

**SLOVER & LOFTUS LLP**

ATTORNEYS AT LAW

PETER A. PFOHL

April 14, 2025

VIA E-FILING

Ms. Danielle Gosselin, Director
Office of Environmental Analysis
Surface Transportation Board
395 E Street, SW
Washington, D.C. 20423-0001

Re: FD 36815, *Texas Materials Group, Inc. – Construction and Operation
Exemption – Line of Railroad in Burnet and Lampasas Counties, Texas*

Dear Ms. Gosselin:

The Coalition for Central Texas Escarpment Preservation (“CCTEP”) has recently become aware that Texas Materials Group, Inc. (“Texas Materials” or “Applicant”), is actively preparing to seek authority from the Surface Transportation Board (“Board” or “STB”) to construct and operate a new rail line (“Rail Line” or “Project”) in Burnet and Lampasas Counties, Texas.

CCTEP consists of a group of concerned citizens and affected landowners with deep ties to the Texas Hill Country with profound concerns over land use initiatives such as the Applicant’s proposed Rail Line and massive unit train operations that appear to lack a valid or adequate purpose or need. If approved, the Rail Line will substantially impact the region’s unique landmark hills and other geological features and topography, and cause significant harm to environmental, historical, and cultural resources.

Respectfully, Texas Materials has failed to provide the Office of Environmental Analysis (“OEA”) with an accurate and complete description of the massive Project and its potential impacts. The Applicant’s conclusory impact assertions purposely downplay the project’s scope and the potential environmental and historical impacts, and in a manner that is highly misleading and prejudicial to the ability of the consulting parties and the public to fully understand and thus comment on the Project, its scope, and potential impacts. These failures have led to clear errors and omissions contained in the notice that OEA issued on March 4, 2025 (EO-3998), and supplemented on March 14, 2025 (EO-4000) (collectively, “Initial Notice”), that require correction.

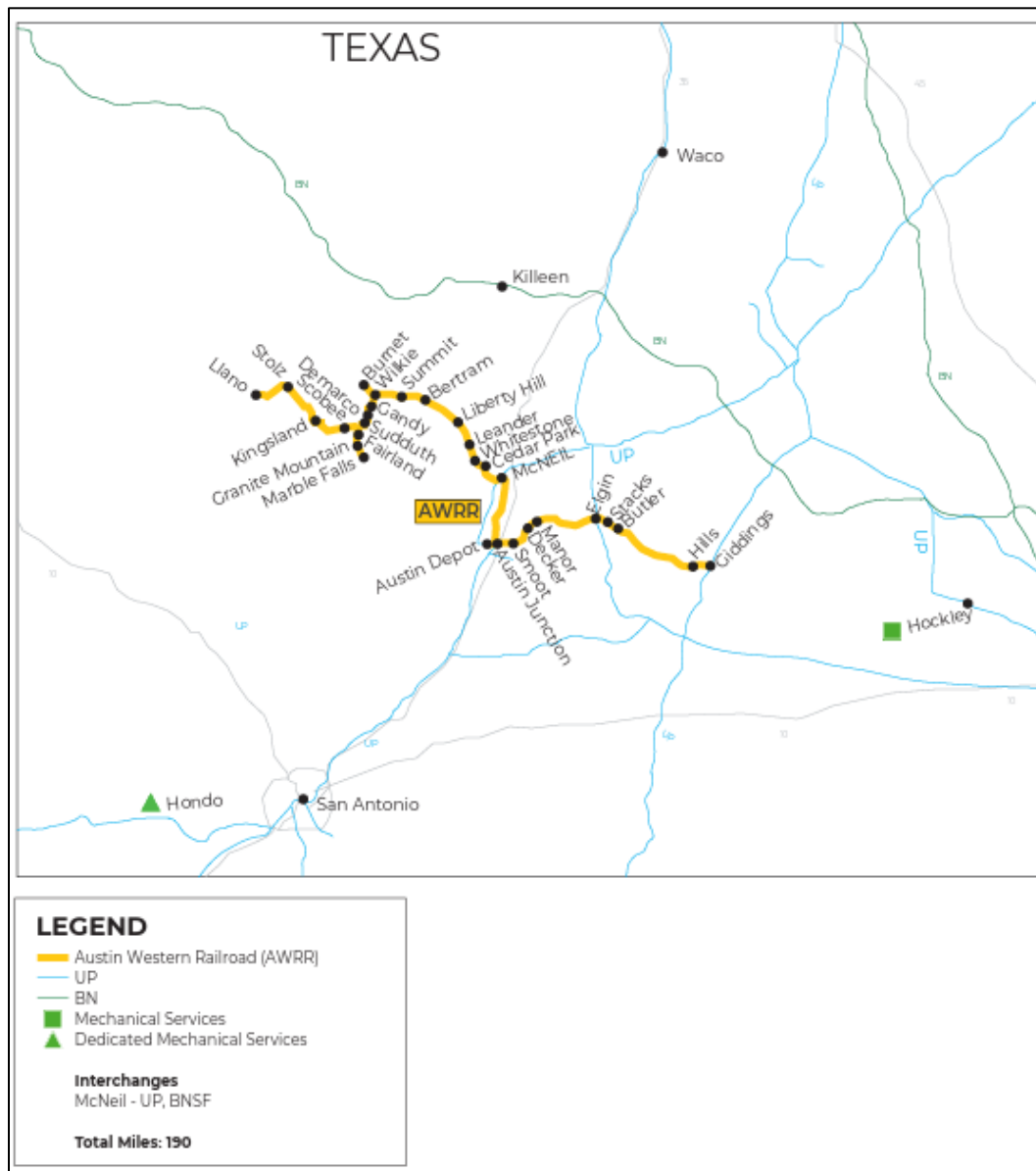
These issues are compounded by Texas Materials’ failure to engage in any project consultation or outreach with the affected local communities resulting in an outpouring of concerns and opposition expressed by local public officials and citizens in many dozens of opposition filings to OEA in just the past month since the OEA noticed the Project.

The purpose of this letter is to respectfully request that OEA: (1) require the preparation of a full Environmental Impact Statement (“EIS”) in the above-referenced proceeding to assess the environmental and related impacts of Texas Materials’ proposed construction and operation of the Rail Line; (2) require a neutral, qualified third party contractor conduct a full cultural resources investigation to assess the impacts of the proposed project on historic properties and other cultural resources; and (3) take appropriate corrective actions and additional steps when initiating its environmental review of the Project that include: (a) submit a new notice of intent that provides a complete and accurate description of the Project, (b) require Applicant to submit a more robust and accurate statement of purpose and need for the Project that adequately informs OEA, the public, and consulting parties of the Project’s scope and impact, (c) require Applicant to reassess and provide a selection of an appropriate routing and alternatives that avoid or minimize environmental, historic, and cultural resources impacts, and (d) engage in appropriate public scoping with at least four (4) to six (6) public meetings in the local areas affected by the Project.

Background and Summary

A. General Background

The stated purpose of the Project is to serve, at least indirectly, the quarry/aggregate facilities of Texas Materials at Burnet, Texas. Those facilities were purchased by a subsidiary of CRH Americas Materials, an international buildings materials company based in Dublin, Ireland, with annual revenues exceeding \$35 billion. The facilities have long been served by the Austin Western Railroad, Inc. (“AWRR”), a Class III rail carrier owned by Watco Holdings, Inc. (“Watco”), and other preceding short line railroad operators. AWRR’s system map, at <https://www.watco.com/service/rail/austin-western-railroad-awrr/> is set forth below:



Texas Materials has not adequately described its specific quarries and private tracks reached and served by the AWRR, but they appear to be situated at or near Marble Falls, a number of miles away from where it proposes to construct the proposed Rail Line, as obliquely (and inadequately) reflected on the Applicant’s submissions to OEA to date and at Attachment 1, Figure 1 and Figure 1B of the Initial Notice, addressed further, below.

Since 2007, AWRR has been the common carrier freight operator over the Giddings-Llano line, extending approximately 166-miles from Giddings, Texas to Llano, Texas (the “AWRR Lines”). *Austin W. R.R., Inc. – Operation Exemption – Capital Metro. Transp. Auth.*, FD 35072 (served Sept. 14, 2007). The AWRR Lines were initially constructed in 1871. The City of Austin purchased the Lines from the Southern Pacific Transportation

Company (“SP”) in 1986. *City of Austin, TX – Acquisition – S. Pac. Transp. Co.*, FD 30861(A) (ICC served Nov. 4, 1986). The Capital Metropolitan Transportation Authority (“CapMetro”), the Austin, Texas regional transit authority, a political subdivision of the State of Texas, acquired the Lines in 1998. *Capital Metro. Transp. Auth. – Acquisition Exemption – City of Austin, TX*, FD 33596 (STB served May 27, 1998). CapMetro has a residual common carrier obligation with respect to the AWRR Lines that it carried over from the City of Austin upon purchase of the Lines.

The City of Austin and CapMetro have fought hard to obtain and maintain adequate two-carrier competition and full and sufficient interchange for line-haul carriers connecting with the AWRR Lines. AWRR is one of the few short line railroads in the United States that has full access to two connecting Class I railroads, Union Pacific Railroad Company (“UP”) and BNSF Railway Company (“BNSF”), on favorable economic terms. The City of Austin secured this competitive access as a condition of approval in the UP/SP merger case in 1996. *Union Pac. Corp. – Control & Merger – S. Pac. Rail Corp.*, 1 S.T.B. 233, 465-66 (1996) (“UP/SP”). In *UP/SP*, the Board granted BNSF access over UP’s lines for interchange at Giddings, at the east end of the AWRR Lines, or Elgin, towards the center of the Line.

Later in merger oversight proceedings, the Board granted CapMetro’s request to move the interchange point to McNeil, TX, the AWRR Lines’ westernmost interchange point. *UP/SP* (Sub-No. 26), 3 S.T.B. 1030, 1063-64 (1998). This move enabled the short line carrier to interchange unit trains of 100+ cars with BNSF for the first time, as the prior interchange location could handle only 12 cars at a time. Moving the interchange location change to McNeil, TX substantially increased AWRR’s system capacity, put the interchange closer to the facilities of aggregate shippers, including Texas Materials to the west, and enabled those shippers, including Texas Materials, to receive full competitive unit train service for the first time. The proposed Project apparently seeks to bypass and avoid the benefits of all of these efforts to secure adequate, sufficient, and competitive rail service for Texas Materials and other AWRR customers, and the associated investment of millions of dollars in investments and upgrades made in the AWRR Lines, equipment, and technology at considerable taxpayer expense, as discussed further below.

The replacement and redundant rail routing and track Texas Materials proposes to construct and operate is massive in scope and will cost tens of millions of dollars, if not more, to construct. The proposed Rail Line would cross pristine areas of the Texas Hill Country, from a point on the AWRR, a number of miles away from Texas Materials’ quarries to a BNSF connection point approximately 27-29 miles away near Lampasas, Texas. The Applicant has informed OEA that the construction would involve almost four dozen public road and waterway/draining crossings, including two major highways. EI-33686, at 2. As discussed below, it would likely have significant adverse environmental effects, including threatening wildlife and their habitat and on historic resources.

Because the Project has the potential to cause significant environmental and cultural resource impacts, the Board is obligated under the National Environmental Policy Act (“NEPA”), as amended, 42 U.S.C. §§ 4321 et seq., Section 106 of the National Historic Preservation Act (“NHPA”), 54 U.S.C. § 306108, and the Board’s rules under 49 C.F.R. Part 1105, to conduct appropriate environmental and historical/cultural resources review.

B. The Illusive “Purpose and Need” for the Project

Texas Materials offers only two reasons in support of the alleged need for the Project. First, Texas Materials asserts that “AWRR conducts both passenger and freight railroad operations on its lines,” and that its “freight traffic competes with passenger trains for AWRR track capacity, which results in congestion and delays.” EI-33686, at 1. However, as explained further below, AWRR’s existing service to connections to two carriers (UP and BNSF) provides significant and overwhelming service advantages over the sole-served connection option that Texas Material seeks to construct, which would connect only to BNSF. Texas Materials has not explained why it prefers a sole-served service option to AWRR’s dual-served competitive service option, but in any event, any service issues have been addressed, and continue to be addressed, by the substantial infrastructure investments, equipment upgrades, and operating changes that have been made on the AWRR Lines to meet the service requirements of shippers, including high-volume shippers like Texas Materials.

In the past several years, the AWRR has substantially upgraded its Lines, bridges, and equipment, at significant taxpayer expense, to accommodate heavier and longer freight trains, and to increase capacity and operating speeds to meet the needs of rail shippers, and reduce congestion. In 2014, CapMetro received an \$11.3 million TIGER V grant from the Federal Transportation Administration matched by local funds. The grant project included upgrading 90 lb. track to 115-pound track, replacing/upgrading 46 timber bridges from 263,000-pound carrying capacity to 286,000-pound carrying capacity, constructing new railroad sidings, signals and systems, and rail rehabilitation and realignments that increased speeds, doubled freight capacity, and improved reliability. In recent years, CapMetro has spent millions on rail line capital improvements, from federal and state grants and other capital contributions, including upgrading another 26 bridges from 263,000-pound capacity to 286,000-pound capacity.

AWRR is owned by Watco, one of the nation’s largest short line railroad holding companies, controlling 44 rail carriers, and generating over \$1 billion in annual revenues (far exceeding the threshold to be a Class I carrier). Watco has invested heavily in improved service and operations for the AWRR Lines. AWRR is one of the few short lines in the United States that has upgraded its locomotives with a distributed power system to position its locomotives at different points on the train (typically the front and back), operated by a single train crew. Distributed power enables AWRR to more efficiently operate, control, and

handle longer and heavier trains, including the unit trains used by Texas Materials, over the steep grades and curves of the Texas Hill Country.

AWRR also achieved additional train efficiencies from CapMetro's implementation of Positive Train Control over a significant portion of the AWRR Lines at a cost of \$73,000,000. AWRR is one of the few short lines that has PTC-compatible locomotives. The implementation of PTC, together with AWRR's investment in stronger, safer, and PTC-equipped locomotives enable safe and efficient service. PTC also allows AWRR's freight traffic and CapMetro's passenger traffic to coexist, much like freight carriers operate over the lines of commuter rail authorities in many high-density, urban areas of the United States, without apparent need for temporal separation of freight and passenger service, as was apparently required on the AWRR Lines prior to PTC implementation.

Freight trains should not be restricted to night or mid-day operation over CapMetro's passenger rail division/section on the eastern portion of the AWRR Lines to reach the UP/BNSF interchange at McNeil, TX. CapMetro has vigorously fought for, and repeatedly obtained, approval from the Federal Railroad Administration for dual freight/passenger service operations on the Lines, including as recently as last fall. *See* <https://www.regulations.gov/document/FRA-2006-25040-0070>.

Also, AWRR's maximum authorized speed for freight traffic over much of the AWRR Lines appears to be 40 MPH, with some restrictions on certain segments. In contrast, Texas Materials proposes to construct what appears to be a single-track line, with no known sidings, only to Class 1 track standards, allowing operations only up to 10 MPH. Additionally, the Project appears to entail several massive grade separated highway bridges, at a cost of tens of millions of dollars, to achieve access to BNSF.

AWRR and CapMetro are licensed railroad common carriers that have the obligation to meet that the reasonable service needs, including expected future service needs, of shippers like Texas Materials, and ensure that non-jurisdictional uses of the line (e.g., light rail service or occasional excursion trains) do not unreasonably interfere with the carrier's statutory obligations. If Texas Materials faced true rail service problems, it has able and experienced rail regulatory counsel to assist it in ensuring that its service needs are fully met. However, no formal or informal service complaints before the STB have ever been made about the willingness or ability of AWRR or CapMetro to fulfill their common carrier obligations or meet the transportation growth needs of Texas Materials or other shippers, to CCTEP's knowledge.

Second, Texas Materials asserts that the current interchange point at McNeil, TX, which the City of Austin and CapMetro fought so hard to obtain in the *UP/SP* oversight proceedings to enable the efficient interchange of unit train traffic for Texas Materials and other shippers, is somehow insufficient. Specifically, Texas Materials asserts that "this interchange and the BNSF and UP main lines are located in the heavily populated Austin,

Texas Metropolitan area.” EI-33686, at 1. Texas Materials apparently believes this “heav[y] populat[ion]” establishes a need to construct an alternative route for its traffic.

However, McNeil, Texas is a small, unincorporated town of approximately 70 people. The town arose in the late 1800s, and is named after George McNeil, section foreman for the Austin and Northwestern Railroad (a predecessor operator on the AWRR Lines). It was established principally to serve as a railroad junction point and continues to exist principally to serve as a railroad junction point for the AWRR and UP and BNSF interchange. The interchange point and the connecting UP/BNSF line is reflected in the map below:



The McNeil, TX interchange appears to have ample interchange tracks and resides next to a longstanding lime quarry operated by Austin White Lime, founded in 1888, that apparently stopped production a year ago. Moreover, the location and routings of the UP and BNSF main lines intersecting with AWRR extend away from the Austin metropolitan area.

Texas Materials’ complaint about the McNeil interchange being unduly affected by the Austin “population” is inexplicable and erroneous.

CCTEP Requests

A. An Environmental Impact Statement Is Required to Assess the Environmental Impacts of the Proposed Project

CCTEP understands that OEA has not yet made a final decision on whether the Project requires preparation of an Environmental Impact Statement (“EIS”). The MOU states only that an EIS *or* an Environmental Assessment (“EA”) will be prepared. EO-3980. As required under the Board’s environmental rules, and because the Project has the potential to cause significant environmental impacts, CCTEP requests that OEA require that a complete EIS be prepared.

1. The Board’s Environmental Rules Require an EIS

The Board’s rules generally require that an EIS be prepared for rail construction projects. 49 C.F.R. § 1105.6(a) (providing that an EIS “will normally be prepared for rail construction proposals”). While exceptions exist where for “[c]onstruction of connecting track within existing rail rights-of-way, or on land owned by the connecting railroads,” *id.* at § 1105.6, Applicant’s proposed Rail Line does not qualify as there is no existing rail right-of-way and no sale of all of the necessary underlying land has been completed to date. (The status of the underlying land is discussed further below).

The Board allows rail construction projects to be reclassified to proceed under an EA rather than an EIS in individual cases, but only where the applicant demonstrates “the particular proposal is not likely to have a significant environmental impact.” *Id.* at § 1105.6(d). No such showing is possible here since the Project encompasses both a substantial rail line construction project over in an environmentally sensitive area and significant historical property and cultural resource impacts. Further, a request for such reclassification “in a rail construction, should be presented with the prefiling notice required by § 1105.10(a)(1) (or a request to waive that prefiling notice period).” *Id.* Texas Materials’ prefiling notice submitted in FD 36815 on November 24, 2024 (EI-33642), made no such request.

2. The Significant Adverse Affects of the Proposed Project Require an EIS

The Project’s likely environmental effects further confirm an EIS is required. Texas Materials suggests that the environmental impacts “will be minimal” because “the project is located in an arid region of Texas that does not contain environmentally sensitive areas of note.” EI-33642, at 2. This conclusory assertion is untrue.

CCTEP has contracted with Zara Environmental LLC (“Zara”) to conduct a preliminary, limited environmental constraints analysis for the proposed Project. The limited

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focus of the analysis is intended to summarize available information via desktop review on water resources; habitat for rare, threatened, or endangered species; the sensitive environmental resources along the proposed alignment; and sensitive cultural and/or historical resources and communities that may be disproportionately affected within and adjacent to the proposed Rail Line.

Attached to this response, CCTEP provides a copy of this report. A summary of the Zara report is set forth below in **Table 1**:

Table 1

**SUMMARY OF LIMITED DESKTOP ENVIRONMENTAL
CONSTRAINTS ANALYSIS**

Ecoregion and Land Use

- The project is located in the Balcones Canyonlands subunit of the Edwards Plateau ecoregion and the Limestone Cut Plain subunit of the Cross Timbers ecoregion. The primary land use in this area consists of agricultural land, rural homesteads, and undeveloped land.

Soils

- The proposed ROW contains 28 distinct soil map units classified by the National Resources Conservation Service.
- Of the 28 soil map units identified, five soils units are classified as Prime Farmland soils, comprising approximately 13% of the soil types mapped in the proposed project ROW.
- Lands with Prime Farmland soils are valued for their productivity and long-term sustainability and are an important consideration in federally supported infrastructure planning, including linear transportation projects such as railroad corridors.

Vegetation

- According to Texas Parks and Wildlife's Ecological Mapping Systems of Texas, the project area contains 33 unique vegetation communities. The most common vegetation types within the project area include Edwards Plateau: Savanna Grassland, Edwards Plateau: Oak – Hardwood Motte and Woodland, Edwards Plateau: Deciduous Oak / Evergreen Motte and Woodland, and Edwards Plateau: Live Oak Motte and Woodland.

Water Resources

- The project area lies within the Trinity Aquifer and near the regional divide between the Brazos River Basin and the Colorado River Basin.
- This hydrologic setting supports a variety of surface water features that may meet the criteria for jurisdictional Waters of the United States under the Clean Water Act.
- A total of 224 linear features were identified within the proposed project ROW plus a 200-foot buffer, representing approximately 21.51 linear miles. Thirty-eight (38) features, totaling 4.06 mi, correspond with named water—such as Sulphur Creek, Mesquite Creek, North Mesquite Creek, Denson Branch, Allen Branch, Russell Fork San Gabriel River, and North Fork San Gabriel River—with downstream connections to the Brazos or Colorado Rivers.
- A total of 52 wetland and pond features were identified, comprising approximately 14.10 acres.
- These named streams—the North Fork and Russell Fork San Gabriel River, Sulphur Creek, Mesquite Creek, North Mesquite Creek, Denson Branch, and Allen Branch—are hydrologically connected to downstream traditional navigable waters via the San Gabriel and Little Rivers.
- The North Fork is a perennial stream monitored by USGS and contributes to the Lake Georgetown public water supply. These tributaries may receive spring-fed baseflow and support aquatic habitat and water quality functions typical of streams underlain by limestone and associated with the Trinity Aquifer system.
- The project alignment spans Burnet and Lampasas Counties, each of which falls under the jurisdiction of a local Groundwater Conservation District authorized by Texas Water Development Board.
- Within a 5-mile radius, 183 groundwater wells are recorded, including domestic (80), public supply (23), stock (18), irrigation (7), industrial (3), recreational (1), and medicinal (1) wells.

Protected Species

- The project area contains a variety of different terrestrial and aquatic habitats that may provide habitat for both federally and state-protected species and species considered to be of greatest conservation need within Burnet and Lampasas counties.
- Within and adjacent to the proposed project ROW, a desktop review indicated that potential habitat exists for the federally endangered Golden-cheeked Warbler (*Setophaga chrysoparia*) as well as the monarch butterfly (*Danaus plexippus*) and tri-colored bat (*Perimyotis subflavus*), both federally proposed threatened and endangered species, respectively.
- Per the Duarte et al. (2013) desktop model of Golden-cheeked Warbler habitat, approximately 940 acres of suitable habitat exists within and adjacent to the project area that includes the necessary vegetative species composition, canopy coverage, vegetation height, and woodland habitat size to support breeding habitat for the warbler.

**SUMMARY OF LIMITED DESKTOP ENVIRONMENTAL
CONSTRAINTS ANALYSIS (Continued)**

Protected Species (continued)

- Approximately 520 acres of the project ROW, where new ROW is proposed, falls within the Whooping Crane (*Grus americana*) flyway, or migration corridor. Whooping cranes are a federally endangered species and continue to face threats from alteration and destruction of habitat - including migratory habitat - from wetland drainage, increased development and conversion of habitat to other land uses.
- The entire project ROW falls within the tri-colored bat Area of Interest, Zone 1, defined as the portion of their range where they are active year-round.
- Texas Natural Diversity Database records within 5 miles of the alignment consist of four Species of Greatest Conservation Need (SGCN): Guadalupe bass (*Micropterus treculii*), slender glass lizard (*Ophisaurus attenuates*), and sycamore-leaf snowbell (*Styrax platanifolius* ssp. *Platanifolius*).
- Four freshwater mussel SGCNs may also have habitat in Sulfer Creek within or adjacent to the project ROW: Louisiana Fatmucket (*Lampsilis hydiana*), Mapleleaf (*Quadrula quadrula*), Pimpleback (*Cyclonaias pustulosa*), Pistolgrip (*Tritogonia verrucosa*), Tampico Pearlymussel (*Cyrtoneaias tampicoensis*).
- Suitable habitat may also be present for four state-listed threatened species including the white-faced ibis (*Plegadis chihi*), zone-tailed hawk (*Buteo albonotatus*), rock quillwort (*Isoetes lithophila*), and Texas horned lizard (*Phrynosoma cornutum*).

Cultural and Historical

- Thomas Lafayette Thornal cemetery lies directly adjacent to the preferred alignment approximately 1,120 feet south of where it crosses E US Hwy 190.
- Archaeological site 41BT443, which is described as a slave cemetery with standing headstones, is located 1,200 feet north of the preferred alignment and 3,375 ft (0.6 miles) northeast of the intersection US 183 and CR 228.
- Examination of the soils and the historic aerials of the project area show there is a likelihood for further prehistoric and historic resources, particularly in the uplands overlooking the creeks and waterways that crisscross the project location.

Environmental Justice

- Demographic indicators reveal that many of the tracts intersected or adjacent to the proposed alignment are home to populations with elevated health-related vulnerabilities. Advanced age and disability status are particularly prevalent.
- In Burnet County, over 22 percent of residents are aged 65 or older, while in Lampasas County, this age group accounts for more than 20 percent of the population—both well above the Texas and national averages of 13.8 and 16.4 percent, respectively.
- Disability rates present a similarly concerning trend. Burnet County's overall disability rate is 16.7 percent, while Lampasas County is higher at 23.8 percent. In some tracts, such as 9503.02 and 9504, disability rates exceed 21 percent, significantly surpassing the national average of 12.7 percent.
- These populations are more likely to experience adverse effects from rail-related impacts, particularly diesel particulate emissions, which can worsen respiratory and cardiovascular conditions, and chronic noise exposure, which has been linked to stress, cognitive decline, and sleep disruption.
- The rural character of Burnet and Lampasas Counties means that many communities rely on a small number of roadways to access healthcare facilities, grocery stores, pharmacies, and emergency services. For residents with limited mobility due to age or disability, even minor disruptions can have disproportionate consequences.
- Active rail traffic could result in ongoing crossing delays, prolonged wait times, or reduced connectivity in areas with limited alternate routes. These factors increase the likelihood that residents may experience difficulty reaching essential services and point to the need for well-planned detours, public communication, and emergency access planning.
- Median household incomes in both counties vary widely by census tract. In Burnet County, although the countywide median income is over \$77,000, income from some tracts is \$25,402—less than one-third that amount. In Lampasas County, one tract reports a median income of only \$34,015, well below the national average of \$74,755.
- Employment rates reflect similar disparities. Burnet County's average is 57 percent, but some tracts fall well below that threshold, with as little as 36 percent.
- The intersection of multiple stressors—low income, high disability rates, advanced age, limited education, and low employment—creates cumulative burdens that amplify vulnerability. These overlapping challenges mean that even modest environmental or economic disruptions may have outsized effects on daily life and long-term community stability.

The Zara report findings summarized above show that the Project exceeds the thresholds for requiring preparation of an EIS in terms of existence of land use, biological resources, water, and other environmental and cultural resources impacts.

a. The Proposed Rail Line Would Not Be Constructed Over Any Existing “Right of Way” That Might Mitigate the Environmental Impacts

Texas Materials also suggests that the environmental impacts are small “because it intends to simply reinstate service over a large segment of the existing railroad corridor outside the populated areas of the two cities, and it will construct new tracks on either end that will bypass the two cities in order to minimize the impacts associated with construction and subsequent operations.” EI-33642, at 2. This claim is repeated in its purpose and need statement (EI-33686, at 1) (asserting that Texas Materials will “reconstruct[]” track on an “existing right of way”), and in OEA’s Initial Notice (EO-4000, at 1) (stating that the Project “would involve the reconstruction of track on the right-of-way of a previously abandoned rail line”). This blatant misstatement of the involved property improperly downplays the potential environmental impacts and misleads the public and the consulting parties as to the true potential impacts of the project.

As OEA recognizes in its Initial Notice, a portion of the property over which Texas Materials seeks to construct its rail line was used long ago by the Texas & New Orleans Railway for rail service, but the line was abandoned well over seven decades ago. *Tex. & New Orleans Ry. Abandonment*, 282 I.C.C. 1 (1951). Once abandonment of a rail line is consummated, as here, Board jurisdiction over the line ends. *Hayfield N. R.R. v. Chi. & N.W. Transp. Co.*, 467 U.S. 622, 633-34 (1984) (consummation of abandonment terminates the agency’s jurisdiction); *Baros v. Tex. Mexican Ry.*, 400 F.3d 228, 234 (5th Cir. 2005) (“Once a rail carrier abandons a line, the line is no longer part of the national transportation system, and the [Board’s] jurisdiction terminates.”).

Importantly, once abandoned, a rail right-of-way reverts to being normal real property. *E.g., Union Pac. R.R. Co. - Petition for Declaratory Order - Rehabilitation of Missouri-Kansas-Tex. R.R. Between Jude and Ogden Junction, TX*, 3 S.T.B. 646, 652 (1998); *Wisconsin Cent. Ltd. v. STB*, 112 F.3d 881, 888 (7th Cir. 1997). As the Supreme Court observed in *Hayfield*, the abandoned line becomes no different than any other real estate. 467 U.S. at 633-34. Also, as even Texas Materials admits, the track and ties were long ago removed. EI-33686, at 1; EI-33642, at 2. With the removal of ties and track removed, most of the land involved has long been restored back to its natural habitat and reclaimed by nature. The dense vegetation growth and natural habitat covering substantial portions of the property contributes to the ecology and native ecosystems of the region.

The inaccurate characterization of the property proposed to be used for the Project appears intended to mislead OEA and consulting parties as to the scope and nature of the

possible impacts, so that the environmental and historical reviews will be limited solely to the existing “right of way” and thereby minimize the Project’s impacts on affected property and cultural resources. However, for Project environmental review purposes, the property must be treated like any other real estate. The erroneous suggestion by Applicant, repeated by OEA in its Initial Notice, that this is “right of way” property where track is being “reconstructed,” is a misstatement that is misleading and prejudicial to the environmental review process and the ability of the consulting parties to fully understand the Project, its scope, and potential impacts.

Texas Materials compounds this misrepresentation with its erroneous statement that “the tracks and right-of-way making up the abandoned rail corridor were acquired by a third-party **that sold the right-of-way to Texas Materials in 2024** (all of the tracks and ties had been removed prior to the sale).” EI-33642, at 2 (emphasis added). In point of fact, Texas Materials did not purchase all of the former railroad property as it suggests. County property records indicate that in February 2024 Texas Materials obtained a portion of the former railroad property (approximately 23 parcels), but those parcels comprise only a fraction (+/- 9 miles) of the Project’s proposed 27-28 mile route. Contrary to Applicant’s representation, much of the involved property had already been acquired by neighboring landowners and fenced into the larger acreages. Texas Materials’ effort to constrict the scope of the environmental review on the grounds that it has already acquired the property under such circumstances puts the cart before the horse and cannot suffice to relieve the Board of its obligations under NEPA or Section 106, or otherwise limit the scope of the required environmental/cultural resources review.

3. The Highly Controversial Nature of the Proposed Project Requires an EIS

The Council of Environmental Quality’s regulations, at 40 C.F.R. § 1508.27(4), measure “significant” impacts for NEPA review purposes based on, among other things, “[t]he degree to which the effects on the quality of human environment are likely to be highly controversial.” *Id.* Many dozens of regional and local affected citizens and public officials have already weighed in on the Project with OEA through opposition filings that constitute substantial evidence and testimony, even at this early stage, of the adverse environmental impacts.

The highly controversial nature of Texas Materials’ proposed Project alone necessitates preparation of an EIS. *Southwest Gulf R.R. – Construction and Operation Exemption – Medina County, TX*, FD 34284; *Holrail LLC – Construction and Operation Exemption – In Orangeburg and Dorchester Counties, SC*, FD 34221.

B. A Full Cultural Resources Investigation Is Required to Assess The Impacts of the Proposed Project on Historic Properties and other Cultural Resources

Section 106 of NHPA requires federal agencies with federal licensing or funding roles to consider the effects of their actions on historic properties. As OEA recognizes in its Initial Notice, Section 106 applies when the Board considers whether to grant permission to construct and operate a rail line. CCTEP's preliminary environmental constraints analysis, summarized above, shows that the proposed Project has at least the potential to cause significant adverse effects to historic properties, cemeteries, archaeological sites, and other prehistoric and historic resources.

CCTEP requests that appropriate historic review be undertaken of the proposed Project, including the following:

- (1) The Board should request the Advisory Council on Historic Preservation ("ACHP") to participate in the Section 106 process, in consultation with the Texas Historical Commission, which serves as the State Historic Preservation officer ("SHPO") for Section 106;
- (2) The Board should hire an appropriate and qualified third-party contractor, separate from its contractor for NEPA review, to assist in undertaking a cultural resources investigation to identify historic properties and other culture resources that could potentially be affected by the proposed Project;
- (3) In consultation with the ACHP and SHPO, OEA should identify parties that may be interested in participating in the Section 106 process;
- (4) In consultation with the ACHP and SHPO, OEA should determine the extent of the Area of Potential Effects ("APE") and issued a report delineating the APE;
- (5) OEA and its third-party contractor should undertake a cultural resources investigation to identify historic properties and other cultural resources that could potentially be affected by the proposed Project, hold meetings at the local level to discuss the Section 106 process with consulting parties, update the consulting parties on the status of the investigation, and receive comments on the methodology of preliminary results;
- (6) OEA should issue findings regarding the presence and historic significance of historic properties and cultural resources located within the APE for the Project, in a detailed Cultural Resources Identification Report ("CRIR"), and as part of the Report, develop an appropriate archaeological/architectural survey, including assessing the probability for undocumented archaeological resources and the architectural resources of sufficient architectural and/or historical importance to make them eligible or potentially eligible for listing in the National Register;

- (7) Following the opportunity for the public to submit comments on the CRIR, OEA should issue a report addressing the comments received and report OEA's findings regarding the potential effects of the Project on all identified cultural resources; and
- (8) OEA should continue to consult with the parties to develop a plan for resolving adverse effects to historic properties.

C. OEA Should Take Additional Actions When Initiating Its Environmental Review

1. New Consultation Letters Should be Sent Prior to OEA Publishing the Notice of Intent to Prepare an EIS

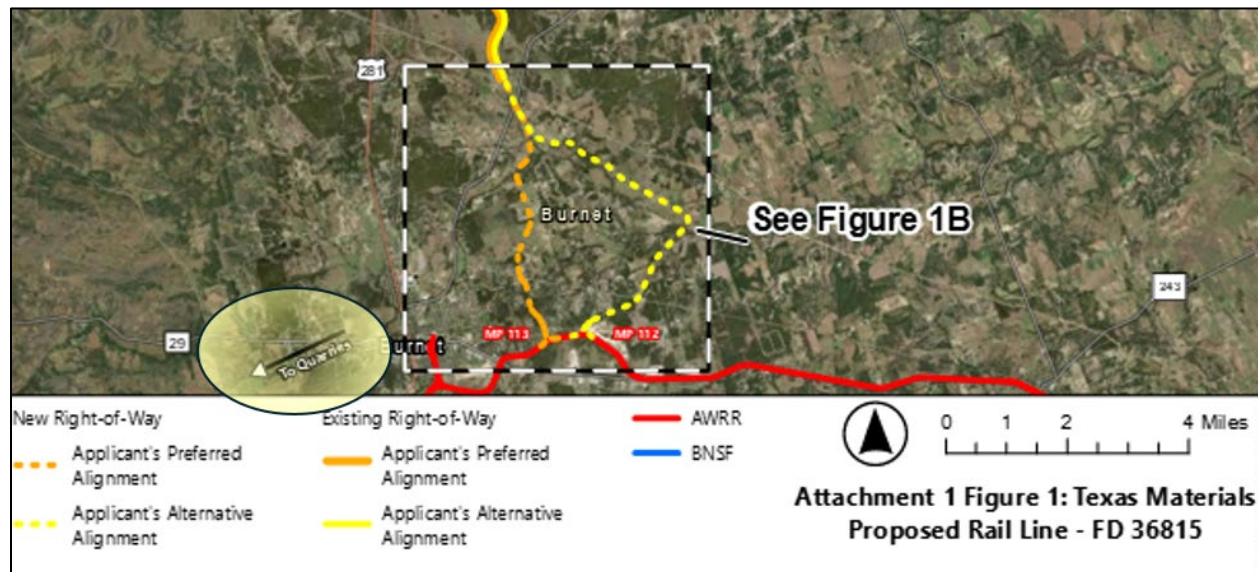
Because OEA's Initial Notice did not include a complete and accurate description for the Project, a new complete and accurate description should be prepared and Notice sent that may also prompt additional parties to participate in the environmental review process.

a. The Project Description Was Incomplete and Misleading and the Initial Notice Should Be Revised and Resent

As discussed above, the Initial Notice mischaracterized the Project, likely due to the inaccurate Project information Texas Materials provided to OEA. Specifically, the Initial Notice referenced "reconstruction of track on the right-of-way." That description falsely states that the proposed Project would be built on already existing railroad right of way. Instead, the involved property is simply real property, owned largely by neighboring landowners, that has long been restored back to its natural habitat. Again, the erroneous suggestion by Texas Materials, repeated by OEA in its Initial Notice, that this is "right of way" property where track being "reconstructed," is misleading and prejudices the ability of the consulting parties and the public to fully understand the Project, and its scope and potential impacts.

The erroneous Initial Notice has already created misunderstanding and harm to the environmental review process as evidenced by the initial comments submitted to OEA by the Texas SHPO that, based on this misunderstanding of the underlying property, initially requests that a portion of the environmental review be "limited to the existing right of way." EI-33831, at 1. Again, the putative "existing right of way" no longer exists, and the harm caused by the erroneous Initial Notice property description can only hope to be undone by issuing a revised new Notice of Intent that fully addresses and corrects this error.

The Initial Notice also failed to accurately describe the project. In particular, the accompanying map is deficient. Only the general direction of the service point(s) of the quarry locations involved are identified by OEA in its Notice, highlighted in the yellow circle below:



It is unclear why Texas Materials and OEA in its Initial Notice have obscured the rail served locations of each of four quarries Texas Materials and the fact that the proposed Rail Lines would not serve Texas Materials directly. Even OEA appears misled and confused. In OEA's November 1, 2024 letter to Texas Materials Counsel, OEA stated that "the proposed rail line would serve four active quarries and would be operated by a newly-created rail carrier affiliated with Texas Materials or by an existing railroad." That is obviously not accurate, and the Notice does not correct this error, or adequately reflect and inform the public and consulting parties of the nature of the project (apparently to provide indirect service), the location of the involved Texas Materials' quarries, or Texas Materials' actual service needs and plans. The Notice is defective due to this failure and requires revision.

The omissions and misstatements in the Initial Notice significantly minimize the Project's scope and its potential impacts, and the purpose and nature of the project, and for these reasons alone, new consultation letters should be prepared and distributed, and an additional comment period should be allowed before OEA initiates its environmental review and draft Scope of Study.

2. An Adequate Statement of Purpose and Need Is Required Before OEA Commences the Environmental and Historic Reviews

OEA must evaluate the purpose and need for the project using unbiased and accurate information to assess the Project and future operations. Providing an accurate statement of purpose and need is a fundamental requirement of environmental review under NEPA. *Simmons v. U.S. Army Corps. of Eng'rs*, 120 F.3d 664, 666 (7th Cir. 1997). The agency responsible for conducting the EIS "bears the responsibility for defining at the outset the

objectives of an action” and “must look hard at the factors relevant to the definition of purpose.” *Citizens Against Burlington, Inc., v. Busey*, 938 F.2d 190, 196 (D.C. Cir. 1991).

OEA should not move forward with its environmental review unless and until it has obtained a full appreciation and understanding of the purpose and need of the project. To date, no meaningful and detailed information on Texas Materials business, its current and projected future traffic volumes, its customers, its use of intermodal alternatives (e.g., trucks), its Origin-Destination (“O-D”) pairs and anticipated O-D pairs, has been provided. Without an adequate assessment of the purpose and need for the Project, efforts to assess potential routings, operations, and impacts will be compromised. Additionally, the environmental review will also be compromised without an adequate description and documentation of any supposed failures or inadequacies of Texas Materials’ current common carrier providers of rail transportation (AWRR and CapMetro), to meet its service requirements.

OEA cannot begin to take the required “hard look” at alternatives and balance costs and benefits of the project as it considers the public interest without first establishing the extent to which the Project as proposed serves some legitimate need. In particular, the failure to adequately assess purpose and need will likely lead to an erroneous summary dismissal of the suitability of the “no action” alternative without justification.

Here, the “no action” alternative is actually a full “action” alternative, and in fact, likely a preferred alternative. As explained above, CapMetro and AWRR, the owner and operator of the AWRR Lines that currently serve Texas Materials, have fundamental and preexisting obligations to meet the current and future reasonable service requirements of Texas Materials. Texas Materials appears to have more than adequate competitive rail service to meet its service needs. Also, AWRR and CapMetro already have common carrier obligations to ensure that all of Texas Materials’ service needs, now and in the future, are reasonably met, and Texas Materials has apparently taken no action before the Board, formally or informally, to seek assistance on any service deficiencies.

Because of these unique circumstances, closely evaluating and referencing this fact in the Initial Notice is a necessary step in evaluating the environmental effects of the Project and alternative Project options/routings and imperative to understanding the potential consequences of not proceeding with the proposed Project.

3. Alternative Routes Must Be Adequately Addressed

As discussed above, a central problem with Texas Materials’ proposed routings is that it assumes that a substantial center portion of the proposed routing should be fixed in place, based on the above-described fictitious reliance on the present existence of a railroad “right of way” over the property that, in fact, does not exist. Predetermination of this exercise of discretion violates NEPA. Performing an analysis of alternative routes based on a sham

representation of the existence of a preexisting right of way, even if the Applicant has recently purchased a limited portion of the real property, constitutes an abuse of the NEPA process and ultimately impairs OEA's ability to fully consider meaningful alternatives that would avoid or minimize environmental impacts.

OEA should also not move forward with its environmental review unless and until Texas Materials adequately demonstrates that it properly selected an appropriate routing and alternatives to avoid or minimize environmental, historic, and cultural resources impacts. Texas Materials needs to make that demonstration before the OEA can seek scoping comments on impacts and alternatives. OEA's failure to reasonably identify possible, practical, and viable routes and alternative routes in its Notice of Intent violates its obligations under NEPA. Landowners along these possible alternative routes need to be given reasonable notice and opportunity to participate in the scoping process, including comments on the preferred Project routing and alternative routings.

4. OEA Should Engage in Appropriate Public Scoping with at Least Four to Six Public Meetings

The Board's procedures require OEA to publish a Notice and scope for the EIS that includes "a description of the proposed action and a request for written comments on the scope of the EIS." 49 C.F.R. § 1105.10(a)(2). Scoping assists the agency in determining the scope, alternatives, and substantive issues, and also how the Proposal may be modified to avoid significant impacts. An incomplete or inaccurate description thwarts the purpose of the notice and comment process.

OEA should seek comments from appropriate federal, state, and local agencies, tribes, other interested stakeholders, and the public during an appropriate public scoping period, and should hold at least four (4) to six (6) public meetings in the immediate Project area, consistent with prior Board practice. *E.g., Seven Cnty. Infrastructure Coalition – Rail Constr. & Operation – in Utah, Carbon, Duchesne, & Uinta Cntys., Utah*, FD 36284 (STB served June 19, 2019), at 4. Only after those meetings, and review and consideration of all comments received, can OEA issue a Final Scope of Study of the EIS, reflecting additions and changes to the Draft Scope as a result of comments received during the scoping comment period.

Conclusion

For the reasons stated above, the CCTEP respectfully requests that OEA prepare a full EIS in this proceeding and require a full cultural resources investigation. CCTEP also requests that OEA revise and resend the initial notice/consultation letter to all agencies and parties that may be negatively affected by the Project, require Applicant to provide a more robust and accurate statement of purpose and need for the Project, require Applicant to reassess and provide a selection of an appropriate routing and alternatives and engage in

Ms. Danielle Gosselin

April 14, 2025

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appropriate public scoping with multiple public meetings in the local areas affected by the Project.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "P. Pfohl", written over a horizontal line.

Peter A. Pfohl

Robert D. Rosenberg

Attorneys for the Coalition for Central Texas
Escarpment Preservation
for the Environment

Enclosure

cc: Thomas W. Wilcox, Esq.

April 11, 2025

Re: Constraints Analysis for Proposed Quarry Train Rail Line, Lampasas and Burnet Counties

AmaTerra, ERG Texas Services (AmaTerra), has assessed the proposed redevelopment and expansion of rail line between Burnet and Lampasas, Tx for the Quarry Train project for potential impacts to cultural resources (**Figure 1**). AmaTerra has identified cultural resource constraints and, with this letter, is notifying you of the results of the analysis. The following sections identify known cultural resources within the project vicinity and assesses the potential for National Register of Historic Places (NRHP) properties and archeological resources within the project area.

Environmental Background, Archeological Background, and Previous Archeological Studies

The proposed project area is largely comprised of agricultural fields and undeveloped ranch land while crossing and paralleling multiple significant creeks and streams. Soils in the uplands of the area are generally residuum formed from the Cretaceous age Glen Rose geologic formation. Residual soils formed from ancient geologic deposits carry lower potential for buried, intact archeological sites, though archeological sites – particularly lithic sourcing and quarrying sites – are common in uplands on the Edwards Plateau. There is a greater potential for buried, intact Precontact archeological sites within the alluvial soils along the terraces adjacent to the creeks and other waterways that crisscross both the preferred and the alternative rail alignments.

Archeological background research for this project consisted of an online search through the Texas Historic Commission’s Archeological Sites Atlas (THC 2025). Research focused on the identification of archeological sites, past archeological surveys, sites listed as State Antiquities Landmarks (SALs), and cemeteries within 1 kilometer (km) of the proposed project location (**Figure 2**). The search identified three archeological sites, three previous archeological surveys and four cemeteries within the 1-km study area.

One of the three previously conducted archeological surveys overlap the proposed 1,000-foot right-of-way (ROW). The surveys were conducted for the United States Army Corps of Engineers (USACE) in 1973, the Texas Department of Transportation (TxDOT) in 1983, and the Federal Highway Administration (FHWA) in 1991. Only the USACE survey documented sites within the proposed ROW (see below). Overall, less than five percent of the proposed ROW has been previously surveyed.

Table 1. Archeological Surveys within the 1-km study area

Atlas ID	Year	Permit	Agency	Firm	Alternate Rail Alignment	Preferred Rail Alignment	Overlaps 100-ft ROW
8500006555	1996	N/A	Federal Highway Administration, TxDOT	N/A	Yes	No	No
8400005534	1977	N/A	TxDOT (TDHPT)	N/A	Yes	Yes	Yes (Both alignments)
8400005571	1977	N/A	TxDOT (TDHPT)	N/A	Yes	No	No

None of the three identified archeological sites are within or adjacent to the proposed ROW (**Table 2**). Site 41BT443 was described as a “slave cemetery” with still standing headstones. Sites 41BT95 and 41BT96 sites are precontact burnt rock middens. All sites have undetermined SAL or NRHP eligibility.

Table 2. Archeological Sites within the 1-km study area.

Site	Type	Eligibility Status	Alternate Rail Alignment	Preferred Rail Alignment	Within or Adjacent to 100-ft ROW
41BT443	Historic Cemetery	Undetermined	Yes	Yes	No
41BT96	Burnt Rock Midden	Undetermined	No	Yes	No
41BT95	Burnt Rock Midden	Undetermined	No	Yes	No

One of the four cemeteries identified within the study area is within or adjacent to the proposed ROW (**Table 3**). Thomas Lafayette Thornal Cemetery is east of the preferred rail alignment just south of US - 190.

Table 3. Cemeteries within the 1-km study area.

Cemetery	Number	Alternative Name	Alternate Rail Alignment	Preferred Rail Alignment	Within or Adjacent to 100-ft ROW
Tumlinson	BT-C040		No	Yes	No
Bailey #1	BT-C042		Yes	Yes	No
Thomas Lafayette Thornal	LM-C041	Thornal	No	Yes	Yes
Sparks	LM-C035		Yes	No	No

Historic Resources

AmaTerra investigators conducted a desktop file search of the THC Atlas and the TxDOT Historic Resources Aggregator databases to identify any known historic properties within a study area encompassing 1-km surrounding the currently proposed alignments (**Figure 2**). There are no NRHP listed or known NRHP eligible properties within the 100-ft ROW or the 1-km study area. There is one Recorded Texas Historic Landmark (RTHL) present within the study area (**Table 4**).

Two additional Official Texas Historical Markers (OTHMs) are present in the study area: Battle Branch and the Lake Victor Lodge number 1011. State historical markers do not indicate the properties rise to the level of significance needed for inclusion in the NRHP or as RTHLs but are noted as points of historical interest to the general public.

Based on an examination of historic and contemporary aerial photos, much of the development in the study area is modern (within the past three decades). Historic-age buildings (defined as those 50 years of age or older) are scarce, and several noted by AmaTerra investigators as likely being circa 1975 or older within the study area appear to be modified or have modern buildings surrounding them. No historic-age buildings appear to be within the proposed project ROW for either the preferred or alternative alignment.

Table 4: Historic Resources in the Study Area.

Resource	Designation	Alternate Rail Alignment	Preferred Rail Alignment	Address
Shade Denson House	RTHL	Yes	Yes	Unconfirmed
Battle Branch	OTHM	No	Yes	E US 190
Lake Victor Lodge No. 1011, A.F. & A.M	OTHM	No	Yes	100 Railroad Ave

Potential for Significant Cultural Resources within the Project Area

The desktop review identified multiple known resources documented within the 1-km study area, though few are within or adjacent to the proposed alignment/ROW. The lack of previously recorded archeological sites does not necessarily reflect the actual number of sites that exist along the proposed ROW. There are relatively few previously recorded Precontact archeological sites within the study area likely due to a lack of cultural resource surveys conducted along the proposed corridor. Historic maps and aerial imagery indicate a high potential for historic archeological sites to occur within or adjacent to the proposed ROW.

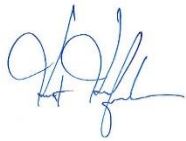
There is potential for NRHP eligible historic properties to exist adjacent to the project area. The lack of TxDOT-funded roadway projects in the survey area suggests the state has not conducted extensive surveys of the built environment. The project area is primarily rural, and while development on the north and south ends near Lampasas and Burnett is mostly modern, scattered ranches and farmsteads are extant along the proposed rail alignment. Although no buildings appear directly impacted by the proposed ROW, impacts to land considered part of an unidentified NRHP-eligible property are possible.

If you have any questions or wish to discuss this further, please feel free to contact Osbaldo Alvarez, Project Archeologist at osbaldo.alvarez@envrg.com, or Kurt Korfmacher, Architectural Historian, at kurt.korfmacher@envrg.com, or call the AmaTerra office at 512-329-0031.

Sincerely,

Osbaldo Alvarez

Osbaldo Alvarez
Project Archeologist



Kurt Korfmacher
Architectural Historian

References

Texas Department of Transportation

- 2025 *Historic Resources Aggregator*. Electronic resource, <https://txdot.maps.arcgis.com/apps/webappviewer/index.html?id=e13ba0aa78bf4548a8e98758177a8dd5>, accessed April 2025.

Texas Historical Commission (THC)

- 2025 *Texas Archeological Sites Atlas Online*. Electronic document, <http://nueces.thc.state.tx.us/>, accessed April 2025.
- 2025 *Texas Historic Sites Atlas Online*. Electronic document, <https://atlas.thc.state.tx.us/Map> (accessed April 2025).

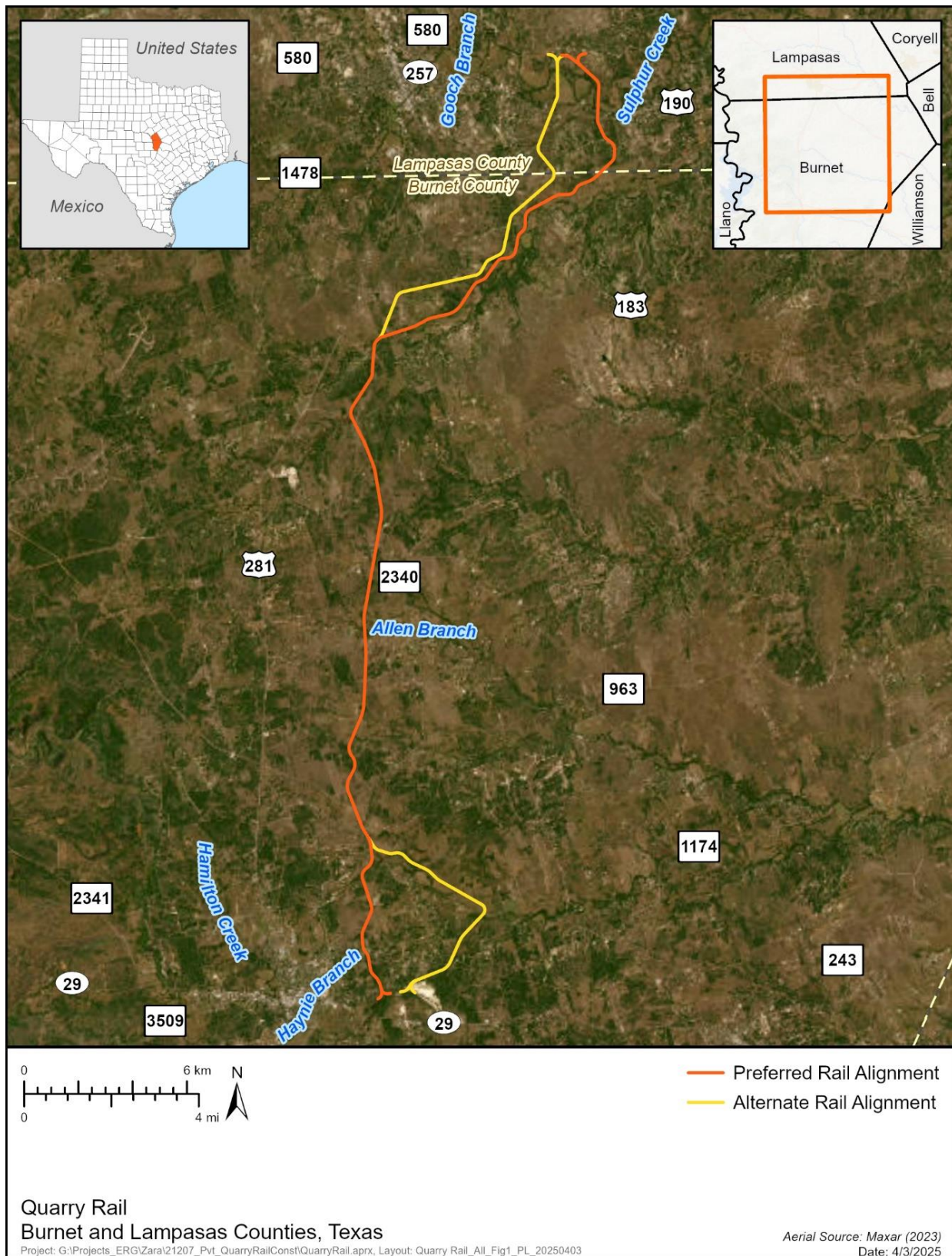


Figure 1. Project location.

