricia Steinholtz	Abbreviated Visual Impact Assessment, Visual Quality, Cumulative Impacts
Samantha Vaughan	Biological Evaluation
Brenda Weith	Hazardous Materials and Waste Sites
Kim Wetzel	Environmental Justice, Socioeconomics
Hong Zhuang	Air Quality Report

Appendix M
Draft EA Comments and Responses

Appendix M
Draft EA Comments and Responses

M.1 Introduction

In this appendix, OEA responds to the substantive comments that it received on the Draft EA and, when applicable, describes how and where those comments may have led to changes to the Draft EA in the Final EA. OEA's responses to the comments, set forth below in Table M-1, *Draft EA Comments and Responses*, explain, clarify and correct information in the Draft EA and respond to technical questions. When a comment resulted in a substantive revision to the Draft EA text (an addition, deletion, correction, etc.), the change in this Final EA is indicated in blue, underlined text for new language added and red, strikethrough text for deleted language. Minor revisions, such as those to correct misspellings, punctuation, or acronym use, are not shown as new or deleted text. The comments received during the comment period were minor and did not warrant altering the conclusions OEA reached in the Draft EA.

M.2 Approach

OEA responded to substantive comments received on the Draft EA individually in accordance with the Board's environmental regulations at 49 C.F.R. § 1105.10(b). Interested parties can view the full text of all comments on the Board's website (www.stb.gov) by searching "Environmental Comments" using the docket number for this proceeding: Docket No. FD 36501.

The following bullets describe the approach OEA used to capture, track, and respond to comments on the Draft EA:

- OEA received 10 comment submissions on the Draft EA from two individuals, five agencies (2 submissions from one of the agencies), one business, and UP. Many submissions contained several comments. OEA read all comment submissions and their attachments to identify and extract substantive comments. OEA identified 54 comments that were substantive and warranted a response in this Final EA.
- Some commenters raised repeat or similar concerns or issues. OEA grouped such comments together by issue for each commenter and responded to individual and grouped issues in Table M-1.
- Each comment-response pair consists of three parts: (1) the comment summary, (2) the assigned comment identification number, and (3) OEA's response.
- Table M-1 generally contains selected portions of each comment focusing on a specific issue, along with OEA's response and a description of any Draft EA revisions to address the comment. The selected portions are generally reproduced verbatim, with spelling, grammatical, punctuation, and other minor edits for clarity and consistency. For the few comments that are paraphrased, OEA made every effort to capture the meaning of the comment.
- If the meaning of a comment was not clear, OEA made a reasonable attempt to interpret the comment and to respond based on that interpretation.

- When a comment resulted in a revision (addition, deletion, correction, etc.) to the Draft EA text, the response states that OEA made a change and directs the reader to the location of the edited text in this Final EA. As noted above, when a comment resulted in a substantive revision to the Draft EA text (an addition, deletion, correction, etc.), the change in the Final EA is indicated in blue, underlined text for new language added and red, strikethrough text for deleted language. Minor revisions and corrections, such as those to correct misspellings, punctuation, or acronym use, are not shown in new or deleted text.

Table M-1 is ordered first by type of commenter that commented on the Draft EA (agency, individual, business, or applicant), then alphabetically, then within each comment by topic in the same resource area order as in the Draft EA. OEA assigned each topic a unique code based on the identification number provided by the Board's website comment system. For example, Queen Creek's comment has identification number EI-32938, and the four topics raised in the letter (transportation and safety, air quality, noise and vibration, and visual quality) are numbered sequentially as EI-32938-1 through EI 32938-4. This approach allowed OEA to efficiently consider, individually and collectively, all comments received on the Draft EA and to respond to those comments.

Table M-1. Draft EA Comments and Responses

***Comment Number / Topic* and Comment**	**Response**
Arizona Corporation Commission (EI-33042 submitted by Jason Pike)	
EI-33042-1 / Transportation and Safety Regarding the 2050 Build intersection level of service (LOS levels identified in Table S-1 in the Draft EA *Summary*), the *Traffic Impact Analysis Study, UPRR PIRATE Industrial Lead* (TIA) (RailPros 2022) lists Ellsworth at LOS E currently. Queen Creek argued that the TIA had incorrectly designated the LOS and should be LOS F currently. School bus traffic volumes of 150-200/day required to stop at crossings even when no train is present were not included in the TIA and so, Ellsworth would currently be at LOS F. ACC cannot confirm if the LOS would improve following construction of an at-grade crossing and the Ellsworth Road widening project. Though, as stated in Draft EA Section 3.1.1.2, *Existing Level of Service,* "Mesa anticipates completion of the widening project by 2023, which should provide adequate capacity at all the study intersections."	**Existing LOS at Ellsworth Road**. Refer to Section 3.3, *Traffic Operations Analysis Results,* of the 2026 *Traffic Report* in Appendix B for the updated grade crossing analysis reflecting existing conditions along the study area roadways. The Ellsworth Road widening project was included in the analyses of both the 2050 No Build and 2050 Build scenarios. **Effect of School Bus Traffic on Peak-Hour Delay Analysis**. The 2026 *Traffic Report* also summarizes the number of school buses anticipated on the roadway network during the a.m. and p.m. peak periods. OEA requested school bus operations information from several schools and school districts in the study area, including Benjamin Franklin High School, Heritage Academy, Higley Unified School District, Chandler Unified School District, Queen Creek Unified School District, and Mesa Public Schools. Operational information provided by the various schools and school districts is summarized in Section 3.2 of the 2026 *Traffic Report*, which indicates that most school bus activities, including stops at crossings even when no train is present, occur outside the a.m. and p.m. peak hours. Although the traffic analysis did not separately analyze school bus traffic outside of the peak hours, peak hour results are the worst-case scenario with respect to potential vehicular delays at crossings and all school buses traveling through the study area do so outside of the peak hours. Accordingly, school bus traffic is not a factor in traffic delays at the rail crossings during peak hours because of the low volume and the timing of school bus traffic. Section 3.3 of the 2026 *Traffic Report* summarizes the 2050 Build intersection LOS along Ellsworth Road, in which no intersections along Ellsworth Road were found to operate at LOS F. During the a.m. peak hour, Ellsworth Road and Pecos Road North intersection LOS is B, Ellsworth Road and Pecos Road South intersection LOS is C, and Ellsworth Road and Germann Road intersection LOS is C. During the p.m. peak hour, Ellsworth Road and Pecos Road North intersection LOS is B, Ellsworth Road and Pecos Road South intersection LOS is C, and Ellsworth Road and Germann Road intersection LOS is C. Accordingly, no changes to the Final EA are warranted in response to this comment.
Draft EA Section 2.4.4.1, *Road and Infrastructure, At-grade Crossings,* does not mention future grade separation at Ellsworth Road.	**Future Grade Separation at Ellsworth**. A future grade separation at Ellsworth Road is discussed in the cumulative impacts analysis in Final EA Section 3.13, *Cumulative Impacts.* Additionally, OEA is recommending a new mitigation measure, MM-TS-6, which requires UP to fulfill all commitments imposed during the Arizona Corporation Commission's railroad crossing review process, as recorded in Arizona Corporation Commission Docket No. RR-03639A-22-0287 (Final EA Section 4.5.1, *Transportation and Safety*). If PIRATE is constructed and opens to rail traffic, these commitments include, but are not limited to, annual traffic studies on Ellsworth Road and construction of a grade-separated crossing at Ellsworth Road if traffic delays exceed 24 vehicle-hours per day.
Draft EA Section 5.1.1.2, *NEPA, Agency Coordination Meetings,* states, "Based upon the results of the traffic analysis, OEA determined that traffic impacts do not necessitate the need for grade-separated crossings." How was this determined?	**OEA's Grade Separation Analysis**. Refer to the grade separation analysis completed by OEA in Section 4.4, *Grade Separation Analysis Summary,* of the 2026 *Traffic Report,* which used updated 2025 traffic volumes from study area roadways and concluded that a grade separation is not warranted at any of the proposed crossing locations based on the 2050 projected traffic volumes and the associated vehicular delays at the proposed crossing locations.

