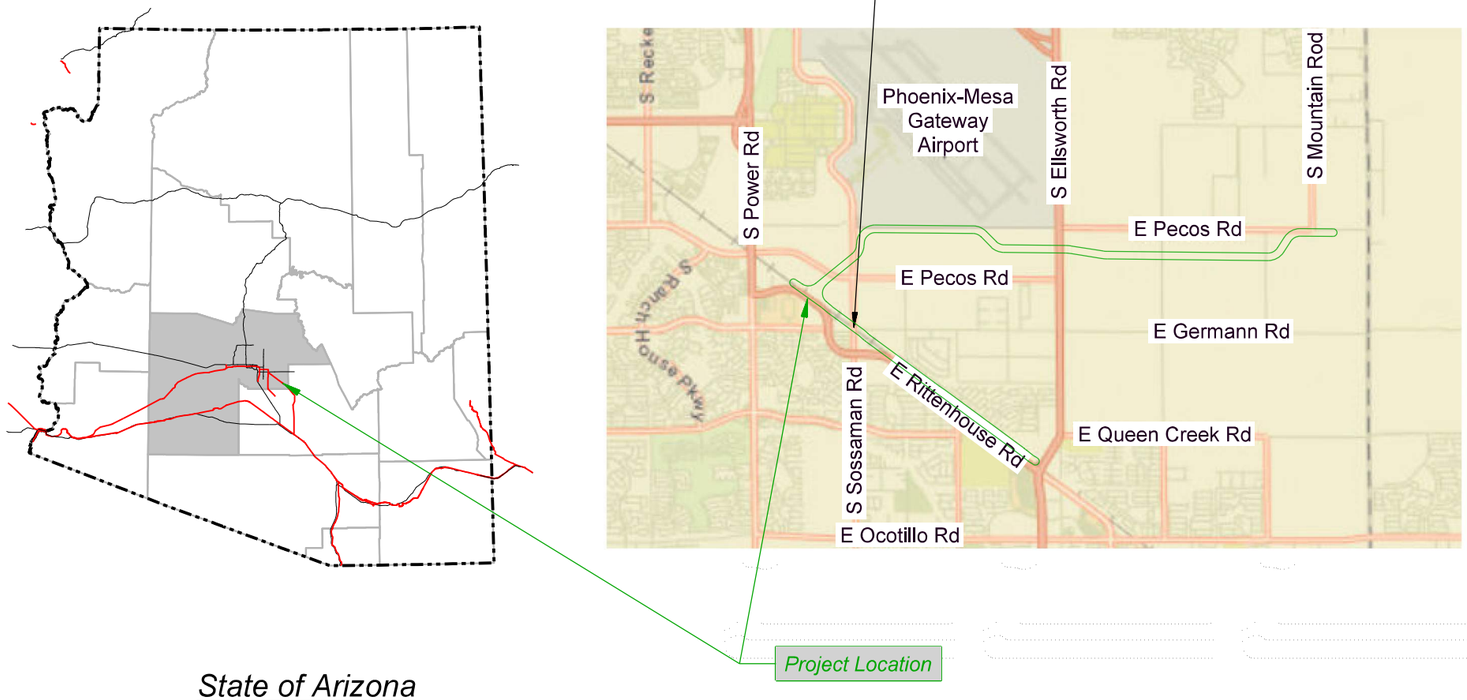
ENGINEERING DESIGN



State of Arizona

Project Location Map

olsson
2111 South 67th Street, Suite 200
Omaha, NE 68106-2810
TEL 402.341.1116
FAX 402.341.5895
www.olsson.com

MESA, ARIZONA
PHOENIX SUBDIVISION
MP 937.83
MP 934.79 TO MP
CONSTRUCT INDUSTRIAL LEAD TRACK

60% PLANS
REVIEW

WORK ORDER:
PROJECT NUMBER:
BUDGET REFERENCE:

LAST REVISED
6/3/2022

PROJECT INDEX

PROJECT DESIGN	DESCRIPTION
G001	COVER SHEET WITH VICINITY MAP
G002	PROJECT INDEX & REVISIONS
G003	GENERAL NOTES & PROJECT CONTACTS
G004	ABBREVIATIONS & LEGEND
G005	CONTROL POINTS & GEOMETRY
G006	SCHEMATIC PLAN
G007 to G009	PLAN OVERVIEW
P001 to P036	PLAN & PROFILE
T001 to T012	TYPICAL SECTIONS
C001 to C012	CULVERT DETAILS
RD001 to RD027	ROAD CROSSING DETAILS
U001 to U028	UTILITY SHEETS
D001	ENCASEMENT DETAILS
GD001 to GD003	GRADING PLAN
X001 to X026	SIDING TRACK CROSS SECTIONS
X027 to X033	EAST WYE TRACK CROSS SECTIONS
X034 to X115	PIRATE LEAD TRACK CROSS SECTIONS

STANDARDS	DESCRIPTION
CITY OF MESA STANDARD DETAILS	
MARICOPA ASSOCIATION OF GOVERNMENTS UNIFORM STANDARD DETAILS	

STRUCTURES DESIGN	DESCRIPTION

PROJECT INDEX (CONTINUED)

MECHANICAL DESIGN	DESCRIPTION

ELECTRICAL DESIGN	DESCRIPTION
E001	ELEC ABBREVIATIONS & SUBMITTAL REQUIREMENTS
E002	ELECTRICAL GENERAL NOTES
E003	ELECTRICAL LEGEND
E201 to E215	ELECTRICAL SITE PLAN
E301 to E304	ELECTRICAL ONE-LINE
E401 to E403	ELECTRICAL DETAILS
E501	ELECTRICAL SCHEDULES

PROJECT REVISIONS

REV. #	BY	DATE:	SHEET:	DESCRIPTION

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2111 South 67th Street, Suite 200
Omaha, NE 68106-2810
TEL 402.341.1116
FAX 402.341.5895
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UNION PACIFIC

DRAWN BY: RSP
CHECKED BY: JRM
DATE: 6/3/2022
SHEET NUMBER: G002 of 009

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
PROJECT INDEX & REVISIONS

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6/3/2022

GENERAL NOTES

1. Contractors shall notify UPRR Call Before You Dig (CBUD), by following instructions on UPRR's website, https://www.up.com/cbud, to arrange for locates prior to commencing work. The USA Authorization Numbers shall be kept at the job site.
2. No work whatsoever shall be commenced without first notifying the UPRR Engineer.
3. The Contractor shall comply with all Federal, State, County, and City Laws and Ordinances and Regulations of the Department of Industrial Relations, OSHA, NPDES and Industrial Accident Commission related to the safety and character of the work, equipment and labor personnel.
4. Contractor shall be responsible for coordinating with all Utility agencies.
5. Contractor shall protect in place (by any means necessary) all existing utilities to remain unless otherwise specified herein, contractor shall be responsible for the complete repair at his expense, for any damage to existing utilities, structures, or other site features, as a result of his work.
6. Prior to placing curbs, pavements, base, subbase, track, etc., all underground utilities shall be installed, backfill completed, and the Engineer notified by each of the utility companies having facilities within the work area, that the utility installation has satisfactorily passed acceptance tests.
7. All existing underground utilities, that are not to be re-used shall be abandoned in place. All existing pipelines to be abandoned in place shall be cement slurry filled and capped at least 3'-0" below top of proposed subgrade.
8. Contractor shall verify locations and elevations of existing utilities whether known or unknown prior to beginning construction.
9. Any underground structures such as cesspools, cisterns, mining shafts, tunnels, septic tanks, wells, and pipelines not located prior to construction shall be brought to the attention of the engineer for determination of appropriate action such as removal or treatment in a manner judged suitable to the engineer.
10. Contractor shall coordinate location of all proposed utilities with UPRR to assure accuracy of utility connections and compliance with local codes.
11. Any existing conditions found to be a variance with these drawings must be immediately reported to the Engineer.
12. Contractor shall maintain and clean to the satisfaction of the Engineer, all access and service roads used during construction.
13. Contractor shall perform all construction in such a manner as to protect adjacent existing buildings, and other site elements which are to remain in service.
14. Contractor shall provide As-built Drawings for all improvements.
15. No field changes will be permitted without direct written authorization from the UPRR Engineer or his representative.
16. Contractor shall coordinate work which affects adjacent property owners. Any questions or agreements between adjacent property owners and contractor shall be made in writing. A copy of such agreement shall be provided to the UPRR Engineer or his representative.
17. The contractor is responsible for preparing a Stormwater Pollution Prevention Plan (SWPPP) to comply with State regulations. General specifications and typical erosion control details are included in the plan set.
18. Right-of-way lines shown on the plans were taken from existing UPRR right-of-way map and are approximate.
19. Match lines for sheets are based on the existing Main Line stationing unless otherwise specified.
20. Track laying, ballasting, and installation of road crossing panels will be done by UPRR unless otherwise stated.
21. Where existing culverts are to be extended, the contractor shall expose existing drainage structures and field verify size and type before ordering.
22. The contractor is responsible for the removal of all pavement markings that will be in conflict with the proposed work.
23. Contractor shall comply with all ADOT, MCDOT, and Mesa Engineering Department standard specifications for construction of public improvements requirements. Mesa Engineering Department standard specifications shall prevail.
24. Contractor shall maintain at least one access to all affected business. If necessary, multiphase construction shall be utilized.

DESIGN CRITERIA

1. UPRR standard plans and trackwork
2. Mesa Engineering Department
3. Maricopa County Department of Transportation
3. Arizona Department of Transportation Roadway Standards

SURVEY NOTES

1. Railroad stationing for project profiles and alignments is based on stations established for chord definition spiraled curves at the centerline of the existing UPRR Main Line unless otherwise noted.
2. The contractor is responsible for the preservation of all survey control monuments. In the event monuments are damaged or destroyed by the contractor, the Engineer will replace the monument solely at the contractor's expense.

	DATUM
HORIZONTAL	NAD 83 ARIZONA CENTRAL STATE PLANE FIPSZONE 0202 SCALE FACTOR OF 0.99984662
VERTICAL	NAVD 88

TRAFFIC NOTES

1. All barricades, warning signs, lights, devices, etc. for the guidance of vehicle traffic and pedestrians must conform to the installation shown in the Manual on Uniform Traffic Control Devices (MUTCD), current edition.
2. Contractor shall make twice daily inspections of barricades and flashing lights to ensure proper placement and functioning of warning devices.
3. Grade crossings closed to traffic during construction shall be barricaded in accordance with the MUTCD.
4. At all grade crossings, all grade crossing warning signs (crossbuck) shall temporarily be relocated during construction and reset after the grade crossings construction is completed to a point adjacent to the roadway and 15 feet from the centerline of the near track as stated in the MUTCD except where automatic grade crossing warning signals/gates exist. All automatic warning devices are the responsibility of UPRR. At no time shall a crossing be left open without proper warning signs in place.
5. Contractor shall submit traffic control plans to Mesa Engineering Department for approval at least 2 weeks prior to each road closure. Plans shall be 11" x 17" engineered drawings, sealed by a professional engineer for the State of Arizona.
6. The contractor is responsible for the prompt replacement and/or repair of all traffic control devices and appurtenances damaged or disturbed due to construction.

PROJECT CONTACTS

CONTACT	PHONE NUMBER	UPRR
TJ Spire-Sweet	(816) 509-8477	Civil Construction Project Manager
Levi Hawkins	(402) 544-3304	Project Design Manager
Justin Mohlman	(402) 938-2420	Project Design Sr. Project Designer
Adam Studts	(402) 544-3541	Structures Design Sr. Manager
Paul Pino	(402) 544-3582	Information Technology - Fiber
Mark Mentele	(402) 544-8532	Real Estate - Utilities
Stephanie Tingley	(402) 544-5453	Real Estate - Acquisitions
Kris Anderson	(402) 544-3162	Real Estate - Acquisitions
Greg Brigham	(402) 544-8568	Real Estate - Acquisitions

CONTACT	PHONE NUMBER	FIBER

CONTACT	PHONE NUMBER	UTILITIES

CONTACT	PHONE NUMBER	FEDERAL AND LOCAL GOVERMENT AGENCY

PHONE NUMBER	GENERAL
https://www.up.com/cbud	UPRR CALL BEFORE YOU DIG (CBUD)
(888) 258-0808	CALL BEFORE YOU DIG (NATIONAL DIRECTORY)
(888) 877-7267	UPRR Response Management Communications Center (RMCC)
(800) 877-5591	UPRR Signal Operations Center

olsson
2111 South 67th Street, Suite 200
Omaha, NE 68106-2810
TEL 402.341.1116
FAX 402.341.5895
www.olsson.com

DRAWN BY: RSP
CHECKED BY: JRM
DATE: 6/3/2022
SHEET NUMBER: G003 of 009

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
GENERAL NOTES & PROJECT CONTACTS

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ABBREVIATIONS

MISCELLANEOUS

Ac.	Acres
Ave.	Avenue
Blvd.	Boulevard
Bldg.	Building
BNSF	BNSF Railway
C.Y.	Cubic Yards
Conc.	Concrete
°	Degree (s)
Dia.	Diameter
Dr.	Drive
Dwg.	Drawing
E	East
Elev.	Elevation
Exist.	Existing
'	Foot, Feet or Minute (s)
F.S.	Finished Surface
Horiz.	Horizontal
"	Inch, Inches or Second (s)
Inv.	Invert
Lt.	Left
L	Length
L.F.	Lineal Feet
Max.	Maximum
Min.	Minimum
N	North
NTS	Not to Scale
No.	Number
OH	Overhead
Prop.	Proposed
RR	Railroad
Rwy	Railway
R/W	Right of Way
Rt.	Right
S	South
S.F.	Square Feet
Sta.	Station
Std.	Standard
St.	Street
Twp.	Township
Typ.	Typical
UG	Underground
UPRR	Union Pacific Railroad
V	Velocity
Wt.	Weight
W	West
X-ing	Crossing

SIGNAL

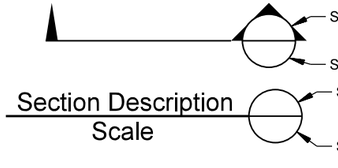
ABS	Automatic Block Signal
ATC	Automatic Train Control
CTC	Centralized Traffic Control
DED	Dragging Equipment Detector
DTC	Direct Traffic Control
ELTO	Electric Lock Turnout
HBD	Hot Box Detector
HTTO	Hand Throw Turnout
HWD	High Wide Dectector
POTO	Power Operated Turnout
TWC	Track Warrant Control
WILD	Wheel Impact Load Dectector

STRUCTURES

Bldg.	Building
Br.	Bridge
CB	Catch Basin
CPT	Concrete Pile Trestle - Ballast Deck
CIP	Cast Iron Pipe
CMP	Corrugated Metal Pipe
CMPA	Corrugated Metal Pipe Arch
CSP	Corrugated Steel Pipe
Culv.	Culvert
DI	Drop Inlet
DPGBD	Deck Plate Girder - Ballast Deck
DPGOD	Deck Plate Girder - Open Deck
EBW	East Backwall
F.L.	Flowline
F.F.	Finished Floor
GIP	Galvanized Iron Pipe
Hdwl	Headwall
NBW	North Backwall
PCB	Prestressed Concrete Box
PSCT	Prestressed Concrete Trestle
RCA	Reinforced Concrete Arch
RCB	Reinforced Concrete Box
RCP	Reinforced Concrete Pipe
SBW	South Backwall
SSP	Smooth Steel Pipe
SPTBD	Steel Pile Trestle - Ballast Deck
SPTOD	Steel Pile Trestle - Open Deck
SPP	Structural Plate Pipe
TPGBD	Through Plate Girder - Ballast Deck
TPGOD	Through Plate Girder - Open Deck
TPTBD	Timber Pile Trestle - Ballast Deck
TPTOD	Timber Pile Trestle - Open Deck
TTBD	Through Truss - Ballast Deck
TTOD	Through Truss - Open Deck
TWB	Treated Wood Box
VCP	Vitrified Clay Pipe
Viad.	Viaduct
WBW	West Backwall
WIP	Wrought Iron Pipe

TRACK

ATR	Above Top of Rail
Align.	Alignment
BBR	Below Base of Rail
Cntrs.	Centers
CWR	Continuous Welded Rail
DSPD	Double Switch Point Derail
EOT	End of Track
HH	Head Hardened
Jtd.	Jointed Rail
LH	Left Hand
ML	Main Line
MM	Mile Marker
MP	Mile Post
NSC	Not Sufficient Clearance
OTM	Other Track Material
PCC	Point of Compound Curve
PC	Point of Curve
PCS	Point of Curve to Spiral
POC	Point on Curve
PF	1/2" Point of Frog
PI	Point of Intersection
PITO	Point of Intersection of Turnout
PS	Point of Spiral
PSC	Point of Spiral to Curve
POS	Point on Spiral
PT	Point of Tangent
POT	Point on Tangent
Pt. Sw.	Point of Switch
PVC	Point of Vertical Curve
PVI	Point of Vertical Intersection
PVT	Point of Vertical Tangent
RH	Right Hand
SH	Second Hand
SSPD	Single Switch Point Derail
TC	Track Centers
T.F.	Track Feet
Trk.	Track
UXO	Universal Cross-Over
X-Over	Cross-Over



SYMBOLS

UTILITIES

- Compressed Air
- Fiber Optic Cable
- Gas Pipeline
- Overhead Power Line
- Sanitary Sewer
- Overhead Signal Line
- Underground Signal Line
- Steam Line
- Storm Sewer
- Telephone
- Underground Electric
- Water Main
- Underground Wire
- Under Drain
- Valve
- Manhole
- Catch Basin
- Fire Hydrant
- Junction Box
- Electric Meter
- Gas Meter
- Water Meter
- Monitoring Well
- Pump

TRACK

- Existing Mainline
- Existing Siding or Spur
- Proposed
- Remove
- Shift
- Relay
- Surface & Line
- Future
- Foreign Railroad or Industry
- In Buildings or Under Structures
- Turnout
- Power Turnout
- Bumping Post
- Earthen Bumper
- Inert Retarder
- Dowty Retarder
- Hayes Derail
- Double Switch Point Derail

PROPERTY

- Section Line
- Center Section Line
- Parcel or Easement Line
- Right of Way
- Former Right of Way
- Right of Way to be Acquired
- Temporary Construction Easement
- Foreign Right of Way

ROAD CROSSING WARNING DEVICES

- Crossbuck Sign
- Flashing Light Warning Device
- Flashing Light Warning Device with Gate
- Cantilever Flashing Light Warning Device
- Cantilever Flashing Light Signal with Gate

SIGNAL

- Absolute Signal
- Signal Bridge
- Cantilever Signal
- ACS or CTC Signal
- Dwarf Signal
- Begin CTC
- Microwave Tower
- AEI
- Battery Box
- Dragging Equipment Detector
- Generator
- Hot Box Detector

STRUCTURES

- Culvert
- Culvert with Headwalls
- Double Culvert
- Railroad Bridge
- Highway Overpass
- Highway Underpass
- Tunnel
- Building
- Flag Pole

OTHER

- Embankment
- Flow Line
- Milepost
- Milemarker
- Control Point
- Revision Number
- Revision Cloud

SIGNS

- Stop
- Yard Limit
- 1 Mile to Yard Limit
- Whistle Post
- Flanger
- Station
- Reduce Speed
- Resume Speed
- General Purpose

FENCES

- Barbed Wire
- Chain Link
- Snow / Sand
- Cattle Guard

ROADS

- Paved Road
- Unimproved Road
- Interstate Highway
- Federal Highway
- State Highway
- County Highway

PERMITTING

- Temporary Workspace - Permitted
- Sensitive Resources - Impacted / Permitted
- Sensitive Resources - Do Not Impact

CONSTRUCTION

- Note (Work by Contractor)
- Note (Work by Others)
- Cut Lines
- Fill Lines
- Grading Limits

LIGHTING

- Light Pole
- Light Tower

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DRAWN BY:	RSP
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DATE:	6/3/2022
SHEET NUMBER	G004 of 009

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
ABBREVIATIONS & LEGEND

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6/3/2022

Control Points					
Point No.	Project Stationing	Offset	Northing	Easting	Elevation
1	1584+78.30	10,323.50 LT	833975.542	786264.795	1390.60
2	-	-	833901.241	802029.433	1442.54
3	1620+80.93	5,067.62 LT	827529.344	786155.310	1394.01
4	1588+58.48	9,606.96 LT	833095.294	786255.103	1390.42
5	1590+90.31	9,311.99 LT	832720.303	786266.676	1391.63
6	1504+80.52	3,208.83 LT	832902.287	775702.881	1352.34
7	1501+96.60	3,598.24 LT	833384.504	775704.811	1352.02
8	1481+60.81	1,393.87 LT	832816.563	772758.436	1340.12
9	1487+62.60	1,480.96 LT	832529.865	773294.669	1343.08
101	1468+63.57	309.16 LT	832712.325	771070.566	1330.04
102	1501+36.92	78.26 RT	830459.416	773476.794	1346.25
103	1502+77.39	3,342.95 LT	833130.746	775618.869	1352.47
104	1539+28.97	4,066.66 LT	831548.492	778987.871	1367.93
105	1580+57.61	6,958.36 LT	831529.900	783893.451	1386.25
106	1592+84.51	11,118.68 LT	834059.300	787495.056	1393.32
107	-	-	833949.449	799221.020	1431.31
108	-	-	833950.836	801801.074	1442.43
109	-	-	833462.054	808022.662	1477.30
10	1512+71.71	69.16 LT	829905.134	774477.902	1350.84
11	1506+01.02	67.40 LT	830301.471	773936.847	1347.99
12	1498+70.62	71.58 LT	830737.974	773351.200	1345.52
13	1491+33.87	62.38 LT	831167.420	772752.484	1342.79
14	1485+13.60	68.55 LT	831540.172	772256.676	1340.37
15	1479+39.31	82.78 LT	831892.158	771802.667	1340.35
16	1473+39.76	71.46 LT	832238.537	771313.176	1337.99
17	1466+51.36	31.48 LT	832614.451	770735.067	1336.76
11009	1526+08.13	29.07 LT	829080.397	775530.237	1356.24
11007	1505+29.82	32.38 LT	830315.505	773858.755	1349.90
11008	1507+30.63	1,673.52 LT	831517.787	774993.723	1351.66
11006	1467+18.22	41.47 LT	832582.868	770794.838	1336.24
11002	1499+00.27	3,954.04 LT	833846.711	775677.166	1351.41
11003	1523+32.46	6,116.56 LT	834145.804	778917.734	1362.22
11004	1541+79.53	6,879.04 LT	833664.600	780857.196	1370.63
11005	1549+98.01	7,959.26 LT	834049.145	782156.778	1372.64
11021	1512+71.73	69.16 LT	829905.124	774477.917	1350.87
11010	1559+55.03	61.28 RT	827023.146	778171.757	1367.06
11011	1607+93.35	69.73 RT	824158.241	782070.476	1379.38
11012	1643+21.42	34.59 LT	822136.982	784963.344	1390.10
11019	-	-	833971.765	796912.095	1422.98
11017	-	-	834037.719	797977.148	1424.91
11016	-	-	835302.482	797920.339	1426.75
11018	-	-	833882.819	800505.540	1436.37
11020	-	-	831107.114	796867.473	1419.89

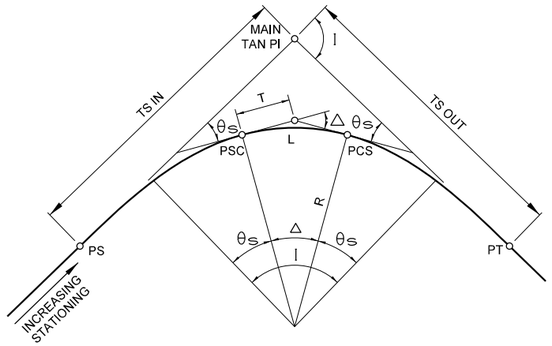


FIGURE A
CIRCULAR CURVES WITH SPIRAL TRANSITION

I - TOTAL INTERSECTION ANGLE

θ_S - SPIRAL ANGLE = $\frac{A L^2}{2}$

Δ - CENTRAL ANGLE OF CIRCULAR CURVE = I - 2 θ_S

Dc - DEGREE OF CURVE

A - RATE OF CHANGE OF DEGREE OF CURVE PER 100-ft. OF LENGTH = $\frac{Dc}{L}$

R - RADIUS OF CIRCULAR CURVE

T - TANGENT LENGTH OF CIRCULAR CURVE = R TAN $\frac{\Delta}{2}$

L - LENGTH OF CIRCULAR CURVE = $\frac{\Delta}{Dc}$ x 100

PS - TANGENT TO SPIRAL

PSC - SPIRAL TO CURVE

PCS - CURVE TO SPIRAL

PT - SPIRAL TO TANGENT

MAIN TAN PI - POINT OF INTERSECTION OF MAIN TANGENTS

(TS IN)
(TS OUT) - TANGENT LENGTH OF COMPLETE CURVE = (R+o) TAN $\frac{I}{2}$ + t

(WHEN SPIRALS OF EQUAL LENGTH ARE USED ON BOTH SIDES OF CIRCULAR CURVE, SEE FIGURE C. FOR o AND t).

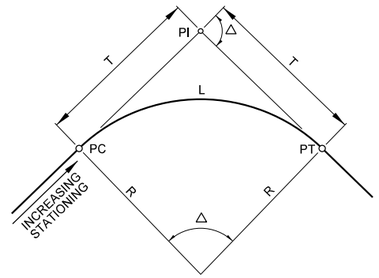


FIGURE B
SIMPLE CIRCULAR CURVE

R = RADIUS OF CIRCULAR CURVE

Δ = CENTRAL ANGLE OF CIRCULAR CURVE

T = R TAN $\frac{\Delta}{2}$

L = $\frac{\Delta}{Dc}$ x 100

Dc = 2 SIN^{-1} (50/R) = DEGREE OF CURVE (CHORD DEFINITION)

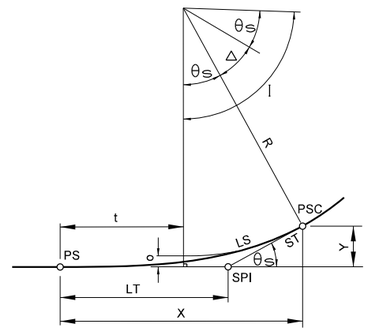


FIGURE C
SPIRAL TRANSITION CURVE

SPIRAL TRANSITION CURVE DATA:
THE SPIRAL USED IS DEFINED BY THE TALBOT SPIRAL.

LS = LENGTH OF SPIRAL (TS TO PSC)

θ_S = $\frac{A L^2}{2}$

X = $100 L_1 - 0.000762 A^2 L_1^5$

Y = $0.291 A L_1^3 - 0.00000158 A^3 L_1^7$

o = $0.0727 A L_1^3$

t = $50 L_1 - 0.000127 A^2 L_1^5$

ST = $\frac{Y}{\text{SIN } \theta_S}$

LT = $X - \frac{Y}{\text{TAN } \theta_S}$

Dc = 2 SIN^{-1} (50/R) = DEGREE OF CURVE (CHORD DEFINITION)

L_1 - TOTAL NO. OF STATIONS IN SPIRAL

SPI - SPIRAL POINT OF INTERSECTION

NOTE: Dc, θ_S, Δ, AND I ARE IN DEGREES.
ALL OTHERS DIMENSIONS ARE FEET.

olsson
2111 South 67th Street, Suite 200
Omaha, NE 68106-2810
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DRAWN BY: RSP
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DATE: 6/3/2022
SHEET NUMBER: G005 of 009

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
CONTROL POINTS & GEOMETRY

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To Kendall
& Hyder
Timetable West

To Magma
& West Picacho
Timetable East

Pecos Rd. Xing
(1) CBC 8' X 6' X 262'
Sossaman Rd. Xing

(2) CMP 18" X 100'

(4) CMP 72" X 150'

Pt. Sw. #11 LH HTTO

Pt. Sw. #11 RH HTTO
Pt. Sw. #11 RH HTTO
Pt. Sw. #11 RH HTTO
Pt. Sw. #11 RH HTTO

Pt. Sw. #11 LH HTTO
Pt. Sw. #11 LH HTTO
Pt. Sw. #11 LH HTTO
Pt. Sw. #11 LH HTTO

Pt. Sw. #11 RH HTTO

Ellsworth Rd. Xing
(3) CBC 9' X 6' X 44'

Pt. Sw. #11 RH HTTO

Crismon Rd. Xing

(3) SSP 72" X 70'

(4) SSP 48" X 70'

Pt. Sw. #11 LH HTTO

Signal Butte Rd. Xing
(3) CMP 48" X 52'
(1) CMP 48" X 74'

SUPPORT TRACK E
SUPPORT TRACK D
SUPPORT TRACK C
SUPPORT TRACK B
SUPPORT TRACK A
PIRATE LEAD TRACK

3,053' Clear (Support Track A)
3,054' (2,736') Clear (Support Track B)
2,406' Clear (Support Track C)
2,065' Clear (Support Track D)
2,065' Clear (Support Track E)

PIRATE LEAD TRACK
RUN-AROUND TRACK
5,000'

MP 934.38 DOT# 741833U

MP 934.79 Pt. Sw. #15 RH POTO

MP 934.89 Pt. Sw. #15 LH HTTO
MP 934.96 (2) WBC 4' X 1.5' X 22'

RH HT DSPD
(3) CBC 12' X 8' X 142'

MP 935

Pt. Sw. #11-LH HTTO

(1) CBC 10' X 8' X 188'
(3) CBC 12' X 8' X 142'
Access Road
(1) SSP 36" X 84'
LH HT DSPD

MP 935.22 Pt. Sw. #15 RH HTTO

MP 935.33

MP 935.64 DOT# 741834B

MP 935.70 Pt. Sw. #11 LH HTTO

RH HT DERAIL
(1) SSP 36" X 76'

MP 935.77

MP 935.93 (1) CMPA 3.2' X 1.5' X 44'

MP 936

MP 936.16 Pt. Sw. #10 RH HTTO

LH HT DERAIL
(1) CMPA 4.1' X 2.5' X 56'
(1) SSP 36" X 80'

MP 936.75
MP 936.75

MP 936.86 Pt. Sw. #11 RH HTTO

MP 937

MP 937.83 Pt. Sw. #15 LH POTO
MP 937.83 Pt. Sw. #10 LH HTTO
MP 937.84 Pt. Sw. #10 LH HTTO

MP 937.89 (2) DPG 146' [SIMN]

MP 938

5,000'

WORKING TRACK

PIRATE LEAD

EAST WYE

SIDING TRACK

MAIN TRACK

SIDING TRACK

15,000' Signal to Signal

Power Rd. Xing
Pecos Rd. Xing

Sossaman Rd. Xing

EL.1429
GERMANN
LB400
937.03
8207

LEGEND

	EXISTING	REMOVE	SHIFT	PROPOSED
TRACK				
ACCESS ROAD				
XING PANEL				
HAND THROW SWITCH				
POWER OPERATED SWITCH				
DERAIL				
ABSOLUTE SIGNAL				
CULVERT				
BRIDGE				

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DATE: 6/3/2022
SHEET NUMBER: G006 of 009

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
SCHEMATIC PLAN

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6/3/2022

TRACK CLEAR LENGTHS	
TRACK	CLEAR LENGTH (TRACK FEET)
Support Track A	3,053
Support Track B	3,054 (2,736)
FT Support Track C	2,406
FT Support Track D	2,065
FT Support Track E	2,065
FT Run-Around Track	5,070
Germann Siding	15,533
Working Track	5,501

* Clear Length Measured 15' from 13' CP or 50' from Pt. Derail

NATIONAL WEATHER SERVICE WEATHER RADAR SITE

CITY OF MESA UTILITY STATION

S POWER RD

E PECOS RD

S SOSSAMAN RD

S ELLSWORTH RD

E GERMANN RD

NO. 11 LH

NO. 11 RH

SUPPORT TRACKS

7°30'00"

3°00'00"

PROPOSED LEAD TRACK

NO. 15 RH

NO. 15 LH

DSPD

935

PROPOSED SIDING EXTENSION

PROPOSED WORKING TRACK

PHOENIX SUB MAIN TRACK

1250 0 1250 2500

SCALE IN FEET

N

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DATE: 6/3/2022
SHEET NUMBER: G007 of 009

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.89 to MP 937.90
Construct Industrial Lead Track

SHEET TITLE:
PLAN OVERVIEW

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E PECOS RD

CITY OF MESA SIGNAL BUTTE ROAD IMPROVEMENTS

CITY OF MESA CRISMON ROAD IMPROVEMENTS

PROPOSED LEAD TRACK

FUTURE RUN-AROUND TRACK

7°30'00"

7°30'00"

S MOUNTAIN RD

MESA CITY LIMITS

CRISMON RD

S MERRILL RD

SIGNAL BUTTE RD

E GERMANN RD

MARICOPA COUNTY
PINAL COUNTY

N IRONWOOD RD

N

1250 0 1250 2500

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DATE: 6/3/2022
SHEET NUMBER: G008 of 009

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.89 to MP 937.90
Construct Industrial Lead Track

SHEET TITLE:
PLAN OVERVIEW

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E PECOS RD

E GERMANN RD

S ELLSWORTH LOOP

No. 11 LH

5°00'00"

WORKING TRACK

E FULTON PKWY

0°29'58"

0°21'01"

5°00'00"

No. 11 RH

PHOENIX SUB MAIN TRACK

No. 15 LH

0°46'00"

E RITTENHOUSE RD

3°00'00"

0°10'00"

0°10'00"

GERMANN SIDING

GERMANN SIDING

S SOSSAMAN RD

Legend

Legend

800 0 800 1600

SCALE IN FEET

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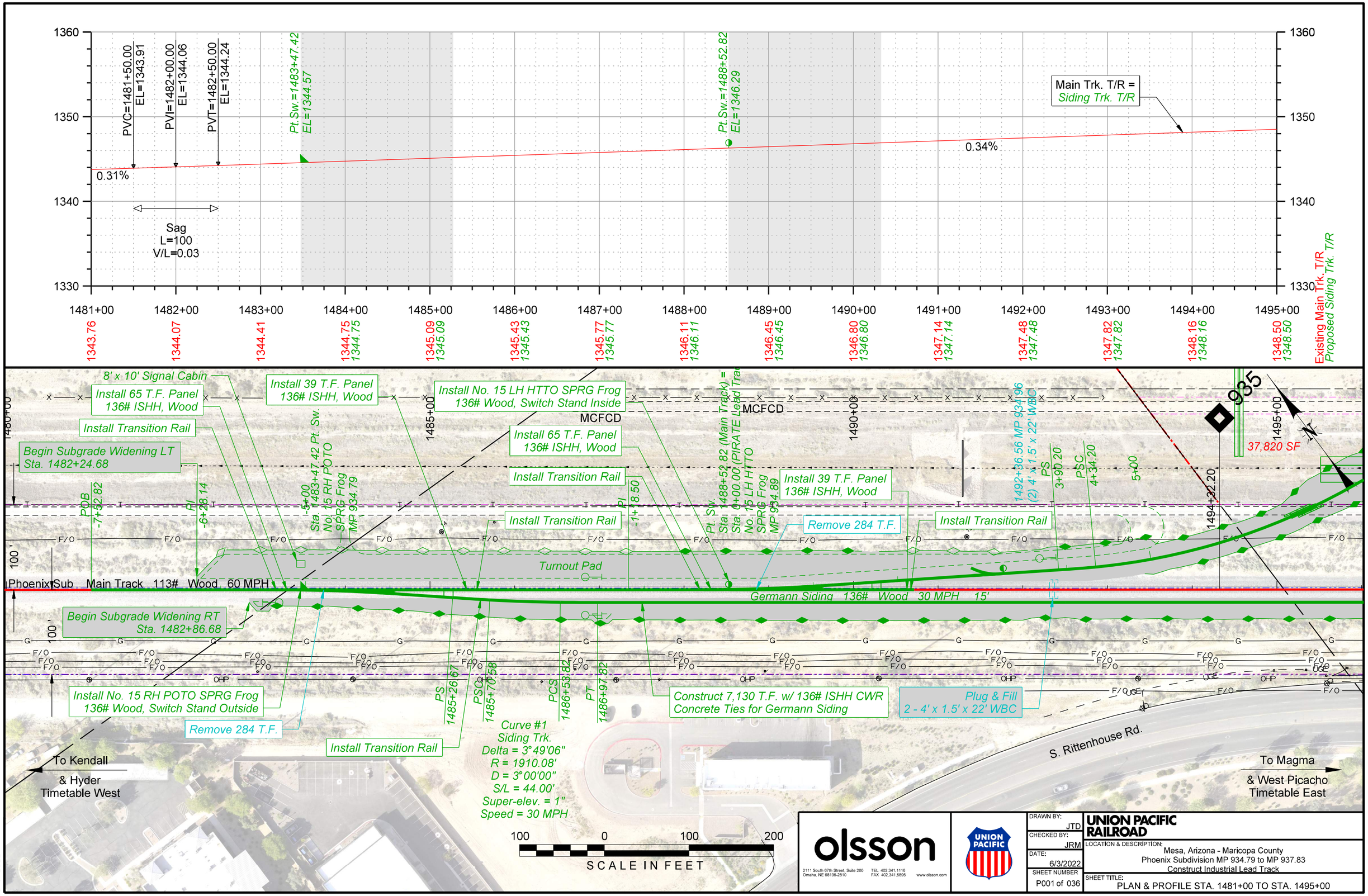
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DATE: 6/3/2022
SHEET NUMBER: G009 of 009

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
PLAN OVERVIEW

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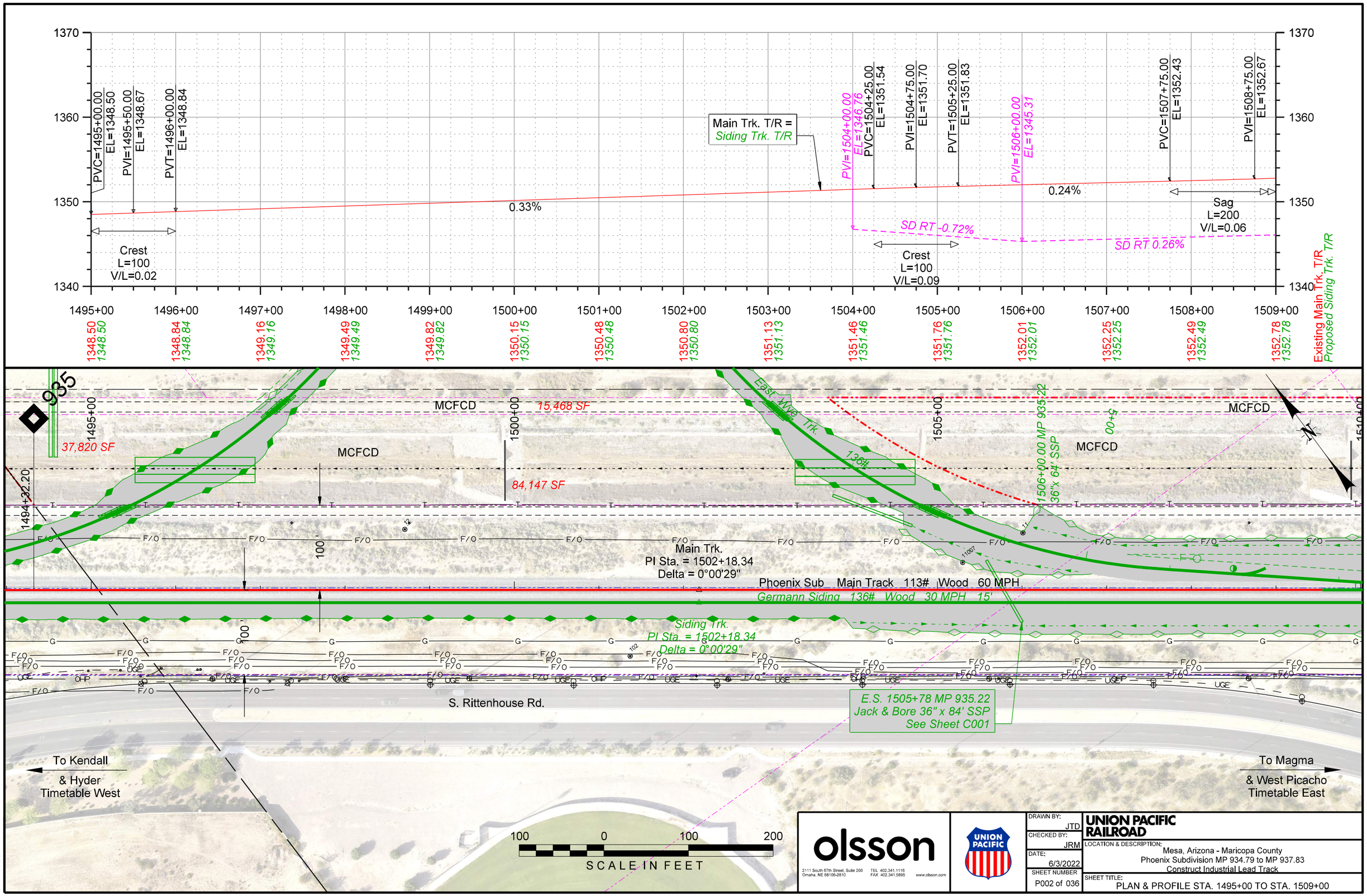
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DATE:	6/3/2022
SHEET NUMBER	P001 of 036

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
PLAN & PROFILE STA. 1481+00 TO STA. 1495+00