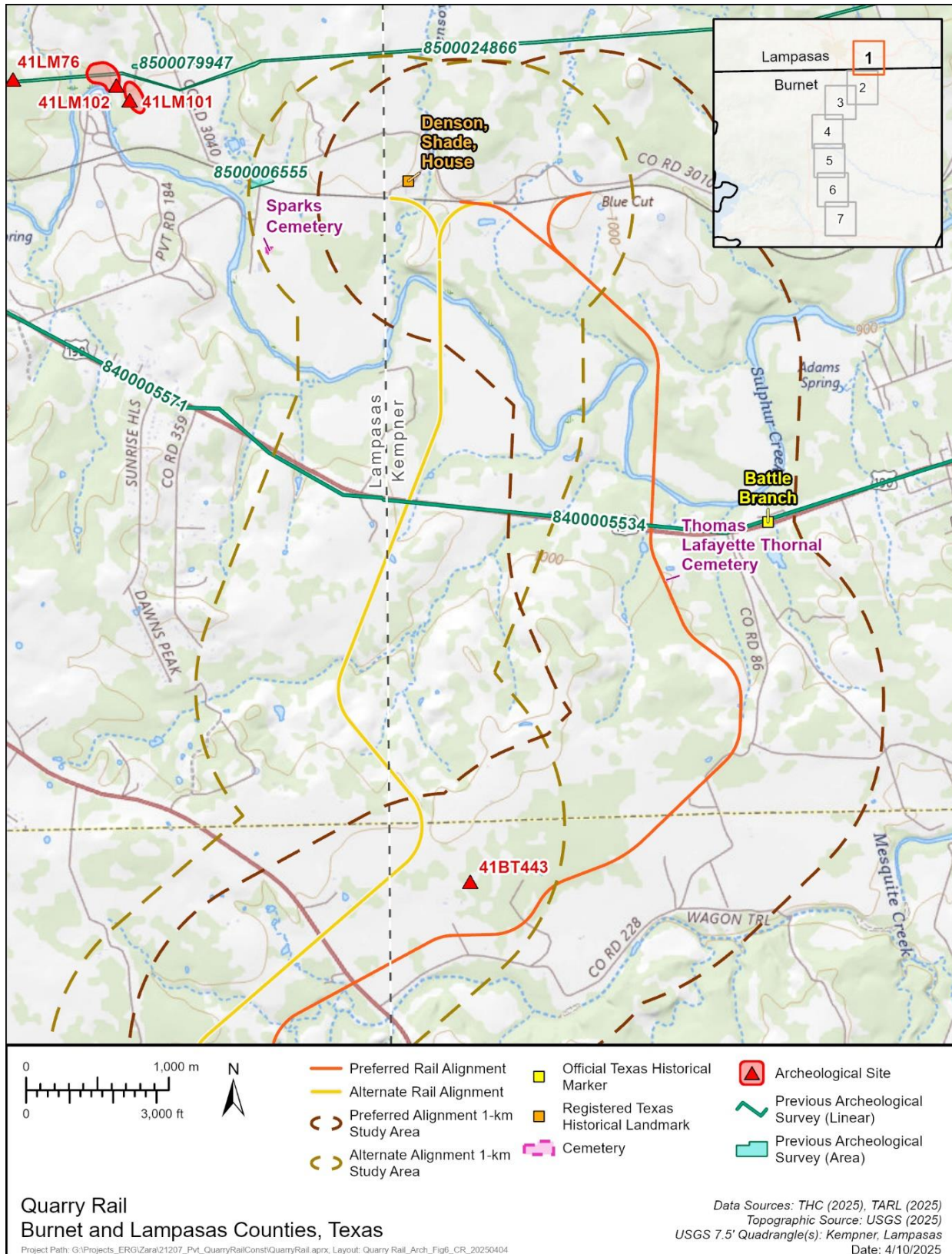


Figure 2-1. Archeological and historic resource constraints within 1-km of the proposed project.

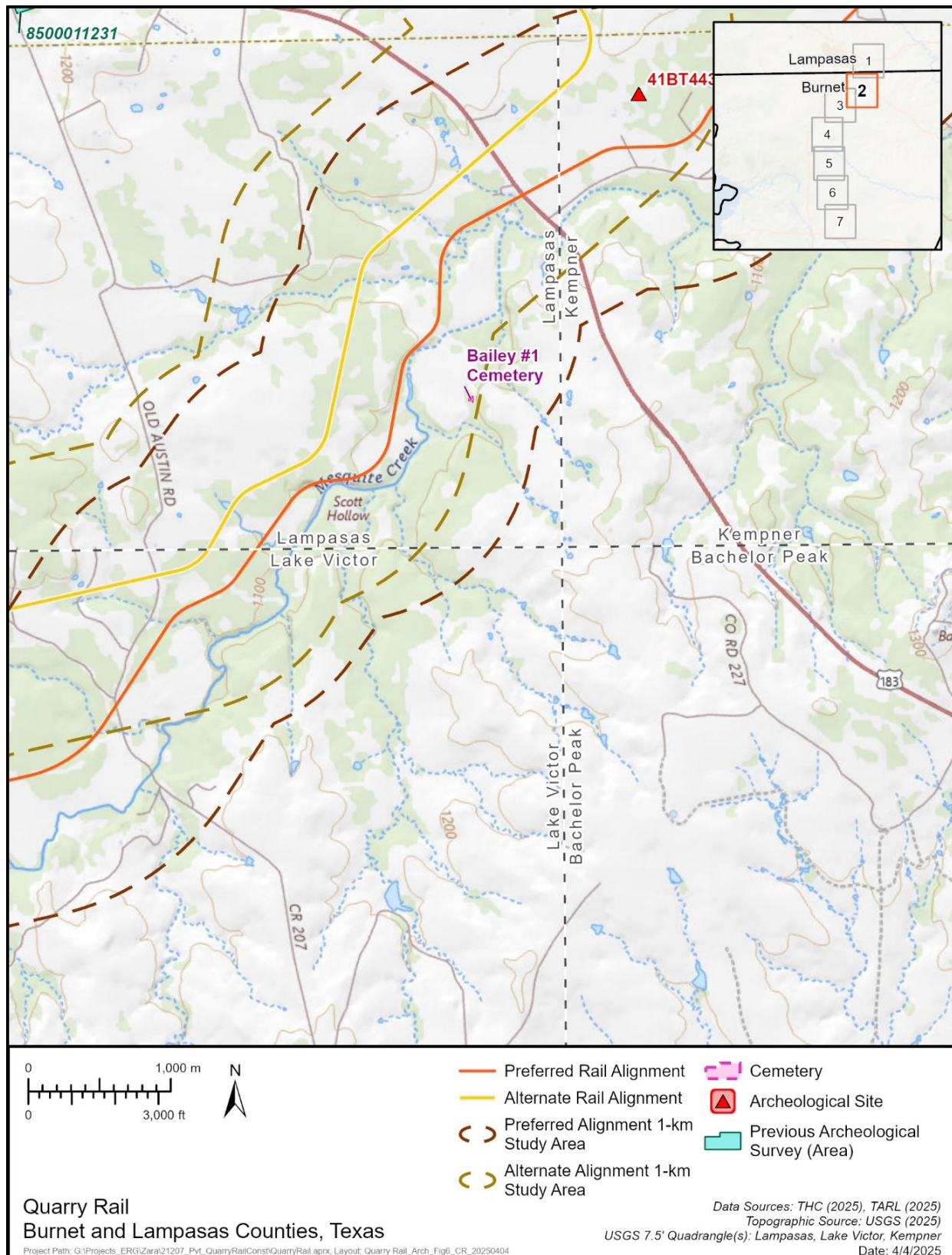


Figure 2-2. Archeological and historic resource constraints within 1-km of the proposed project.

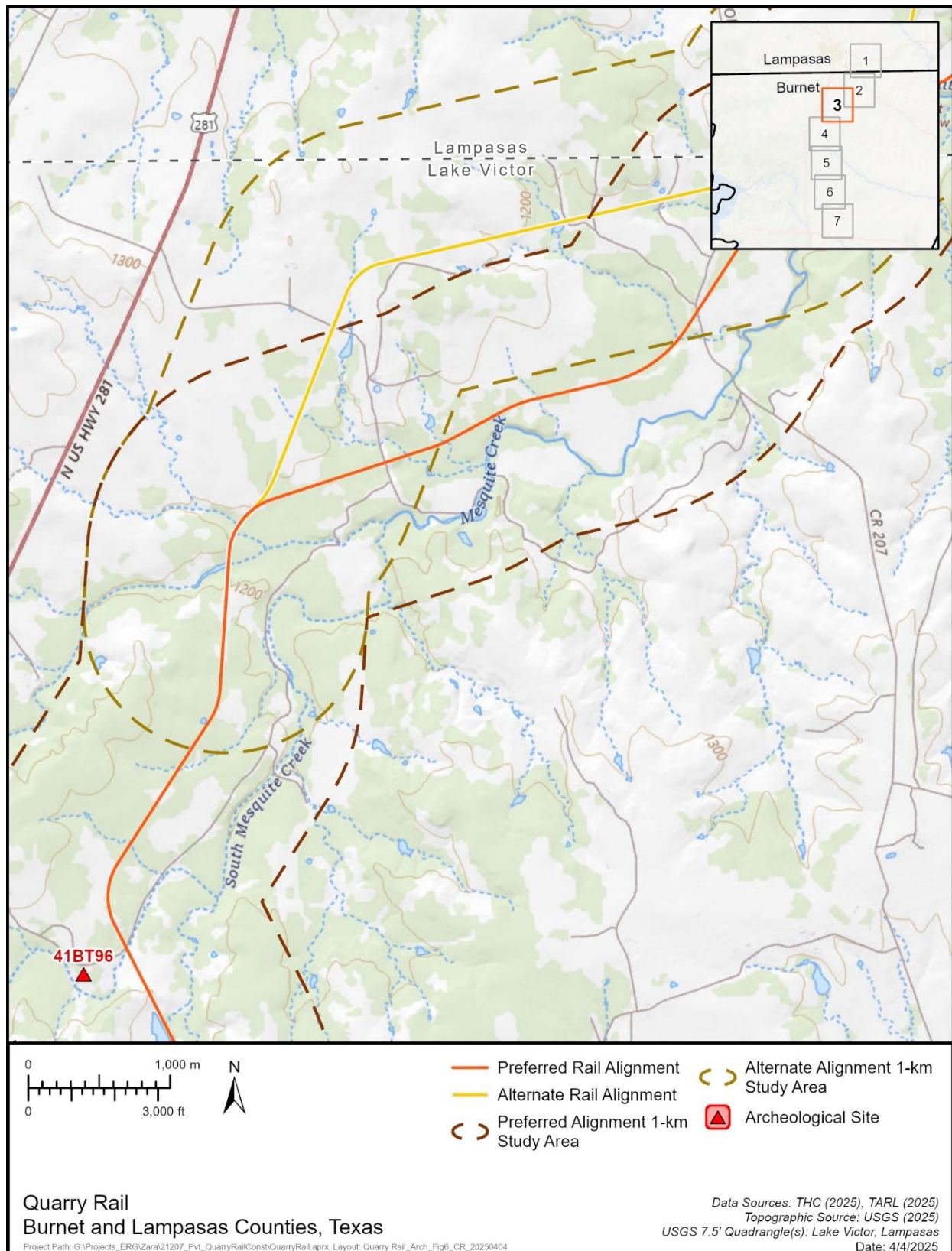


Figure 2-3. Archeological and historic resource constraints within 1-km of the proposed project.

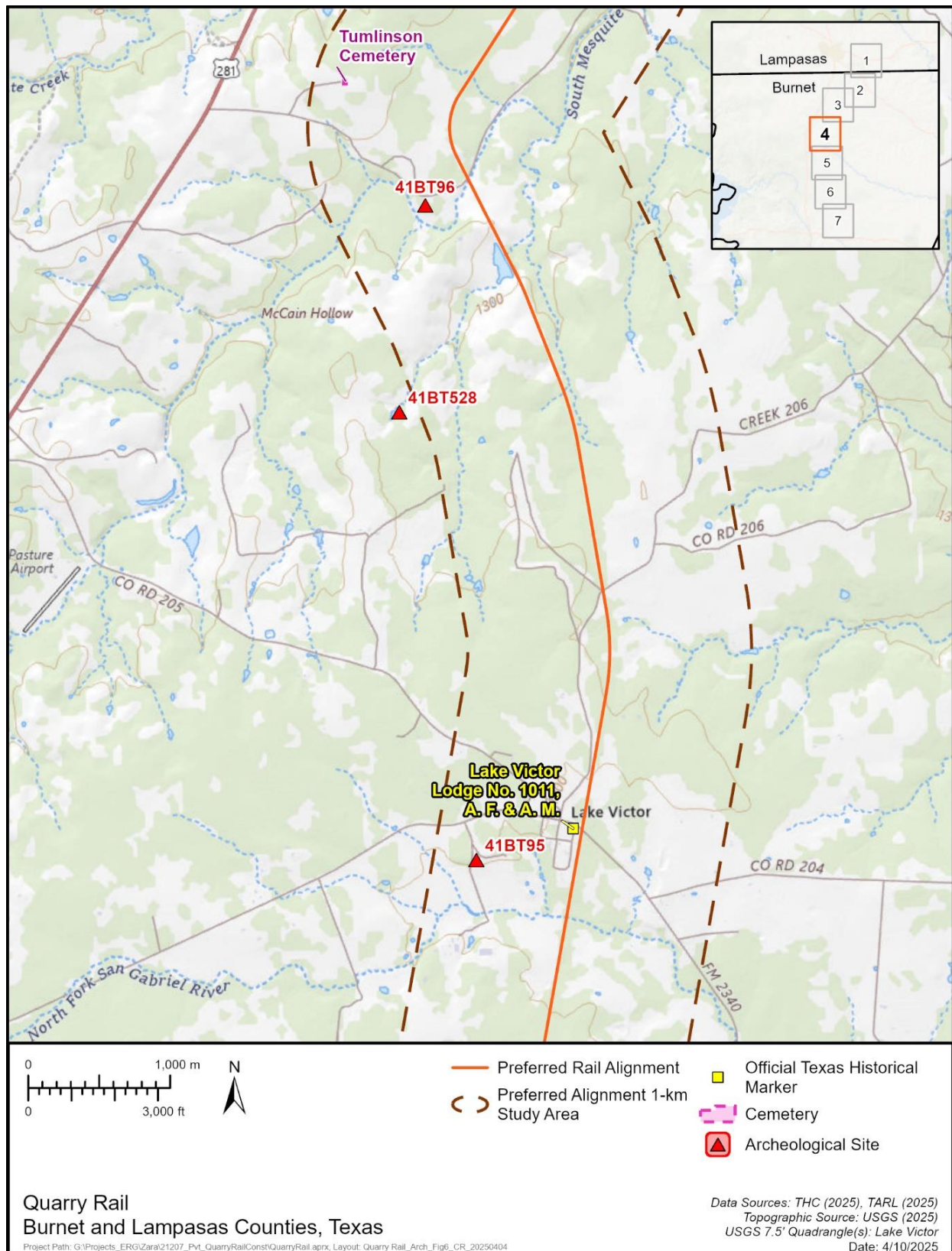


Figure 2-4. Archeological and historic resource constraints within 1-km of the proposed project.

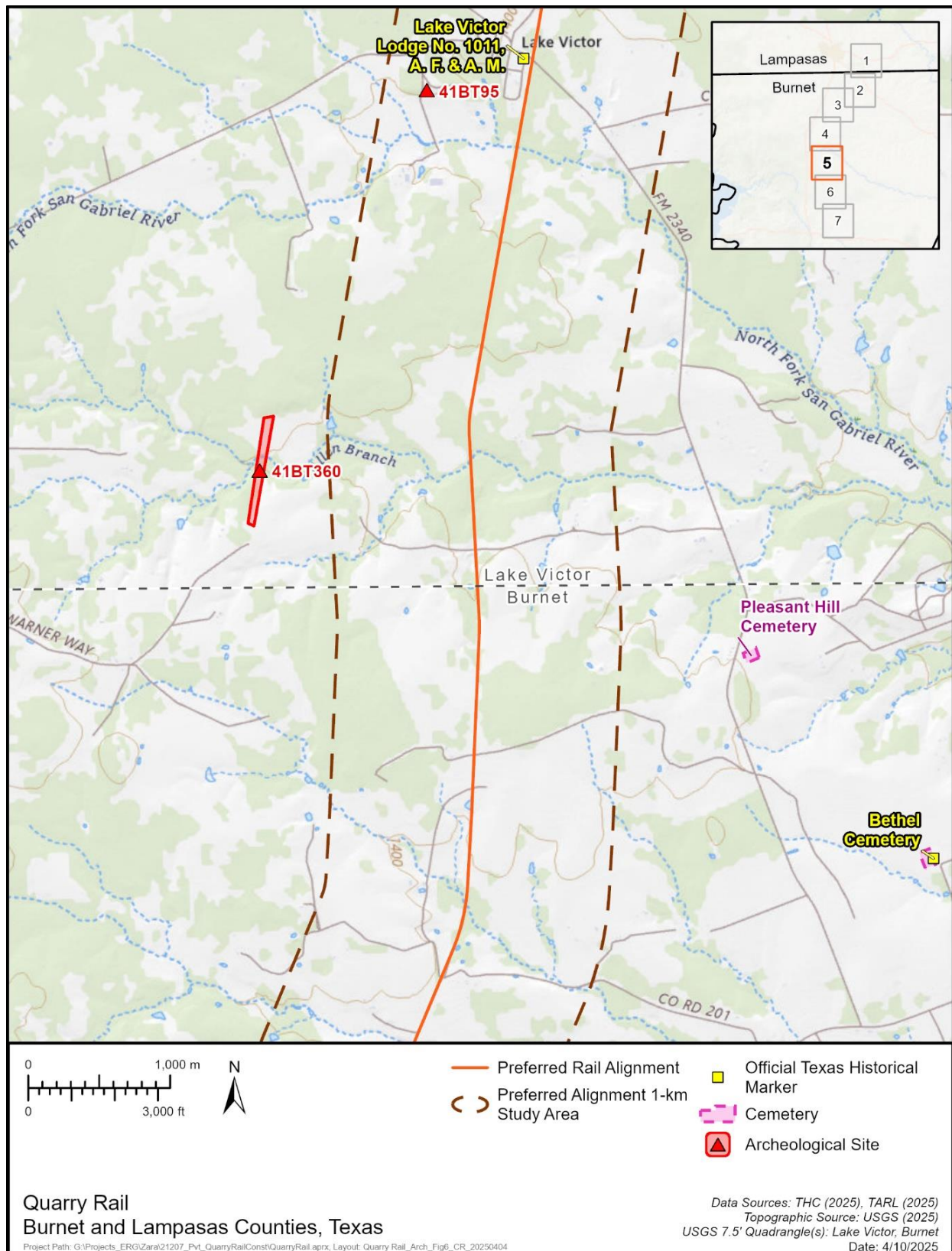


Figure 2-5. Archeological and historic resource constraints within 1-km of the proposed project.

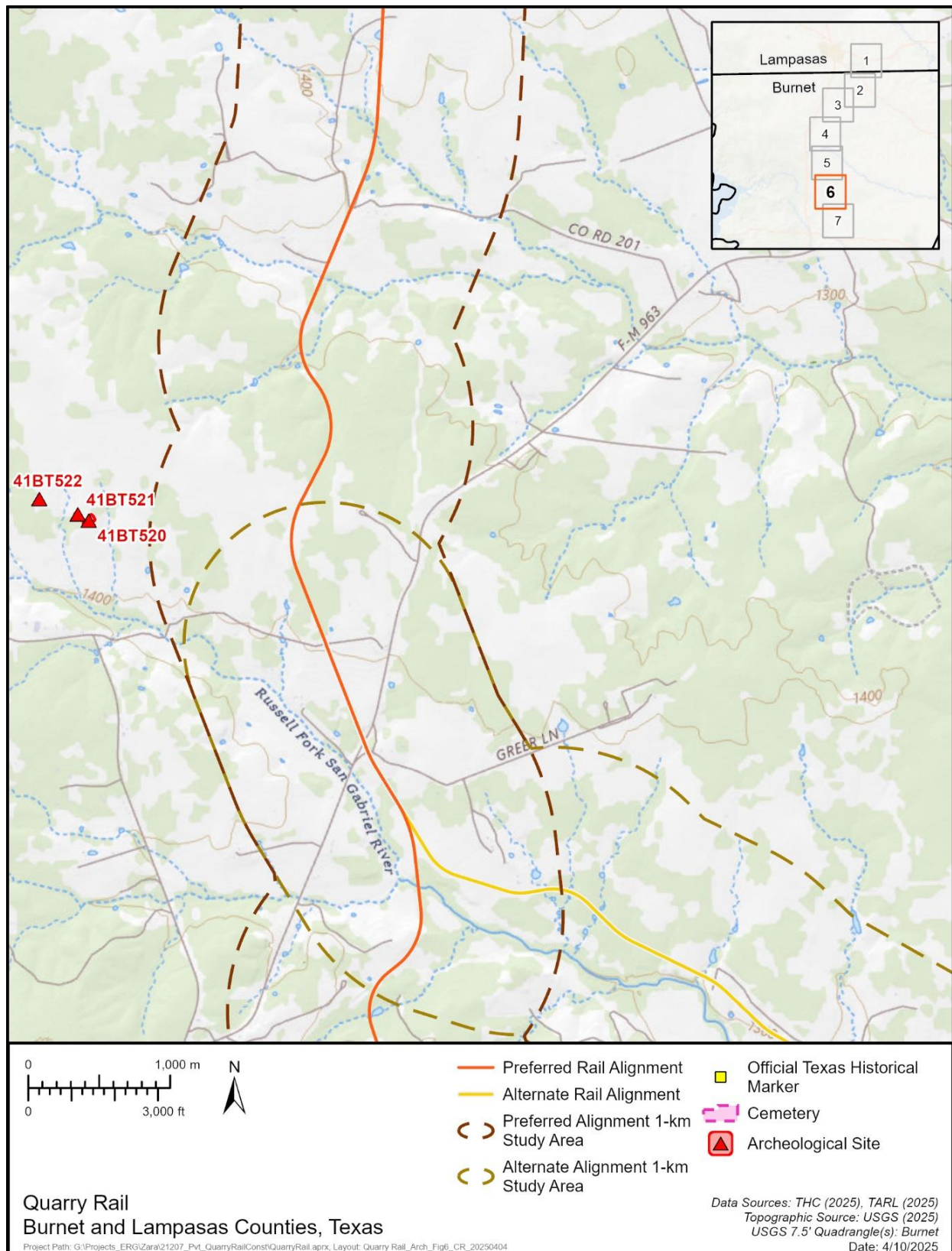


Figure 2-6. Archeological and historic resource constraints within 1-km of the proposed project.

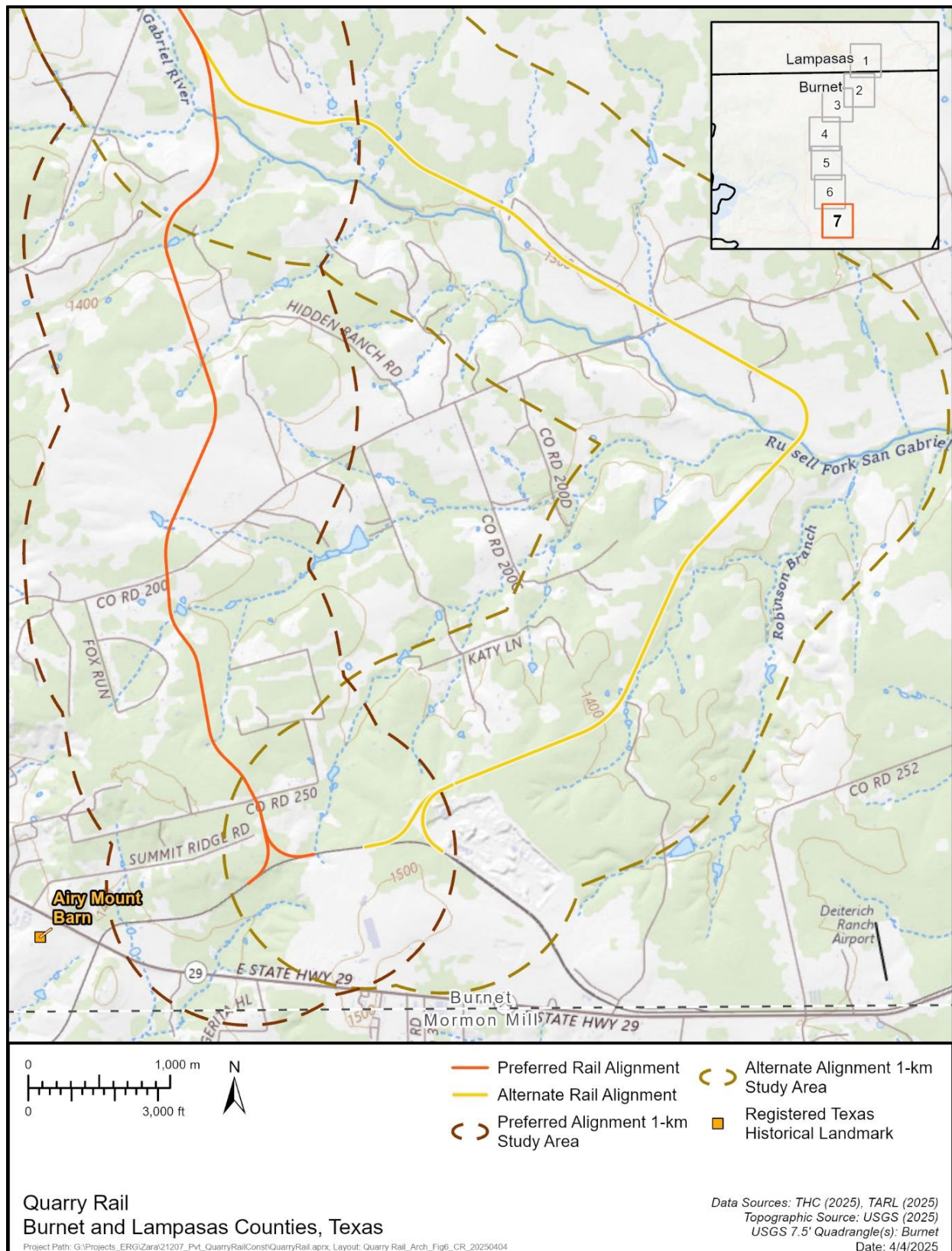


Figure 2-7. Archeological and historic resource constraints within 1-km of the proposed project.

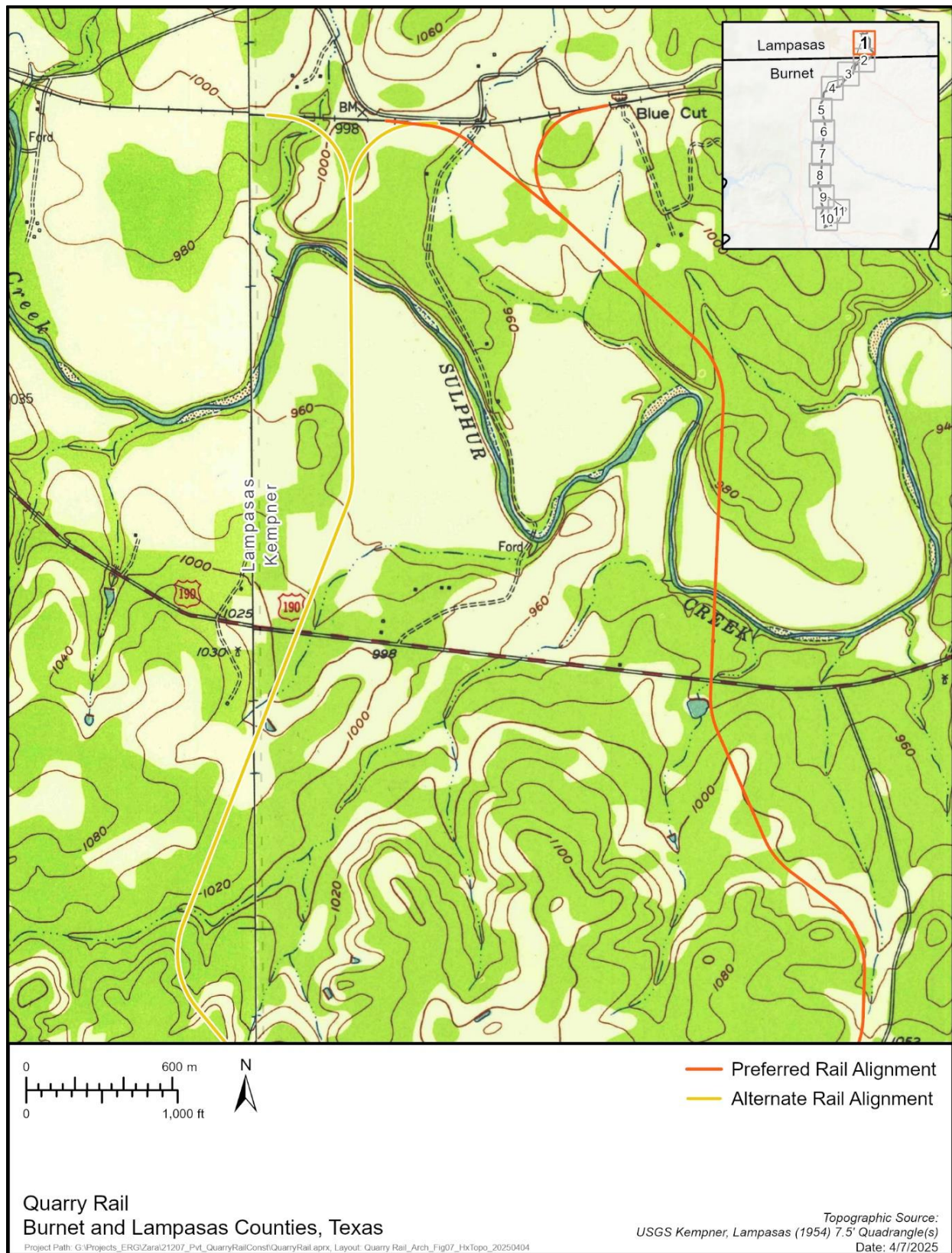


Figure 3-1. Project location on a 1954 topographic map.

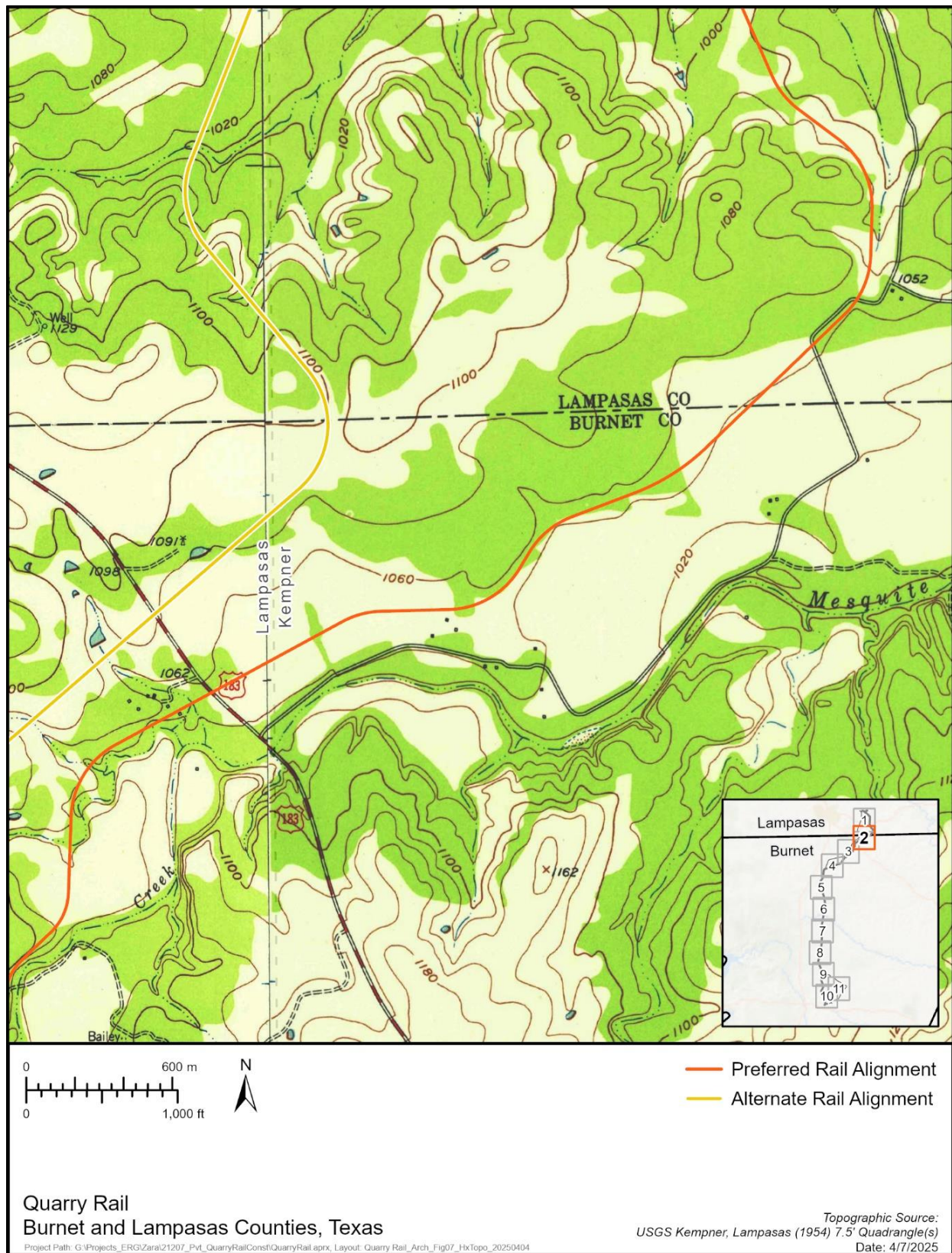


Figure 3-2. Project location on a 1954 topographic map.

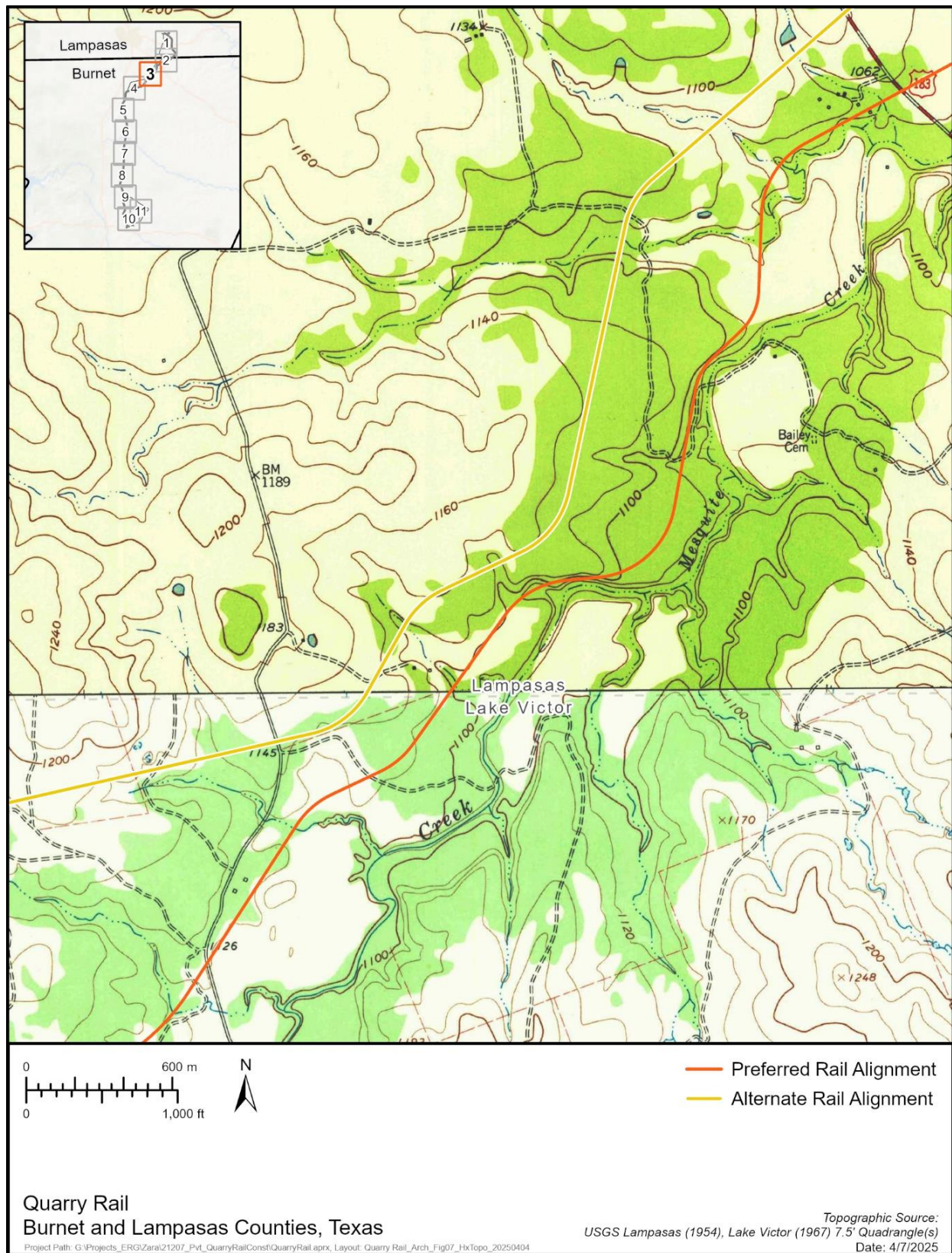


Figure 3-3. Project location on a 1954 and 1967 topographic map.

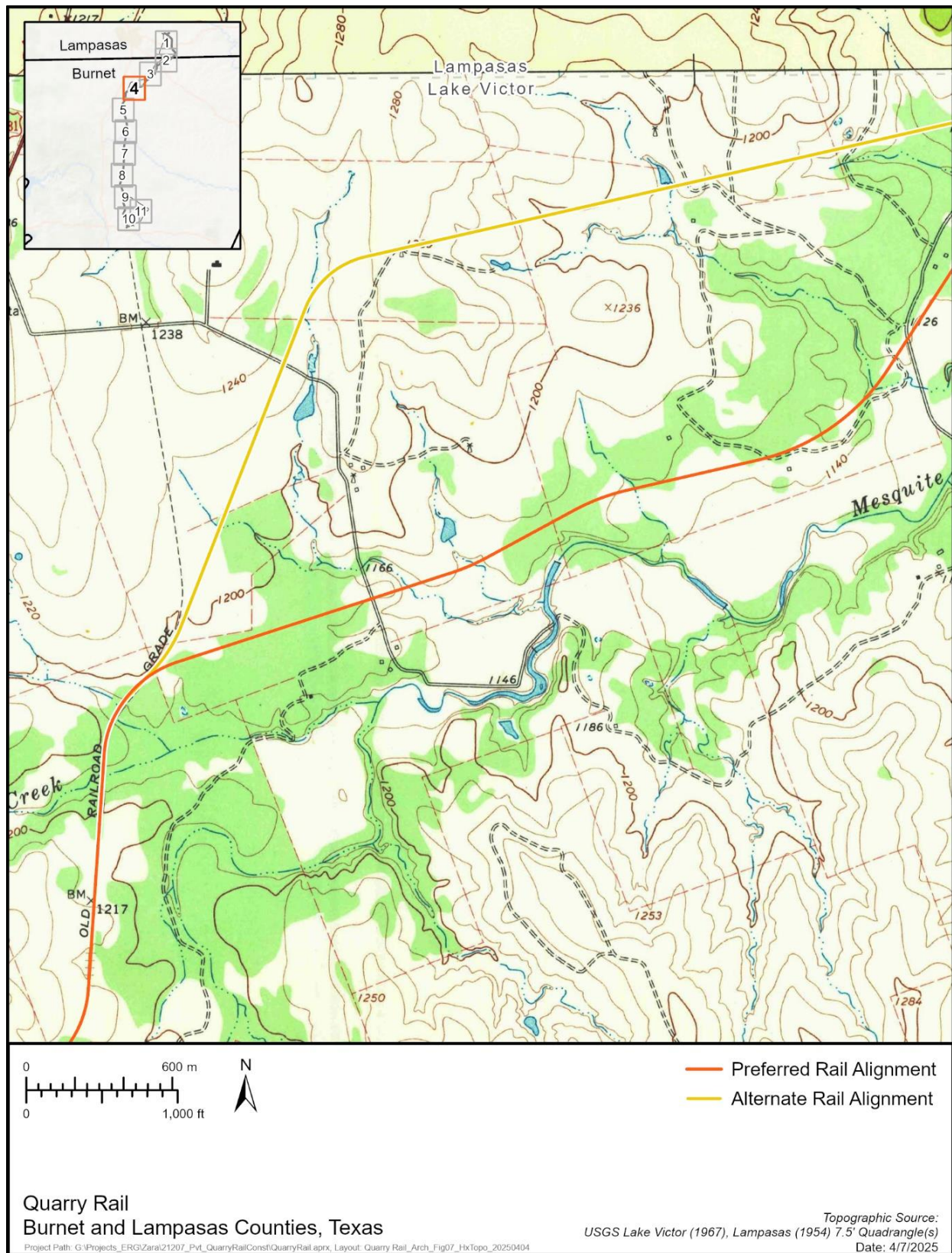


Figure 3-4. Project location on a 1954 and 1967 topographic map.

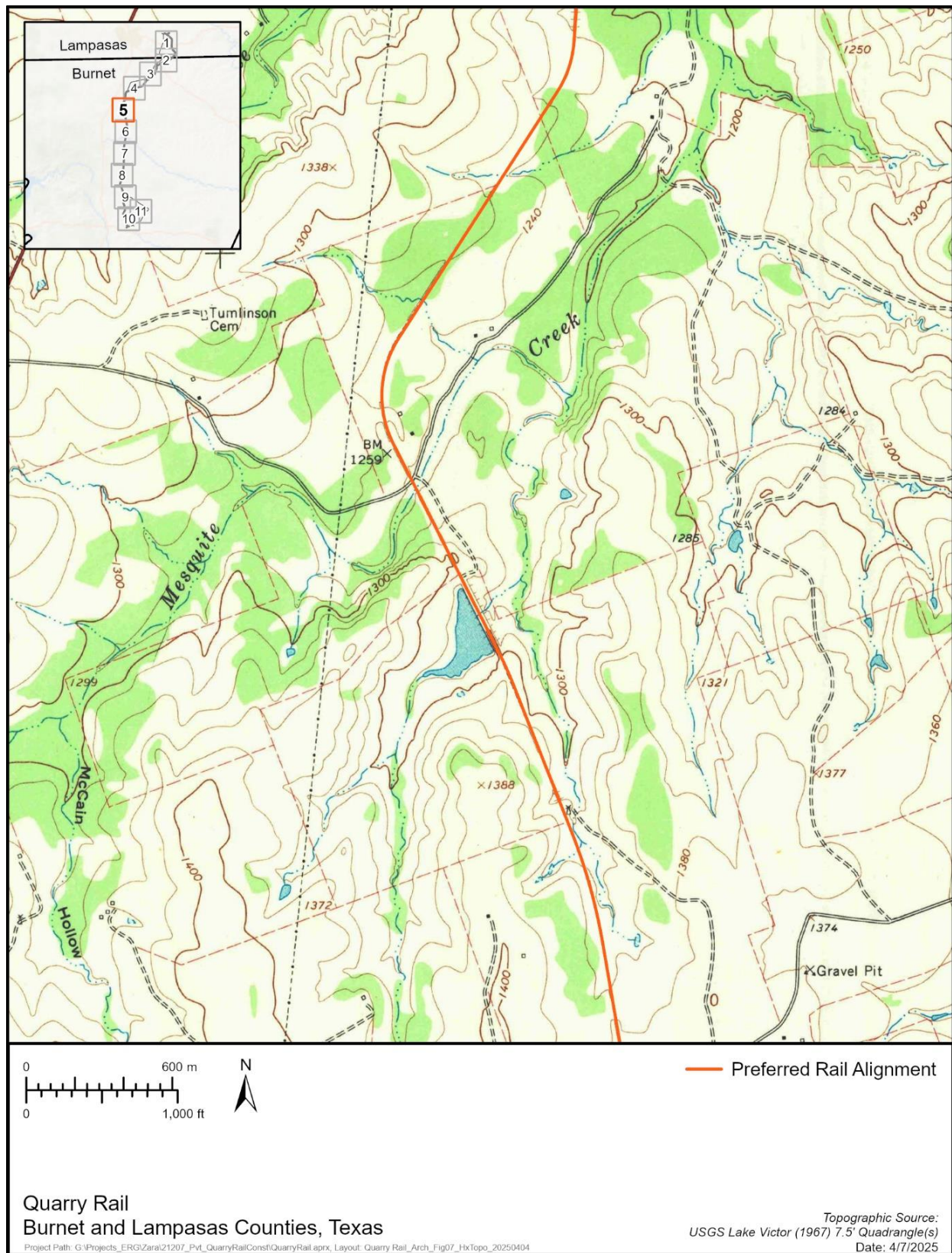


Figure 3-5. Project location on a 1967 topographic map.

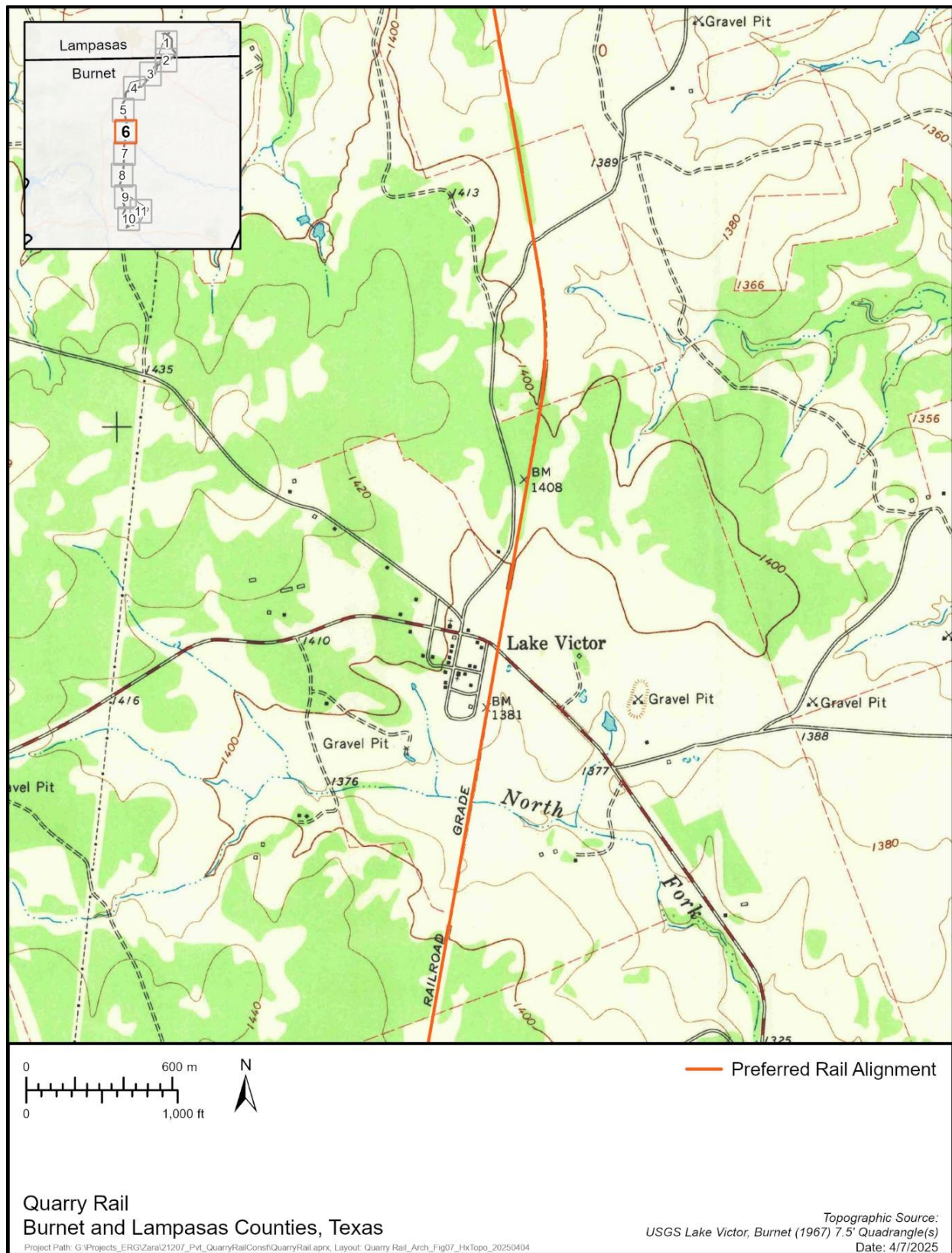


Figure 3-6. Project location on a 1967 topographic map.

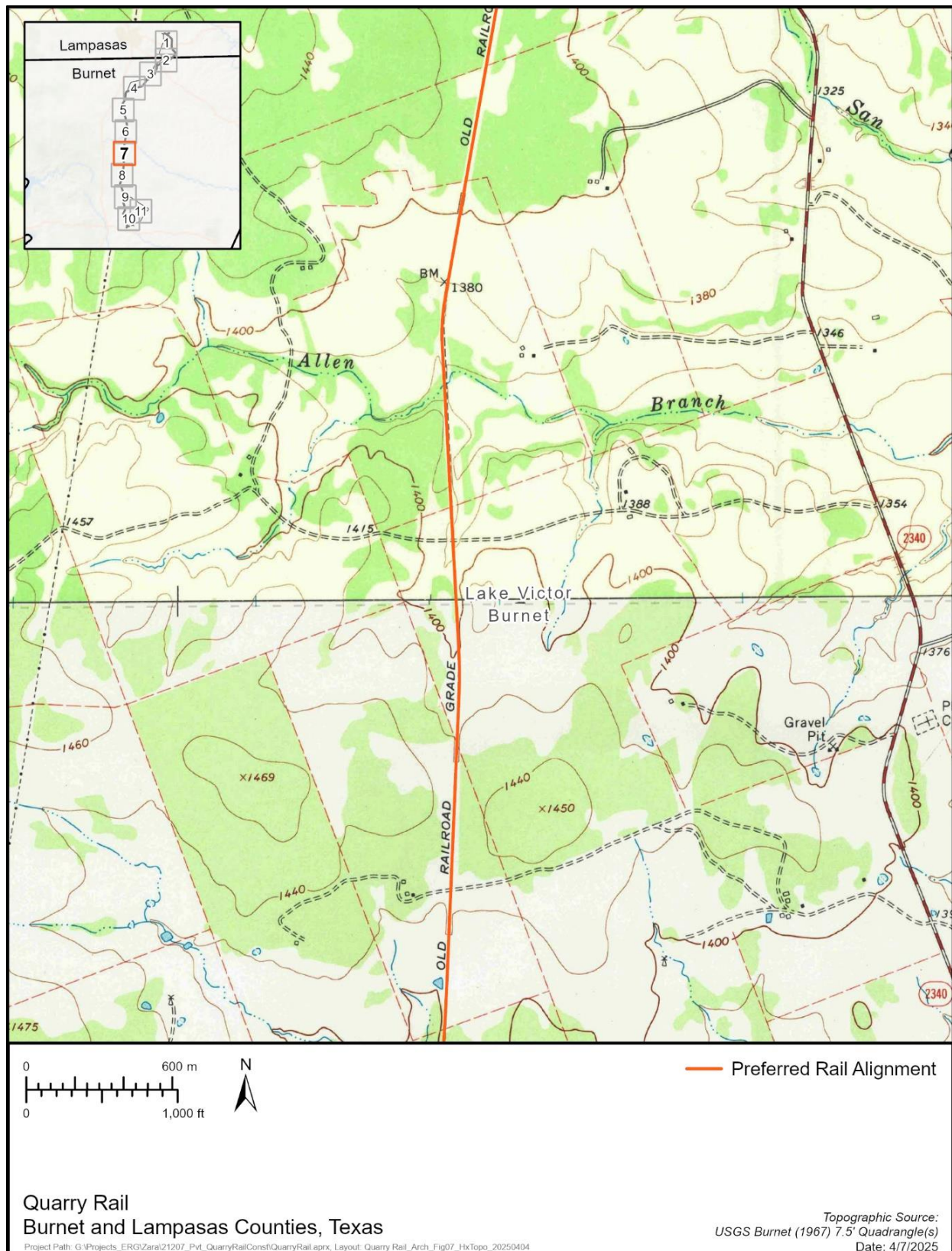


Figure 3-7. Project location on a 1967 topographic map.

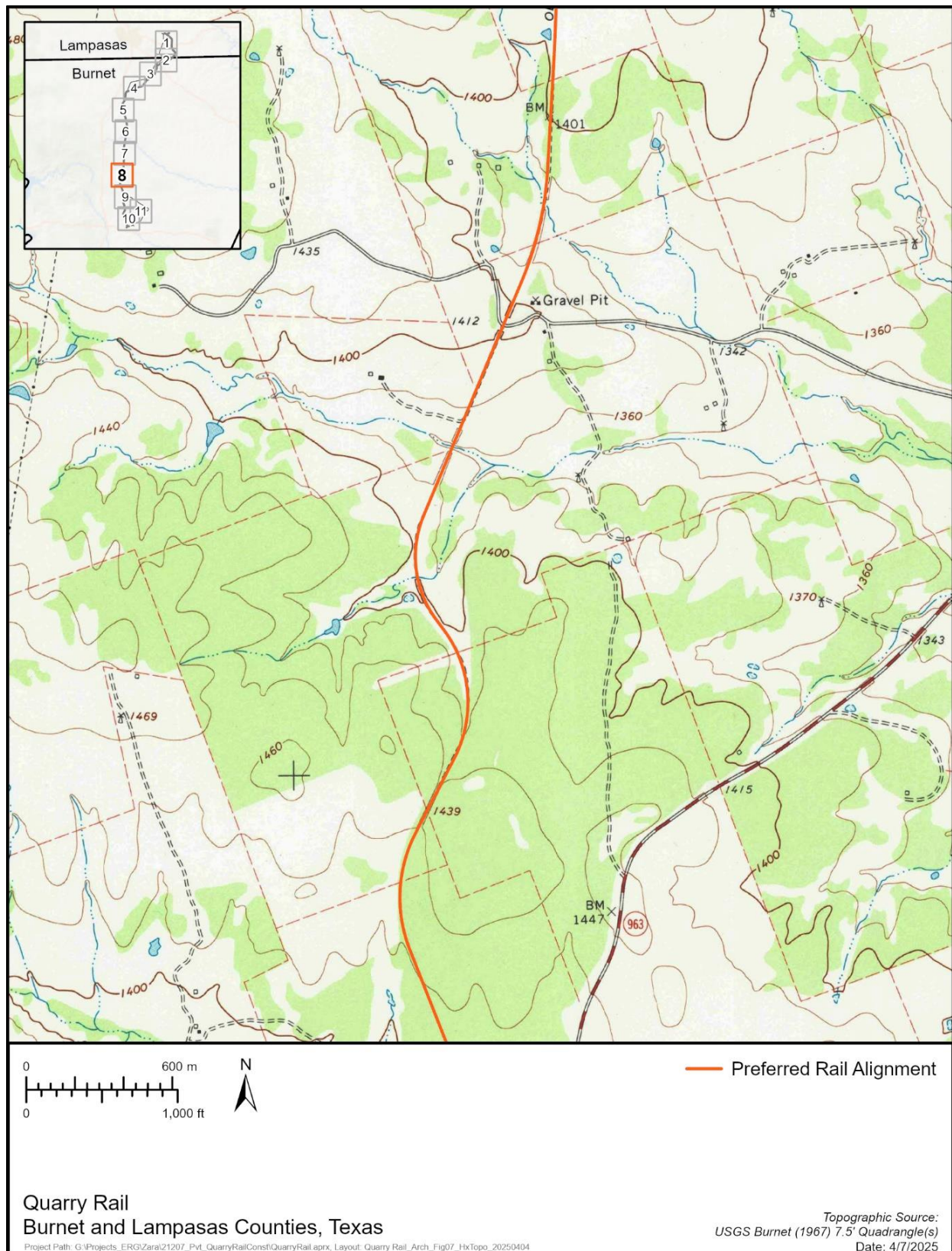


Figure 3-8. Project location on a 1967 topographic map.