***Comment Number / Topic* and Comment**	**Response**
Draft EA Section 3.1, *Transportation and Safety*, states, "…a train on PIRATE would interrupt vehicular traffic for 10 minutes during peak hours." There could be some confusion of terms here. The TIA (RailPros 2022) went into great detail regarding traffic interruption during peak hours and presents calculations of vehicle-hours of delay during peak periods.	**Traffic Interruption**. Refer to Chapters 2 and 3 of the 2026 *Traffic Report*, which used 2025 traffic data to evaluate the potential impact of PIRATE on vehicular traffic during the peak periods. The updated chapters provide additional information regarding the assumptions that went into the calculations for the PIRATE crossing time at each proposed at-grade crossing. **Traffic Delay**. Section 3.2 of the 2026 *Traffic Report* shows the calculations used for crossing times at each of the proposed at-grade crossing locations. These crossing times were taken into consideration for the microsimulation models and the traffic analysis. The calculations for the train crossings are included in Section 3.2 of the 2026 *Traffic Report*. Based on these calculations, OEA concluded that a train passing through a PIRATE road crossing would interrupt traffic for approximately 4 minutes. Section 3.2 in the 2026 *Traffic Report* includes detailed calculations verifying this crossing interruption time. This interruption time has decreased from approximately 10 minutes to 4 minutes due to the increased train speed from the previous 2023 *Traffic Report*. Even though potential delay decreased in the updated analysis, OEA continues to recommend MM-TS-3 requiring UP not to block at-grade crossings (and adjacent signalized intersections) when reasonably practicable in the Final EA.
Table S-1 in the Draft EA *Summary* states, "MMs restrict trains from blocking at-grade crossing during peak traffic periods or for more than 10 minutes at a time, and require Arizona Corporation Commission review of increased train frequency." UP made no such commitment to ACC. Draft EA Section 3.1.3.2, *Effects of Alternative 1, 2050 Build Delays and Queue Lengths*, states, "…OEA proposes recommended mitigation measures (MMs) that would limit train operations to occur outside the a.m. and p.m. peak periods whenever possible (MM-TS-1). UP made no commitment to ACC regarding this.	OEA is recommending MM-TS-1, MM-TS-2, MM-TS-3 in the Final EA based on the findings of OEA's updated traffic operations analysis, independent of ACC's railroad crossings review process. Were the Board to impose these mitigation measures in a decision granting UP authority to construct and operate PIRATE, UP would be required to comply with these mitigation measures as a condition of that authority. In the Final EA, OEA continues to recommend MM-TS-3 requiring UP not to block at-grade crossings (and adjacent signalized intersections) when reasonably practicable even though potential delay decreased in the updated analysis. In addition, OEA has revised MM-TS-1 to expand the recommended peak periods by 1 hour in this Final EA.
Arizona Game and Fish Department (EI-33024 submitted by Joshua Hurst)	
EI-33024-1 / Biological Resources The Arizona Game and Fish Department (AGFD) appreciates the inclusion of the voluntary and recommended mitigation measures for biological resources identified in Chapter 4 of the Draft EA and recommends carrying forward those measures to the Final EA.	Refer to Final EA Section 4.5.5, *Biological Resources*, for the final recommended mitigation measures. OEA is recommending that the Board impose these five mitigation measures on any decision granting UP authority to construct and operate PIRATE in the Final EA.
Additionally, the department recommends the following voluntary measure to be added to the Final EA: Artificial lighting could impair the ability of nocturnal animals to navigate (e.g., owls, migratory birds, bats, and other nocturnal mammals) and may affect wildlife behavior and populations (Davies et al. 2013). AGFD recommends only using the minimum amount of light needed for safety. If feasible, narrow spectrum lighting is wildlife friendly and should be used as often as possible to minimize the number of species affected by lighting. It is also beneficial that all lighting is shielded, canted, or cut to minimize the amount of upward shining light.	In response to this comment, OEA is recommending the AGFD-recommended mitigation measure to the Board with the word "tilt" instead of "cant" in this Final EA. This mitigation measure has been added as MM-BIO-7 in Section 4.5.5.2, *Biological Resources, OEA's Final Recommended Mitigation.*