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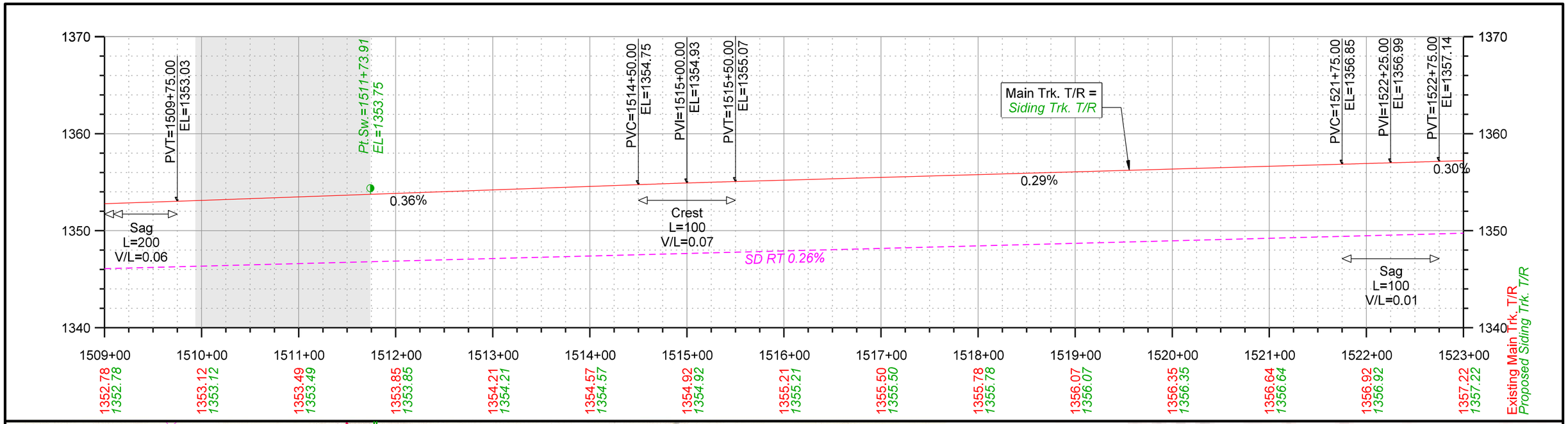
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DATE:	6/3/2022
SHEET NUMBER	P002 of 036

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
PLAN & PROFILE STA. 1495+00 TO STA. 1509+00

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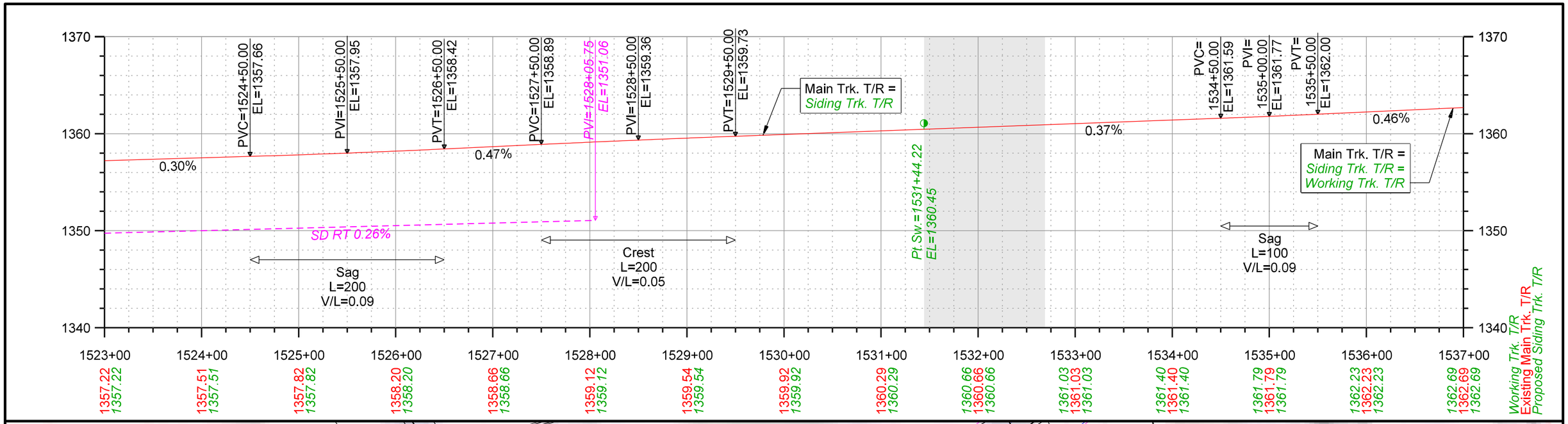
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DATE:	6/3/2022
SHEET NUMBER	P003 of 036

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
PLAN & PROFILE STA. 1509+00 TO STA. 1523+00

Color table: K:\Bentley\WorkspaceV8i\projects\Clients\UPRR_Track\UPRR_Track_V8i\color\UPRR.tbl
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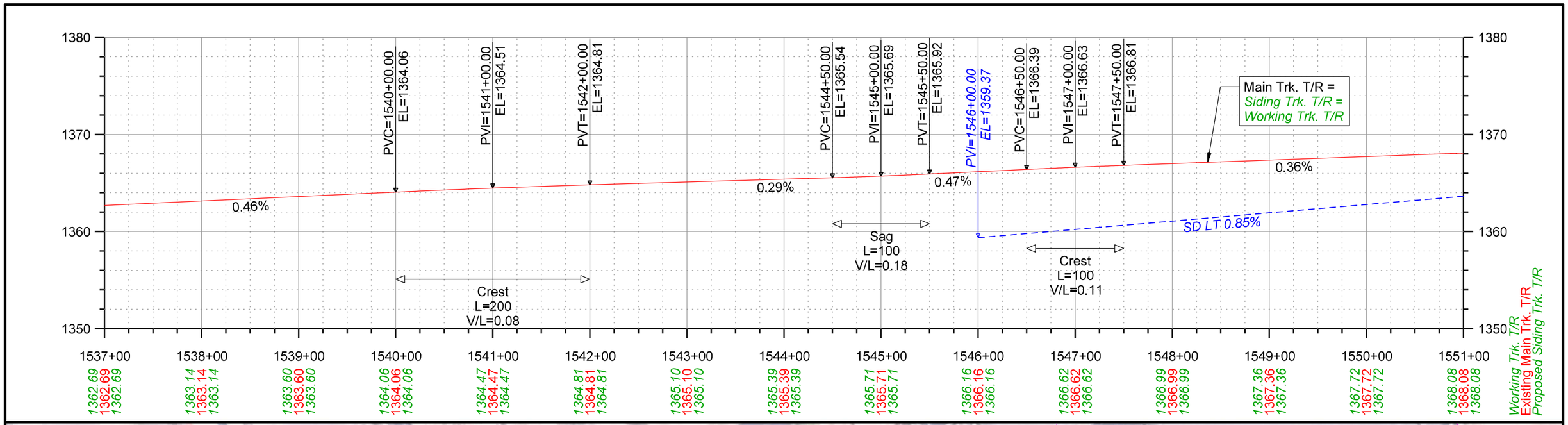
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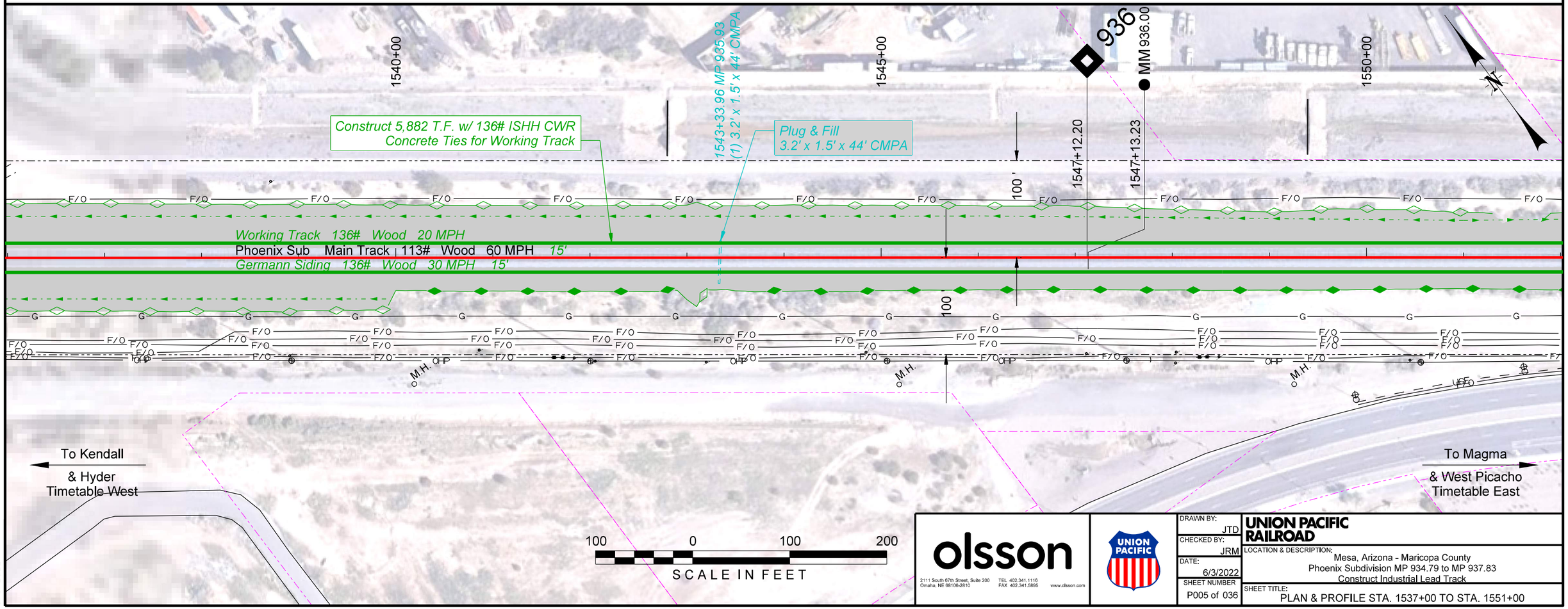
UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
PLAN & PROFILE STA. 1523+00 TO STA. 1537+00

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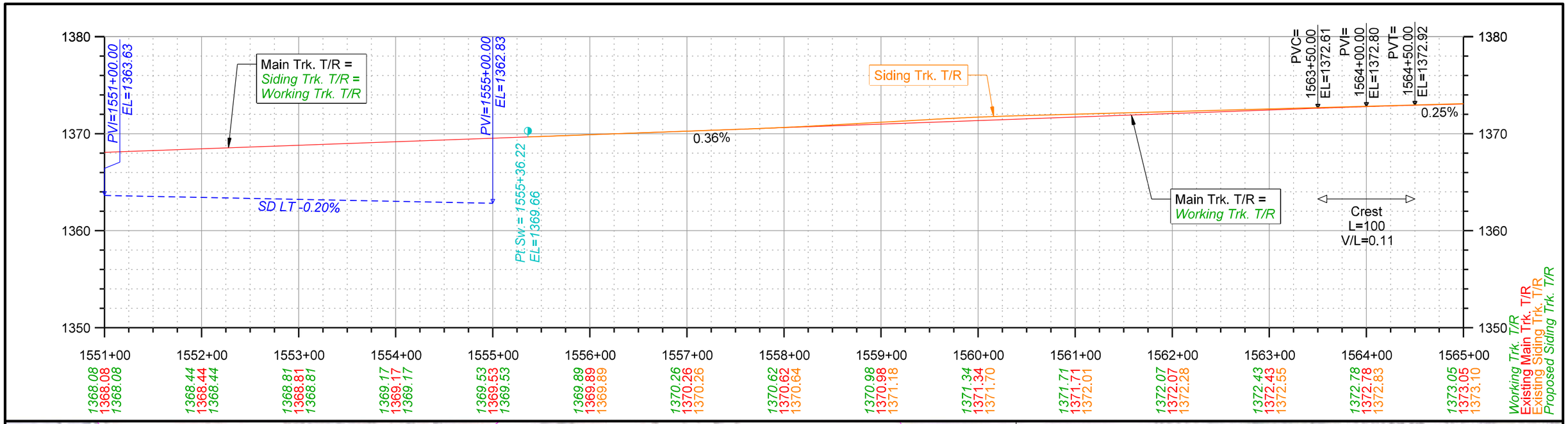
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SHEET NUMBER	P005 of 036

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
PLAN & PROFILE STA. 1537+00 TO STA. 1551+00

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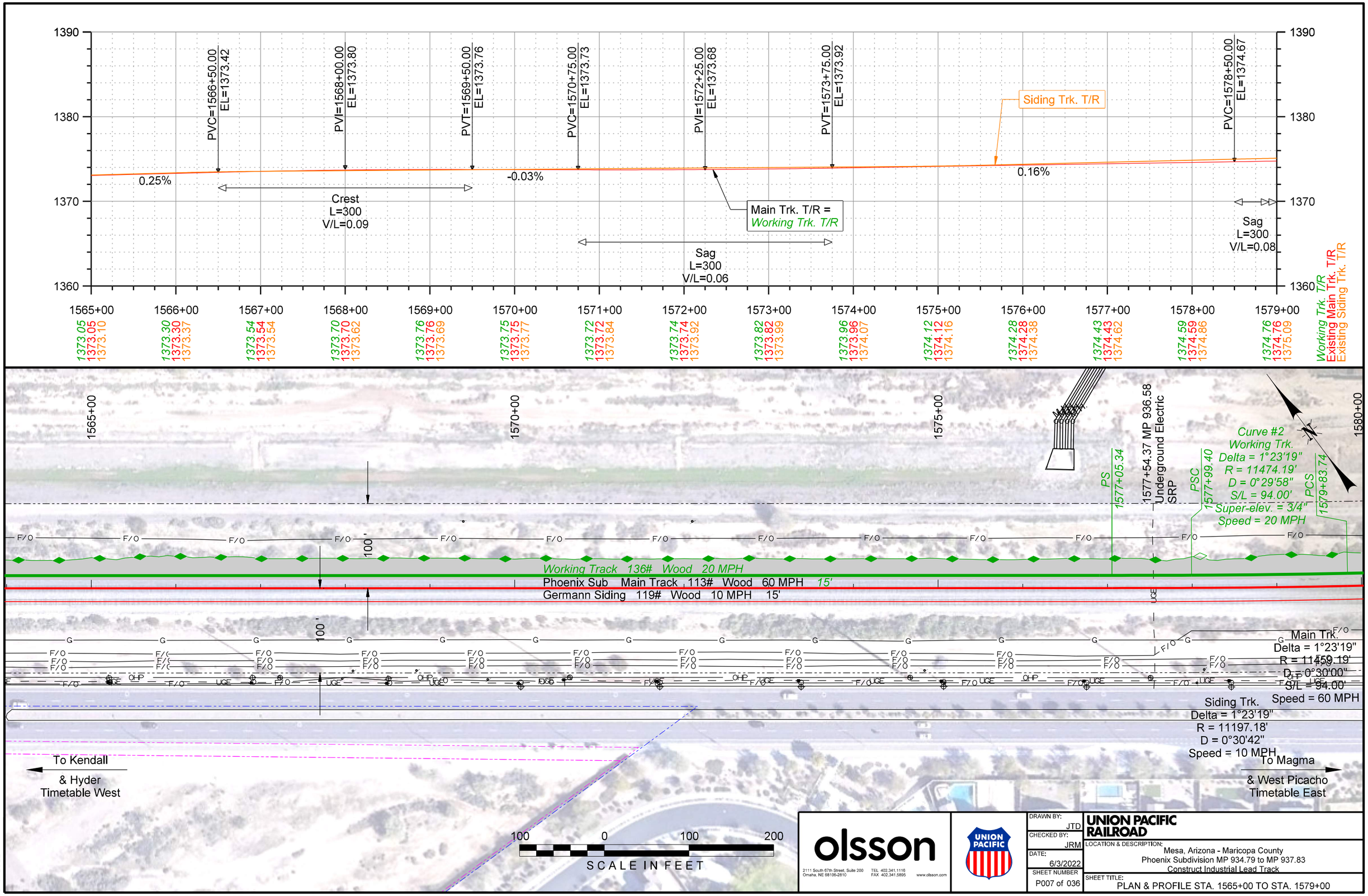
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SHEET NUMBER	P006 of 036

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
PLAN & PROFILE STA. 1551+00 TO STA. 1565+00

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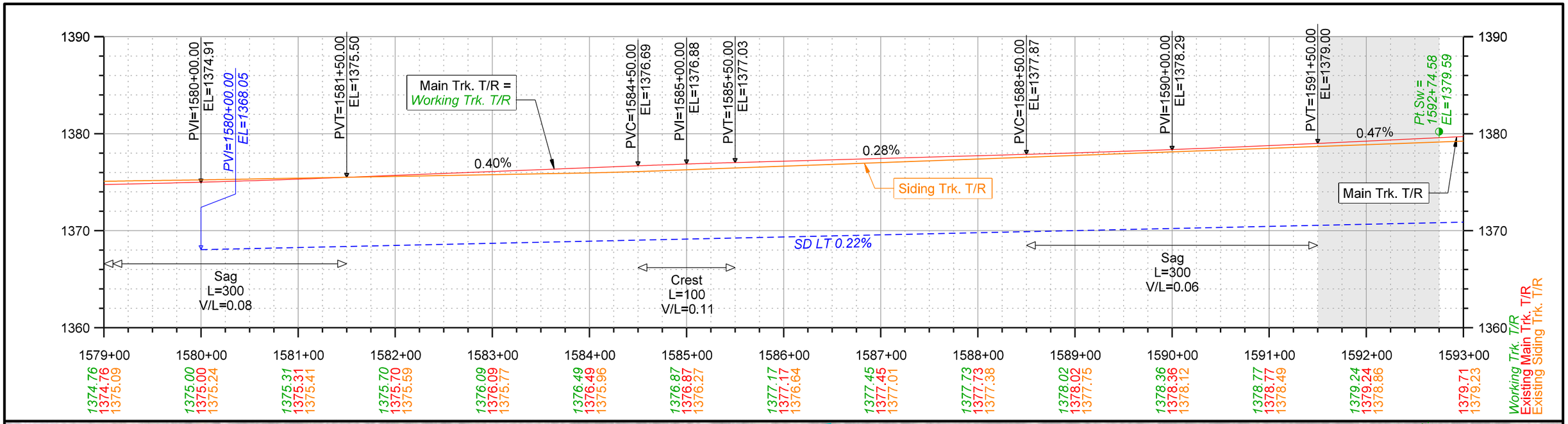
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SHEET NUMBER	P007 of 036

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
PLAN & PROFILE STA. 1565+00 TO STA. 1579+00

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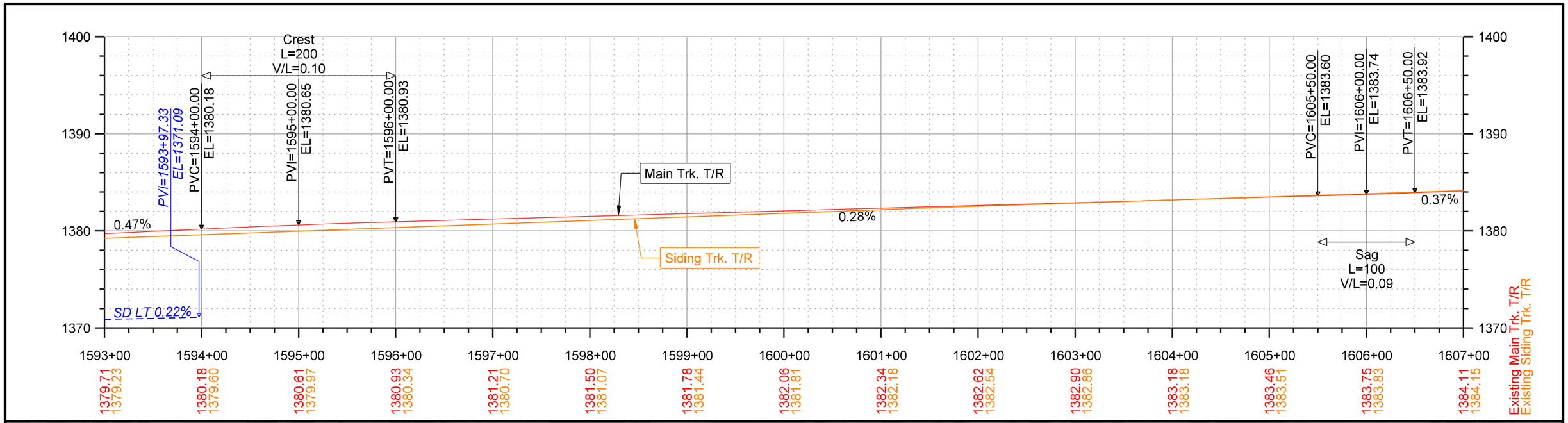
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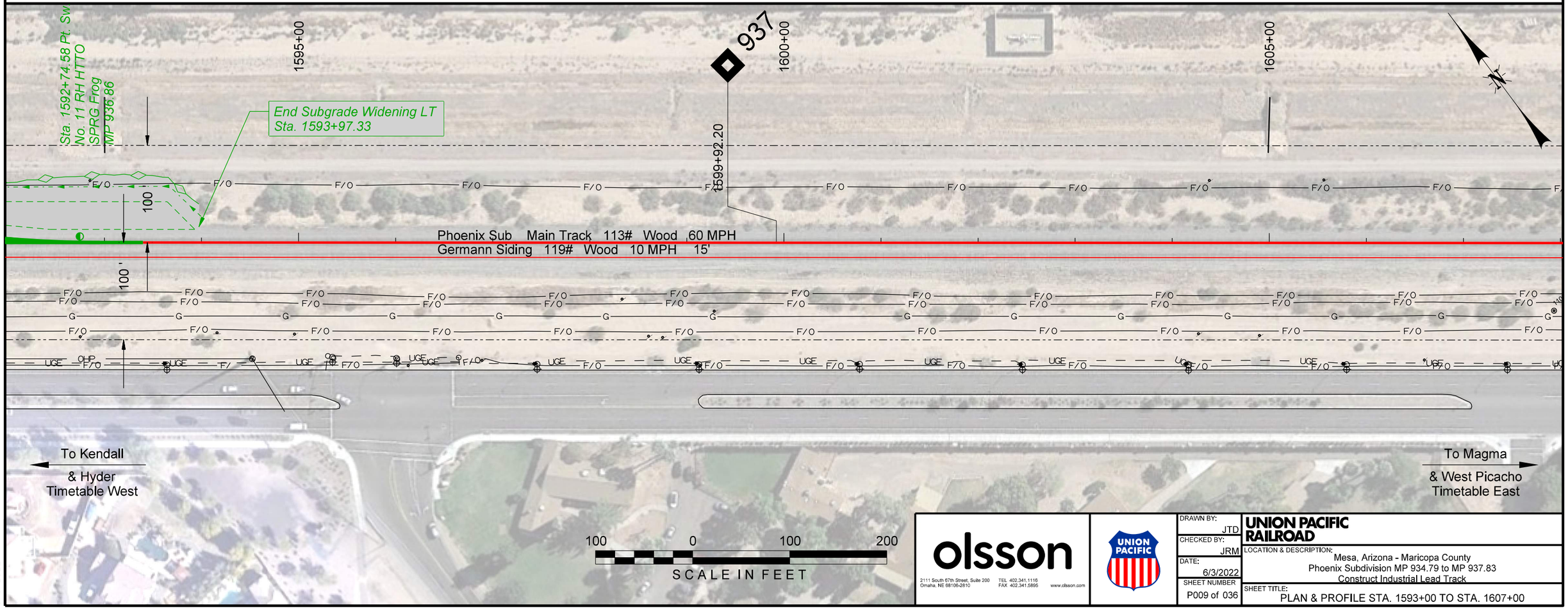
UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
PLAN & PROFILE STA. 1579+00 TO STA. 1593+00

Color table: K:\Bentley\WorkspaceV8i\projects\Clients\UPRR_Track\UPRR_Track_V8i\color\UPRR.tbl
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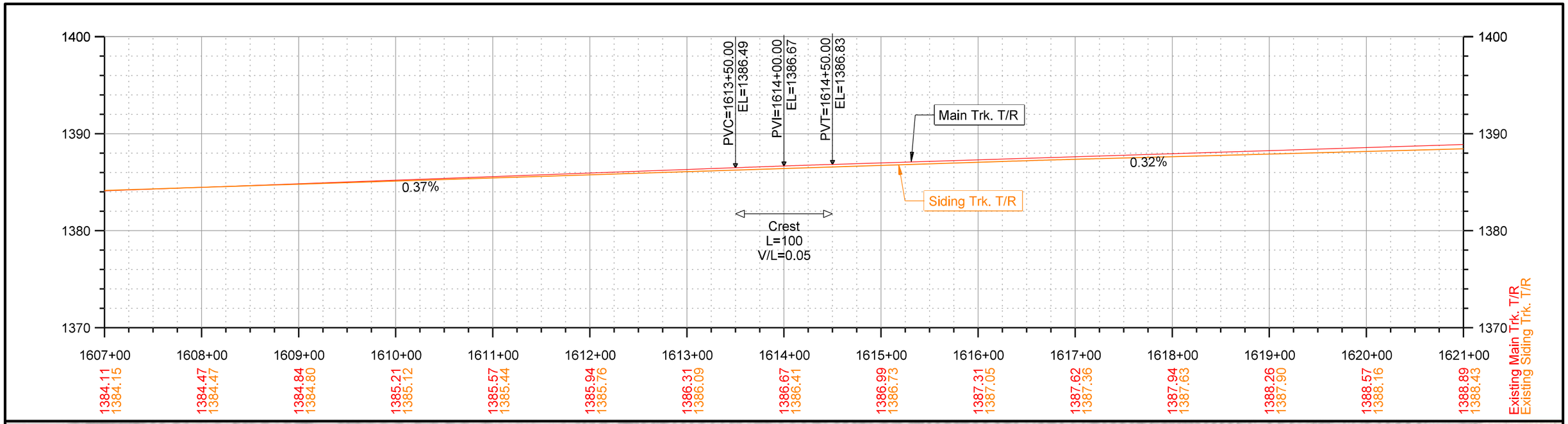
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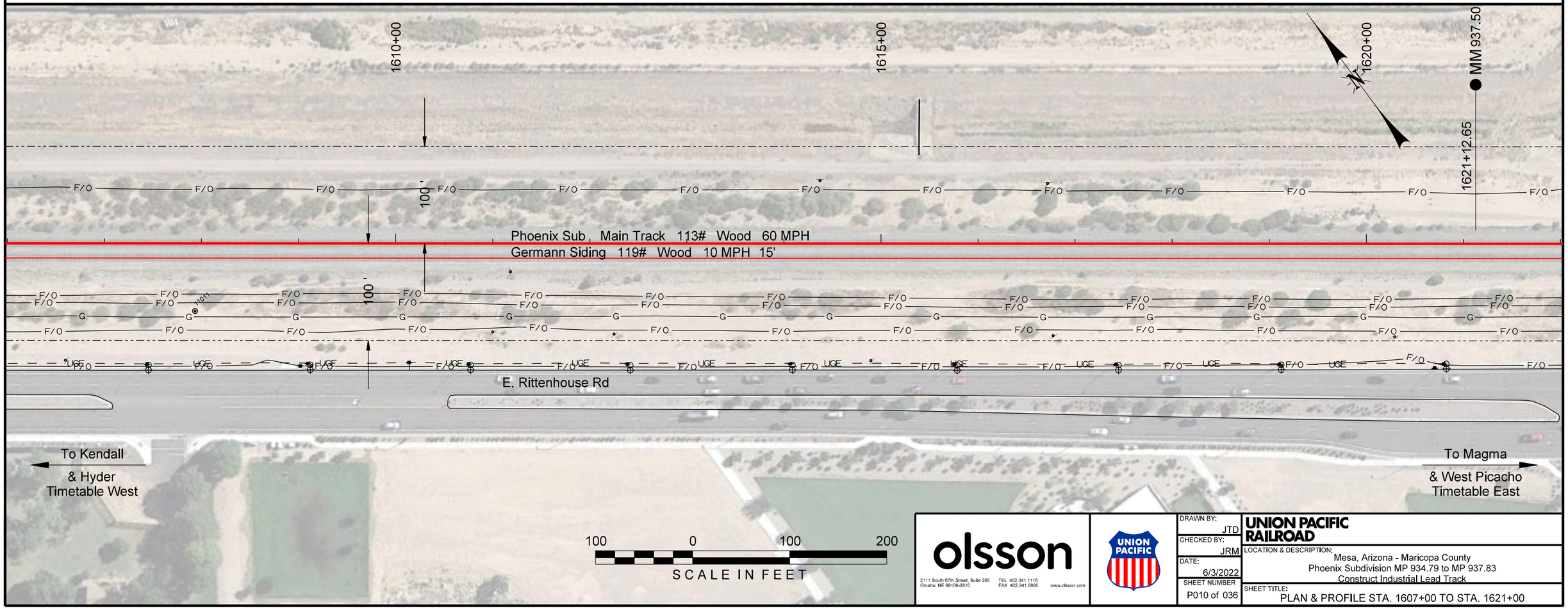
UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
PLAN & PROFILE STA. 1593+00 TO STA. 1607+00

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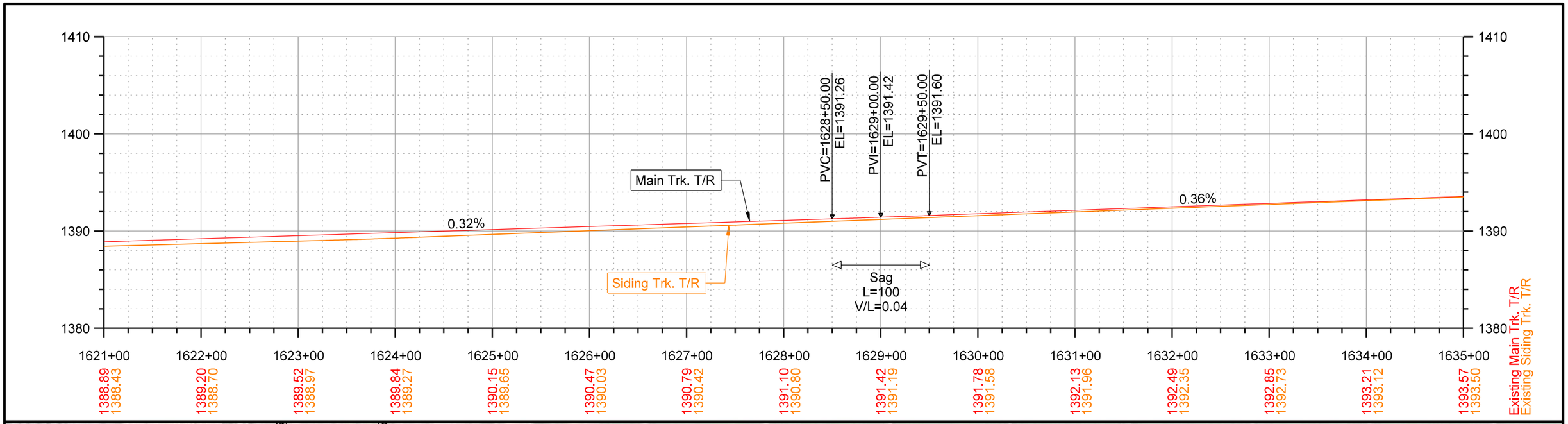
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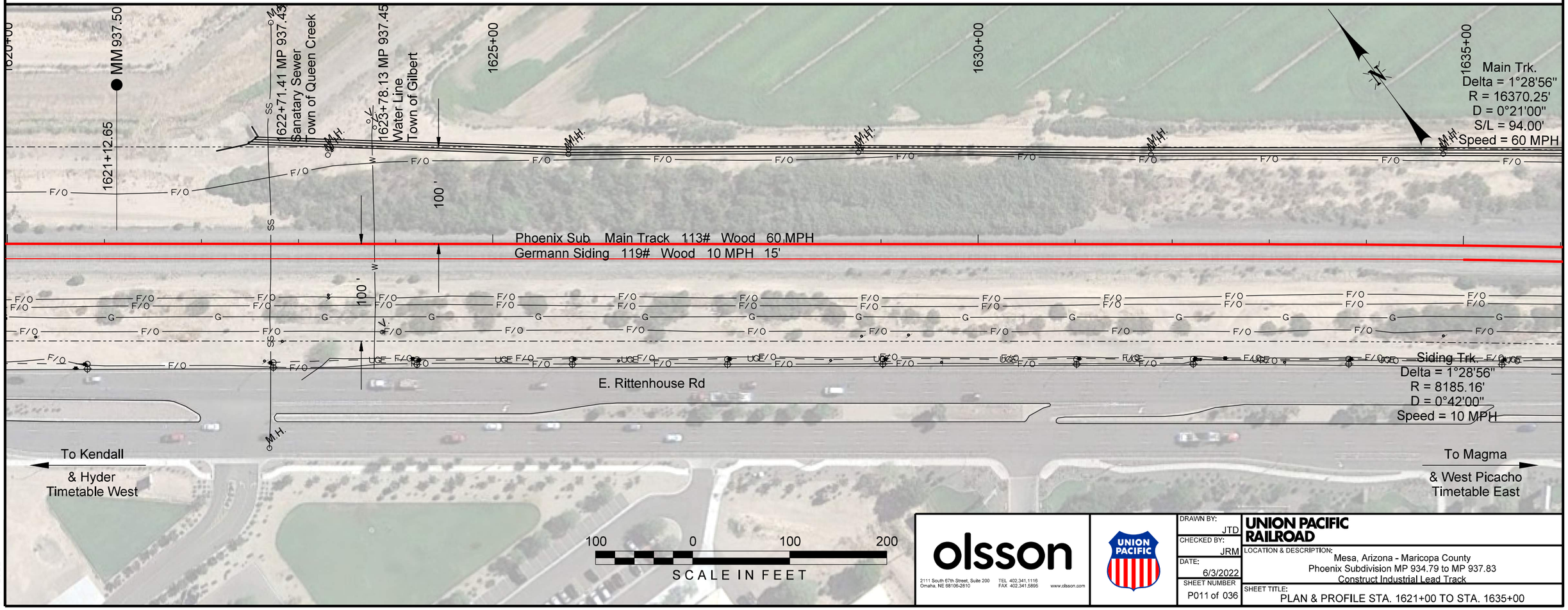
UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
PLAN & PROFILE STA. 1607+00 TO STA. 1621+00

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100 0 100 200
SCALE IN FEET

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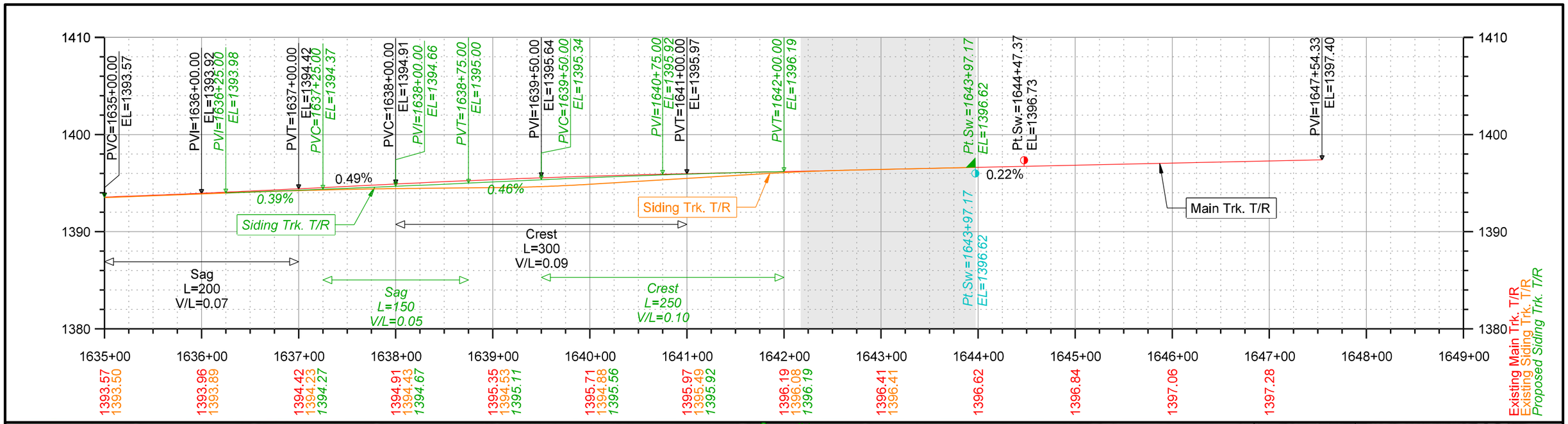
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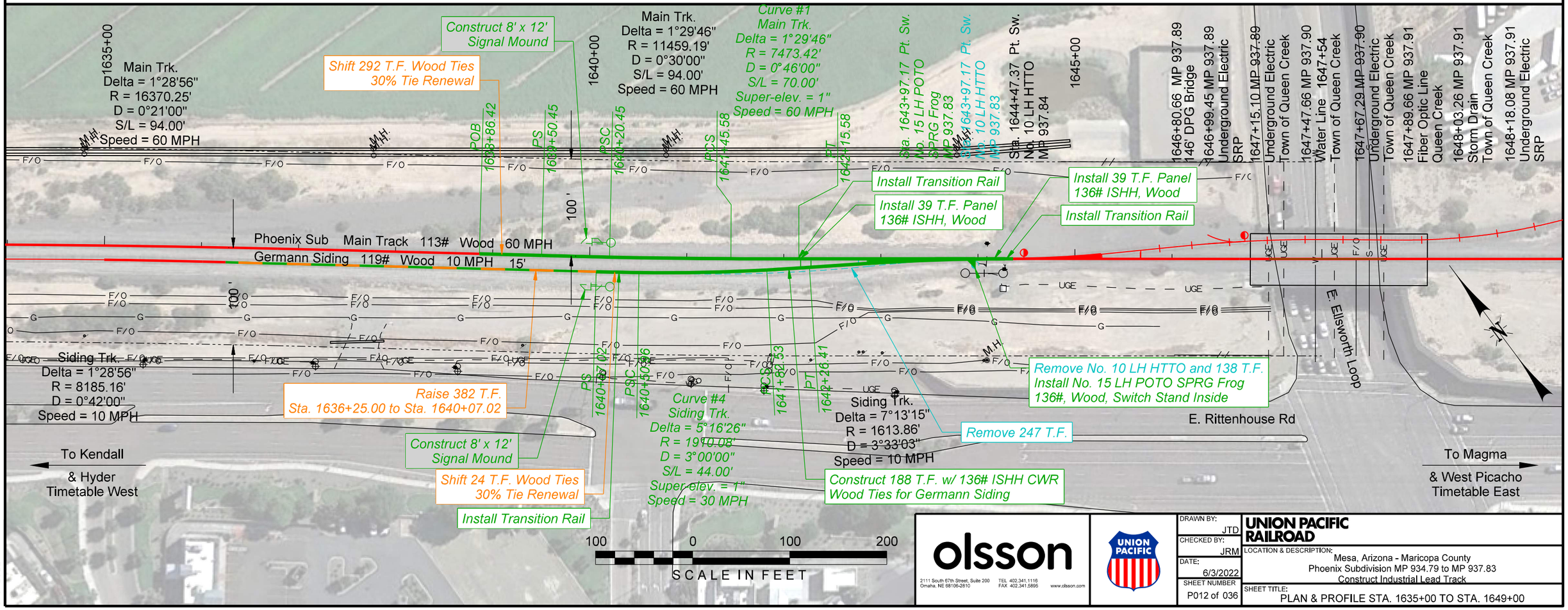
UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
PLAN & PROFILE STA. 1621+00 TO STA. 1635+00

Color table:K:\Bentley\WorkspaceV8i\projects\Clients\UPRR_Track\UPRR_Track_V8i\color\UPRR.tbl
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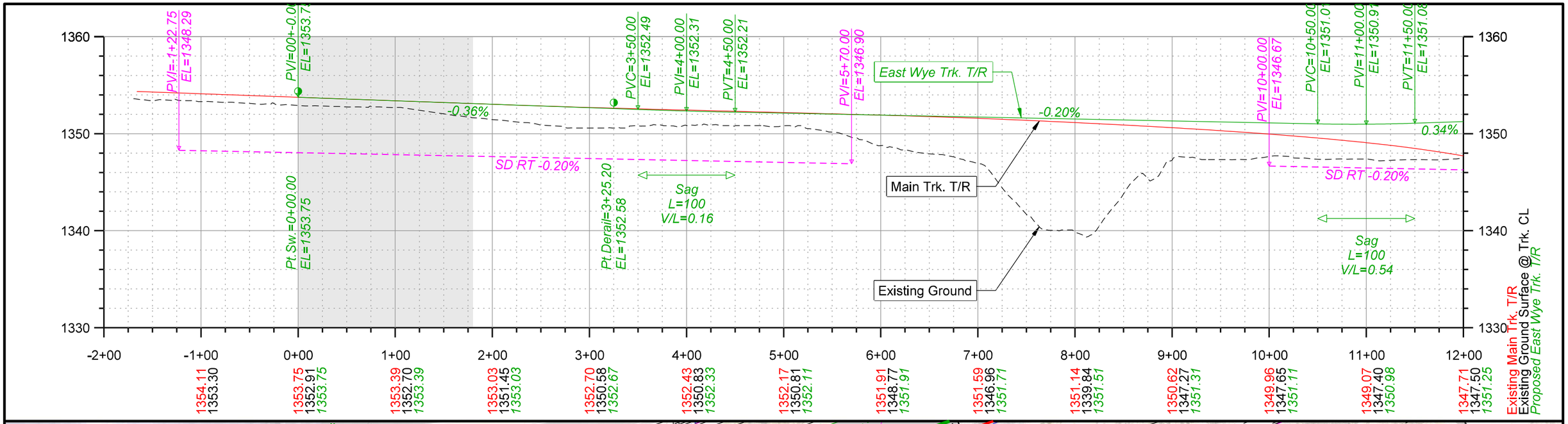
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DATE:	6/3/2022
SHEET NUMBER	P012 of 036