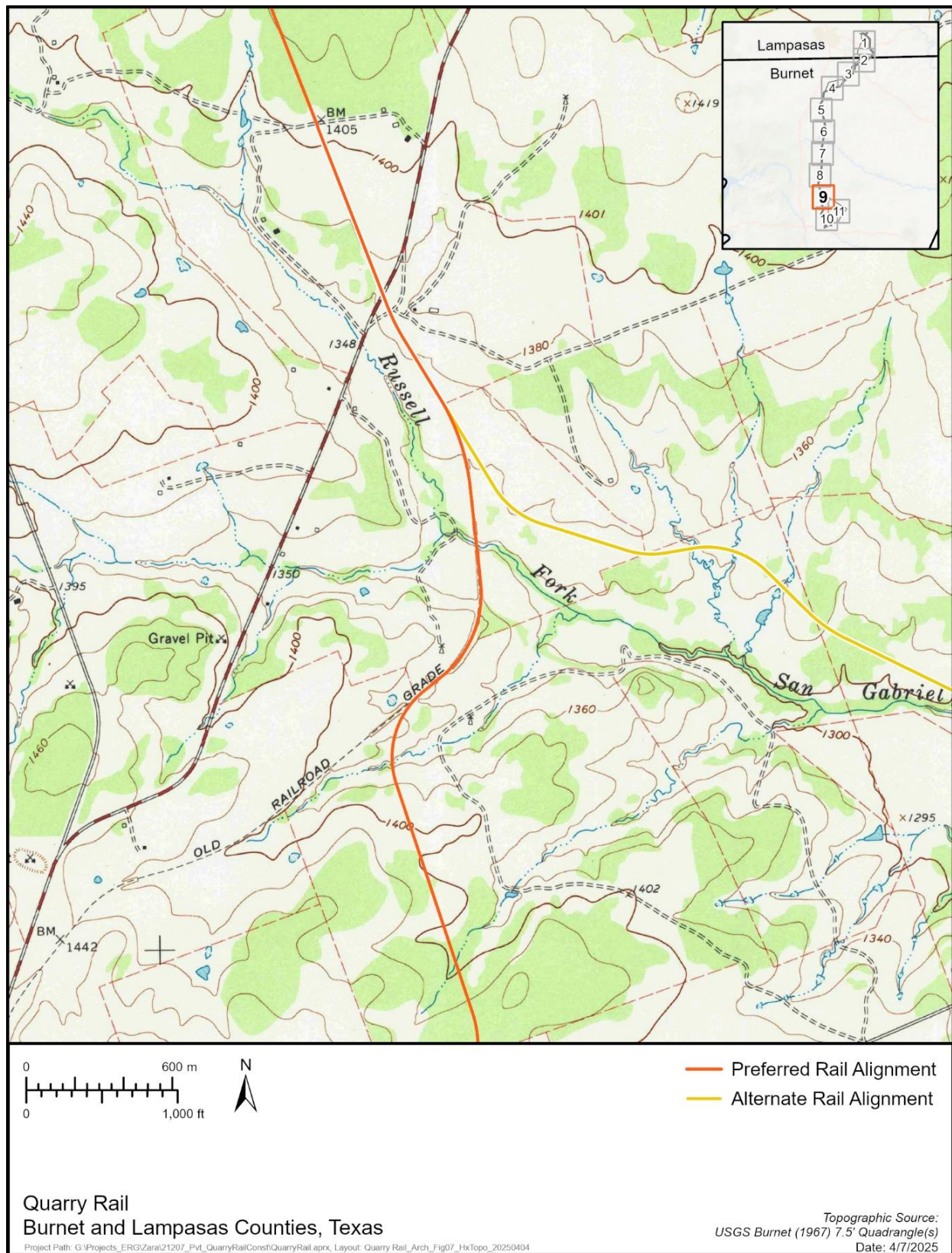


Figure 3-9. Project location on a 1967 topographic map.

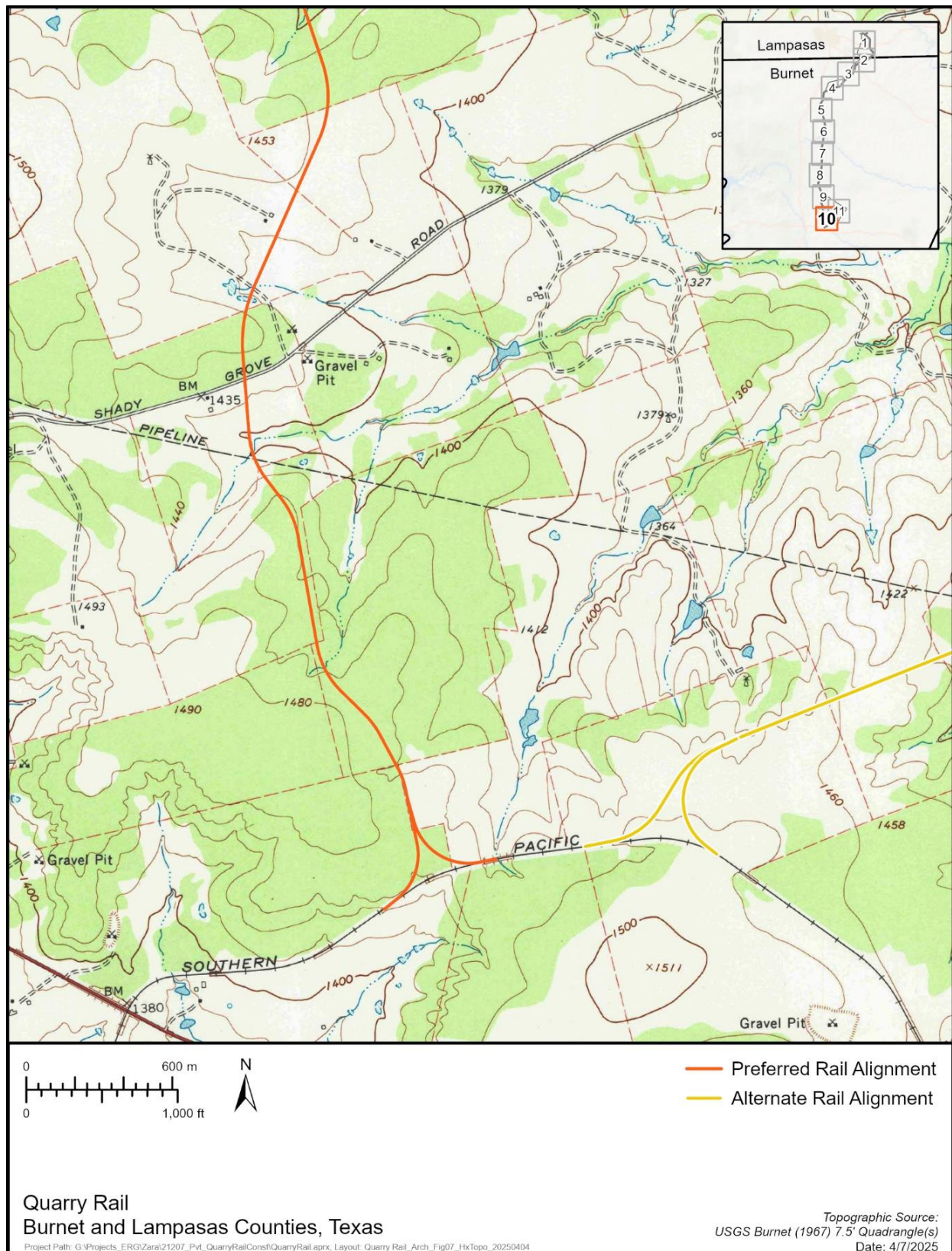


Figure 3-10. Project location on a 1967 topographic map.

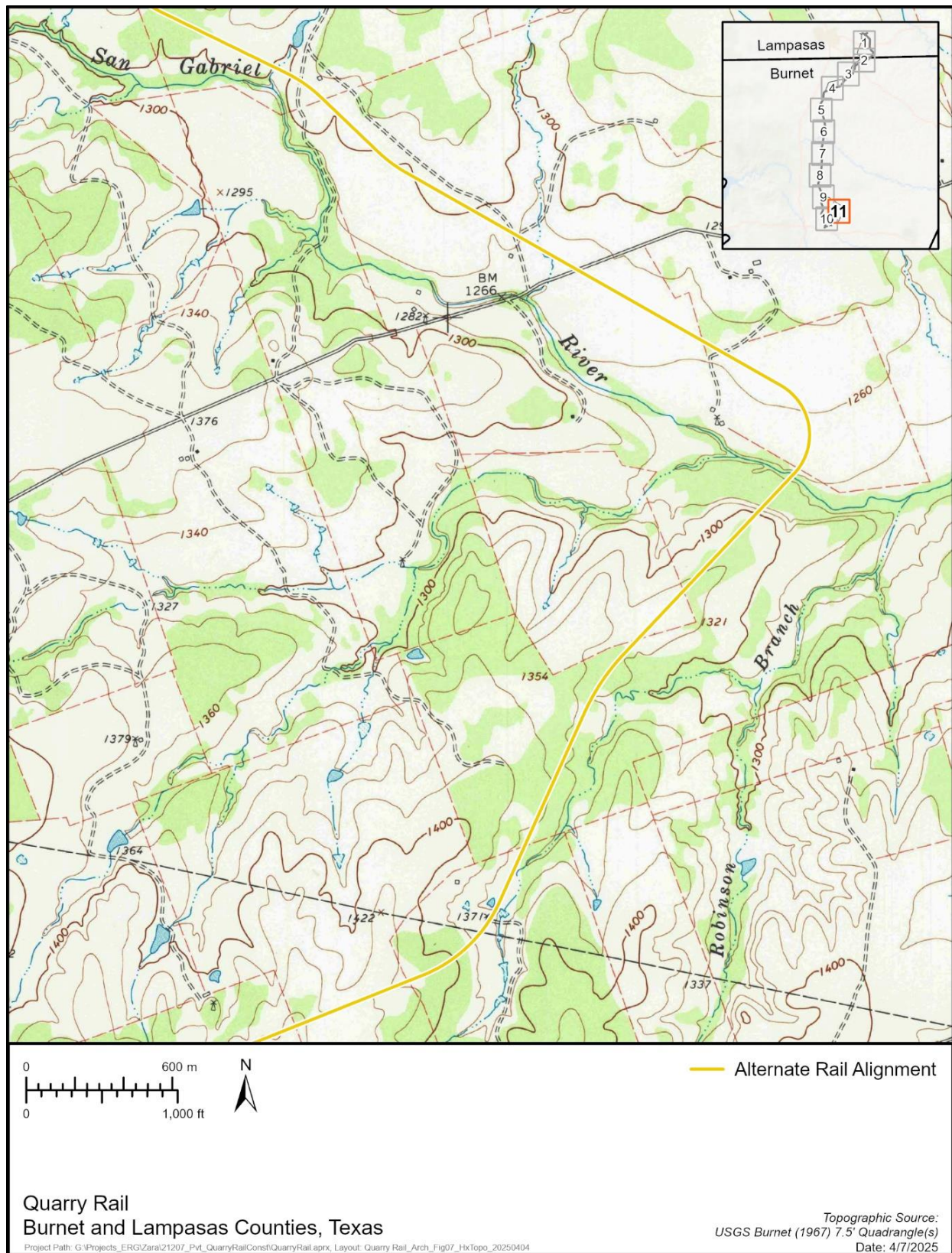


Figure 3-11. Project location on a 1967 topographic map.

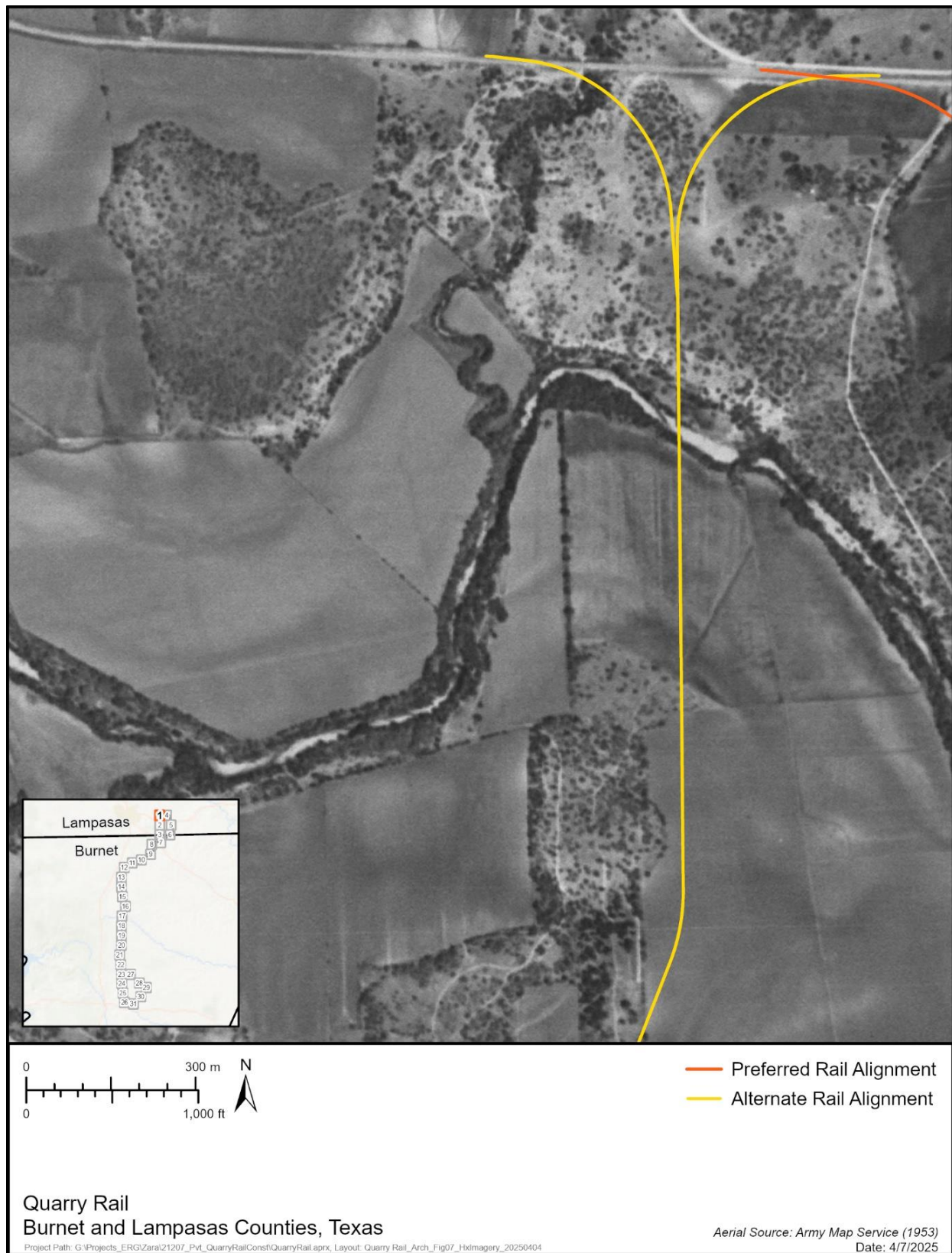


Figure 4-1. Project location on a 1953 aerial photograph.



Figure 4-2. Project location on a 1953 aerial photograph.

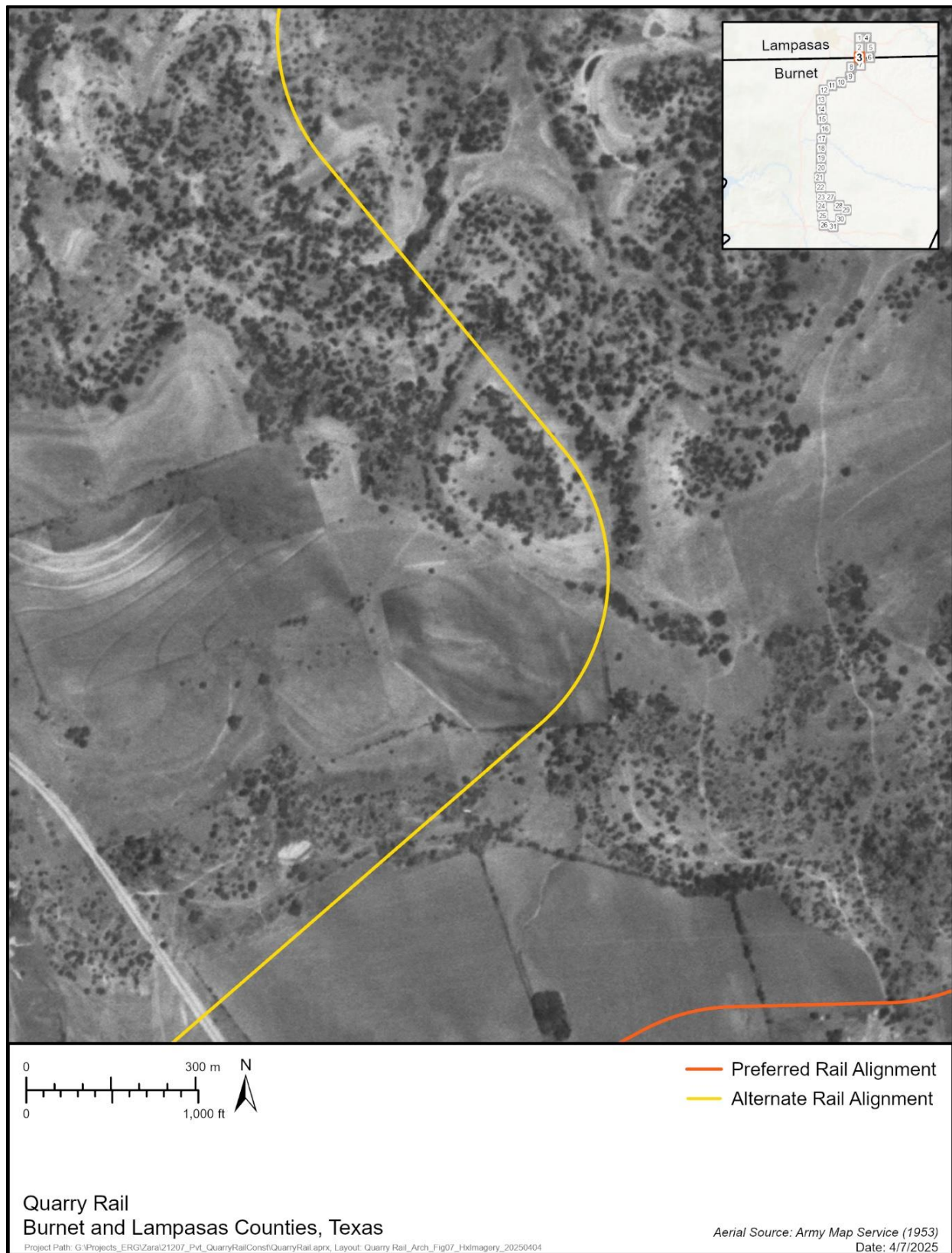


Figure 4-3. Project location on a 1953 aerial photograph.



Figure 4-4. Project location on a 1953 aerial photograph.

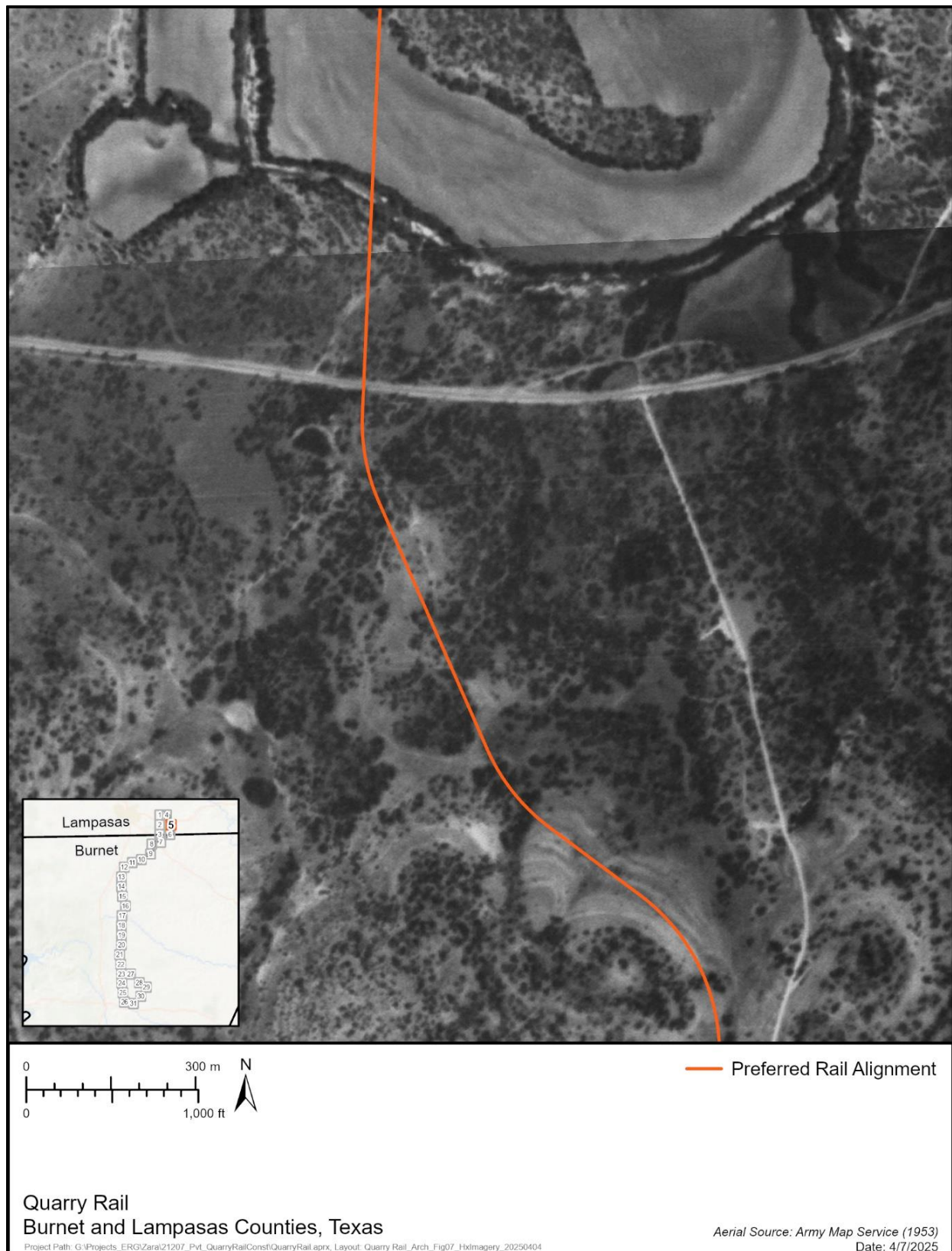


Figure 4-5. Project location on a 1953 aerial photograph.



Figure 4-6. Project location on a 1953 aerial photograph.



Figure 4-7. Project location on a 1953 aerial photograph.

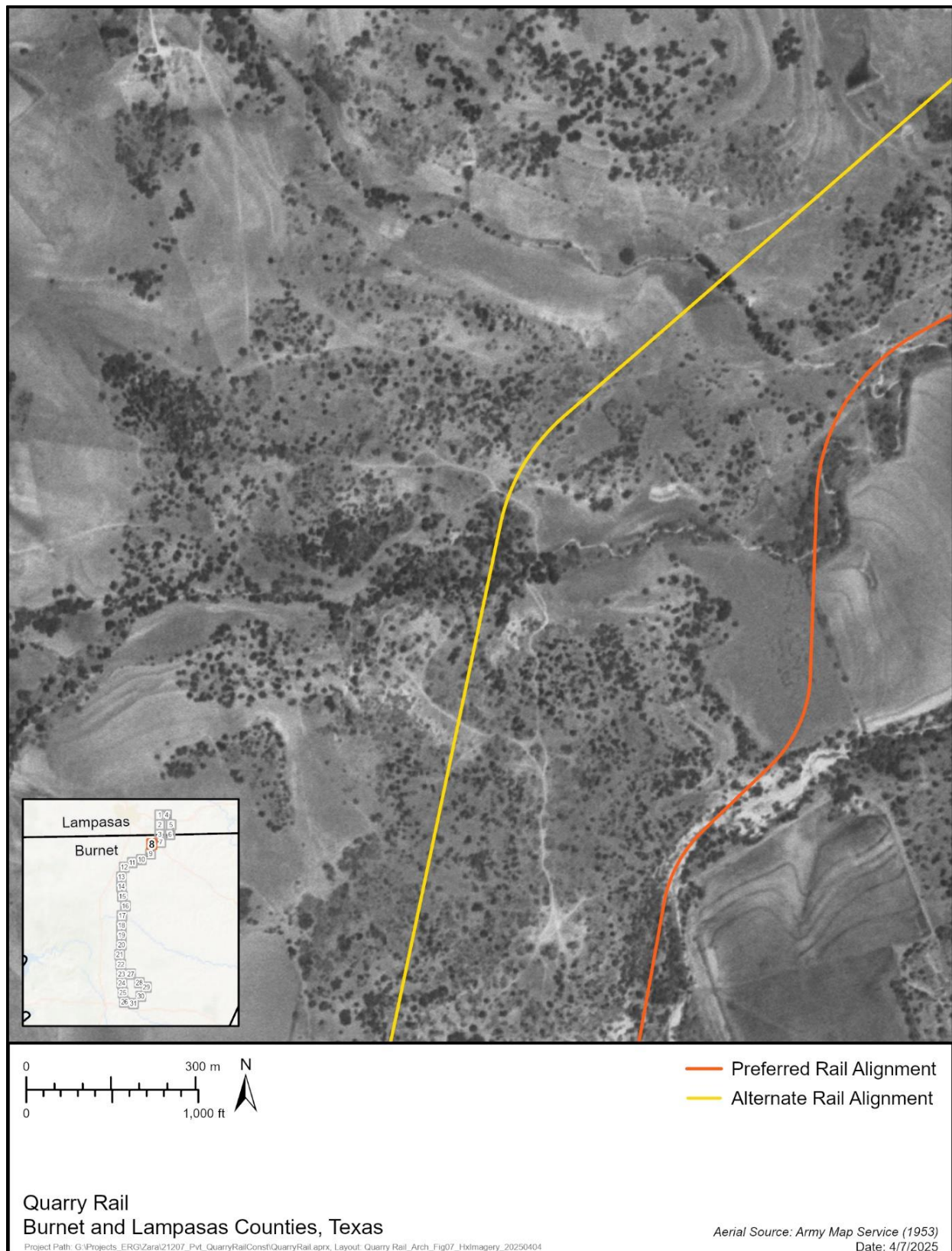


Figure 4-8. Project location on a 1953 aerial photograph.

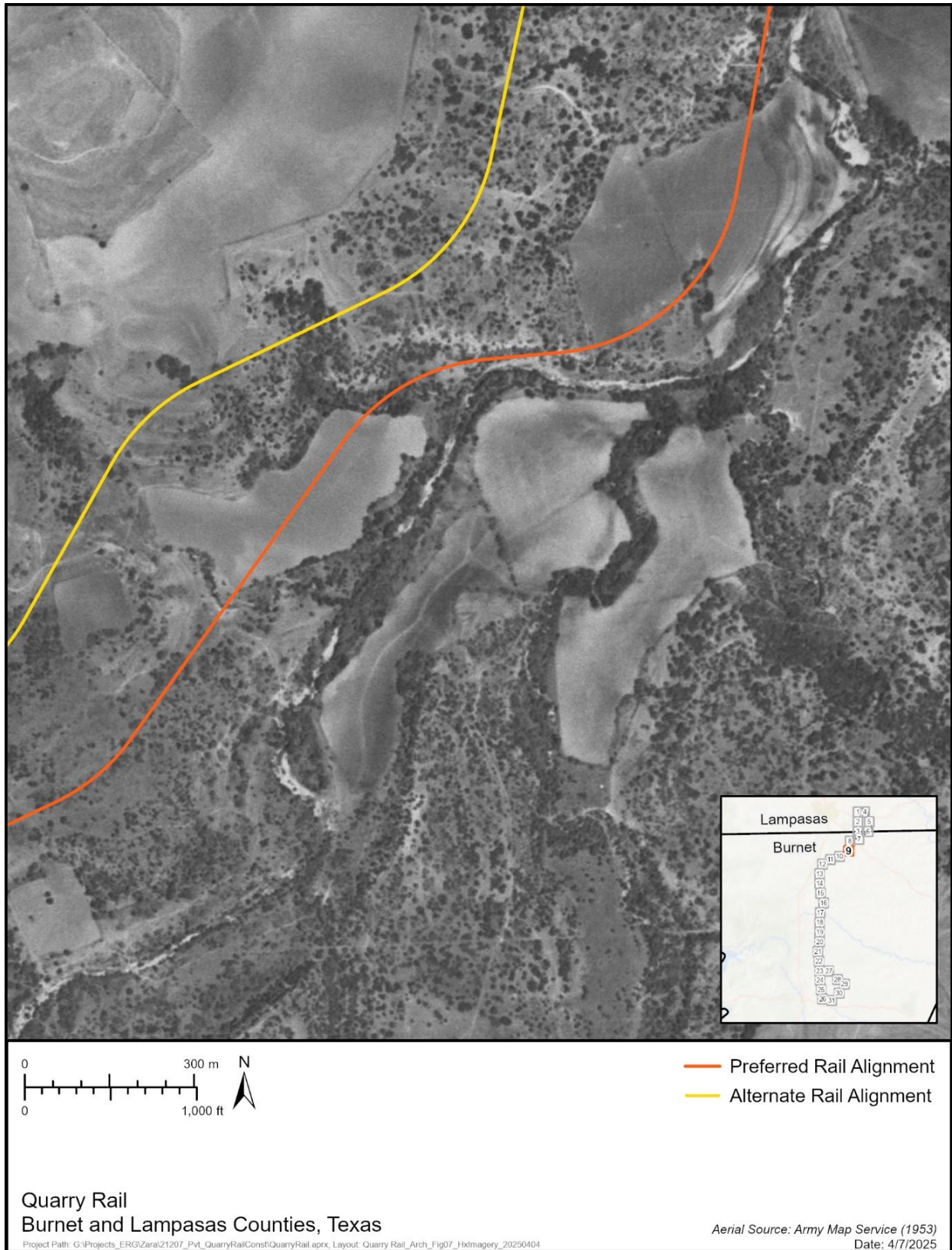


Figure 4-9. Project location on a 1953 aerial photograph.



Figure 4-10. Project location on a 1953 aerial photograph.



Figure 4-11. Project location on a 1953 aerial photograph.



Figure 4-12. Project location on a 1953 aerial photograph.



Figure 4-13. Project location on a 1953 aerial photograph.

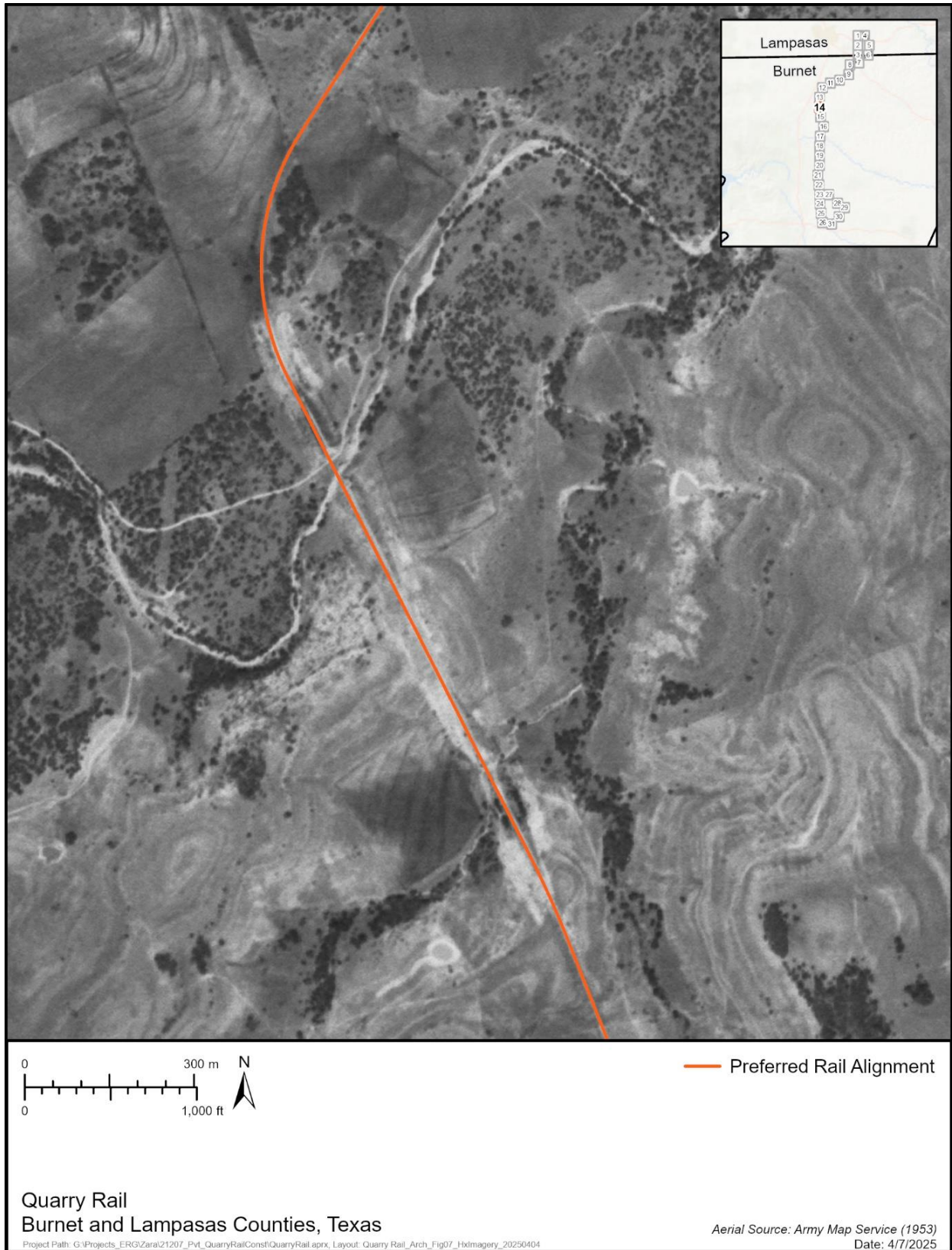


Figure 4-14. Project location on a 1953 aerial photograph.



Figure 4-15. Project location on a 1953 aerial photograph.

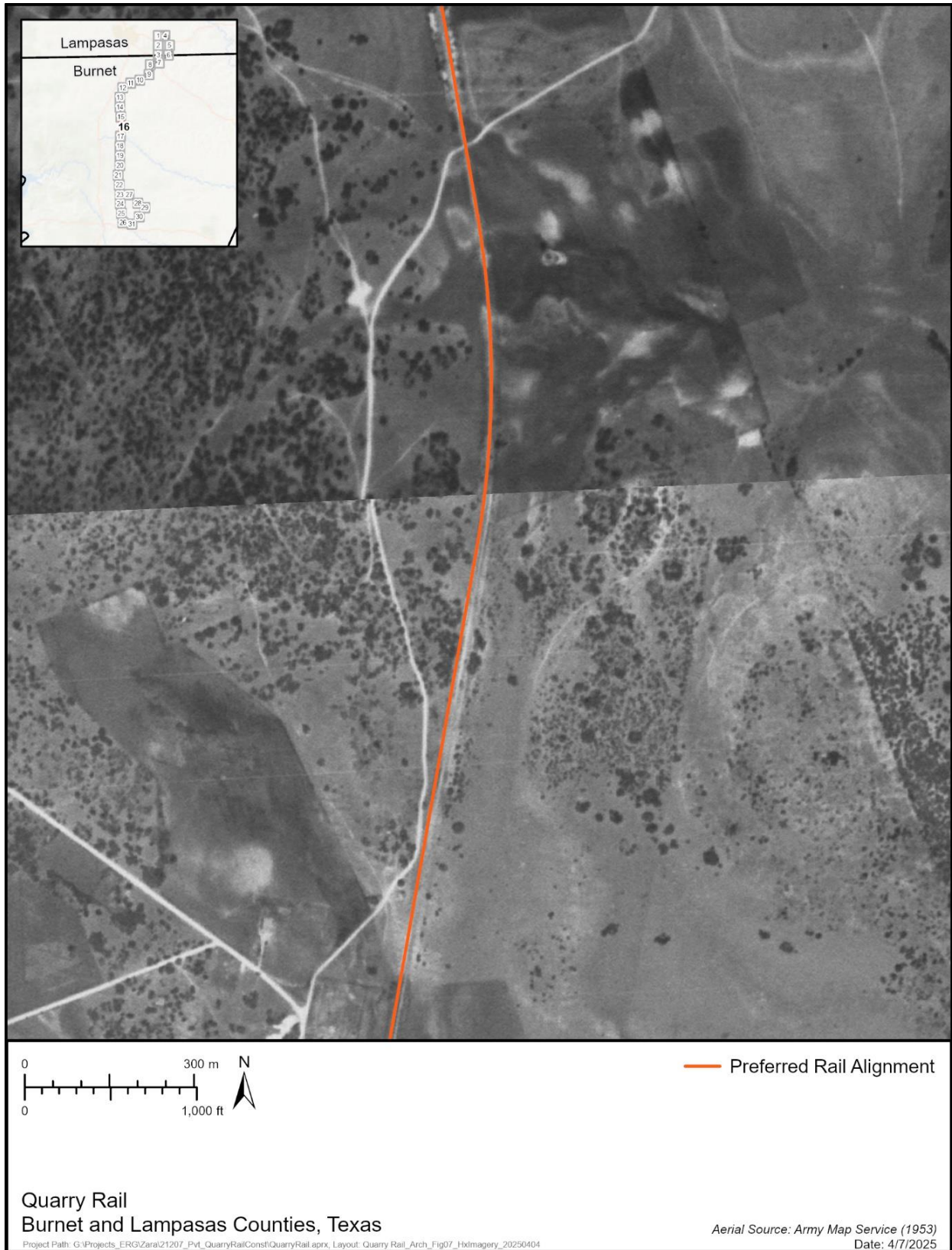


Figure 4-16. Project location on a 1953 aerial photograph.



Figure 4-17. Project location on a 1953 aerial photograph.

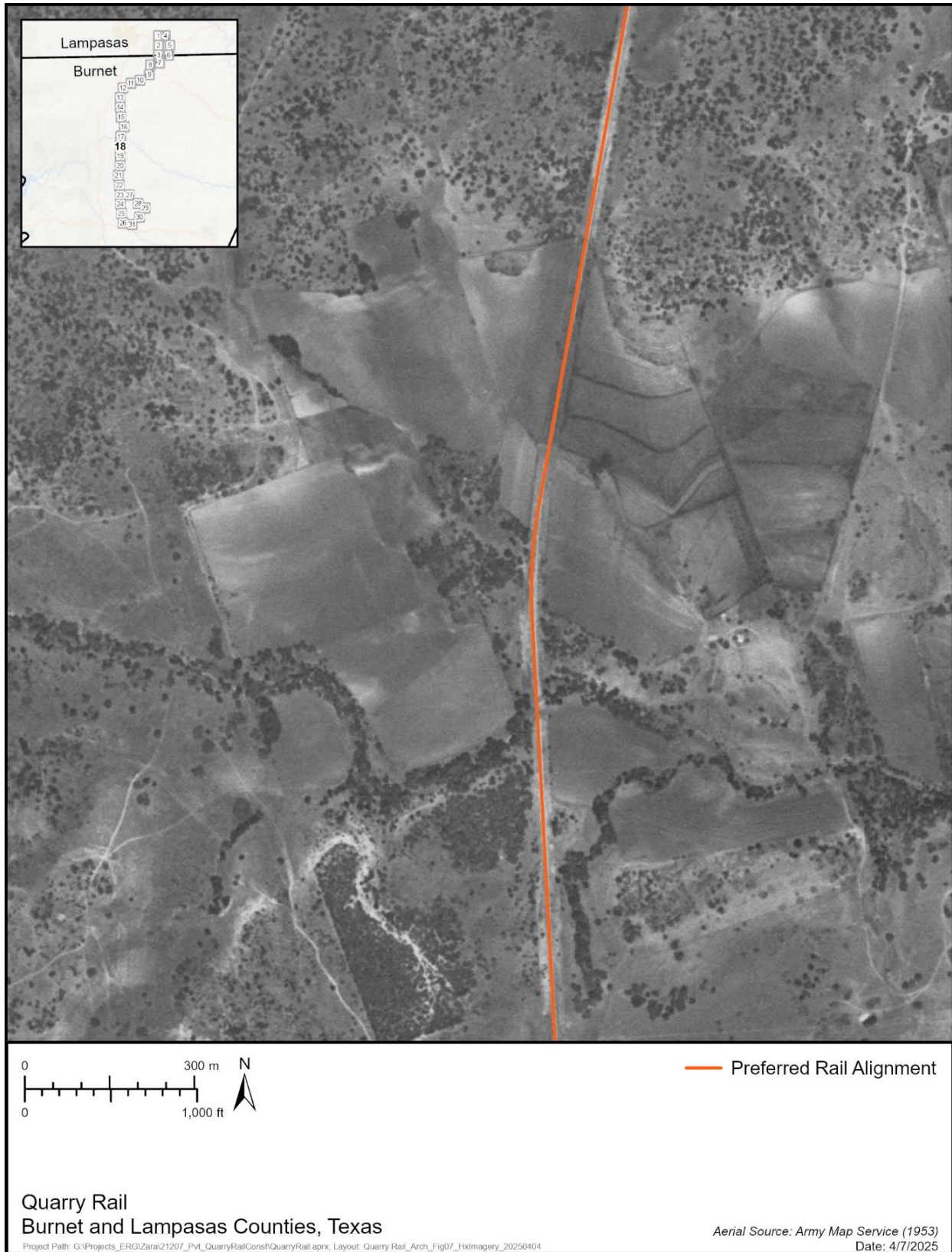


Figure 4-18. Project location on a 1953 aerial photograph.



Figure 4-19. Project location on a 1953 aerial photograph.



Figure 4-20. Project location on a 1953 aerial photograph.

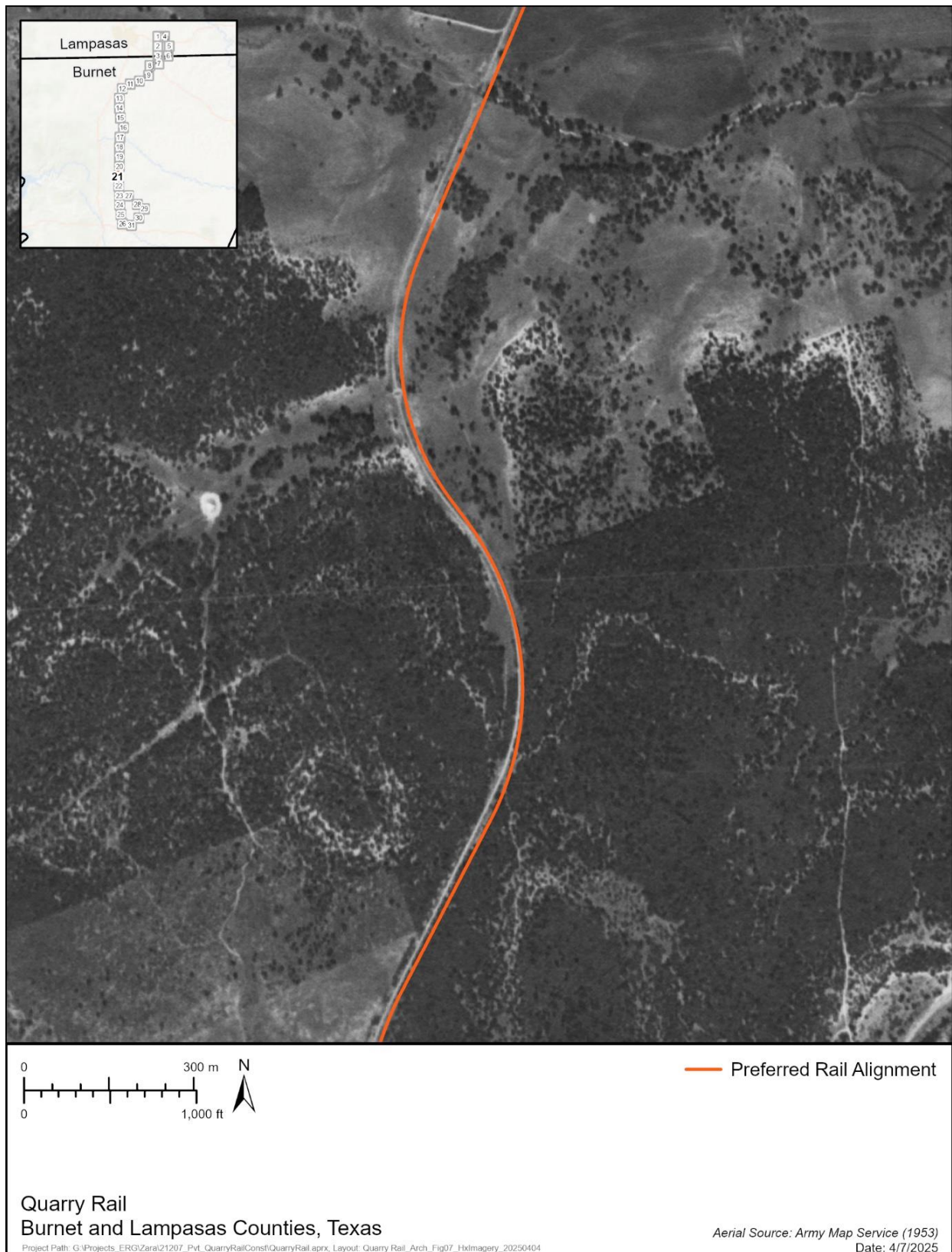


Figure 4-21. Project location on a 1953 aerial photograph.



Figure 4-22. Project location on a 1953 aerial photograph.



Figure 4-23. Project location on a 1953 aerial photograph.

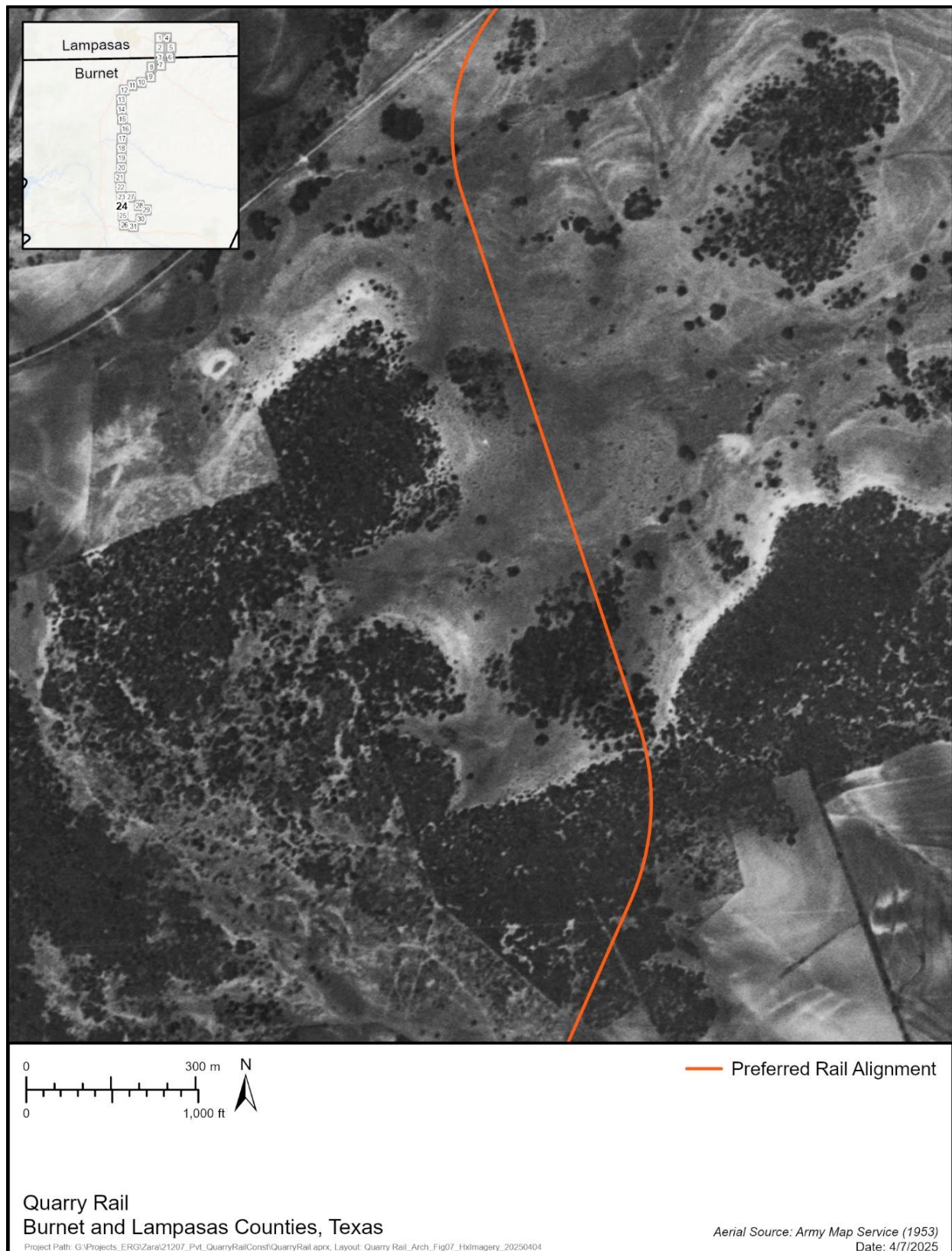


Figure 4-24. Project location on a 1953 aerial photograph.



Figure 4-25. Project location on a 1953 aerial photograph.

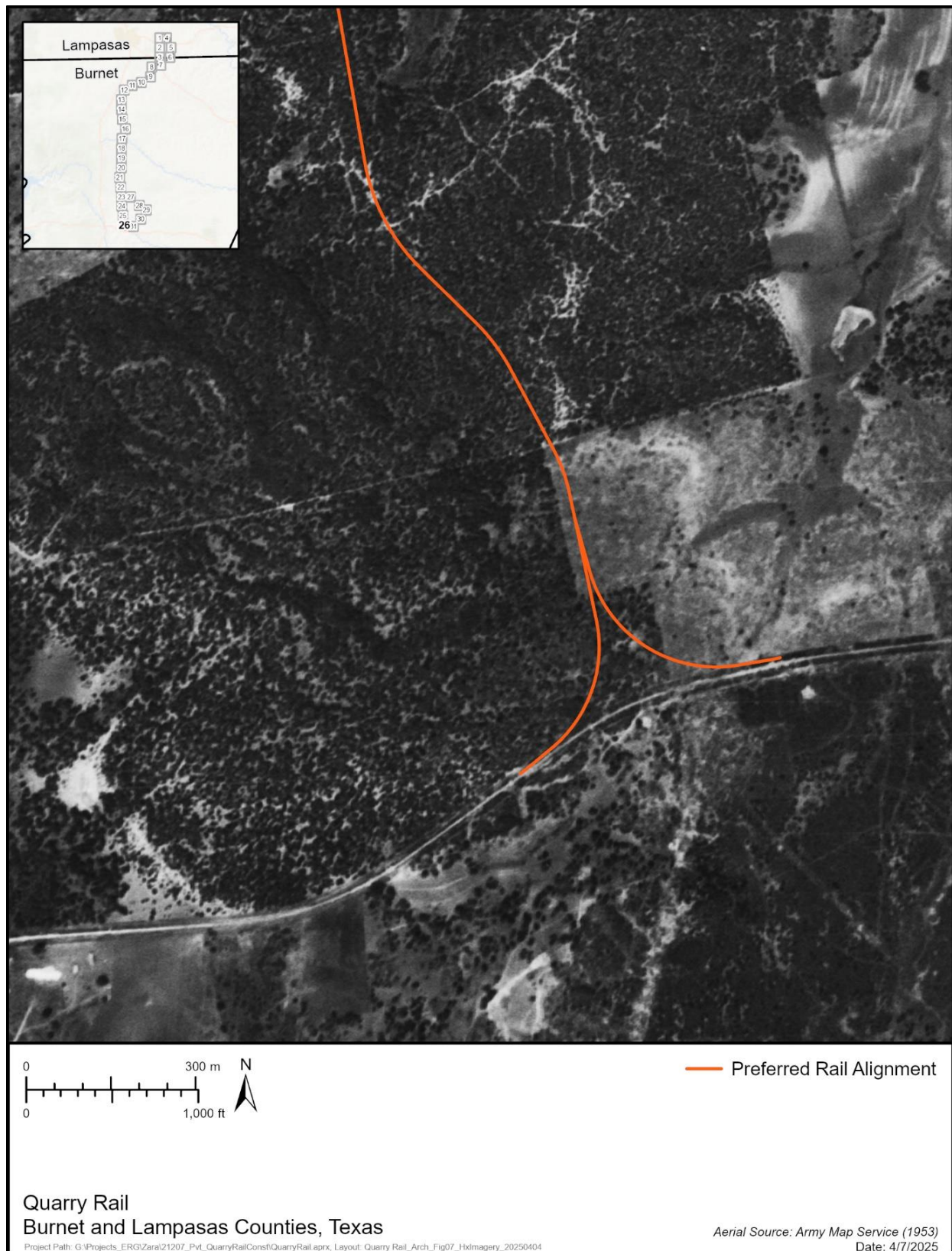


Figure 4-26. Project location on a 1953 aerial photograph.



Figure 4-27. Project location on a 1953 aerial photograph.

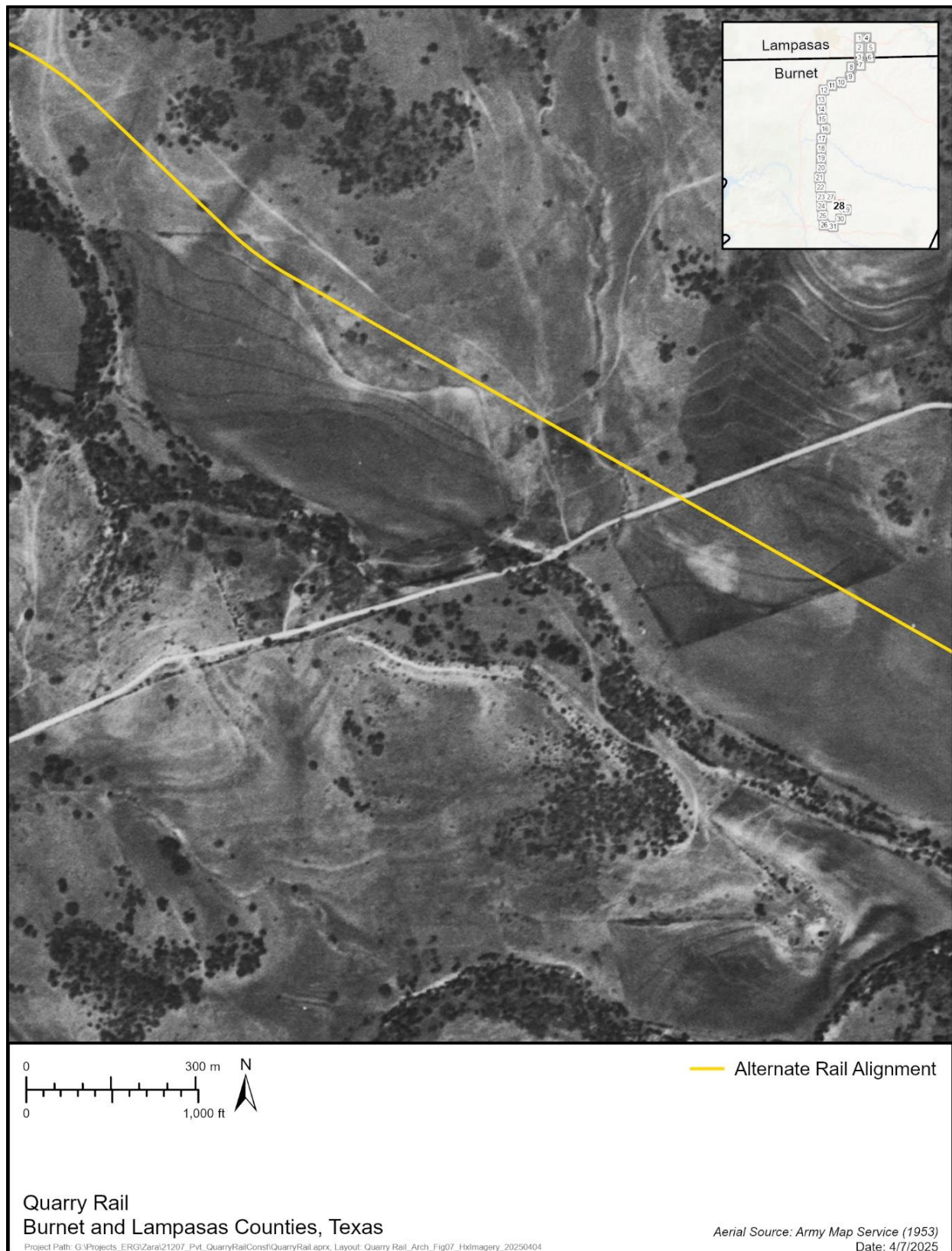


Figure 4-28. Project location on a 1953 aerial photograph.