Comment Number / Topic and Comment	Response
Mesa Gateway Airport Authority (EI-32910 submitted by Carl D'Acosta)	
EI-32910-1 / Transportation and Safety The Mesa Gateway Airport Authority (MGAA) supports the at-grade crossings. If an attempt is made to change at-grade crossings to a bridge or other vertical structure, MGAA would object.	Comment noted. OEA did not revise the Draft EA in response to this comment.
MGAA also supports the detour routes to Power Road and requests not to use Sossaman Road as a detour as this road is the main route to the airport and an increase in traffic would negatively affect the airport and airport tenants.	OEA identified the detours shown on Final EA Figure 2-8, *Temporary road closures and traffic detours*, as potential detour routes that would only be used when necessary. Sossaman Road through MGA would only be used as a detour during construction of the new PIRATE at-grade crossing of Sossaman Road, when about 0.35 miles of Sossaman Road between Innovation Way and Pecos Road would be closed for approximately 8 weeks. This detour would be temporary and only used during construction of the new at-grade crossing. OEA did not revise the Draft EA in response to this comment.
Queen Creek (EI-32938 submitted by Bruce Gardner)	
EI-32938-1 / Transportation and Safety Queen Creek suggests that the Draft EA be approved with appropriate conditions, which include but are not limited to grade separation at the Ellsworth Road crossing at the point of construction, cooperation of UP with local governments, including Queen Creek and surrounding jurisdictions, to allow the design and construction of the Sossaman/Germann Roads intersection crossing permitting the required extension of Germann Road to the west, and express and enforceable operational limits on train length and number of trains, and timing to reduce the negative impacts on existing and future traffic congestion on the roads being crossed. Regarding Draft EA Section 4.5.1.2, *Transportation and Safety, OEA's Preliminary Recommended Mitigation,* pages 4-3 and 4-4, Queen Creek suggests the following be implemented: 1. MM-TS-1. The EA should expand the peak periods for the area to include the hours from 6:00 to 9:00 a.m. and 3:00 to 7:00 p.m. 2. MM-TS-2. UP should be prohibited from operating the line through at-grade crossings during a.m. and p.m. rush hours (6:00 to 9:00 a.m. and 3:00 to 7:00 p.m.), unless an emergency situation exists. 3. MM-TS-3. UP should not be permitted to block an intersection for longer than 3 minutes, decreased from 10 minutes. This is more reasonable given the length limitations that UP has represented will apply.	**Ellsworth Road Grade Separation.** Final EA Appendix B, *Traffic Report*, includes a detailed grade separation analysis that used updated 2025 traffic volumes from study area roadway corridors and concluded that a grade separation is not warranted at any of the proposed crossing locations based on the 2050 projected traffic volumes. **Intersection of Sossaman and Germann Roads**. Final EA Appendix B, *Traffic Report*, indicates that the planned Phoenix Subdivision support tracks would not impact this intersection. The Board does not have a role in the intersection project and cannot require UP to cooperate with other entities on this project. Therefore, no changes to the Draft EA are warranted in response to this comment. **PIRATE Operations**. As noted in Final EA Section 2.5.1, *Rail Traffic*, UP estimates that up to two trains per day (one in each direction) would travel on PIRATE. The Board generally cannot impose traffic limits on railroads. However, MM-TS-2 (Final EA Section 4.5.1, *Transportation and Safety*) would require UP to comply with ACC's review and permitting process before increasing the daily frequency of trains passing through the at-grade crossings. Therefore, no changes to the Draft EA are warranted in response to this comment. **Mitigation Measures**. In response to this comment, OEA has extended each of the peak periods recommended in MM-TS-1 and MM-TS-2 by 1 hour to address Queen Creek's concerns regarding impacts to traffic associated with the proposed at-grade crossings. Refer to Final EA Section 4.5.1, *Transportation and Safety*. However, OEA declines to modify MM-TS-3 to reduce the time from 10 to 3 minutes. Not blocking grade crossings for longer than 10 minutes is a standard operating rule found in the General Code of Operating Rules for railroads. As noted above, based on calculations in the 2026 *Traffic Report*, OEA concluded that a train passing through a PIRATE at-grade crossing could interrupt traffic for approximately 4 minutes (decreased from approximately 10 minutes in the 2023 *Traffic Report* due to increased train speed). This change from the 2023 to the 2026 report does not affect OEA's conclusions regarding the environmental impacts of the proposed action, including impacts from blocked crossings. If anything, the decrease in the potential delay time would result in fewer impacts. Moreover, NEPA is a procedural statute and does not mandate that the Board impose the most environmentally protective mitigation measures. For these reasons, OEA continues to believe that MM-TS-3 is reasonable. Refer to Section 3.2 of the 2026 *Traffic Report* for the calculations associated with the train crossing times at each at-grade crossing.

Comment Number / Topic and Comment	Response
Queen Creek's conceptual support of the PIRATE project…does not negate Queen Creek's consistent, detailed, and stated concerns over the potential significant negative impacts to traffic associated with the proposed at-grade crossings. Queen Creek suggests that quantitative analysis of traffic and commensurate mitigation measures, including alternative crossing designs, needs to be addressed in the EA.	Comment noted. OEA did not evaluate alternative crossing designs because its traffic analysis did not identify the potential for substantial traffic impacts at any of the proposed at-grade crossings. For OEA's quantitative analysis of traffic impacts at the proposed at-grade crossings, refer to Final EA Appendix B, *Traffic Report*, specifically Chapter 2, *Traffic Forecasting*, and Chapter 3, *Operational Analysis*.
Queen Creek is in favor of grade separation at Ellsworth Road largely due to the findings of the TIA (RailPros 2022), recent investments in the SR 24 overpass, anticipated future growth in the region, and concerns regarding safety of at-grade crossings. Queen Creek sees an at-grade crossing at Ellsworth Road as a temporary solution, and grade separation as the optimal, permanent one.	**Grade Separation at Ellsworth Road and ACC Commitments**. As noted in OEA's response to EI-33042-1, OEA is recommending a new mitigation measure, MM-TS-6, requiring UP to fulfill all commitments imposed during the Arizona Corporation Commission's railroad crossing review process, as recorded in Arizona Corporation Commission Docket No. RR-03639A-22-0287. If PIRATE is constructed and opens to rail traffic, these commitments include, but are not limited to, annual traffic studies on Ellsworth Road and construction of a grade-separated crossing at Ellsworth Road if traffic delays exceed 24 vehicle-hours per day. **Evaluation of the RailPros TIA**. RailPros used information from the *Southeast Mesa Land Use and Transportation Plan* (Kimley-Horn et al. 2019) to develop the TIA. OEA originally reviewed the *Southeast Mesa Land Use and Transportation Plan* during preparation of its 2022 *Traffic Report*. However, OEA determined that Mesa's 2019 analysis is now outdated because the planning horizon for the study was 2040 and the sweeping land use changes in the study area since 2019 are not reflected in the conditions Mesa factored into the travel demand model. Accordingly, OEA declined to use this plan for the updated traffic analysis in the Final EA because it would not support the analysis needed for the 2050 planning horizon. **OEA's Independent Traffic Analysis**. OEA conducted an independent analysis to determine the need for a grade separation at all five proposed at-grade crossings in Section 4.4 of the 2026 *Traffic Report*. This analysis used the most recent 2050 projected traffic volumes based on MAG's 2050 Travel Demand Model and the updated 2025 traffic counts collected at various locations in the study area. The traffic analysis presented in the 2026 *Traffic Report* uses a comprehensive microsimulation model that considers the rail-vehicular interaction as a combined network; the results reported in the TIA do not. This microsimulation model provides the potential queues from the at-grade crossings on the roadway network and the study intersections. OEA also conducted an independent grade separation analysis as outlined in Section 4.4 of the 2026 *Traffic Report*. This analysis is based on the updated 2050 traffic volumes obtained from the 2050 regional travel demand model network that considers the updated population, land use, and socioeconomic growths for the year 2050. In sum, OEA concluded that a grade separation is not needed at Ellsworth Road based on the ACC, FHWA, and AASHTO warrant analyses. Refer to Section 4.4 of the 2026 *Traffic Report* for additional details. The Final EA analyzes a network condition with all planned roadway projects, including through lanes, turn lanes, and connections to SR 24. Additionally, the travel demand forecasts for OEA's 2026 *Traffic Report* are forecasted out to 2050 conditions and include the most recent development information from Queen Creek (refer to Final EA Appendix B). The traffic volumes in the Final EA are equal to or higher than those used in the TIA. However, as noted above, the updated traffic analysis in the Final EA considered the roadway network and a robust analysis methodology using microsimulation framework. This framework allowed OEA to model the train operations during the peak hour as a worse-case scenario. The analysis demonstrated an acceptable LOS as well as acceptable queue lengths in the planning horizon year (2050). Since the LOS would be acceptable at the start of operations on PIRATE and in the model horizon year 2050, the study concludes that grade separation is not warranted. Therefore, based on these analyses, OEA concluded that a grade separation at Ellsworth Road is not warranted at this time. However, OEA notes that its model of horizon year 2050 shows that the crossing at Ellsworth Road could exceed 24 vehicle-hours of delay per day, triggering UP's commitments as part of the ACC review (Refer to MM-TS-6 Final EA Section 4.5.1, *Transportation and Safety*).