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
PLAN & PROFILE STA. 1635+00 TO STA. 1649+00

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DATE:	6/3/2022
SHEET NUMBER	P013 of 036

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
PLAN & PROFILE STA. -2+00 TO STA. 12+00

Color table:K:\Bentley\Workspace\8i\projects\Clients\UPRR_Track\UPRR_Track_V8i\color\UPRR.tbl
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East Wye Trk. T/R
PIRATE Lead Trk. T/R
Existing Ground
SD RT -0.20%
0.34%
0.20%
PVC=17+00.00 EL=1352.95
PVI=17+50.00 EL=1353.12
PVT=18+00.00 EL=1353.22
Pt. Sw.= 19+77.80 EL=1352.58
PVI=19+77.80 EL=1353.58
Crest L=100 V/L=0.14
PVI=19+51.09 EL=1344.76
PVI=19+77.02 EL=1340.87
PVI=19+77.80 EL=1340.87
SD RT -0.00%
1360
1350
1340
1330
12+00 1349.82 1347.50 1351.25
13+00 1350.91 1347.35 1351.59
14+00 1351.50 1347.14 1351.93
15+00 1351.98 1347.15 1352.27
16+00 1352.43 1347.17 1352.61
17+00 1352.84 1346.77 1352.95
18+00 1353.20 1346.85 1353.22
19+00 1353.42 1346.91 1353.42
20+00
21+00
22+00
23+00
24+00
25+00
26+00
Proposed PIRATE Lead Trk. T/R
Existing Ground Surface @ Trk. CL
Proposed East Wye Trk. T/R

(1B) Trio Forest Products Inc.
(1D) St. George Ent. LLC
(1) Gilbert-Chandler Heights LLC
(2) Pecos Property LP
PIRATE Lead Track 20 MPH 136#
East Wye Trk. 136#
Access Rd.
19,190 SF
17,605 SF
856'
207'
746'
50'
100'
1.10%
20+00
25+00
15+00
10+01
PCS 16+62.21
PT 17+06.21
Curve #1
East Wye Trk.
Delta = 95°23'58"
R = 764.49'
D = 7°30'00"
S/L = 44.00'
Super-elev. = 1"
Speed = 20 MPH
Pt. Sw. Sta. 19+77.80 (East Wye Track) = Sta. 19+90.79 (PIRATE Lead Track) No. 11 LT HTTO SPRG Frog
Install No. 11 LH HTTO SPRG Frog
136# Wood, Switch Stand Inside
E. Pecos Rd.
F/O
SS
W
100 0 100 200
SCALE IN FEET

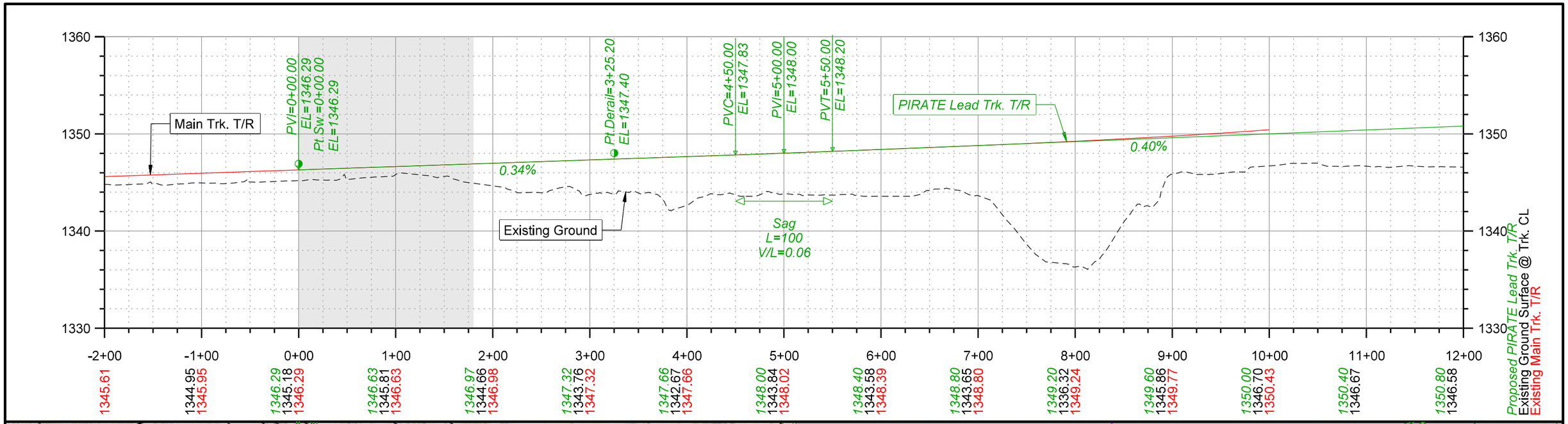
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SHEET NUMBER: P014 of 036

UNION PACIFIC RAILROAD
LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track
SHEET TITLE:
PLAN & PROFILE STA. 12+00 TO STA. 26+00

Color table: K:\Bentley\WorkspaceV8i\projects\Clients\UPRR_Track\UPRR_Track_V8i\color\UPRR.tbl
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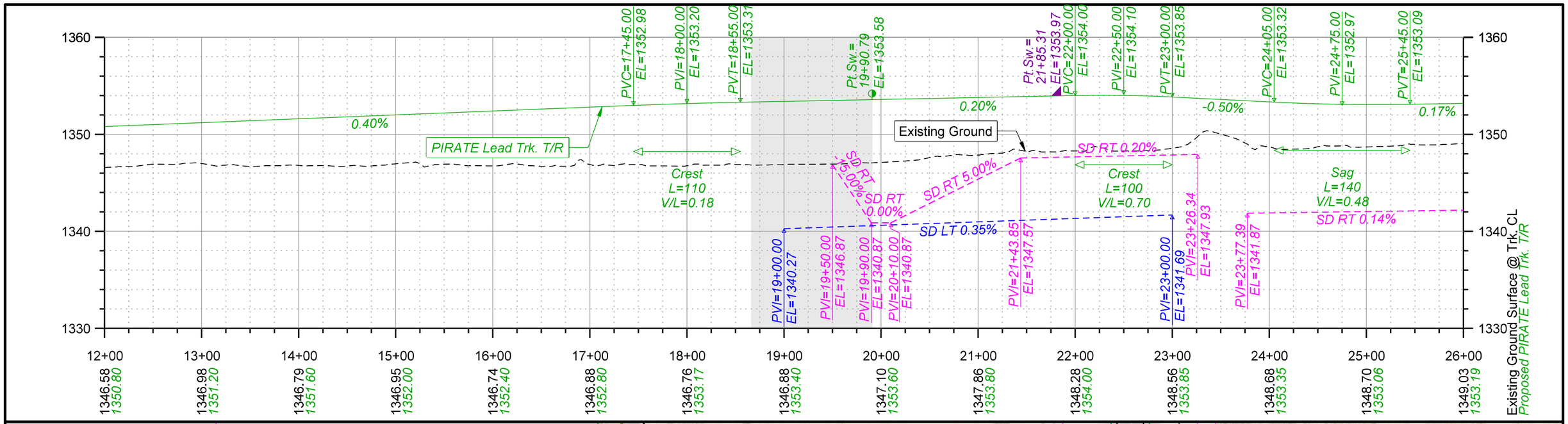
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DATE:	6/3/2022
SHEET NUMBER	P015 of 036

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
PLAN & PROFILE STA. -2+00 TO STA. 12+00



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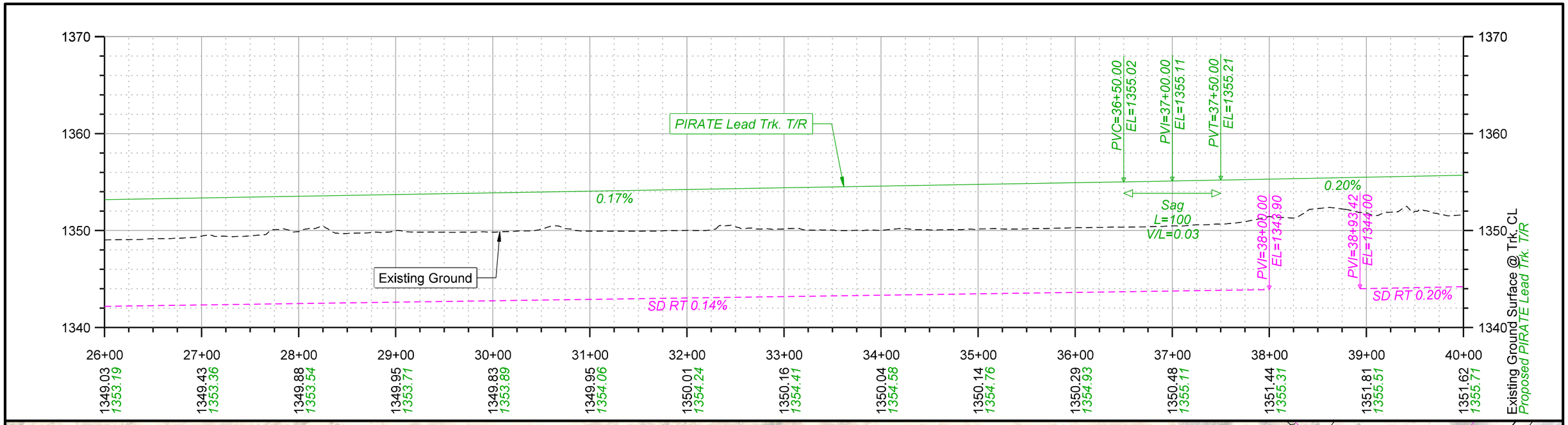
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DATE:	6/3/2022
SHEET NUMBER	P016 of 036

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
PLAN & PROFILE STA. 12+00 TO STA. 26+00

Color table: K:\Bentley\WorkspaceV8i\projects\Clients\UPRR_Track\UPRR_Track_V8i\color\UPRR.tbl
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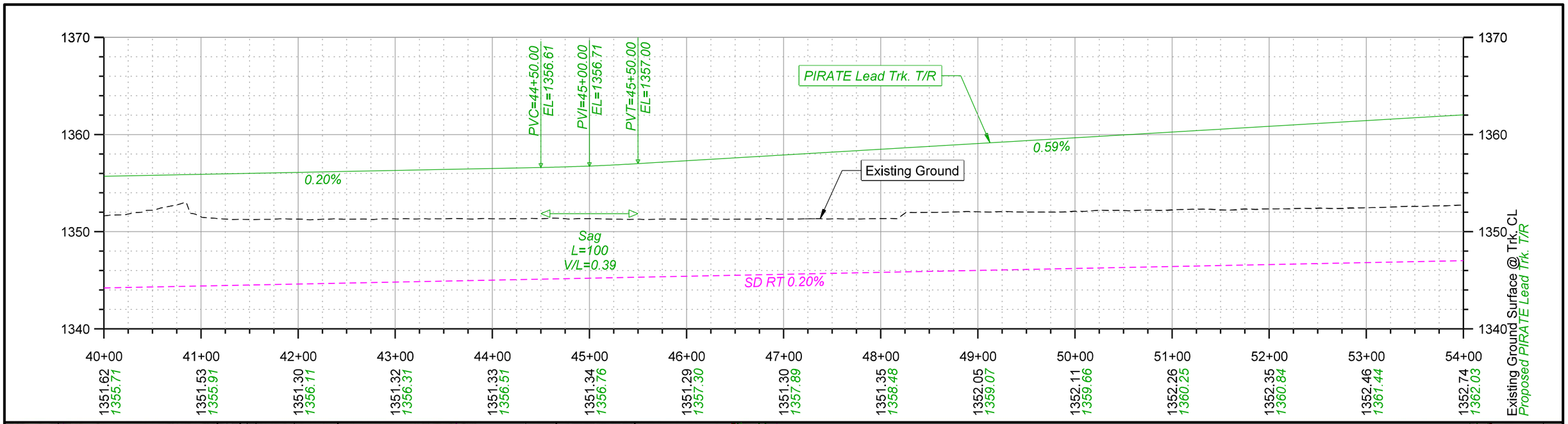
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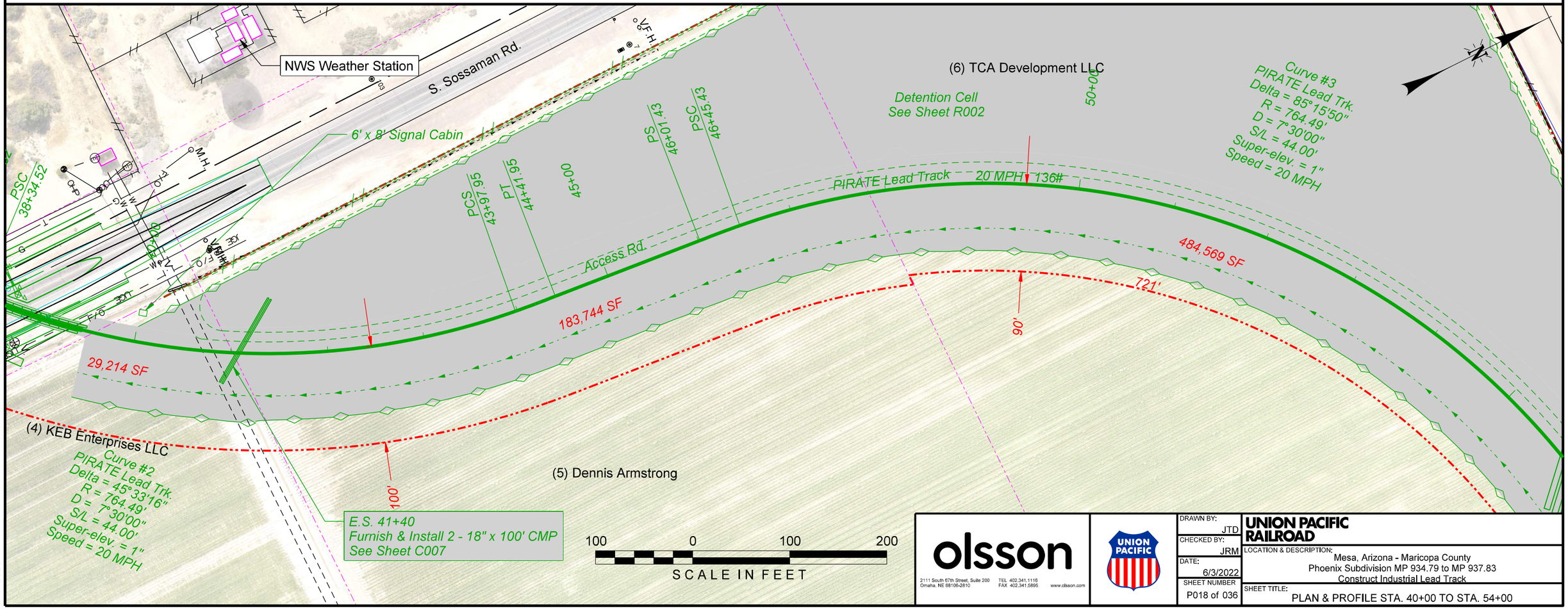
UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
PLAN & PROFILE STA. 26+00 TO STA. 40+00

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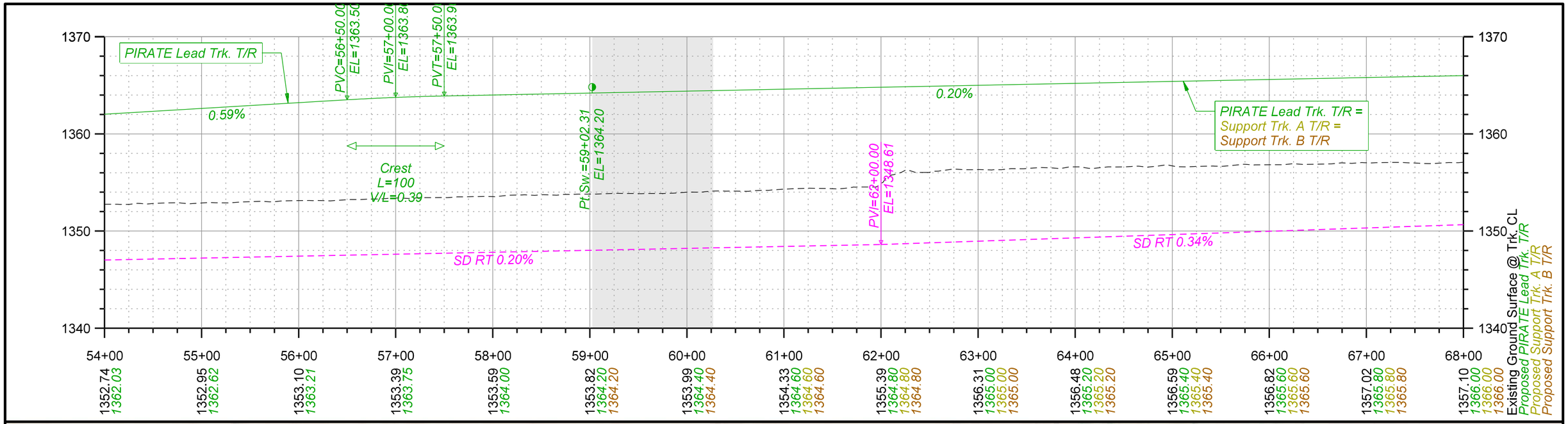
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SHEET NUMBER	P018 of 036

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
PLAN & PROFILE STA. 40+00 TO STA. 54+00

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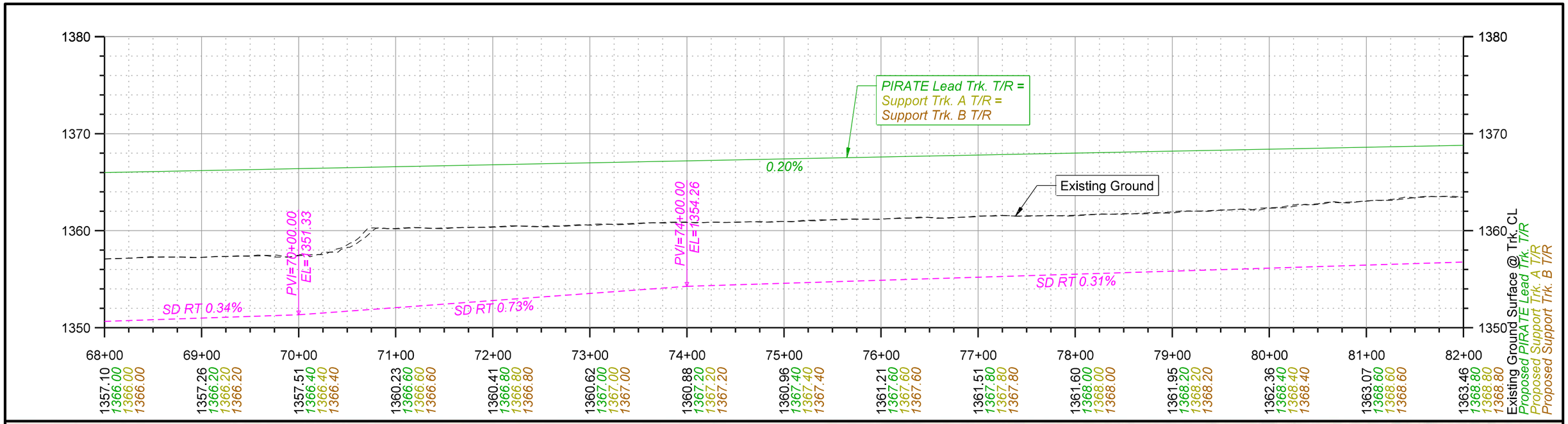
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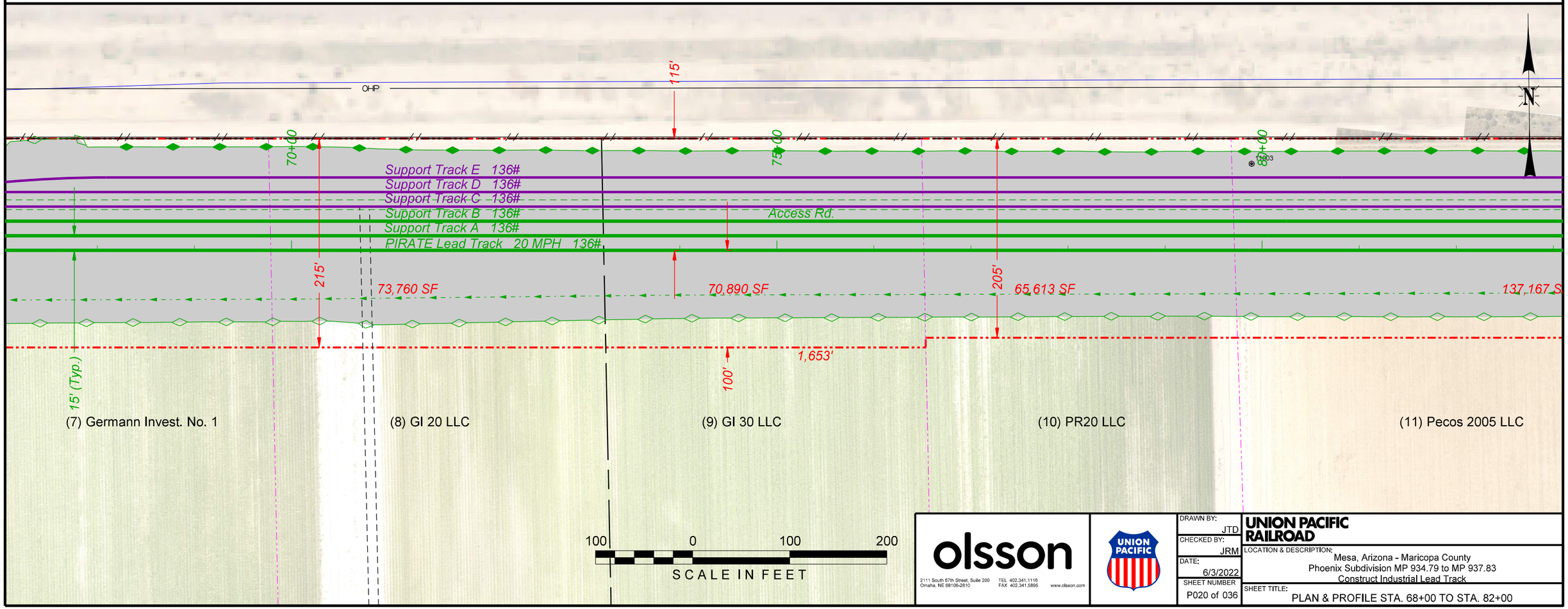
UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
PLAN & PROFILE STA. 54+00 TO STA. 68+00

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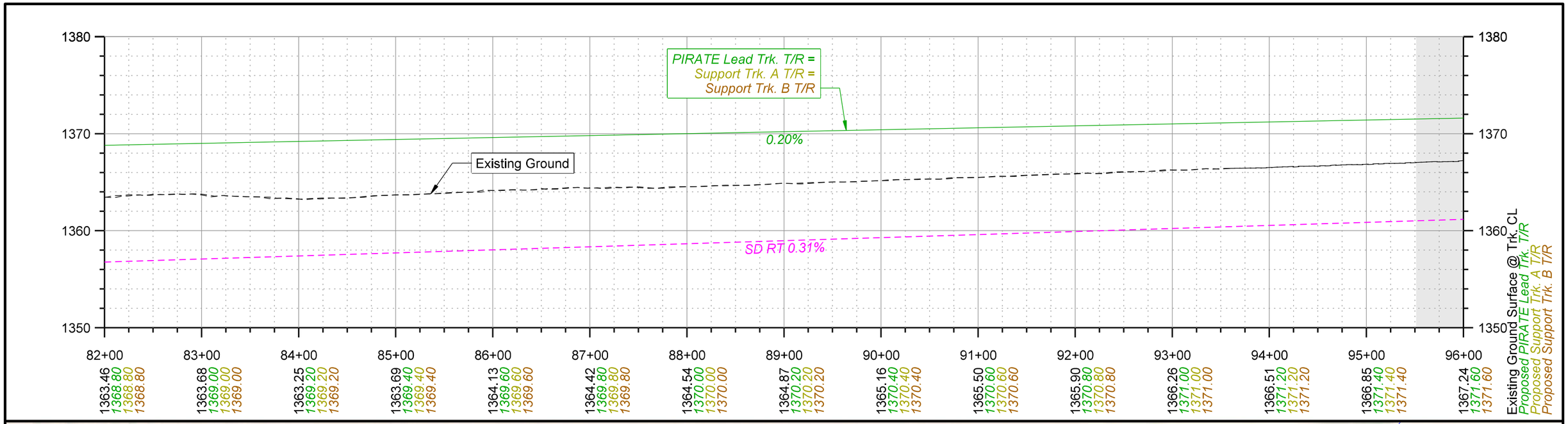
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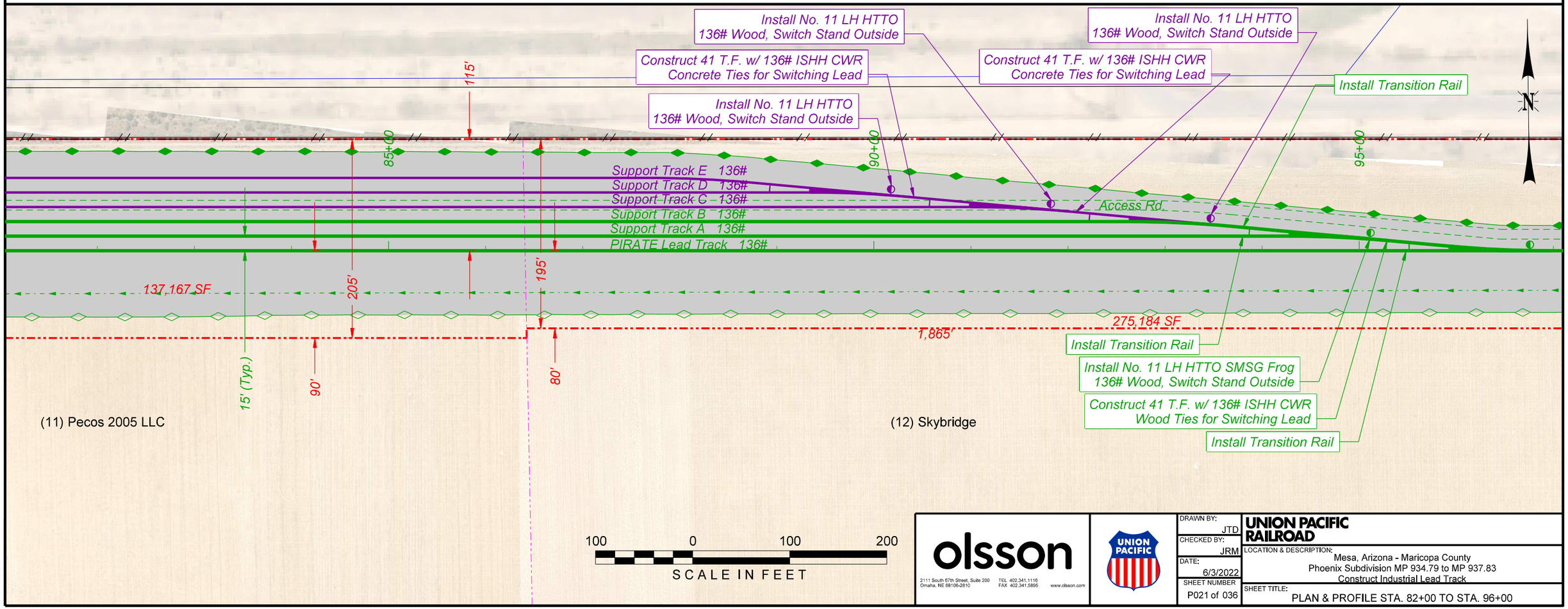
UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
PLAN & PROFILE STA. 68+00 TO STA. 82+00

Color table: K:\Bentley\WorkspaceV8i\projects\Clients\UPRR_Track\UPRR_Track_V8i\color\UPRR.tbl
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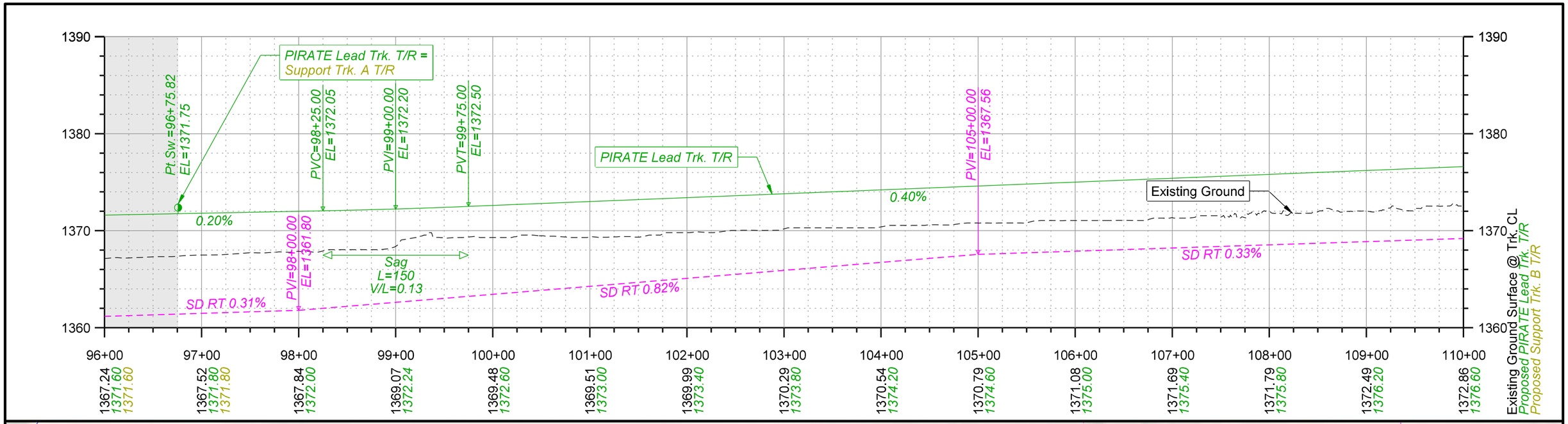
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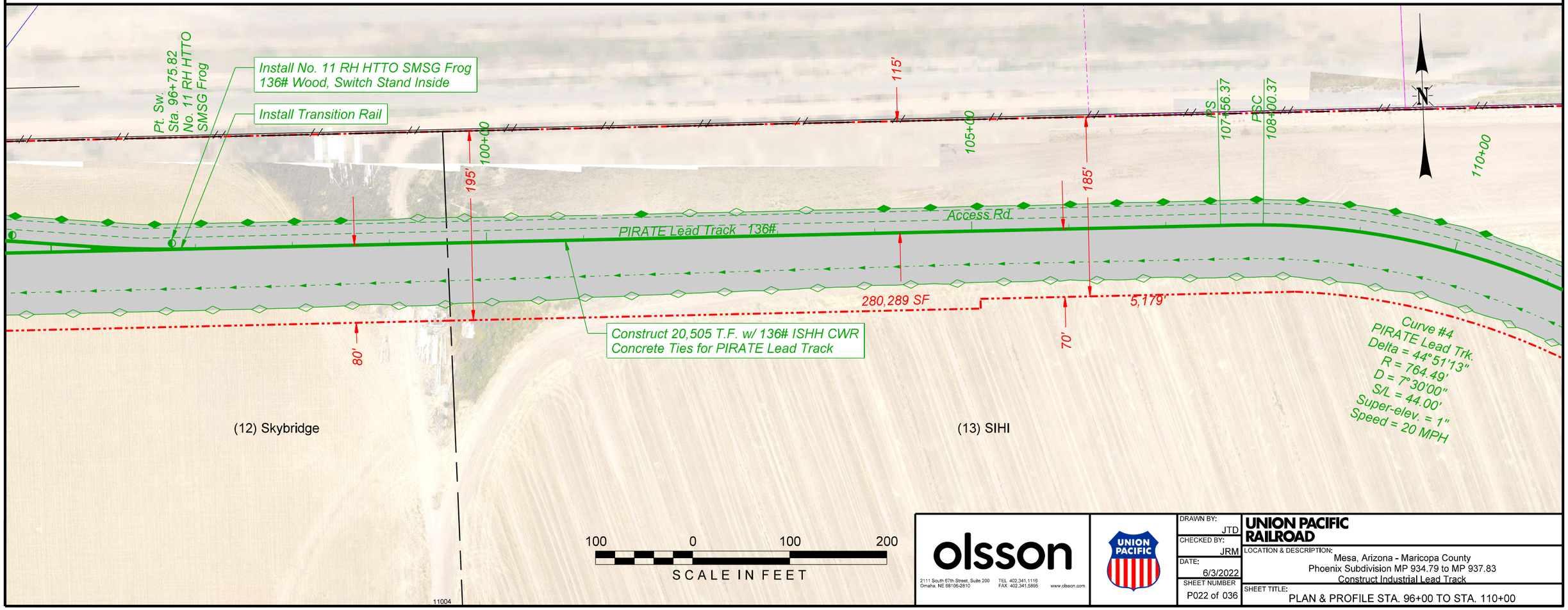
UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
PLAN & PROFILE STA. 82+00 TO STA. 96+00

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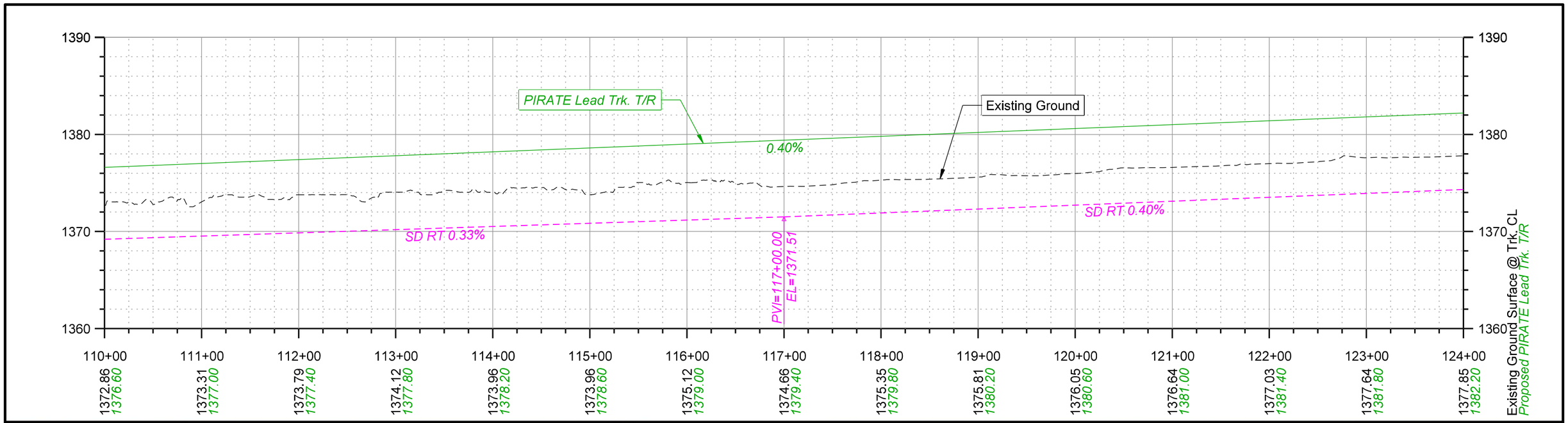
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DATE:	6/3/2022
SHEET NUMBER	P022 of 036

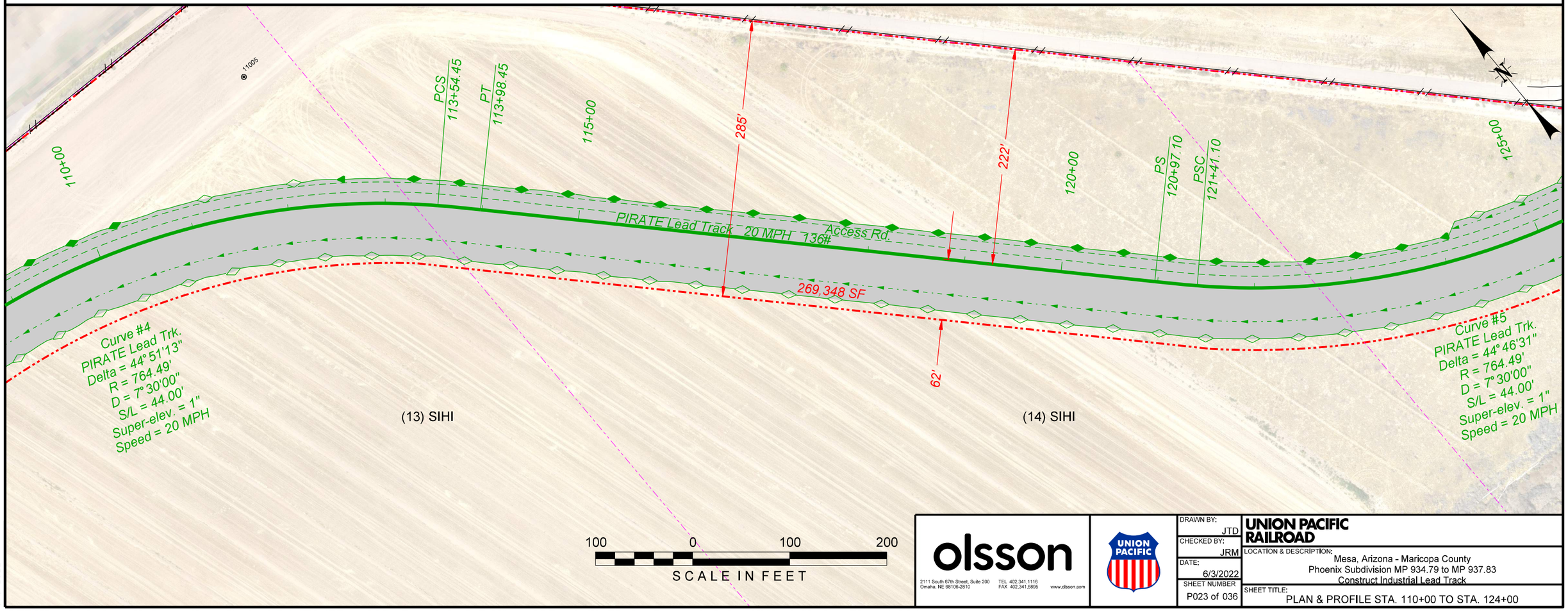
UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
PLAN & PROFILE STA. 96+00 TO STA. 110+00