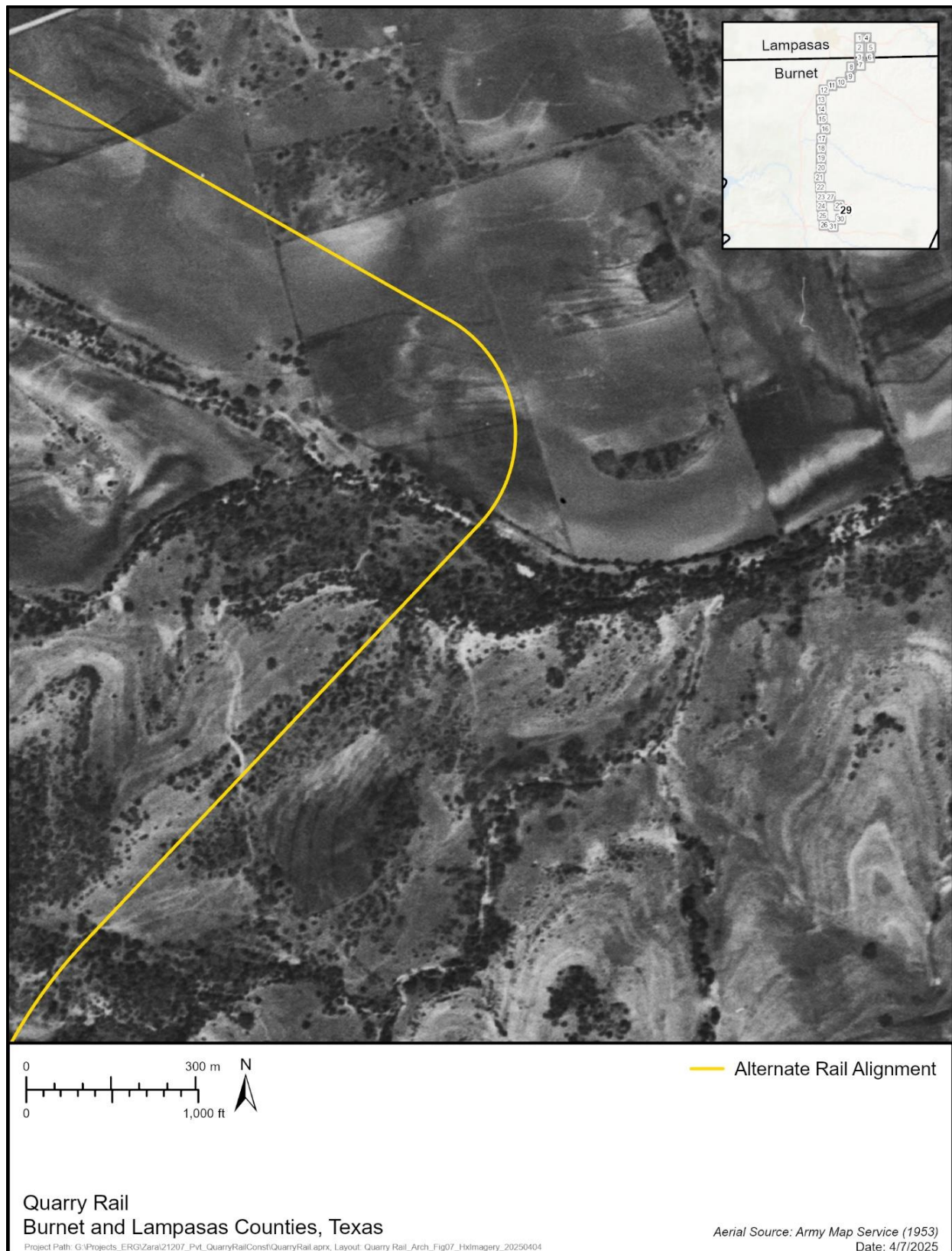


Figure 4-29. Project location on a 1953 aerial photograph.



Figure 4-30. Project location on a 1953 aerial photograph.

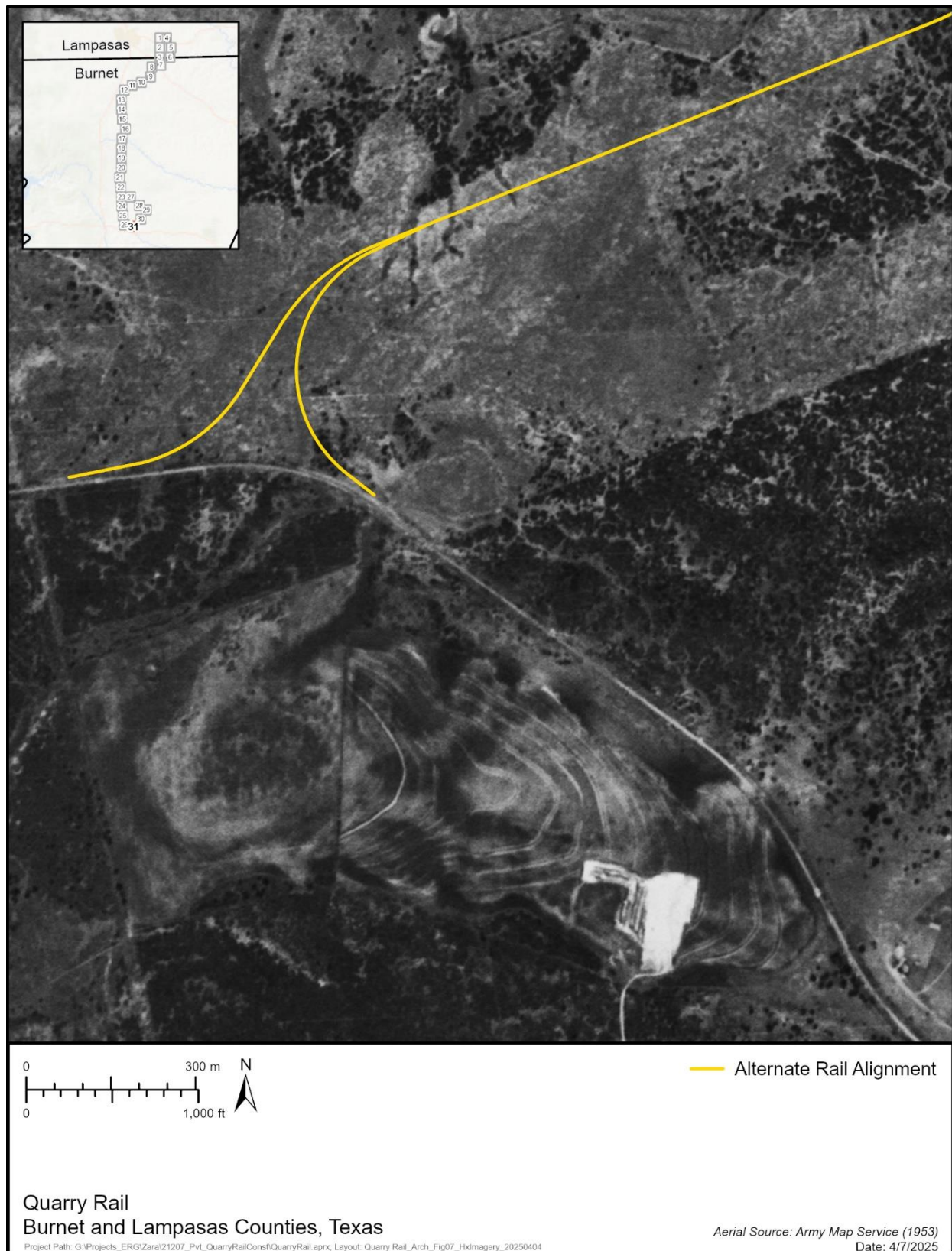


Figure 4-31. Project location on a 1953 aerial photograph.

Lampasas-Burnet County Quarry Railway

Landowner's Opposition Statements

The information included in this document has been submitted to stopthearrairy railway@gmail.com directly by Landowners at their own discretion and consent.

<u>Name</u>	<u>PHONE #</u>	<u>County</u>
1. Catherine Kuehne		Lampasas
2. Leah Snell*		Lampasas
3. Leah Snell		Burnet
4. Gilbert & Tina Riojas*		Lampasas
5. Nancy Griffin		Burnet
6. Alicia & Rodney Brunet		Burnet
7. Marion & Jeanette Snell (1)		Lampasas
8. Marion & Jeanette Snell (2)		Lampasas
9. Marion & Jeanette Snell (1)		Burnet
10. Marion & Jeanette Snell (2)		Burnet
11. Duwain Snell		Burnet
12. Laura Stair		Lampasas
13. Rowdy Hinckley		Burnet
14. John & Kathy Wing		Burnet
15. Rachel Bishop		Burnet
16. Alan Kilburn		Burnet
17. Lewis Snell (Letter)		Lampasas
18. Lewis Snell (Letter)		Burnet

***An additional, separate attachment(s) has been emailed for landowner.**

Catherine Kuehne & Jacob Walter Haby
- Lampasas County



We are on mesquite creek. The tenants splits us in half. We have springs all along mesquite and an old mine on the cliffs. We don't know how long the mine has been there. The story passed down from my grandfather is that the old mine was there from people searching for the 25 jack loads of silver hidden on a cliff on mesquite creek by Sam Bass.

We also know there are old Indian mounds along the creek close to the springs.

On the place next to us, just past our fence line is a little cemetery. It's actually on the England place and there are multiple old 1800 homestead areas. Now in ruins.

I also believe there are most likely dinosaur tracks in the limestone beds, like in the san Gabriel.

Leah Snell - Lampasas County

Information provided by John Kofman



The proposed route crosses HWY 190 approximately at Battle Branch. Battle Branch is the location of the Horrell-Higgins feud in 1877, Texas Historical Marker 13134.

There is a long history of Native American culture in this area as well. **Attached*** please find a study conducted by Dr. Stephen Howard, Gault School of Archeology in 2020. Dr. Howard identified artifacts dated to the early archaic period (8,500 to 6,000 BC). This report also addresses an historic graveyard containing the remains of Thomas Lafayette Thornal and an infant.

There are also numerous wet weather creeks/wetlands, including a natural spring fed pool located along the proposed route. The family calls the pool Daddy K's drinking hole, named after my grandfather Casbeer Snell Sr. He kept a cup hung on a tree so he could get water when he was working livestock.

There are numerous springs located in Sulphur Creek along the proposed route. You can feel the water temperature change when you encounter a spring while wading or swimming in the creek.

The water table is extremely high along the proposed route. I have a windmill/well approximately 1/4 mile from the Hwy 190 crossing site and we hit water at 23 feet. Additionally, there is a natural seep or spring located in this area.

Either proposed routes will pass through old growth ashe juniper, pecan, and oak groves, prime habitat for Golden-cheeked warblers and other protected migratory birds. There are also limestone cliffs that house bats and other wildlife.

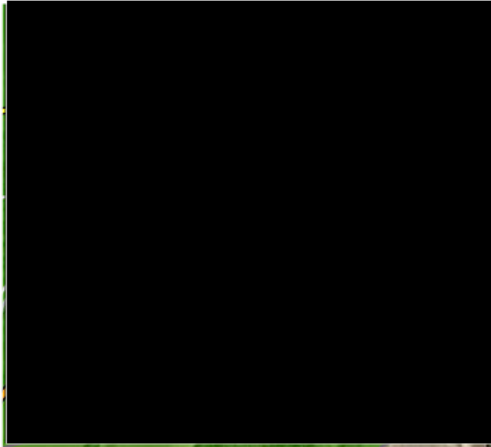
Our (Alexander/Snell) family has continually ranched property in Lampasas County since 1901.

****Dr. Stephen Howard, Gault School of Archeology study will be emailed separately.***

Pictures:

- (A) Various arrow heads and artifacts found on property
- (B) "Daddy K's Drinking Hole" Natural spring fed pool

Leah Snell – Burnet County
Information provided by John Kofman



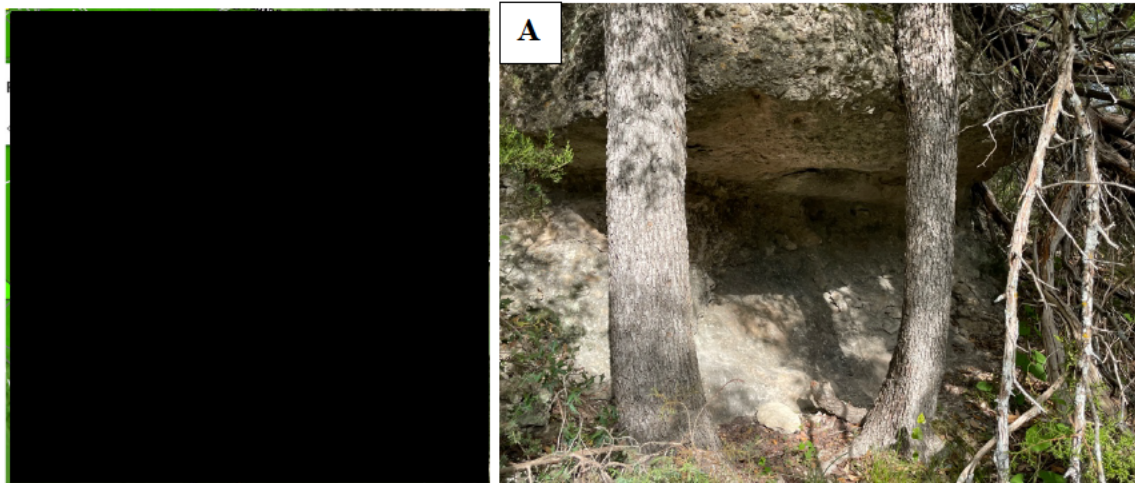
- The proposed route either crosses CR207 at our gate or parallels CR207 approximately 1/2 mile then crosses 207.
- There is a long history of Native American culture in this area. There is a large Oak tree in this area that my Grandmother (born 1901) said was the location of a Native American meeting ground. She told us that there was a natural chair in the tree where the Chief would sit. Numerous projectile points have been located in this and the surrounding area.
- The remains of a mid 1800's farmhouse is located along the proposed.
- Either proposed routes will pass through old growth ashe juniper, pecan, and oak groves, prime habitat for Golden-cheeked warblers and other protected migratory birds.
- There are also numerous wet weather creeks/wetlands, including a natural spring fed pool located along the proposed route.
- Our (Alexander/Snell) family has continually ranched property in Burnet County since 1849.

Pictures:

- (A) Old Oak Tree, Native American meeting ground
 (B) John W. Alexander Campsite 1876-1942

Gilbert & Tina Riojas - Lampasas County

**Riojas Ranch Archeological Sites and Plant Guide (conducted April '25) will be emailed separately*

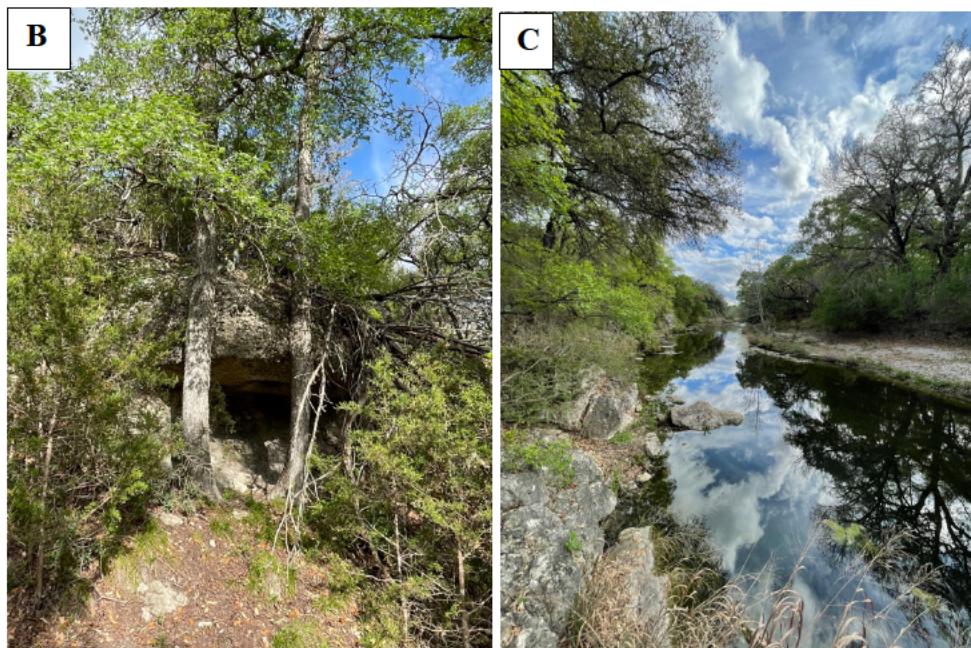


Pictures A, B:

These are pictures of a small cave dwelling along Sulphur Creek where Native Americans camped and fished. Over the years we have discovered and found arrowheads throughout this area. The rail line would cross through this area, right on top of the rocks.

Picture C:

Area we call "First Hole" - great place to swim and fish

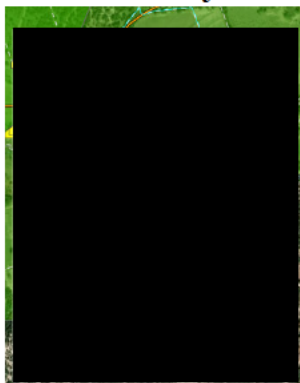


Pictures D, E, F :

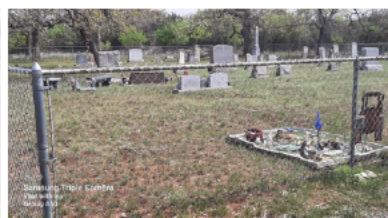
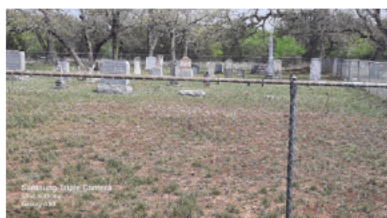
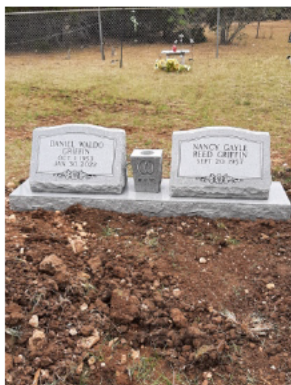
Rock fence that was built by Spanish Friars to distinguish certain boundaries. This boundary is still in effect today and was used as a survey boundary to establish modern boundaries when the property was originally purchased by the Clary family in 1953. Runs entire west side. We are the only other family who has owned this property since.

(G): Arrowhead found on property 04/02/25

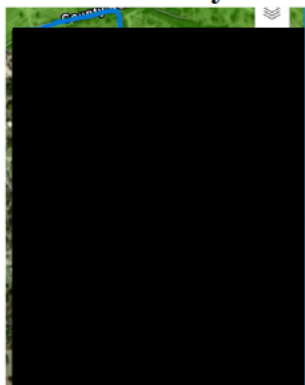
**Nancy Griffin
-Burnet County**



My family has property that is in the orange route for the railway. I have attached pictures of our family Cemetery (Alexander Cemetery) that is located about 100 to 200 yards just north of this route. The Cemetery has been here since 1862. It is located on my nephew's property which backs up to mine and the railway shows to go right on our fence property line. My husband is buried in this Cemetery, along with his parents and lots of other family members. It has been my plan to pass my property down to my kids and or their kids. This family land has been in the family since mid 1800's. **[Alexander Cemetery](https://www.findagrave.com/cemetery/1969919/alexander-family-cemetery) contains at least 57 memorials. More info can be found here: <https://www.findagrave.com/cemetery/1969919/alexander-family-cemetery>



**Alicia & Rodney Brunet
- Burnet County**



Photos & Description of Historical/Cultural Areas of Significance:

1. The seasonal creek runs across the back side of our property. I believe it is named "Twin Creek". It flows into the Russel Fork San Gabriel River.
2. We have an old growth cedar forest which is habitat for the Golden Cheeked Warbler.
3. We have approx. ½ mile of hiking trail that follows the creek and has a switch back.
4. We have milkweed and attract monarch butterflies every year, which may soon be listed as a threatened species under the Threatened Species Act.
5. We had a blue heron on our pond this morning. We have ducks on our pond daily.
6. We have native grasses and black soil that is 5'+ deep in areas of our property.

A



B



C



D



E



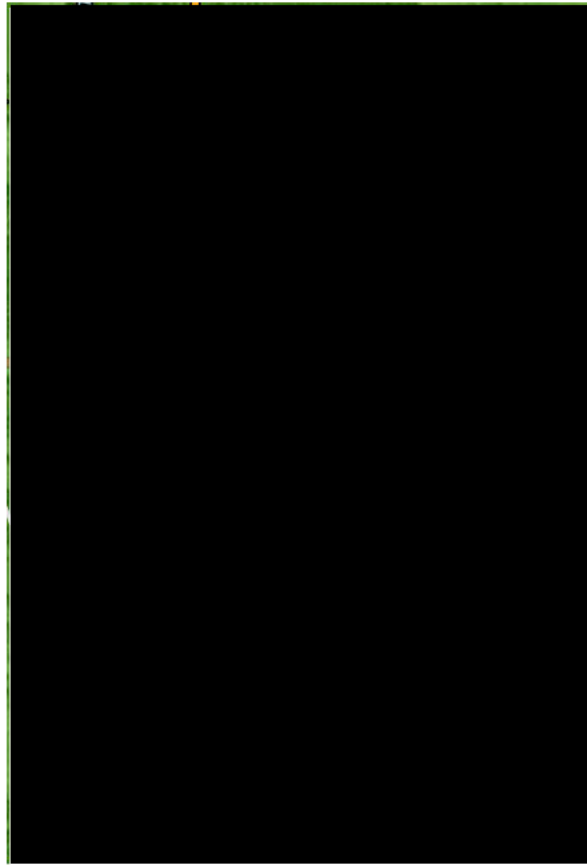
F



Property Location on Proposed Map:

We are in the green zone for the yellow line proposal. 2 sections of our property are included in the green zone. The front section which includes our new house (completed 09/01/2024), our well, RV shed. The house is not shown on the map, but you can see our building pad. It also includes the back of our property, possibly cutting across our creek, old growth ashe juniper forest and cliff.

Marion and Jeanette Snell – Lampasas County



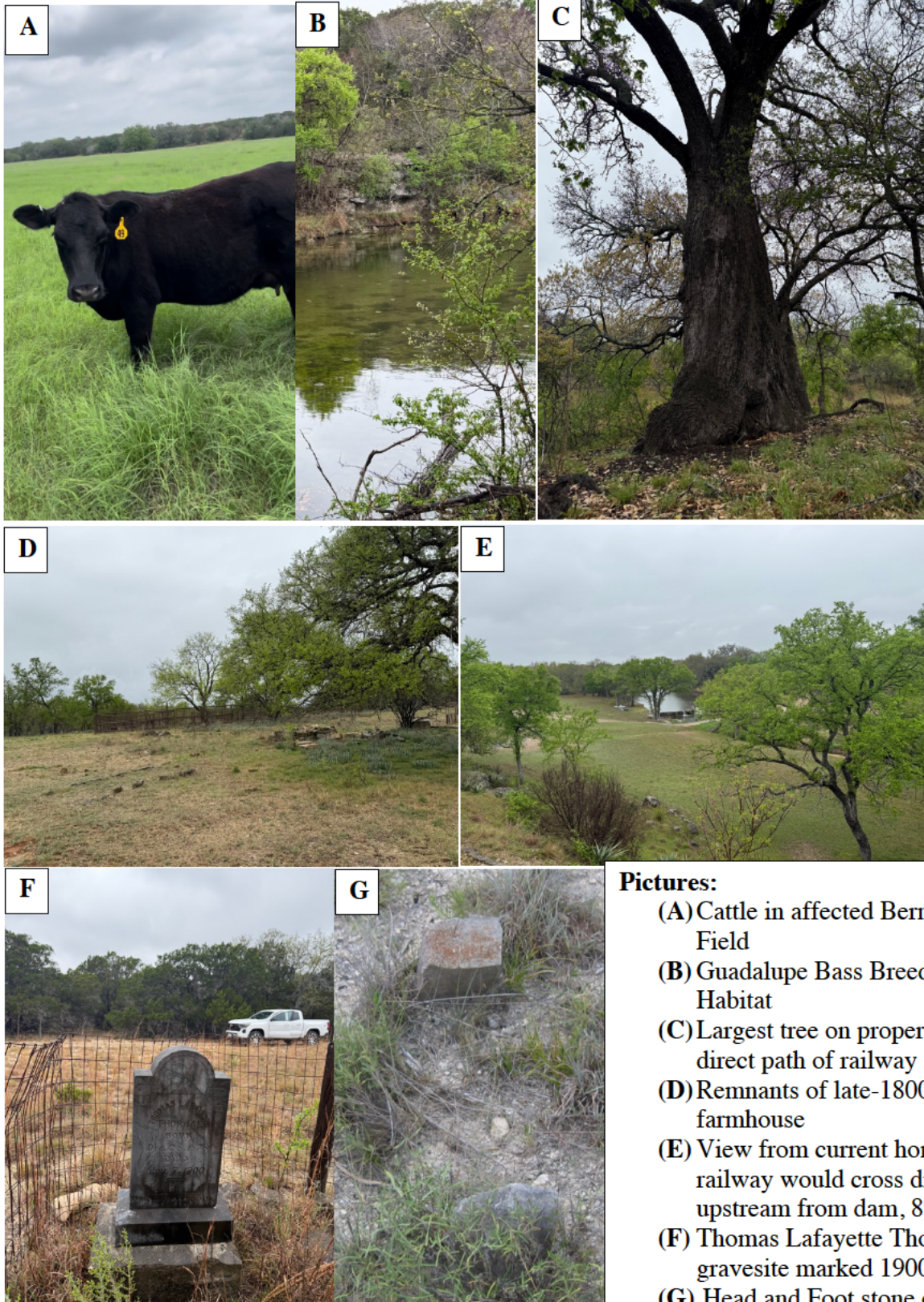
Areas the Proposed Railway would directly disturb:

- Proposed railway would be ~890 ft. from the current homestead.
- Railway would split Bermuda field used for hay cultivation and cattle grazing by 1/3, with no access to other side of property.
- The area where railway would cross Sulphur Creek would run directly over a Native Breeding Habitat for the Guadalupe Bass.
- Railway would run directly through the largest tree on this property.
- Railway would destroy what remains of the late-1800s former farmhouse, walkway and old cistern.
- There are at least (2) areas where known Native American artifacts like arrowheads, scraper tools, etc., have been found and could potentially be destroyed.
- The old Lampasas – Belton road traveled by stagecoach runs along this property.
- Thornal Cemetery: (2) grave sites, (1) adult, (1) infant, dated 1900, are less than 50 ft from proposed route.
 - Cemetery is noted by the Texas Historic Commission

Family has continuously owned and ranched this property since 1901.

**Marion and Jeanette Snell
Lampasas County Property Pictures**

8



Pictures:

- (A) Cattle in affected Bermuda Hay Field
- (B) Guadalupe Bass Breeding Habitat
- (C) Largest tree on property in direct path of railway
- (D) Remnants of late-1800s former farmhouse
- (E) View from current homestead, railway would cross directly upstream from dam, 890' away
- (F) Thomas Lafayette Thornal gravesite marked 1900
- (G) Head and Foot stone of infant in the Thornal Cemetery - Cemetery is noted by the Texas Historic Commission

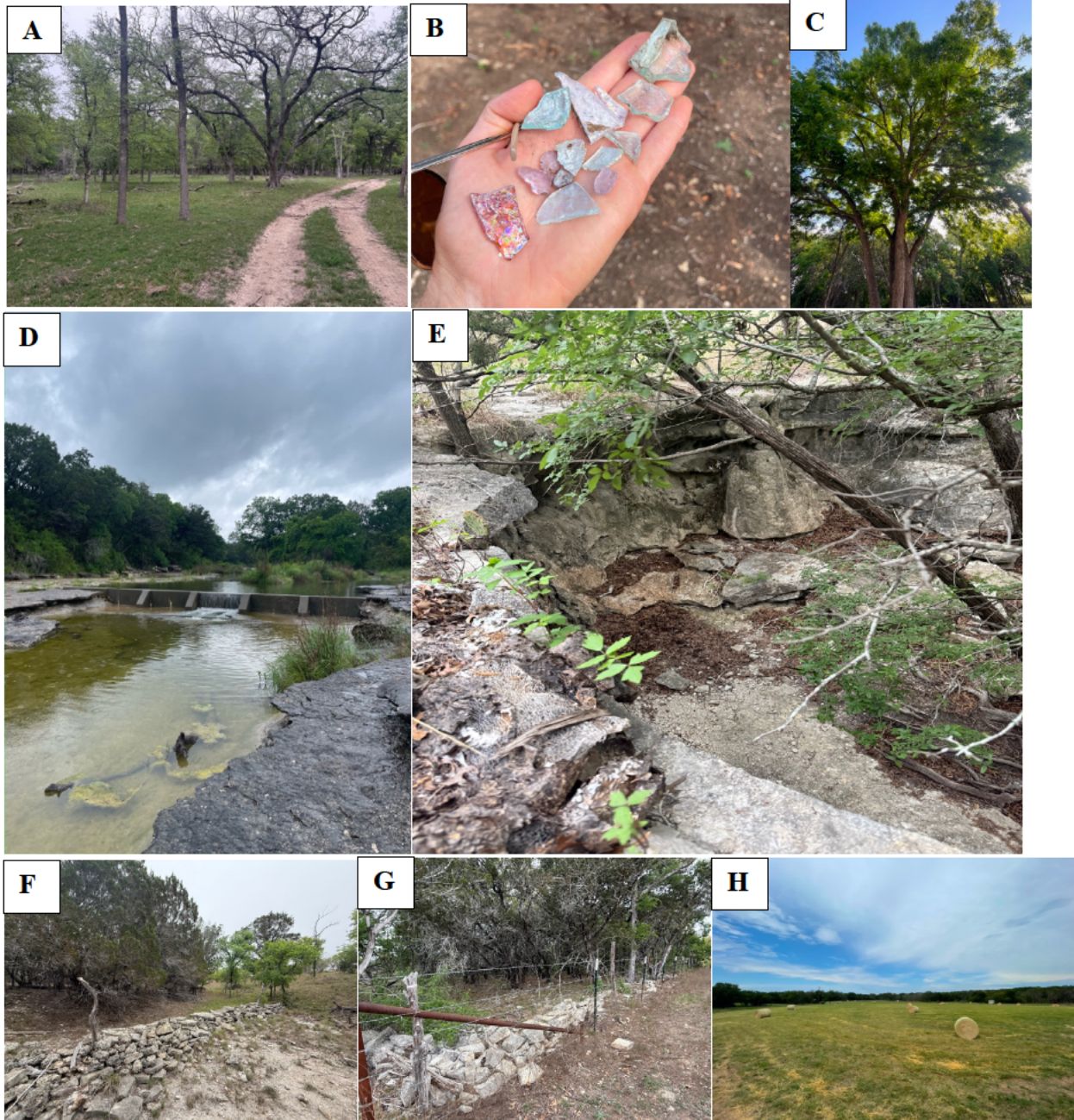
Marion & Jeanette Snell – Burnet County
1-d-1 Wildlife Exempt



Areas the Proposed Railway could directly disturb:

- ‘The Bottom’ a forest area, habitat to variety of birds, deer and other wildlife. The Dark-Eyed Junco was identified on 04/04/25 and is protected under the Migratory Bird Treaty Act.
 - Historic Scott Hollow runs through this property.
- Mesquite Creek, Scott Stream, Dripping Springs run through this property.
 - 2 large Water recharge areas on property.
- Multiple late-1800s rock-wall boundary lines and old cattle pens remain undisturbed.
 - Bermuda field farmed for hay production could be affected.
- Cattle graze freely on several planted and native grasses at various times on various pastures on this property.
- Campsite containing (3) RV Trailers for leased hunters and family recreation is ~730 ft. from proposed route. (Not shown on map).
 - At least (2) middens have been located on this property.
 - Large bluffs are on this property.
- **This is a 1-d-1 Wildlife Exempt maintained property** with constant conscious efforts of maintaining and preserving the native wildlife, and ecosystems.

Our family has continuously owned and ranched this property since 1849.

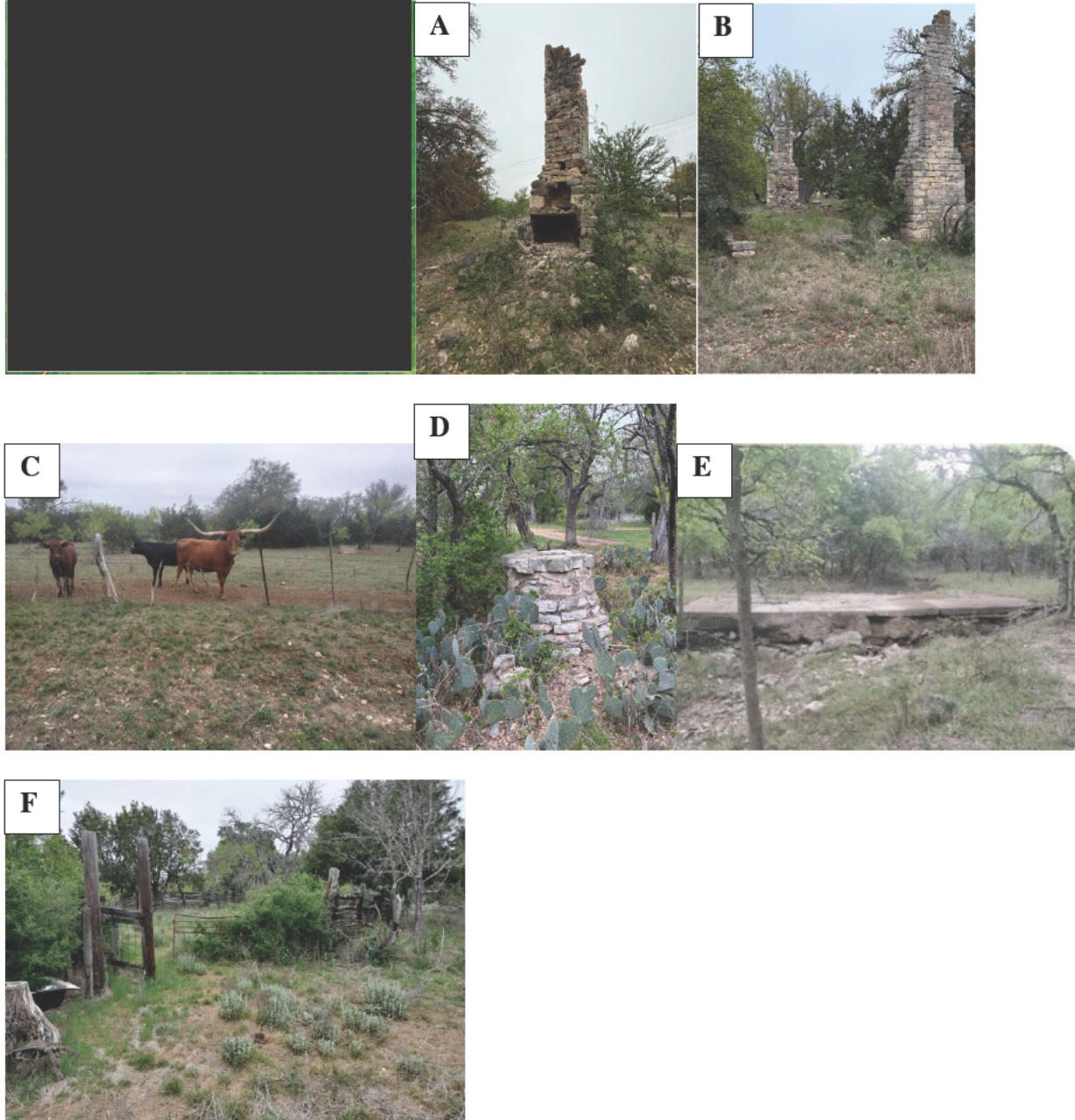


Pictures Included: (A) “The Bottom” a forest area. Habitat to variety of birds, deer, and other wildlife. The Dark-Eyed Junco was identified on 04/04/25 and is protected under the Migratory Bird Treaty Act. (B) Antique glass pieces found near suspected Midden located in Scott Hollow. (C) Large Pecan Tree (D) Mesquite Creek (E) 1 of 2 large Water Recharge areas on property. Estimated about 10’ deep from top standing area. (F) Former rock-boundary line. (G) Former rock-boundary line and cattle pens located in Scott Hollow. (H) Bermuda field farmed for hay production for livestock.
Not Pictured- natural springs and streams on property, additional midden.

Our family has continuously owned and ranched this property since 1849.

Duwain Snell – Burnet County

Information provided by Scott Snell



Pictures & Description:

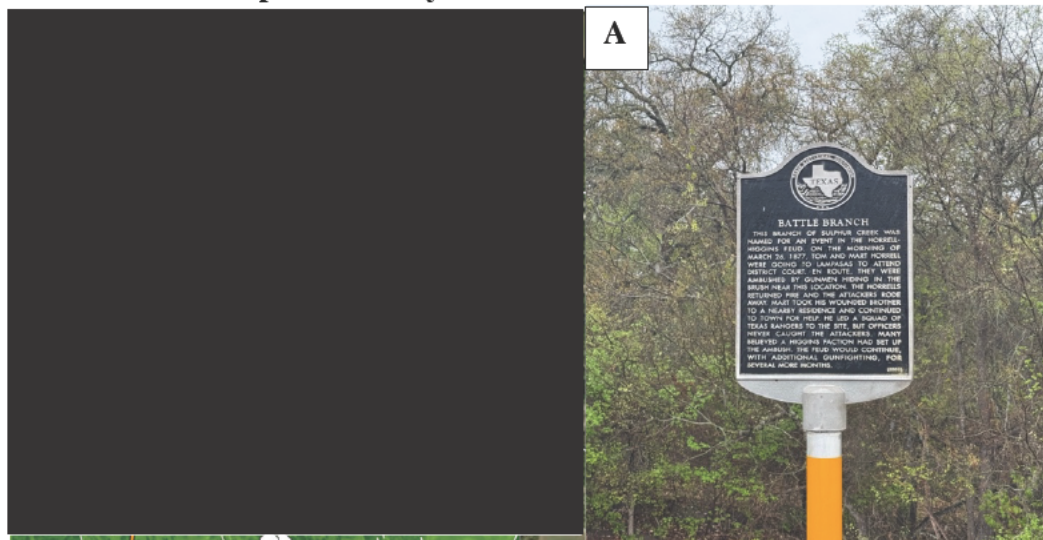
- (A) Remaining structure of original 1852 homestead – home was nearly burnt to the ground by high-school kids in the 1990's
- (B) Original 1852 Homestead – photographed 04/04/25
- (C) Cattle and longhorn grazing
- (D) Original 1800s water well/cistern
- (E) Old Road to Belton ~ on Lampasas County property
- (F) Old round fences to feed and water cattle 3-4 on property

Not Pictured:

- Honeycomb limestone root cellar ~ 3 feet tall
- Property has several artesian springs

Current homestead was not shown on proposed map. I have edited to show where the house is. It is in almost direct path of proposed route

Laura Stair - Lampasas County



Pictured: (A) Battle Branch, March 1877
Noted by Texas Historic Commission

My family owns property in both Burnet and Lampasas Counties.

Lampasas County:

- This property has been in our family's possession since 1901.
- There have been archaeological digs on the (*Leah Snell*) property on Sulphur Creek with significant finds of arrowheads and "hooks" made from heelsplitter mussel shells.
- There is a very old fenced in graveyard, ornate wrought iron. (*Thornal Cemetery, M.A. Snell*)
- Battle Branch is on our property. This was the scene of one of the major shootouts during the Higgins Horrel feud. It has a historical marker.
- There are multiple artesian springs on the property which feed into Sulphur Creek, one of the tributaries that supply our drinking water from Kempner Water Supply.
- There are several limestone bluffs which support diverse wildlife. There is a family of beavers in the creek.
- The property sits on a cave.
- My grandfather, Casbeer Snell, Sr.'s, birthplace is still standing on the property which. It is a dog trot house. The limestone cistern is still there. There is another cistern close by.
- The original buggy road to Lampasas is still visible including a small concrete bridge over a small stream.

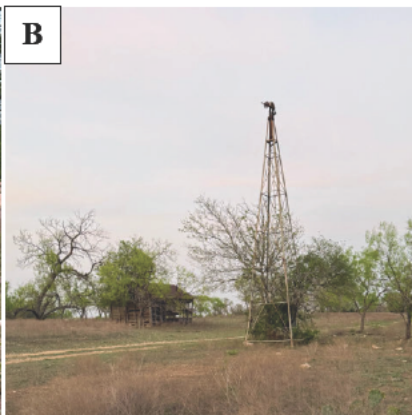
Burnet County:

- This land has been in our family's possession since the 1850's. We have the original Joseph Alexander surveys. Our grandmother was Margaret Alexander Snell, b.1901. Parts of the original homestead (*on Duwain Snell's property*) are still visible, the chimneys and root cellar. That property has several artesian springs.
- There is a MASSIVE live oak tree (*on Leah Snell's property*) that my grandmother said was used by the Indians for councils. This story has been passed down for generations.

Thank you for your efforts to stop this horrific train proposal.

Laura Stair, sixth generation Texan

Rowdy Hinckley – Burnet County

**Pictures Included:**

(A) Old homestead house off Mesquite Creek

(B) Old barn and windmill on Mesquite Creek Home

(C) Old Quail Barn

(D) Old Goat Barn

(E) Spring on the property in railway projected paths

(F) Charlie Brown Well in both railway projected paths. Deepest old well on the property, approx. 100-175' deep.

(G) Old well, not dried up, for homestead from previous owners tract 1865-1940. Approx. 50-100' deep. In both railway projected paths.

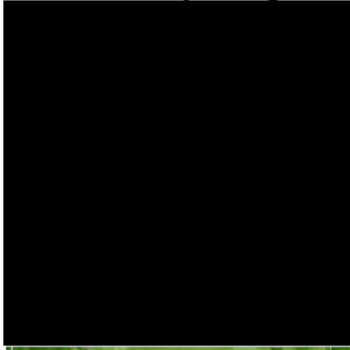
(H) Mesquite Creek Kitchen area

(I) Berm 20' high.

(J) Berm 15' high.

(K) Biggest RR culvert abutment 2x CSP, Approx. 25-30' high, on old Love tract.

(L) Stone & culvert pipe berm. RR Berm CSP / stone masonry

John & Kathy Wing - Burnet County**Photos included are of the Stagecoach Cistern Fox Run**

- Supposedly from the 1800s and maybe the Austin-San Saba route.
- Red dot on train map is where the cistern is

Rachel Bishop -Burnet County

My family has a combined nearly 1500 acres that has been in our family since 1892.

According to the proposed train route the railroad could cut right through the middle of my older brother's land as well as mine and my sister's.

Our land is prime habitat for golden-cheeked warbler and the black-capped vireo.

Also, the Russel Fork San Gabriel runs through the property.

We are in the process of applying for the 100 year Family Land Heritage Program.

Alan Kilburn – Burnet County



I live on CR 201 less than a 1/4 mile from the proposed railway.

I took this photo in 2023 of a juvenile red tail hawk. The hawk still hunts in our area.

This is a protected species.



Lewis C. Snell, PhD – Lampasas County

Sulphur Creek is well known in Lampasas County for providing great opportunities for fishing, canoeing, and enjoying nature. More specifically, the region where Cooksey Creek joins Sulphur Creek has been a favorite gathering place for local residence for over 100 years. Growing up, I was told stories about fishing in the creek, hunting deer, and using hunting dogs to hunt racoons and the occasional ring tail cat. As a child, my many cousins would ride horses and my Dad would host camping trips for his many friends. These camping trips included running trot lines and a fish fry on Sunday. I would spend my adolescence hosting my own camping trips and later my family would move to the property where my Mom has spent forty years living on Sulphur creek.

From the wildlife to the wild stories that were told, the Cooksey Creek and Sulphur Creek union provided a location for our family to gather for holidays and for generations of Snell descendants to grow up.

We raised chickens, goats, and sheep on the land. My Dad trained horses and consistently cut and bailed hay on the property for as long as anyone can remember.

This stretch of the creek has seen a lot of change over the years in terms of habitat diversity. There was a time when freshwater eels were prevalent and later there were large freshwater clams. The yellow catfish were once the most plentiful were primarily replaced by channel catfish and more recently multiple species of bass as well as carp are now very plentiful. Throughout this time span, multiple species of gar were consistent.

Also along Sulphur creek, there are a number of bird species that are common and enjoyable to watch. From the egrets to cormorants and occasional kingfisher, the creek is a host to many bird species. Migratory ducks are common with the wood duck standing out when spotted. There is nothing quite like seeing a blue heron and potential mate standing in the shallow water of Sulphur creek.

With all that said, there have been countless Lampasas residents that have mentioned fishing or hunting on the Snell property or how beautiful the land was on Sulphur Creek

During all this time, I took for granted that arrowheads could be found after a soft rain and that visitors often left with an Indian artifact. Many amateur enthusiasts would stop by to visit and we had multiple arrowhead displays in frames in our house. What I failed to realize was that this specific region was a perfect location for the indigenous people of the region to make their home.

Within the last ten years, the land has been visited by the Gault School of Archeological Research and allowed a new population of individuals to visit the land and conduct dig sites for experts and volunteers alike. Artifacts dating back 8,000 years have been identified with the possibility of older items still in the ground. Over 1,000 samples have been collected over the last 30 years including points, scraping tools, and small fishing points. Bison teeth have also been excavated. Possibly the most interesting find has been burnt middens which signify prehistoric food processing activity. These heat fractured rocks are common along the creek and in this area specifically.

The stories and memories shaped my childhood and have a lasting impact on me and my appreciation for wildlife, nature, and the culture and history of the land.

I can only hope that future generations will have the same opportunity to enjoy one of the most unique locations in Lampasas County. The creek and land surrounding it deserve to remain intact and allow the wildlife, livestock, and people to flourish.

Signed,

A handwritten signature in cursive script that reads "Lewis C. Snell". The signature is written in dark ink and is positioned below the "Signed," text.

Lewis C. Snell, PhD – Burnet County

To think that a company could use an easement for part of railway that had been unused for 50 years and then use eminent domain to acquire the remaining portions of the track is an unfortunate way to acquire a rail system. This company requested to bypass the environmental surveys that are typically required and then provided false information regarding the quality of the land and the watershed that serves as a source of water for the creeks and streams that will be affected by this rail system.

My family has owned property in Burnet County for five generations and has farmed, ranched, and hunted on this property dating back to 1849. There was never any mention of an easement for railroad tracks. While due process has been followed to improve the roadway or for powerlines to run across the property, the normal communication channels were not followed in this case.

From my personal experience or from the stories that have been passed down for approximately 180 years, I can tell you that Mesquite creek has been a favorite spot for the Alexander homestead and currently the homestead for Duwain Snell. I have heard the stories of mountain lions traveling in the area and the more common bobtailed cat being identified as well.

Currently deer, turkey, and hogs are prevalent, but this ranch has seen a lot of different mammals and birds in the eight decades that my uncle Duwain and father John utilized the land. Additionally, Mesquite creek was once a continuously flowing creek and was teeming with catfish and bass.

More recently, I witness river otters in Mesquite creek as well as numerous species of hawks and owls. If needed, we can provide photos of coyotes, foxes, and the often talked about but rarely identified porcupine.

And while all these animal species should be considered as well as many others, the biggest factor that should be evaluated is the impact a rail system or any other disturbance to the natural habitat is the 200-year-old oak tree that is currently in the path of the proposed railway. This tree is rumored to have hosted Indian peace talks and is as beautiful as it is old.

This land has served as the homestead for a number of Alexander family members and a rail system would impact at least a dozen current family members that either live on the property full time, have a part time residence or anticipate retiring to the area in the near future.

I am in favor of following due process and completing a full environmental assessment that considers waterways, wildlife, livestock, and quality of life for the families that currently live in Burnet County. We would be remiss if we did not consider the impact a train system would have on mammals, reptiles, amphibians, birds, and fish as well as plant species that are common in this region, but unique to this habitat. Burnet and Lampasas counties take on qualities of the Hill Country and Post Oak Savannah and should be considered as unique as the old oak tree and porcupine that can be seen but not heard.

Signed,

A handwritten signature in cursive script that reads "Lewis C. Snell". The signature is written in dark ink and is positioned below the "Signed," text.



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**LIMITED PRELIMINARY DESKTOP ENVIRONMENTAL CONSTRAINTS ANALYSIS
FOR THE BURNET-LAMPASAS RAILROAD EXPANSION
IN BURNET AND LAMPASAS COUNTIES, TEXAS**



Photo of Sulfur Creek along the proposed Railroad Expansion in Burnet and Lampasas Counties, Texas.

Prepared for:

Hill Country Concerned Citizens
c/o William R. Hinckley and Family for Scimitar Partners/Bar H Bar Land & Cattle Company and
Joseph and Cindy Abel for M.D. Abel Co./South Mesquite Creek Ranch
1001 Crystal Falls Pkwy
Leander, Texas 78641

April 14, 2025

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Introduction

Texas Materials Group, Inc. (Texas Materials) headquartered in Dublin, Ireland is planning to construct and operate a new rail line in Burnet and Lampasas counties, Texas (Project; Figure 1). The Project would involve the construction of 26.9 miles (mi) of new common carrier rail line that would connect to the Austin Western Railroad near the City of Burnet, and to the BNSF Railway near the City of Lampasas. The Project includes approximately 12.5 mi of rail line that would be constructed on land previously owned by the Texas & New Orleans Railroad Company that abandoned its so-called Lampasas Branch and sold the underlying property and 14.4 mi of new rail line construction in what would be newly acquired right-of-way (ROW). The proposed plans and alignment, including options for alternate routes, are shown in Figure 1.

Zara Environmental LLC (Zara) was contracted by various landowners potentially impacted by the proposed development collectively known as “Hill Country Concerned Citizens” to perform a limited desktop environmental constraints analysis for the proposed Project. The limited focus of the analysis is intended to summarize available information via desktop review on water resources; habitat for rare, threatened, or endangered species; and other sensitive environmental resources along the proposed alignment. This report also aims to describe sensitive cultural and/or historical resources, and communities that may be disproportionately affected, within and adjacent to the proposed railway construction. A desktop review of cultural and historical resources was also performed by AmaTerra, ERG Texas Services and a memorandum of their findings is included as Attachment 1. A summary of statements from landowners highlighting historical, cultural, and environmental concerns related to the Project is included as Attachment 2.

Methods

Desktop Review

A review of the Texas Transportation Code (TRANSP § 131.013) indicates that easements for railroad ROWs cannot exceed 100 feet (ft) on either side of the centerline. Based upon this, a 200 ft buffer, with 100 ft on either side of the proposed alignment, was used to estimate the proposed Project ROW and assess the direct impacts of the Project on the surrounding environment (Project Area). Certain environmental resources may require investigating impacts at a greater distance, due to the difference in impacts on specific resources. Unless otherwise stated, the 200 ft buffer was used to estimate the direct impacts from the proposed Project throughout this review. This buffer is conservative and preliminary, and subject to further review of governing rules and standards of the U.S. Surface Transportation Board (STB) and other governmental agencies that will be participating in the environmental review of the Project.

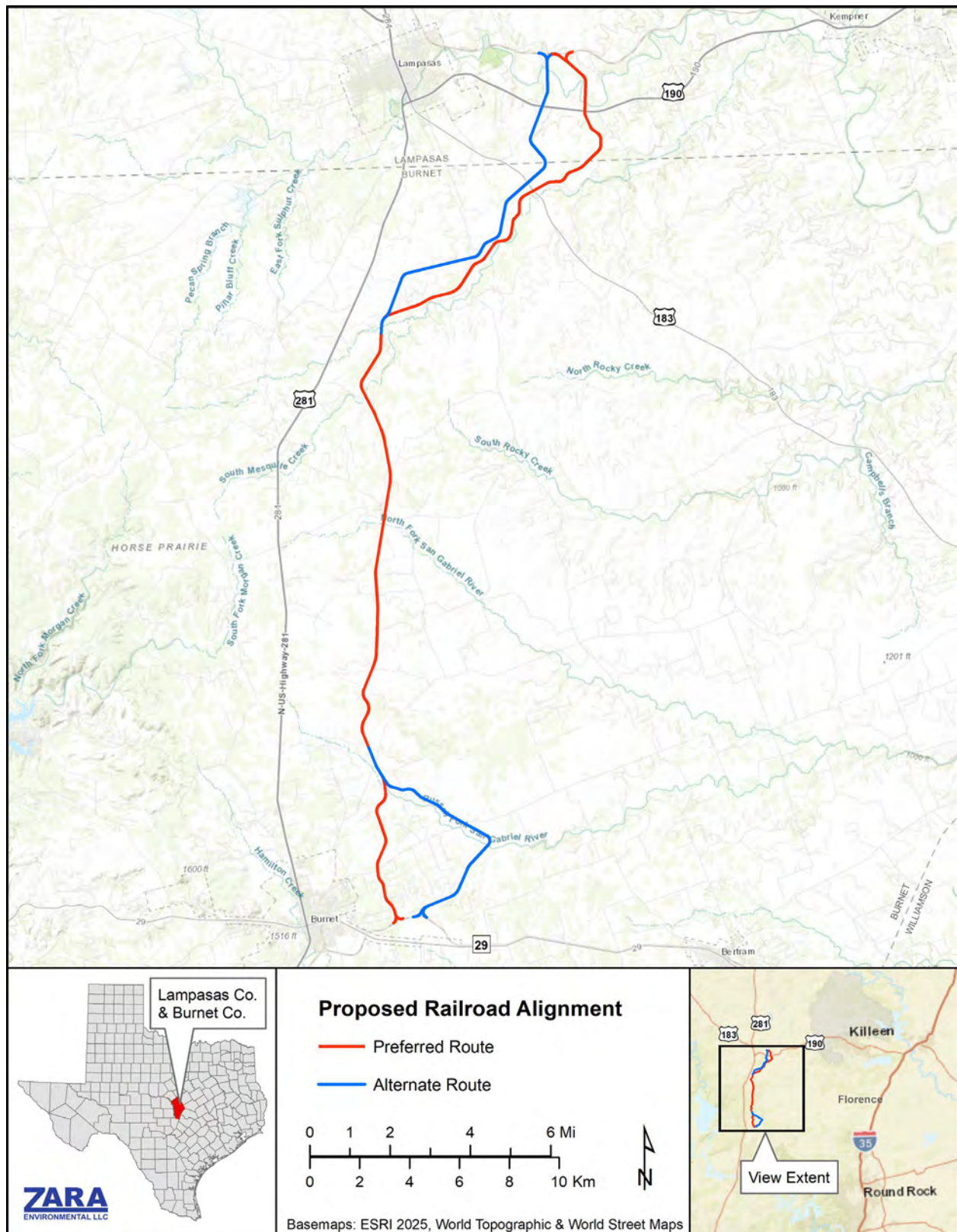


Figure 1. Project location map (aerial).

A desktop review of background data was performed to access and evaluate publicly available information regarding the traits and relevant information of the environment within and surrounding the Project Area. The available information reviewed, including analysis using GIS software (ArcMap 10.8.1 and ArcPro 3.2.1), consisted of:

- U.S. Geological Survey (USGS) topographic maps (USGS 2016);
- USGS National Hydrology Data (USGS 2025);
- Geologic Maps of the Burnet, Lake Victor, Lampasas, and Kempner Quadrangles (Collins et al. 1998; Geologic Atlas of Texas [GAT] 2010);
- U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey (USDA NRCS 2025);
- U.S. Fish and Wildlife Service (USFWS) Environmental Conservation Online System (ECOS) – Information for Planning and Consultation (IPaC) utility for federally listed species potentially present in Burnet and Lampasas Counties near the Project Area (USFWS 2025a);
- USFWS designated Critical Habitat Portal (USFWS 2025b);
- USFWS National Wetlands Inventory (NWI) data (USFWS 2025c);
- Texas Parks and Wildlife Department (TPWD) Annotated County List of Rare Species for Burnet and Lampasas Counties (TPWD 2025);
- Texas Natural Diversity Database (TXNDD) Element Occurrence (EO) and Source Feature records (TXNDD 2025);
- Texas Parks and Wildlife Department (TPWD) Ecological Mappings Systems of Texas (EMST) data (TPWD 2024);
- Texas Commission on Environmental Quality Edwards Aquifer (TCEQ) data (TCEQ 2005);
- Federal Emergency Management Agency (FEMA) flood map data (FEMA 2024);
- U.S. Census Bureau. (2020). Decennial Census Data;
- U.S. Census Bureau. (2024). American Community Survey: 2023 5-Year Estimates; and
- Available aerial photography.

In addition, Golden-cheeked Warbler (*Setophaga chrysoparia*; GCWA) habitat models (Duarte et al. 2013), topographic maps, and aerial photographs of the Project Area and adjacent areas (within 300 ft based upon the area of indirect impacts for the species) were reviewed to assess the GCWA habitat potentially impacted by the proposed Project. The desktop habitat delineation of potential GCWA habitat was performed through interpretation of digital true-color aerial photography at the highest available resolution and topographic maps to determine areas that meet potential GCWA breeding habitat, specifically species composition, canopy coverage, vegetation height, size of woodland habitat, surrounding land use, and topographic relief.