***Comment Number / Topic* and Comment**	**Response**
Queen Creek suggests that the Draft EA should consider UP's standard policy to require the closure of two existing crossings with the addition of any newly created crossing. Queen Creek states that an at-grade crossing will make Ellsworth Road even more intolerable and generate challenges for first responders, including police and fire in the region, as well as the Queen Creek Unified School District (QCUSD). Queen Creek shares the significant transportation and safety concerns raised by QCUSD (the fastest-growing school district in Arizona) with daily bus trips estimated to be in excess of 120 (and likely closer to 150) on Ellsworth Road where the posted speed limit is 50 mph over 4 to 6 lanes. The QCUSD bus transportation facility is on Ellsworth Road just south of where PIRATE will be built. By law and Arizona school regulation, all school buses would be required to stop, open the bus door, and look both ways before proceeding at an at-grade crossing on Ellsworth Road every time the buses would cross, even when no train is coming. The resulting traffic delays, regardless of the number or timing of trains, will be significant.	According to UP, it does not have a formal, standard policy that requires the closure of two existing crossings with the addition of any newly created crossings. UP has an informal policy that applies to public agency requests for crossings, not to crossings proposed by UP. Accordingly, no changes to the Draft EA are warranted in response to this comment. Refer to OEA's response to ACC comment EI-33042-1 and Section 3.2 of the 2026 *Traffic Report*, which indicate that school bus operations, including stopping at crossings even when no train is present, would not be adversely affected by the addition of at-grade crossings associated with PIRATE. OEA has revised MM-TS-1 (Final EA Section 4.5.1.2, *Transportation and Safety, OEA's Final Recommended Mitigation*) based on feedback from nearby schools. Because it would reduce the severity of traffic impacts during the morning and evening peak periods, MM-TS-1 would also apply to QCUSD and emergency service providers. Additionally, UP agreed to develop cooperative agreements with emergency service providers to share service areas and emergency call response, which would further reduce impacts to first responders (refer to VM-TS-7 in Final EA Section 4.5.1.1, *Transportation and Safety, UP's Voluntary Mitigation Measures*).
Direct impacts to traffic and indirect impacts to school tardy rates and public health and safety are not currently disclosed in sufficient detail to determine if a potential for significant impacts may occur from the proposed at-grade crossings. Queen Creek requests disclosure of the methodology used to assess impacts to and from traffic associated with the proposed at-grade crossings, as well as the threshold for significance of these impacts.	Section 3.2 of the 2026 *Traffic Report* (refer to Final EA Appendix B) presents the methodology used to assess traffic impacts at the proposed at-grade crossings. As summarized in Section 3.2 of the 2026 *Traffic Report*, the team coordinated with several school districts in the study area to look at school bus schedules and hours of operations along the study corridors; the operating hours for the school buses using the study corridors are outside of the peak hours for traffic operations, which represent the worst-case scenario with respect to potential delays. The low volume of school buses (as well as the timing of school bus traffic) results in school bus traffic not being a factor in traffic delays at rail crossings during peak hours. OEA notes that while buses traveling in the study area outside peak hours must stop at all railroad crossings, this would occur at times that would not affect LOS and would cause less delay than during peak hours. However, MM-TS-3 (Final EA Section 4.5.1.2, *Transportation and Safety, OEA's Final Recommended Mitigation*) should mitigate traffic impacts at at-grade crossings during school bus operating hours. The significance threshold for traffic impacts is LOS D per Mesa's *Engineering & Design Standards* (2021) as described in Final EA Section 3.1.1.2, *Transportation and Safety, Existing Level of Service*. As noted in OEA's response to EI-33042-1, Section 3.3 of the 2026 *Traffic Report* summarizes the 2050 Build intersection LOS along Ellsworth Road, in which no intersections along Ellsworth Road were found to operate below LOS D. The LOS analysis concluded that the school buses operating hours are outside the peak a.m. and p.m. traffic hours and would not have adverse delays on the Ellsworth Road corridor. Regarding indirect impacts to public health and safety, OEA's recommended mitigation measures would minimize impacts to emergency service providers. VM-TS-7 and MM-SOC-1 would ensure that these providers have advance notice of changes in roadway crossings or operations. In addition, any change in the length or frequency of the trains on PIRATE would trigger ACC's approval process as summarized in EI-33214-1. Furthermore, MM-TS-6 requires UP to comply with all commitments imposed during the ACC's railroad crossing review process, as recorded in ACC Docket No. RR-03639A-22-0287.
Queen Creek requests additional specificity regarding number of trains, train operation hours, and train length to determine potential impacts and a requirement to address school bus and peak commuter time traffic. The Draft EA is based on representations that there will be no more than 2 trains per day, 5 days a week, and no more than 3,000 feet long.	As stated in Final EA Section 2.5.1, *Rail Traffic*, the analysis is based on a maximum train length of 4,500 feet, rather than 3,000 feet. This was changed based on the 2026 *Traffic Report*, which details the train length used in the analysis in Section 3.2. UP has confirmed that two trains per day (one in each direction) with a maximum train length of about 70 cars (4,435 feet) would accommodate any increase in future traffic. Accordingly, no changes to the Draft EA are warranted in response to this comment.