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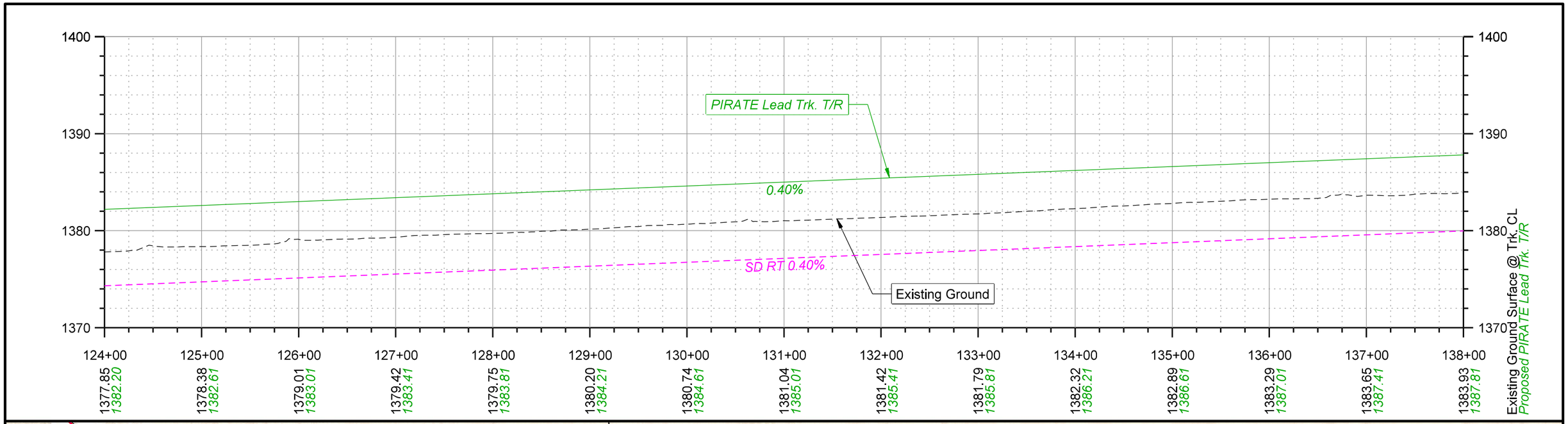
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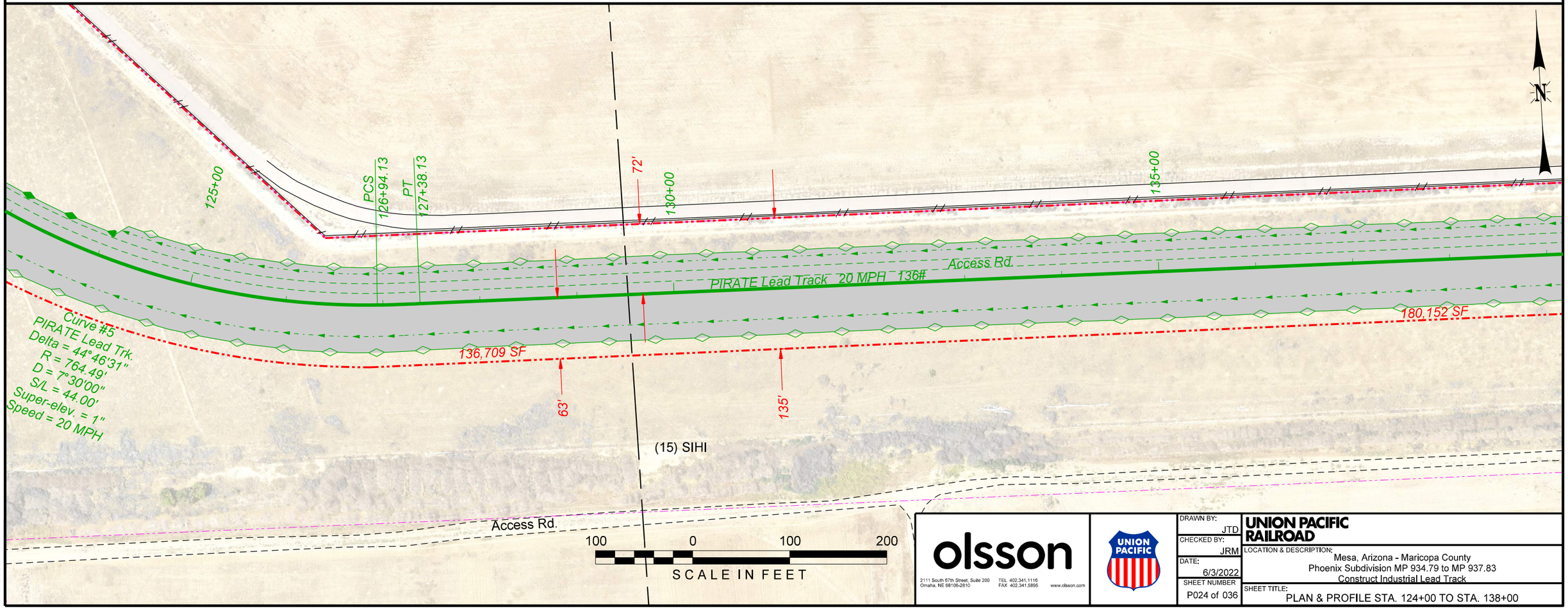
UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
PLAN & PROFILE STA. 110+00 TO STA. 124+00

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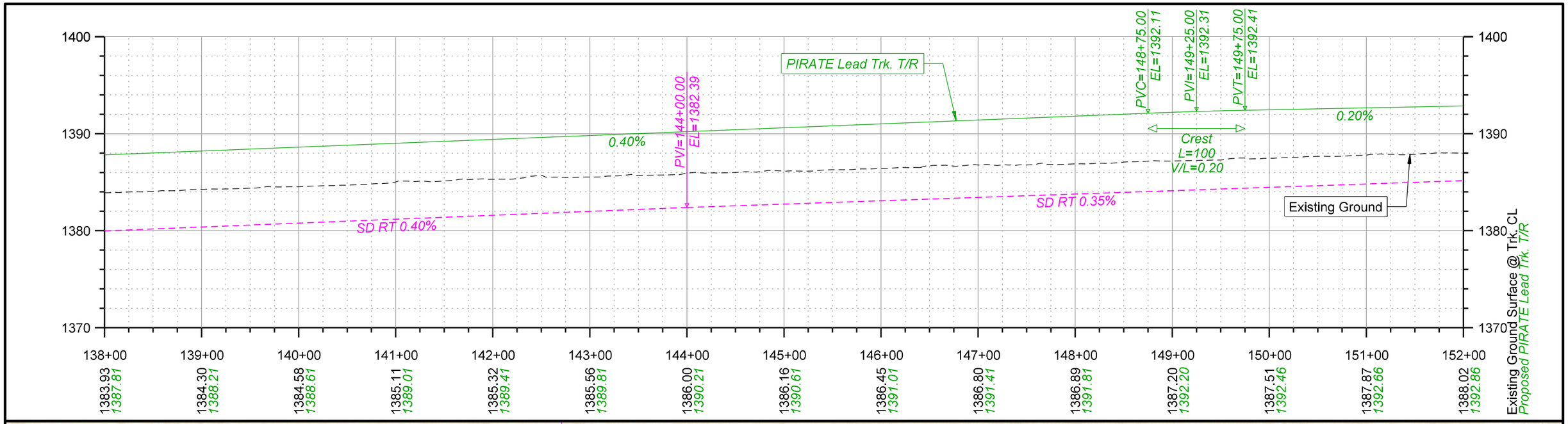
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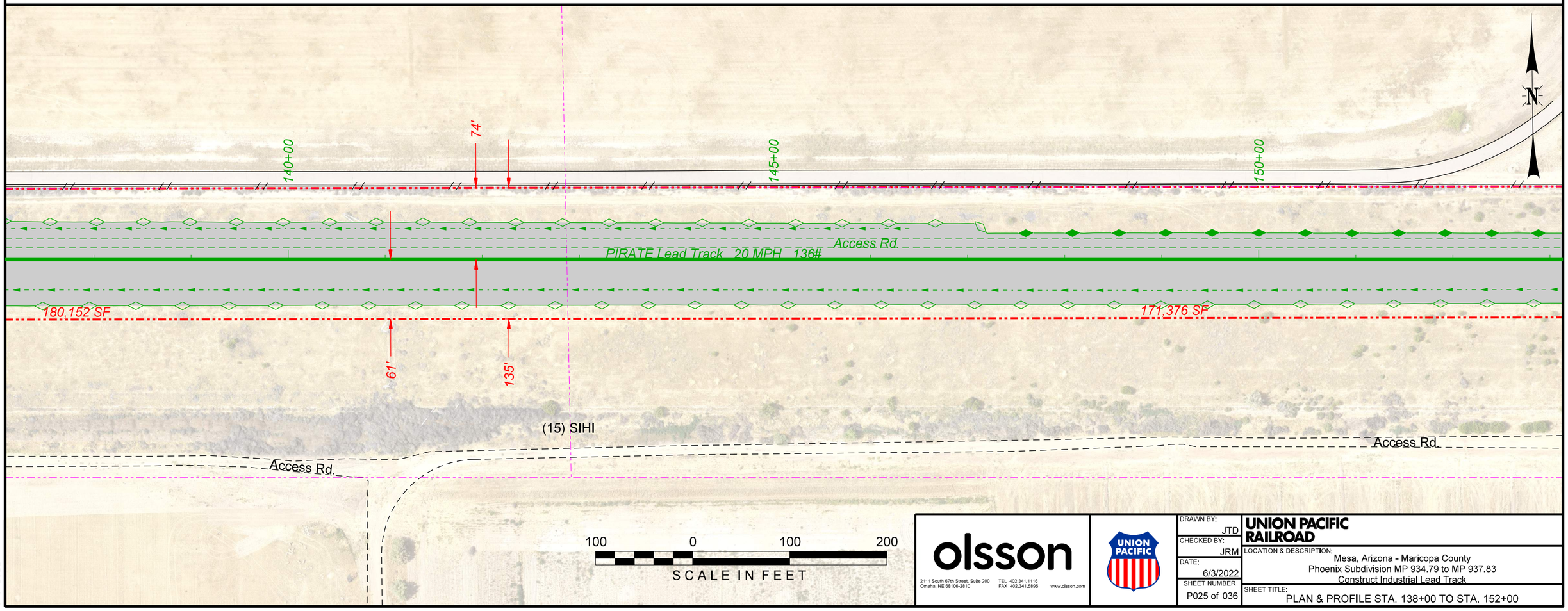
UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
PLAN & PROFILE STA. 124+00 TO STA. 138+00

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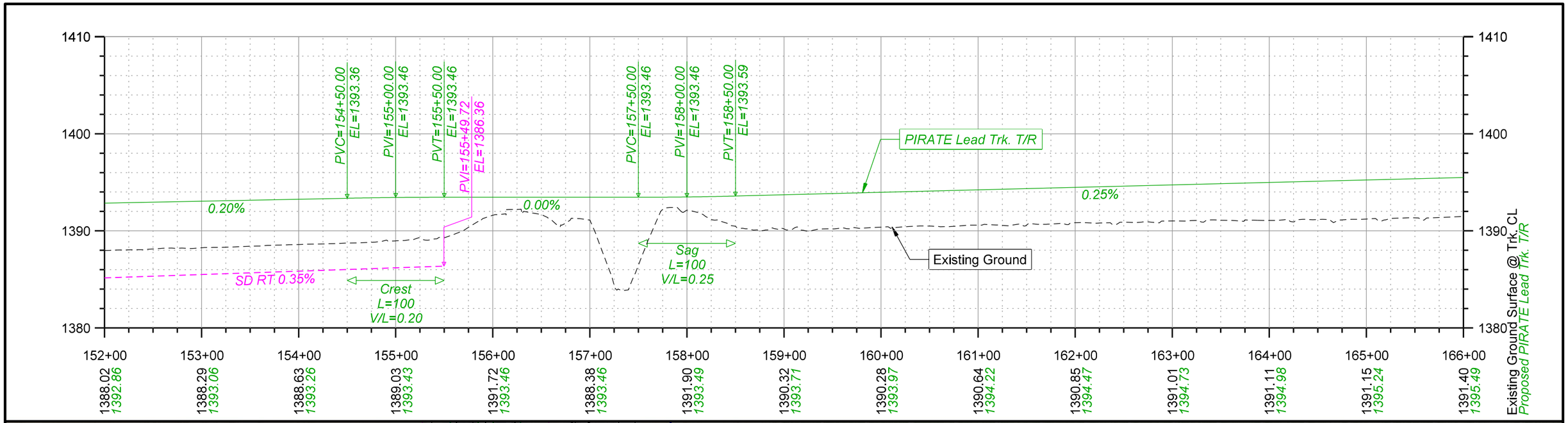
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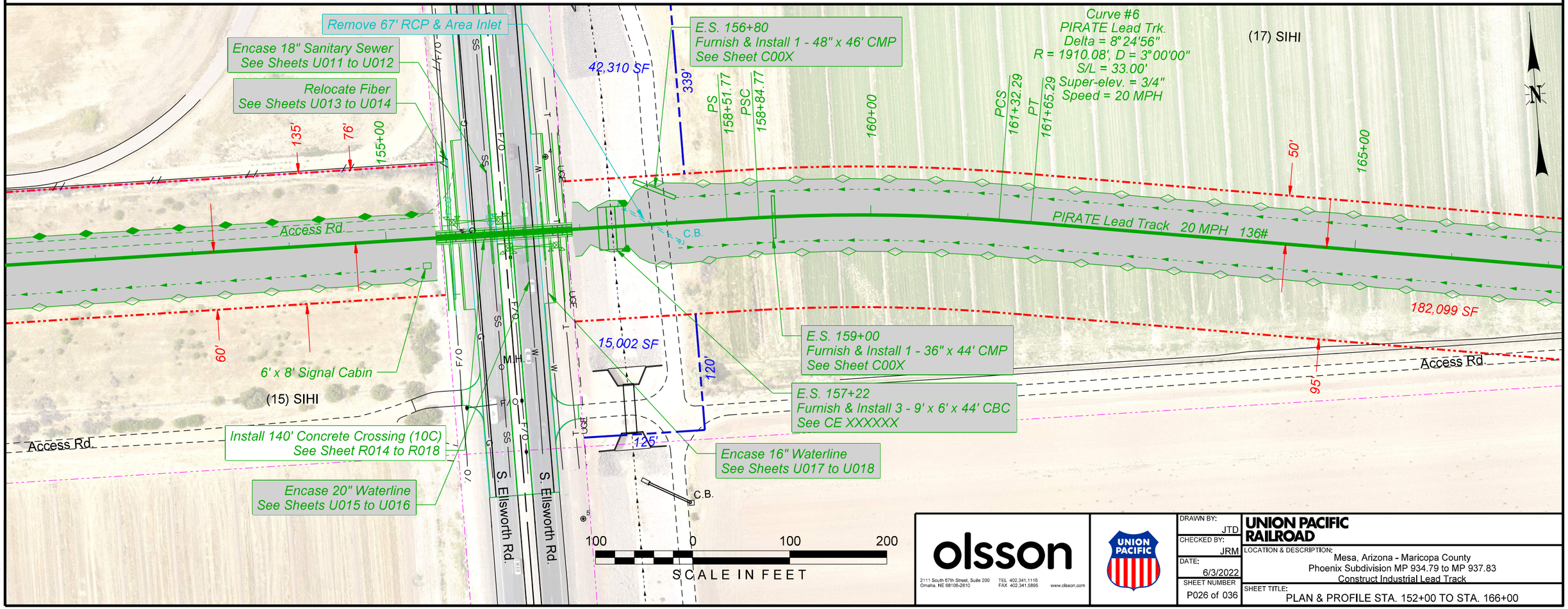
UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
PLAN & PROFILE STA. 138+00 TO STA. 152+00

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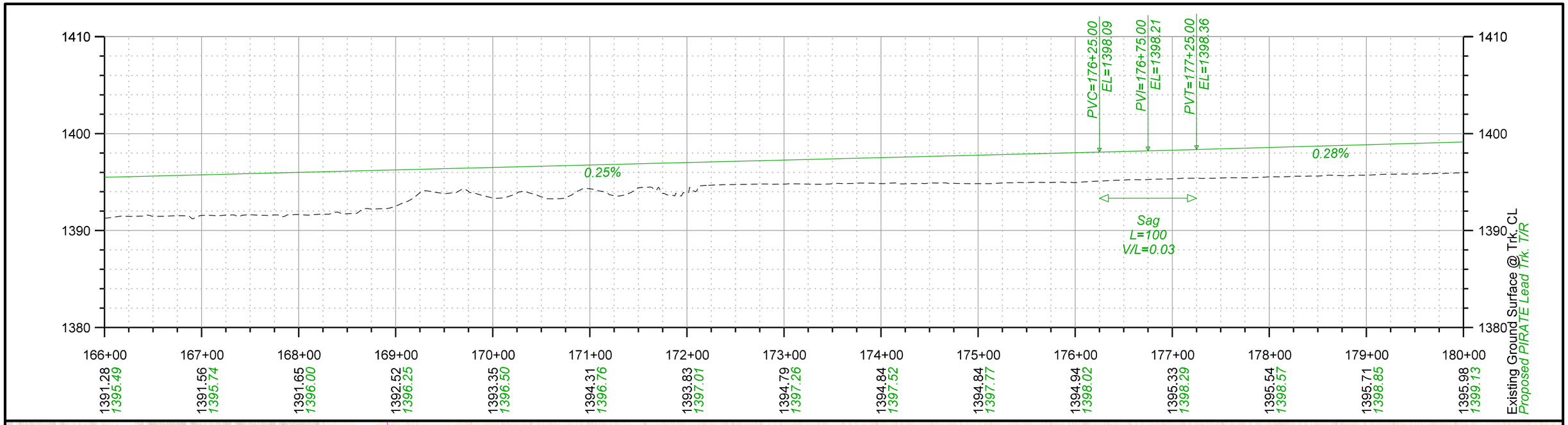
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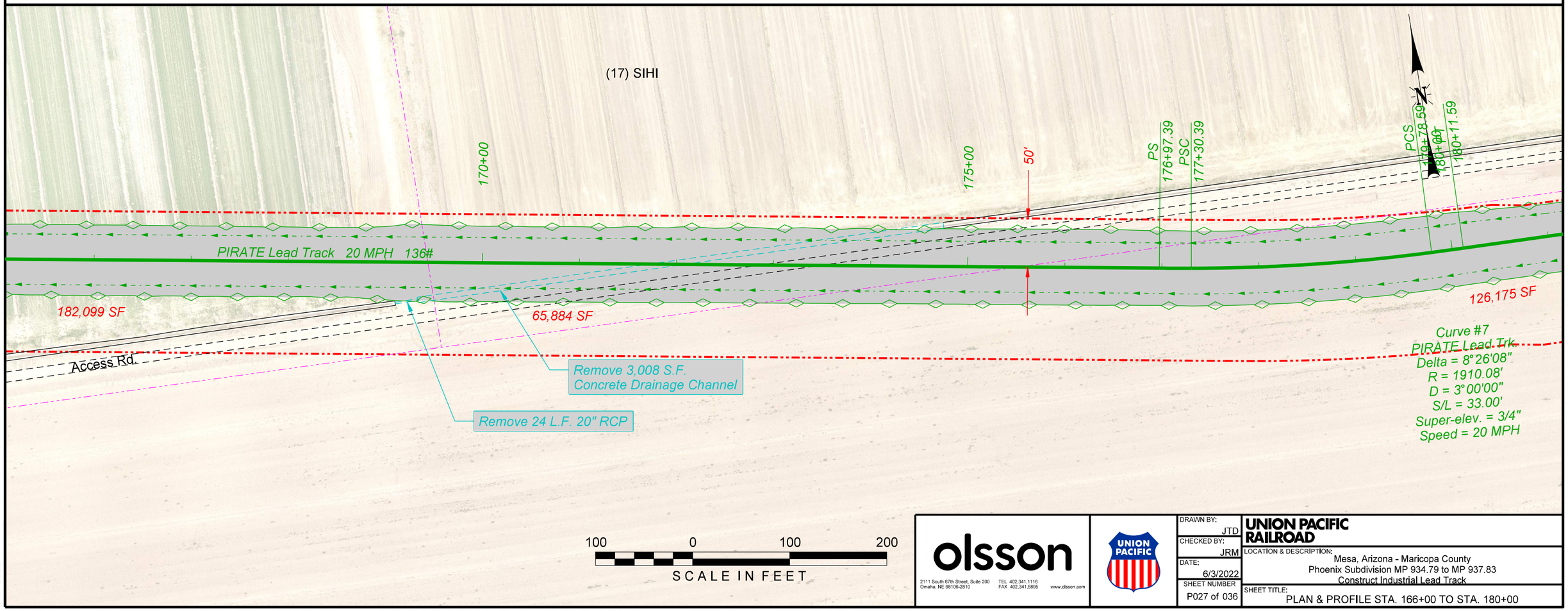
UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
PLAN & PROFILE STA. 152+00 TO STA. 166+00

Color table: K:\Bentley\WorkspaceV8i\projects\Clients\UPRR_Track\UPRR_Track_V8i\color\UPRR.tbl
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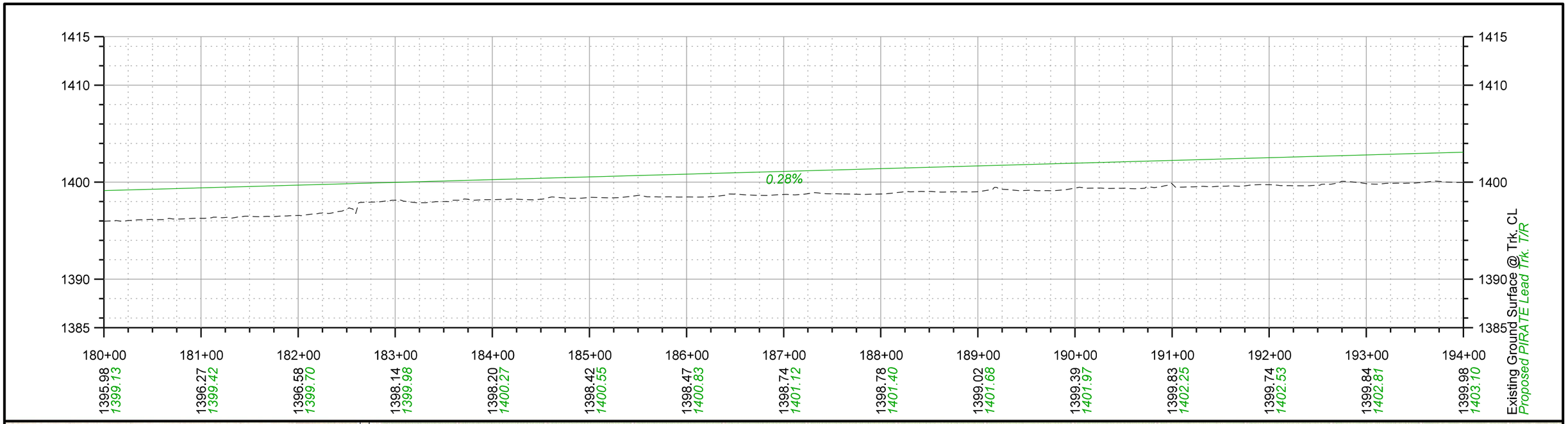
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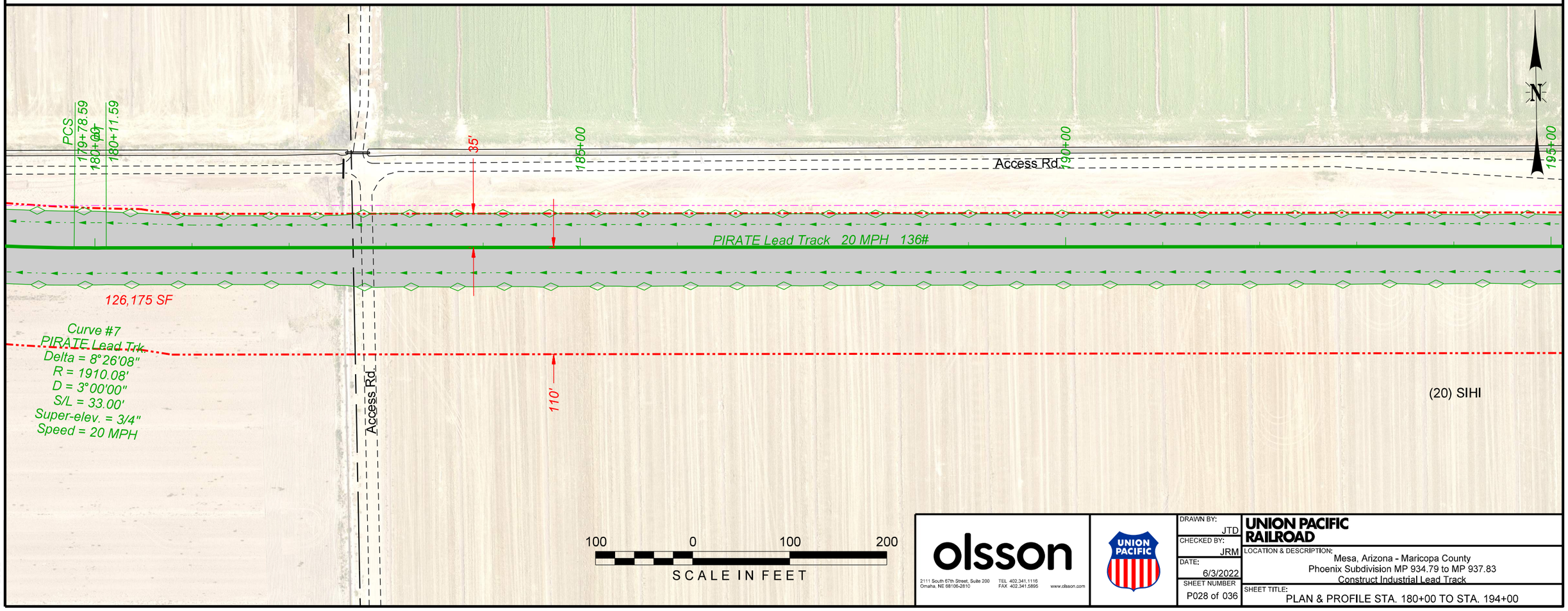
UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
PLAN & PROFILE STA. 166+00 TO STA. 180+00

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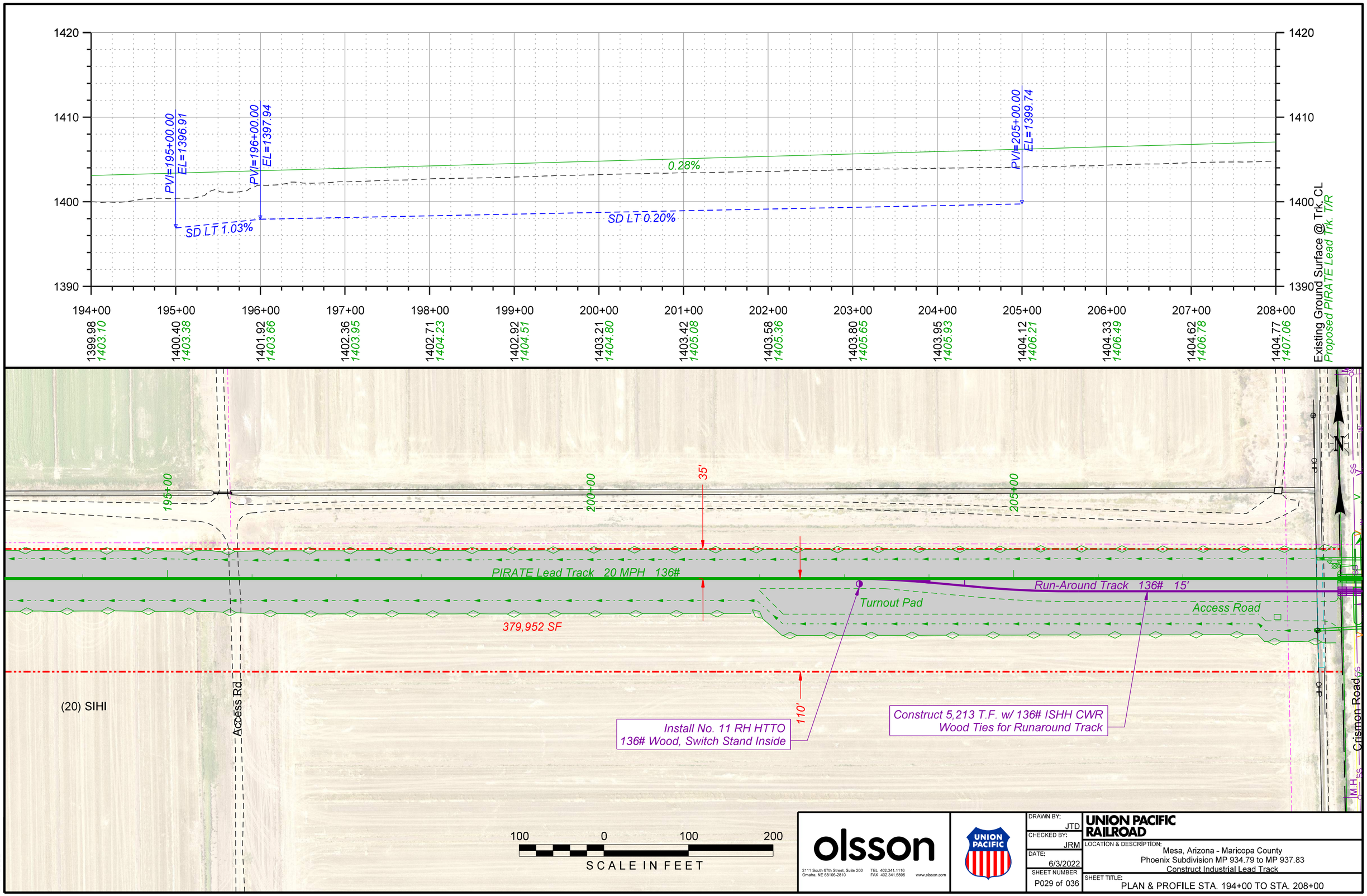
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DATE: 6/3/2022
SHEET NUMBER: P028 of 036

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
PLAN & PROFILE STA. 180+00 TO STA. 194+00

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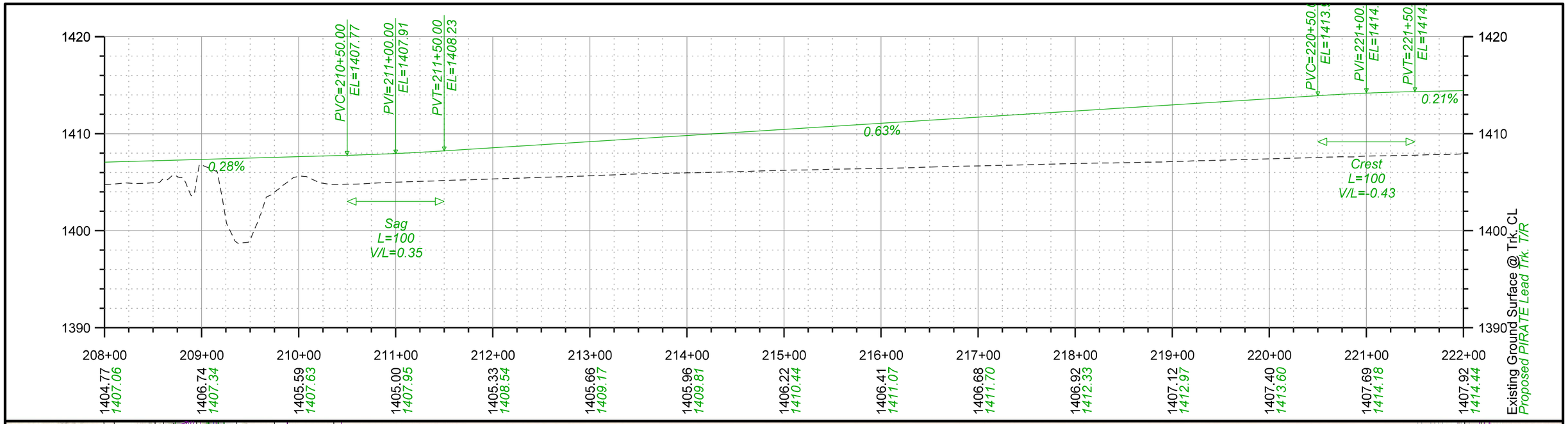
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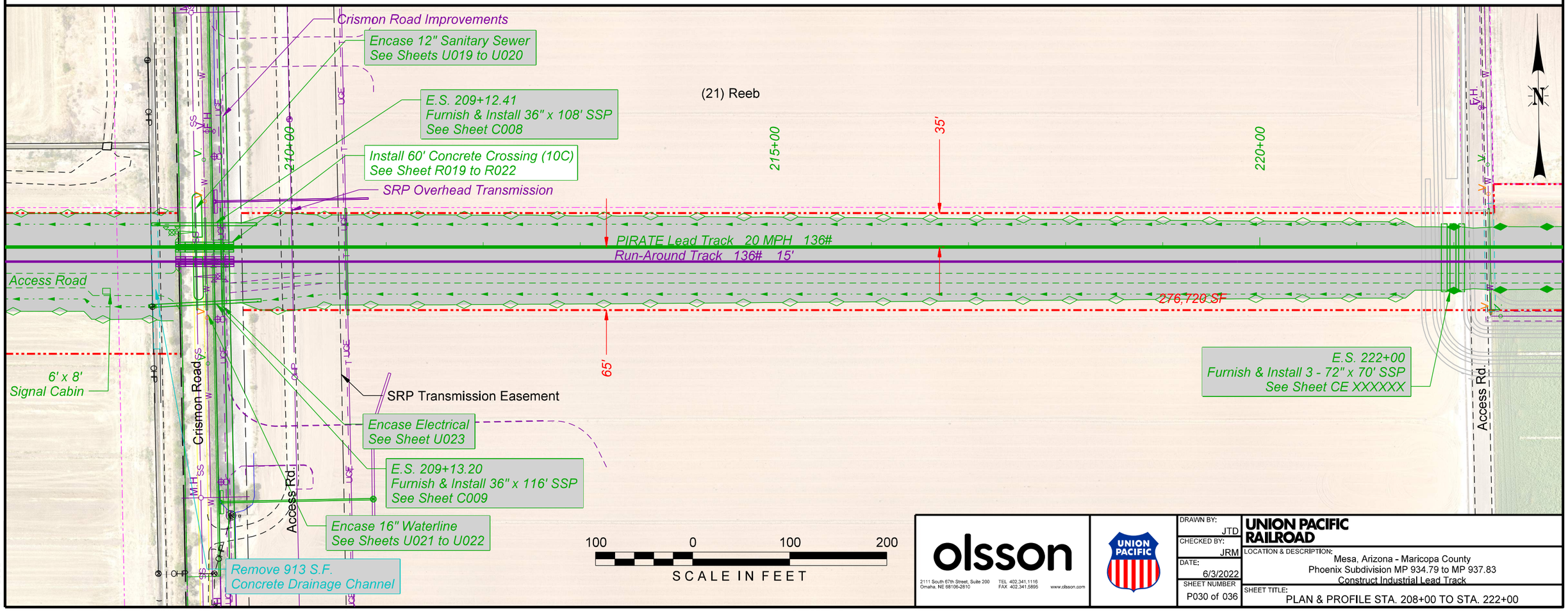
UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
PLAN & PROFILE STA. 194+00 TO STA. 208+00

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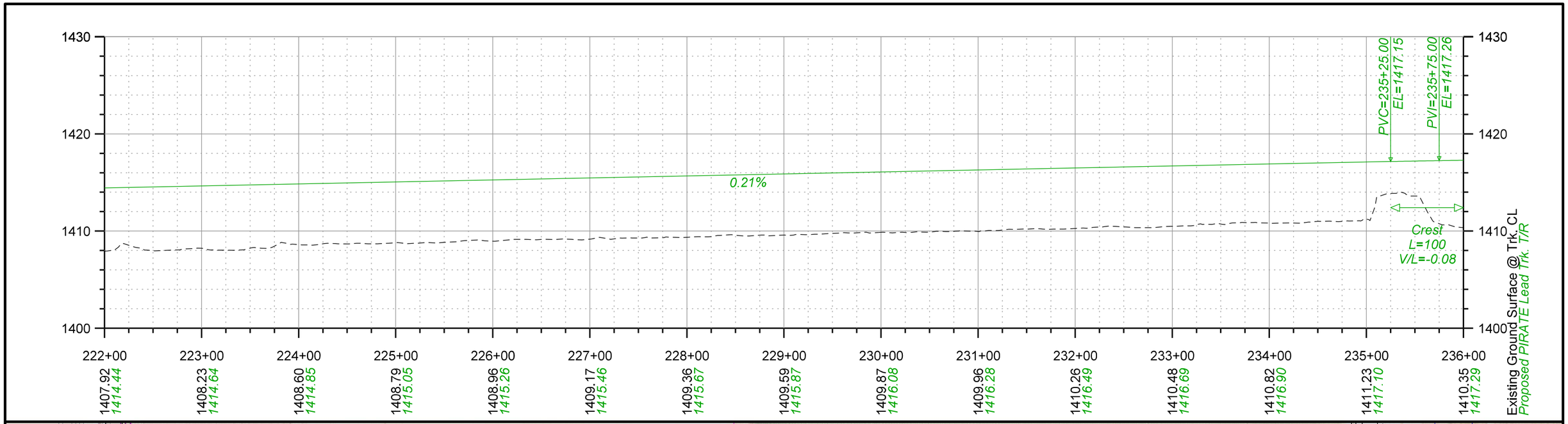
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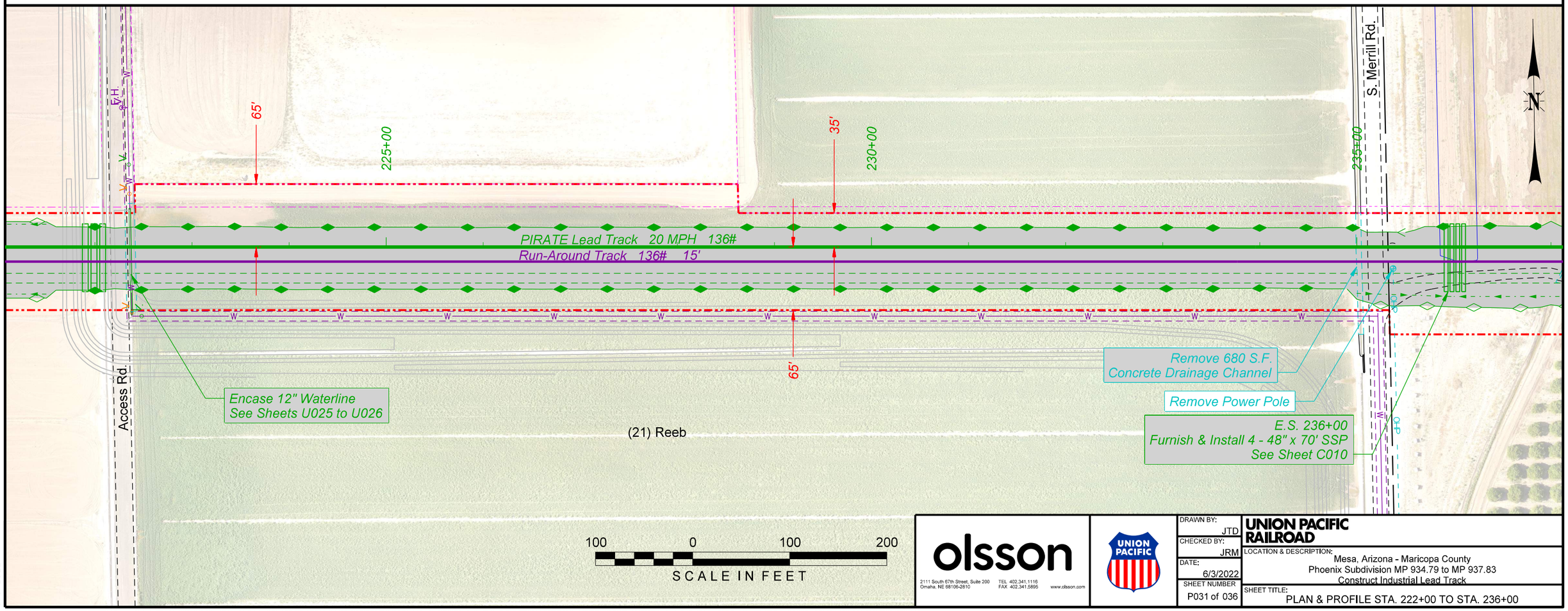
UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
PLAN & PROFILE STA. 208+00 TO STA. 222+00

Color table: K:\Bentley\WorkspaceV8i\projects\Clients\UPRR_Track\UPRR_Track_V8i\color\UPRR.tbl
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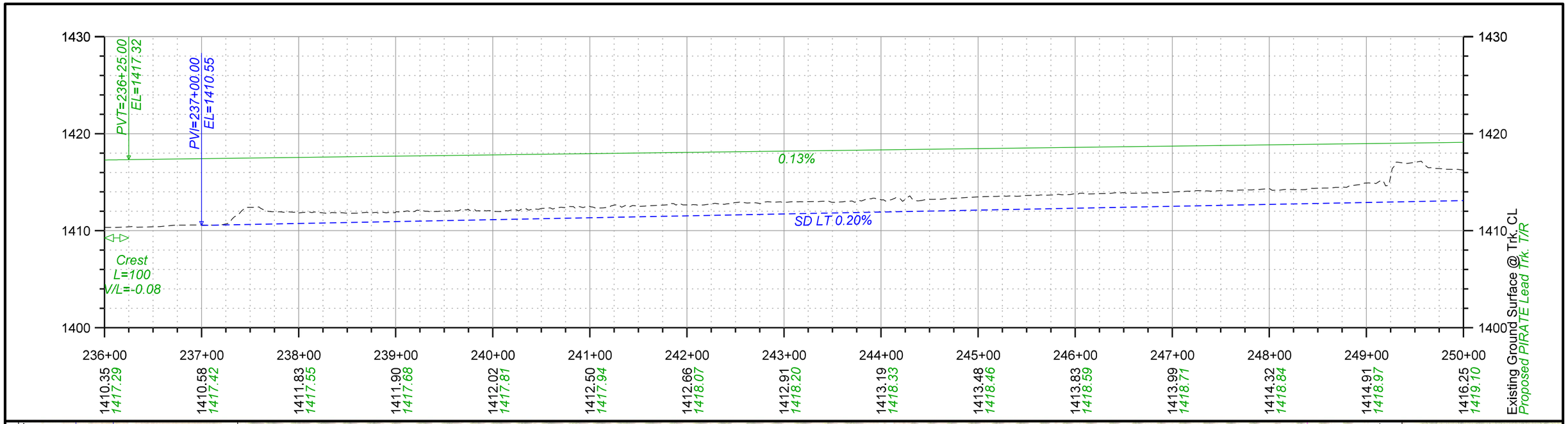
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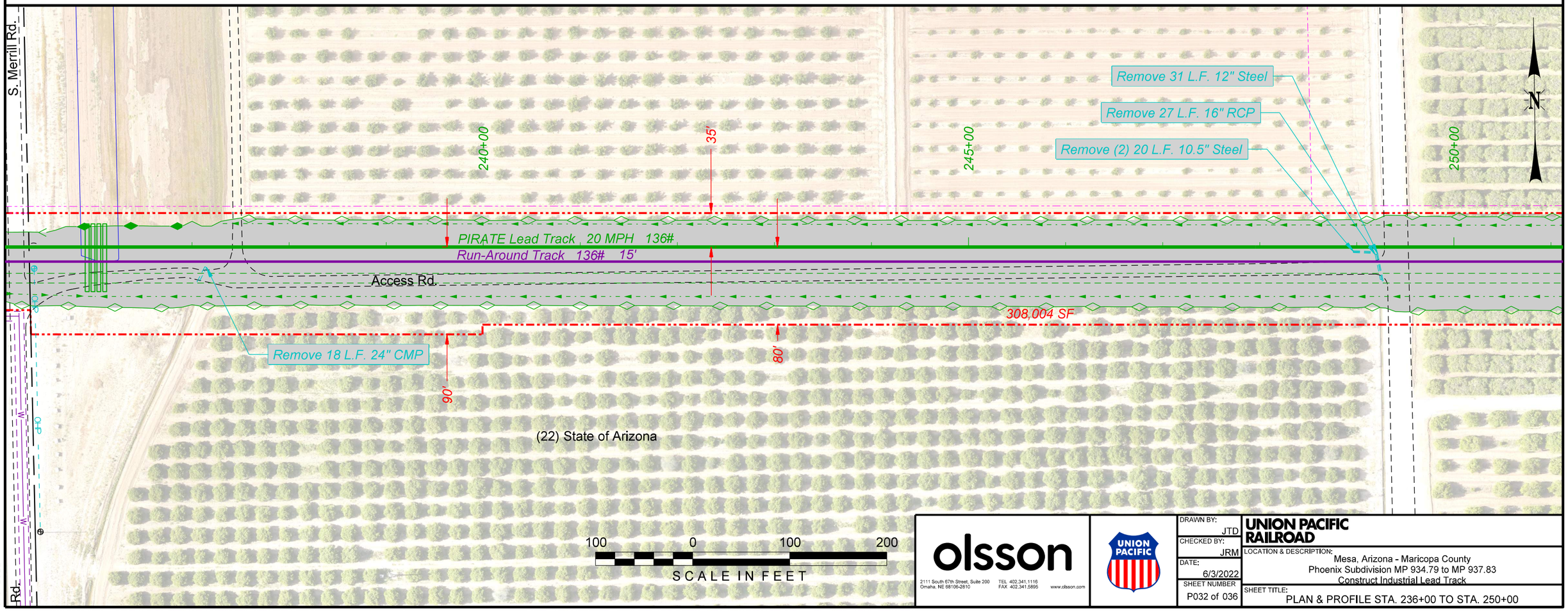
UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
PLAN & PROFILE STA. 222+00 TO STA. 236+00