Results

Ecoregion and Land Use

The Project Area is located within the Balcones Canyonlands subunit of the Edwards Plateau ecoregion and the Limestone Cut Plain subunit of the Cross Timbers ecoregion. The Balcones Canyonlands subunit is home to the Balcones Fault Zone, which originated as a result of the Edwards plateau being uplifted during the Miocene Epoch. This fault zone separates the Balcones Canyonlands from the coastal plain in the south. The large amounts of porous limestone found within this subunit contribute to the recharge of the Edwards Aquifer. The varied topography and elevation of the Balcones Canyonlands is accentuated by the numerous springs, streams, and rivers that dissect it. Compared to the rest of the Edwards Plateau, the Balcones Canyonlands support a higher abundance of deciduous woodlands, with commonly found species including escarpment black cherry (*Prunus serotina* var. *eximia*), Texas mountain-laurel (*Sophora secundiflora*), Texas madrone (*Arbutus xalapensis*), Lacey oak (*Quercus laceyi*), bigtooth maple (*Acer grandidentatum*), and Carolina basswood (*Tilia americana* var. *caroliniana*). Vegetation more characteristic of eastern swamp communities, such as baldcypress (*Taxodium distichum*), American sycamore (*Platanus occidentalis*), and black willow (*Salix nigra*), may occur along the major stream courses of this subunit. The vegetation in the west shifts gradually as arid climates become more common, with plateau live oak (*Quercus fusiformis*) woodlands restricted to north, while dry slopes are commonly covered with open shrublands comprised of Ashe juniper (*Juniperus ashei*), sumac (*Rhus lanceolata*), Texas sotol (*Dasylirion texanum*), acacia (*Acacia* sp.), honey mesquite (*Prosopis glandulosa*), and ceniza (*Leucophyllum frutescens*) (Griffith et al. 2007).

The Limestone Cut Plain subunit is bordered to the west by the sandstone and clay soils that support the Cross Timbers oak woodlands, to the east by the remnants of the Balcones Escarpment marking the boundary with the Blackland Prairie, to the south by the rugged Balcones Canyonlands, and to the north by the gradual transition to the smoother topography of the Grand Prairie. The Limestone Cut Plain features a stair-step topography of mesas and valleys underlain by older Lower Cretaceous formations, such as the Glen Rose Formation and Walnut Clay, which erode more easily than Edwards Limestone, resulting in flatter terrain, lower drainage density, and more open woodlands compared to the Balcones Canyonlands. The Limestone Cut Plain features shallow soils over limestone, supporting a mix of vegetation types, including grasslands on Walnut Clay in lowlands, oak savannas on mesa divides, and sparse shrubs on rocky slopes. Dominant vegetation includes plateau live oak, cedar elm (*Ulmus crassifolia*), Texas ash (*Fraxinus texensis*), bigtooth maple, and bur oak (*Quercus macrocarpa*), along with tallgrass prairie species such as big bluestem (*Andropogon gerardii*), little bluestem (*Schizachyrium scoparium*), and Indiangrass (*Sorghastrum nutans*). Land use changes, grazing, and fire suppression have shifted native grasslands and oak savannas toward shrub-dominated landscapes, with species like Ashe juniper and mesquite (*Prosopis glandulosa*) becoming more common (Griffith et al. 2007).

Geology

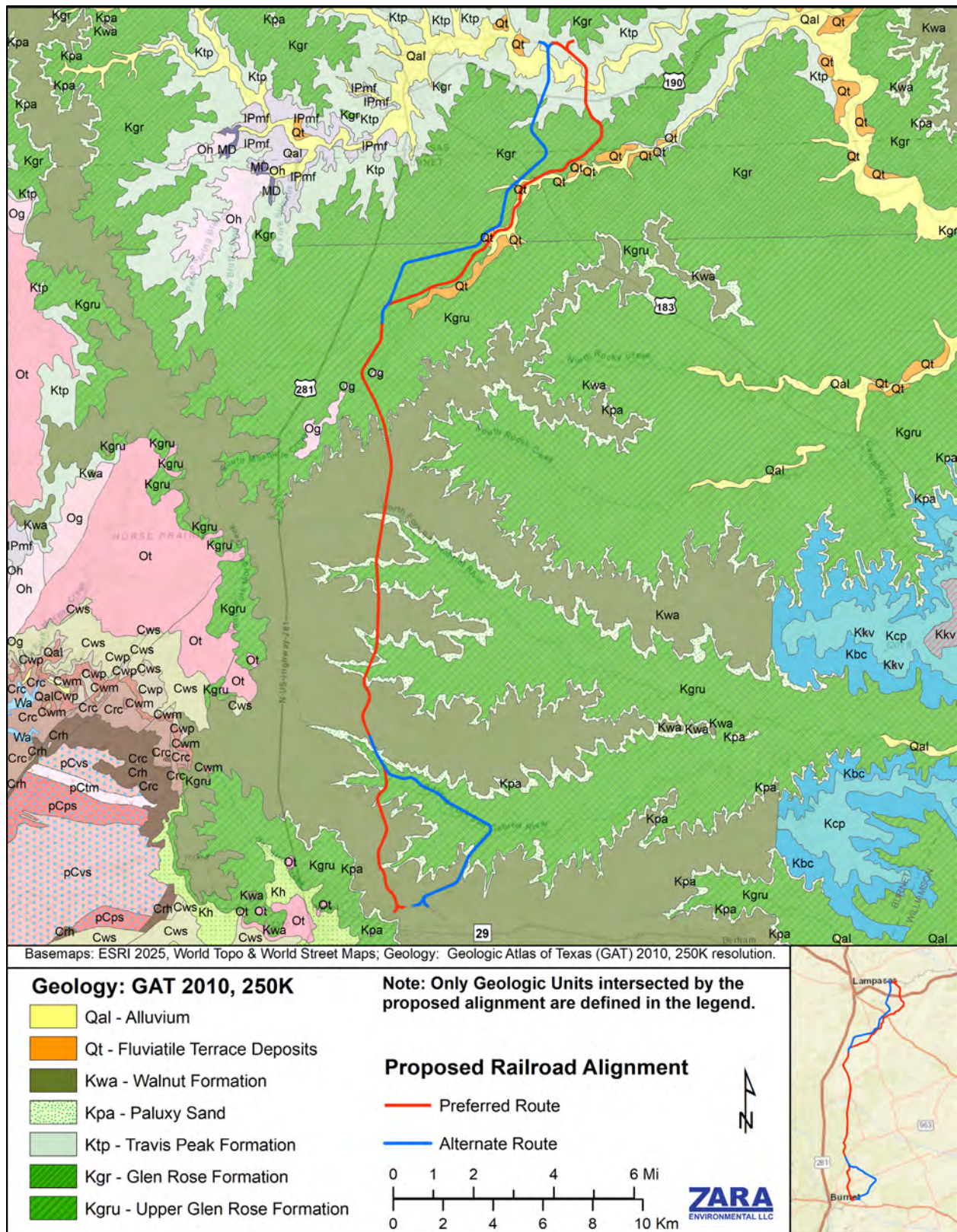
According to the Texas Geology Web Map Viewer (GAT 2010, 1:250,000), six geologic units are mapped within the Project Area (Figure 2). The Walnut Formation (Kwa) can reach a thickness of 50 ft and is comprised of Cedar Park limestone and Bee Cave marl. The Paluxy Sand (Kpa) consists of fine to very fine grained, friable, quartz sand. It is typically light gray to red, in part indurated by calcite cement, and can reach a thickness up to 10 ft. The Travis Peak Formation (Ktp) can reach a thickness of up to 175 ft and consists of pebbles, cobbles, and boulders of Paleozoic limestone, dolomite, chert and sandstone. The Glen Rose Formation can reach a thickness of up to 250 ft and is comprised of alternating limestone and claystone with smaller amounts of sandstone. The Upper Glen Rose Formation (Kgru) can reach a thickness of up to 220 ft and consists of limestone, dolomitic limestone, and marl. The Project Area also contains Quaternary Alluvium (Qal) and Fluvatile terrace deposits (Qt) consisting of clay, silt, sand and gravel deposited from riverine sources common throughout the Edwards Plateau.

Soils

Within the Project Area, 28 soil map units were identified using the USDA NRCS Web Soil Survey (USDA NRCS 2025; Appendix A). The majority of the soil map units identified within the Project Area are made up of clay, loam, and gravel. The four most prevalent soil types include:

- Purves clay, 1 to 8 percent slopes (38), is the most common soil map unit found within the Project Area at 119.5% and consists of well drained clayey residuum weathered from limestone.
- Brackett association, 1 to 8 percent slopes (6), comprises 17.7% percent of the Project Area and consists of well drained clayey loamy residuum weathered from limestone.
- Bolar clay loam , 1 to 3 percent slopes (4), comprises 10.7% of the Project Area and consists of well drained loamy residuum weathered from limestone.
- Krum clay 1 to 3 percent slopes, comprises 8.9% of the Project Area and consists of well drained calcareous silty and clayey alluvium derived from limestone.

The remaining 24 soil map units each make up less than 6 percent of the Project Area. Soil properties—such as permeability, drainage, and texture—not only influence ecological function and land suitability, but also affect infrastructure design, erosion control, and stormwater management, all of which have implications for public safety, land use, and long-term community resilience.



Prime Farmland and Farmland Classifications

Prime farmland, as defined by the Farmland Protection Policy Act (FPPA), refers to “land that has the best combination of physical and chemical characteristics for producing food, feed, fiber, forage, oilseed, and other agricultural crops with minimum inputs of fuel, fertilizer, pesticides, and labor...” (7 U.S. Code Section 4201(c)(1)(A)). These lands are valued for their productivity and long-term sustainability and are an important consideration in federally supported infrastructure planning, including linear transportation projects such as railroad corridors.

The FPPA is administered by the Natural Resources Conservation Service (NRCS) and seeks to minimize the conversion of prime and other important farmlands to non-agricultural uses. Early identification of these soil resources helps reduce land use conflicts, protect local agricultural viability, and guide responsible infrastructure siting. For rural communities, the preservation of high-quality farmland supports food production, land-based livelihoods, and intergenerational land stewardship.

The NRCS recognizes multiple farmland classifications relevant to this analysis:

- All areas are Prime Farmland: Soils with ideal characteristics for sustained agricultural production.
- Farmland of Statewide Importance: Soils that do not qualify as prime farmland but are still capable of producing high yields of crops with appropriate management.
- Farmland of Statewide Importance, if Irrigated: Soils that meet the criteria for statewide importance only when irrigation is available.
- Not Prime Farmland: Soils that lack the qualities necessary for productive agriculture, often due to poor drainage, shallow depth, or limited moisture retention.

A desktop review of soil data identified the following farmland classifications within the proposed railroad Project Area:

- All areas are Prime Farmland: 133.8 acres (ac) (13.0%)
- Farmland of Statewide Importance: 183.9 ac (17.9%)
- Farmland of Statewide Importance, if Irrigated: 0.8 ac (0.1%)
- Not Prime Farmland: 707.5 ac (68.8%)

Among the 28 soil map units identified, five qualify as Prime Farmland:

- Krum clay, 1 to 3% slopes (24), which comprises approximately 8.9% of the Project Area;
- Lewisville clay loam, 0 to 1% slopes (26), which comprised approximately 1.8% of the Project Area;
- Krum silty clay, cool, 1 to 5% slopes (KrB), which comprises approximately 1.1% of the Project Area;

- Krum clay, 3 to 5% slopes (25), which comprises approximately 0.7% of the Project Area; and
- Lewisville clay loam, 1 to 3% slopes (27), which comprises approximately 0.5% of the Project Area.

Recent aerial imagery and landowner statements (Attachment 2) confirm the presence of active agricultural land use within the Project Area, including apparent hay production and open cropland. While land use does not influence soil classification, observed agricultural activity reinforces the relevance of FPPA protections by demonstrating current productivity and economic use.

If the proposed Project receives federal funding or requires federal permitting, coordination with NRCS may be warranted to evaluate potential impacts to farmland resources. This may include the preparation of a Farmland Conversion Impact Rating Form (AD-1006) to determine if further protection or mitigation measures are appropriate under FPPA.

Table 1. NRCS Soil Map units located within the Project Area.

Map Unit Symbol	Map Unit Name	Acres in Project Area (ac)	Percent of Project Area (%)	Prime Farmland Soil?
38	Purves clay, 1 to 8 percent slopes	200.20	19.50%	N
6	Brackett association, 1 to 8 percent slopes	181.40	17.70%	N
4	Bolar clay loam, 1 to 3 percent slopes	110.00	10.70%	N, Farmland of statewide importance
24	Krum clay, 1 to 3 percent slopes	91.60	8.90%	Y, Prime Farmland
BrD	Brackett gravelly clay loam, 3 to 8 percent slopes	55.90	5.40%	N
11	Eckrant-Rock outcrop association, 1 to 10 percent slopes	52.00	5.10%	N
9	Doss silty clay, moist, 1 to 5 percent slopes	48.70	4.70%	N
32	Oakalla silty clay loam, 0 to 2 percent slopes, occasionally flooded	47.60	4.60%	N
5	Bolar clay loam, 3 to 5 percent slopes	41.50	4.00%	N, Farmland of statewide importance
LaC	Lampasas gravelly clay, 1 to 5 percent slopes	28.10	2.70%	N
HeD	Hensley loam, 1 to 8 percent slopes, very stony	22.40	2.20%	N

26	Lewisville clay loam, 0 to 1 percent slopes	18.50	1.80%	Y, Prime Farmland
37	Purves gravelly clay, 1 to 3 percent slopes	14.60	1.40%	N
RuA	Rumley silty clay loam, 0 to 1 percent slopes	14.10	1.40%	N, Farmland of statewide importance
7	Brackett-Real association, 10 to 30 percent slopes	13.40	1.30%	N
SuA	Sunev loam, rarely flooded	11.60	1.10%	N, Farmland of statewide importance
KrB	Krum silty clay, cool, 1 to 5 percent slopes	10.90	1.10%	Y, Prime Farmland
41	Tarpley clay, 1 to 3 percent slopes	10.70	1.00%	N
ReD	Real gravelly clay loam, 1 to 8 percent slopes	9.80	1.00%	N
OgB	Oglesby silty clay, 0 to 3 percent slopes	9.30	0.90%	N
25	Krum clay, 3 to 5 percent slopes	7.30	0.70%	Y, Prime Farmland
1	Aledo gravelly clay loam, 1 to 8 percent slopes	6.80	0.70%	N
BoB	Bolar clay loam, 1 to 3 percent slopes	6.70	0.70%	N, Farmland of statewide importance
42	Tarpley-Eckrant complex, 1 to 8 percent slopes, stony	6.50	0.60%	N
27	Lewisville clay loam, 1 to 3 percent slopes	5.50	0.50%	Y, Prime Farmland
BeB	Boerne loam, rarely flooded	0.80	0.10%	N, Farmland of statewide importance, if irrigated
W	Water	0.40	0.00%	N
HeC	Hensley loam, 3 to 5 percent slopes	0.10	0.00%	N
Total		1026	100%	

Water Resources

The Project Area lies over the Trinity Aquifer and near the regional divide between the Brazos River Basin (Hydrologic Unit Code [HUC] 1207) and the Colorado River Basin (HUC 1209) (TWDB 2025a, USGS 2019, 2025a). Drainages in the northern and central portion of the site flow toward the Brazos River system, while those in the southern portion drain into the Colorado River system (USGS 2024a). This hydrologic setting supports a variety of surface water features that may meet the criteria for jurisdictional Waters of the United States (WOTUS) under the Clean Water Act (CWA; U.S. Environmental Protection Agency [EPA] 2023a, 2025a, 2025b). These waters also contribute essential ecological functions, supporting aquatic and riparian habitats, nutrient cycling, and broader watershed health.

Compliance with the CWA may require formal jurisdictional determinations and Section 404 permitting for activities involving the discharge of dredged or fill material into WOTUS. Primary regulatory authority lies with the U.S. EPA, which administers national water quality standards and pollution control programs, while the U.S. Army Corps of Engineers (USACE) is responsible for implementing Section 404 and evaluating jurisdictional determinations (EPA 2023a, 2025a, 2025b).

Surface waters and groundwater resources play a key role in supporting human communities. Streams and wetlands help regulate downstream water quality, reduce flood risks, and sustain groundwater recharge—functions that directly influence agricultural productivity, household water access, and community resilience. Disruption to these features could affect local water availability, increase erosion or flooding risks during storm events, or lead to longer-term degradation of drinking water supplies—especially in rural areas that rely on domestic wells or spring-fed systems.

Given the ecological, regulatory, and human significance of these resources, early identification of potentially jurisdictional waters is a critical component of environmental planning for linear infrastructure projects. This desktop assessment was guided by the 2023 *Sackett v. EPA* Supreme Court decision, which clarified that WOTUS includes only relatively permanent water bodies and wetlands with a continuous surface connection to such waters (U.S. Supreme Court 2023). The review utilized data from the National Wetlands Inventory (NWI; USFWS 2025c), National Hydrography Dataset (USGS 2025a), FEMA’s National Flood Hazard Layer (NFHL ; FEMA 2025), recent aerial imagery, and other federal and state sources to identify aquatic features potentially subject to federal jurisdiction. While not a substitute for field verification, this review provides a conservative estimate of surface waters that may trigger federal permitting or mitigation requirements, pending formal delineation.

To support a comprehensive inventory of potentially jurisdictional aquatic features, resources were evaluated within both the Project Area (approximately 1,026 ac) and a 200-foot buffer extending outward from the Project Area. This combined footprint, referred to herein as the assessment area, totals approximately 3057.95 ac. The buffer was included to account for

potential indirect impacts such as altered drainage patterns, equipment access, and temporary construction zones, and is consistent with best practices for evaluating linear infrastructure corridors (USACE 2014).

Surface Water

Aquatic features were identified through desktop review of NHD, NWI, FEMA NFHL data, and aerial imagery and are displayed in Appendix B. Key indicators included visible confluences with named water bodies and location within mapped floodplains. Zone A floodplains, representing areas with a 1% annual chance flood (100-year flood), were used as secondary indicators of episodic surface connectivity (see Section on Floodplains). No features have been formally verified through a jurisdictional delineation.

A total of 103 linear features were identified within the assessment area, representing approximately 10.49 linear miles (mi) (Appendix B; Table 1). Of these, 65 features are also classified as Riverine in the NWI with Cowardin types R4SBC (intermittent, seasonally flooded), R4SBA (intermittent, temporarily flooded), R2UBH (lower perennial, permanently flooded), and R5UBH (unknown perennial, permanently flooded).

Based on the available data, three categories of surface water features were considered most likely to be jurisdictional under the CWA:

1. Named Water Bodies (Likely RPWs)

Seventeen (17) features, totaling 1.91 mi, correspond with named water—such as Sulphur Creek, Mesquite Creek, North Mesquite Creek, South Mesquite Creek, Denson Branch, Allen Branch, Russell Fork San Gabriel River, and North Fork San Gabriel River—with downstream connections to the Brazos or Colorado Rivers. These are presumed to be Relatively Permanent Waters (RPWs).

These named streams are hydrologically connected to downstream traditional navigable waters via the San Gabriel and Little Rivers and are mapped in the NHD (USGS 2025a). The North Fork is a perennial stream monitored by USGS and contributes to the Lake Georgetown public water supply (USGS 2025b). These tributaries may receive spring-fed baseflow and support aquatic habitat and water quality functions typical of streams underlain by limestone and associated with the Trinity Aquifer system (TWDB 2025b).

2. Unnamed Streams in FEMA Flood Zone A

Thirty-two (32) unnamed streams, totaling 2.70 mi, fall within FEMA-mapped Zone A and appear directionally connected to named RPWs. Their presence in mapped floodplains provides strong support for episodic surface flow sufficient to establish connectivity.

3. Unnamed Streams with Visible Confluence Outside Floodplains

Eight (8) additional streams, totaling 0.73 mi, occur outside mapped floodplains but show

clear confluences with RPWs based on aerial imagery and spatial analysis.

Together, these 57 features span approximately 5.34 mi, and are considered the most likely to fall under federal jurisdiction, pending formal delineation.

The remaining 46 features (5.15 mi) lacked observable surface connection to RPWs based on desktop analysis. These may include ephemeral headwaters, isolated ditches, or modified agricultural channels. While no direct connection was observed, these features may still meet jurisdictional criteria upon field verification of seasonal flow, subsurface connectivity, or other hydrologic indicators.

Regardless of jurisdiction, the density and distribution of these features suggest potential for construction-related impacts to surface flow, sediment transport, or downstream water quality—factors that may affect local water availability, aquatic habitat integrity, and flood risk to adjacent communities. These changes may influence water supply, erosion dynamics, and flood exposure in downstream or adjacent communities, particularly in rural areas with limited stormwater infrastructure.

Table 2. Summary of Surface Water Features Within the Assessment Area Considered More Likely to be Jurisdictional

Resource Type	Number of Features	Total Linear Distance (mi)
Named Linear Water Features	17	1.91
Unnamed Linear Water Features in FEMA Flood Zone A	32	2.70
Unnamed Linear Water Features with Visible Confluence Outside Floodplains	8	0.73
Total	57	5.34

Groundwater

The assessment area lies entirely over the Trinity Aquifer, which is designated by the EPA as a sole source aquifer (EPA 2023b, TWDB 2025b). The Trinity Aquifer serves as a key regional water source and is composed of multiple geologic formations with variable permeability and depth. Groundwater levels in the aquifer are influenced by rainfall recharge, surface water interaction, and groundwater pumping.

Regulatory oversight is provided by TCEQ and TWDB. TCEQ regulates water quality and pollution prevention, while TWDB supports long-term groundwater management through planning, modeling, and data services (TWDB 2025c; TCEQ 2024). No minor aquifers are mapped within the assessment area, although hydrogeologic conditions suggest interaction between surface and groundwater resources.

The Project Area spans Burnet and Lampasas counties, each of which falls under the jurisdiction of a local Groundwater Conservation District (GCD) authorized by TWDB (TWDB 2025c). Burnet County is managed by the Central Texas Groundwater Conservation District (CTGCD), and Lampasas County is overseen by the Saratoga Underground Water Conservation District (SUWCD). These districts are tasked with conserving and regulating groundwater resources through permitting, education, and monitoring programs (CTGCD 2025; SUWCD 2025; TWDB 2025c).

No groundwater wells, springs, or seeps were identified within the assessment area (TWDB 2025d); however, several landowners have noted springs occurring within and/or near the Project Area (Attachment 2). While nearby creeks such as North and South Mesquite Creek have not been definitively identified as spring-fed in existing hydrologic datasets, some landowner statements (Attachment 2) suggest the potential for spring influence in this portion of Burnet County. Further investigation may be warranted to clarify the hydrologic source of these features and their relationship to the Trinity Aquifer system. Within a 5 mi radius, 183 groundwater wells are recorded, including domestic (80), public supply (23), stock (18), irrigation (7), industrial (3), recreational (1), and medicinal (1) wells. Additionally, 36 wells are classified as unused, six (6) as plugged or destroyed, and four (4) as monitoring wells.

Given the number and proximity of existing wells, Project-related activities should consider potential impacts to groundwater quantity and quality, particularly via surface infiltration or construction-induced changes in runoff. Any degradation of groundwater conditions could affect domestic and public water supplies, especially in areas where households rely on shallow wells or where groundwater serves as the sole source of drinking water.

Floodplains

Floodplains are low-lying areas adjacent to rivers and streams formed by the periodic overflow of natural channels. They are commonly associated with flood-prone zones and provide important ecological and hydrological functions (Blanchard 2008). A review of the FEMA National Flood Hazard Layer (NFHL) identified two mapped flood zones within the assessment area: Zone

A and Zone X (FEMA 2025). FEMA data was not available for portions of the Project Area in Lampasas County.

Floodplain mapping and oversight are managed by FEMA through the National Flood Insurance Program (NFIP), with implementation support from state and local agencies.

- Zone A includes areas subject to the 1-percent annual chance (100-year) flood, where base flood elevations are not established. This zone encompasses approximately 254.06 ac.
- Zone X includes areas of minimal flood hazard or areas protected by levees and encompasses approximately 2,300.48 ac.

While the presence of a floodplain does not independently establish jurisdiction under the CWA, Zone A is a meaningful indicator of episodic surface water movement that may connect otherwise isolated features to RPWs. Post-*Sackett*, demonstrating a continuous surface connection is key to determining jurisdiction. Features located within or adjacent to Zone A—such as wetlands, ponds, or unnamed streams—are more likely to exhibit seasonal or temporary connectivity, supporting a conservative interpretation of jurisdiction during desktop review. In this context, Zone A is useful for prioritizing field assessments and guiding preliminary planning decisions. Proximity to flood-prone areas also raises considerations for community safety and infrastructure resilience, particularly where Project activities may alter natural drainage patterns or increase flood exposure for nearby homes, roads, or agricultural land.

Wetlands

Wetlands are areas defined by the USACE that support hydrophytic vegetation due to a combination of hydrologic and soil conditions. Wetlands are identified based on three parameters: hydrophytic vegetation, hydric soils, and wetland hydrology. A review of NWI data identified multiple freshwater wetland types within the assessment (USFWS 2025c).

A total of 52 wetland and pond features were identified, comprising approximately 14.10 ac. These were grouped into three types: forested/scrub-shrub wetlands, emergent wetlands, and freshwater ponds. Each was evaluated for proximity and surface hydrologic connectivity to RPWs or their directly connected tributaries. Wetlands found in FEMA Flood Zone A were also evaluated as more likely to exhibit episodic surface connections.

Ten (10) forested/scrub-shrub wetlands (3.31 ac) were classified as PFO1A and PSS1A. Two (2) of these features (0.44 ac) are directly connected to RPWs, and four (4) (1.81 ac) are connected to

tributaries of RPWs. These features are generally located adjacent to stream channels or in areas of persistent saturation.

Seven (7) emergent wetlands (2.07 ac), classified as PEM1A and PEM1C, occur along shallow drainageways, likely influenced by rural runoff or land disturbance. Two (2) emergent features (0.62 ac) are located along tributaries connected to RPWs.

Thirty-five (35) freshwater ponds (8.72 ac), classified as PUBFh, PUBHh, and PUSCh, were also identified. One (1) pond (0.61 ac) is directly connected to an RPW, and one (1) (0.11 ac) is connected to a tributary. Most remaining ponds are isolated livestock or irrigation features, though those with surface connectivity may be jurisdictional.

Ten (10) additional wetland features (4.46 ac) were located within FEMA Zone A but exhibited no visible surface connection to RPWs or their tributaries. These wetlands may experience episodic flooding sufficient to sustain surface flow and are therefore conservatively categorized as more likely to be jurisdictional under current regulatory guidance.

Jurisdictional wetlands fall under Section 404 of the CWA (EPA 2025a, 2025b). Proposed impacts—such as grading, fill placement, or hydrologic modification—should be evaluated for permitting and avoidance requirements. Field investigations are recommended to confirm wetland status and jurisdictional connectivity, prioritizing those with observable indicators of surface flow. All features should be assessed for hydrophytic vegetation, hydric soils, and wetland hydrology, as well as potential episodic or subsurface hydrologic exchange with RPWs. Where wetlands are connected to community water sources, contribute to flood attenuation, or support downstream habitat, their alteration may also result in indirect impacts to human health and local land use, including changes in runoff dynamics, water filtration capacity, or water quality. In areas where communities rely on these systems for stormwater absorption or clean water delivery, their loss could increase runoff-related damage, reduce natural filtration, and degrade quality of life for local residents.

Table 3. Summary of Wetland Features Within the Assessment Area Considered More Likely to be Jurisdictional

Resource Type	Number of Features	Total Area (ac)
Freshwater Emergent Wetland	2	0.62
Freshwater Forested Scrub-Shrub Wetland	5	2.11
Freshwater Pond	2	0.72
Wetlands in FEMA Flood Zone A (no RPW connection)	10	4.46
Total	19	7.91

Vegetation

The Texas Parks and Wildlife Ecological Mapping Systems of Texas (EMST) maintains a land classification system that categorizes the various vegetation types within the state. EMST data and aerial imagery were used to assess the vegetation communities available within the Project Area. Based on the EMST data, 34 primary vegetation types exist within the Project Area. The most common vegetation types available include Edwards Plateau: Savanna Grassland (Vegetation ID: 1107), Edwards Plateau: Oak/ Hardwood Motte and Woodland (Vegetation ID: 1104), Edwards Plateau: Deciduous Oak / Evergreen Motte and Woodland (Vegetation ID: 1103), and Edward Plateau: Live Oak Motte and Woodland (Vegetation ID: 1102)(TPWD 2024). The remaining 30 vegetation types each comprised less than 10% of the Project Area vegetation. A full breakdown of the vegetation types that exist within the Project Area can be found in Table 4 and is displayed in Appendix C.

The data provided in this section is based on a habitat model and may not represent the exact vegetation communities that occur. Because of this, additional field investigations performed by a qualified biologist should be conducted to verify the accuracy of the vegetation models and to provide a more detailed description of the vegetation communities that exist within the Project Area.

Table 4. Summary of the EMST vegetation types within the Project Area.

Vegetation ID	Common Name	Acres	% Total
1107	Edwards Plateau: Savanna Grassland	315.88	30.77%
1104	Edwards Plateau: Oak / Hardwood Motte and Woodland	209.47	20.41%
1103	Edwards Plateau: Deciduous Oak / Evergreen Motte and Woodland	124.17	12.10%
1102	Edwards Plateau: Live Oak Motte and Woodland	116.38	11.34%
9106	Native Invasive: Mesquite Shrubland	57.97	5.65%
1101	Edwards Plateau: Ashe Juniper Motte and Woodland	45.61	4.44%

1205	Edwards Plateau: Ashe Juniper / Live Oak Shrubland	37.96	3.70%
1004	Edwards Plateau: Floodplain Hardwood Forest	24.24	2.36%
1007	Edwards Plateau: Floodplain Herbaceous Vegetation	19.85	1.93%
9000	Barren	12.84	1.25%
9307	Row Crops	10.64	1.04%
1114	Edwards Plateau: Post Oak Motte and Woodland	7.2	0.70%
1005	Edwards Plateau: Floodplain Ashe Juniper Shrubland	6.69	0.65%
1404	Edwards Plateau: Riparian Hardwood Forest	5.33	0.52%
1001	Edwards Plateau: Floodplain Ashe Juniper Forest	5.01	0.49%
9411	Urban Low Intensity	5.01	0.49%
904	Edwards Plateau: Oak / Hardwood Slope Forest	3.67	0.36%
1403	Edwards Plateau: Riparian Hardwood / Ashe Juniper Forest	2.67	0.26%
1407	Edwards Plateau: Riparian Herbaceous Vegetation	2.48	0.24%
503	Crosstimbers: Post Oak / Juniper Woodland	1.93	0.19%
507	Crosstimbers: Savanna Grassland	1.64	0.16%
1002	Edwards Plateau: Floodplain Live Oak Forest	1.41	0.14%
9600	Open Water	1.26	0.12%
1006	Edwards Plateau: Floodplain Deciduous Shrubland	1.13	0.11%
901	Edwards Plateau: Ashe Juniper Slope Forest	1.08	0.11%
903	Edwards Plateau: Oak / Ashe Juniper Slope Forest	1.08	0.10%
1003	Edwards Plateau: Floodplain Hardwood / Ashe Juniper Forest	1.08	0.10%
504	Crosstimbers: Post Oak Woodland	0.97	0.09%
1225	Edwards Plateau: Ashe Juniper / Live Oak Slope Shrubland	0.83	0.08%
1401	Edwards Plateau: Riparian Ashe Juniper Forest	0.41	0.04%
1405	Edwards Plateau: Riparian Ashe Juniper Shrubland	0.3	0.03%
902	Edwards Plateau: Live Oak Slope Forest	0.15	0.01%
1402	Edwards Plateau: Riparian Live Oak Forest	0.13	0.01%
1406	Edwards Plateau: Riparian Deciduous Shrubland	0.01	0.00%
Total		1026.45	100.00%

Protected Species

Rare, Threatened, and Endangered Species

The database of sensitive species maintained by USFWS (2025a) includes seven federally listed threatened or endangered species, including candidate species or those proposed for federal listing, which may occur or have historically occurred in Burnet and Lampasas counties (Appendix D), which consists of birds, insects, and mollusks. The database of sensitive species maintained by TPWD (TPWD 2025) includes 13 state-listed threatened or endangered species, as well as 72 rare species of greatest conservation need (SGCN) for the entirety of Burnet and Lampasas

counties (Appendix D and Appendix E). No designated critical habitat occurs within the Project Area (USFWS 2025b).

Of the species listed for Burnet and Lampasas counties, potential habitat exists for the federally endangered GCWA and Whooping Crane (*Grus americana*). Suitable habitat is also available for the tricolored bat (*Perimyotis subflavus*), a species proposed for federal listing as endangered, and the monarch butterfly (*Danaus plexippus*), a candidate species under review for potential listing under the Endangered Species Act (ESA). Suitable habitat is also present for 4 state-listed threatened species including the White-faced Ibis (*Plegadis chihi*), Zone-tailed Hawk (*Buteo albonotatus*), rock quillwort (*Isoetes lithophila*), and Texas horned lizard (*Phrynosoma cornutum*). Suitable habitat is also present for 52 SGCN (i.e., those that are also not federally or state protected; Appendix D) within the Project Area. These species include 2 amphibians, 13 birds, 3 fish, 3 mammals, 7 mollusks, 18 plants, and 6 reptiles.

The complete results of the USFWS (2025a) and TPWD (2025) database review are provided as tables in Appendix D (federally and state-listed threatened or endangered species, candidate species for federal listing, and species proposed for federal listing) and Appendix E (state-listed SGCNs). The tables present the status and habitat requirements based on the desktop review for each of the noted species potentially occurring in Burnet and Lampasas counties. The tables also include an assessment of each species' habitat requirements, the likelihood of these habitats being present within or near the Project Area, and the potential for Project-related impacts to species based on the presence or absence of habitat.

Texas Natural Diversity Database

Available TXNDD data (TXNDD 2025) were reviewed for known localities of rare and protected species within 5 mi of the Project Area. According to the data, there are four EO records of SGCNs that occur within the 5-mile search radius (Figure 3). The EO records, species names, species status, and approximate distances from the Project Area are included in Table 5. Source Feature records were not identified within 5 mi of the Project Area.

Table 5. TXNDD Records for Protected Species and Species of Concern within 5 mi of the Project Area.

TXNDD EO ID No.	Common Name	Scientific Name	Federal/State Status	Approximate Distance from the Project Area (Mile)
7477	Guadalupe Bass	<i>Micropterus treculii</i>	State SGCN	4.1
15986	Slender Glass Lizard	<i>Ophisaurus attenuatus</i>	State SGCN	2.9
11140	Sycamore-leaf Snowbell	<i>Styrax platanifolius</i> ssp. <i>platanifolius</i>	State SGCN	1.5
11214	Sycamore-leaf Snowbell	<i>Styrax platanifolius</i> ssp. <i>platanifolius</i>	State SGCN	3.3

The EO records consist of three SGCN (Guadalupe Bass, Slender Glass Lizard, and Sycamore-leaf, Snowbell). Of note, the distances presented in Table 5 do not necessarily mean that the species are present at those distances, particularly since EO records with a large radius are likely due to the unspecified or uncertain locality data for those records. If the center of a given EO record is used to approximate the actual observation location, then some records may occur outside of the 5-mile search buffer. The Project Area itself does not have any EO records associated with it.

Golden-cheeked Warbler

The GCWA is a small Neotropical songbird whose breeding range is restricted to closed-canopy Ashe juniper - oak woodlands of the Texas Hill Country, including Edwards County (Campbell 2003). The GCWA was federally listed as an endangered species on 4 May 1990 by means of an emergency rule. Based upon a review of aerial photography, the Duarte (2013) GCWA habitat model (Appendix F), and the available models of Project Area vegetation; it was determined that suitable habitat for the GCWA is likely to exist within and adjacent to the Project Area. This habitat may contain the necessary vegetative species composition, canopy coverage, vegetation height, and woodland habitat size required by this species. The GCWA habitat models suggest that approximately 942 ac of potential habitat exist in the Project Area and a 300 ft buffer; however, field investigations would be required to accurately quantify the amount of suitable GCWA available. The USFWS has records of GCWA occurring approximately 2 mi south of the Project Area.

Whooping Crane

The Whooping Crane is a migratory species that makes its way from central Canada to the Texas coast in the spring and fall of each year. The migratory corridor is roughly 2,400 mi long and 220 mi wide and encompasses 95% of sightings. Approximately 521 ac of the Project Area are located within the western extent of the whooping crane migratory corridor. Although this species has not been observed within the Project Area based on public records, a large number of wetlands

exist that could provide suitable stopover habitat for the Whooping Crane. Impacts to the aquatic resources within this area could reduce the amount of stopover habitat available for this species.

Tricolored Bat

The entirety of the Project is located in what the USFWS considers to be Zone 1 for the tricolored bat, which is described as the area in which the species is active year-round and if present, does not require hibernation. However, the current modeled range for this species does not extend into the Project Area. Considering this contradiction in species presence, it should be noted that the range and preferred habitats of the tricolored bat are not well defined making it difficult to estimate where the species is likely to occur with certainty. Despite current range maps showing no overlap with the Project Area, including this species in the analysis is warranted due to its proximity to the Project Area, uncertainties in its range, nearby reported occurrences in Burnet County, and its status as a federally proposed endangered species. Suitable habitat is available throughout the open woodlands present in the Project Area.

Migratory Birds

The federal Migratory Bird Treaty Act (MBTA) states that it is unlawful to kill, capture, collect, possess, buy, sell, trade, or transport any migratory bird, nest, or egg in part or in whole, without federal permit issues in accordance with the act's policies and regulations. It is possible that migratory birds could nest within all portions of the Project Area, as birds may nest in habitats on the ground or in the various types of vegetation and/or wetland habitats that are available. It should be noted that one rookery was identified just outside of the five-mile buffer north of United States Highway 183 east of the Project Area but was not included in the results of the desktop analysis due to the distance from the Project Area.

Environmental Justice

An environmental justice (EJ) assessment was conducted to evaluate the potential for the proposed Project to disproportionately affect vulnerable populations. This analysis was guided by the intent and framework of Executive Order 12898 (1994), which directs federal agencies to identify and address disproportionately high and adverse human health or environmental effects on minority and low-income populations. While this is not a NEPA document, any future development of this Project—including progression to construction or permitting—may trigger formal review under the National Environmental Policy Act (NEPA) or other federal statutes. Oversight from federal agencies such as the Federal Railroad Administration (FRA) or U.S. Army Corps of Engineers (USACE) may necessitate compliance with EJ-related requirements, including detailed community outreach, impact analysis, and mitigation.

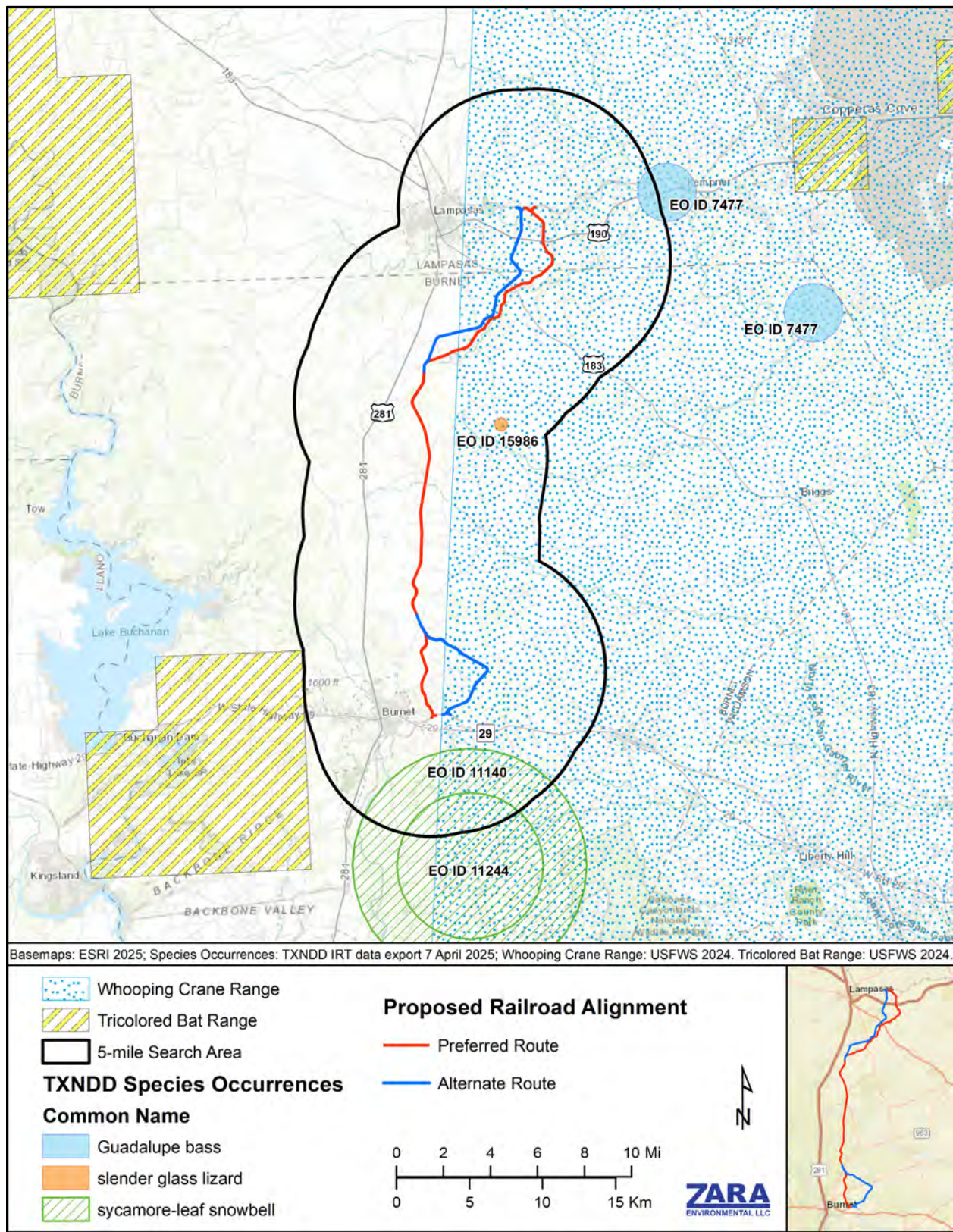


Figure 3. TXNDD Element Occurrences records that intersect a 5-mile buffer of the Project Area.

Although race is a foundational component of EJ analysis under federal guidance, it is not emphasized in this assessment due to the relatively homogenous racial composition of Burnet and Lampasas counties. Based on 2020 U.S. Census data, 77 percent of Burnet County and over 75 percent of Lampasas County residents identified as White alone—figures that far exceed the state average of 39.7 percent and the national average of 57.8 percent. Other racial and ethnic groups, including Black or African American, Asian, and multiracial residents, are present in these counties at significantly lower levels.

Given these distributions, this EJ assessment emphasizes other key indicators of vulnerability—such as poverty, disability, age, and educational attainment—which more directly reflect the risks associated with the tracts located within a 5 mi buffer of the proposed Project Area. See Table 6-Table 9 for a summary of these indicators by county, census tract, state, and nation.

Health-related Burdens

Demographic indicators reveal that many of the tracts intersected or adjacent to the proposed alignment are home to populations with elevated health-related vulnerabilities. Advanced age and disability status are particularly prevalent. In Burnet County, over 22 percent of residents are aged 65 or older, while in Lampasas County, this age group accounts for more than 20 percent of the population—both well above the Texas and national averages of 13.8 and 16.4 percent, respectively (Table 6 and Table 8). Tracts such as 9602 and 9604.01 in Burnet County reflect even higher proportions of elderly residents, with one reaching nearly 40 percent (Table 6).

Disability rates present a similarly concerning trend. Burnet County’s overall disability rate is 16.7 percent, while Lampasas County is higher at 23.8 percent. In some tracts, such as 9503.02 and 9504, disability rates exceed 21 percent, significantly surpassing the national average of 12.7 percent (Table 6 - Table 9). These populations are more likely to experience adverse effects from rail-related impacts, particularly diesel particulate emissions, which can worsen respiratory and cardiovascular conditions, and chronic noise exposure, which has been linked to stress, cognitive decline, and sleep disruption. The presence of these health-related burdens suggests the need for careful planning and protective measures during both construction and operation of the railroad.

Access and Mobility Disruptions

The rural character of Burnet and Lampasas counties means that many communities rely on a small number of roadways to access healthcare facilities, grocery stores, pharmacies, and emergency services. For residents with limited mobility due to age or disability, such as 9602, 9603.01, and 9503.02, even minor disruptions can have disproportionate consequences.

Table 6. Environmental Justice Snapshot: Key Indicators for People in Burnet County within 5 mi of the Proposed Carrier Rail

Indicator	Burnet County	Tract 9601.01	Tract 9601.02	Tract 9602	Tract 9603.01	Tract 9603.02	Tract 9604.01	Tract 9604.02
Population	49130	4882	2758	3236	2537	4552	3230	3364
Disability	16.70%	17.25%	17.30%	13.91%	19.60%	15.18%	14.00%	21.90%
65 and over	22.73%	20.42%	16.03%	25.34%	14.82%	15.03%	39.66%	23.66%
Employment Rate (%)	57.00%	44.41%	45.14%	40.51%	34.88%	45.61%	35.51%	46.52%
Median Household Income	\$77,158	\$47,447	\$43,750	\$68,582	\$25,402	\$59,375	\$41,167	\$40,740
High School or Equivalent (25 yrs+)	30.30%	25.89%	26.69%	23.30%	28.06%	22.50%	22.45%	19.26%
*Individuals Below Poverty Line (%)	8.00%	4.22%	4.68%	8.34%	10.21%	8.50%	10.31%	0.42%

Table 7. Environmental Justice Snapshot: Key Indicators for People in Lampasas County within 5 mi of Proposed Rail Carrier

Indicator	Lampasas County	Tract 9501	Tract 9503.02	Tract 9503.04	Tract 9504	Tract 9505
Population	21627	3031	3792	2780	4064	4531
Disability	23.80%	25.10%	21.55%	37.40%	27.93%	19%
65 and over	20.50%	29.43%	19.80%	17.37%	17.84%	18.12%
Employment Rate (%)	50.70%	48.10%	38.58%	41.50%	41.66%	51.80%
Median Household Income	\$67,917	\$32,972	\$73,633	\$30,051	\$34,015	\$35,177
High School or Equivalent (25 yrs+)	29.80%	17.02%	25.47%	18.81%	24.41%	22.84%
*Individuals Below Poverty Line (%)	9.20%	7.19%	3.90%	10.65%	29.58%	8.45%

Table 8. Environmental Justice Snapshot: Key Indicators for the state of Texas and the nation

Indicator	Texas	National
Population	29145505	331449281
Disability	12.70%	12.70%
65 and over	13.80%	16.40%
Employment Rate (%)	62.60%	59.50%
Median Household Income	\$75,780	\$74,755
High School or Equivalent (25 yrs+)	24.30%	28.00%
*Individuals Below Poverty Line (%)	13.70%	11.50%

Table 9. Environmental Justice Snapshot: Key Indicators for Burnet and Lampasas Counties and High-Risk Census Tracts Intersected by the Proposed Rail

Indicator	Burnet County	Tract 9601.01	Tract 9602	Tract 9603.02	Lampasas County	Tract 9503.02	Tract 9504	Texas	National
Population ¹	49,130	4,882	3,236	4,552	21,627	3,792	4,064	29,145,505	331,449,281
Disability ²	16.70%	17.25%	13.91%	15.18%	23.80%	21.55%	27.93%	12.70%	12.7%
65 and over ²	22.73%	20.42%	25.34%	15.03%	20.50%	19.80%	17.84%	13.80%	16.4%
Employment Rate (%) ²	57.00%	44.41%	40.51%	45.61%	50.70%	38.58%	41.66%	62.60%	59.5%
Median Household Income ²	\$77,158	\$47,447	\$68,582	\$59,375	\$67,917	\$73,633	\$34,015	\$75,780	\$74,755
High School or Equivalent (25 yrs+) ²	30.30%	25.89%	23.30%	22.50%	29.80%	25.47%	24.41%	24.30%	28.0%
*Individuals Below Poverty Line (%) ²	8.00%	4.22%	8.34%	8.50%	9.20%	3.90%	29.58%	13.70%	11.5%

*Below 100 percent of the poverty threshold (e.g., A family of 4 in 2020 earning less than ~\$26,200/year

¹U.S. Census Bureau, 2020 Decennial Census

²U.S. Census Bureau, American Community Survey 2023 5-Year Estimates.

These concerns are especially relevant during construction, when road closures and detours may temporarily limit access. However, the risks do not end once construction is complete. Once the railroad is operational, active rail traffic could result in ongoing crossing delays, prolonged wait times, or reduced connectivity in areas with limited alternate routes. These factors increase the likelihood that residents may experience difficulty reaching essential services and point to the need for well-planned detours, public communication, and emergency access planning.

Economic Inequities

Economic vulnerability is another key factor in evaluating disproportionate impacts. Median household incomes in both counties vary widely by census tract. In Burnet County, although the countywide median income is over \$77,000, Tract 9603.01 reports just \$25,402—less than one-third of that amount (Table 6). In Lampasas County, Tract 9504 reports a median income of only \$34,015, well below the national average of \$74,755 (Table 7 - Table 8).

Employment rates reflect similar disparities. Burnet County’s average is 57 percent, but tracts such as 9602 (40.5%), 9603.01 (34.9%), and 9604.01 (35.5%) fall well below that threshold. Lampasas County shows a similar pattern, with Tracts 9503.04 and 9504 reporting employment rates of just 41.5% and 41.7%, respectively—among the lowest in the area (Table 7).

These economic challenges are compounded by limited educational attainment. In Lampasas County Tract 9503.04, for example, only 18.8% of adults aged 25 and older have earned a high school diploma or equivalent, compared to 28 percent nationally (Table 7 and Table 8). Similarly, in Burnet County’s Tract 9604.01, the rate is only 22.5%, well below the countywide figure of 30.3 percent (Table 6).

These relatively low levels of educational attainment may present barriers to workforce development or civic engagement, particularly if Project outreach and hiring programs are not adapted to meet local needs. Without targeted training, accessible communication strategies, and inclusive job pipelines, the communities most affected by railroad development may also have the fewest opportunities to benefit from it.

Cumulative Burdens

The intersection of multiple stressors—low income, high disability rates, advanced age, limited education, and low employment—creates cumulative burdens that amplify vulnerability. These overlapping challenges mean that even modest environmental or economic disruptions may have outsized effects on daily life and long-term community stability. Tracts such as 9503.04 and 9504 in Lampasas County and 9603.01 in Burnet County exemplify this convergence of risks. These areas report low incomes, high poverty rates, elevated health vulnerabilities, and limited access to economic opportunities (Table 6 - Table 9). These tracts may face the greatest difficulty adapting to the changes associated with rail infrastructure and are the most likely to experience disproportionate impacts unless specific interventions are adopted. These populations are more

likely to experience adverse effects from rail-related impacts, particularly diesel particulate emissions, which can worsen respiratory and cardiovascular conditions, and chronic noise exposure, which has been linked to stress, cognitive decline, and sleep disruption. The presence of these health-related burdens suggests the need for careful planning and protective measures during both construction and operation of the railroad.

Access and Mobility Disruptions

The rural character of Burnet and Lampasas counties means that many communities rely on a small number of roadways to access healthcare facilities, grocery stores, pharmacies, and emergency services. For residents with limited mobility due to age or disability, such as 9602, 9603.01, and 9503.02, even minor disruptions can have disproportionate consequences.

These concerns are especially relevant during construction, when road closures and detours may temporarily limit access. However, the risks do not end once construction is complete. Once the railroad is operational, active rail traffic could result in ongoing crossing delays, prolonged wait times, or reduced connectivity in areas with limited alternate routes. These factors increase the likelihood that residents may experience difficulty reaching essential services and point to the need for well-planned detours, public communication, and emergency access planning.

Conclusions and Recommendations

The desktop analysis detailed in this report was performed to provide a limited desktop environmental constraints analysis that focused on determining whether water resources, habitat for rare, threatened, or endangered species, karst features, or other sensitive resources currently exist within or near the Project Area.

Soils

Approximately 13% of the Project Area is classified as Prime Farmland soil, consisting of Krum clay (24)(8.9%), Lewisville clay loam (26)(1.8%), Krum silty clay (KrB)(1.1%), Krum clay (25)(0.7%), and Lewisville clay loam (27)(0.5%). Prime farmland, as defined by the Farmland Protection Policy Act (FPPA), is land with the optimal combination of physical and chemical characteristics for sustainable agricultural production with minimal inputs. These soils meet the criteria for high productivity and large portions of the Project Area are currently used for agricultural purposes. As a non-federal Project, it is not subject to compliance measures under the FPPA or any state or local regulations, though optional Project-related conservation measures may be implemented to preserve the prime farmland available within the Project Area.

Water Resources

Multiple water resources (i.e., those potentially subject to jurisdiction under Section 404 of the Clean Water Act) were documented to occur within the Project Area. A total of 103 linear features were identified within the buffered Project Area, representing approximately 10.49 linear mi of stream length. Of these, 65 features are also classified as Riverine in the NWI. A total of 57 features spanning approximately 5.34 mi are considered most likely to fall under federal jurisdiction pending a formal field delineation. Based on the results of the field delineations, the Project would likely require authorization of a permit by the USACE.

A total of 52 wetland and pond features were also identified within the Project Area, comprising approximately 14.10 ac. Jurisdictional wetlands fall under Section 404 of the CWA (EPA 2025a, 2025b). Proposed impacts—such as grading, fill placement, or hydrologic modification—should be evaluated for permitting and avoidance requirements. Field investigations are recommended to confirm wetland status and jurisdictional connectivity, prioritizing those with observable indicators of surface flow. All features should be assessed for hydrophytic vegetation, hydric soils, and wetland hydrology, as well as potential episodic or subsurface hydrologic exchange with RPWs.

Rare, Threatened, and Endangered Species

The results of the habitat assessment indicated that there may be suitable habitat available for the federally listed endangered GCWA and Whooping Crane within or adjacent to the Project Area. A desktop review indicated that approximately 23% of the Project Area plus a 300 ft buffer may contain potential habitat for GCWA. Based on this, additional field investigations may be required to determine the validity of the modeled habitat by performing a habitat assessment. While there are no records of GCWA occurring within or near the Project Area, a large majority of the area is privately owned and likely has never been surveyed for the species; therefore, a lack of records is not indicative of the species not utilizing the habitat there. If suitable habitat is identified within the Project Area, it is likely that consultation with the USFWS will be required to address potential impacts to this species. The Project Area provides 52 wetland and pond features comprising 14.1 acres and numerous streams within the Project Area that would provide stopover habitat for the Whooping Crane.

Suitable habitat is available within the Project Area for the tricolored bat and monarch, species proposed for federal protection. Additionally, suitable habitat for four state-listed species and 52 state-listed SGCNs (i.e., those that are not also federally protected) including 2 amphibians, 13 birds, 3 fish, 3 mammals, 7 mollusks, 18 plants, and 6 reptiles. A summary of these species is provided above and included in tables provided as Appendix D and Appendix E.

Due to the large size of the Project Area, multiple species both federally and state-protected face potential impacts from the proposed Project. It should be noted that this initial review is based on a combination of habitat and vegetation models, occurrence data, and aerial imagery. In depth

field investigations may provide additional evidence to support the potential presence or absence of certain species based on the availability of habitat, or lack thereof, and species-specific surveys. Based upon the rural nature of the Project Area and amount of privately owned land in the area, the data examined in this review is likely to contain gaps and may not include a true representation of the natural resources present.

While threatened and endangered species are protected under state law, SGCNs typically are not afforded such protection but may be included in optional Project-related conservation measures; it is recommended to coordinate with TPWD Wildlife Habitat Assistance Program for concurrence and any best management practices for implementation during Project construction.

Migratory Birds

Migratory bird nesting habitat was observed occurring in patches throughout the Project Area, primarily occurring around the original homestead where most overstory vegetation remained. To ensure that impacts to migratory bird species are avoided, typical measures would be implemented to comply with the MBTA. Environmental constraints associated with migratory birds generally are seasonal in nature. Any Project-related construction activities that involve ground disturbance or vegetation clearing should occur outside of the breeding season, which generally extends from early March to the end of August. If this is not possible, it is recommended that a qualified biologist conduct nesting bird surveys prior to the disturbance of soil or removal of trees, shrubs, herbaceous vegetation, and/or structures to prevent potential violations of the MBTA. The Project is not expected to affect bird rookeries, as these features were not identified during the desktop review or preliminary site visits. If migratory birds are encountered on-site during construction, every effort would be made to avoid harm to or disturbance of protected birds, active nests, eggs, and/or young.

Recommendations Summary

Several sensitive resources were identified during this limited desktop environmental evaluation of the proposed Project. The identified resources that potentially could be affected by the Project include several water resources, 2 federally endangered species (GCWA and Whooping Crane), 2 species proposed for federal protection (tricolored bat and monarch butterfly), numerous SGCNs, and migratory birds.

- Non-federal projects currently are not subject to compliance measures for prime farmland under the FPPA, nor are there state or local regulations requiring mitigation for this Project. However, voluntary measures such as topsoil removal and storage for reuse, erosion control through silt fences or vegetation buffers, and post-construction regrading and revegetation with native plants or cover crops can help preserve soil quality and minimize environmental impacts. For guidance, the Natural Resources Conservation Service (NRCS) is recommended if voluntary measures are to be implemented.