***Comment Number / Topic* and Comment**	**Response**
The data in Table 3-3, in Section 3.1.3.1, *Transportation and Safety, Effects of Alternative 1, 2050 Build Level of Service*, page 3-10, regarding Sossaman Road and Germann Road does not match the graphics on the previous pages (including Figure 3-2). In Section 3.1.3.2, *Transportation and Safety, Effects of Alternative 1, 2050 Build Delays and Queue Lengths*, the Draft EA provides that due to high traffic volumes on these corridors during the analysis year 2050, queue lengths would likely be longer; however, even the longest queues would dissipate within the first few cycles of the traffic signal operations, resulting in an overall intersection LOS that is within the acceptable level. This is incorrect; it was established in the ACC hearing that the queues would extend across multiple intersections. Queen Creek notes that the EA should specify what the acceptable limits are and how these limits were determined.	The Draft EA contained a typographical error; the LOS for p.m. peak hour in the 2050 Build scenario should have been D, and it was mistakenly shown as E. The 2026 *Traffic Report* shows updated LOS numbers for the study intersections based on the revised traffic volumes. OEA conducted a new traffic analysis and the 2050 No Build and 2050 Build results summarized in Final EA Table 3-3, *Level of service for 2050 No Build and 2050 Build scenarios*, now match the LOS values shown on Final EA Figure 3-2, *Intersection level of service for 2050 No Build and Build Scenarios.* OEA conducted the traffic analysis using a robust microsimulation model that takes into consideration the traffic routing and traffic-rail interactions at the at-grade intersections (refer to Final EA Appendix B, *Traffic Report*). OEA ran the microsimulation model 10 times in the peak hour to calculate the average of the 10 runs at each study intersection. The statement in the Draft EA that the queues would dissipate within the first few cycles was based on a visual observation made while running each microsimulation model. The TIA, which was referenced during the ACC railroad crossing review hearing, does not take into account the interaction between rail and vehicular operations. The TIA concluded that the vehicular queues would extend across multiple intersections, but this statement cannot be substantiated without the rail-vehicle interaction simulation model. None of the agencies (City of Mesa, Town of Queen Creek, and Town of Gilbert) referenced in the 2026 *Traffic Report* (Final EA Appendix B) provide criteria for acceptable queue lengths. Generally, the goal is for queues at at-grade crossings not to back up into the previous intersection. OEA's analysis showed that trains traveling through the PIRATE at-grade crossings would not cause traffic queues to extend into the previous intersection. Refer to Section 3.3.4, *Queuing Analysis*, for more details on the queuing impact analysis.
Queen Creek suggests that Section 3.1.3.4, *Transportation and Safety, Effects of Alternative 1, Transportation Safety and Access Management*, of the Draft EA should include quantification and disclosure of both short-term and long-term traffic impacts to Mesa, Queen Creek, and Gilbert so that a full range of reasonable alternatives that avoid impacts to these communities to the maximum extent possible is developed.	In Final EA Section 3.1.3.4, *Transportation and Safety, Effects of Alternative 1, Transportation Safety and Access Management*, OEA considered a comprehensive roadway network and the potential impacts that the project would have on the adjacent intersections. The Final EA includes the impact metrics using delay and LOS at the study intersections in the immediate vicinity of the proposed at-grade crossings. Quantification of the metrics in the wider Queen Creek, Mesa, and Gilbert are not necessary as the traffic volumes and patterns in those areas are not likely to be impacted by train operations on PIRATE. In the Final EA, OEA has revised MM-TS-1 requiring UP to conduct train operations on or over the PIRATE at-grade crossings outside the a.m. (6:00 a.m. to 9:00 a.m.) and p.m. (3:00 p.m. to 7:00 p.m.) peak periods to the maximum extent practicable. OEA concluded that MM-TS-1 is adequate to minimize traffic impacts in adjacent communities. Accordingly, no changes to the Draft EA are warranted in response to this comment.
EI-32938-2 / Air Quality Queen Creek comments that the emissions estimates and GHG analysis (in Section 3.2.3.2, *Air Quality and Climate Change, Effects of Alternative 1, Long-term Operational Emissions*; Table 3-6, *Maximum predicted CO concentrations*; and Table 3-8, *Operational GHG emissions as CO_2e*) do not appear to include idling school bus emissions or additional idling vehicles at railroad intersections. Queen Creek respectfully requests the EA consider these emissions in the air quality analysis.	As discussed in Final EA, Appendix C, *Air Quality Report*, Section 4.2.2, *Long-term Operation Emissions, Alternative 1*, the air quality analysis accounted for the localized impacts from vehicle idling at intersections and incorporated the potential effects from additional vehicle queueing at the at-grade crossings. Final EA, Appendix C, *Air Quality Report*, Section 4.2.2, *Long-term Operation Emissions, Alternative 1* also includes detailed modeling information and demonstrates that the project would not violate the air quality standard for carbon monoxide (CO)─even with the worst-case 4-minute delay per train crossing. Appendix C of the Final EA, *Air Quality Report, Traffic Information for CO Hot Spot Modeling*, provides the traffic information and assumptions used for CO hot spot modeling, including the delay assumptions used for the air quality analysis. In the air quality analysis, OEA did not separately evaluate bus idling at railroad crossings during normal operations because the low number of buses that would pass through the project area and make brief stops at the PIRATE crossings is not expected to generate emissions at a level that would contribute to or violate the applicable air quality standards.

Comment Number / Topic and Comment	Response
EI-32938-3 / Noise and Vibration Queen Creek requested that OEA consider vibration impacts to Arizona State Land Department land (which is being developed for major high-tech manufacturing) and noise impacts along the proposed rail line.	As noted in Final EA Section 3.3, *Noise and Vibration*, and Final EA Appendix D, *Noise and Vibration Analysis*, the project would have temporary construction-related noise impacts to nearby noise-sensitive receptors, would not affect noise-sensitive receptors following construction, and would not have vibration impacts during construction or operation. OEA's recommended mitigation measures in Final EA Section 4.5.3, *Noise and Vibration*, should reduce construction noise. Accordingly, no changes to the Draft EA are warranted in response to this comment.
EI-32938-4 / Visual Quality Queen Creek requested that OEA consider lighting impacts along the proposed rail line.	OEA addressed potential lighting impacts in the final recommended mitigation measures listed in Final EA Section 4.5.10, *Visual Quality*. These measures require UP to design lighting to preserve visibility around MGA and to provide MGAA an opportunity to review and approve the final project lighting plans. Also, refer to OEA's response to AGFD comment EI-33024-2 regarding lighting. No changes to the Draft EA are warranted as a result of this comment.
SHPO (EI-32936 submitted by Caroline Klebacha)	
EI-32936-1 / Cultural Resources Add a section to Draft EA Section 3.12, *Archaeological and Historic Resources*, analyzing Native American concerns or tribal interests. This section should be included under Cultural Resources or Environmental Justice, therein describing potentially impacted tribal interests within the Affected Environment, including identification efforts for TCPs and/or sacred sites. Examples of tribal interests are available online through the Arizona Government-to-Government Consultation Toolkit (https://sites.google.com/view/azconsultation-toolkit/tribes/gila-river-indian-community, https://sites.google.com/view/azconsultation-toolkit/tribes/salt-river-pima-maricopa-indian-community); however, the State Historic Preservation Officer (SHPO) notes that tribally sensitive information should be withheld from public NEPA documents.	OEA fully considered and analyzed Native American concerns and tribal interests in Section 5.1.3, *Tribal Coordination and Consultation*, of the Draft EA. OEA's ongoing government-to-government consultation provides an opportunity for the Native American Tribes that claim cultural affiliation within the APE to identify areas of tribal interest and express concerns regarding impacts to these resources. Native American Tribes have provided information to OEA regarding the continued Akimel O'Odham occupation of the APE since prehistory; the prominence of prehistoric water features; the magnitude of nearby prehistoric villages regarding creation narratives; and consideration of additional oral histories regarding prehistoric villages in the Queen Creek Delta. The Tribes have also participated in the Section 106 historic review process as consulting parties. OEA has addressed any information provided by the Tribes appropriately in Final EA Section 4.5.11 and the Memorandum of Agreement (MOA) in Appendix K1 and will continue to do so in the historic properties treatment plan (HPTP). As noted in the Final EA, environmental justice analyses are no longer required in NEPA documents, pursuant to EO 14148, "Initial Rescissions of Harmful Executive Orders and Actions," and EO 14173, "Ending Illegal Discrimination and Restoring Merit-Based Opportunity." Nevertheless, to avoid delay in the NEPA process and to ensure that the information contained in the Final EA is accurate, OEA retained and updated the environmental justice analysis in the Final EA. However, OEA did not update the environmental justice analysis to include Native American concerns and tribal interests because they were addressed fully in Section 5.1.3, the MOA, and the HPTP.
In Draft EA Section 3.12, *Archaeological and Historic Resources*, the *Regulatory Environment* subsection does not adequately define the regulatory context for analyzing cultural resources impacts under NEPA. Rather, it conflates NEPA with Section 106 of the National Historic Preservation Act (NHPA) and National Register Bulletin 38. Specifically, cultural resources and historic properties are not one and the same, and TCPs are recognized as a particular type of historic property. Likewise, adequate NEPA analysis of potential impacts to cultural resources is not limited to Section 106-defined historic properties. Please revise this section to define how cultural resources could be impacted by the proposed project alternatives (construction, visual, auditory, etc.), and clarify differences among the applicable regulations and guidance. Refer to the Integrating NEPA and Section 106 manual on the Advisory Council on Historic Preservation website.	In response to this comment, OEA has revised Section 3.12, *Archaeological and Historic Resources,* in the *Regulatory Environment, Section 106* subsection in the Final EA. OEA added text differentiating the impact methodologies under NEPA versus NHPA and text to define TCPs and their importance. OEA's use of the NEPA term "cultural resources" is deliberate to demonstrate the inclusion of tribal interests beyond the limited range of Section 106 into the NEPA process. OEA has consulted with the Section 106 consulting parties about the project in general and specifically about the potential impacts to historic properties and potential mitigation measures during the Section 106 review process, resulting in development of a Memorandum of Agreement and Historic Properties Treatment Plan. Refer to Final EA Appendix K1 for a copy of the executed Memorandum of Agreement. Refer to Final EA Appendix K2 for the Section 106 Consultation Documentation record.