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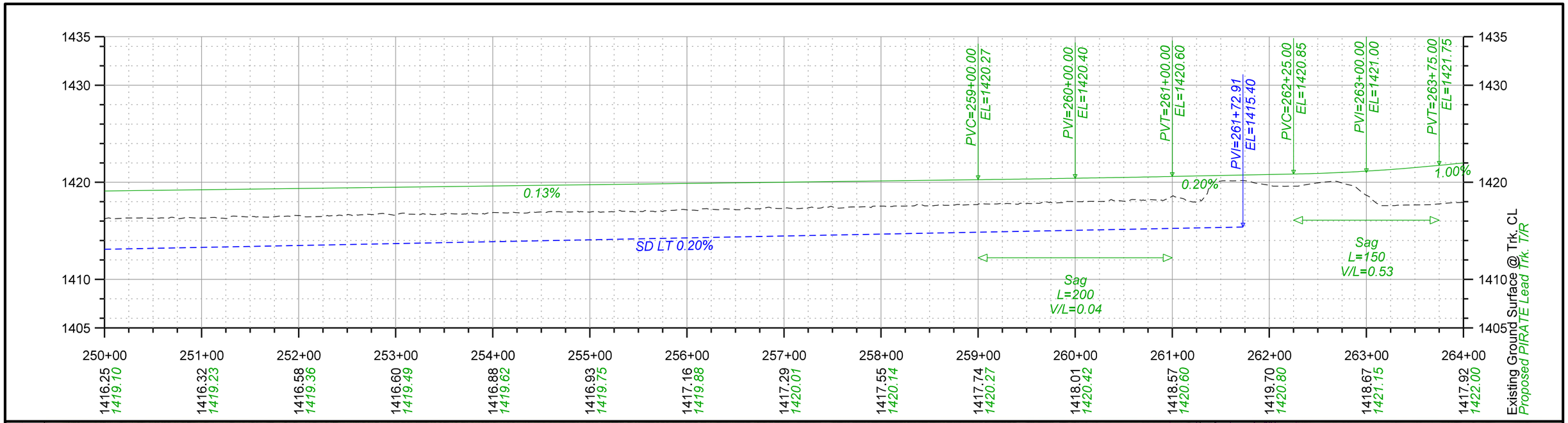
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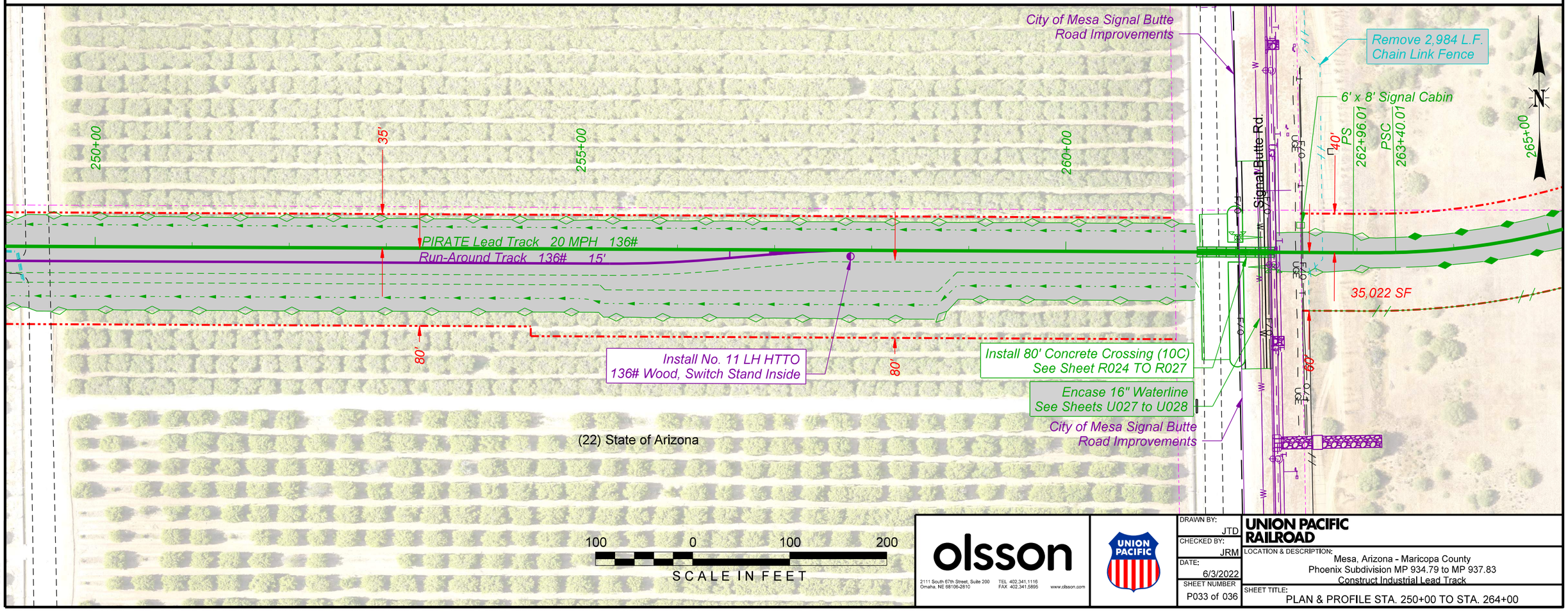
UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
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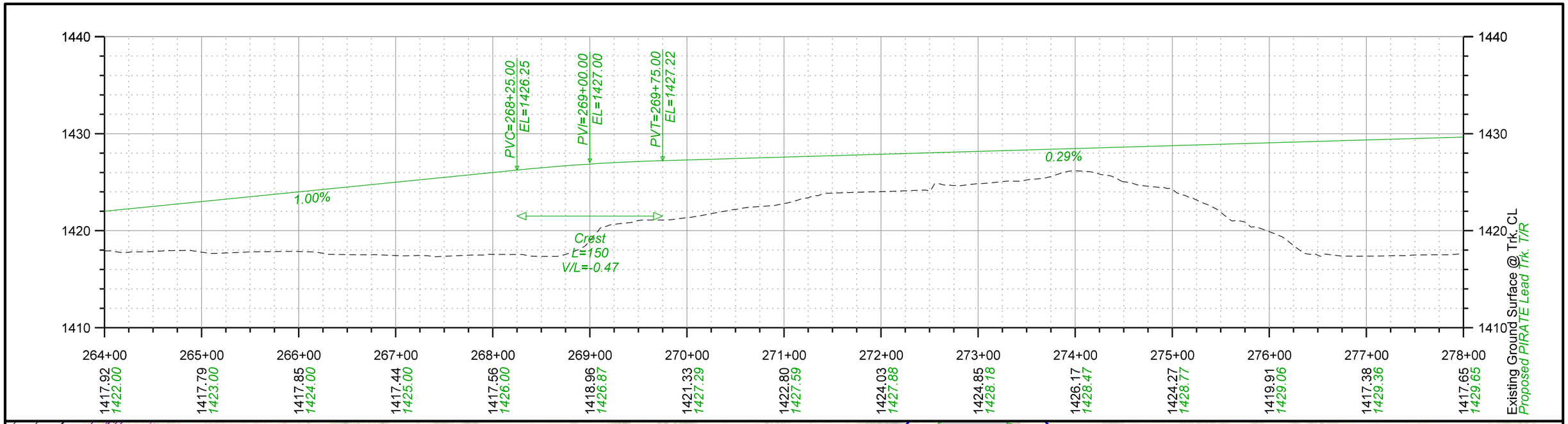
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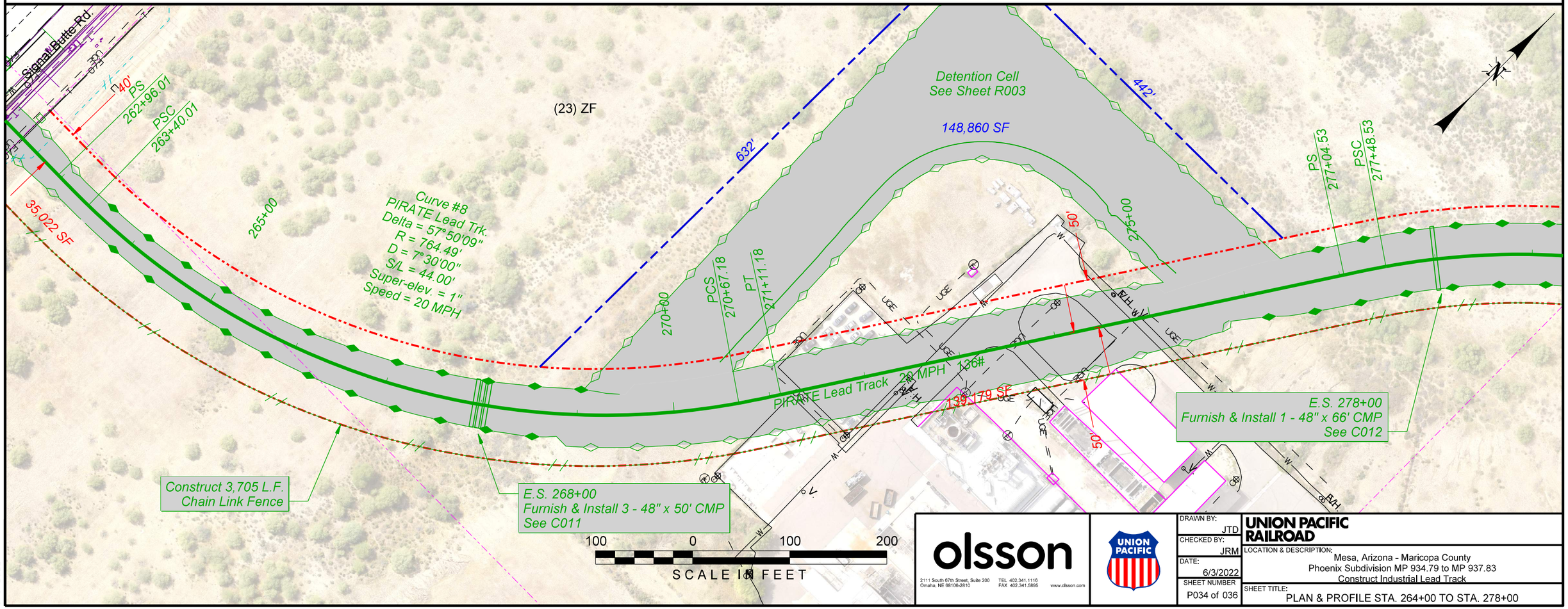
UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
PLAN & PROFILE STA. 250+00 TO STA. 264+00

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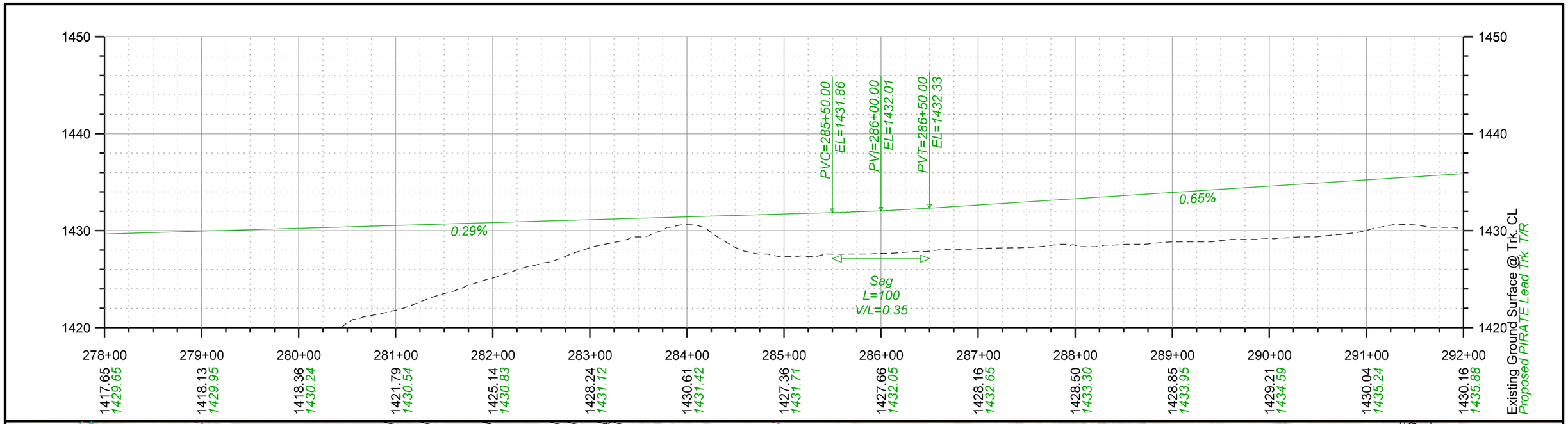
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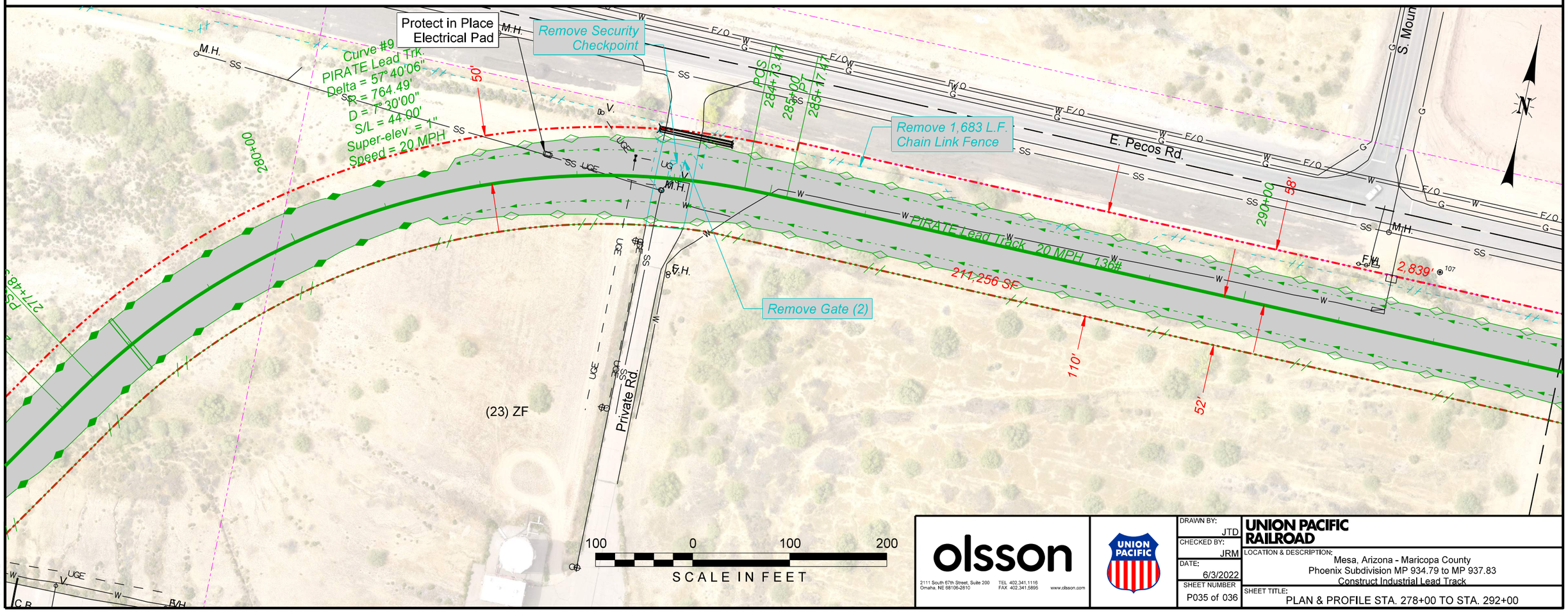
UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
PLAN & PROFILE STA. 264+00 TO STA. 278+00

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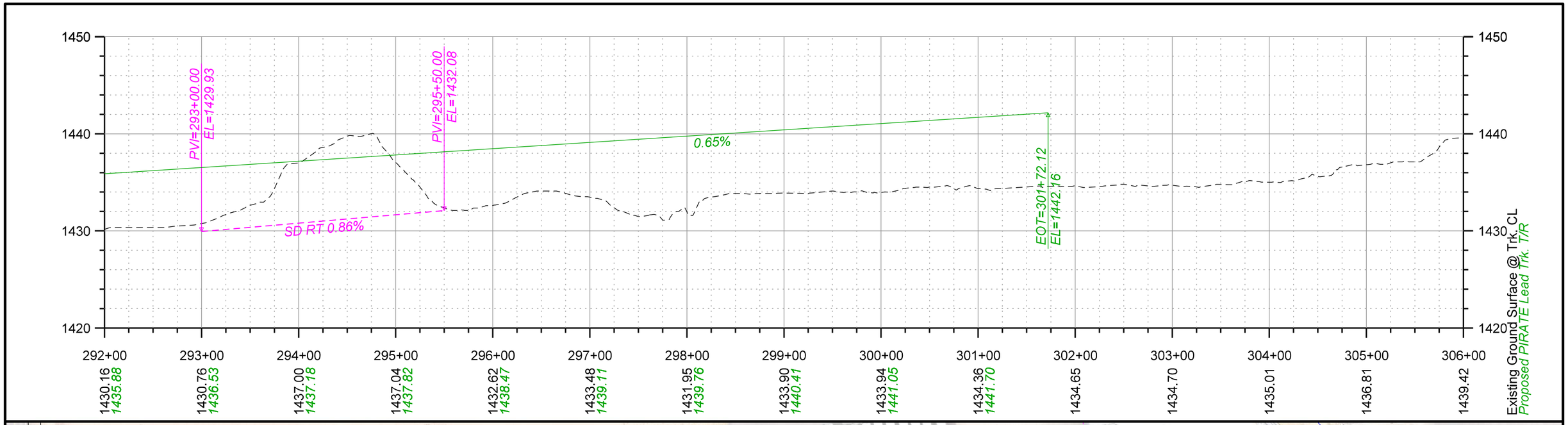
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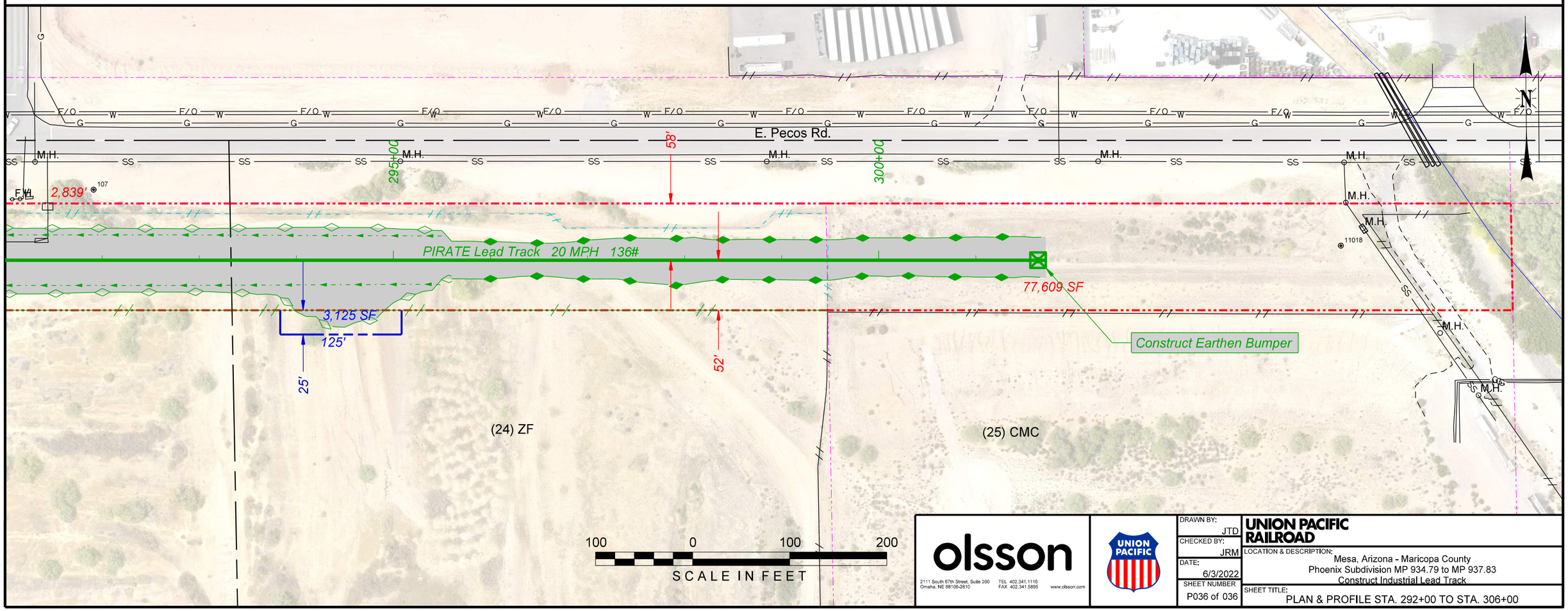
UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
PLAN & PROFILE STA. 278+00 TO STA. 292+00

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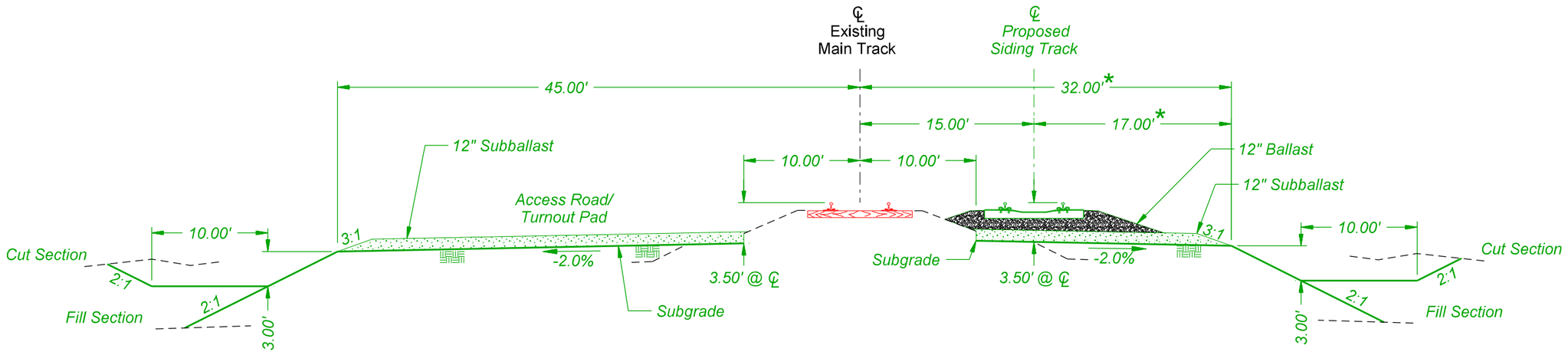
UNION PACIFIC RAILROAD

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Construct Industrial Lead Track

SHEET TITLE:
PLAN & PROFILE STA. 292+00 TO STA. 306+00

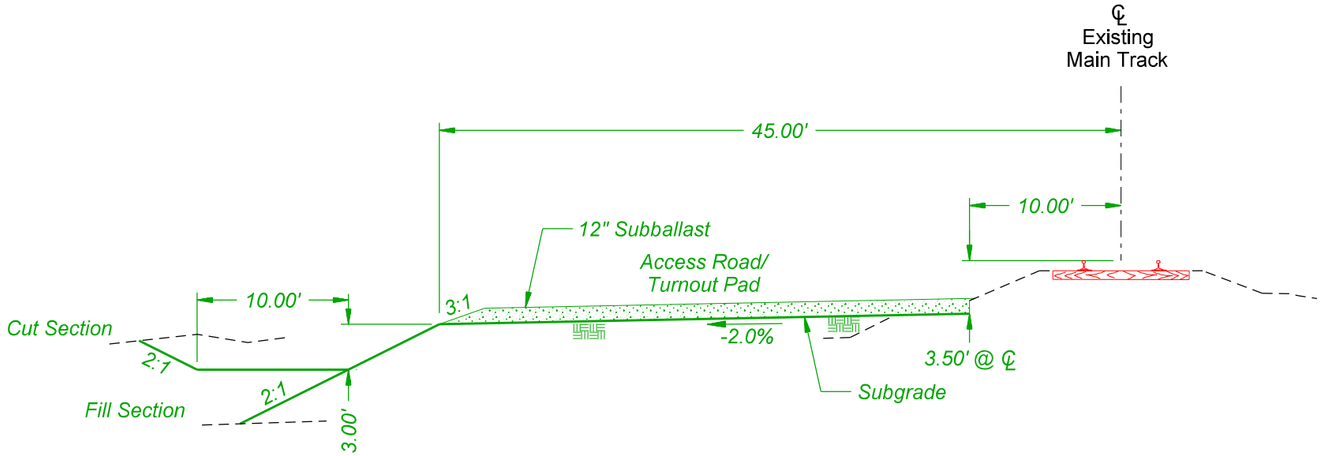
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* Shoulder Widens to Accomodate Superelevation.
Refer to Cross Sections.



TYPICAL SECTION

Sta. 1482+87 to Sta. 1488+53



TYPICAL SECTION

Sta. 1482+25 to Sta. 1482+87

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SHEET NUMBER	T001 of 012

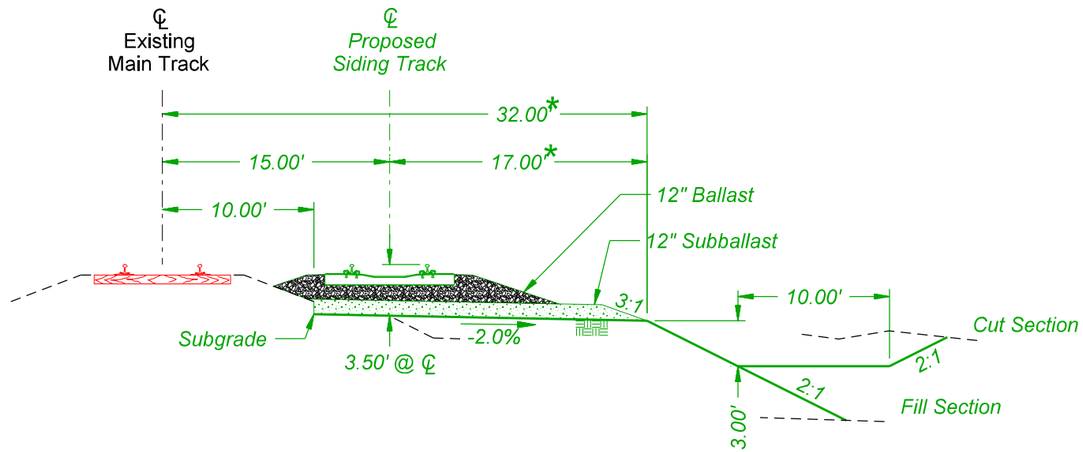
UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
TYPICAL SECTIONS

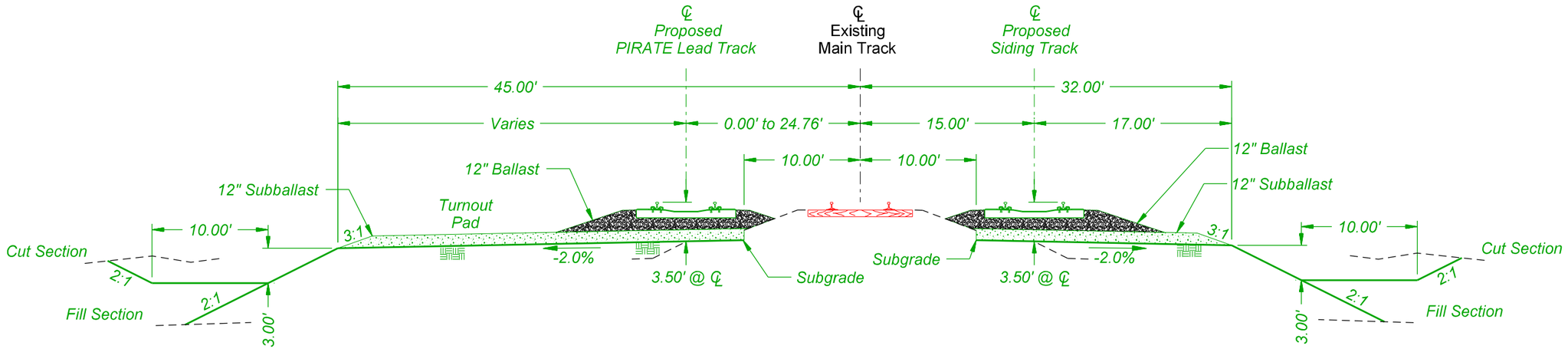
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Default
6/3/2022

* Shoulder Widens to Accomodate Superelevation.
Refer to Cross Sections.



TYPICAL SECTION

Sta. 1492+73 to Sta. 1507+54
Sta. 1512+97 to Sta. 1530+21



TYPICAL SECTION

Sta. 1488+53 to Sta. 1492+73

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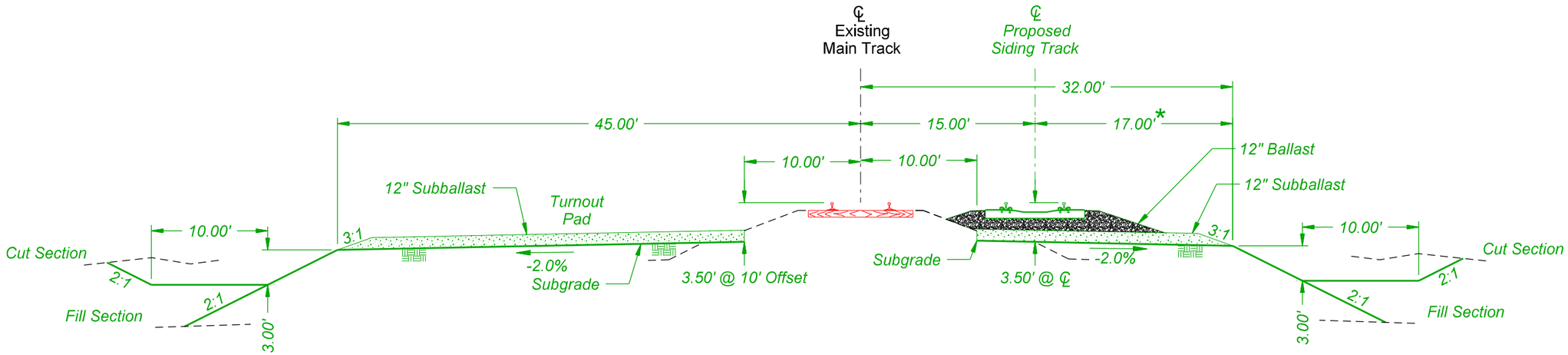
UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

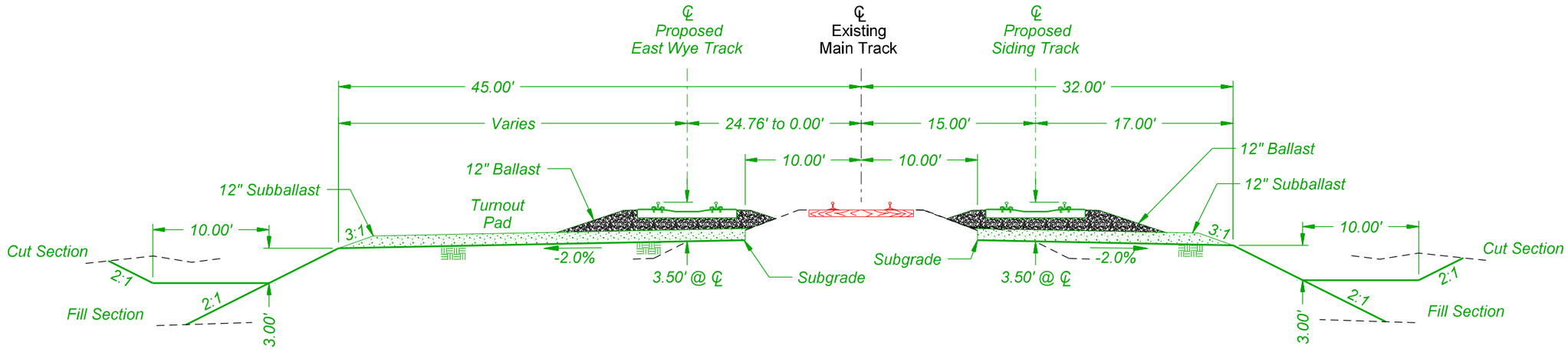
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6/3/2022

* Shoulder Widens to Accomodate Superelevation.
Refer to Cross Sections.



TYPICAL SECTION
Sta. 1511+74 to Sta. 1512+97



TYPICAL SECTION
Sta. 1507+54 to Sta. 1511+74

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SHEET NUMBER	T003 of 012

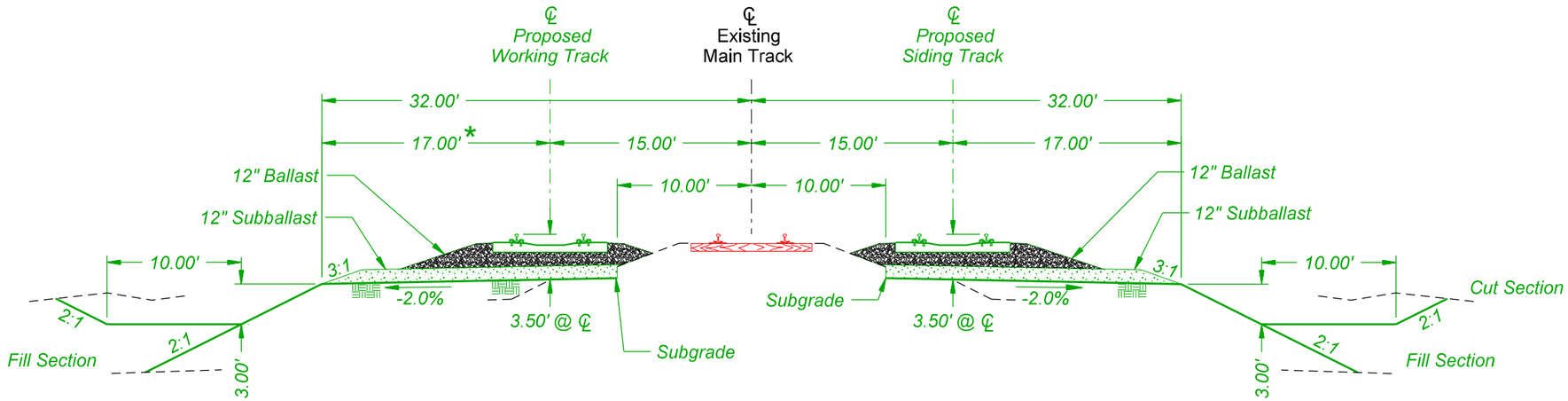
UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
TYPICAL SECTIONS

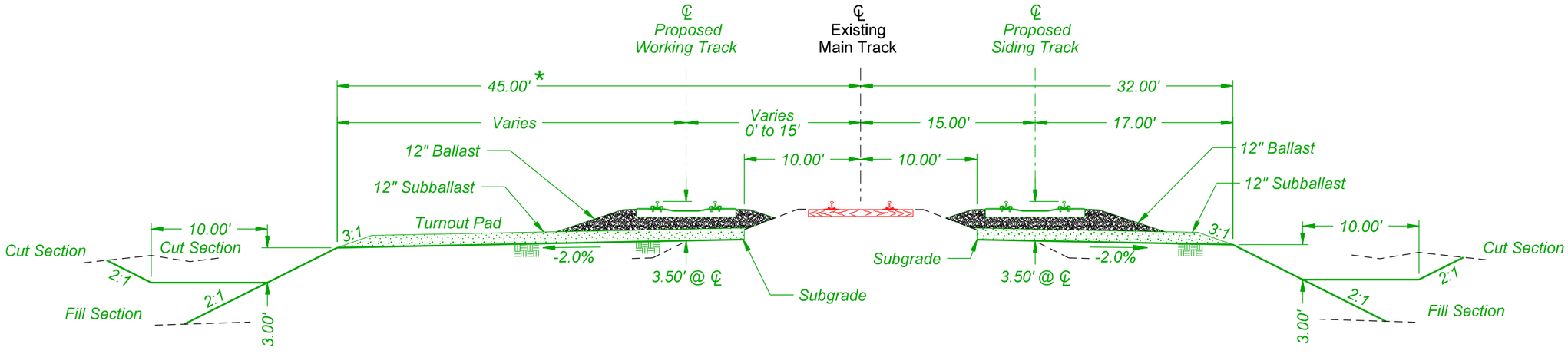
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* Shoulder Widens to Accomodate Superelevation.
Refer to Cross Sections.