- Field delineation is recommended to verify the extent and regulatory status of aquatic features identified during desktop review, particularly those with potential connectivity to Relatively Permanent Waters (RPWs) and those classified as R4SBC, R4SBA, R5UBH, or palustrine wetlands.
- A pre-construction consultation with the U.S. Army Corps of Engineers (USACE) is recommended to determine permitting requirements under Section 404 of the Clean Water Act for potential discharges of fill or dredged material into Waters of the US.
- Design modifications should be considered to avoid or minimize impacts to aquatic features identified as likely jurisdictional, including intermittent stream segments, emergent wetlands, and ponds with downstream surface connectivity, and springs.
- Project-related activities should consider potential impacts to groundwater quantity and quality, particularly via surface infiltration or construction-induced changes in runoff. Any degradation of groundwater conditions could affect domestic and public water supplies, especially in areas where households rely on shallow wells or where groundwater serves as the sole source of drinking water.
- Temporary and permanent erosion and sediment control measures should be incorporated into Project design and construction planning to reduce the risk of sedimentation and stormwater runoff into adjacent surface waters.
- Construction activities within mapped FEMA flood zones should be coordinated with local floodplain administrators, and compliance with applicable permitting and development requirements under the NFIP should be ensured.
- Based upon the findings of further field investigations, including an on-site habitat assessment and species presence/absence surveys, formal consultation may be required with the USFWS to determine the potential impacts of Project activities to the GCWA and Whooping Crane.
- Currently, consultation with the USFWS for the tricolored bat and monarch butterfly is not required for non-federal projects or entities as these species aren't currently federally listed as threatened or endangered. However, the USFWS recently issued a proposed rule in the Federal Register for the monarch butterfly to list it as threatened species on 12 December 2024 (89 FR 100662 100716). While final listings for these species likely would not occur this year (and potentially beyond), future changes to the listing status of this species could necessitate consultation and/or additional management considerations. It is recommended to verify the listing status of this species prior to construction if such activities do not occur within this anticipated timeframe.

- While SGCNs typically are not afforded protection on the state regulatory level, Project-related conservation measures may be implemented as optional best management practices; if implemented, coordination with the TPWD Wildlife Habitat Assistance Program is recommended.
- Additional measures are recommended to comply with the MBTA, including seasonal restrictions on ground disturbing and vegetation clearing activities, nesting bird surveys, avoidance during construction, or a combination of these approaches based on Project timing and details.
- Agencies such as the Surface Transportation Board (STB) or Federal Railroad Administration (FRA), if involved, must identify whether the Project will have disproportionately high and adverse human health or environmental effects on EJ populations.

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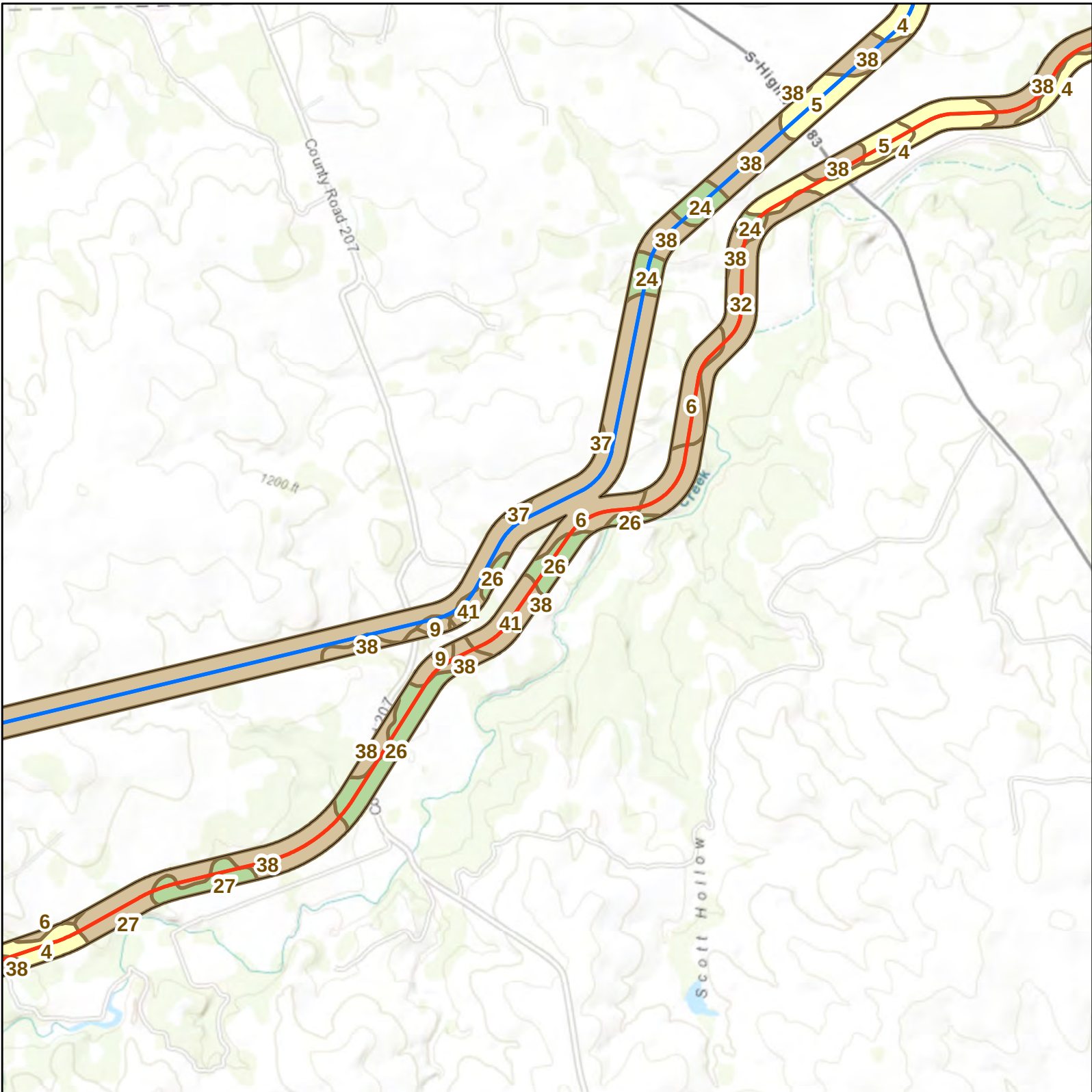
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Appendix A. USDA NRCS Soil Map Units Within the Project Area



Basemaps: ESRI 2025, World Topo & World Street Maps; Soils: USDA NRCS Web Soil Survey, data export 9 April 2025.

Project Area Soil Types

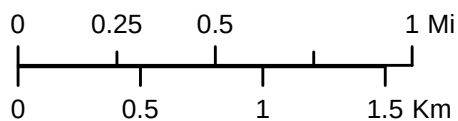
-  Prime Farmland
-  Farmland of statewide importance
-  Not farmland

Proposed Railroad Alignment

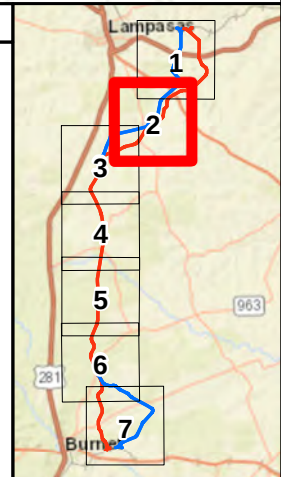
-  Preferred Route
-  Alternate Route

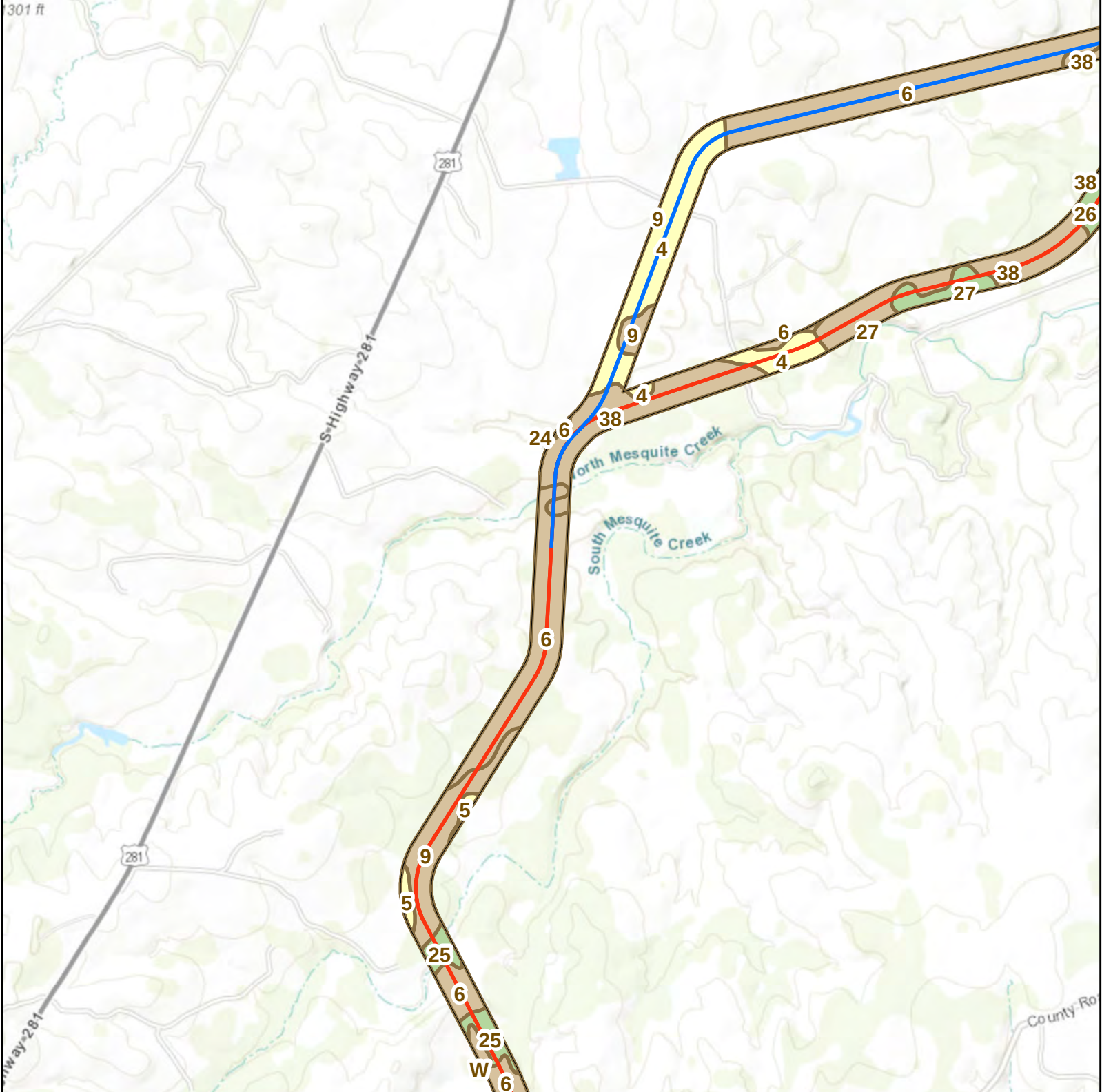


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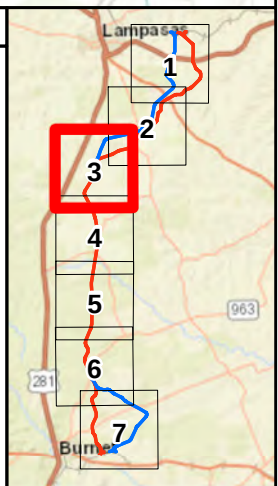
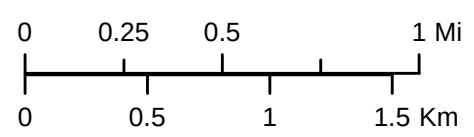
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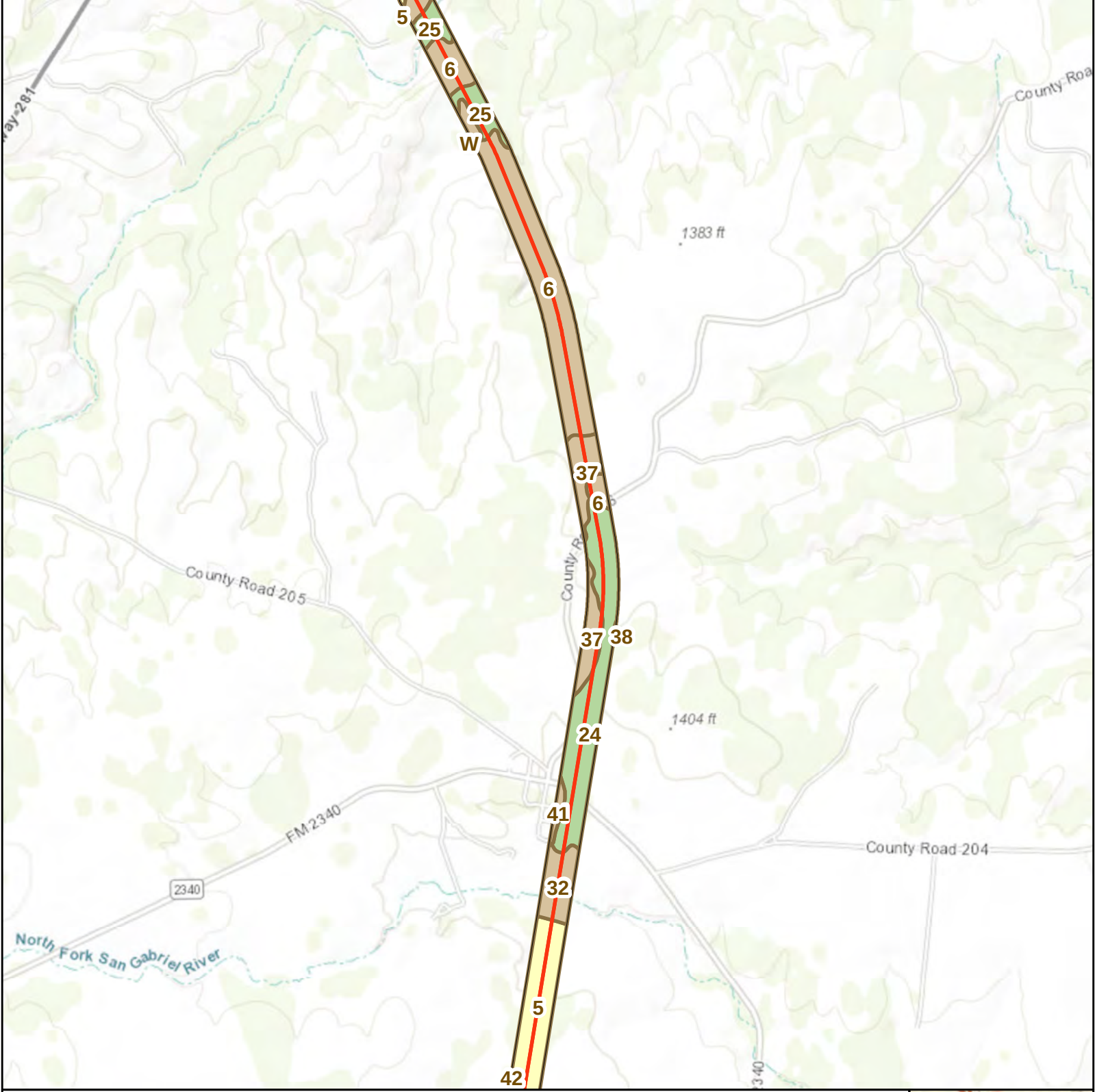
Project Area Soil Types

- Prime Farmland
- Farmland of statewide importance
- Not farmland

Proposed Railroad Alignment

- Preferred Route
- Alternate Route





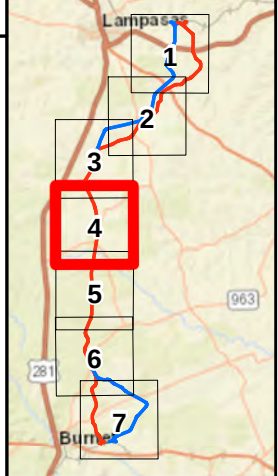
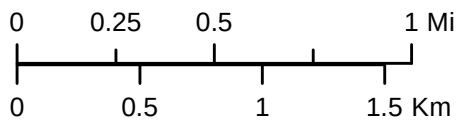
Basemaps: ESRI 2025, World Topo & World Street Maps; Soils: USDA NRCS Web Soil Survey, data export 9 April 2025.

Project Area Soil Types

-  Prime Farmland
-  Farmland of statewide importance
-  Not farmland

Proposed Railroad Alignment

-  Preferred Route
-  Alternate Route





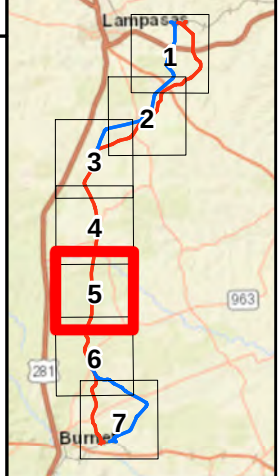
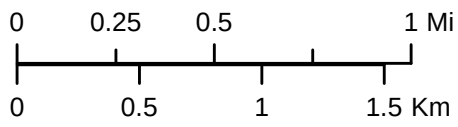
Basemaps: ESRI 2025, World Topo & World Street Maps; Soils: USDA NRCS Web Soil Survey, data export 9 April 2025.

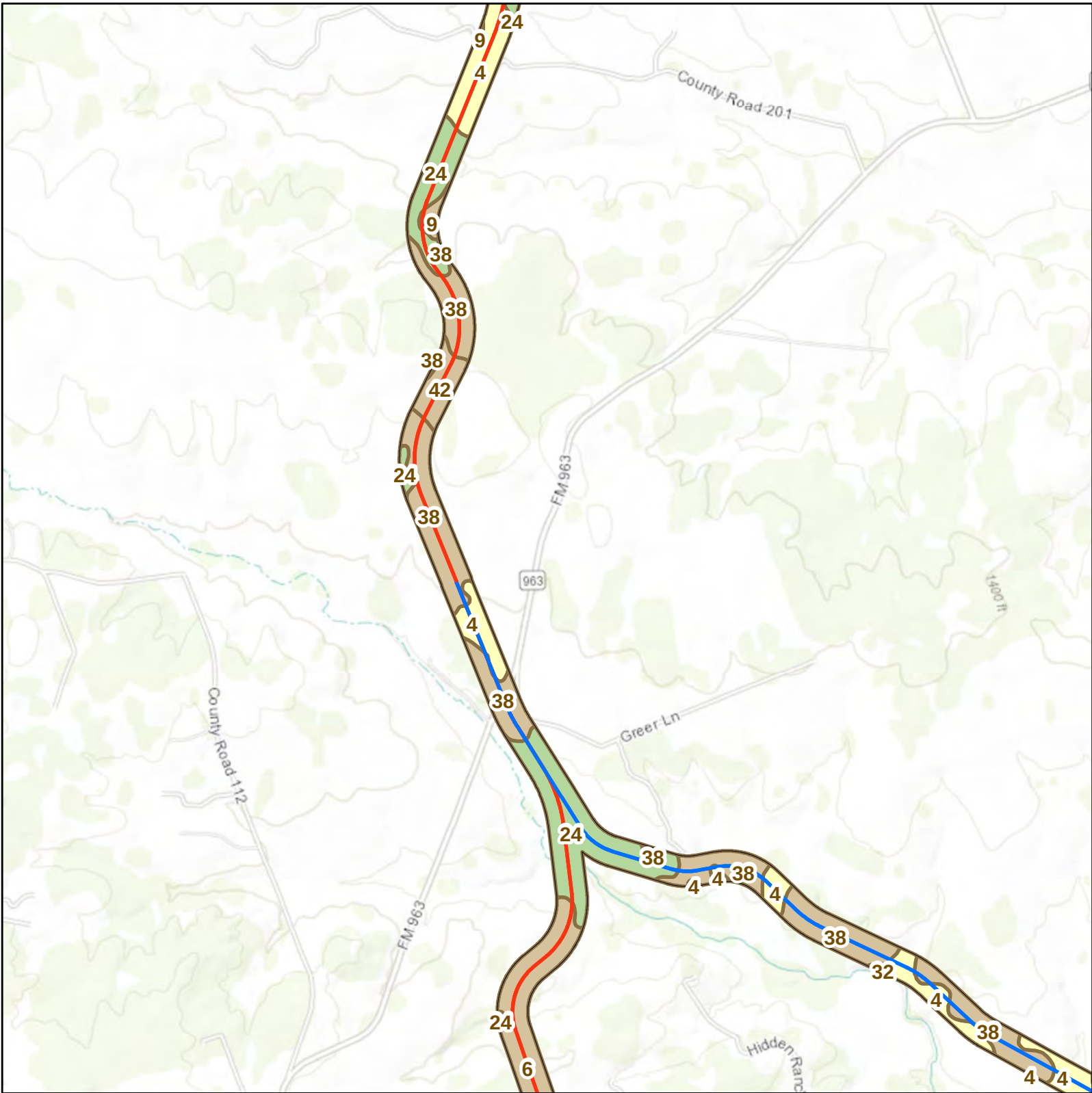
Project Area Soil Types

-  Prime Farmland
-  Farmland of statewide importance
-  Not farmland

Proposed Railroad Alignment

-  Preferred Route
-  Alternate Route





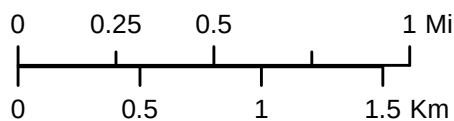
Basemaps: ESRI 2025, World Topo & World Street Maps; Soils: USDA NRCS Web Soil Survey, data export 9 April 2025.

Project Area Soil Types

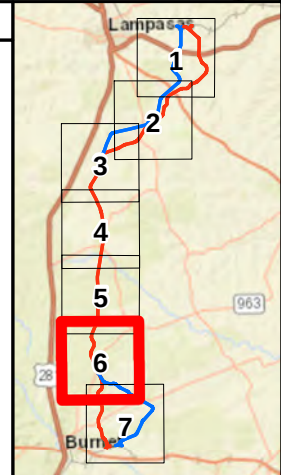
- Prime Farmland
- Farmland of statewide importance
- Not farmland

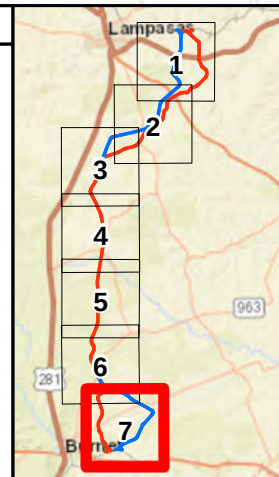
Proposed Railroad Alignment

- Preferred Route
- Alternate Route

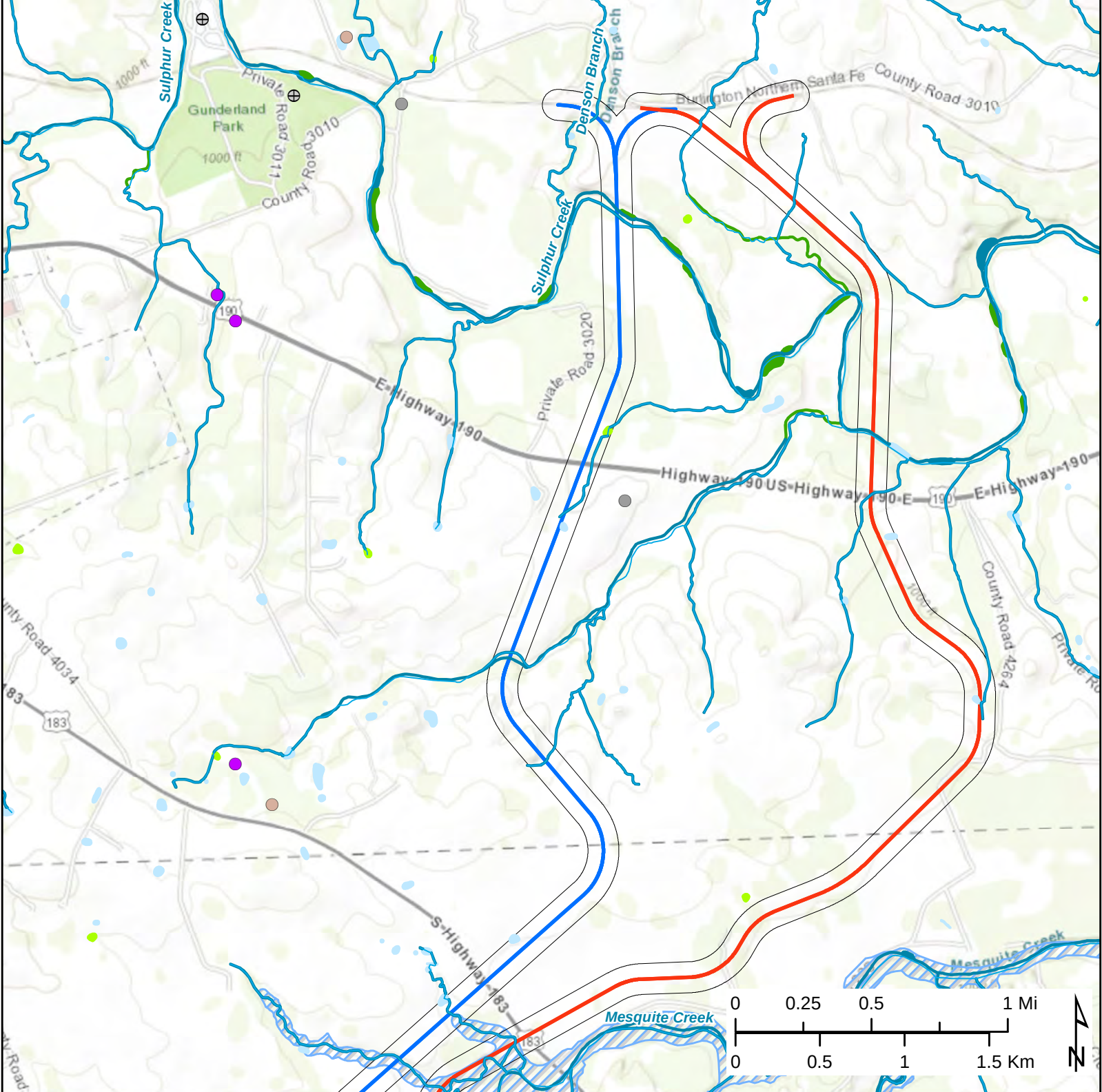


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Appendix B. Water Resources Located Within the Project Area



Basemaps: ESRI 2025, World Topo & World Street Maps; Soils: USDA NRCS Web Soil Survey, data export 9 April 2025.

Proposed Railroad Alignment

- Preferred Route
- Alternate Route
- 200ft Buffer of Project Area

TWDB Groundwater Wells

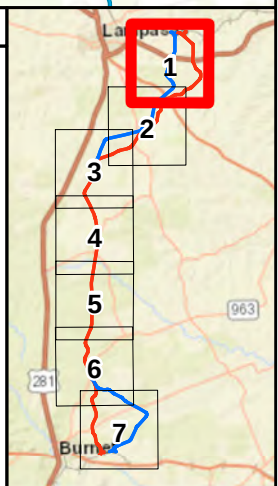
Domestic	Public Supply
Industrial	Recreation
Irrigation	Stock
Medicinal	Other
Monitoring	Unused
Plugged/Destroyed	

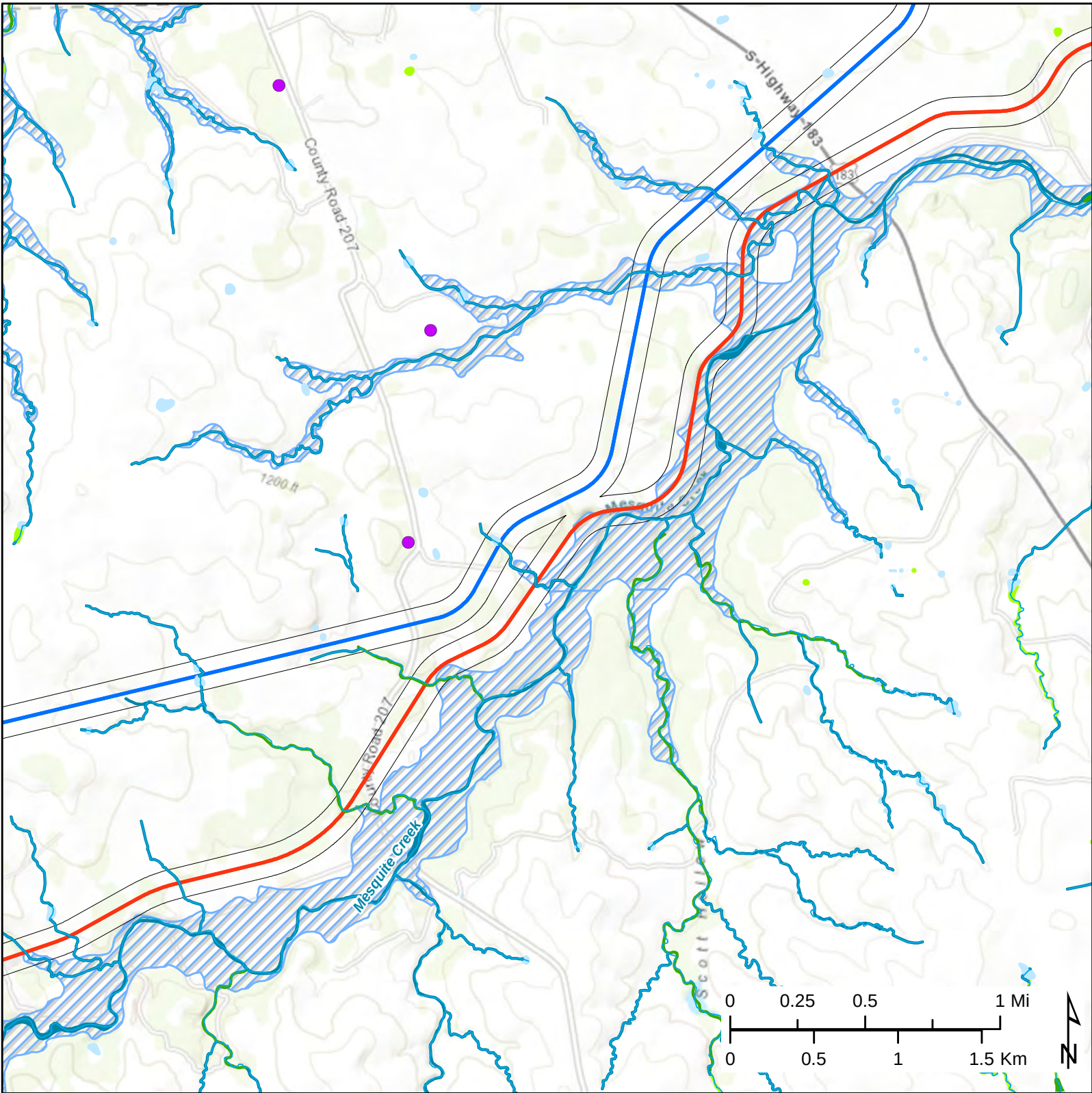
NWI Wetland Type

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Riverine

Streams (USGS NHD)

- FEMA 100-year Floodplain





Basemaps: ESRI 2025, World Topo & World Street Maps; Soils: USDA NRCS Web Soil Survey, data export 9 April 2025.

Proposed Railroad Alignment

- Preferred Route
- Alternate Route
- 200ft Buffer of Project Area

TWDB Groundwater Wells

- Domestic
- Industrial
- Irrigation
- Medicinal
- Monitoring
- ⊕ Plugged/Destroyed
- Public Supply
- Recreation
- Stock
- Other
- Unused

— Streams (USGS NHD)

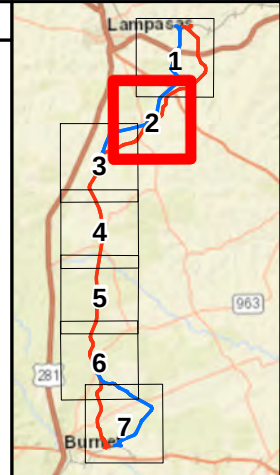
FEMA 100-year Floodplain

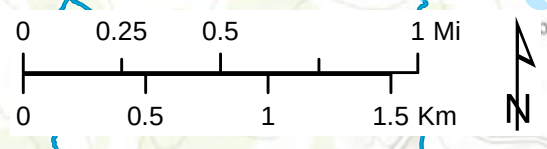
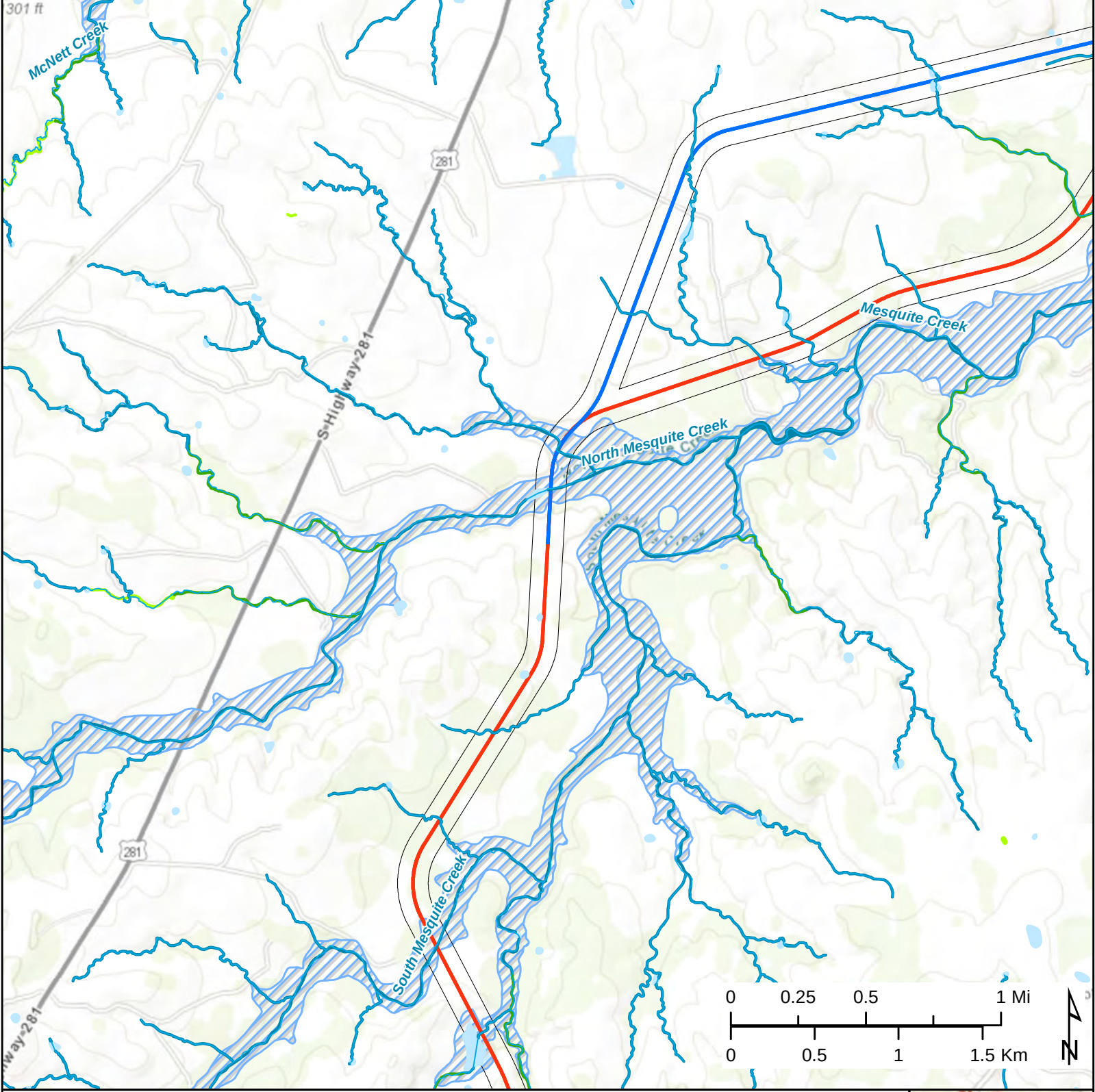
NWI Wetland Type

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Riverine

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Basemaps: ESRI 2025, World Topo & World Street Maps; Soils: USDA NRCS Web Soil Survey, data export 9 April 2025.

Proposed Railroad Alignment

- Preferred Route
- Alternate Route
- 200ft Buffer of Project Area

TWDB Groundwater Wells

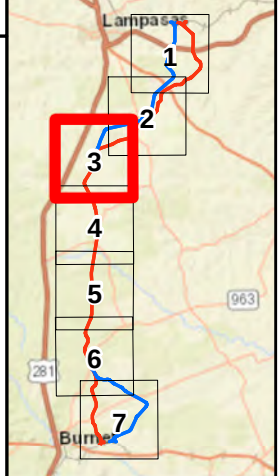
- Domestic
- Industrial
- Irrigation
- Medicinal
- Monitoring
- Plugged/Destroyed
- Public Supply
- Recreation
- Stock
- Other
- Unused

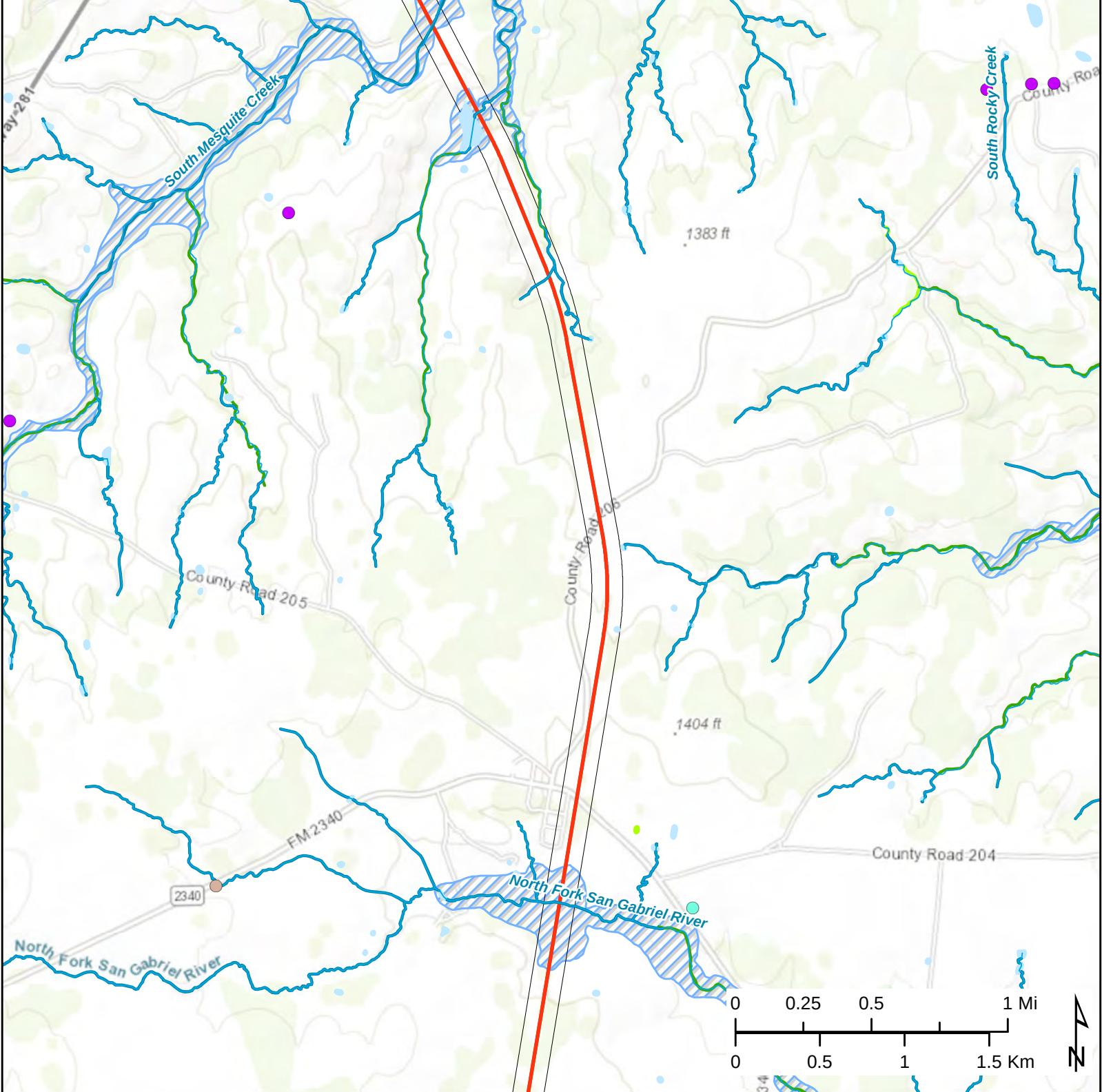
Streams (USGS NHD)

FEMA 100-year Floodplain

NWI Wetland Type

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Riverine





Basemaps: ESRI 2025, World Topo & World Street Maps; Soils: USDA NRCS Web Soil Survey, data export 9 April 2025.

Proposed Railroad Alignment

- Preferred Route
- Alternate Route
- 200ft Buffer of Project Area

TWDB Groundwater Wells

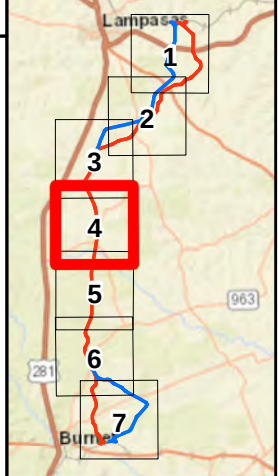
- Domestic
- Industrial
- Irrigation
- Medicinal
- Monitoring
- Plugged/Destroyed
- Public Supply
- Recreation
- Stock
- Other
- Unused

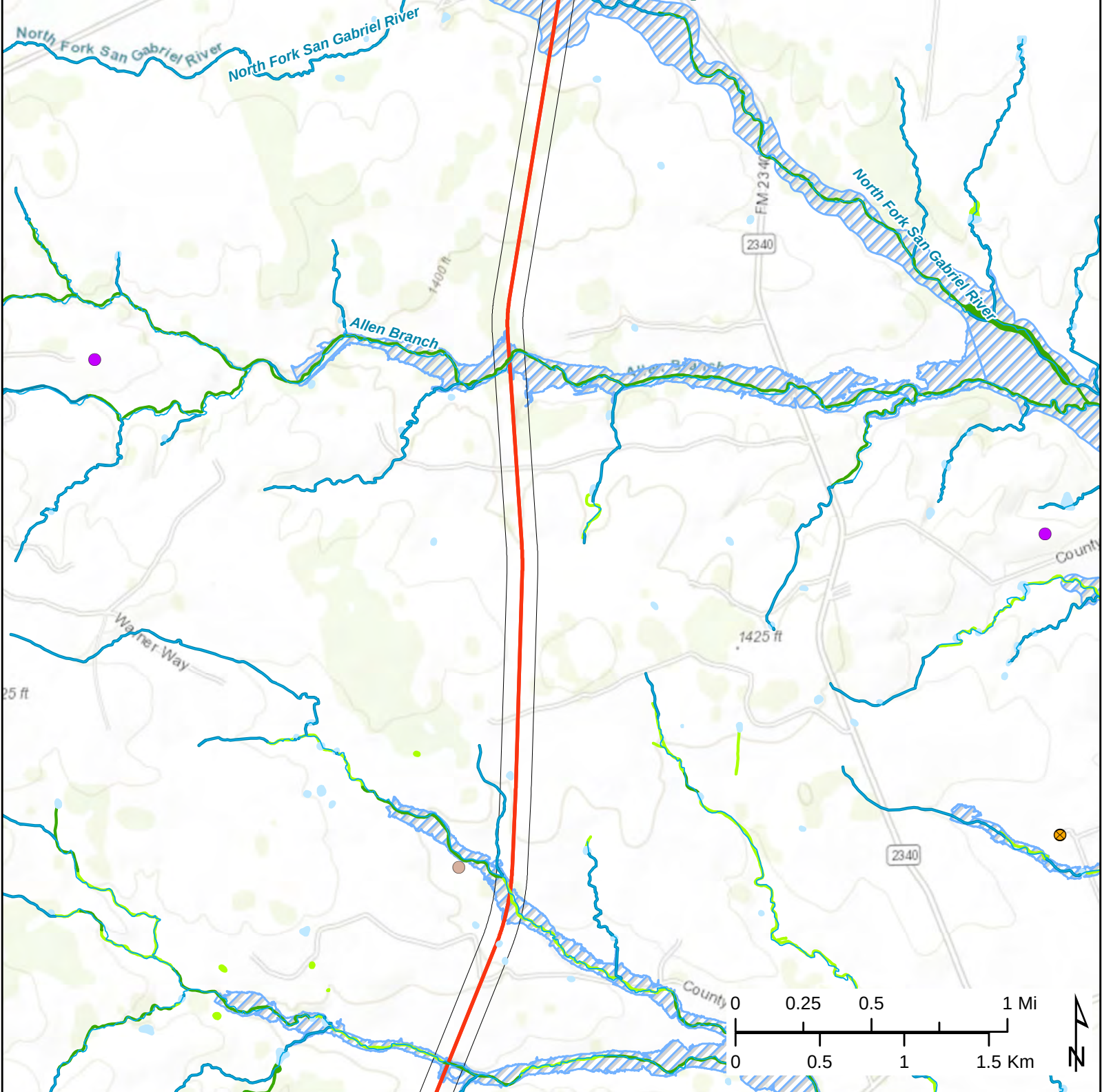
Streams (USGS NHD)

FEMA 100-year Floodplain

NWI Wetland Type

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Riverine





Basemaps: ESRI 2025, World Topo & World Street Maps; Soils: USDA NRCS Web Soil Survey, data export 9 April 2025.

Proposed Railroad Alignment

- Preferred Route
- Alternate Route
- 200ft Buffer of Project Area

TWDB Groundwater Wells

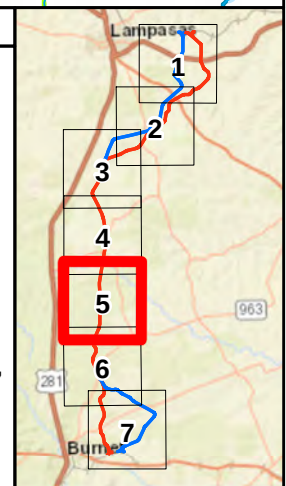
- Domestic
- Industrial
- Irrigation
- Medicinal
- Monitoring
- Plugged/Destroyed
- Public Supply
- Recreation
- Stock
- Other
- Unused

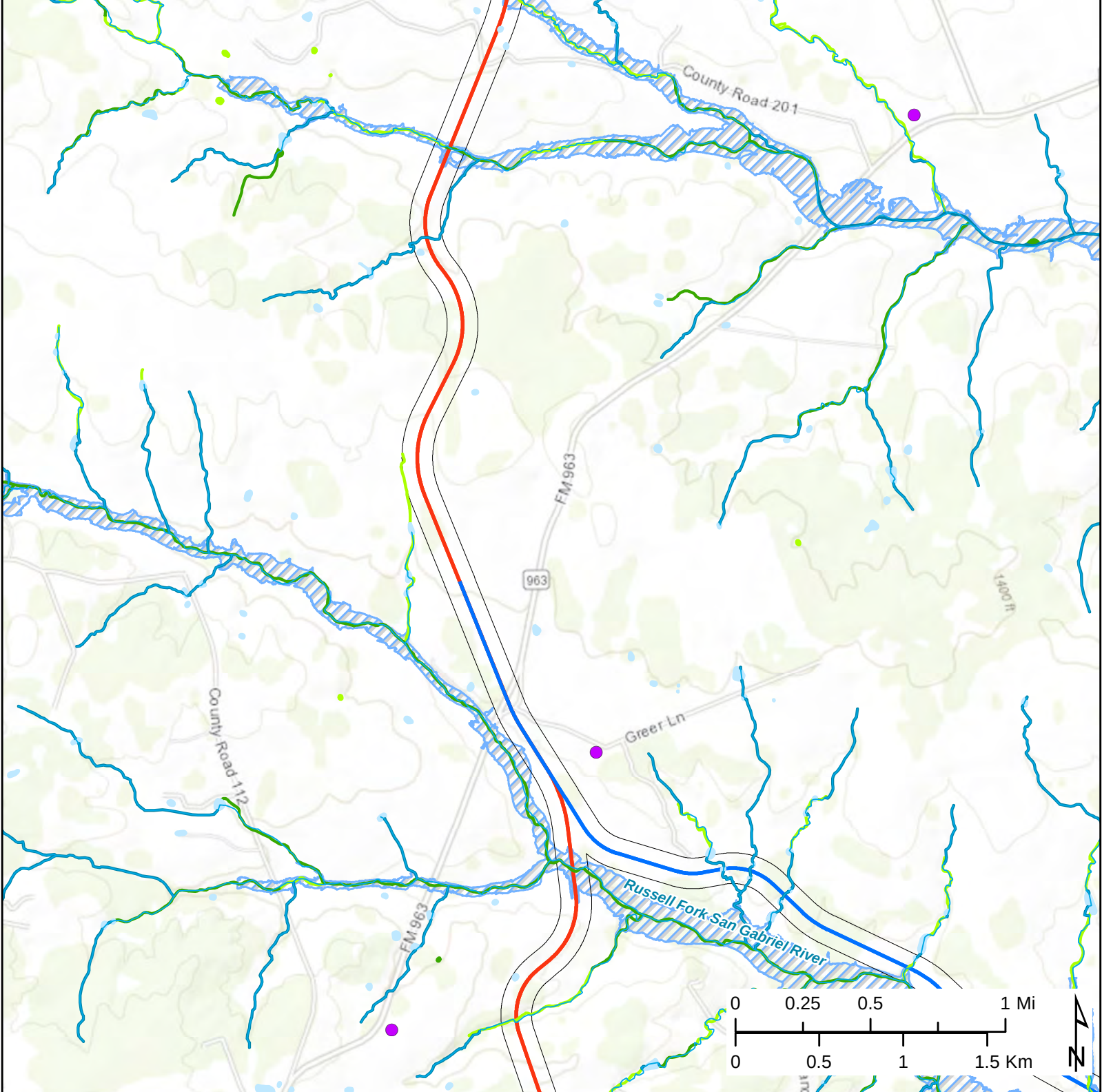
Streams (USGS NHD)

FEMA 100-year Floodplain

NWI Wetland Type

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Riverine





Basemaps: ESRI 2025, World Topo & World Street Maps; Soils: USDA NRCS Web Soil Survey, data export 9 April 2025.

Proposed Railroad Alignment

- Preferred Route
- Alternate Route
- 200ft Buffer of Project Area

TWDB Groundwater Wells

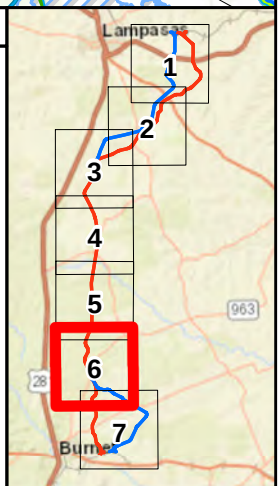
- Domestic
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- Irrigation
- Medicinal
- Monitoring
- Plugged/Destroyed
- Public Supply
- Recreation
- Stock
- Other
- Unused

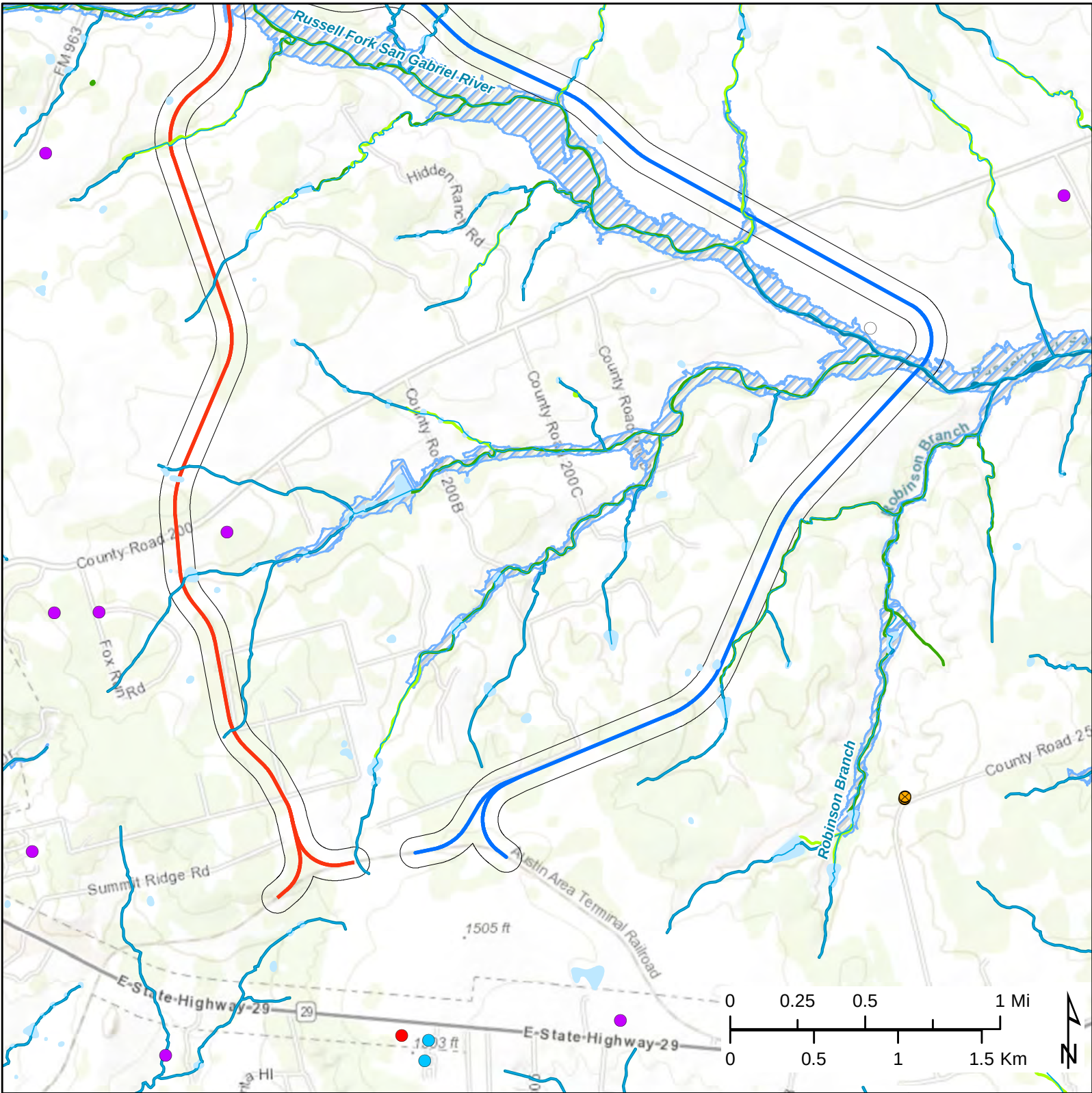
Streams (USGS NHD)

FEMA 100-year Floodplain

NWI Wetland Type

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Riverine





Basemaps: ESRI 2025, World Topo & World Street Maps; Soils: USDA NRCS Web Soil Survey, data export 9 April 2025.