***Comment Number / Topic* and Comment**	**Response**
In Draft EA Section 3.12, *Archaeological and Historic Resources*, rename the *Study Area: Area of Potential Effects* subheading "3.12.1 Affected Environment." The Section 106 APE should be discussed here; however, APE is not a NEPA term. Additionally, in the *Study Area* subsection of Draft EA Section 3.12, *Archaeological and Historic Resources*, clearly define the Affected Environment, which may or may not concord with the Section 106 APE. Adequate context should include both characterization (site and property types) in addition to quantification of known and estimated cultural resources and historic properties calculated as projected sites per acre based on existing survey data and overall site density.	In response to this comment, OEA has revised the subheading to "Study Area" in the Final EA Section 3.12 and clarified the relationship between the cultural resources study area and the APE in the Final EA. Final EA Section 3.12.1.2, *Cultural Resources in the APE*, provides context by describing the types of sites in the APE. OEA did not estimate cultural resources and historic properties within the APE because all the land within the APE to be disturbed by the proposed project was surveyed.
In the *Study Area* subsection of Draft Section 3.12, *Archaeological and Historic Resources*, include the acreage of the Affected Environment and the APE. Note that the APE includes 4.91 acres of private land that will not be acquired by the project; however, analysis should include potential impacts to any cultural resources or historic properties therein.	OEA considered potential impacts to cultural resources or historic properties within the entire APE, regardless of current land ownership. In response to this comment, OEA added the size of the APE (449 acres) to the *Study Area* subsection of Section 3.13.4.5 in the Final EA. After circulation of the Draft EA, additional surveys were conducted on land previously not accessible, reducing the 4.91 acres noted in the comment to 2.35 acres unsurveyed out of the 449-acre APE.
Simplify the narrative of the Class III investigations in the *Inventory Methods* subsection of Draft EA Section 3.12, *Archaeological and Historic Resources*.	The description of the Class III investigations provides the public with details on how the study was completed, outlines the areas that were completely surveyed, and documents areas where survey could not be completed (*A Class III Cultural Resources Survey for the Union Pacific Railroad Company Pecos Industrial Rail Access and Train Extension (PIRATE) Project, Mesa and Queen Creek, Maricopa County, Arizona* [Class III survey report], and *A Class III Addendum Cultural Resources Survey for the Union Pacific Railroad Company Pecos Industrial Rail Access and Train Extension (PIRATE) Project, Mesa and Queen Creek, Maricopa County, Arizona* [Class III addendum], posted as environmental correspondence on the Board's website under EO-3883 and EO-4085). This level of information is appropriate for the public because the survey reports contain culturally sensitive information and are not available for public review. Therefore, OEA did not simplify the narrative of the Class III investigations in the Final EA.
The Class III addendum survey had two survey areas; please revise the *Inventory Methods* subsection of Section 3.12, *Archaeological and Historic Resources.*	In response to this comment, OEA has revised "survey" to "surveys" when referencing the Class III addendum in the Final EA.
In the *Inventory Methods* subsection of Draft EA Section 3.12, *Archaeological and Historic Resources*, revise the discussion of the 4.91 acres that were not surveyed. We recommend: A total of 4.91 acres in the APE have not been inventoried by Class III survey. UP has provided a letter to OEA stating that these 4.91 acres will not be acquired or accessed and will be avoided for any current or future activities relating to the current project.	In response to this comment, OEA has revised the *Inventory Methods* subsection as requested in the Final EA.
Key steps in the Section 106 process are defining the APE, identifying historic properties, assessing adverse effects, and resolving adverse effects. Please revise in the *Inventory Methods* subsection of Section 3.12, *Archaeological and Historic Resources.*	In response to this comment, OEA has revised the *Inventory Methods* subsection as requested.
Rename Section 3.12.1, *Affected Environment*, as "Cultural Context" and make this a subsection of the Affected Environment section. This subsection comprises a brief cultural history of the area.	This section is consistent with the rest of the Final EA formatting and content and is appropriately titled *Affected Environment*. Accordingly, no changes to the Draft EA are warranted in response to this comment.