TYPICAL SECTION

Sta. 1534+78 to Sta. 1557+94



TYPICAL SECTION

Sta. 1530+21 to Sta. 1534+78

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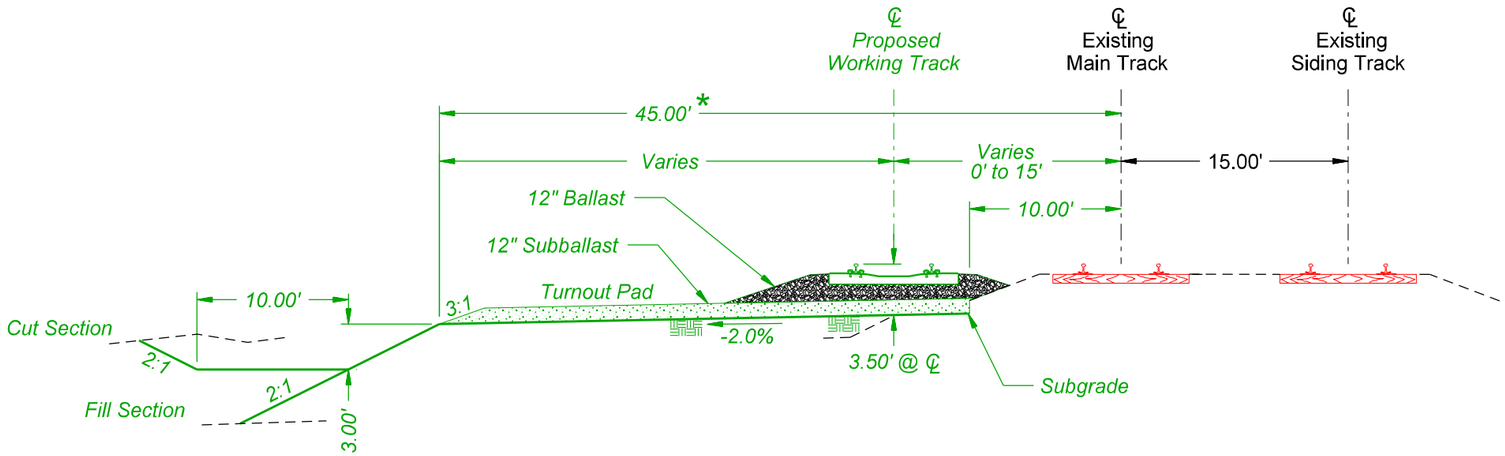
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UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

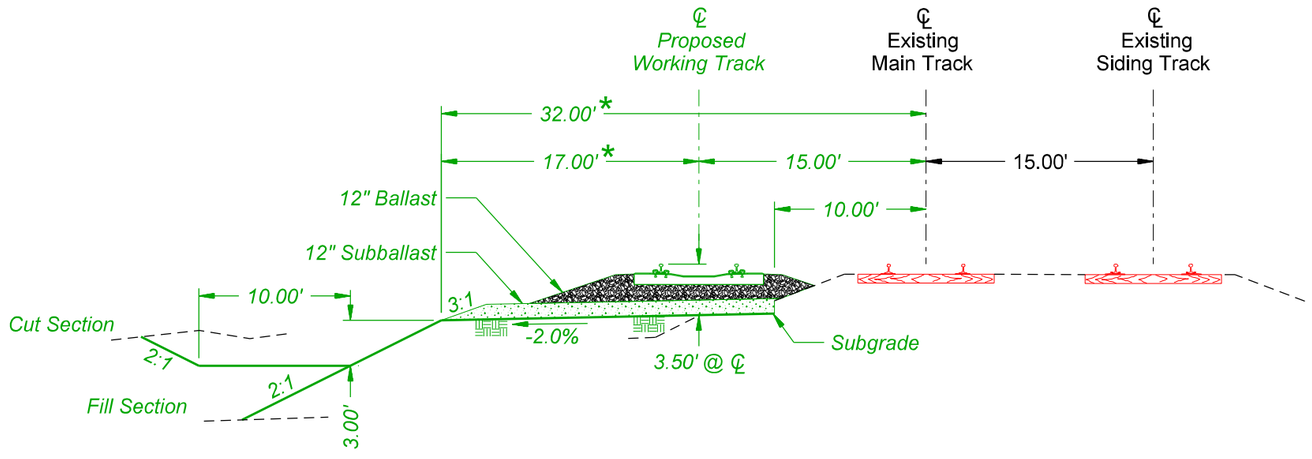
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TYPICAL SECTION

Sta. 1589+00 to Sta. 1593+97



TYPICAL SECTION

Sta. 1557+94 to Sta. 1589+00

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UNION PACIFIC RAILROAD

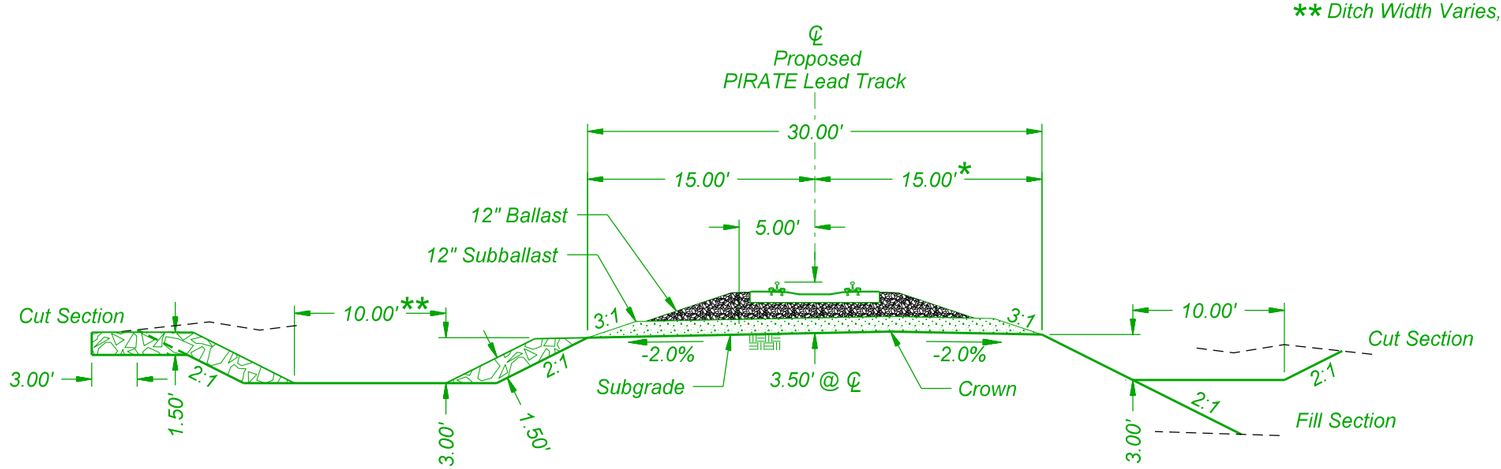
LOCATION & DESCRIPTION:
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Construct Industrial Lead Track

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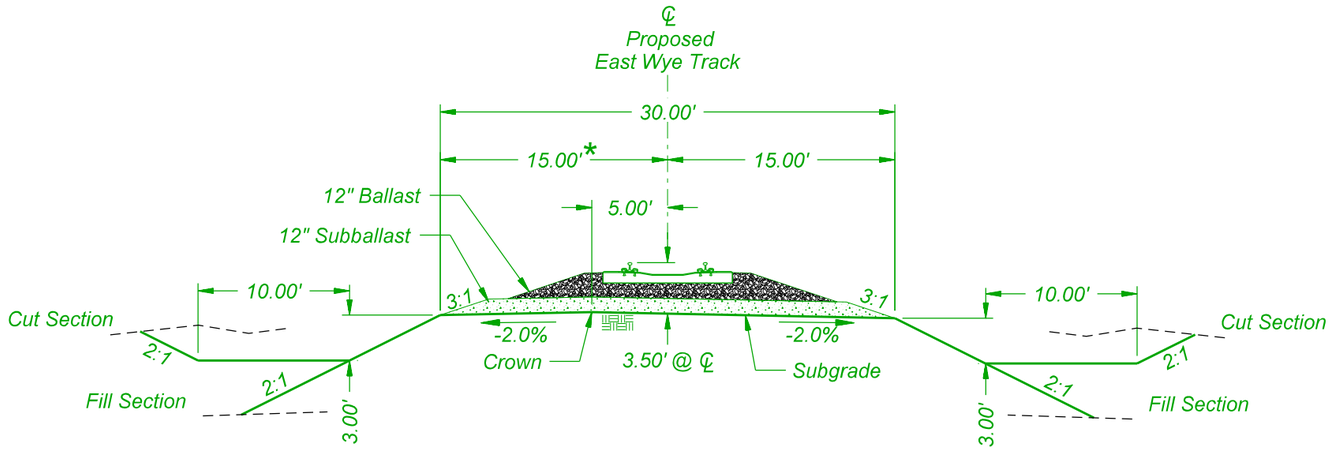
* Shoulder Widens to Accomodate Superelevation, Refer to Cross Sections

** Ditch Width Varies, Refer to Cross Sections



TYPICAL SECTION

Sta. 4+20 to Sta. 15+23



TYPICAL SECTION

Sta. 4+20 to Sta. 15+11

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UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
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Construct Industrial Lead Track

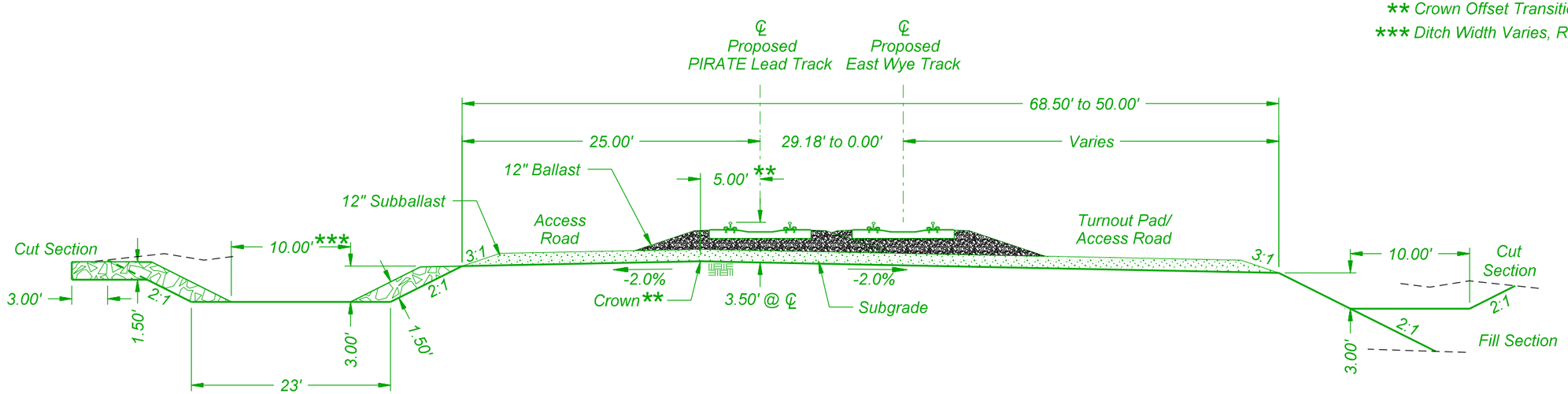
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* Shoulder Widens to Accomodate Superelevation, Refer to Cross Sections

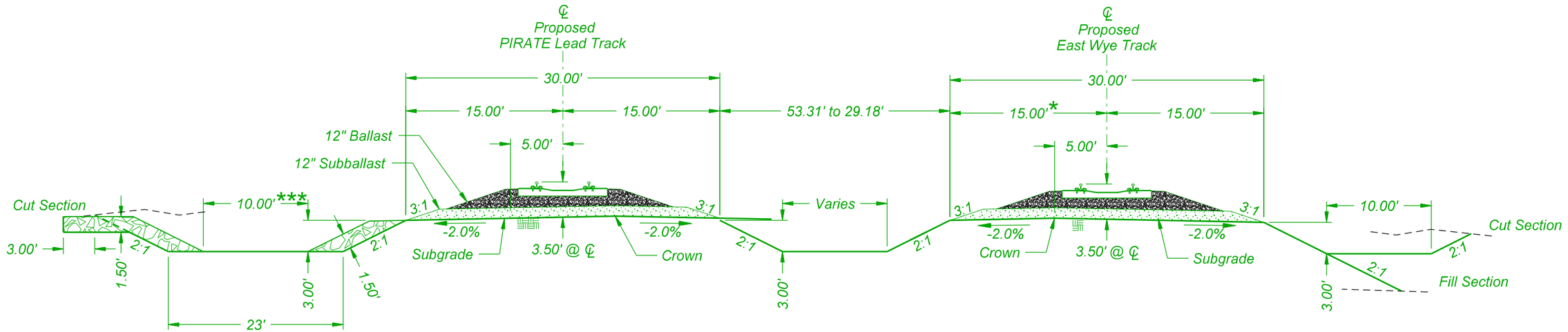
** Crown Offset Transitions, Refer to Cross Sections

*** Ditch Width Varies, Refer to Cross Sections



TYPICAL SECTION

Sta. 16+45 to Sta. 23+30



TYPICAL SECTION

Sta. 15+11 to Sta. 16+33 (Wye Trk.)
Sta. 15+23 to Sta. 16+45 (PIRATE Lead Trk.)

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SHEET NUMBER	T007 of 012

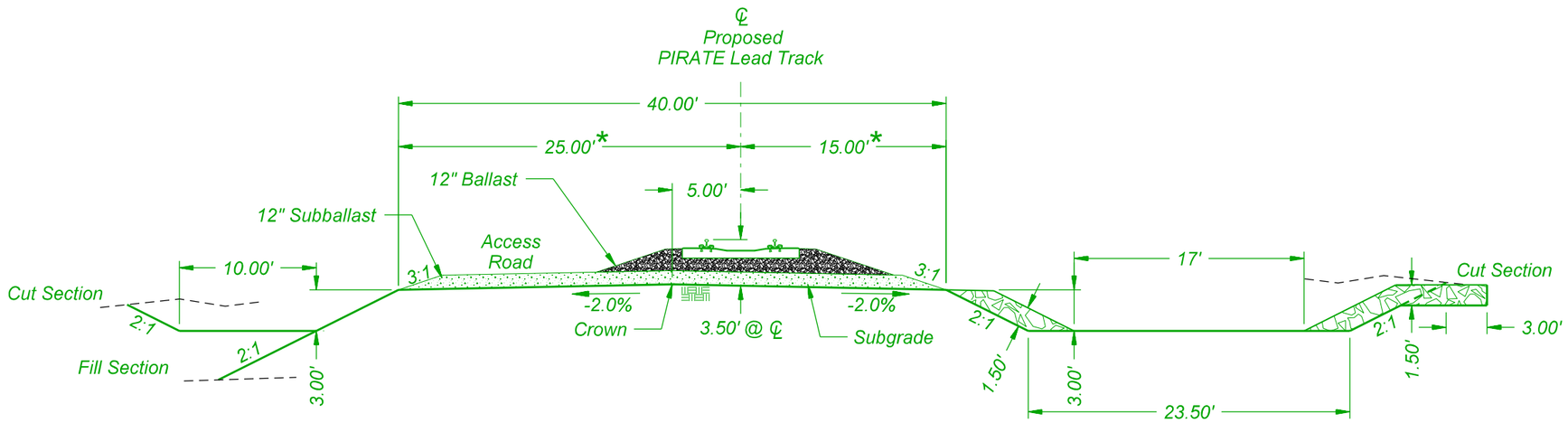
UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
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Construct Industrial Lead Track

SHEET TITLE:
TYPICAL SECTIONS

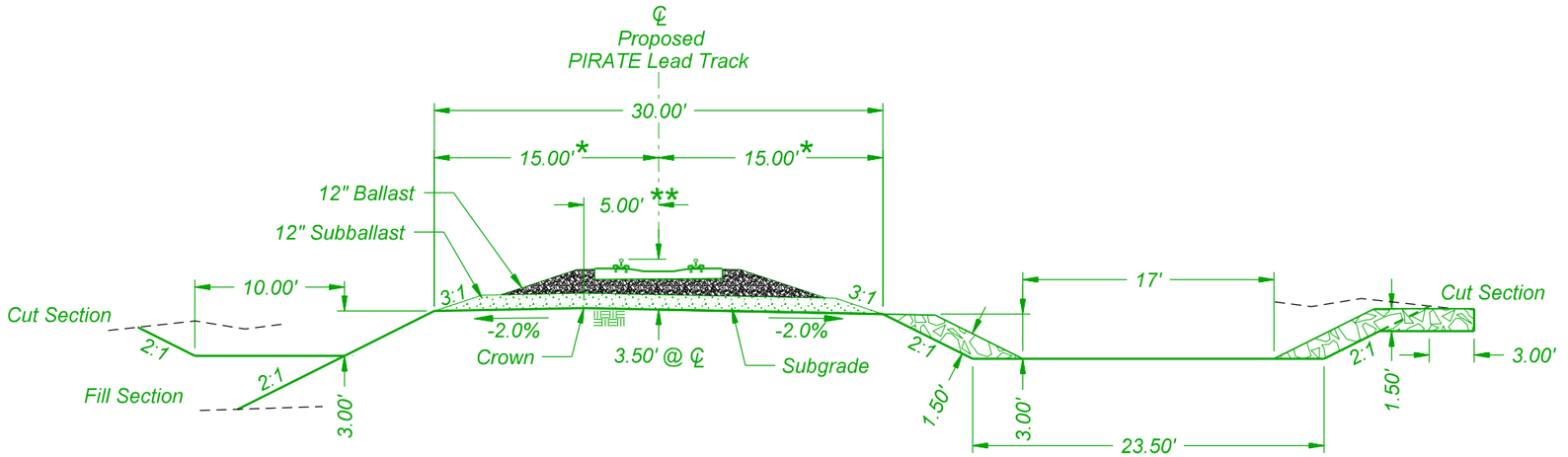
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* Shoulder Widens to Accomodate Superelevation, Refer to Cross Sections



TYPICAL SECTION

Sta. 40+50 to Sta. 59+34



TYPICAL SECTION

Sta. 23+30 to Sta. 40+50

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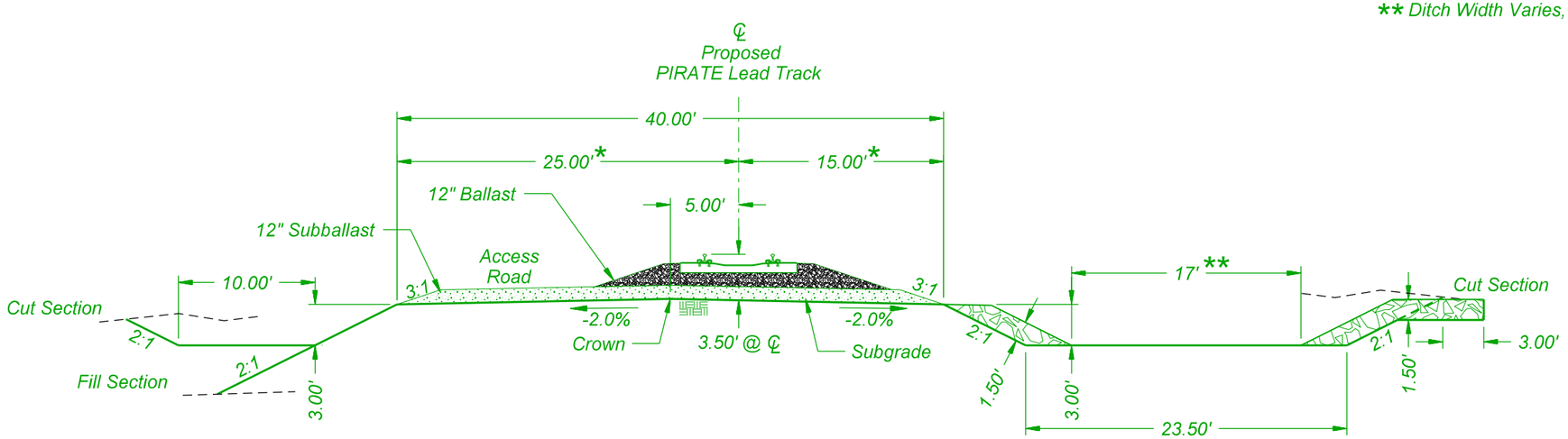
LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

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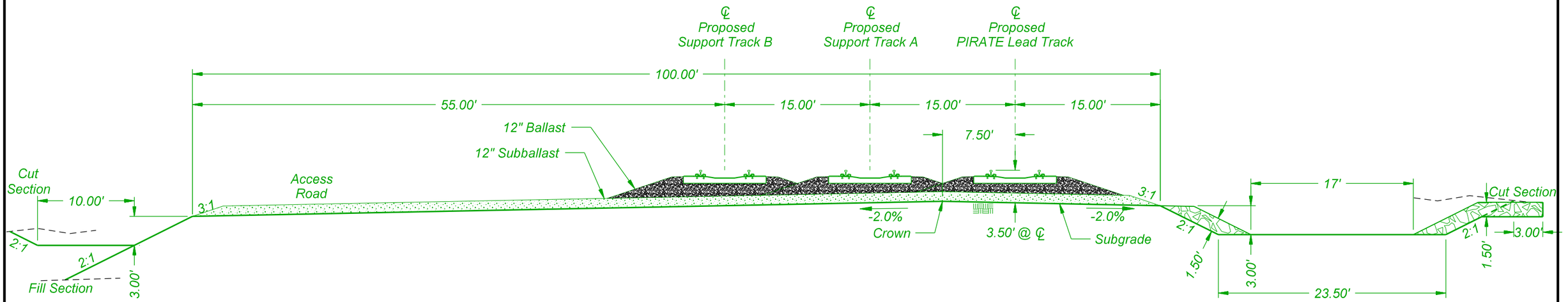
* Shoulder Widens to Accomodate Superelevation, Refer to Cross Sections

** Ditch Width Varies, Refer to Cross Sections



TYPICAL SECTION

Sta. 97+45 to Sta. 155+73



TYPICAL SECTION

Sta. 59+34 to Sta. 97+45

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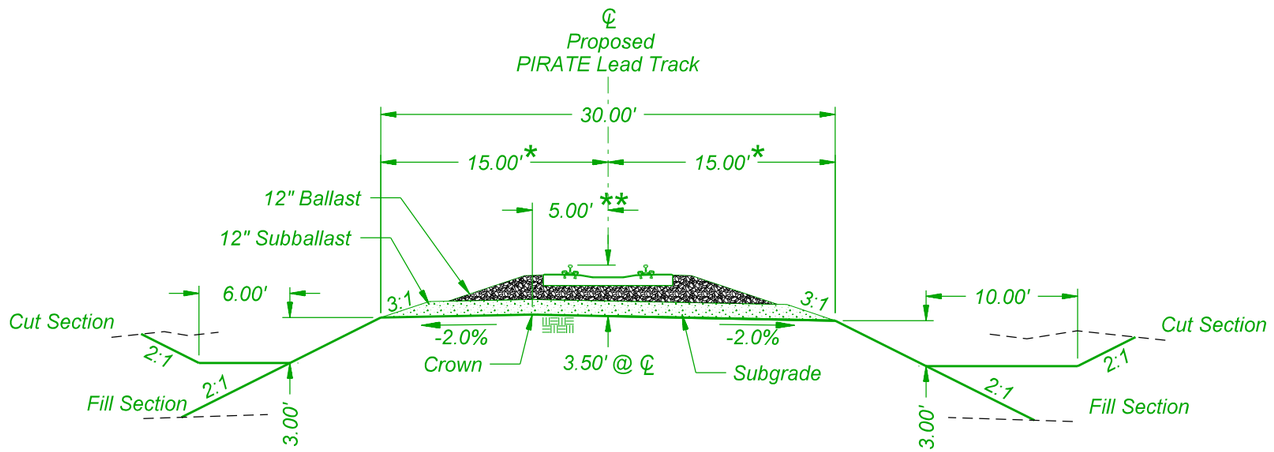
UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
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Construct Industrial Lead Track

SHEET TITLE:
TYPICAL SECTIONS

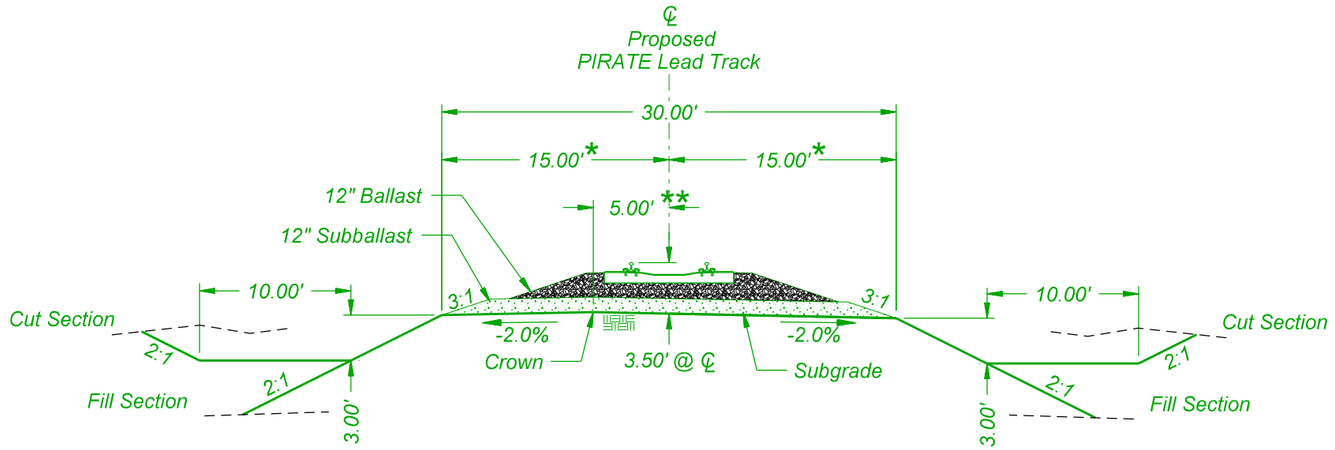
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* Shoulder Widens to Accomodate Superelevation, Refer to Cross Sections



TYPICAL SECTION

Sta. 181+00 to Sta. 201+98



TYPICAL SECTION

Sta. 155+73 to Sta. 181+00

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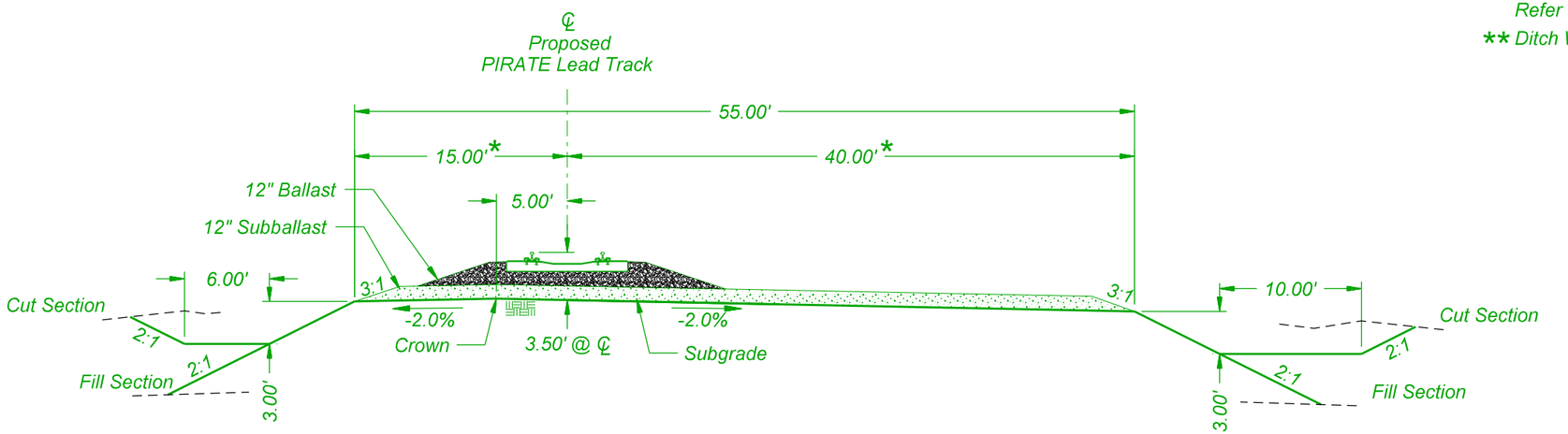
LOCATION & DESCRIPTION:
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Construct Industrial Lead Track

SHEET TITLE:
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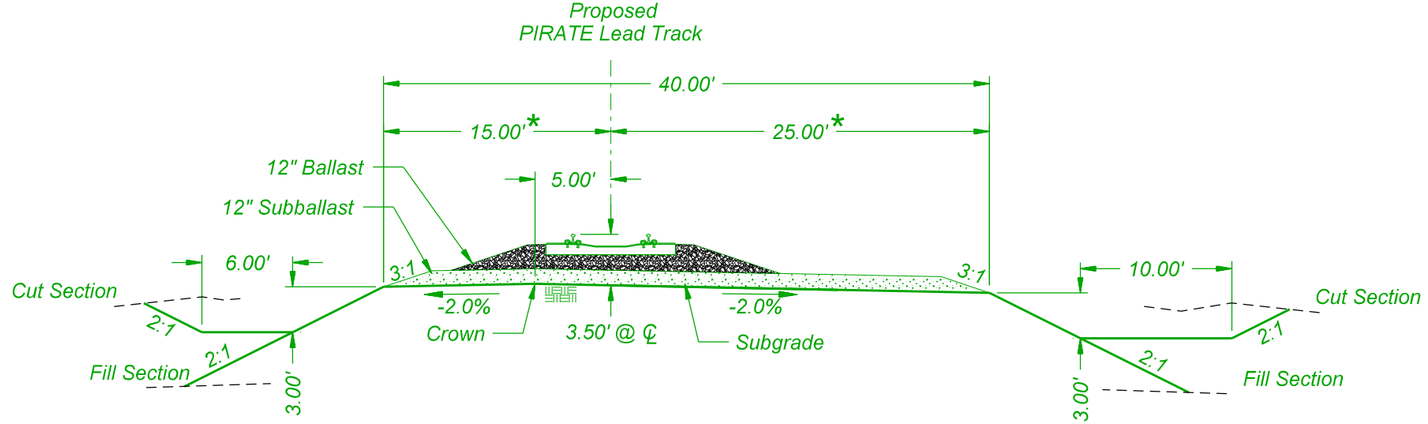
* Shoulder Widens to Accomodate Superelevation, Refer to Cross Sections

** Ditch Width Varies, Refer to Cross Sections



TYPICAL SECTION

Sta. 203+18 to Sta. 257+78



TYPICAL SECTION

Sta. 201+98 to Sta. 203+18
Sta. 257+78 to Sta. 261+35

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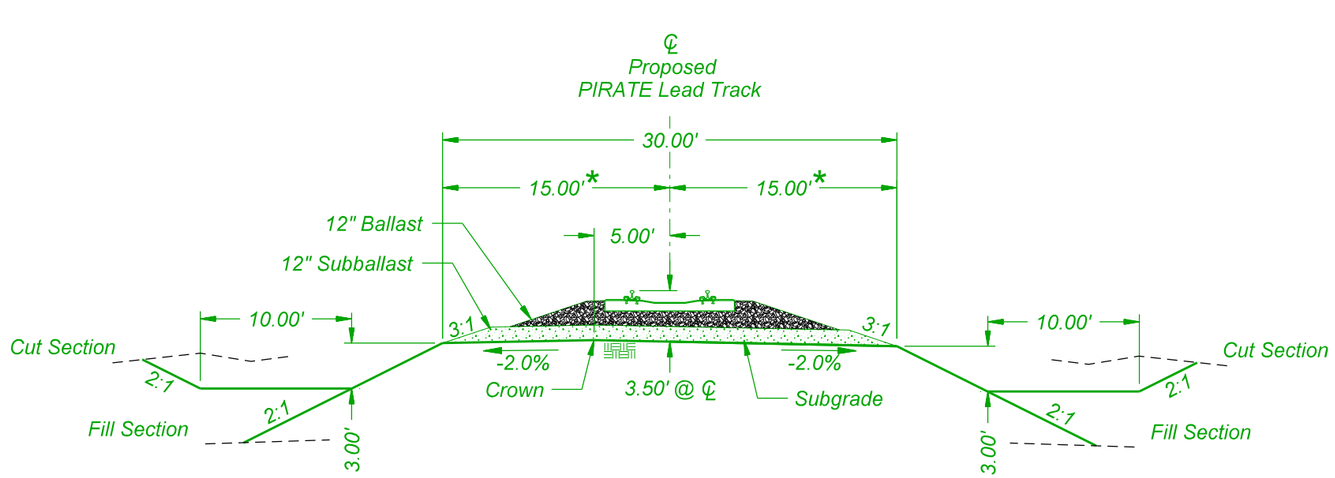
UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
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SHEET TITLE:
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TYPICAL SECTION

Sta. 261+35 to Sta. 301+79

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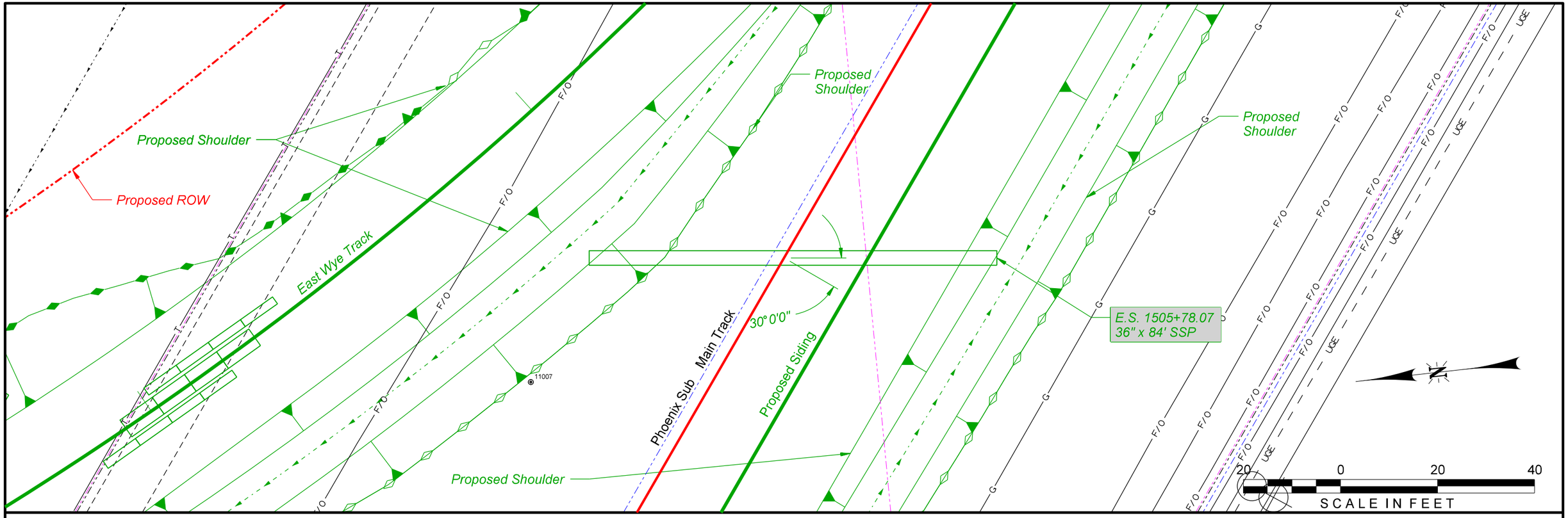
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SHEET NUMBER	T012 of 012

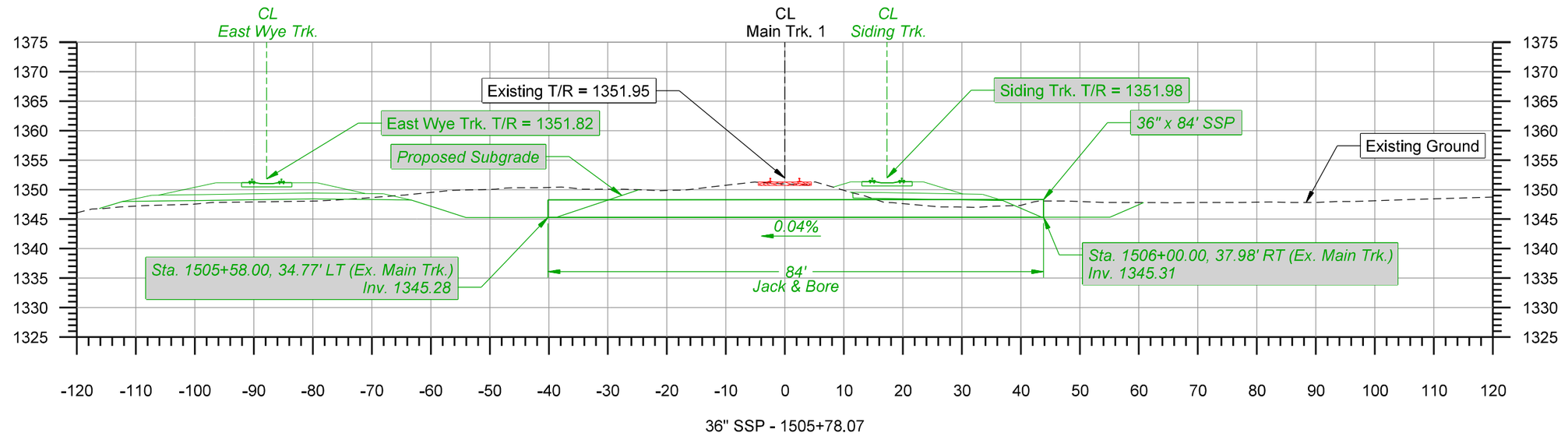
UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
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Construct Industrial Lead Track

SHEET TITLE:
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UNION PACIFIC

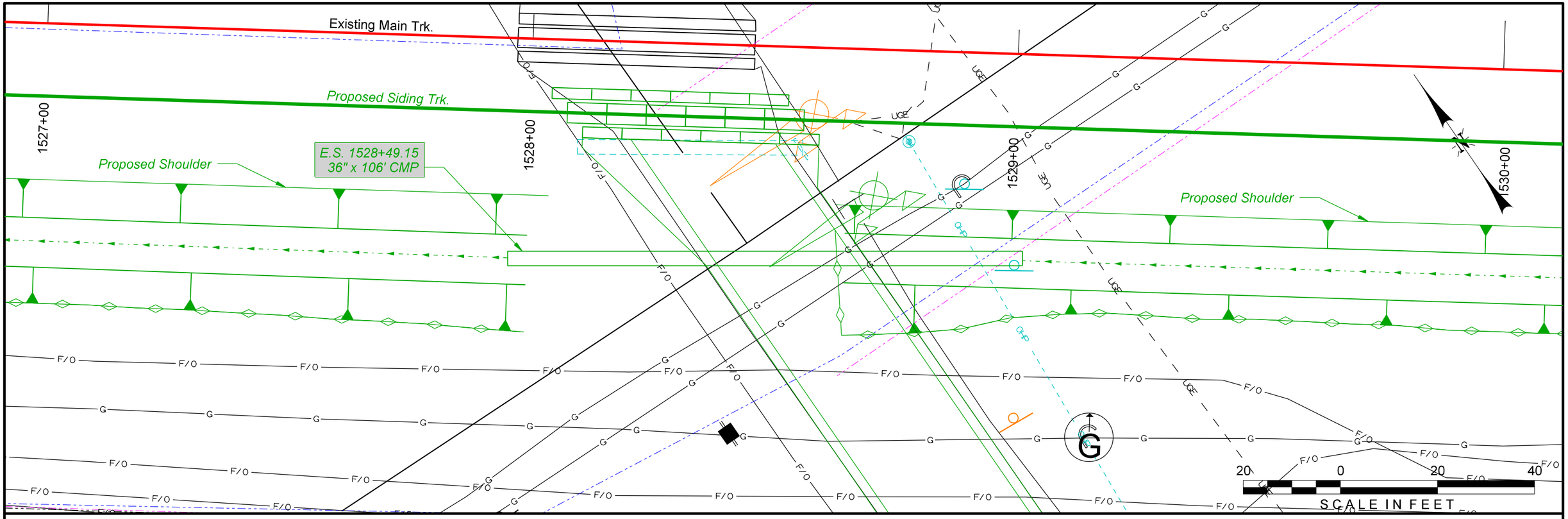
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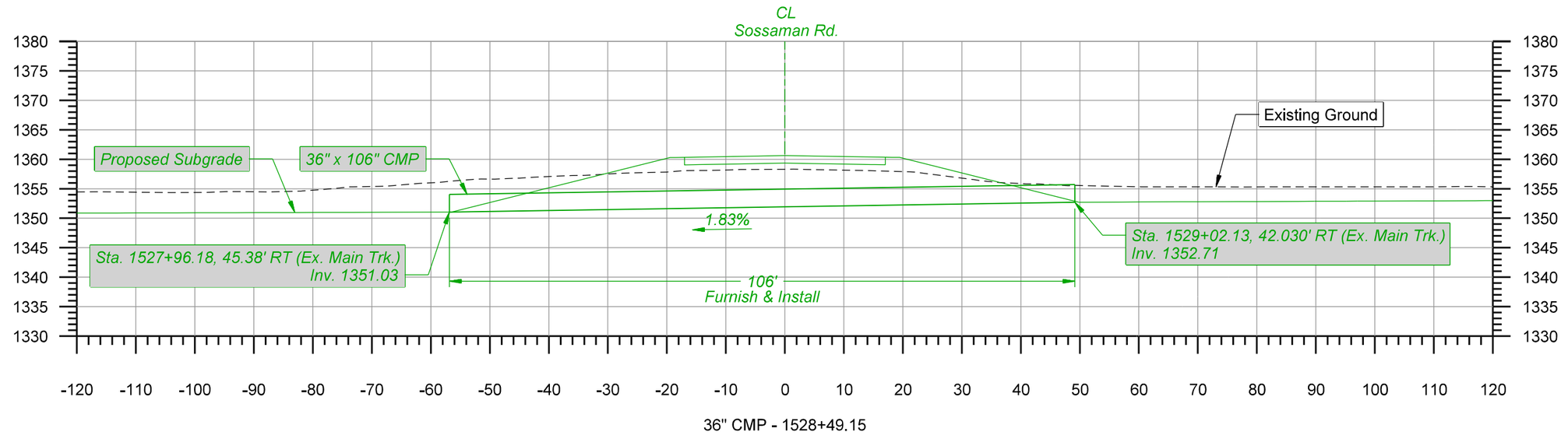
UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
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Construct Industrial Lead Track