Proposed Railroad Alignment

- Preferred Route
- Alternate Route
- 200ft Buffer of Project Area

TWDB Groundwater Wells

- Domestic
- Industrial
- Irrigation
- Medicinal
- Monitoring
- ⊕ Plugged/Destroyed
- Public Supply
- Recreation
- Stock
- Other
- Unused

— Streams (USGS NHD)

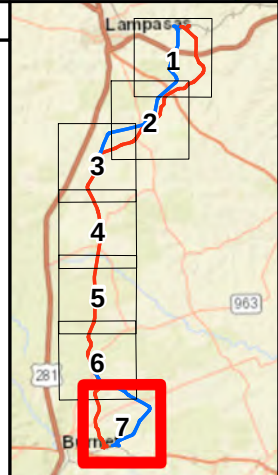
FEMA 100-year Floodplain

NWI Wetland Type

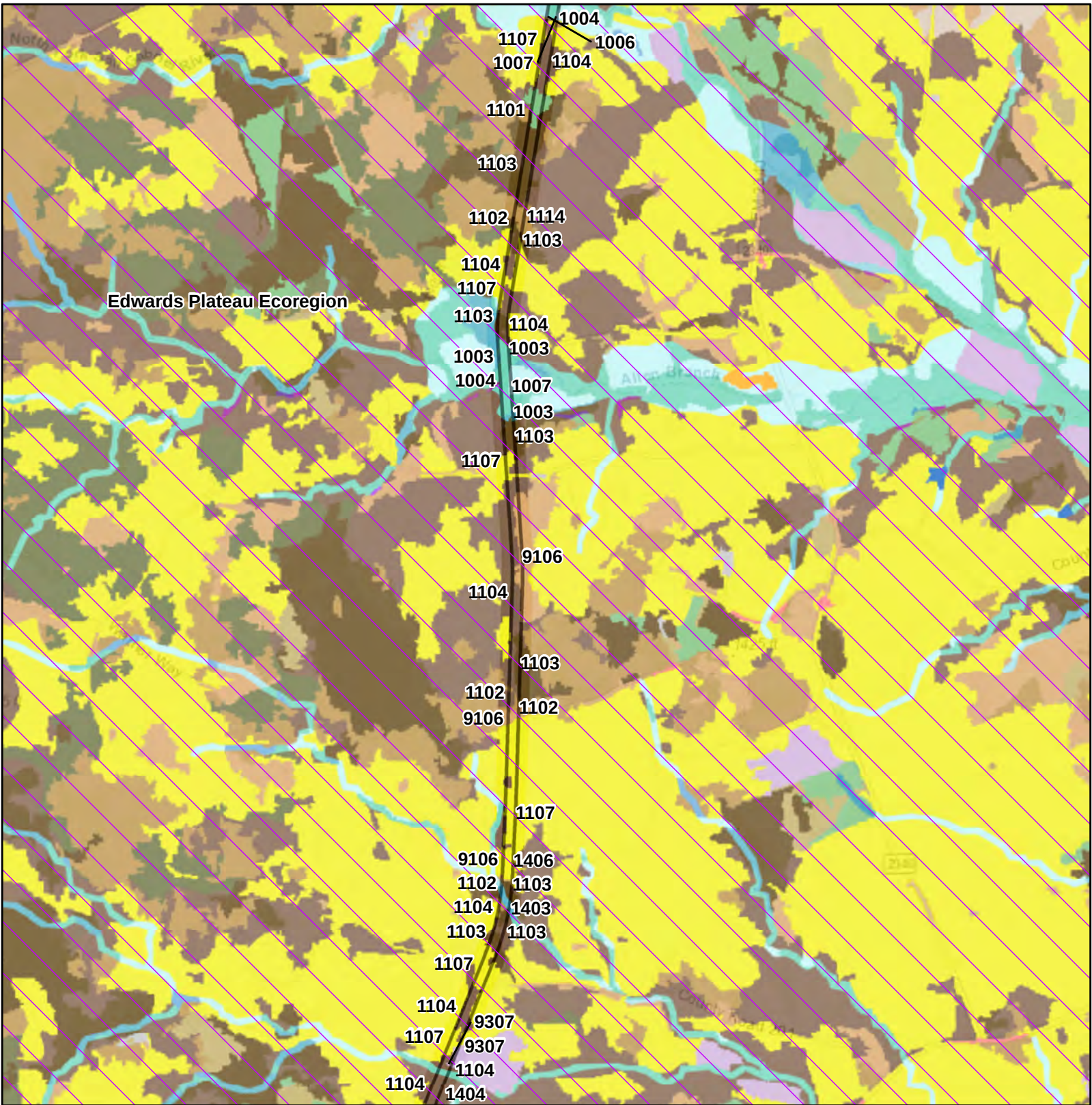
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Riverine

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Appendix C. EMST Vegetation Types Within the Project Area



Basemaps: ESRI 2025, World Topo & World Street Maps; Vegetation Types: TPWD EMST, Cross Timbers and Edwards Plateau Ecoregions.

Project Area

Texas Ecoregions

Cross Timbers

Edwards Plateau

EMST Vegetation Types

Veg_ID, CommonName

503, Crosstimbers: Post Oak / Juniper Woodland

504, Crosstimbers: Post Oak Woodland

507, Crosstimbers: Savanna Grassland

901, Edwards Plateau: Ashe Juniper Slope Forest

902, Edwards Plateau: Live Oak Slope Forest

903, Edwards Plateau: Oak / Ashe Juniper Slope Forest

904, Edwards Plateau: Oak / Hardwood Slope Forest

1001, Edwards Plateau: Floodplain Ashe Juniper Forest

1002, Edwards Plateau: Floodplain Live Oak Forest

1003, Edwards Plateau: Floodplain Hardwood / Ashe Juniper Forest

1004, Edwards Plateau: Floodplain Hardwood Forest

1005, Edwards Plateau: Floodplain Ashe Juniper Shrubland

1006, Edwards Plateau: Floodplain Deciduous Shrubland

1007, Edwards Plateau: Floodplain Herbaceous Vegetation

1101, Edwards Plateau: Ashe Juniper Motte and Woodland

1102, Edwards Plateau: Live Oak Motte and Woodland

1103, Edwards Plateau: Deciduous Oak / Evergreen Motte and Woodland

1104, Edwards Plateau: Oak / Hardwood Motte and Woodland

1107, Edwards Plateau: Savanna Grassland

1114, Edwards Plateau: Post Oak Motte and Woodland

1205, Edwards Plateau: Ashe Juniper / Live Oak Shrubland

1225, Edwards Plateau: Ashe Juniper / Live Oak Slope Shrubland

1401, Edwards Plateau: Riparian Ashe Juniper Forest

1402, Edwards Plateau: Riparian Live Oak Forest

1403, Edwards Plateau: Riparian Hardwood / Ashe Juniper Forest

1404, Edwards Plateau: Riparian Hardwood Forest

1405, Edwards Plateau: Riparian Ashe Juniper Shrubland

1406, Edwards Plateau: Riparian Deciduous Shrubland

1407, Edwards Plateau: Riparian Herbaceous Vegetation

9000, Barren

9106, Native Invasive: Mesquite Shrubland

9307, Row Crops

9411, Urban Low Intensity

9600, Open Water

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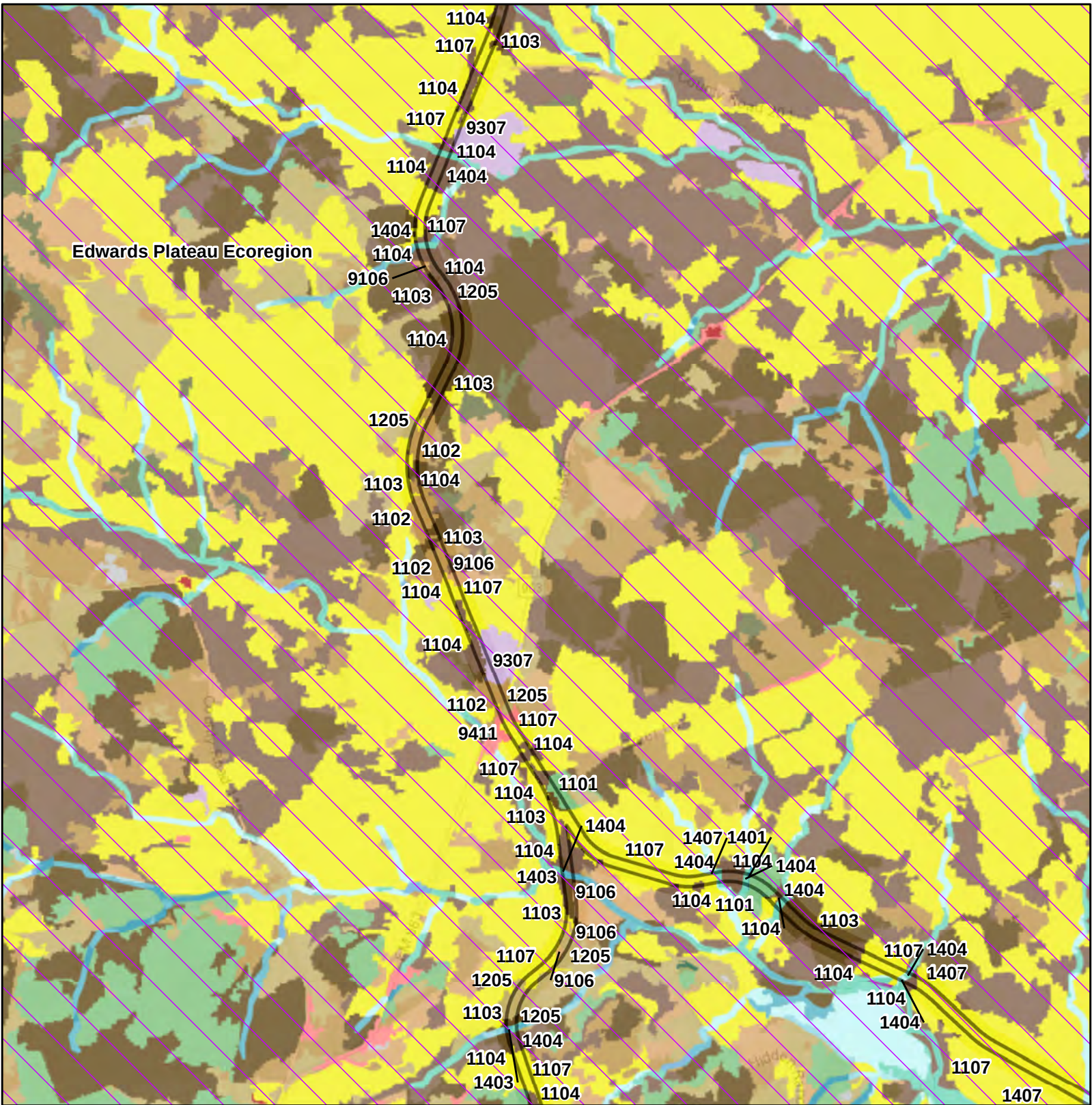
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Basemaps: ESRI 2025, World Topo & World Street Maps; Vegetation Types: TPWD EMST, Cross Timbers and Edwards Plateau Ecoregions.

Project Area

Texas Ecoregions

Cross Timbers

Edwards Plateau

EMST Vegetation Types

Veg_ID, CommonName

503, Crosstimbers: Post Oak / Juniper Woodland

504, Crosstimbers: Post Oak Woodland

507, Crosstimbers: Savanna Grassland

901, Edwards Plateau: Ashe Juniper Slope Forest

902, Edwards Plateau: Live Oak Slope Forest

903, Edwards Plateau: Oak / Ashe Juniper Slope Forest

904, Edwards Plateau: Oak / Hardwood Slope Forest

1001, Edwards Plateau: Floodplain Ashe Juniper Forest

1002, Edwards Plateau: Floodplain Live Oak Forest

1003, Edwards Plateau: Floodplain Hardwood / Ashe Juniper Forest

1004, Edwards Plateau: Floodplain Hardwood Forest

1005, Edwards Plateau: Floodplain Ashe Juniper Shrubland

1006, Edwards Plateau: Floodplain Deciduous Shrubland

1007, Edwards Plateau: Floodplain Herbaceous Vegetation

1101, Edwards Plateau: Ashe Juniper Motte and Woodland

1102, Edwards Plateau: Live Oak Motte and Woodland

1103, Edwards Plateau: Deciduous Oak / Evergreen Motte and Woodland

1104, Edwards Plateau: Oak / Hardwood Motte and Woodland

1107, Edwards Plateau: Savanna Grassland

1114, Edwards Plateau: Post Oak Motte and Woodland

1205, Edwards Plateau: Ashe Juniper / Live Oak Shrubland

1225, Edwards Plateau: Ashe Juniper / Live Oak Slope Shrubland

1401, Edwards Plateau: Riparian Ashe Juniper Forest

1402, Edwards Plateau: Riparian Live Oak Forest

1403, Edwards Plateau: Riparian Hardwood / Ashe Juniper Forest

1404, Edwards Plateau: Riparian Hardwood Forest

1405, Edwards Plateau: Riparian Ashe Juniper Shrubland

1406, Edwards Plateau: Riparian Deciduous Shrubland

1407, Edwards Plateau: Riparian Herbaceous Vegetation

9000, Barren

9106, Native Invasive: Mesquite Shrubland

9307, Row Crops

9411, Urban Low Intensity

9600, Open Water

Note: Only vegetation types mapped within the Project Area are defined in the legend.

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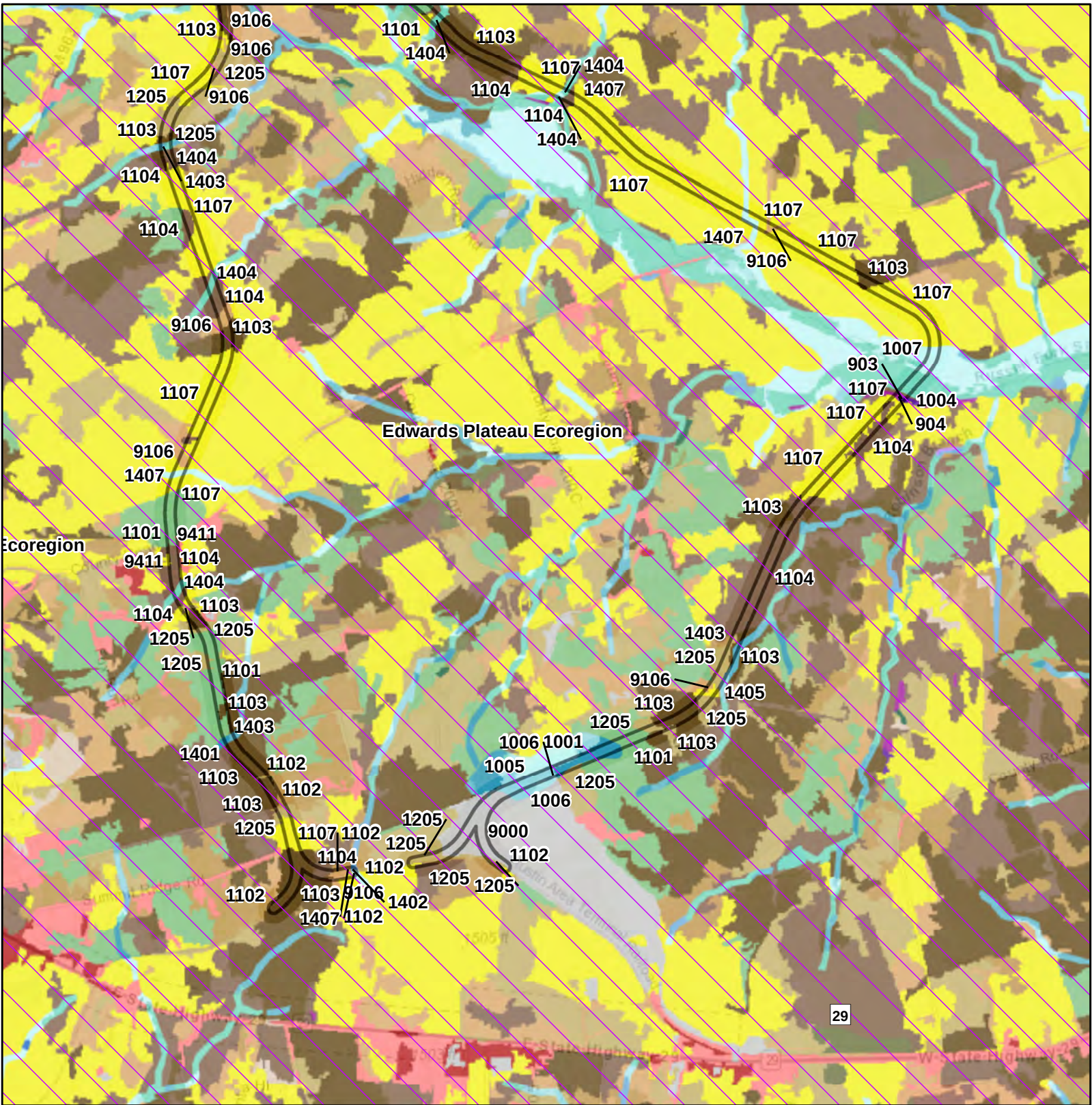
Lampasas

Burnet

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ENVIRONMENTAL LLC



Basemaps: ESRI 2025, World Topo & World Street Maps; Vegetation Types: TPWD EMST, Cross Timbers and Edwards Plateau Ecoregions.

Project Area

Texas Ecoregions

Cross Timbers

Edwards Plateau

EMST Vegetation Types

Veg_ID, CommonName

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1007, Edwards Plateau: Floodplain Herbaceous Vegetation

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1225, Edwards Plateau: Ashe Juniper / Live Oak Slope Shrubland

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1404, Edwards Plateau: Riparian Hardwood Forest

1405, Edwards Plateau: Riparian Ashe Juniper Shrubland

1406, Edwards Plateau: Riparian Deciduous Shrubland

1407, Edwards Plateau: Riparian Herbaceous Vegetation

9000, Barren

9106, Native Invasive: Mesquite Shrubland

9307, Row Crops

9411, Urban Low Intensity

9600, Open Water

Note: Only vegetation types mapped within the Project Area are defined in the legend.

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Appendix D. Federally and State-listed Threatened and Endangered Species

County	Taxon	Common Name	Scientific Name	Habitat	Potential Suitable Habitat Present?	Explanation for determination regarding suitable habitat	Federal Status	State Status
Lampasas	Birds	Black Rail	<i>Laterallus jamaicensis</i>	Black rails are year-round residents of the central and upper coast and migrants in the eastern part of the state. The species nests in salt, brackish, and freshwater marshes, pond borders, wet meadows, and wetlands with hydrophytic grass species. Water depth is an important and key habitat component, as the species typically is found where water is less than two to four centimeters deep. Other significant habitat factors may include vegetation density, distance to open water, and water regime stability. Nesting typically occurs in the highest sections of the marsh, which have mesic to hydric soils and are flooded by only the highest tides. Nests are built in areas with saturated or shallowly flooded soils and dense vegetation on damp ground, on mat of previous year's dead grasses, or over shallow water. In salt or brackish marshes, typical habitat includes dense stands of cordgrasses (<i>Spartina</i> sp.), spikegrasses (<i>Distichlis</i> sp.), and needlerush (<i>Juncus</i> sp.), or, in more upland saltbush communities along marsh edges. Typical freshwater habitat includes species such as cattail (<i>Typha</i>) and bulrush (<i>Scirpus</i> sp.). Non-breeding habitat is thought to be similar to breeding habitat.	N/A	In Texas, the Black Rail breeds and winters in high quality coastal marsh and prairie. The project area is outside the breeding and wintering ranges of this species. Suitable habitat for migratory Black Rails may be present; however, any use of that habitat would be incidental and ephemeral.	T	T
Burnet, Lampasas	Birds	Golden-cheeked Warbler	<i>Setophaga (=Dendroica) chrysoparia</i>	This migratory species breeds in central Texas along the Balcones Escarpment on the eastern edge of the Edwards Plateau and ranges from southwest of Fort Worth to northeast of Del Rio. Breeding habitat consists of juniper-oak woodlands dominated by Ashe juniper (<i>Juniperus ashei</i>) and various oak (<i>Quercus</i> sp.) species and deciduous trees found in areas with steep slopes, canyon heads, draws, and adjacent ridgetops. The species is dependent on Ashe juniper (also known as cedar) for long fine bark strips, only available from mature trees, used in nest construction; nests are generally placed in upright forks of mature Ashe junipers or various deciduous species. Occupied sites usually contain junipers at least 40 years old.	Y	The project area contains juniper-oak woodlands. Additionally, this species has been documented within and adjacent to the project area on the citizen science reporting databases iNaturalist and eBird (iNaturalist 2025; eBird 2025). This species has also been documented in the USFWS GCWA observation database southeast of Burnet, Texas.	E	E
Burnet, Lampasas	Birds	Piping Plover - Migratory	<i>Charadrius melodus</i>	This migratory species overwinters in Texas, where it occurs on beaches, ephemeral sand flats, barrier islands, sand, mud, algal flats, washover passes, salt marshes, lagoons, and dunes along the Gulf Coast and adjacent offshore islands, including spoil islands in the Intracoastal Waterway. Algal flats appear to be the highest quality habitat because of their relative inaccessibility and their continuous availability throughout all tidal conditions. Sand flats often appear to be preferred over algal flats when both are available, but large portions of sand flats along the Texas coast are available only during low or very low tides and are often completely unavailable during extreme high tides or strong north winds. Beaches appear to serve as a secondary habitat to the flats associated with the primary bays, lagoons, and inter-island passes. Beaches are rarely used on the southern Texas coast, where bayside habitat is always available, and are abandoned as bayside habitats become available on the central and northern coast.	N/A	The list of federally threatened and endangered species indicates that based on the project location within the migratory route, effects to Piping Plover only need be considered for wind energy projects. The project area is outside the breeding and wintering range of this species. Although suitable stopover habitat may be present, Piping Plover is not expected to regularly occur and any use of this habitat would be incidental.	T	T
Burnet, Lampasas	Birds	Red Knot - Migratory	<i>Calidris canutus rufa</i>	The species is a winter resident and migrant in Texas. It is primarily found in marine habitats such as sandy beaches, salt marshes, lagoons, mudflats of estuaries and bays, and mangrove swamps during winter months. It primarily occurs along the Gulf coast on tidal flats and beaches and less frequently in marshes and flooded fields. It has occasionally been observed along shorelines of large lakes and freshwater marshes.	N/A	The list of federally threatened and endangered species indicates that based on the project location within the migratory route, effects to Red Knot only need be considered for wind energy projects. The project area is outside the breeding and wintering range of this species. Although suitable stopover habitat may be present, Red Knot is not expected to regularly occur and any use of this habitat would be incidental.	T	T
Burnet, Lampasas	Birds	White-faced Ibis	<i>Plegadis chihi</i>	The species is found in the Western Gulf Coastal Plains ecoregion of Texas. Preferred habitat includes freshwater wetlands, marshes, ponds, rivers, irrigated land, and sloughs, but it occasionally forages in brackish or saltwater marshes. It nests in marshes in low trees, on the ground in bulrushes (<i>Scirpus</i> sp.) or reeds, or on floating mats.	Y	The project area contains freshwater wetlands, ponds, and rivers that may provide suitable foraging habitat for this species. Additionally, this species has been documented near the proposed project area on the citizen science reporting database eBird (eBird 2025).	—	T
Burnet, Lampasas	Birds	Whooping Crane	<i>Grus americana</i>	The species breeds in Canada and winters on the Texas coast at Aransas National Wildlife Refuge. During migration it typically stops to rest and feed in open bottomlands of large rivers and marshes but, like other waterbirds, it may also utilize flooded croplands, playas, large wetlands associated with lakes, small ponds, and various other aquatic features. Typical migration habitat includes sites with good horizontal visibility, water depth of 30 centimeters or less, and minimum wetland size of 0.04 hectare for roosting.	Y	The project area contains croplands, large wetlands associated with small ponds and rivers, and is located within the migratory path of this species. Additionally, this species has been documented outside of the project area on the citizen science reporting database eBird (eBird 2025).	E	E
Burnet, Lampasas	Birds	Zone-tailed Hawk	<i>Buteo albonotatus</i>	The species occurs in arid open country, especially open deciduous or pine-oak woodland, mesa and mountain country, often near watercourses, and wooded canyons and tree-lined rivers along middle-slopes of desert mountains. It nests in a variety of sites including small trees in lower desert, giant cottonwoods in riparian areas, and mature conifers in high mountain regions. Nests are typically constructed in large trees like cottonwoods (<i>Populus deltoides</i>), usually along streams near cliffs or steep hillsides.	Y	The project area contains arid open country with deciduous oak woodlands that may provide suitable habitat for this species. Additionally, this species has been documented within and adjacent to the project area on the citizen science reporting databases iNaturalist and eBird (iNaturalist 2025; eBird 2025).	—	T

Burnet, Lampasas	Insects	Monarch Butterfly	<i>Danaus plexippus</i>	Found statewide. Adults are found in a variety of habitats including native prairies, pastures, open woodlands and savannas, desert scrub, roadsides, and other habitats with abundant nectar plants, including urbanized areas. Although adults may be present year round, they are primarily encountered between March and November, and are most commonly observed in the summer and fall during breeding and migration. Caterpillars are found on various species of the family Asclepiadaceae (occasionally treated as a subfamily of Apocynaceae). Common host plants in Texas include milkweeds (<i>Asclepias</i> spp.) milkweed vines (<i>Matelea</i> spp.), climbing milkweed (<i>Funastrum</i> spp.), swallowworts (<i>Gynanchum</i> spp.) and Angelpod (<i>Goniolobus suberosus</i>). Caterpillars are most frequently observed between April and September.	Y	The project area contains native prairies, pastures, open woodlands and savannas, roadsides that may contain an abundance of nectar producing plants. This species has also been documented on the citizen science reporting database (iNaturalist) within and adjacent to the proposed project area (iNaturalist 2025).	C	—
Burnet, Lampasas	Mammals	Tricolored Bat	<i>Perimyotis subflavus</i>	In Texas, Tricolored Bats may be found year-round, in mature hardwoods (>5-inch average dbh), nesting in the leaves or bark of live and dead trees, or epiphytic vegetation such as Spanish moss (<i>Tillandsia usneoides</i>). They may also roost among ferns and crevices on limestone and sandstone bluffs and cliffs, and in caves, where present. From late winter to early spring, they also may roost in bridges, culverts, and abandoned buildings. During the winter they may go into periods of torpor during colder temperatures; however, they will emerge to feed on warm evenings. Foraging habitat consists of open woodlands, riparian corridors, and forest edge, especially near waterbodies (natural and manmade). [If any portion of the project area is inside of the IPaC species range, an effect determination is required. If the entirety of the project area is outside of the IPaC species range, use the following: "In this project area, effects to tricolored bat only need to be considered for wind energy projects. Tricolored bat is not expected to regularly occur, and any use of this habitat would be incidental."]	Y	The project area contains mature hardwoods within open woodlands, riparian corridors, forest edges, and both natural and man-made waterbodies. This species has also been documented on the citizen science reporting database (iNaturalist) within and adjacent to the proposed project area (iNaturalist 2025).	PE	—
Burnet	Mollusks	Balcones Spike	<i>Fusconalia</i> (= <i>Quadrula</i>) <i>theringi</i>	Freshwater mussel recently determined to be a separate and distinct species from the false spike. The Balcones spike is found within the Colorado and Brazos River basins. The species does not co-occur with false spike, which is found in the Guadalupe River basin. The Balcones spike occurs in small to medium-sized streams and rivers with various substrates including mud and mixtures of sand, gravel, and cobble. It is often found in riffle and pool habitats, and host species include the red shiner (<i>Cyprinella lutrensis</i>) and blacktail shiner (<i>C. venusta</i>).	N	Although the project area contains multiple freshwater streams and ponds, only three of the streams are classified under the TPWD and USFWS stream groupings detailed in the Freshwater mussel survey protocols (TPWD USFWS 2024). The three streams are classified as group five streams and protected freshwater mussels are not expected to occur.	E	E
Burnet, Lampasas	Mollusks	Texas Fatmucket	<i>Lampsilis bracteata</i>	A freshwater mussel endemic to streams and small rivers of the Texas Hill Country, the species occurs in moderately flowing waters generally less than 1 meter in depth. It can occur in sand or gravel substrates, but typically occurs in soft silt deposits in bank or pool habitats or cracks in bedrock. It inhabits microhabitats among large cobble, boulders, bedrock ledges, horizontal cracks in bedrock slabs, and macrophyte beds. It has been reported inhabiting roots of cypress trees and other vegetation along steep banks. It is intolerant to impoundment and absent from backwater, mid-channel, and riffle habitats.	N	Although the project area contains multiple freshwater streams and ponds, only three of the streams are classified under the TPWD and USFWS stream groupings detailed in the Freshwater mussel survey protocols (TPWD USFWS 2024). The three streams are classified as group five streams and protected freshwater mussels are not expected to occur.	E	E
Burnet, Lampasas	Mollusks	Texas Fawnsfoot	<i>Truncilla macrondon</i>	A freshwater mussel that is currently limited to the Brazos, Colorado, and Trinity River basins in Texas. The species occupies large streams to medium rivers and is intolerant of impoundment. Little is known about the species due to lack of representative specimens, however it is thought that the species prefers protected areas near shore in water with a moderate current over mud, sandy mud, and gravel substrates. It is also found in perennial irrigation canals for rice.	N	Although the project area contains multiple freshwater streams and ponds, only three of the streams are classified under the TPWD and USFWS stream groupings detailed in the Freshwater mussel survey protocols (TPWD USFWS 2024). The three streams are classified as group five streams and protected freshwater mussels are not expected to occur.	T	T
Burnet, Lampasas	Mollusks	Texas Pimpleback	<i>Cyclonaias</i> (<i>Quadrula</i>) <i>petrina</i>	A freshwater mussel endemic to the middle and lower portions of the Colorado River basin in Texas. The species inhabits medium to large rivers with shallow water and slow to moderate currents. It occurs in gravel-filled cracks in bedrock and microhabitats and on mud, sand, gravel, and cobble substrates. It is intolerant to extremely soft substrates, shifting sands, scoured bottoms, and impoundments.	N	Although the project area contains multiple freshwater streams and ponds, only three of the streams are classified under the TPWD and USFWS stream groupings detailed in the Freshwater mussel survey protocols (TPWD USFWS 2024). The three streams are classified as group five streams and protected freshwater mussels are not expected to occur.	E	E
Burnet	Plants	Bracted Twistflower	<i>Streptanthus bracteatus</i>	The species is found in south-central Texas. It is an annual; endemic to the Edwards Plateau where it occurs on shallow, well-drained gravelly clays and clay loams over limestone, within oak-juniper woodland and associated openings, on steep to moderate slopes, and in canyon bottoms. Often found amid dense shrub growth where there is some protection from browsing.	N	The project area is located outside of the known range for this species within Burnet County (USFWS 2025).	T	—
Burnet	Plants	Rock Quillwort	<i>Isoetes lithophila</i>	This species is endemic to the Llano Uplift of Central Texas. The plant occurs in sand and gravel under shallow water of seasonal pools (vernal pools) that develop during rainy seasons in small, shallow, unshaded basins on barren outcrops of granite and gneiss. The plant is a perennial, sporulating in late winter and spring, and opportunistically in other seasons following heavy rainfall, but shriveling to the ground and undetectable during periods when pools are dry.	Y	The project area contains vernal waterbodies with sand and gravel substrates that may provide suitable habitat for this species. Additionally, this species has been documented on the citizen science reporting database (iNaturalist) adjacent to the proposed project area in the city of Burnet, Texas (iNaturalist 2025).	—	T
Burnet, Lampasas	Reptiles	Texas Horned Lizard	<i>Phrynosoma cornutum</i>	The species is found in semi-arid open areas with scattered vegetation comprised of bunchgrass, cacti, yucca, mesquite, acacia, juniper, or other woody shrubs and small trees commonly found in loose sandy or loamy soils.	Y	The project area contains semi-arid open areas with scattered vegetation comprised of bunchgrass, cacti, yucca, mesquite, acacia, juniper, and other woody shrubs and small trees. According to the NRCS web soil survey, the project area also contains sandy and loamy soils (NRCS 2025).	—	T

* Does not include species under review for federal listing or delisted species in recovery.

T = Threatened
E = Endangered
C = Candidate
P = Proposed

Appendix E. State-listed Species of Greatest Conservation Need

County	Taxon	Common Name	Scientific Name	Habitat Description	Potential Suitable Habitat Present?	Explanation for determination regarding suitable habitat.
Burnet & Lampasas	Amphibians	Strecker's chorus frog	<i>Pseudacris streckeri</i>	Terrestrial and aquatic: Wooded floodplains and flats, prairies, cultivated fields and marshes. Likes sandy substrates.	Y	The project area contains terrestrial and aquatic habitat including wooded floodplains, prairies, cultivated fields, and marshes. According to the NRCS web soil survey the project area contains sandy substrates. Additionally, this species has been documented near the project area on the citizen science reporting database iNaturalist (iNaturalist 2025).
Burnet & Lampasas	Amphibians	Woodhouse's toad	<i>Anaxyrus woodhousii</i>	Terrestrial and aquatic: A wide variety of terrestrial habitats are used by this species, including forests, grasslands, and barrier island sand dunes. Aquatic habitats are equally varied.	Y	The project area contains terrestrial and aquatic habitat including forests, grasslands, ponds, and intermittent, ephemeral, and perennial streams.
Burnet & Lampasas	Birds	Bank Swallow	<i>Riparia riparia</i>	Bank Swallows live in low areas along rivers, streams, ocean coasts, and reservoirs. Their territories usually include vertical cliffs or banks where they nest in colonies of 10 to 2,000 nests. Though in the past Bank Swallows were most commonly found around natural bluffs or eroding streamside banks, they now often nest in human-made sites, such as sand and gravel quarries or road cuts. They forage in open areas and avoid places with tree cover.	Y	The project area contains low areas along rivers, streams, and ponds. Foraging habitat is also available in the open areas throughout the project area. Additionally, this species has been documented near the project area in Burnet and Lampasas, Texas on the citizen science reporting database eBird (eBird 2025).
Burnet & Lampasas	Birds	black-capped vireo	<i>Vireo atricapilla</i>	Oak-juniper woodlands with distinctive patchy, two-layered aspect: shrub and tree layer with open, grassy spaces; requires foliage reaching to ground level for nesting cover; return to same territory, or one nearby, year after year; deciduous and broad-leaved shrubs and trees provide insects for feeding; species composition less important than presence of adequate broad-leaved shrubs, foliage to ground level, and required structure; nesting season March-late summer	Y	The project area contains juniper-oak woodlands with open grassy spaces. Additionally, this species has been documented within and adjacent to the project area on the citizen science reporting databases iNaturalist and eBird (iNaturalist 2025; eBird 2025).
Burnet & Lampasas	Birds	Brewer's Blackbird	<i>Euphagus cyanocephalus</i>	Shrubby and bushy areas (especially near water), riparian woodland, aspen parklands, cultivated lands, marshes, and around human habitation; in migration and winter also in pastures and fields (AOU 1983).	Y	The project area contains shrubby and brushy areas near water, riparian woodlands, cultivated lands, and pastures and fields. Additionally, this species has been documented within and adjacent to the project area on the citizen science reporting databases iNaturalist and eBird (iNaturalist 2025; eBird 2025).
Burnet & Lampasas	Birds	Cactus Wren	<i>Campylorhynchus brunneicapillus</i>	Desert (especially with cholla cactus or yucca), mesquite, arid scrub, coastal sage scrub, and in trees in towns in arid regions (Tropical to Subtropical zones) (AOU 1983). Nests in OPUNTIA cactus, or in twiggy, thorny, trees and shrubs, sometimes in buildings. Nest may be relined and used as a winter roost.	Y	The project area is located in an arid region of central Texas and contains mesquite, cactus, shrubs, and various buildings. This species has been documented within and adjacent to the project area on the citizen science reporting database eBird (eBird 2025).
Burnet & Lampasas	Birds	chestnut-collared longspur	<i>Calcarius ornatus</i>	Occurs in open shortgrass settings especially in patches with some bare ground. Also occurs in grain sorghum fields and Conservation Reserve Program lands	Y	The project area contains open shortgrass settings with bare ground. This species has also been documented near the project area on the citizen science reporting database eBird (eBird 2025).
Burnet & Lampasas	Birds	Common Nighthawk	<i>Chordeiles minor</i>	Common Nighthawks nest in both rural and urban habitats including coastal sand dunes and beaches, logged forest, recently burned forest, woodland clearings, prairies, plains, sagebrush, grasslands, open forests, and rock outcrops. They also nest on flat gravel rooftops, though less often as gravel roofs are being replaced by smooth, rubberized roofs that provide an unsuitable surface.	Y	The project area contains rural habitat with prairies, plains, grasslands, and open forests. Building occur within the project area that may provide suitable nesting habitat for this species. Additionally, this species has been documented within and adjacent to the project area on the citizen science reporting databases iNaturalist and eBird (iNaturalist 2025; eBird 2025).
Burnet & Lampasas	Birds	Franklin's gull	<i>Leucophaeus pipixcan</i>	The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. This species is only a spring and fall migrant throughout Texas. It does not breed in or near Texas. Winter records are unusual consisting of one or a few individuals at a given site (especially along the Gulf coastline). During migration, these gulls fly during daylight hours but often come down to wetlands, lake shore, or islands to roost for the night.	Y	The project area contains wetlands that may serve as suitable stopover habitat for this species. This species has been documented adjacent to the project area on the citizen science reporting database eBird (eBird 2025).
Burnet & Lampasas	Birds	lark bunting	<i>Calamospiza melanocorys</i>	Overall, it's a generalist in most short grassland settings including ones with some brushy component plus certain agricultural lands that include grain sorghum. Short grasses include sideots and blue gramas, sand dropseed, prairie junegrass (Koeleria), buffalograss also with patches of bluestem and other mid-grass species. This bunting will frequent smaller patches of grasses or disturbed patches of grasses including rural yards. It also uses weedy fields surrounding plays. This species avoids urban areas and cotton fields.	Y	The project area contains short grasslands with brushy components, disturbed patches of grassland within rural yards, and agriculture fields. Additionally, this species has been documented within and adjacent to the project area on the citizen science reporting database eBird (eBird 2025).
Burnet & Lampasas	Birds	Least Tern	<i>Sterna antillarum</i>	Sand beaches, flats, bays, inlets, lagoons, islands, river sandbars and flat gravel rooftops in urban areas.	N	The project area does not contain sand beaches, flats, bays, inlets, lagoons, islands, river sandbars, or flat gravel rooftops in urban areas.
Burnet & Lampasas	Birds	Loggerhead Shrike	<i>Lanius ludovicianus</i>	Loggerhead Shrikes inhabit open country with short vegetation and well-spaced shrubs or low trees, particularly those with spines or thorns. They frequent agricultural fields, pastures, old orchards, riparian areas, desert scrublands, savannas, prairies, golf courses, and cemeteries. Loggerhead Shrikes are often seen along mowed roadsides with access to fence lines and utility poles.	Y	The project area contains open country with short vegetation and well-spaced shrubs and low trees, agriculture fields, riparian areas, savannas, and prairies. Fences lines and utility poles are also available within the project area. Additionally, this species has been documented on the citizen science reporting databases iNaturalist and eBird (iNaturalist 2025; eBird 2025).

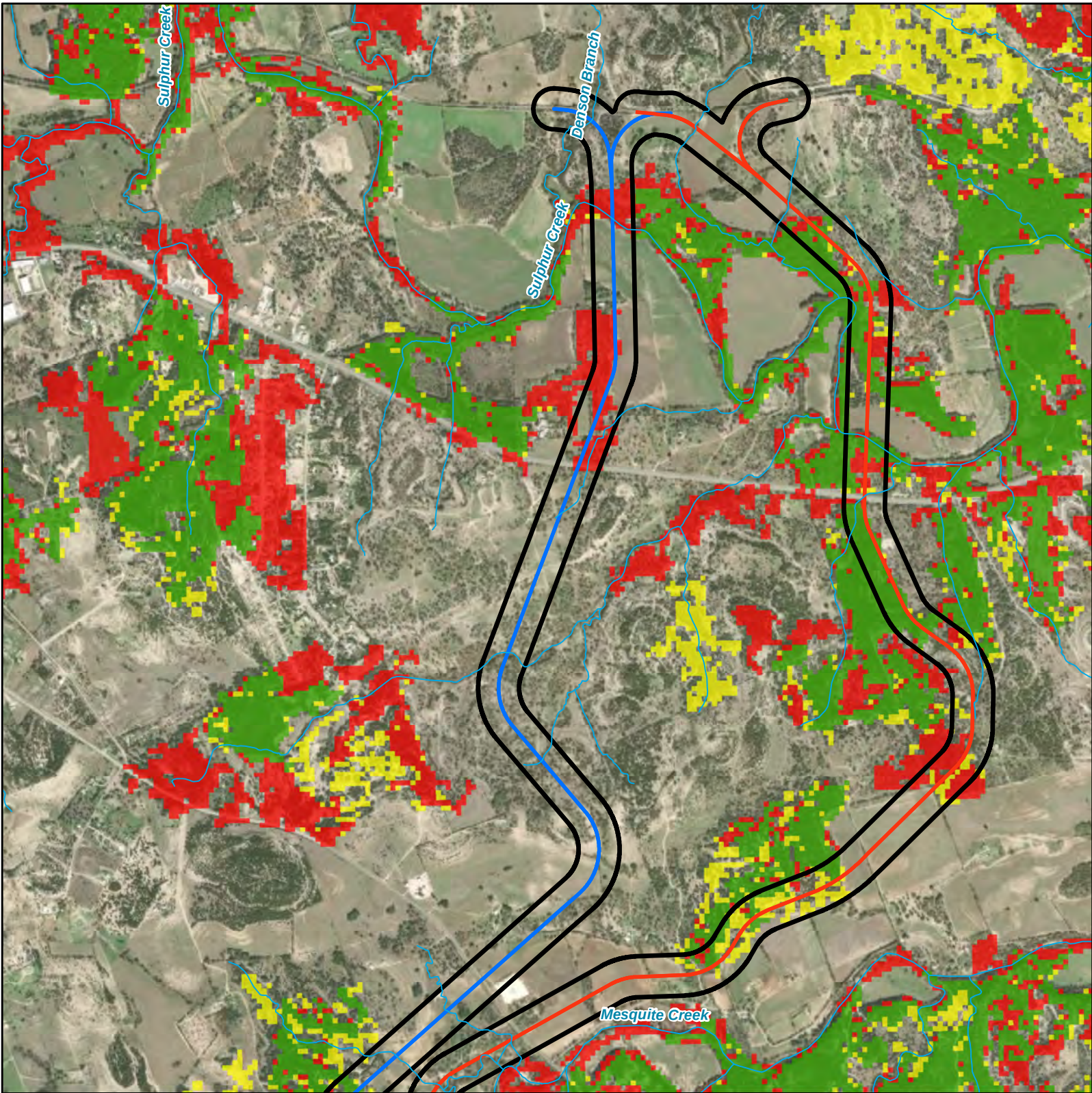
Burnet & Lampasas	Birds	mountain plover	<i>Charadrius montanus</i>	The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Breeding: nests on high plains or shortgrass prairie, on ground in shallow depression; nonbreeding: shortgrass plains and bare, dirt (plowed) fields; primarily insectivorous.	N	The project area is located outside of the known range for this species. Although shortgrass prairies and fields exist within the project area, it is outside of the breeding range for this species.
Burnet & Lampasas	Birds	Northern Bobwhite	<i>Colinus virginianus</i>	Inhabits a wide variety of vegetation types, particularly early successional stages. Occurs in croplands, grasslands, pastures, fallow fields, grass-brush rangelands, open pinelands, open mixed pine-hardwood forests, and habitat mosaics (Brennan 1999).	Y	The project area contains croplands, grasslands, and pastures. Additionally, this species has been documented within and adjacent to the project area on the citizen science reporting databases iNaturalist and eBird (iNaturalist 2024; eBird 2025).
Burnet & Lampasas	Birds	Pyrrhuloxia	<i>Cardinalis sinuatus</i>	Pyrrhuloxias live in upland deserts, mesquite savannas, riparian (streamside) woodlands, desert scrublands, farm fields with hedgerows, and residential areas with nearby mesquite. When not breeding, some Pyrrhuloxias wander into urban habitats, mesquite-hackberry habitats, and riparian habitats with Arizona sycamore and cottonwood.	Y	The project area contains mesquite savannas, riparian woodlands, farm fields with hedgerows, residential areas with nearby mesquite, and mesquite-hackberry habitats. Additionally, this species has been documented near the project area on the citizen science reporting database eBird (eBird 2025).
Burnet & Lampasas	Birds	Sanderling	<i>Calidris alba</i>	Nonbreeding: primarily sandy beaches, less frequently on mud flats and shores of lakes or rivers (AOU 1983) also on exposed reefs (Pratt et al. 1987). Sleeps/loafs on upper beach or on salt pond dike.	N	The project area does not contain sandy beaches, mud flats, shores of lakes and rivers, or exposed reefs.
Burnet & Lampasas	Birds	Snowy Plover	<i>Charadrius nivosus</i>	Algal flats appear to be the highest quality habitat. Some of the most important aspects of algal flats are their relative inaccessibility and their continuous availability throughout all tidal conditions. An optimal site characteristic would be large in size. The size of populations appear to be roughly proportional to the total area of suitable habitat used. Formerly an uncommon breeder in the Panhandle; potential migrant; winter along coast.	N	The project area does not contain algal flats.
Burnet & Lampasas	Birds	Sprague's pipit	<i>Anthus spragueii</i>	The county distribution for this species includes geographic areas that the species may use during migration. Time of year should be factored into evaluations to determine potential presence of this species in a specific county. Habitat during migration and in winter consists of pastures and weedy fields (AOU 1983), including grasslands with dense herbaceous vegetation or grassy agricultural fields.	Y	The project area contains pastures, grasslands, and weedy fields that may provide suitable migratory stopover habitat for this species. Additionally, this species has been documented nearby on the citizen science reporting database eBird (eBird 2025).
Burnet & Lampasas	Birds	Willet	<i>Tringa semipalmata</i>	Marshes, tidal mudflats, beaches, lake margins, mangroves, tidal channels, river mouths, coastal lagoons, sandy or rocky shores, and, less frequently, open grassland (AOU 1983, Stiles and Skutch 1989).	N	The project area does not contain marshes, tidal mudflats, beaches, lake margins, mangroves, tidal channels, river mouths, coastal lagoons, sandy or rocky shores.
Burnet & Lampasas	Birds	Wilson's Warbler	<i>Cardellina pusilla</i>	Wilson's warblers key in on forests and scrubby areas along streams to fatten up during migration. During the nonbreeding season they use many types of habitats from lowland thickets near streams to high-elevation cloud forests in Mexico and Central America.	Y	The project area contains forests and scrubby areas near streams that may provide habitat for this species. Additionally, this species has been documented within and adjacent to the project area on the citizen science reporting database eBird (eBird 2025).
Lampasas	Birds	Yellow Rail	<i>Coturnicops noveboracensis</i>	BREEDING: Emergent wetlands, grass or sedge marshes and wet meadows in freshwater situations. Some breeding territories in these wet meadows contain firm footing and only a few remnant pools of water (Berkey 1991). These areas can range from damp to 38 cm (15 inches) of water but the average depth used for nesting is 6 to 15 cm (3 to 6 inches) (Savaloja 1981). NON-BREEDING: Grain fields in winter and when migrating. Winters in both freshwater and brackish marshes, as well as in dense, deep grass. During fall migration, will use many open habitats, from rice paddies to dry hayfields.	N	The project area does not contain grass or sedge marshes or wet meadows.
Burnet & Lampasas	Fish	Guadalupe bass	<i>Micropterus treculii</i>	Endemic to the streams of the northern and eastern Edwards Plateau including portions of the Brazos, Colorado, Guadalupe, and San Antonio basins; species also found outside of the Edwards Plateau streams in decreased abundance, primarily in the lower Colorado River; two introduced populations have been established in the Nueces River system. A pure population was re-established in a portion of the Blanco River in 2014. Species prefers lentic environments but commonly taken in flowing water; numerous smaller fish occur in rapids, many times near eddies; large individuals found mainly in riffle tail races; usually found in spring-fed streams having clear water and relatively consistent temperatures.	Y	The project area is located in the Brazos River basin and contains multiple freshwater streams with both lentic and lotic water. This species has been documented northeast of the project area in the Texas Natural Diversity Database (TxNDD 2025) and south of the project area of the Fishes of Texas database (FoTX 2025).
Burnet	Fish	silverband shiner	<i>Notropis shumardi</i>	In Texas, found from Red River to Lavaca River; Main channel with moderate to swift current velocities and moderate to deep depths; associated with turbid water over silt, sand, and gravel.	Y	The project area is located in the Brazos River basin and contains multiple freshwater streams with both lentic and lotic water. This species has not been documented in this area.
Burnet	Fish	Texas shiner	<i>Notropis amabilis</i>	In Texas, it is found primarily in Edwards Plateau streams from the San Gabriel River in the east to the Pecos River in the west. Typical habitat includes rocky or sandy runs, as well as pools.	Y	The project area is located in the Brazos River basin and contains multiple freshwater streams with both lentic and lotic water. This species has not been documented in this area.
Burnet	Mammals	big free-tailed bat	<i>Nyctinomops macrotis</i>	Habitat data sparse but records indicate that species prefers to roost in crevices and cracks in high canyon walls, but will use buildings, as well; reproduction data sparse, gives birth to single offspring late June-early July; females gather in nursery colonies; winter habits undetermined, but may hibernate in the Trans-Pecos; opportunistic insectivore	N	Although the project area contains buildings, there are no crevices or cracks in high canyon walls that would provide suitable roosting habitat for this species.
Burnet & Lampasas	Mammals	cave myotis bat	<i>Myotis velifer</i>	Colonial and cave-dwelling; also roosts in rock crevices, old buildings, carpports, under bridges, and even in abandoned Cliff Swallow (Hirundo pyrrhonota) nests; roosts in clusters of up to thousands of individuals; hibernates in limestone caves of Edwards Plateau and gypsum cave of Panhandle during winter; opportunistic insectivore.	N	The project area does not contain caves or rock crevices that would provide suitable roosting habitat for this species.
Burnet & Lampasas	Mammals	eastern spotted skunk	<i>Spilogale putorius</i>	Generalist; open fields prairies, croplands, fence rows, farmyards, forest edges & woodlands. Prefer wooded, brushy areas & tallgrass prairies. S.p. ssp. interrupta found in wooded areas and tallgrass prairies, preferring rocky canyons and outcrops when such sites are available.	Y	The project area contains open fields, prairies, croplands, fence rows, farmyards, forest edges, and woodlands that would provide suitable habitat for this species.

Burnet & Lampasas	Mammals	hoary bat	<i>Lasiurus cinereus</i>	Hoary bats are highly migratory, high-flying bats that have been noted throughout the state. Females are known to migrate to Mexico in the winter, males tend to remain further north and may stay in Texas year-round. Commonly associated with forests (foliage roosting species) but are found in unforested parts of the state and lowland deserts. Tend to be captured over water and large, open flyways.	Y	The project area contains woodlands that may provide suitable roosting habitat for this species. There are also multiple large ponds throughout the project area that may provide suitable foraging habitat for this species.
Burnet & Lampasas	Mammals	Llano pocket gopher	<i>Geomys texensis texensis</i>	Found in deep, brown loamy sands or gravelly sandy loams and is isolated from other species of pocket gophers by intervening shallow stony to gravelly clayey soils	N	A review of the NRCS Web Soil Survey indicates that the project area does not contain sandy soils that would provide suitable habitat for this species.
Burnet & Lampasas	Mammals	mountain lion	<i>Puma concolor</i>	Generalist; found in a wide range of habitats statewide. Found most frequently in rugged mountains & riparian zones.	N	The project area does not contain rugged mountains and no confirmed sightings of this species have been reported in Burnet or Lampasas Counties on the TPWD Confirmed Mountain Lion Sightings database (TPWD 2025b).
Burnet & Lampasas	Mammals	plains spotted skunk	<i>Spilogale interrupta</i>	Generalist; open fields, prairies, croplands, fence rows, farmyards, forest edges, and woodlands; prefers wooded, brushy areas and tallgrass prairie	Y	The project area contains open fields, prairies, croplands, fence rows, farmyards, forest edges, and woodlands that would provide suitable habitat for this species.
Burnet & Lampasas	Mammals	Seminole bat	<i>Lasiurus seminolus</i>	Pine-oak and long-leaf pine in east Texas. Habitats include pine, mixed pine-hardwood, and hardwood forests of uplands and bottomlands, particularly pine-dominated forests, including mature pine and pine-hardwood corridors in managed pine forest landscapes (Menzel et al. 1998, 1999, 2000; Carter et al. 2004; Marks and Marks 2006; Perry and Thill 2007; Perry et al. 2007; Hein et al. 2008; Ammerman et al. 2012).	N	The project area does not contain pine woodlands that would provide suitable roosting habitat for this species.
Burnet	Mollusks	Lilliput	<i>Toxolasma parvum</i>	Reported from small streams, where it may penetrate into the headwaters, to large rivers, oxbows, sloughs, lakes, ponds, canals, borrow pits, and reservoirs. Primarily occurs in still to slow currents in mud and sand substrates (Coker et al. 1921; Read 1954; Neck and Metcalf 1988; Williams et al. 2008; Watters et al. 2009).	Y	The project area contains multiple freshwater ponds and streams with slow currents that may provide suitable habitat for this species.
Lampasas	Mollusks	Louisiana Fatmucket	<i>Lampsilis hydlana</i>	Reported from streams to rivers, may penetrate into headwaters, oxbows, lakes, canals, and reservoirs. Reported to occur in still to moderate currents in sand, mud, and gravel substrates. In riverine systems it is found primarily in nearshore habitats such as banks, backwaters and oxbows (Howells et al. 1996; Randklev et al. 2013a; Randklev et al. 2014a; Tsakiris and Randklev 2016). It adapts readily to reservoirs and can cope with flow modification stemming from river impoundment (Randklev et al. 2016).	Y	The project area contains multiple freshwater ponds and streams with slow currents that may provide suitable habitat for this species. Additionally, this species has been documented in Sulphur Creek, a perennial stream that crosses the project area, on the Mussels of Texas Database (MoTX 2025).
Burnet & Lampasas	Mollusks	Mapleleaf	<i>Quadrula quadrula</i>	Reported from streams to rivers, lakes, and reservoirs. In riverine habitats, it may be found in main-channel habitats such as riffles or runs in sand, gravel, and cobble substrates with moderate to swift currents. May also be found in nearshore habitats such as banks and backwaters to include pools in sand or mud substrates with little to no flow. (Williams et al. 2008; Howells 2016; Haag and Cicerello 2016).	Y	The project area contains multiple freshwater ponds and streams with slow currents that may provide suitable habitat for this species. Additionally, this species has been documented in Sulphur Creek, a perennial stream that crosses the project area, on the Mussels of Texas Database (MoTX 2025).
Burnet & Lampasas	Mollusks	Pimpleback	<i>Cyclonaias pustulosa</i>	Occurs in small streams to large rivers in habitats including riffles and runs with flowing water, also found in nearshore habitats such as banks and backwaters or pools. Can occur in reservoirs but varies based by population. Is often found in substrates comprising of sand, gravel, and cobble but also mud and silt (Howells et al. 1996; Williams et al. 2008; Watters et al. 2009).	Y	The project area contains multiple freshwater ponds and streams with slow currents that may provide suitable habitat for this species. Additionally, this species has been documented in Sulphur Creek, a perennial stream that crosses the project area, on the Mussels of Texas Database (MoTX 2025).
Burnet & Lampasas	Mollusks	Pistolgrip	<i>Tritogonia verrucosa</i>	Reported from streams to rivers, lakes, and reservoirs, but considered less tolerant of impoundment (Haag and Cicerello 2016). Can occur in a variety of habitat types but most often found in main channel habitats such as riffles and runs with moderate current and sand, gravel, or cobble substrates (Howells et al. 1996; Williams et al. 2008).	Y	The project area contains multiple freshwater ponds and streams with slow currents that may provide suitable habitat for this species. Additionally, this species has been documented in Sulphur Creek, a perennial stream that crosses the project area, on the Mussels of Texas Database (MoTX 2025).
Burnet & Lampasas	Mollusks	Tampico Pearlmussel	<i>Cyrtornaias tampicoensis</i>	Reported from streams to rivers, reservoirs, and canals. In riverine habitats often found in nearshore habitats such as banks and backwaters, to include pools and oxbows, in mud or sand or among cobble and boulders with still to moderate currents (Howells et al. 1996).	Y	The project area contains multiple freshwater ponds and streams with slow currents that may provide suitable habitat for this species. Additionally, this species has been documented in Sulphur Creek, a perennial stream that crosses the project area, on the Mussels of Texas Database (MoTX 2025).
Burnet	Mollusks	Tapered Pondhorn	<i>Uniomus declivis</i>	It likely occurs in streams, rivers, oxbows, marshes, swamps, lakes, canals, ponds, and reservoirs in still to moderate currents in mud, sand, or gravel substrates. Also probably occurs in woody debris such as logjams and exposed roots of riparian trees (Williams et al. 2008).	Y	The project area contains multiple freshwater ponds and streams with slow currents that may provide suitable habitat for this species.
Burnet	Plants	basin bellflower	<i>Campanula reverchonii</i>	Among scattered vegetation on loose gravel, gravelly sand, and rock outcrops on open slopes with exposures of igneous and metamorphic rocks; may also occur on sandbars and other alluvial deposits along major rivers; flowering May-July	N	A review of the NRCS Web Soil Survey indicates that the project area does not contain sandy soils that would provide suitable habitat for this species.
Burnet	Plants	basin wild-buckwheat	<i>Eriogonum tenellum var. ramosissimum</i>	Usually rooted in crevices of sparsely vegetated, unshaded granite and gneiss outcrops or associated deposits of dry sand and gravel; Perennial; Flowering Apr-Dec	N	A review of the NRCS Web Soil Survey indicates that the project area does not contain sandy soils that would provide suitable habitat for this species.
Burnet	Plants	bigflower cornsalad	<i>Valerianella stenocarpa</i>	Usually along creekbeds or in vernal moist grassy open areas (Carr 2015).	Y	The project area contains creek beds and vernal moist grassy open areas that may provide suitable habitat for this species.
Burnet	Plants	Edwards Plateau cornsalad	<i>Valerianella texana</i>	Very shallow, well-drained, but seasonally moist gravelly-sandy soils derived from igneous or metamorphic rocks, often along the downslope margin of rock outcrops, in full sun or in partial shade of oak-juniper woodlands; more likely encountered in early successional areas; population numbers fluctuate considerably from year to year, with higher numbers following winters with higher rains and/or moderate temperatures; peak flowering/fruiting mid-March-late April, stems wither and disappear by the beginning of May	Y	The project area contains juniper-oak woodlands and well-drained gravelly sandy soils that may provide suitable habitat for this species (NRCS 2025). Additionally, this species has been documented near the project area on the citizen science reporting database iNaturalist (iNaturalist 2025).
Burnet	Plants	Enquist's sandmint	<i>Brazoria enquistii</i>	Primarily on sand banks in and along beds of streams that drain granitic or gneissic landscapes; flowering/fruiting April-June	N	A review of the NRCS Web Soil Survey indicates that the project area does not contain sandy soils that would provide suitable habitat for this species.