***Comment Number / Topic* and Comment**	**Response**
Change “survey” to “surveys” in Section 3.12.1, *Archaeological and Historic Resources, Affected Environment*.	In response to this comment, OEA has revised “survey” to “surveys” when referencing the Class III addendum in the Final EA.
Section 3.12.1.1, *Archaeological and Historic Resources, Affected Environment, Prehistoric and Historic Settlements*, is overly broad. Reference the Arizona Thematic Study, AZ-27 “Hohokam and Euroamerican Land Use and Settlement Along the Northern Queen Creek Delta,” MPS AZ 64500040.	Final EA Section 3.12.1.1, *Archaeological and Historic Resources, Prehistoric and Historic Settlements,* is purposefully broad because the specific details are in the Class III survey report, Class III addendum, and the high-level summary in the Final EA, which provide appropriate context and background information. OEA has not included the referenced Arizona Thematic Study because 30 subsequent years of archaeological survey and data recovery have: (1) built on the foundation established in this study, and (2) provided substantial new information that OEA will incorporate into the HPTP. Accordingly, no changes to the Draft EA are warranted in response to this comment.
We also recommend addressing the cultural landscape in Section 3.12.1.2, *Archaeological and Historic Resources, Affected Environment, Cultural Resources in the APE*. See prior comments on defining the Affected Environment.	Cultural landscapes will be discussed in more detail in the HPTP for the Section 106 consulting parties. However, in response to this comment, OEA has added a reference to the cultural landscape in Final EA Section 3.12.1.2, *Archaeological and Historic Resources, Affected Environment, Cultural Resources in the APE*.
Global check and redact or rework site-specific data provided in text, tables, and appendices (e.g., Table 3-19 in Section 3.12.1.2, *Archaeological and Historic Resources, Affected Environment, Cultural Resources in the APE*. Location in the APE column). Cultural resources locational data are considered confidential and restricted from public NEPA documents (for example, Section 304 of the NHPA and the Archaeological Resources Protection Act regulations at 43 C.F.R. § 7.18). The impact analysis can simply state the number of cultural resources and/or historic properties impacted by each alternative. Likewise, see prior comment regarding tribally sensitive data that also should be reviewed for potential redaction throughout.	OEA appreciates the need for confidential and restricted information. However, NEPA requires disclosure of enough information for OEA to differentiate between the impacts for each alternative. In response to this comment, in Table 3-19, *Cultural Resources in the APE*, OEA removed locational language from some of the entries, but retained sufficient detail to differentiate between alternatives. 43 C.F.R. § 7.18 does not apply to the Board; these regulations apply to U.S. Department of the Interior federal land managers on public lands and Tribal reservations.
Remove the last four sentences of Section 3.12.2, *Archaeological and Historic Resources, Effects of No-Action Alternative*. This analysis does not define any Affected Environment components as being concordant with the PAMZ or MGA, nor is the potential regulatory context of adjacent, proposed developments relevant to this NEPA assessment.	Final EA Figure 3-10, *APE for the cultural resources analysis and Section 106 consultation,* illustrates the APE’s location adjacent to MGA and nearby industrial areas identified in the Final EA within the PAMZ. OEA’s approach to analyzing the No-Action Alternative includes acknowledging the potential for impacts from notable developments, trends, and other conditions independent of the proposed project that would exist if the Board should decide not to authorize the construction and operation of PIRATE. Therefore, OEA considered the potential for widespread impacts to cultural resources even in the absence of PIRATE. To clarify this in the Final EA, OEA revised Section 3.12.3, *Effects of No Action Alternative* in response to this comment.
Revise awkward terminology “archaeological cultural resources sites” in Section 3.12.3, *Archaeological and Historic Resources, Effects of Alternative 1* and Section 3.12.4, *Archaeological and Historic Resources, Effects of Alternative 2*.	In response to this comment, OEA has revised “archaeological cultural resources sites” to “archaeological sites” in the Final EA.
Revise text regarding disclosed impacts in Tables 3-20 and 3-21 in Section 3.12.3, *Archaeological and Historic Resources, Effects of Alternative 1*. APE acreages per site are too detailed for a public-facing document in Section 3.12.3, *Archaeological and Historic Resources, Effects of Alternative 1*.	Characterizing impacts to cultural resources is consistent with how impacts to other resources are addressed in the EA. Not all impacts are similar on a site; therefore, OEA has included information on what activities are planned within each site in revised Table 3-22 and Table 3-23 in this Final EA. To address concerns regarding disclosure of site location information, OEA revised the impact summaries in Table 3-22, *Impacts to cultural resources from Alternative 1 and the planned Phoenix Subdivision support tracks*, and Table 3-32, *Impacts to cultural resources from Alternative 2 and the planned Phoenix Subdivision support tracks* in this Final EA.
Point of clarification in Section 3.12.3, *Archaeological and Historic Resources, Effects of Alternative 1*, sites are stationary and do not act upon an APE. They do not “encompass” a portion of an APE or “extend across” an APE. Rather, the APE encompasses, extends across, or intersects the sites.	In response to this comment, OEA has revised the text in Section 3.12.4, *Archaeological and Historic Resources, Effects of Alternative 1*, as recommended.

***Comment Number / Topic* and Comment**	**Response**
Revise entire Draft EA Section 3.13.4.5, *Cumulative Impacts, Cumulative Impact Analysis, Cultural Resources*, to compare and disclose impacts of the project alternatives against the projected impacts of reasonably foreseeable future actions (RFFAs) within the analysis area as depicted on Figure 3.13 (i.e., not limited to the PAMZ). The ultimate question to be answered by a cumulative effects analysis is: When added to the projected impacts of RFFAs, will the current project cause a significant impact? That answer should be provided as a quantification in Section 3.13.4.5, *Cumulative Impacts, Cumulative Impact Analysis, Cultural Resources* and avoid the use of value-laden terms such as "relatively small," "minor," and "only" unless these terms are previously defined.	As noted in the Final EA, the Council on Environmental Quality (CEQ) rescinded its NEPA implementing regulations in 2025, and accordingly, cumulative impacts analyses are no longer required in NEPA documents. Current CEQ guidance provides that an agency's NEPA analysis should be limited to the project at hand and that action's effects. Nevertheless, OEA's cumulative impacts analysis in the Draft EA (following the CEQ regulations in effect at the time) was reasonable and complied with NEPA. OEA conducted a qualitative analysis of the potential incremental impact of PIRATE when added to other past, present, and reasonably foreseeable future actions for each resource area, including cultural resources. Nothing more was required. Therefore, no changes to the Draft EA are warranted in response to this comment.
Based on Class I (existing archival) data, the extent of cultural resources inventory with known sites and/or historic properties should be used to establish an estimated site density (i.e., sites per acre) for the entire analysis area in Section 3.13.4.5, *Cumulative Impacts, Cumulative Impact Analysis, Cultural Resources*.	For the cumulative impacts analysis, OEA conducted a qualitative analysis and was not required to develop quantitative analysis measures such as site density evaluation. No changes to the Draft EA are warranted in response to this comment.
As previously noted, the potential regulatory context of RFFAs is irrelevant to the analysis in Section 3.13.4.5, *Cumulative Impact Analysis, Cultural Resources*. Impacts to all cultural resources should be characterized and quantified, regardless of Section 106 definitions or procedures.	For the cumulative impacts analysis, OEA conducted a qualitative analysis and was not required to develop quantitative analysis measures such as site density evaluation. No changes to the Draft EA are warranted in response to this comment.
Not all of the 15 agencies included in Draft EA Section 5.1.2, *NHPA Section 106 Consultation*, are included as concurring parties in the Memorandum of Agreement (MOA). Should the Mesa Historical Museum also be included in the MOA? Should the Mesa Historic Preservation Office and the Mesa Office of Economic Development be differentiated in the MOA, rather than consolidated into "City of Mesa?"	In response to this comment, OEA added the Mesa Historical Museum as a concurring signatory to the MOA (refer to Final EA Appendix K2, *Section 106 Consultation Documentation*). For consistency with the MOA, where one signature page includes both the Mesa Historic Preservation Office and the Mesa Office of Economic Development, OEA also revised the list of 15 agencies in Section 5.1.2, *NHPA Section 106 Consultation*.
Joel Rosenberger (EI-32911)	
EI-32911-1 / Transportation and Safety My family lives in La Jara Farm II, which is directly behind Heritage Academy near Germann and Sossaman Roads. While we are okay with the proposed UP track extension, there are some significant concerns. Issue 1 - Current railroad crossing at Germann and Sossaman Roads is a traffic jam. The majority of the traffic turns left from Germann Road to Sossaman Road, but there is no light because of the railroad crossing. Solution 1 - During construction, UP should improve the intersection at Germann and Sossaman to provide a traffic light to better manage traffic.	Regarding Issue 1, Queen Creek is currently designing an intersection reconfiguration project at Sossaman and Germann Roads, which would include extending Germann Road from the west to connect to the segment of Germann Road east of the intersection. Queen Creek is coordinating with UP on the intersection reconfiguration and the project plans are currently at the 90 percent design stage. The new intersection would have an at-grade crossing for UP's Phoenix Subdivision and would be controlled by traffic signals. Construction is currently planned for Fiscal Years 2027-2028. In the interim, Queen Creek modified the intersection to no longer allow left turns. This modification will remain in place until the intersection is reconfigured (ClearGov 2025). The Board has no role in the intersection project. Accordingly, no changes to the Draft EA are warranted in response to this comment.