SHEET TITLE:
CULVERT STA. 1505+78 - 36" SSP

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6/3/2022





36" CMP - 1528+49.15

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UNION PACIFIC

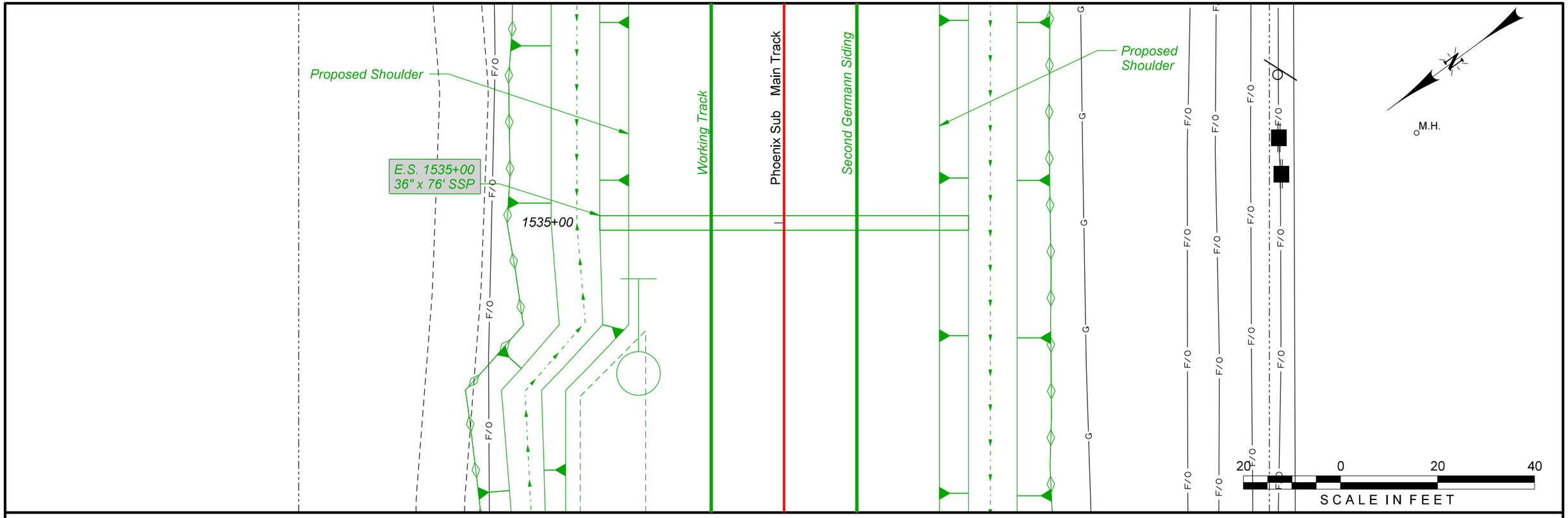
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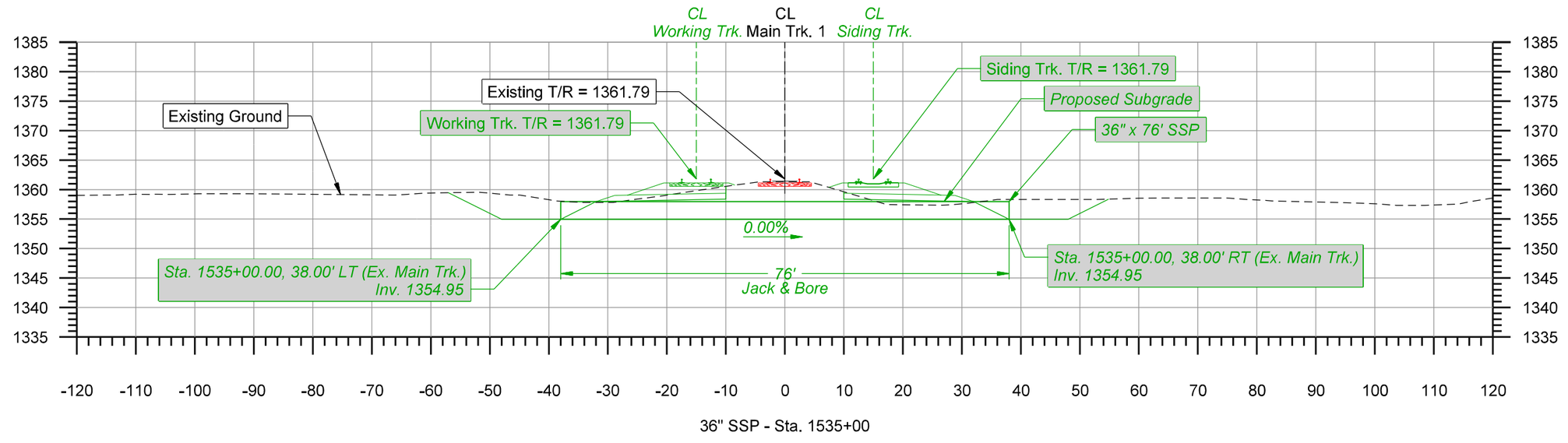
UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
CULVERT STA. 1528+49.15 - 36" CMP

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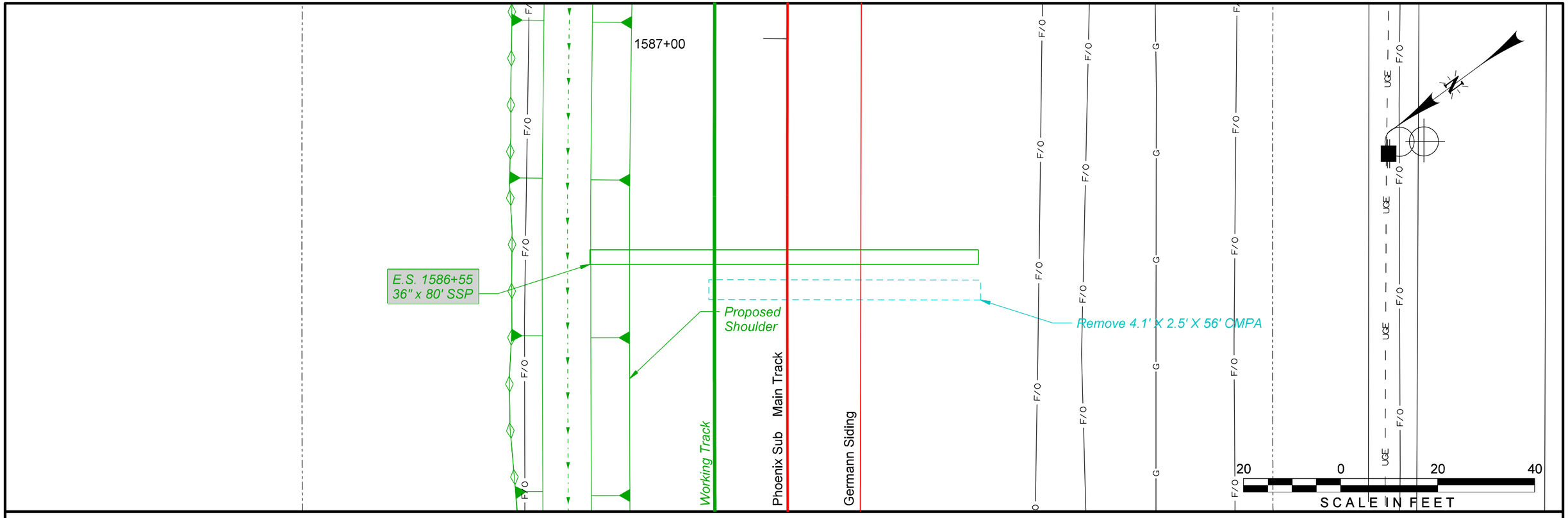
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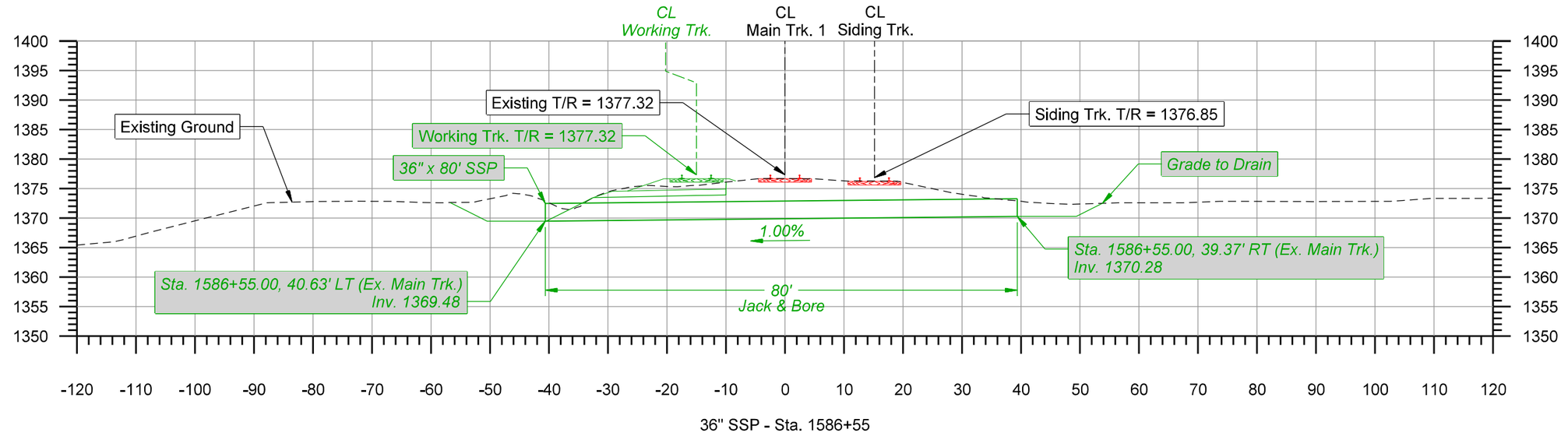
UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
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36" SSP - Sta. 1586+55

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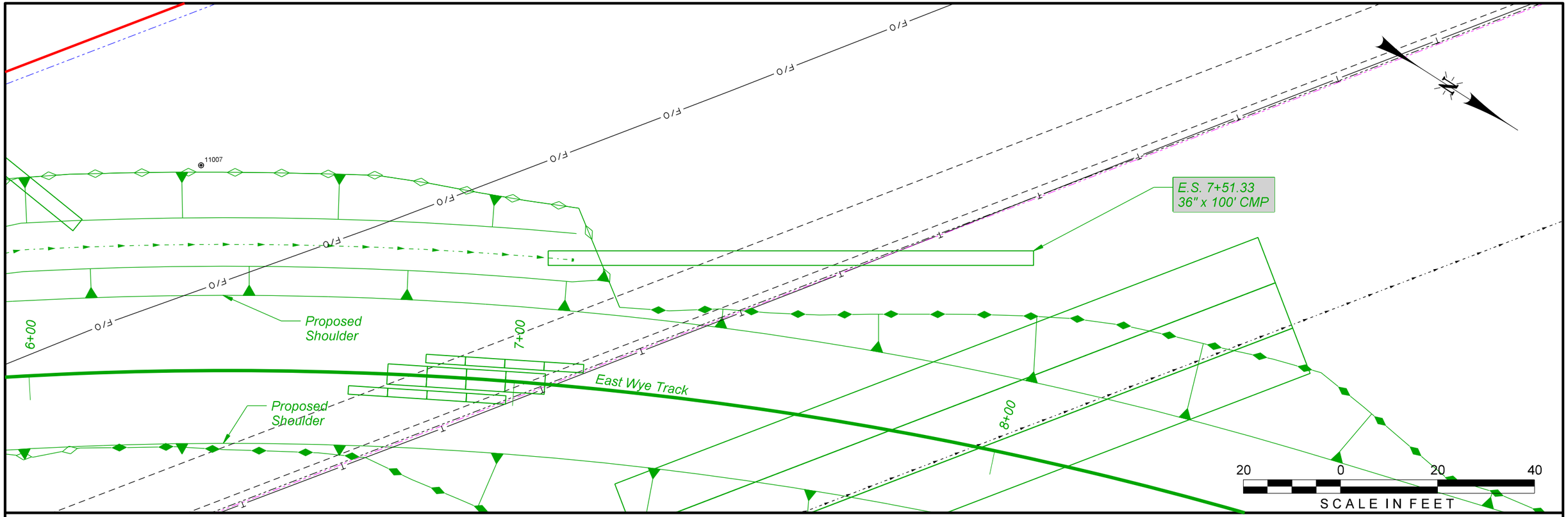
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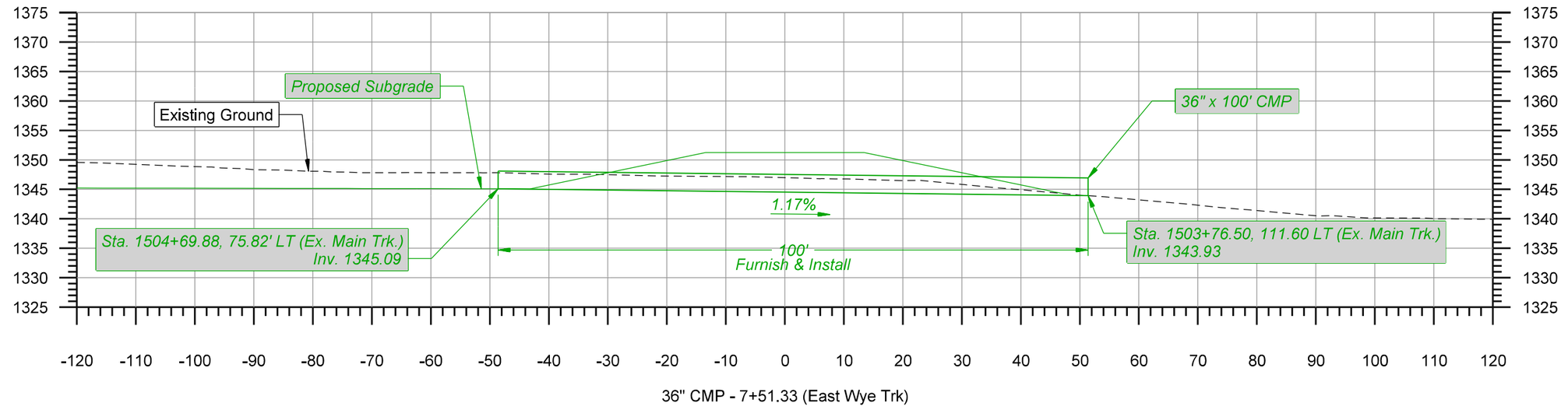
UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
CULVERT STA. 1586+55 - 36" SSP

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36" CMP - 7+51.33 (East Wye Trk)

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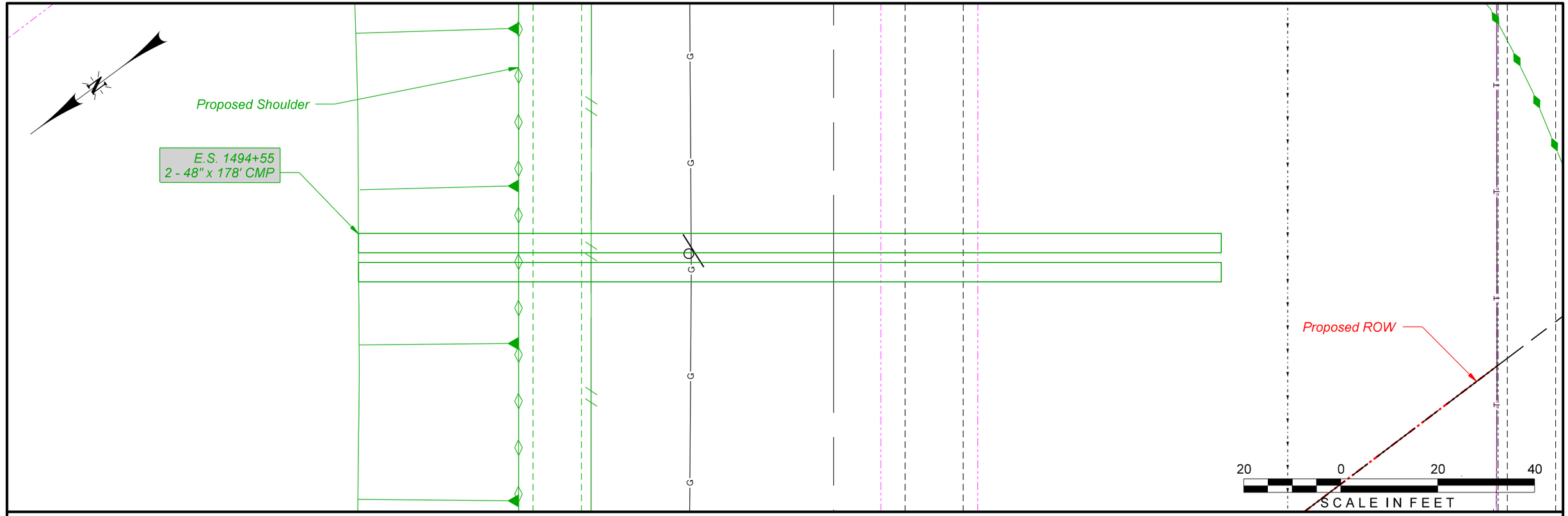
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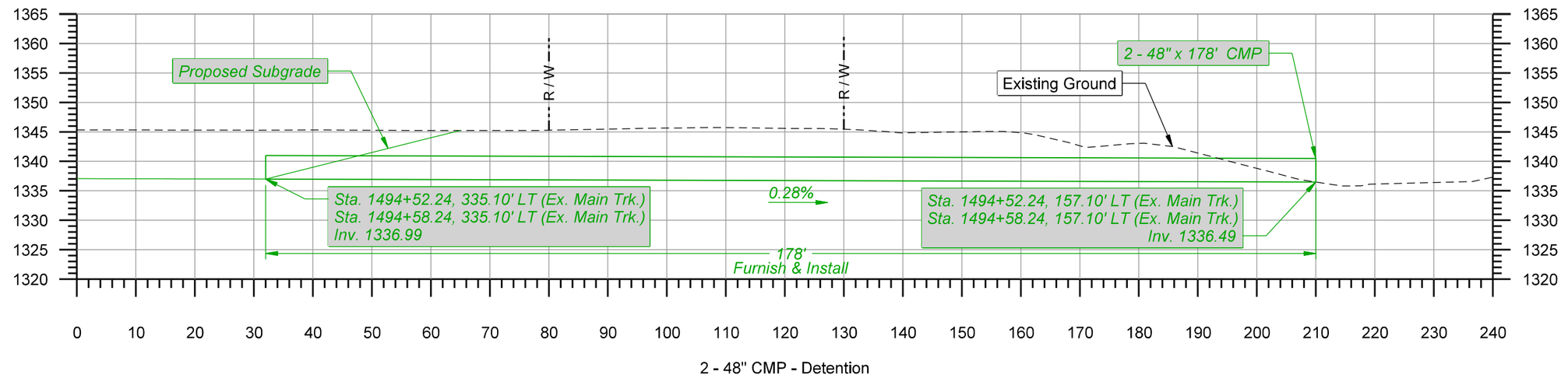
UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
CULVERT STA. 7+51.33 - 36" CMP

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2 - 48" CMP - Detention

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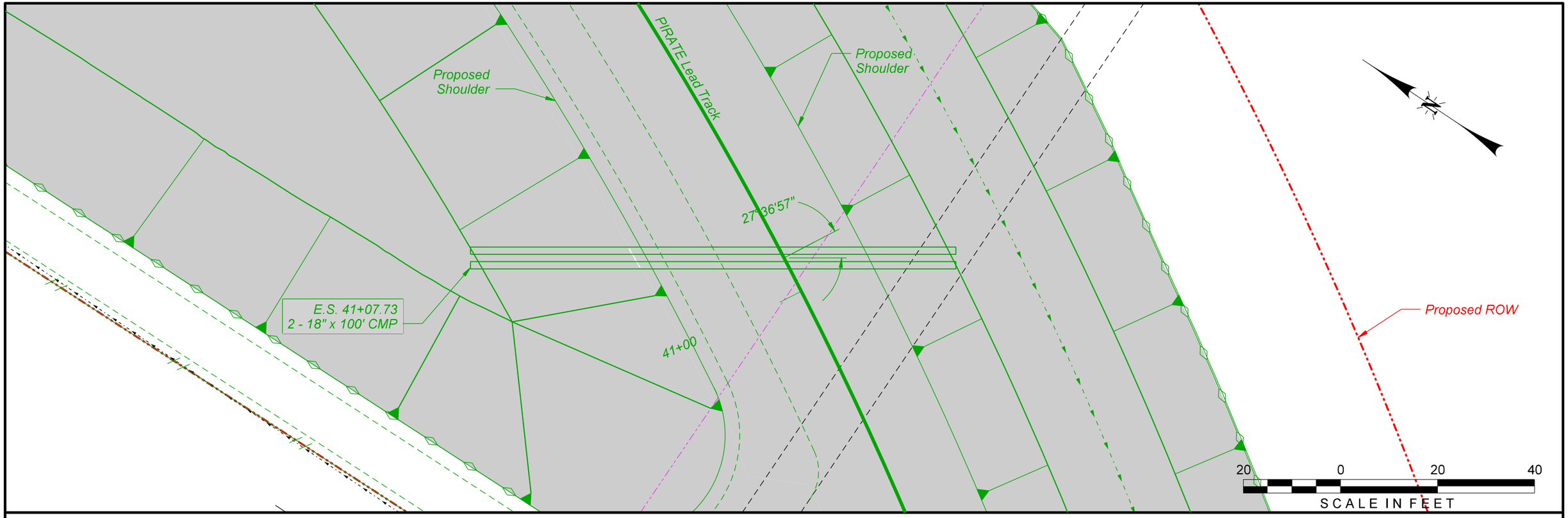
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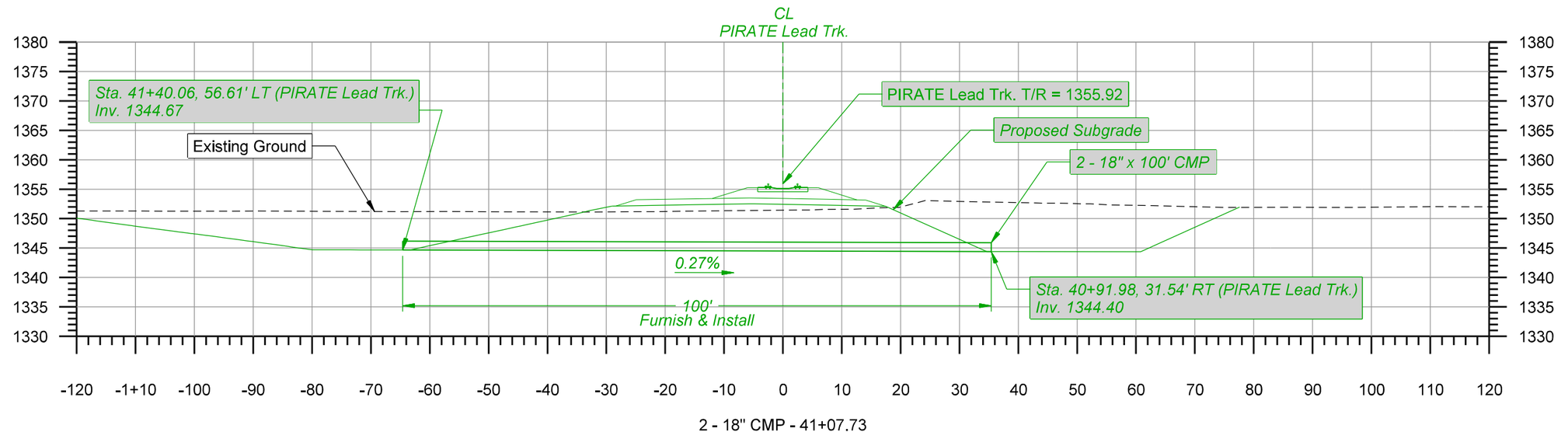
UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
CULVERT STA. 1494+55 - 2 - 48" CMP

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2 - 18" CMP - 41+07.73

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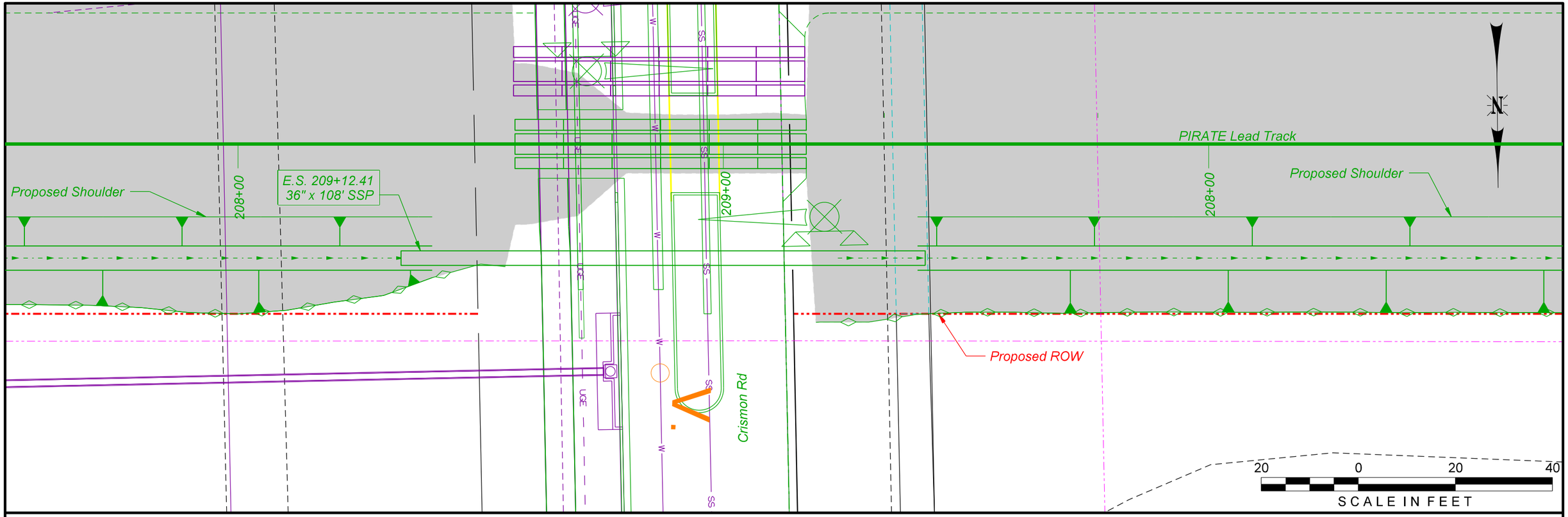
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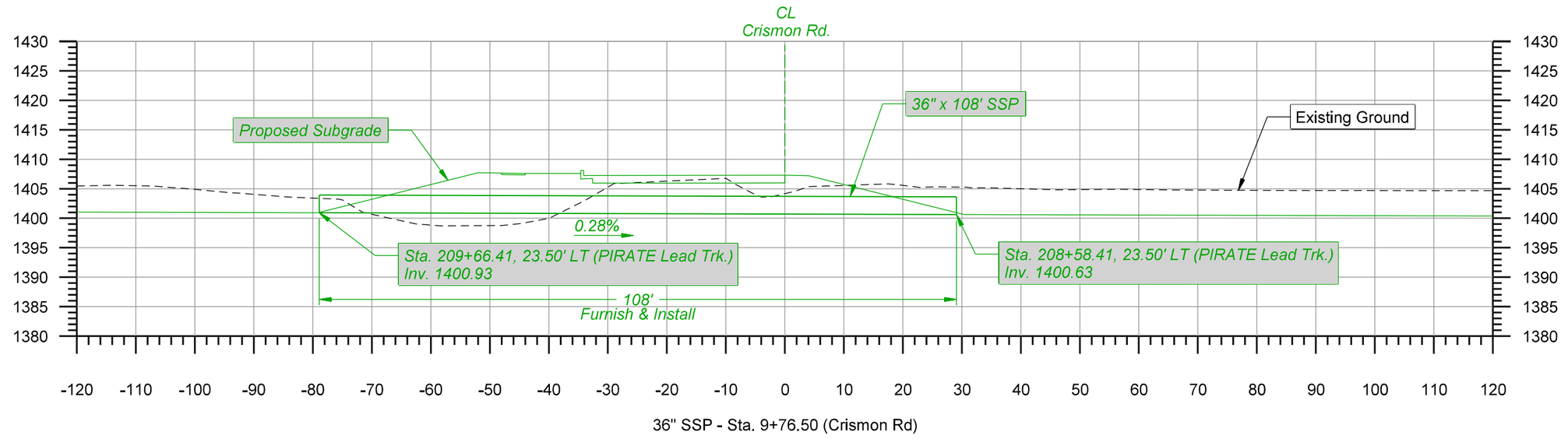
UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
CULVERT STA. 41+07.73 - 2 -18" CMP

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36" SSP - Sta. 9+76.50 (Crismon Rd)

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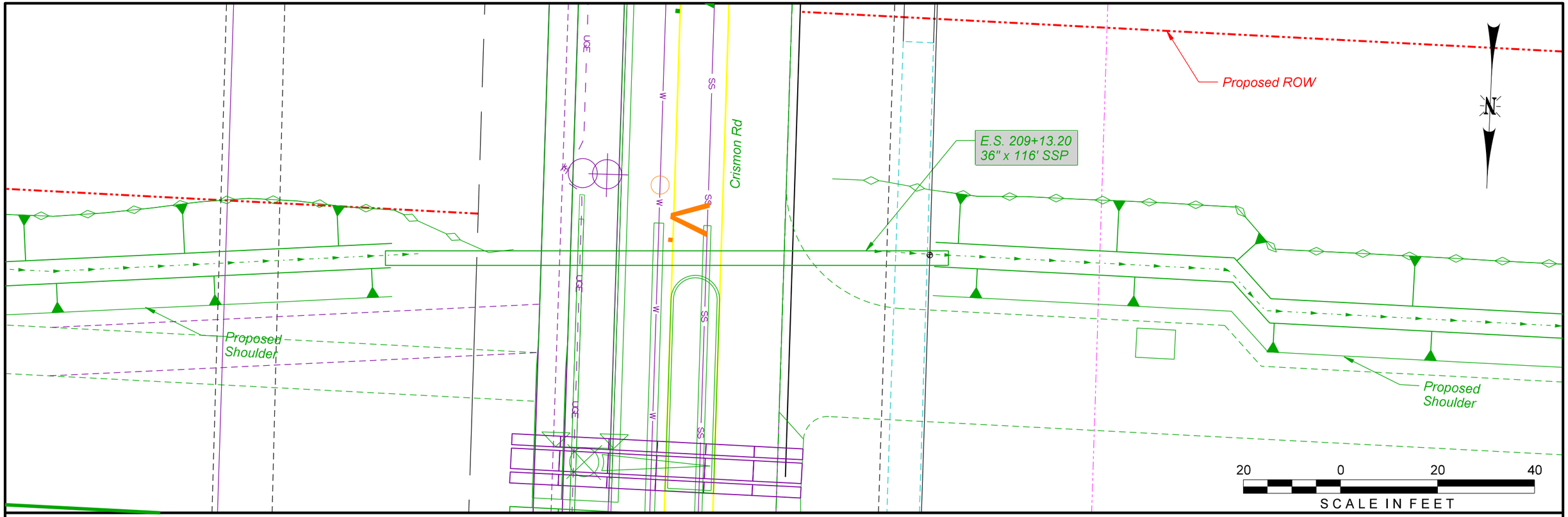
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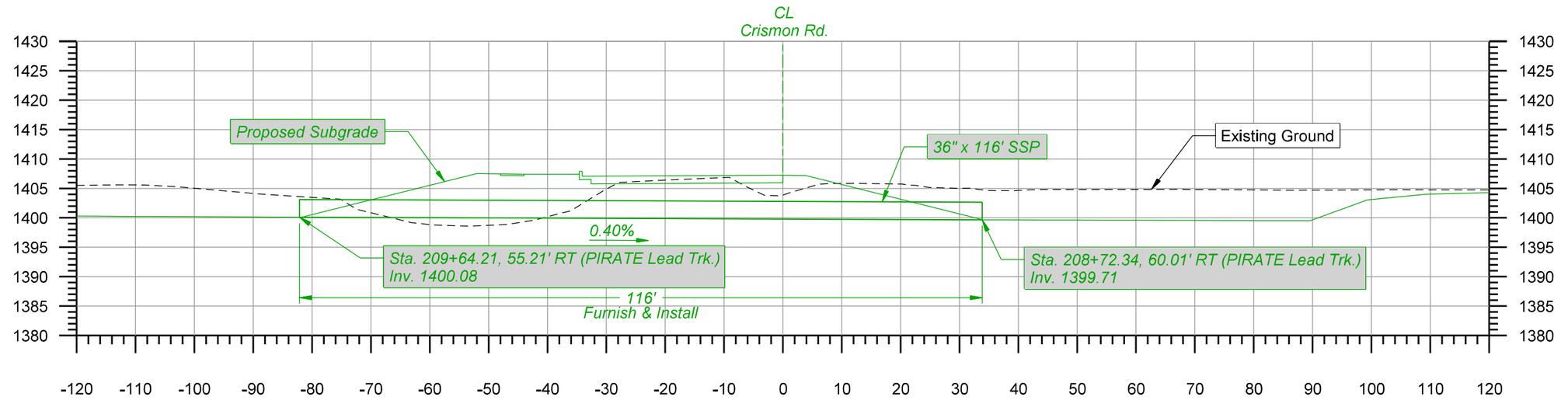
UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
CRISMON RD CULVERTS STA. 209+12.41 - 36" SSP

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Default
6/3/2022





36" SSP - Sta. 10+59.14 (Crismon Rd)

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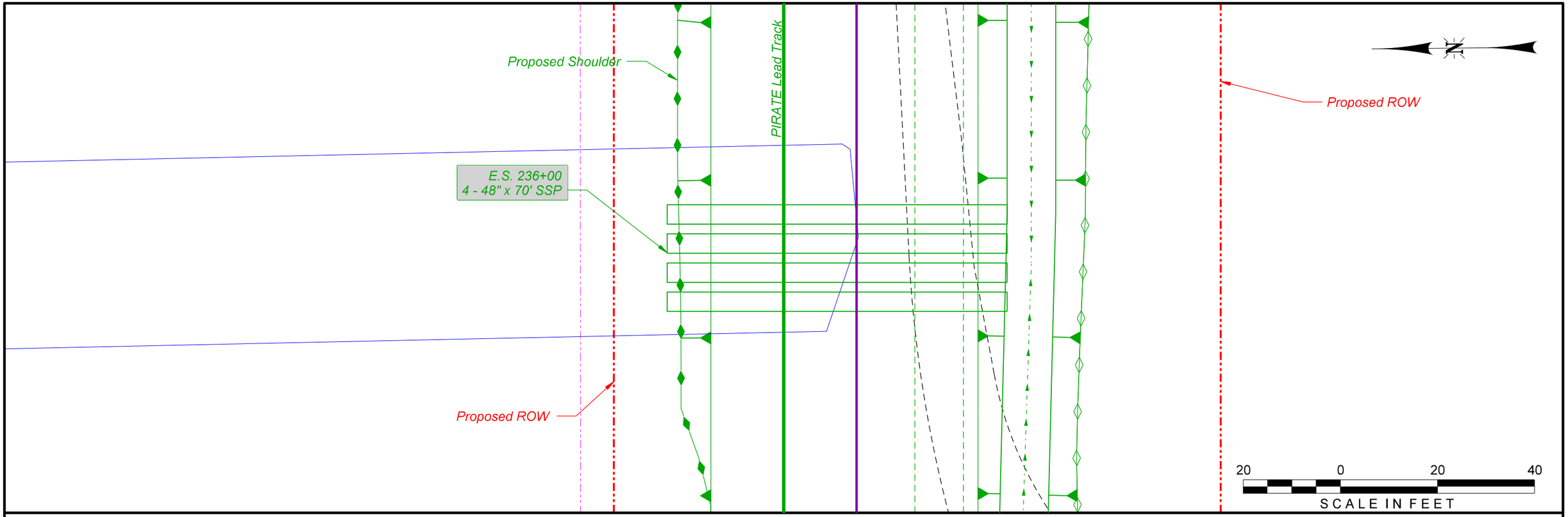
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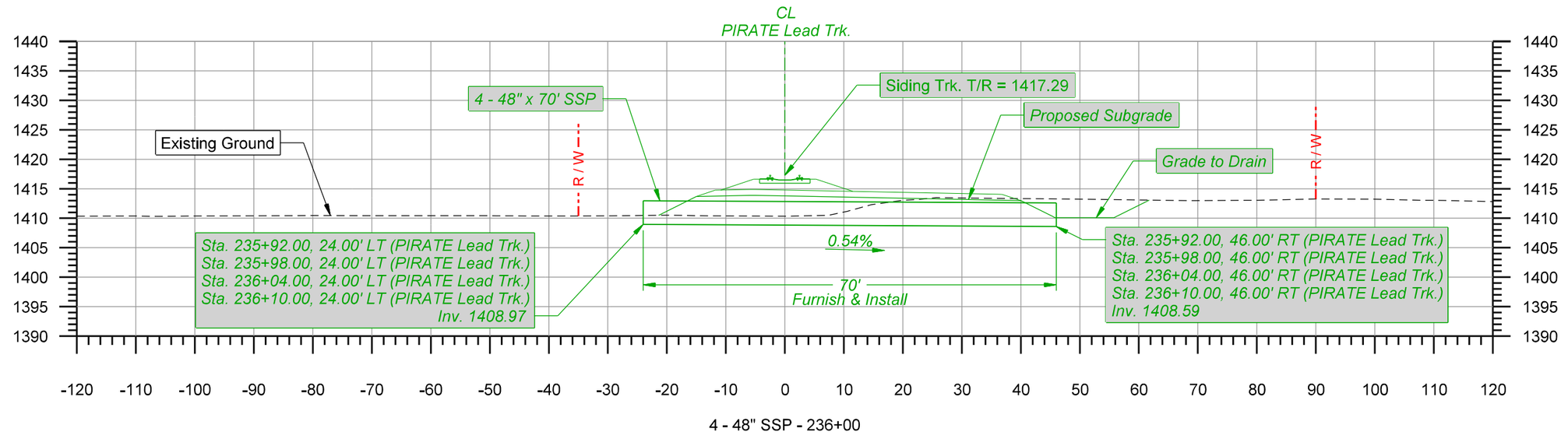
UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
CULVERT STA. 209+13.20 - 36" SSP

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4 - 48" SSP - 236+00

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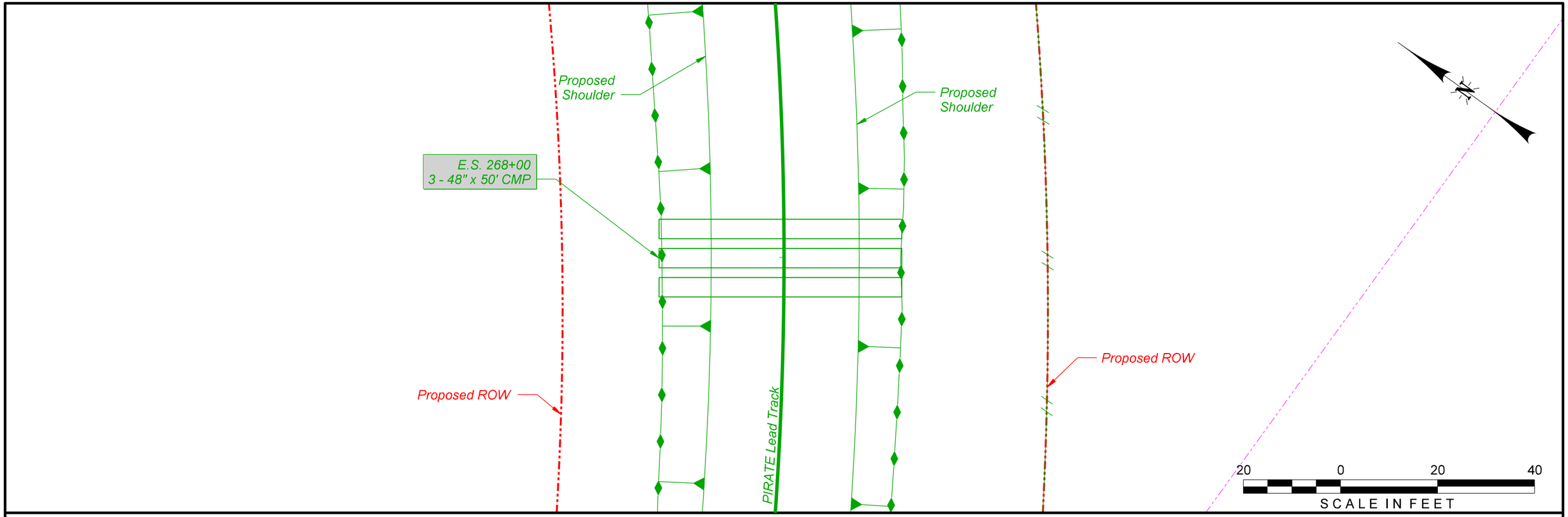
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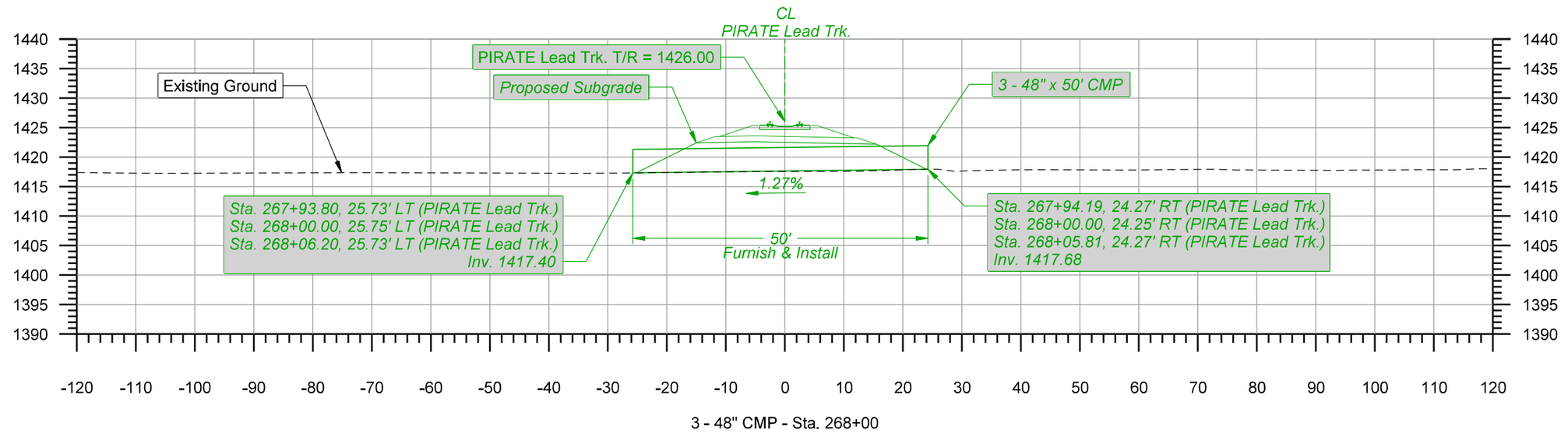
UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
CULVERT STA. 236+00 - 4 - 48" SSP