Burnet	Plants	glandular gay-feather	<i>Liatris glandulosa</i>	Occurs in herbaceous vegetation on limestone outcrops (Carr 2015). Flowering: July-Oct.	Y	The project area may contain limestone out crops that would provide suitable habitat for this species; however, a field investigation would be required to determine the available of this habitat.
Burnet	Plants	granite spiderwort	<i>Tradescantia pedicellata</i>	Mostly in fractures on outcrops of granite, gneiss, and similar igneous and metamorphic rocks, or in early successional grasslands or forb-dominated assemblages on well-drained, sandy to gravelly soils derived from same; flowering at least April-May	N	A review of the NRCS Web Soil Survey indicates that the project area does not contain sandy soils that would provide suitable habitat for this species.
Burnet & Lampasas	Plants	Half's prairie clover	<i>Dalea hallii</i>	In grasslands on eroded limestone or chalk and in oak scrub on rocky hillsides; Perennial; Flowering May-Sept; Fruiting June-Sept	Y	The project area contains varied topography with oak scrub vegetation that may provide suitable habitat for this species. This species has also been documented near the project area on the citizen science reporting database iNaturalist (iNaturalist 2025).
Lampasas	Plants	Hill Country wild-mercury	<i>Argythamnia aphoroides</i>	Mostly in bluestem-grama grasslands associated with plateau live oak woodlands on shallow to moderately deep clays and clay loams over limestone on rolling uplands, also in partial shade of oak-juniper woodlands in gravelly soils on rocky limestone slopes; Perennial; Flowering April-May with fruit persisting until midsummer	Y	A review of the NRCS Web Soil Survey indicates that the project area contains primarily clay loam soils. Additionally, oak-juniper woodlands and plateau live oak woodlands occur within the project area and may provide suitable habitat for this species.
Burnet	Plants	net-leaf bundleflower	<i>Desmanthus reticulatus</i>	Mostly on clay prairies of the coastal plain of central and south Texas; Perennial; Flowering April-July; Fruiting April-Oct	Y	A review of the NRCS Web Soil Survey indicates that clay soils occur within the project area and may provide suitable habitat for this species.
Burnet & Lampasas	Plants	Plateau loosestrife	<i>Lythrum ovalifolium</i>	Banks and gravelly beds of perennial (or strong intermittent) streams on the Edwards Plateau, Llano Uplift and Lampasas Outplain; Perennial; Flowering/Fruiting April-Nov	Y	The project area contains multiple perennial streams that may provide suitable bank or streambed habitat for this species.
Burnet & Lampasas	Plants	plateau milkvine	<i>Matelea edwardsensis</i>	Occurs in various types of juniper-oak and oak-juniper woodlands; Perennial; Flowering March-Oct; Fruiting May-June	Y	The project area contains juniper-oak and oak-juniper woodlands that may provide suitable habitat for this species. Additionally, this species has been documented near the project area on the citizen science reporting database iNaturalist (iNaturalist 2025).
Burnet	Plants	rock grape	<i>Vitis rupestris</i>	Occurs on rocky limestone slopes and in streambeds; Perennial; Flowering March-May; Fruiting May-July	Y	The project area multiple stream beds that may provide suitable habitat for this species. Additional field investigation would be required to determine the presence of rocky limestone
Burnet & Lampasas	Plants	scarlet leather-flower	<i>Clematis texensis</i>	Usually in oak-juniper woodlands in mesic rocky limestone canyons or along perennial streams; Perennial; Flowering March-July; Fruiting May-July	Y	The project area contains oak-juniper woodlands and perennial streams that may provide suitable habitat for this species. Additionally, this species has been documented near the project area on the citizen science reporting database iNaturalist (iNaturalist 2025).
Burnet	Plants	Stanfield's beebalm	<i>Monarda stanfieldii</i>	Largely confined to granite sands along the middle course of the Colorado River and its tributaries; Perennial	N	A review of the NRCS Web Soil Survey indicates that the project area does not contain granite sands. Additionally the project area is not located along the middle course of the Colorado River.
Burnet	Plants	sycamore-leaf snowbell	<i>Styrax platanifolius</i> ssp. <i>platanifolius</i>	Rare throughout range, usually in oak-juniper woodlands on steep rocky banks and ledges along intermittent or perennial streams, rarely far from some reliable source of moisture; Perennial; Flowering April-May; Fruiting May-Aug.	Y	The project area contains oak-juniper woodlands and intermittent and perennial streams that may provide suitable habitat for this species.
Burnet	Plants	Texas almond	<i>Prunus minutiflora</i>	Wide-ranging but scarce, in a variety of grassland and shrubland situations, mostly on calcareous soils underlain by limestone but occasionally in sandier neutral soils underlain by granite; Perennial; Flowering Feb-May and Oct; Fruiting Feb-Sept	Y	A review of the NRCS Web Soil survey indicates that the project area contains calcareous soils underlain by limestone. Grassland and shrubland habitat is also available and may provide suitable habitat for this species. Additionally, this species has been documented near the project area on the citizen science reporting database iNaturalist (iNaturalist 2025).
Burnet	Plants	Texas amorpha	<i>Amorpha roemeriana</i>	Juniper-oak woodlands or shrublands on rocky limestone slopes, sometimes on dry shelves above creeks; Perennial; Flowering May-June; Fruiting June-Oct	Y	The project area contains juniper-oak woodlands and shrublands on rocky limestone slopes and multiple freshwater streams that may provide suitable habitat for this species. Additionally, this species has been documented near the project area on the citizen science reporting database iNaturalist (iNaturalist 2025).
Burnet & Lampasas	Plants	Texas claret-cup cactus	<i>Echinocereus coccineus</i> var. <i>paucispinus</i>	Mountains, hills, and mesas, igneous and limestone, oak-juniper-pinyon woodland or juniper woodland on limestone mesas, mostly rocky habitats but also in alluvial basins, grasslands, or among mesquite or other shrubs. Flowering March - April (Powell and Weedon 2004).	Y	The project area contains oak-juniper woodlands with rocky habitats, grasslands, and shrublands that may provide suitable habitat for this species.
Burnet	Plants	Texas peachbush	<i>Prunus texana</i>	Occurs at scattered sites in various well drained sandy situations; deep sand, plains and sand hills, grasslands, oak woods, 0-200 m elevation; Perennial; Flowering Feb-Mar; Fruiting Apr-Jun	N	A review of the NRCS Web Soil Survey indicates that the project area does not contain sandy soils that would provide suitable habitat for this species.

Burnet	Plants	threeflower penstemon	<i>Penstemon triflorus</i> var. <i>triflorus</i>	Occurs sparingly on rock outcrops and in grasslands associated with juniper-oak woodlands (Carr 2015).	Y	The project area contains grasslands associated with oak-juniper woodlands that may provide suitable habitat for this species.
Burnet	Plants	tree dodder	<i>Cuscuta exaltata</i>	Parasitic on various <i>Quercus</i> , <i>Juglans</i> , <i>Rhus</i> , <i>Vitis</i> , <i>Ulmus</i> , and <i>Diospyros</i> species as well as <i>Acacia berlandieri</i> and other woody plants; Annual; Flowering May-Oct; Fruiting July-Oct	Y	The project area contains various <i>Quercus</i> , <i>Rhus</i> , <i>Vitis</i> , and <i>Ulmus</i> species that may serve as suitable hosts for this species.
Burnet & Lampasas	Plants	turnip-root scurfspea	<i>Pediomelum cyphocalyx</i>	Grasslands and openings in juniper-oak woodlands on limestone substrates on the Edwards Plateau and in north-central Texas (Carr 2015).	Y	The project area contains grasslands and openings in juniper-oak woodlands on limestone substrates that may provide suitable habitat for this species. Additionally, this species has been documented near the project area on the citizen science reporting database iNaturalist (iNaturalist 2025).
Burnet & Lampasas	Plants	Wright's milkvetch	<i>Astragalus wrightii</i>	On sandy or gravelly soils; Flowering/fruiting: April and May	Y	A review of the NRCS Web Soil Survey indicates that gravelly soils occur within the project area. Additionally, this species has been documented near the project area on the citizen science reporting database iNaturalist (iNaturalist 2025).
Burnet	Reptiles	common garter snake	<i>Thamnophis sirtalis</i>	Terrestrial and aquatic: Habitats used include the grasslands and modified open areas in the vicinity of aquatic features, such as ponds, streams or marshes. Damp soils and debris for cover are thought to be critical.	Y	The project area contains terrestrial and aquatic habitat including grasslands, ponds, and streams that may provide suitable habitat for this species. Damp soils and debris providing cover are also available throughout the project area.
Burnet & Lampasas	Reptiles	Concho water snake	<i>Nerodia paucimaculata</i>	Aquatic: Shallow, fast-flowing water with a rocky or gravelly substrate preferred. Adults can be found in deep water with mud bottoms, such as large sections of rivers and reservoirs. Riffle habitat is particularly important for this species.	N	The project area is located in Burnet and Lampasas Counties which is outside of the known range for this species.
Burnet	Reptiles	eastern box turtle	<i>Terrapene carolina</i>	Terrestrial: Eastern box turtles inhabit forests, fields, forest-brush, and forest-field ecotones. In some areas they move seasonally from fields in spring to forest in summer. They commonly enter pools of shallow water in summer. For shelter, they burrow into loose soil, debris, mud, old stump holes, or under leaf litter. They can successfully hibernate in sites that may experience subfreezing temperatures.	Y	The project area contains terrestrial and aquatic habitat that may be suitable for this species including forests, fields, forest-brush, forest-field ecotones, streams, and ponds.
Burnet	Reptiles	plateau spot-tailed earless lizard	<i>Holbrookia lacerata</i>	Terrestrial: Habitats include moderately open prairie-brushland regions, particularly fairly flat areas free of vegetation or other obstructions (e.g., open meadows, old and new fields, graded roadways, cleared and disturbed areas, prairie savanna, and active agriculture including row crops); also, oak-juniper woodlands and mesquite-prickly pear associations (Axtell 1968, Bartlett and Bartlett 1999).	Y	The project area contains open-prairie brushlands, fields, cleared and disturbed areas, prairie savanna, and juniper-oak woodlands that may provide suitable habitat for this species.
Burnet & Lampasas	Reptiles	slender glass lizard	<i>Ophisaurus attenuatus</i>	Terrestrial: Habitats include open grassland, prairie, woodland edge, open woodland, oak savannas, longleaf pine flatwoods, scrubby areas, fallow fields, and areas near streams and ponds, often in habitats with sandy soil.	Y	The project area contains open grasslands, prairies, woodland edge, open woodlands, oak savannas, scrubby areas, and areas near streams and ponds. This species has been documented in the TxNDD within the project area (TPWD 2025).
Burnet & Lampasas	Reptiles	smooth softshell	<i>Apalone mutica</i>	Aquatic: Large rivers and streams; in some areas also found in lakes and impoundments (Ernst and Barbour 1972). Usually in water with sandy or mud bottom and few aquatic plants. Often basks on sand bars and mudflats at edge of water. Eggs are laid in nests dug in high open sandbars and banks close to water, usually within 90 m of water (Fitch and Plummer 1975).	N	Although the project area contains streams and ponds, there are of small to medium size and would not provide suitable habitat for this species.
Burnet & Lampasas	Reptiles	Texas map turtle	<i>Graptemys versa</i>	Aquatic: Primarily a river turtle but can also be found in reservoirs. Can be found in deep and shallow water with sufficient basking sites (emergent rocks and woody debris).	Y	The project area contains streams and ponds that may provide suitable habitat for this species.
Burnet & Lampasas	Reptiles	western box turtle	<i>Terrapene ornata</i>	Terrestrial: Ornate or western box turtles inhabit prairie grassland, pasture, fields, sandhills, and open woodland. They are essentially terrestrial but sometimes enter slow, shallow streams and creek pools. For shelter, they burrow into soil (e.g., under plants such as yucca) (Converse et al. 2002) or enter burrows made by other species.	Y	The project area contains terrestrial and aquatic habitat including prairie grassland, pasture, fields, open woodlands, streams, and ponds that may provide suitable habitat for this species.
Burnet & Lampasas	Reptiles	western massasauga	<i>Sistrurus tergeminus</i>	Terrestrial: Shortgrass or mixed grass prairie, with gravel or sandy soils. Often found associated with draws, floodplains, and more mesic habitats within the arid landscape. Frequently occurs in shrub encroached grasslands.	N	The project area is located in Burnet and Lampasas Counties which is outside of the known range for this species.

Appendix F. GCWA Habitat Model



Basemaps: ESRI 2025; Streams: USGS NHD 2025; GCWA Habitat Model: Duarte et al. 2013.

GCWA Habitat Model

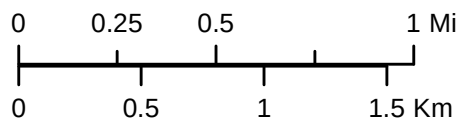
(Duarte et al. 2013)

-  Not Habitat
-  Habitat Loss
-  Habitat Gain
-  Habitat

 Streams (USGS NHD)

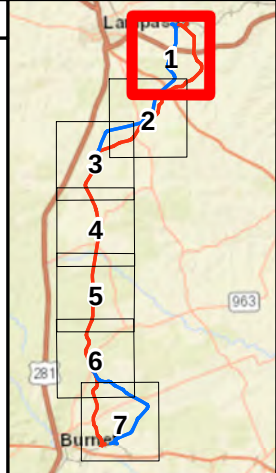
Proposed Railroad Alignment

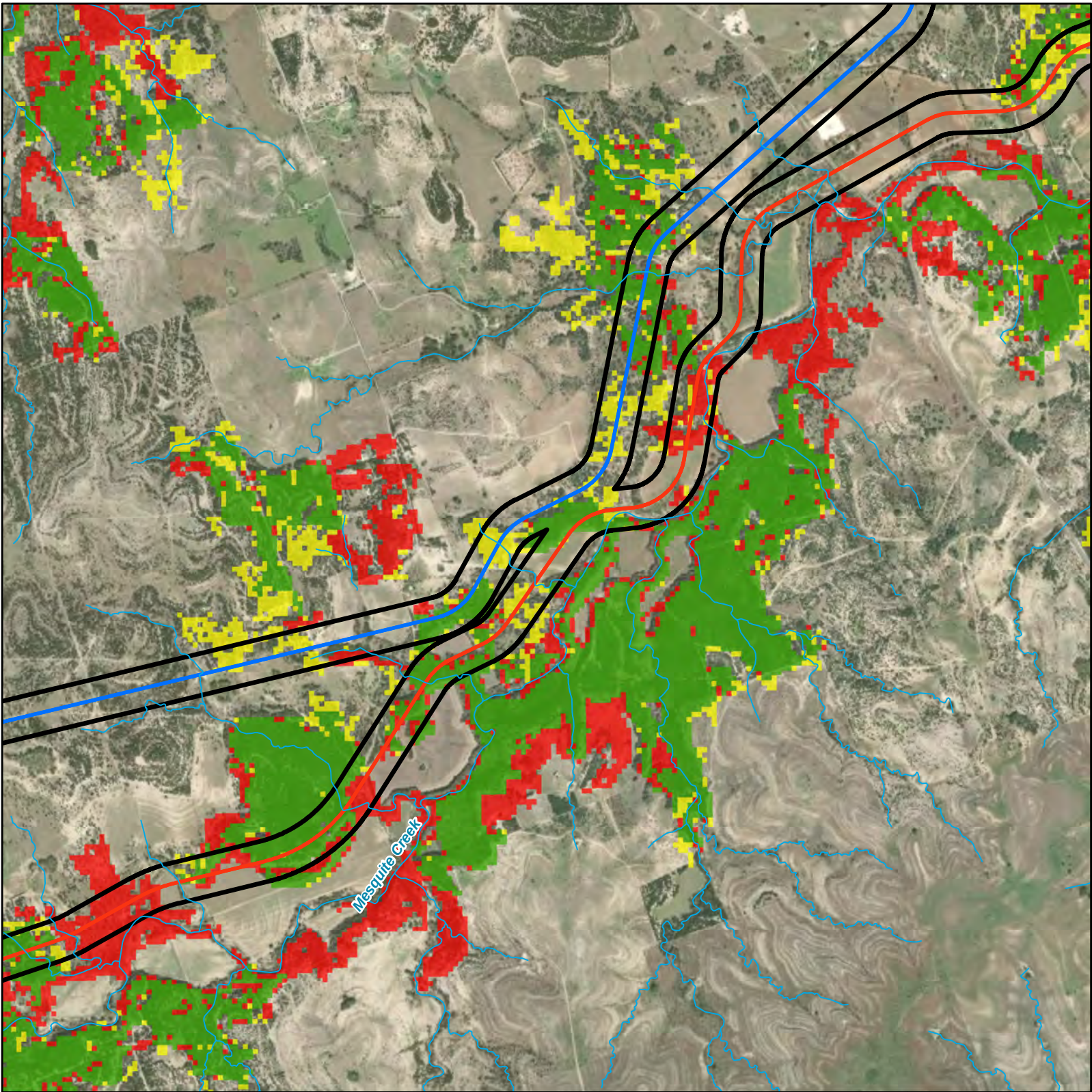
-  Preferred Route
-  Alternate Route
-  300ft Buffer of Project Area



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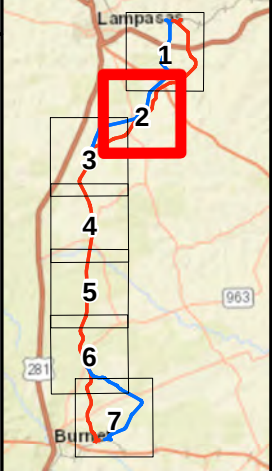
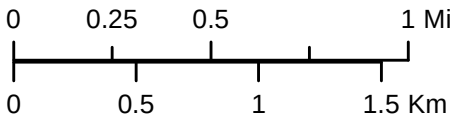
Basemaps: ESRI 2025; Streams: USGS NHD 2025; GCWA Habitat Model: Duarte et al. 2013.

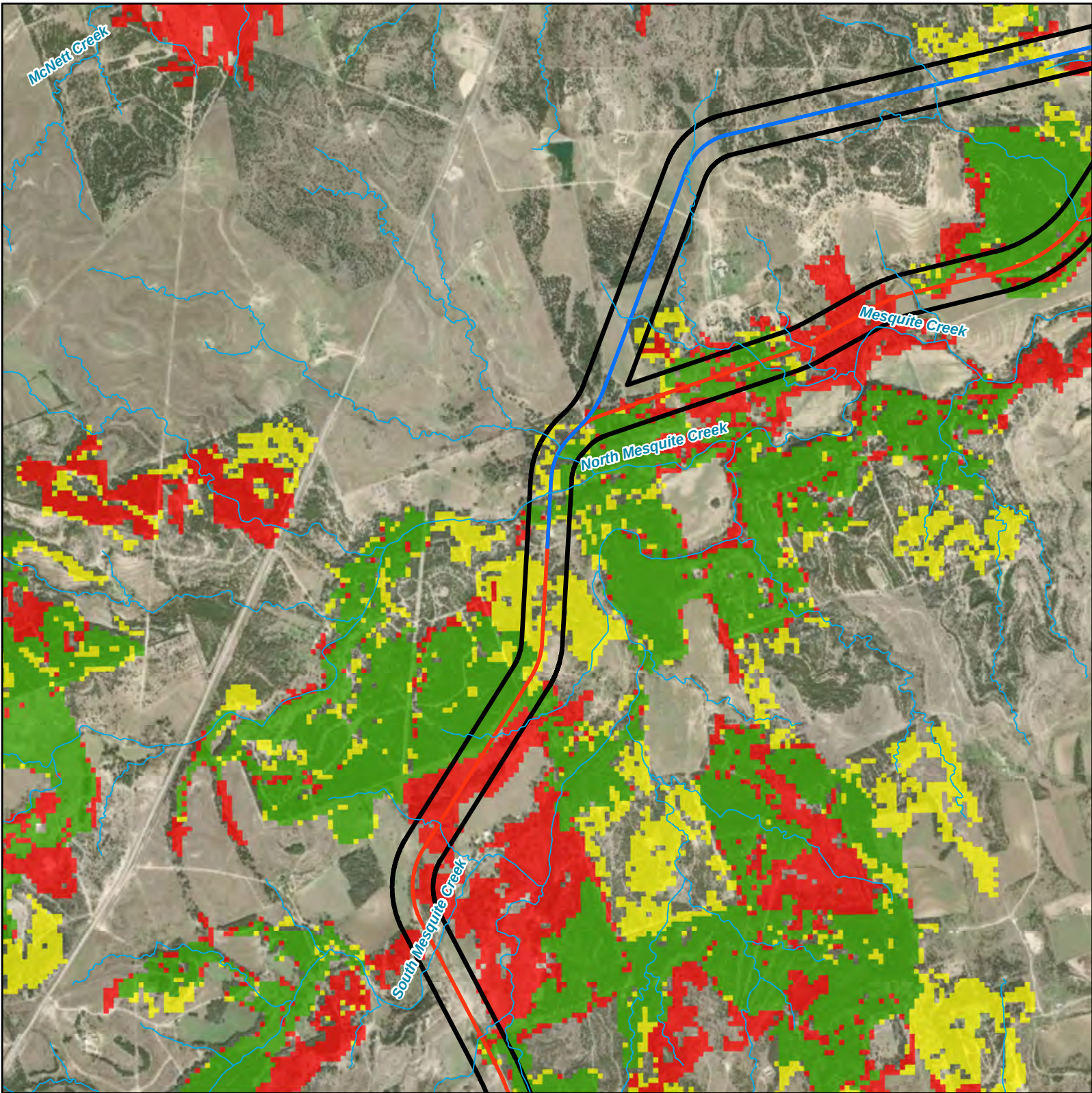
GCWA Habitat Model

(Duarte et al. 2013)

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- Streams (USGS NHD)
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GCWA Habitat Model

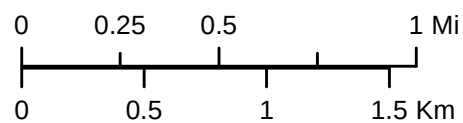
(Duarte et al. 2013)

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-  Habitat Gain
-  Habitat

 Streams (USGS NHD)

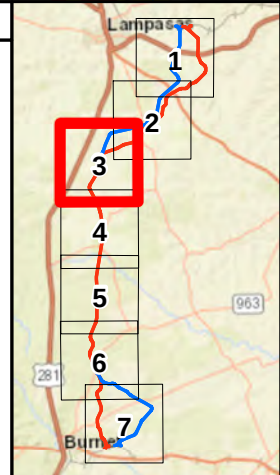
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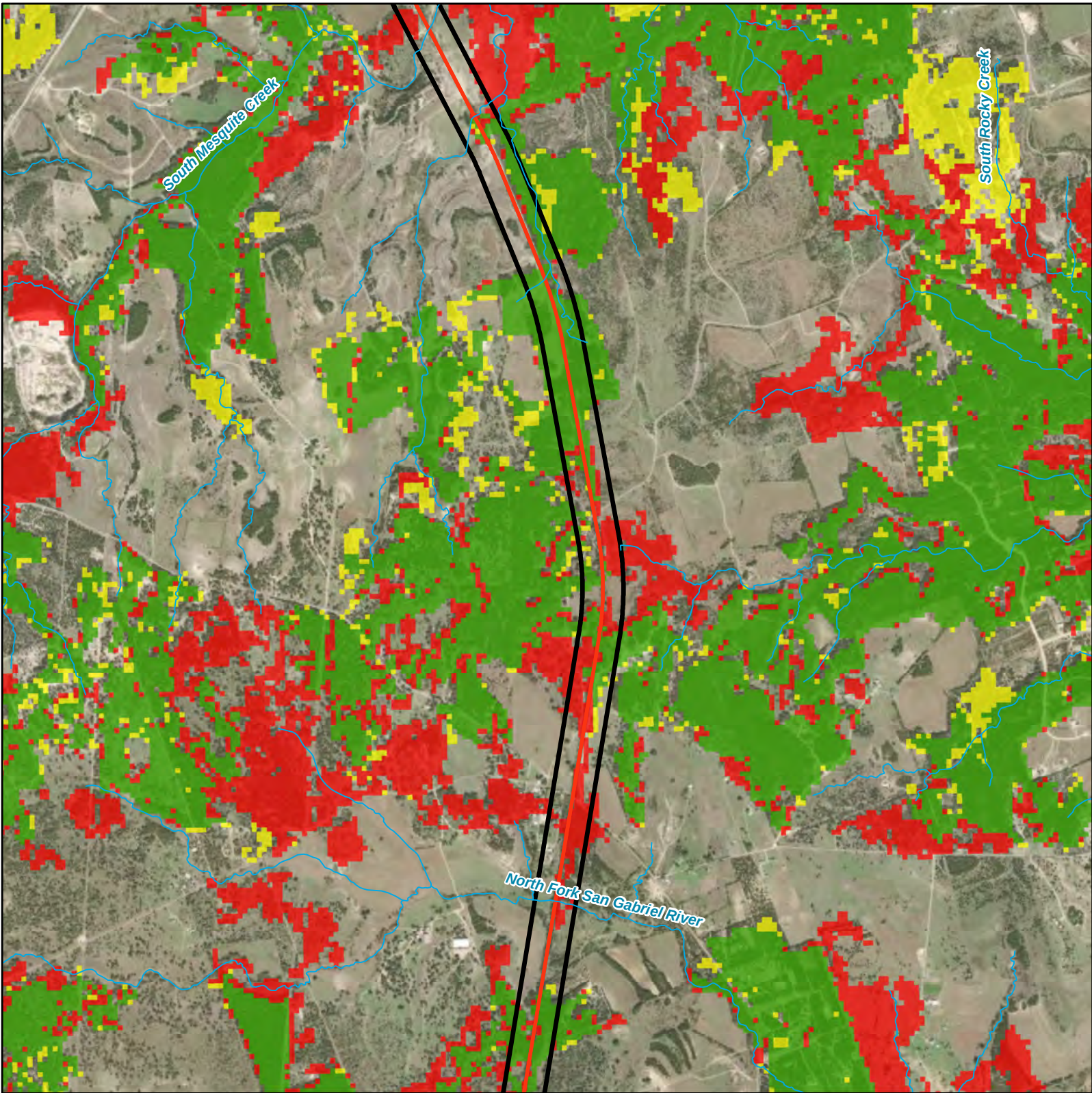
-  Preferred Route
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Page 3 of 7

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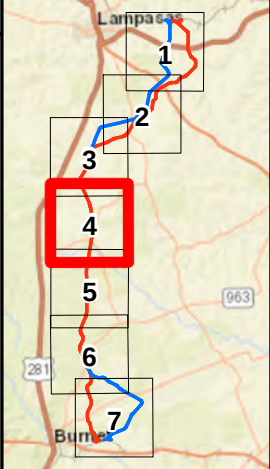
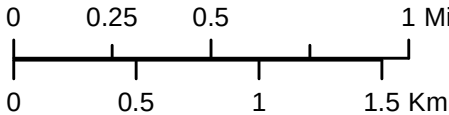
Basemaps: ESRI 2025; Streams: USGS NHD 2025; GCWA Habitat Model: Duarte et al. 2013.

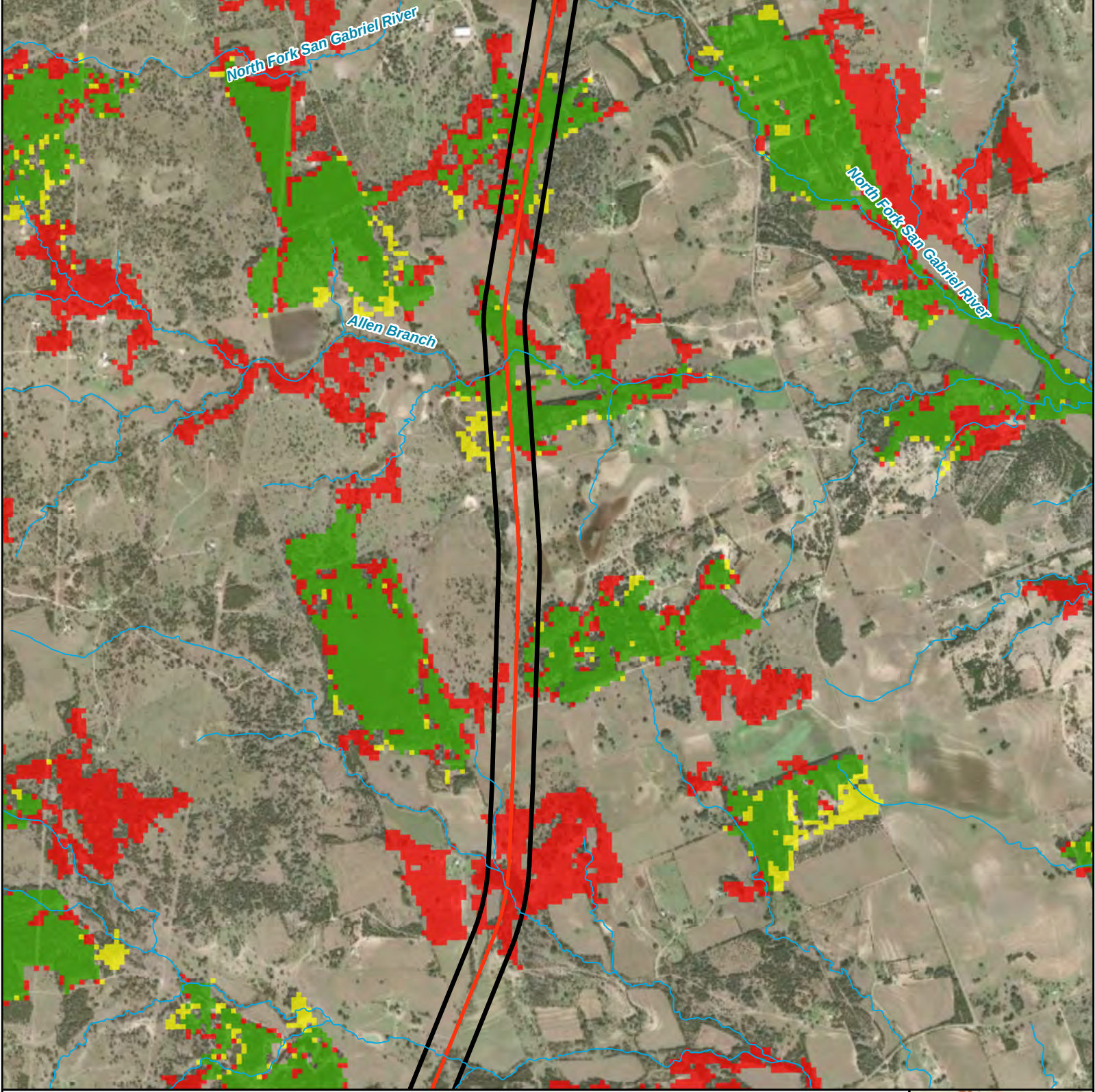
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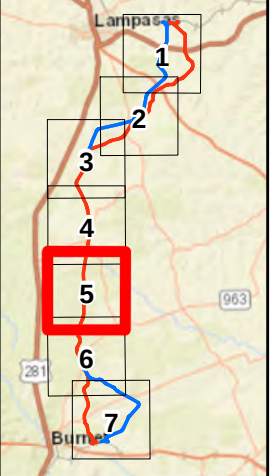
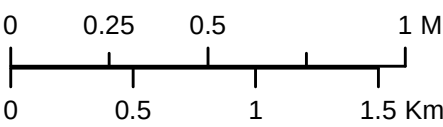
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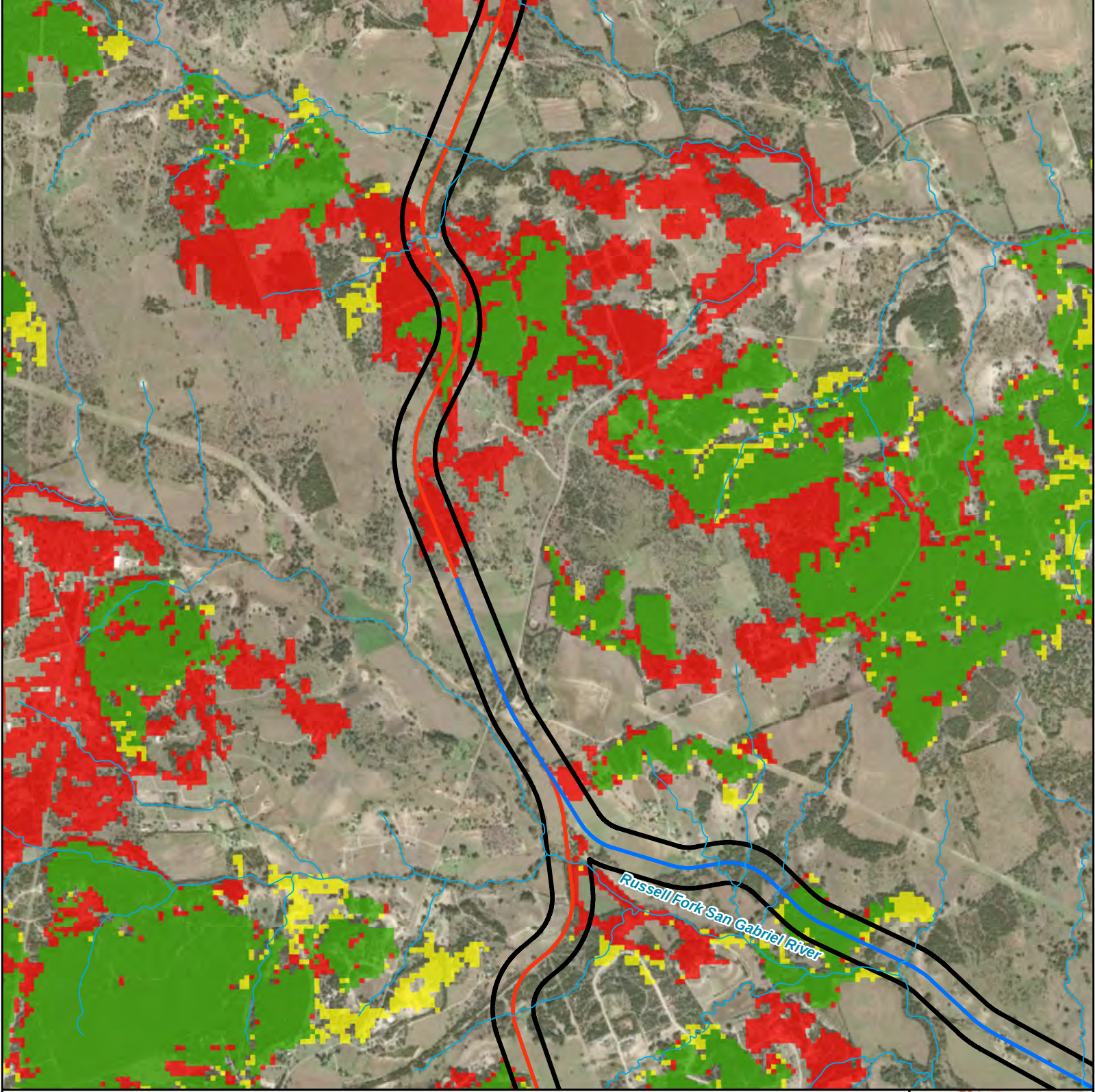
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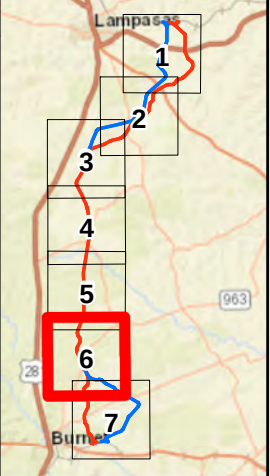
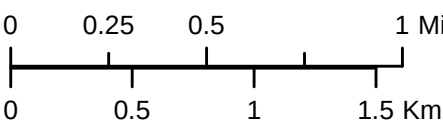
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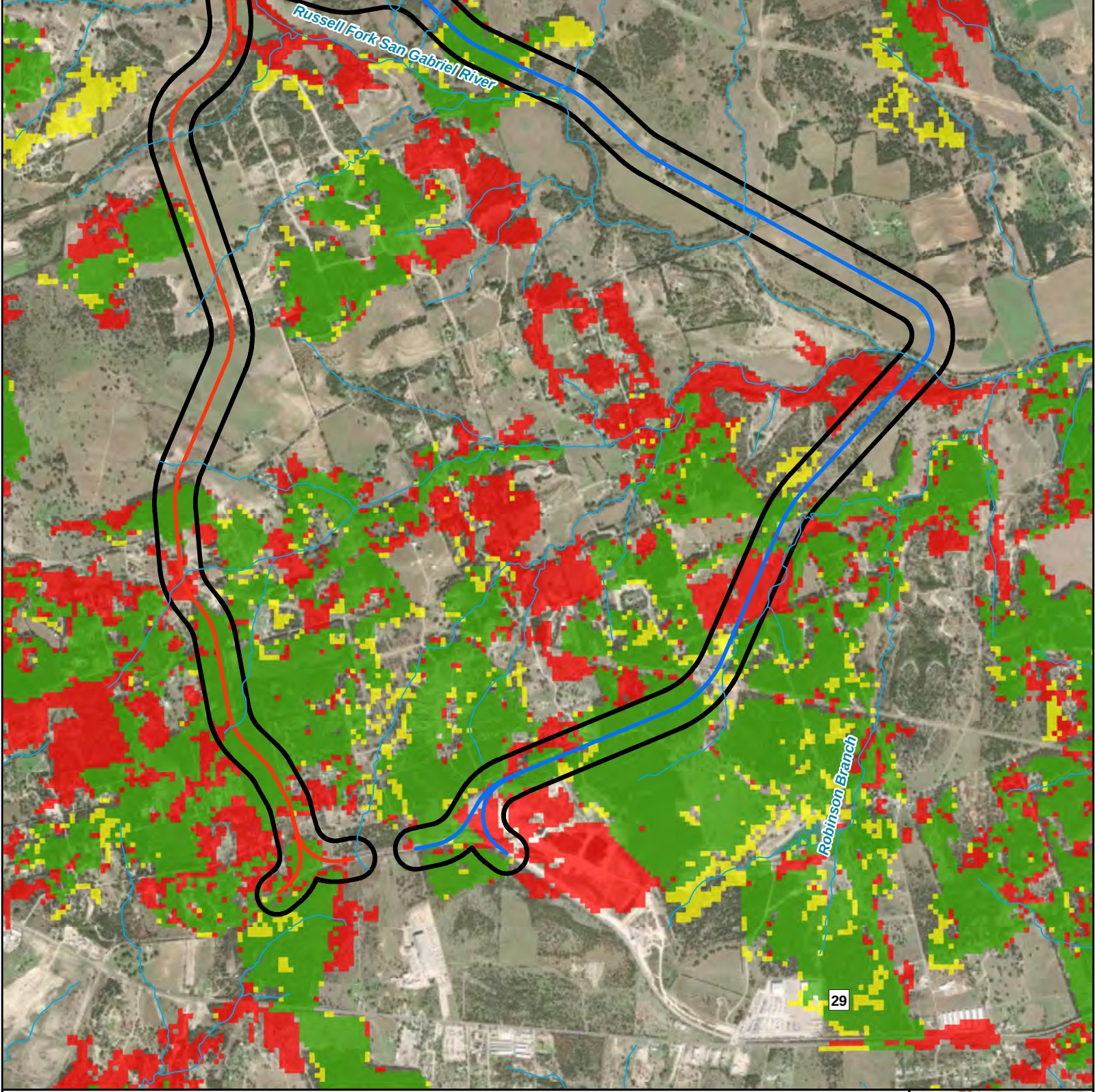
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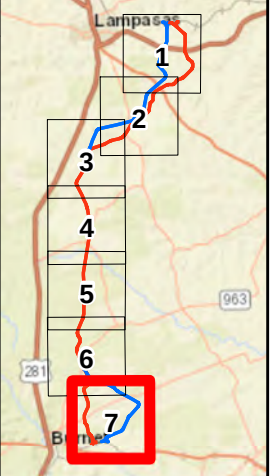
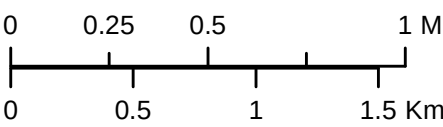
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An Archaeological Assessment at the Snell Ranch

Lampasas County, TX

GSAR 2020-05-P

Steven P. Howard, PhD, RPA

Gault School of Archaeological Research

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TX 78708

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December 15, 2020

GSAR Field Report Series 2020, Number 05

***THIS REPORT CONTAINS CONFIDENTIAL LOCATION INFORMATION AND IS NOT
INTENDED FOR PUBLIC DISTRIBUTION***

Management Summary

Project Number: 2020-05-P

Survey Phase: Preliminary

Location Information:

Location: ~3 miles east of Lampasas, TX, off US 190

Minor Civil Division: Lampasas

County: Lampasas

Survey Area: ~63 acres

USGS 7.5' Quadrangle: Kempner, TX 2019

Phase Overview: This archaeological assessment was requested by the owner, who had been excavating a drainage ditch and dug through the edge of a burned rock midden. His ranch hand extended a trench into the burned rock midden, and several projectile points were discovered. The materials collected were photographed and reviewed, and the 63 acre parcel on which the midden was situated was traversed to identify any further archaeological sites.

Phase Results: In addition to the burned rock midden that had been impacted, six additional sites were identified. Two of these were large burned rock middens: one adjacent to the first midden and one on the opposite side of Cooksey Creek, where it flows into Sulphur Creek. Another smaller burned rock midden was identified south of the first three, on a ridge above the flood plain. Three lithic scatters were recorded as well, one north of the tributary, one upon which the house is situated, and one on the ridge south of the stream. Further investigations at the parcel are recommended, due to the depths of the alluvial deposits on the peninsula. Investigations are also recommended on the adjacent parcel of the ranch to the east, due to the presence of favorable landforms.

Report Author(s): Steven P. Howard, PhD, RPA

Report Date: 15 DEC 20; updated 20 DEC 20, 11 Jan 2021

Prepared for: Gault School of Archaeological Research

***THIS REPORT CONTAINS CONFIDENTIAL LOCATION INFORMATION AND IS NOT
INTENDED FOR PUBLIC DISTRIBUTION***

Environmental Information

Topography:

The highest elevation on this parcel of the ranch is at the highway, at around 970 feet above mean sea level (amsl). This bedrock shelf extends northward before dropping steeply to the alluvial terrace above Sulphur Creek. The lowest elevation in the deeply entrenched bed of the creek, is about 920 feet amsl. The peninsula and the contiguous terrace immediately south of Cooksey Creek is fairly level, with gentle undulations from 930 to 940 feet amsl. The plateau through which the Sulphur Creek valley cuts rises to around 1100 ft amsl.

Geology:

The terrace and banks of Sulphur Creek consist of Quaternary alluvial deposits from the creek and its tributaries. This is underlain by variable bedrock from the Travis Peak Formation, which also forms the limestone shelf along the highway. The greater valley is framed by limestone from the Glen Rose Formation.

Soils:

Sunev loam covers the creek terraces, including the peninsula. This is a well-drained, fairly deep soil formed on alluvial deposits that rarely flood. The shelf to the south is overlain by Hensley loam, a shallow and stony soil formed from the weathering limestone.

Drainage:

Sulphur Creek wraps around the peninsula, forming the northern boundary of the parcel and the ranch itself. Cooksey Creek, a small tributary, flows from east to west into the creek on the parcel. Wash flows with heavy rain off the shelf to the south, and into the tributary and creek. Sulphur Creek meets the Lampasas River about five miles to the east. The Lampasas joins the Leon River forming the Little River about 35 miles downstream. The Little River flows into the Brazos River after about 45 more miles toward the southeast. The Brazos meanders another 180 miles southeastward, emptying into the Gulf of Mexico near Freeport, TX.

Vegetation:

The vegetation in this region was originally Oak-Mesquite-Juniper Park (McMahan et al. 1984), and live oak (*Quercus fusiforma*), Ashe Juniper (*Juniperus ashei*), and mesquite (*Prosopis glandulosa*) are still quite abundant. Pecan (*Carya illinoensis*) trees are common along the creek and tributary, as are burr oak (*Quercus macrocarpa*). Prickly pear cactus (*Opuntia engelmannii*) and yucca (*Yucca rupicola*) are present on the limestone shelf to the south. The terrace and peninsula are planted in native and introduced grasses for pasture.

Fauna:

The ranch is home to a small herd of horses (*Equus ferus caballus*), and evidence was observed of whitetail deer (*Odocoileus virginianus*), raccoon (*Procyon lotor*), gray fox (*Urocyon cinereoargenteus*) and armadillo (*Dasypus novemcinctus*). Numerous bird species were observed, including a common raven (*Corvus corax*). Bones collected from the burned rock midden by the owners indicate that bison (*Bison* sp.) were present prehistorically.

Artificial Features and Alterations:

The main ranch house and several associated outbuildings are located on the south side of the unnamed tributary. One main ranch road winds around the peninsula and across the tributary, and several minor paths exist. A few fence lines appear around the parcel as well.

Prior Investigation:

With the assistance of a ranch hand who is a collector, the owners recently began excavating one of the burned rock middens, having cut into it with a drainage ditch. Other local collectors have surface collected from the site as well. No archaeological sites have been recorded within a two mile radius of the project area. An historic cemetery is listed on the ranch, but on the south side of US 190, outside the project parcel. Two graves are present: one of an infant, and the other of Thomas Lafayette Thornal (b. 1878, d. 1900). A survey was conducted along US 190 for highway improvements, but no sites were detected in the right of way.

Methods and Results

Methods:

The owners' collections were photographed and locations of sites and finds were investigated. The reported site locations were recorded with GPS. Landforms were inspected, and additional site locations were also recorded with a GPS.

Results:

The artifacts within the owners' collection span from the Early Archaic, represented by a Nolan dart point, through the Late Prehistoric, represented by various arrow points. Additional collected items observed were a grooved stone and several bone fragments, including specimens from whitetail deer (*Odocoileus virginianus*) and bison (*Bison* sp.). The owner indicated that most of the artifacts came from the large disturbed burned rock midden, located at UTM 14R 0585081 3435950. Many flakes, a few cores and biface fragments, and a mano were observed on the surface. Some of the arrow tips came from around the house, indicating a Late Prehistoric component there. Flakes were observed all around the house in bare patches of the lawn. A second large burned rock midden is located adjacent to the first, at 14R 0585054 3435994, and is less disturbed. Flakes and biface fragments were observed here as well. Mussel shell and bone fragments were common at both middens.

On the north side of the tributary, a low density scatter of flakes and mussel shell was observed. The collector indicated that he had found "a few arrowheads" there in the past. The location of this site is 14R 0585027 3436093. To the east, at the confluence of the Cooksey Creek with Sulphur Creek, is another burned rock midden, with a cover of grasses. Though visibility was poor, fire-cracked rock was evident within the grass. This midden, located at 14R 0585123 3436057, appears to be undisturbed. Ground cover concealed any evidence of other sites on the peninsular landform north of this site.

South of the house and large burned rock middens, a 30 foot bluff leads to the limestone shelf, where a small burned rock midden was located at 14R 0585161 3435911. Flakes were observed here, and there was no indication of procurement activity. Further south on the shelf, at 14R 0585093 3435777, a low density lithic scatter was found.

Discussion and Recommendations:

The disturbed burned rock midden was first dug while a ditch was excavated to improve drainage along the driveway. The number of artifacts encountered prompted the owner to have the collector dig a trench toward the center of the midden. Additional artifacts were collected from this endeavor, and the trench maintained a depth similar to that of the ditch. The base of the excavation was a hard reddish clay, into which the collector had dug a small hole around 30 cm, reporting that he found nothing of interest.

There are likely more sites on the peninsular landform to the north, and shovel testing is recommended initially to assess the archaeological potential. Shovel testing should also be employed around the house and large middens to see if habitation activity was contiguous. The undisturbed burned rock midden on the north side of Cooksey Creek should be tested, since it is in a position to have some depth, potentially sitting above an older site.

An investigative test unit or trench should also be excavated within the collector's trench at the disturbed midden, to see if there are any older deposits at that location.

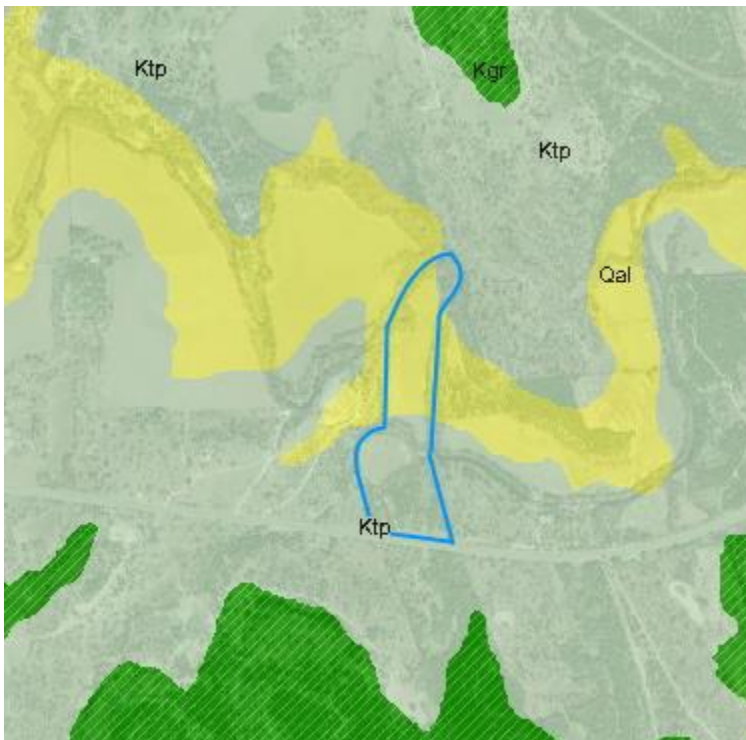
Acknowledgements:

We would like to thank John and Lea Snell, as well as Lewis and Michelle Snell, for allowing archaeological investigations on their family ranch, and for showing us their artifacts. We are also grateful to Bill Franklin for his insights and aid in the assessment.

USGS USTopo Kempner Quadrangle 2019

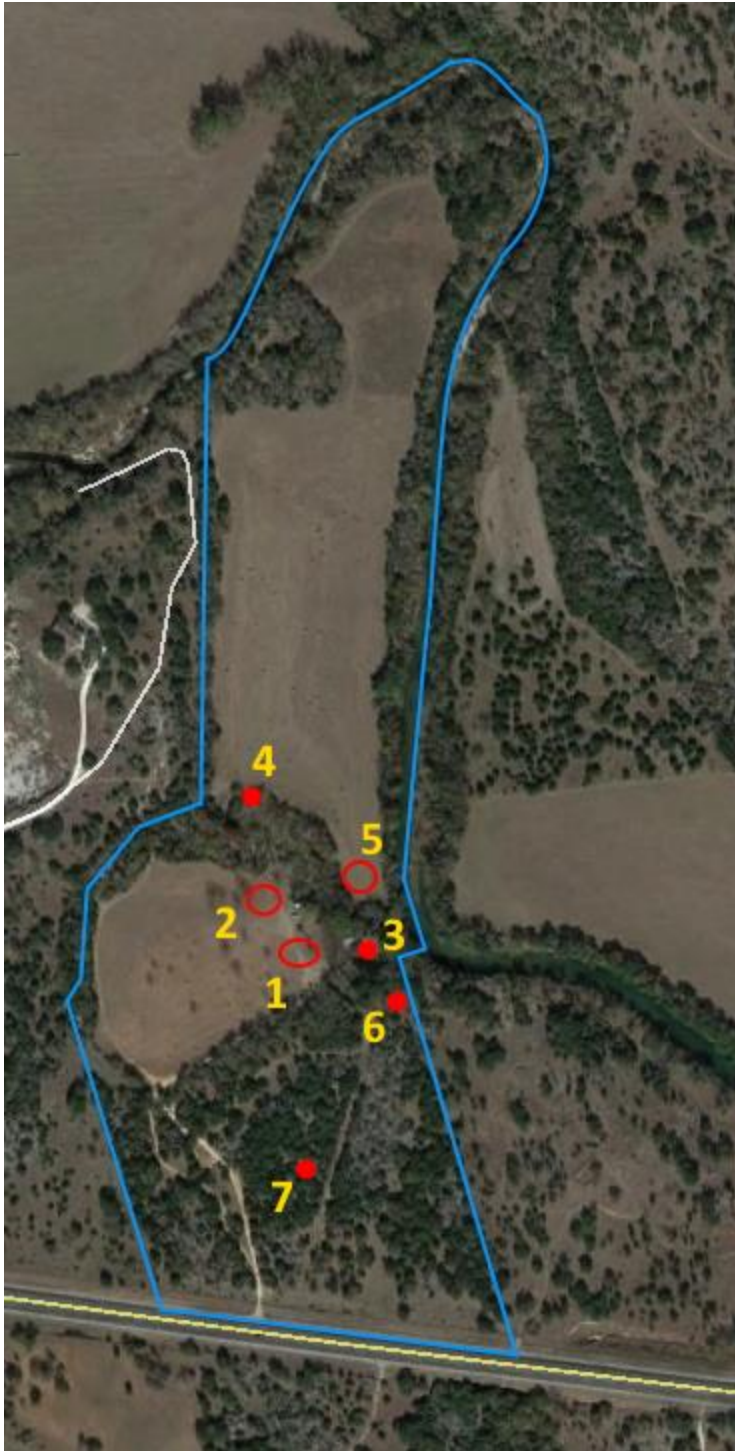


Grid Square = 1km
Contour Interval = 20 feet
[Blue Outline] = Project Area
[Red Dot] = Sites Located



Kgr = Glen Rose Formation
Ktp = Travis Peak Formation
Qal = Quaternary Alluvium

Local geology (Project area in blue outline).



Aerial view. Blue outline = survey area.
Red outline = large burned rock midden.
Red dot = smaller site.



Representative points from the disturbed midden (Site 1) and the area around the house (Site 3).



Site 1 (disturbed midden), showing excavation activity: ditch to right, trench to left.



Mano on surface of Site 1 (disturbed midden).



General profile of disturbed area of Site 1, depth approximately 50 cm.



Site 5 in foreground, looking north across peninsular landform.



General soil profile at Sulphur Creek and Cooksey Creek.

ARCHAEOLOGICAL SITES OF THE RIOJAS RANCH

Lampasas, TX



SUMMARY:

A brief surface-level survey of a portion of the Riojas family ranch in Lampasas, TX showed clear evidence of archaeologically significant sites located near the property's waterfront along Sulphur Creek. A more thorough investigation and excavation would almost certainly reveal many more prehistoric artifacts dating back thousands of years, at least to the Archaic period (approximately 6000 B.C. - 750 A.D.) of human inhabitation.



DETAILS:

The ranch property runs along the north and eastern sides of a bend in Sulphur Creek, with access to the water provided by a sloping trail that begins on top of a limestone ridge. The ridge features rock overhangs and crevices that would have provided suitable shelter to ancient human inhabitants and wildlife near a plentiful fresh water source.

Visible near the trail entrance along the top of the ridge are the remnants of a (likely Archaic) burnt rock midden. A short walking survey of the nearby hillsides revealed dozens of scattered lithic artifacts, flakes and fragments visible on the surface amongst grass and other ground cover.



Among the artifacts found were an apparent awl/puncturing tool, projectile point fragments and broken bifaces. A finely-crafted chert projectile point was also found on the surface level, identified as a "Frio" style dart point, likely 2,000+ years old.

Various scattered lithic fragments have also been found throughout the Riojas ranch property. A more detailed evaluation would likely reveal even more promising archaeological sites.

Based on the successful results of a brief afternoon of scouting for artifacts on the surface, a more thorough evaluation of the land along Sulphur Creek would likely yield many more exciting finds. In order to prevent the possible destruction of irreplaceable remnants of ancient Texas history, preserving this rich natural area is crucial.