Comment Number / Topic and Comment	Response
Issue 2 - The proposed plan requires two additional railroad crossings, one on Pecos Road and one on Sossaman Road. If trains are not coordinated well, they would effectively block the entire access to Gilbert, Chandler, and SR 202. Today, I've been blocked for 10 to 20 minutes waiting for trains to pass on Sossaman and Power Roads. The new crossings will cause more traffic congestion. Solution 2 - Limit train activity on new extension when vehicle traffic is light. Also adding traffic lights will help this situation at Germann and Sossaman Roads.	Refer to page M-5 of this appendix for OEA's response to Queen Creek comment EI-32938-1, under the subheading "Limitations on PIRATE Operations." Also, refer to Section 3.3, *Traffic Operations Analysis Results*, in the 2026 *Traffic Report* in Final EA Appendix B for OEA's updated findings on potential traffic impacts. In this Final EA, OEA has revised MM-TS-1 (Final EA Section 4.5.1., *Transportation and Safety*), specifically requiring UP to conduct train operations on or over the PIRATE at-grade crossings outside the a.m. (6:00 a.m. to 9:00 a.m.) and p.m. (3:00 p.m. to 7:00 p.m.) peak periods to the maximum extent practicable.
EI-32911-2 / Noise Issue 3 - With the current crossing at Germann and Sossaman Roads, trains blow their horns as needed and the trains travel during early mornings to avoid traffic. Adding additional crossings will increase trains horns. Just outside the industrial areas, there are several housing developments where the train horns are already loud in the middle of the night. Solution 3 - Require UP to upgrade crossing at Germann and Sossaman Roads and the new crossings (Pecos and Sossaman Roads) to be a "Quiet Zone." The "Quiet Zone" will reduce the train noise significantly—especially in the middle of the night—for the residential neighborhoods.	**Noise and Vibration**. In the *Noise and Vibration Analysis* in Final EA Appendix D, OEA evaluated noise from the locomotive engines, rail cars, and train horns at the six at-grade crossings in the study area. Based on the analysis, OEA determined that residents may be able to hear additional train horns up to four times per day, during daylight hours, when trains on PIRATE pass through the Pecos Road and northern Sossaman Road at-grade crossings. However, the noise from these horns would not exceed the annoyance threshold or constitute a noise impact. **Quiet Zones**. Furthermore, the Board does not implement quiet zones, nor can it require UP to implement quiet zones, because FRA has a specific process for local governments to follow if they wish to request a quiet zone (FRA 2013). The local government jurisdiction in which the at-grade crossing is located must apply for the quiet zone from FRA. The process involves a detailed series of steps that must be followed and coordinated with FRA, such as a diagnostic team review, submission of required documentation, and notice to interested parties. OEA added a discussion of quiet zones in Final EA Section 3.3, *Noise and Vibration*, in response to this comment.
Michelle Schwartz (EI-32931)	
EI-32931-1 / Operations Will this strictly be freight and not light rail? Will trains move slower? Will train traffic increase? Will the track be secure from anyone tampering with the tracks?	The PIRATE project would only move freight. No light rail is proposed. As explained in the Final EA Section 2.5.1, *Rail Traffic*, trains on the existing Phoenix Subdivision currently have a maximum speed of 60 mph. No speed changes are proposed on the Phoenix Subdivision, and trains on PIRATE would operate at speeds ranging from 5 to 30 mph. In addition, Final EA Section 2.5.1 states that rail traffic would not increase on the Phoenix Subdivision should the Board authorize the construction and operation of PIRATE. Final EA Section 2.5.2, *Maintenance*, states that UP would regularly inspect and maintain the proposed rail line to ensure safe and reliable operations per Federal Railroad Administration track standards. In addition, OEA continues to recommend a condition requiring UP to comply with Federal Railroad Administration inspection and maintenance requirements to identify and mitigate any threats to the safe operation of the project (MM-GS-1 in Final EA Section 4.5.7, *Mitigation Measures – Geology and Soils*).
EI-32931-2 / Hazardous Materials I don't want train derailments with risk of fire or toxic chemical release. Will this new line be safer than existing?	Final EA Section 3.4.3, *Hazardous Materials and Waste Sites, Effects of Alternative 1*, explains that shifting the transport of hazardous materials from public roadways to rail should improve the overall safety of chemical transport within the PAMZ. In addition, UP has committed to implementing a hazardous materials emergency response plan to address potential derailments or spills (VM-HAZ-5 in Final EA Section 4.5.4, *Mitigation Measures - Hazardous Materials and Waste Sites*).

***Comment Number / Topic* and Comment**	**Response**
Commercial Metals Company (EI-306784 submitted by Barbara Smith)	
EI-306784-1* / *NEPA Process We ask the Surface Transportation Board for an expedited review and approval of this extremely important project to not further delay construction and benefit to the community.	Comment noted.
EI-306784-2* / *General Support As one of the major industrial companies located along the rail track line, we are in strong support of bringing rail freight infrastructure into the region.	Comment noted.
Union Pacific Railroad (EI-32937 submitted by Kevin Rice)	
EI-32937-1 / *Transportation and Safety* Draft EA Section 4.5.9.2, *Socioeconomics, OEA's Preliminary Recommended Mitigation*, MM-SOC-1: with regard to notification of road closures, in accordance with Section 4.5.1.1, VM-TS-7, UPRR will work with local authorities to obtain temporary traffic control permits and will comply with obligatory notifications as required by the permits.	Comment noted. Any notification required by Mesa, Queen Creek, and Gilbert as part of their temporary traffic control permit requirements is not sufficient to mitigate the potential impacts regarding road closures. Therefore, OEA continues to recommend MM-SOC-1 in this Final EA.
EI-32937-2 / *Noise* Draft EA Section 4.5.3.2, *Noise and Vibration, OEA's Preliminary Recommended Mitigation*, MM-NV-3: Regarding item (a), UPRR intends to meet local noise ordinances as it relates to construction along the Phoenix Subdivision Mainline. Request that (a) is amended to read "(a) constructing temporary sound barriers around work along the Phoenix Subdivision where required by local noise ordinances."	OEA's recommended mitigation measure MM-NV-3 should limit noise impacts to adjacent residential areas during construction of the planned Phoenix Subdivision support tracks. None of the local noise ordinances that apply along the Phoenix Subdivision define excessive noise or define a threshold for noise impacts. Therefore, neither Mesa nor Queen Creek has measures in place to limit construction-related noise impacts during daytime hours. Accordingly, OEA continues to recommend MM-NV-3 in this Final EA.
EI-32937-3 / *Water Resources* Draft EA Section 4.5.6.2, *Water Resources, OEA's Preliminary Recommended Mitigation*, MM-W-3: UPRR understands that the Ellsworth Channel operations and maintenance at this location is under the direction of the City of Mesa rather than the Flood Control District of Maricopa County (FCDMC). UPRR will provide new access to the Ellsworth Channel per agreement between UPRR and City of Mesa.	In response to this comment, OEA has corrected the Ellsworth Channel ownership in Final EA Sections 3.6, *Water Resources*, Section 3.8, *Land Use and Farmland*, and Section 4.5.6.2, *Water Resources, OEA's Final Recommended Mitigation.*