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3 - 48" CMP - Sta. 268+00

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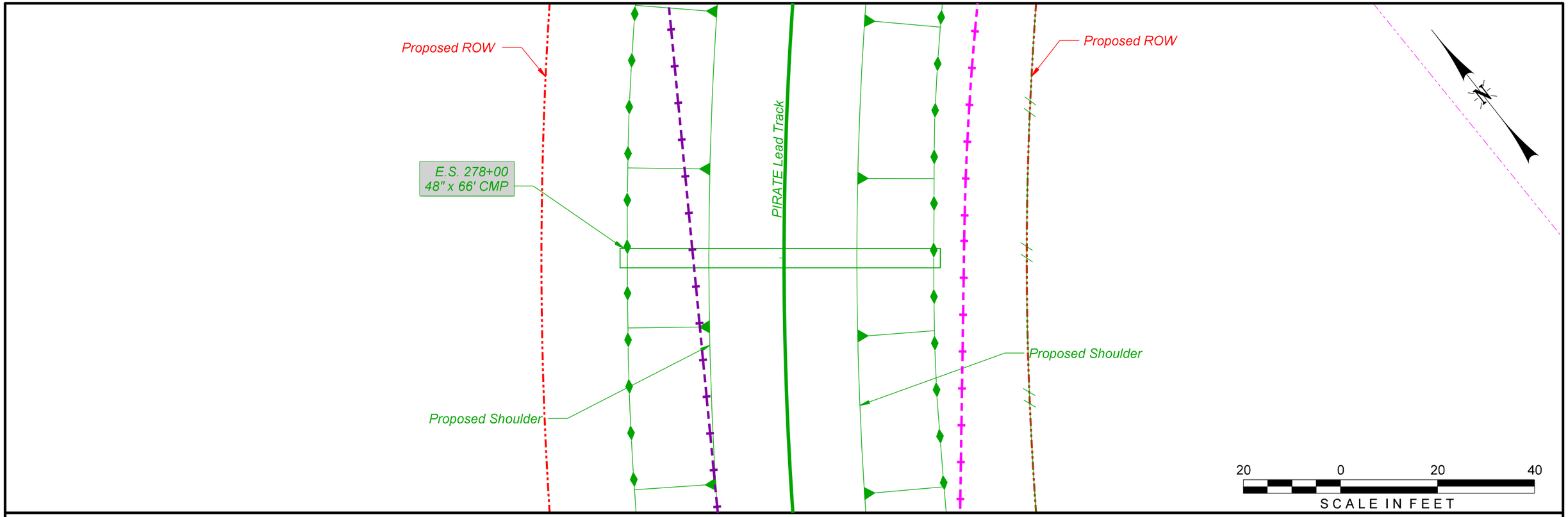
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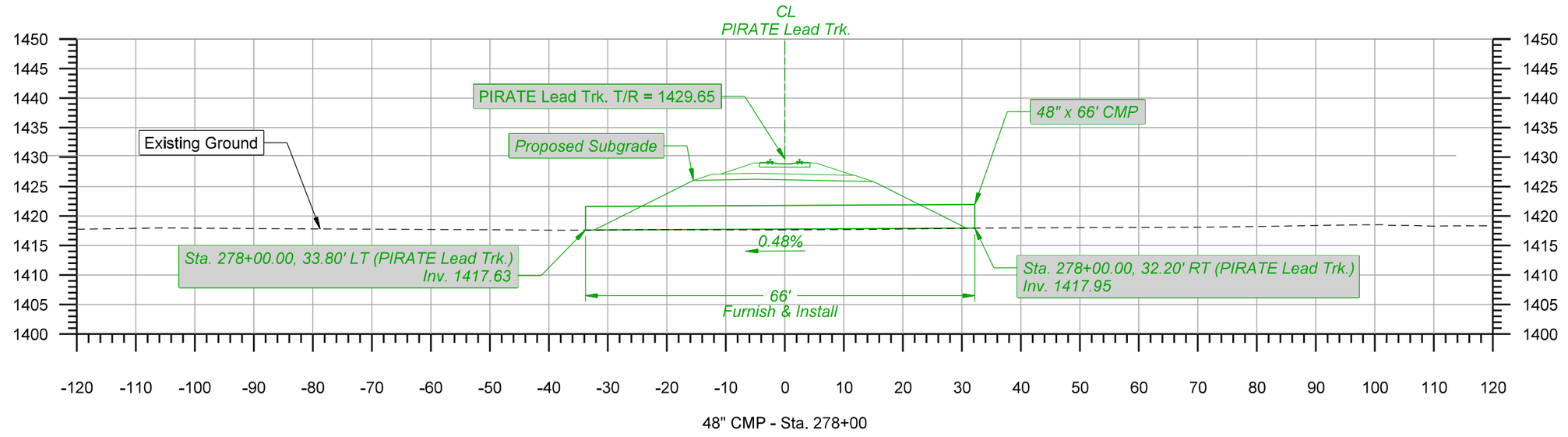
UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
CULVERT STA. 268+00 - 3 - 48" CMP

Color table: K:\Bentley\WorkspaceV8i\projects\Clients\UPRR_Track\UPRR_Track_V8i\color\UPRR.tbl
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48" CMP - Sta. 278+00

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DATE:	6/3/2022
SHEET NUMBER	C012 of 012

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

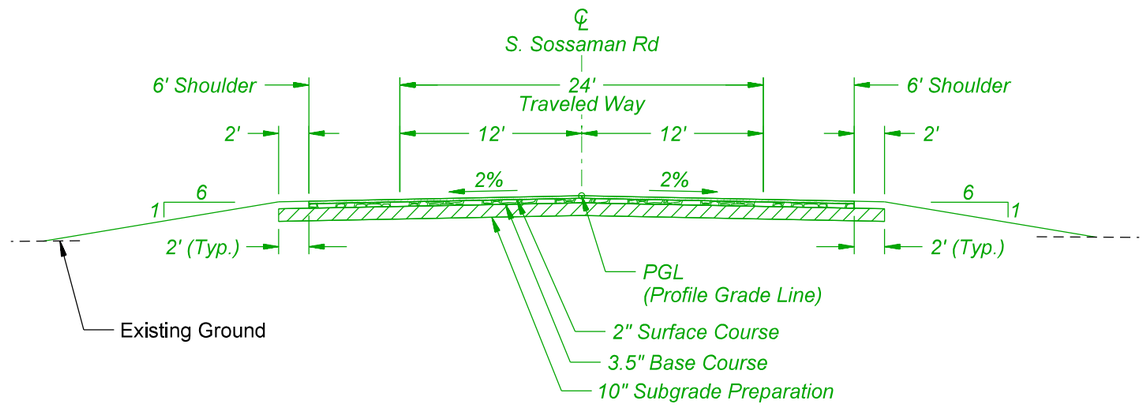
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South Sossaman Road Alignment Information

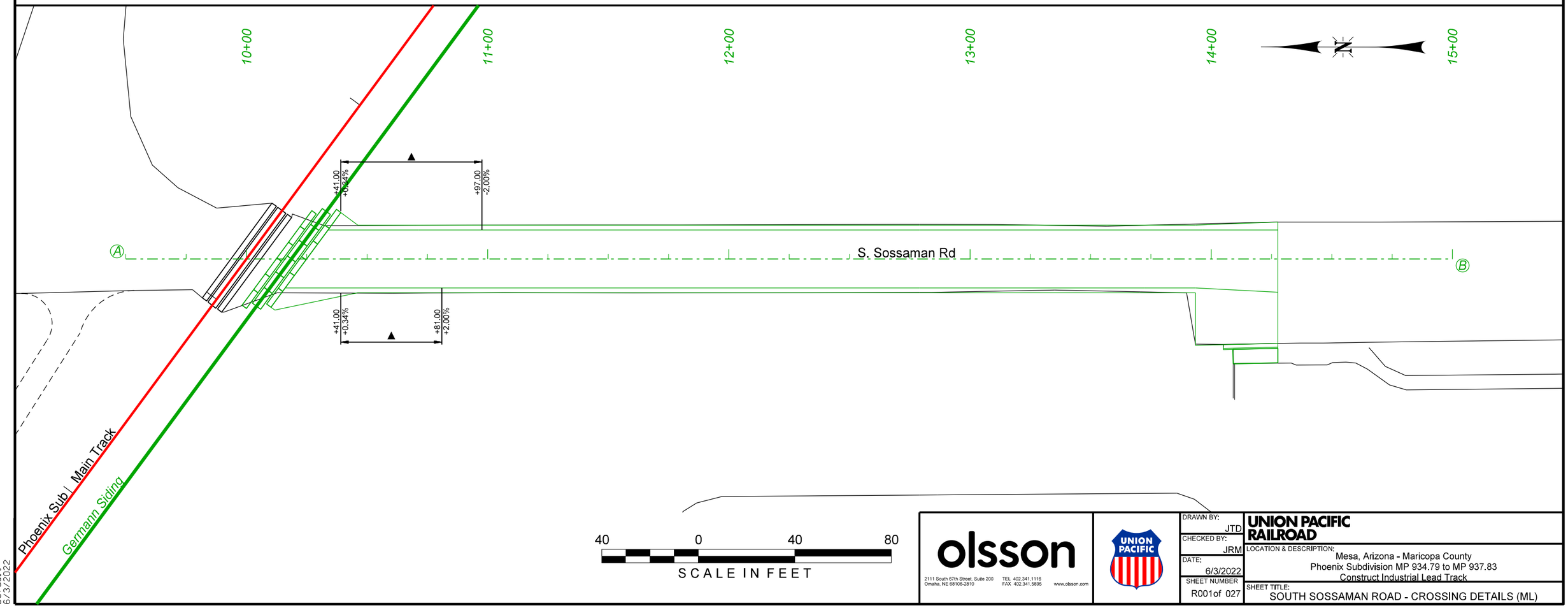
Ⓐ P.O.B. Sta. 9+50
Track Sta. 1527+91.12 - 40.22' LT
N=828980.87, E=775684.20

Ⓑ P.O.E. Sta. 15+00.00
Track Sta. 1531+17.88 - 402.19' RT
N=828430.88, E=775685.01



South Sossaman Road Typical Section

Scale 1" = 10'



40 0 40 80
SCALE IN FEET

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DATE: 6/3/2022
SHEET NUMBER: R001of 027

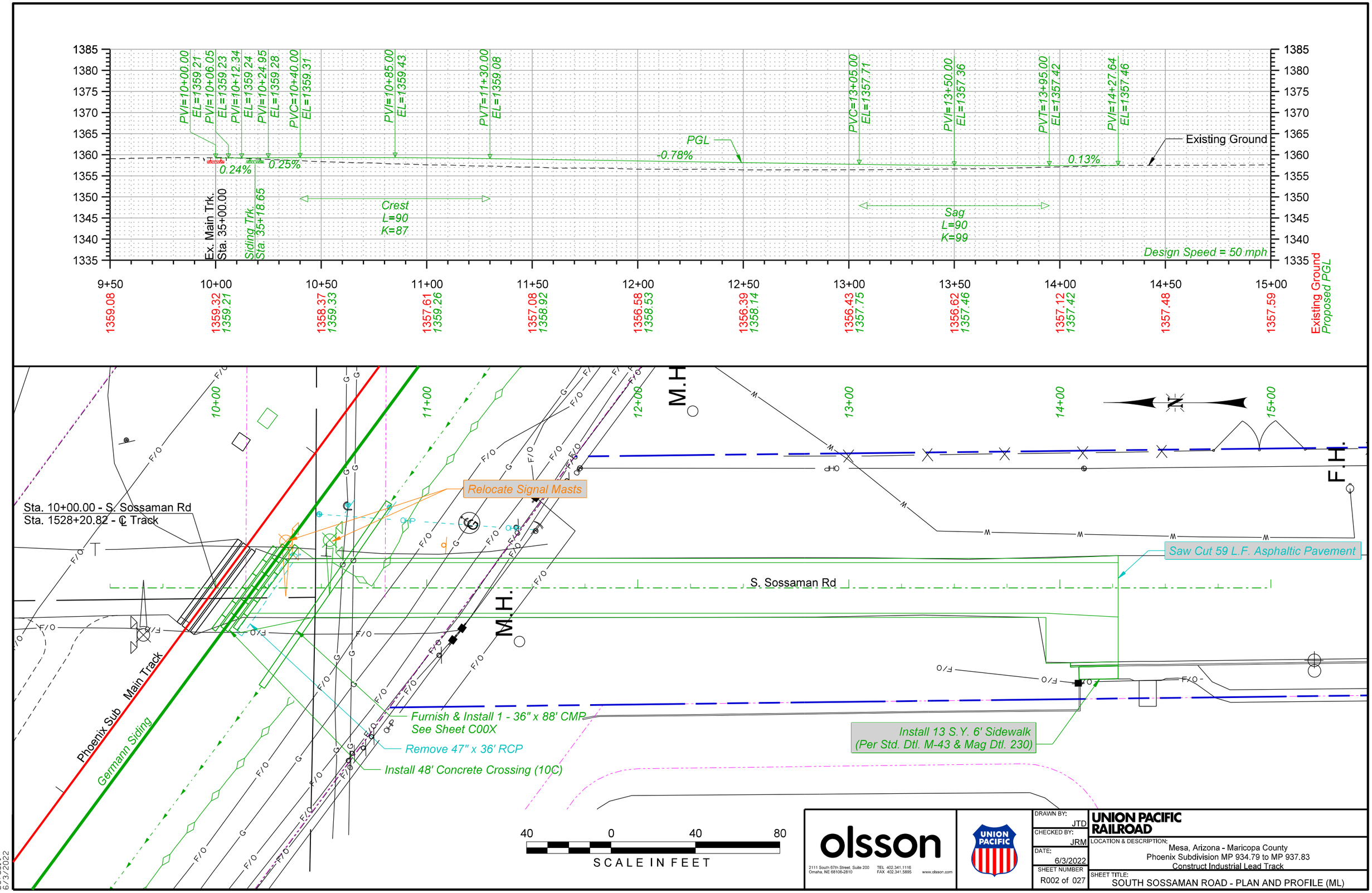
UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
SOUTH SOSSAMAN ROAD - CROSSING DETAILS (ML)

Color table: K:\Bentley\WorkspaceV8i\projects\Clients\UPRR_Track\UPRR_Track_V8i\color\UPRR.tbl
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DATE:	6/3/2022
SHEET NUMBER	R002 of 027

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
SOUTH SOSSAMAN ROAD - PLAN AND PROFILE (ML)

$FILES$

NOTES

1. All traffic control devices and installation shall be in accordance with the latest edition of the Manual of Uniform Traffic Control Devices (MUTCD).
2. Sufficient Type III barricades shall be erected to adequately close the entire roadway width at the intersection.
3. All existing signs in conflict with the construction signs shall be covered in place, as directed by the Engineer. The Contractor shall uncover signs when construction is complete, as directed by the Engineer.
4. All non-regulatory construction signs shall have black letters on an orange background, except as otherwise noted.
5. Flags shall be installed on all construction signs with type A flashing warning lights.
6. All signs mounted on spring stands shall have a minimum mounting height of 2' off the pavement.
7. Place VMS boards 14 days prior to crossing closure through end of closure.
8. Contractor to coordinate closure with City of Mesa and City of Queen Creek 30 days prior to beginning work.

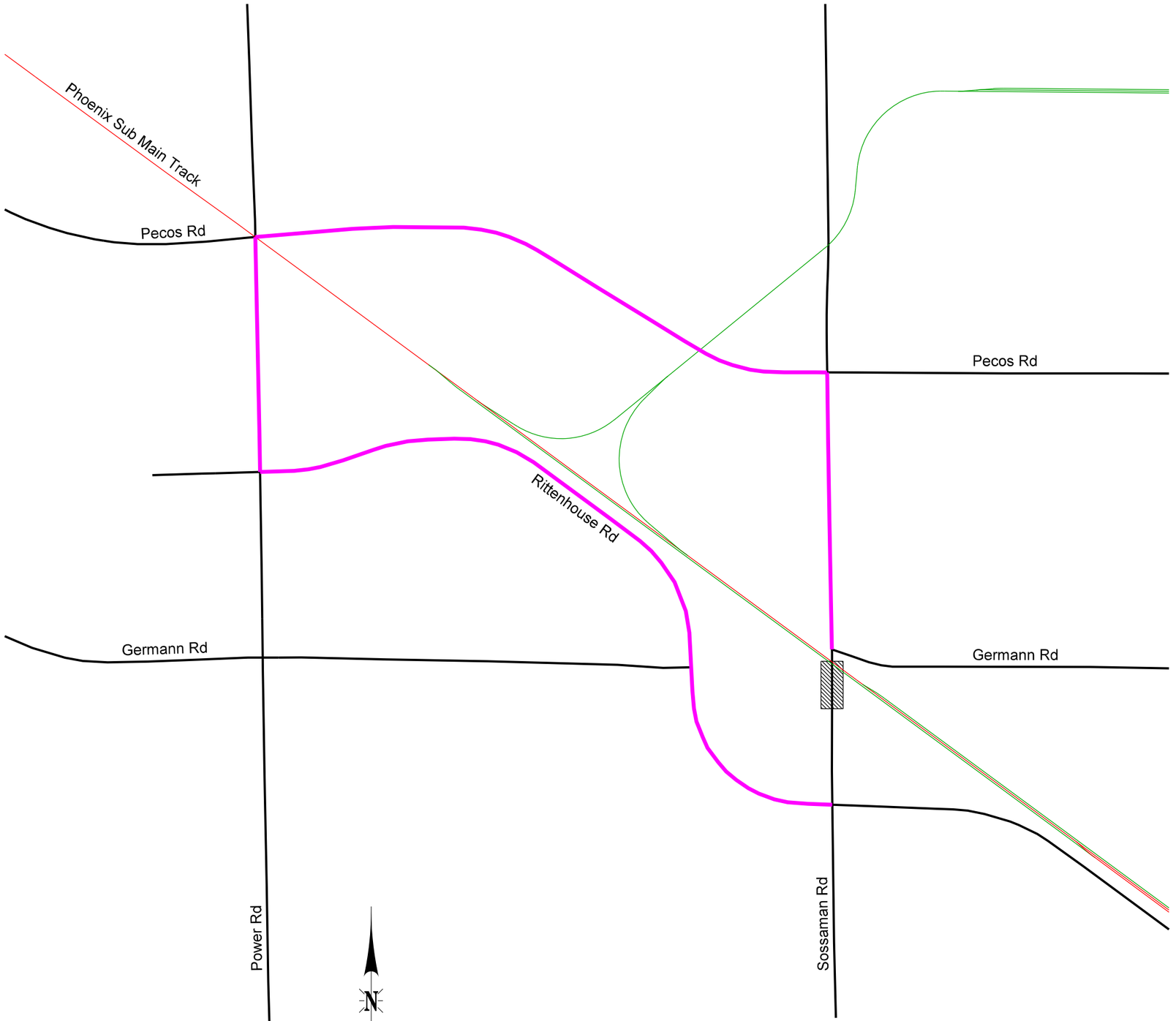
LEGEND

- Variable Message Board (VMS)
- Construction
- Type III Barricade
- Sign
- Detour
- Existing Track
- Proposed Track

MESSAGE: PHASE I	MESSAGE: PHASE II
LINE 1: SOSSAMAN	LINE 1: XX/XX
LINE 2: ROAD	LINE 2: TO
LINE 3: CLOSED	LINE 3: XX/XX
	(XX/XX INDICATES THE DATES OF CLOSURE)

LIST OF TRAFFIC CONTROL DEVICES*			
ITEM	MUTCD DEVICE NO.	SIZE	QTY
ROAD CLOSED	R11-2	48" X 30"	X
ROAD CLOSED TO THRU TRAFFIC	R11-4	60" X 30"	X
'SOSSAMAN ROAD' PLAQUE			X
STRAIGHT ARROW AUXILIARY	M6-3	21" X 15"	X
LEFT ARROW AUXILIARY	M6-1L	21" X 15"	X
RIGHT ARROW AUXILIARY	M6-1R	21" X 15"	X
DETOUR (LEFT ARROW)	M4-10L	48" X 18"	X
DETOUR (RIGHT ARROW)	M4-10R	48" X 18"	X
DETOUR	M4-8	24" X 12"	X
END	M4-8B	24" X 12"	X
TYPE III BARRICADE		60" X 48"	X
VARIABLE MESSAGE BOARDS		DAYS	133

* Note: Traffic control quantities included in this table are shown for information only. Payment for these items shall be made under the applicable bid item.



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UNION PACIFIC

DRAWN BY:	DMJ
CHECKED BY:	JRM
DATE:	6/3/2022
SHEET NUMBER	R003 of 027

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
SOUTH SOSSAMAN ROAD - TRAFFIC CONTROL PLAN (ML)

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Default
6/3/2022

East Pecos Road Alignment Information

Existing CL Based On Existing Pecos Road CL

Ⓐ P.O.B. Sta. 2+00.00
Track Sta. 20+90.21 - 755.14' LT
N=832152.97, E=773811.41

Ⓑ P.I. 13+43.32
N=831555.18, E=774786.00
Delta=28°42'45"
D=4°05'33"
R=1400.00'
L=701.58'
T=358.32'
P.C. Sta. 9+85.00
N=831742.53, E=774480.56
P.T. 16+86.58
N=831537.60, E=775143.89

Ⓒ P.O.E. Sta. 18+00.00
Track Sta. 28+18.07 - 639.52' RT
N=831532.03, E=775257.17

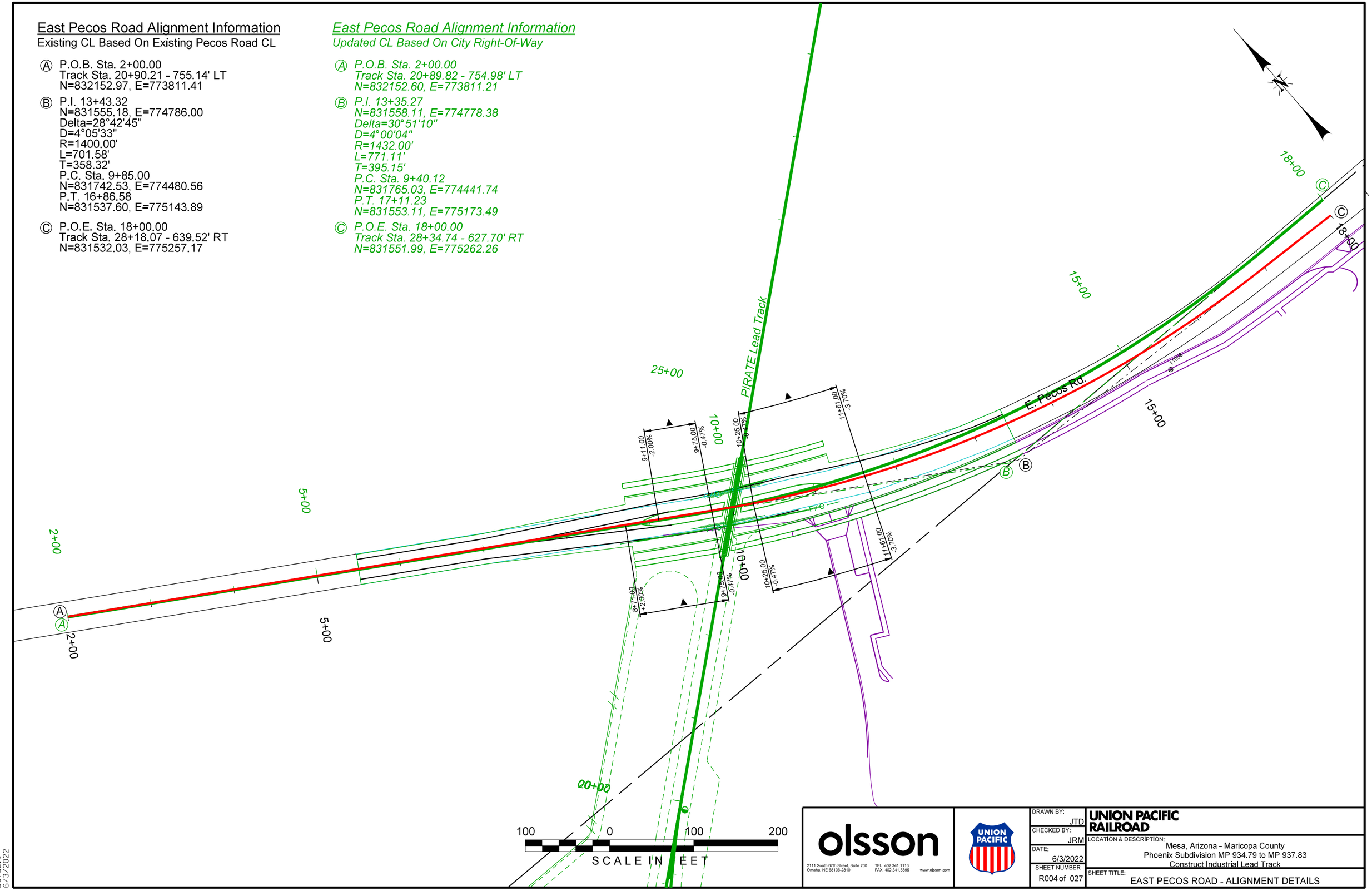
East Pecos Road Alignment Information

Updated CL Based On City Right-Of-Way

Ⓐ P.O.B. Sta. 2+00.00
Track Sta. 20+89.82 - 754.98' LT
N=832152.60, E=773811.21

Ⓑ P.I. 13+35.27
N=831558.11, E=774778.38
Delta=30°51'10"
D=4°00'04"
R=1432.00'
L=771.11'
T=395.15'
P.C. Sta. 9+40.12
N=831765.03, E=774441.74
P.T. 17+11.23
N=831553.11, E=775173.49

Ⓒ P.O.E. Sta. 18+00.00
Track Sta. 28+34.74 - 627.70' RT
N=831551.99, E=775262.26



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UNION PACIFIC

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DATE:	6/3/2022
SHEET NUMBER	R004 of 027

UNION PACIFIC RAILROAD

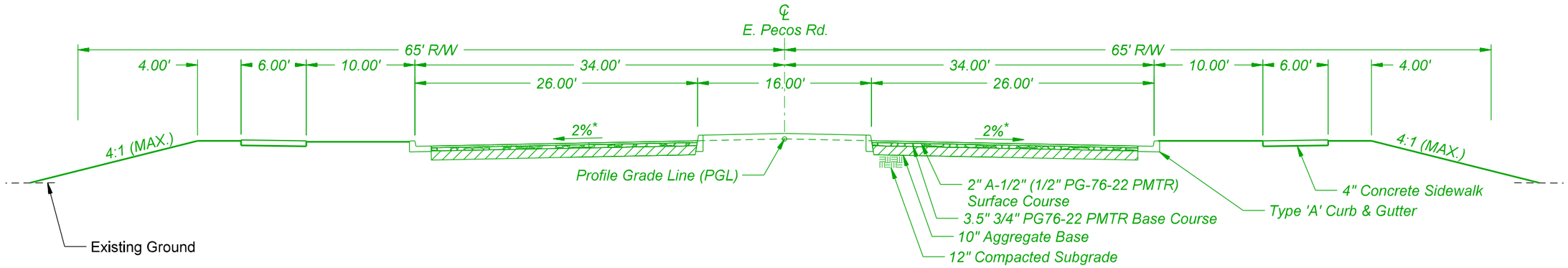
LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
EAST PECOS ROAD - ALIGNMENT DETAILS

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6/3/2022

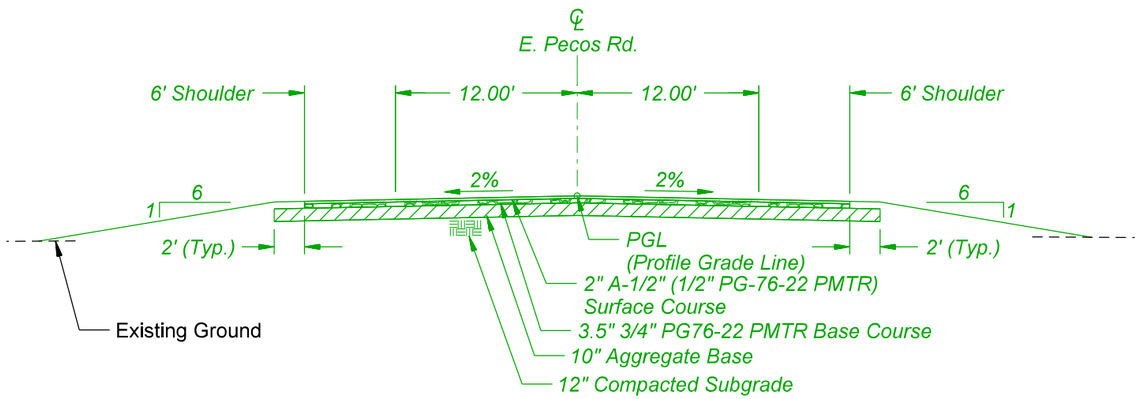
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*See Plan View For Superelevation Transition



TYPICAL SECTION

Sta. 8+75 to Sta. 11+25



TYPICAL SECTION

Sta. 5+50 to Sta. 8+75
Sta. 11+25 to Sta. 13+40

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DRAWN BY:	JTD
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DATE:	6/3/2022
SHEET NUMBER	R005 of 027

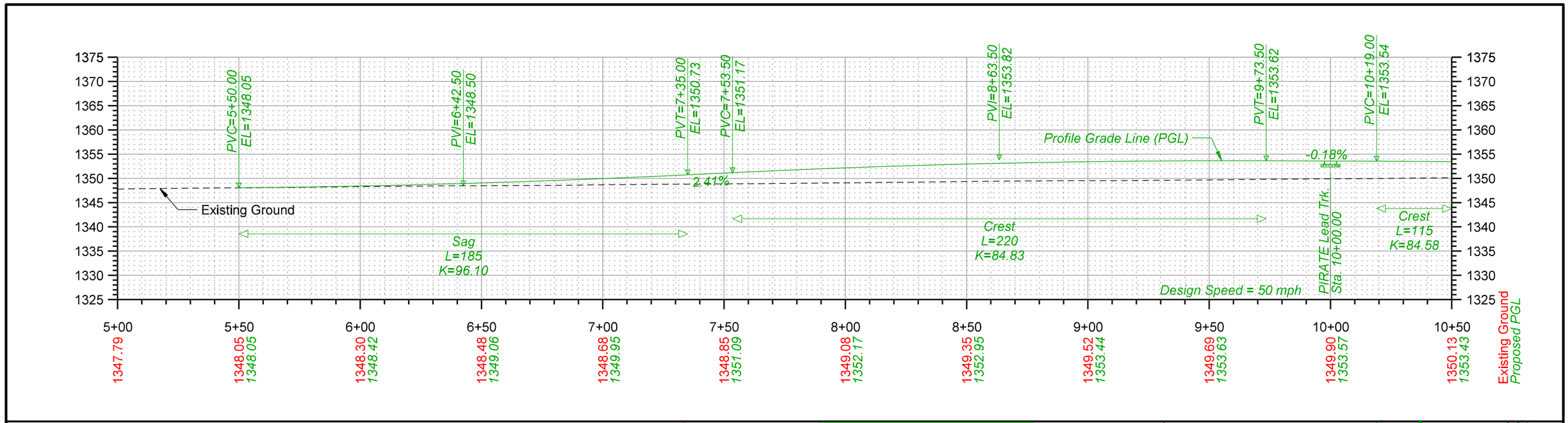
UNION PACIFIC RAILROAD

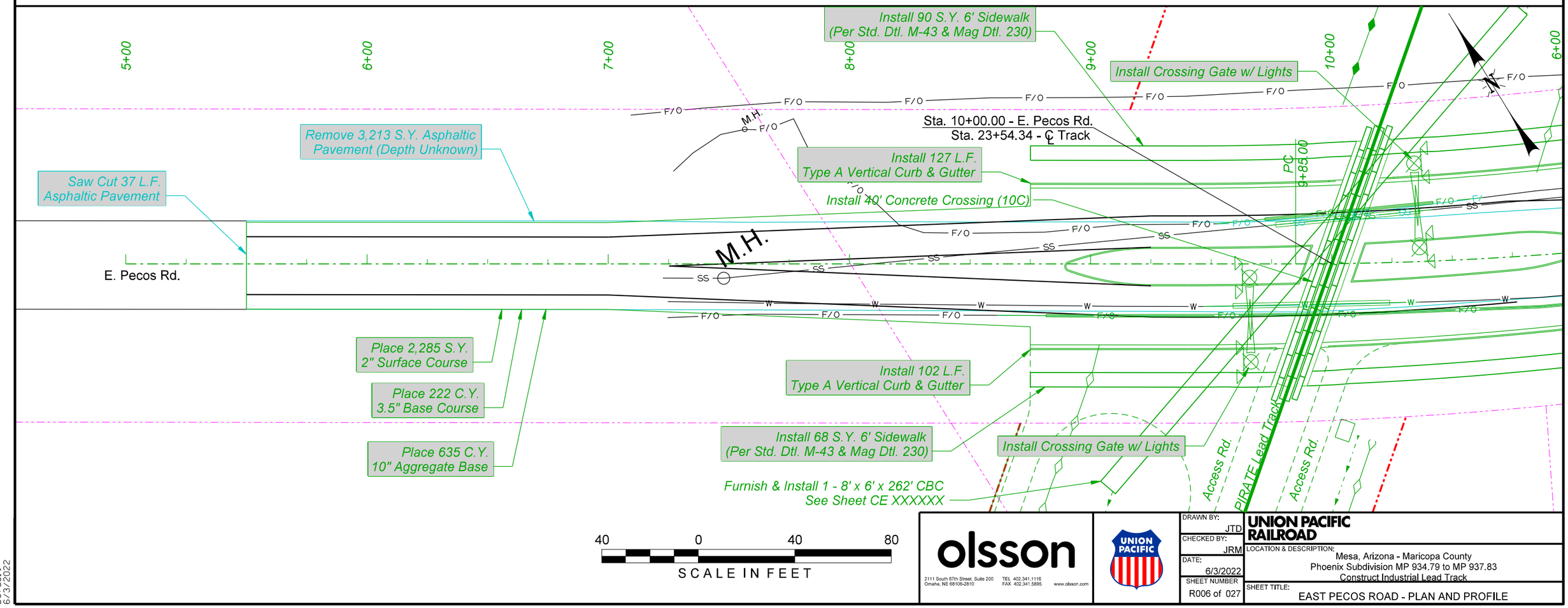
LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
EAST PECOS ROAD - TYPICAL SECTIONS

Color table: K:\Bentley\WorkspaceV8i\projects\Clients\UPRR_Track\UPRR_Track_V8i\color\UPRR.tbl
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DRAWN BY:	JTD
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DATE:	6/3/2022
SHEET NUMBER	R006 of 027

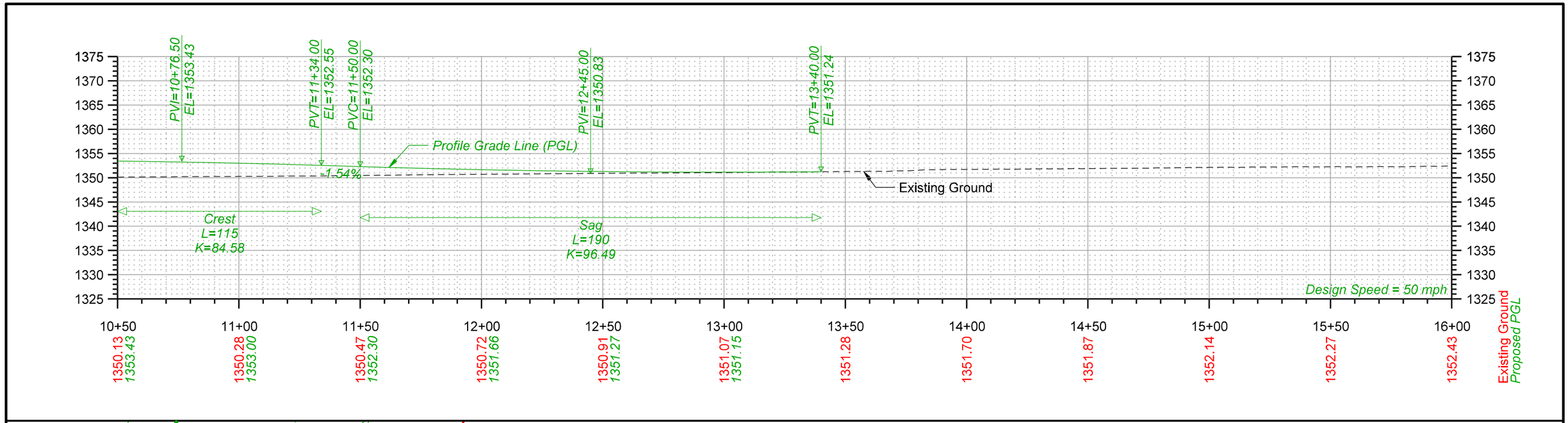
UNION PACIFIC RAILROAD

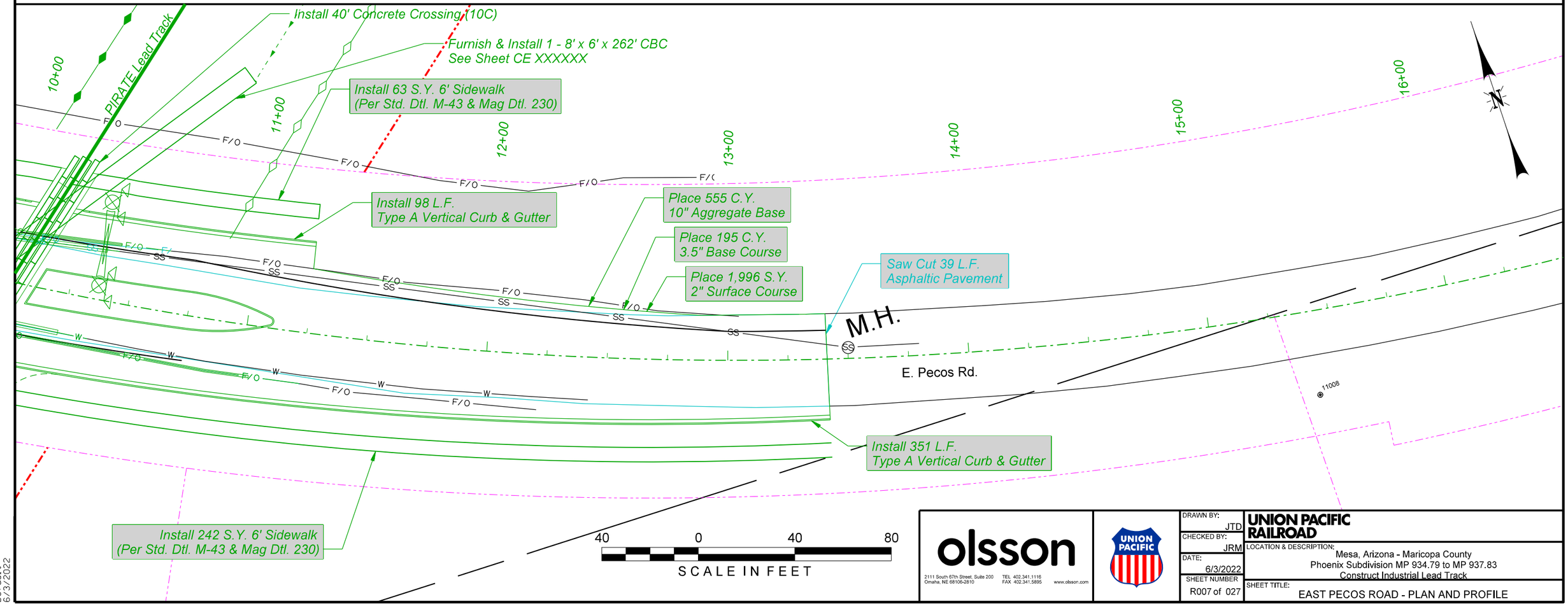
LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
EAST PECOS ROAD - PLAN AND PROFILE

Color table: K:\Bentley\WorkspaceV8i\projects\Clients\UPRR_Track\UPRR_Track_V8i\color\UPRR.tbl
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DRAWN BY:	JTD
CHECKED BY:	JRM
DATE:	6/3/2022
SHEET NUMBER	R007 of 027

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
EAST PECOS ROAD - PLAN AND PROFILE

Color table: K:\Bentley\WorkspaceV8i\projects\Clients\UPRR_Track\UPRR_Track_V8i\color\UPRR.tbl
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NOTES

1. All traffic control devices and installation shall be in accordance with the latest edition of the Manual of Uniform Traffic Control Devices (MUTCD).
2. Sufficient Type III barricades shall be erected to adequately close the entire roadway width at the intersection.
3. All existing signs in conflict with the construction signs shall be covered in place, as directed by the Engineer. The Contractor shall uncover signs when construction is complete, as directed by the Engineer.
4. All non-regulatory construction signs shall have black letters on an orange background, except as otherwise noted.
5. Flags shall be installed on all construction signs with type A flashing warning lights.
6. All signs mounted on spring stands shall have a minimum mounting height of 2' off the pavement.
7. Place VMS boards 14 days prior to crossing closure through end of closure.
8. Contractor to coordinate closure with City of Mesa and City of Queen Creek 30 days prior to beginning work.

LEGEND

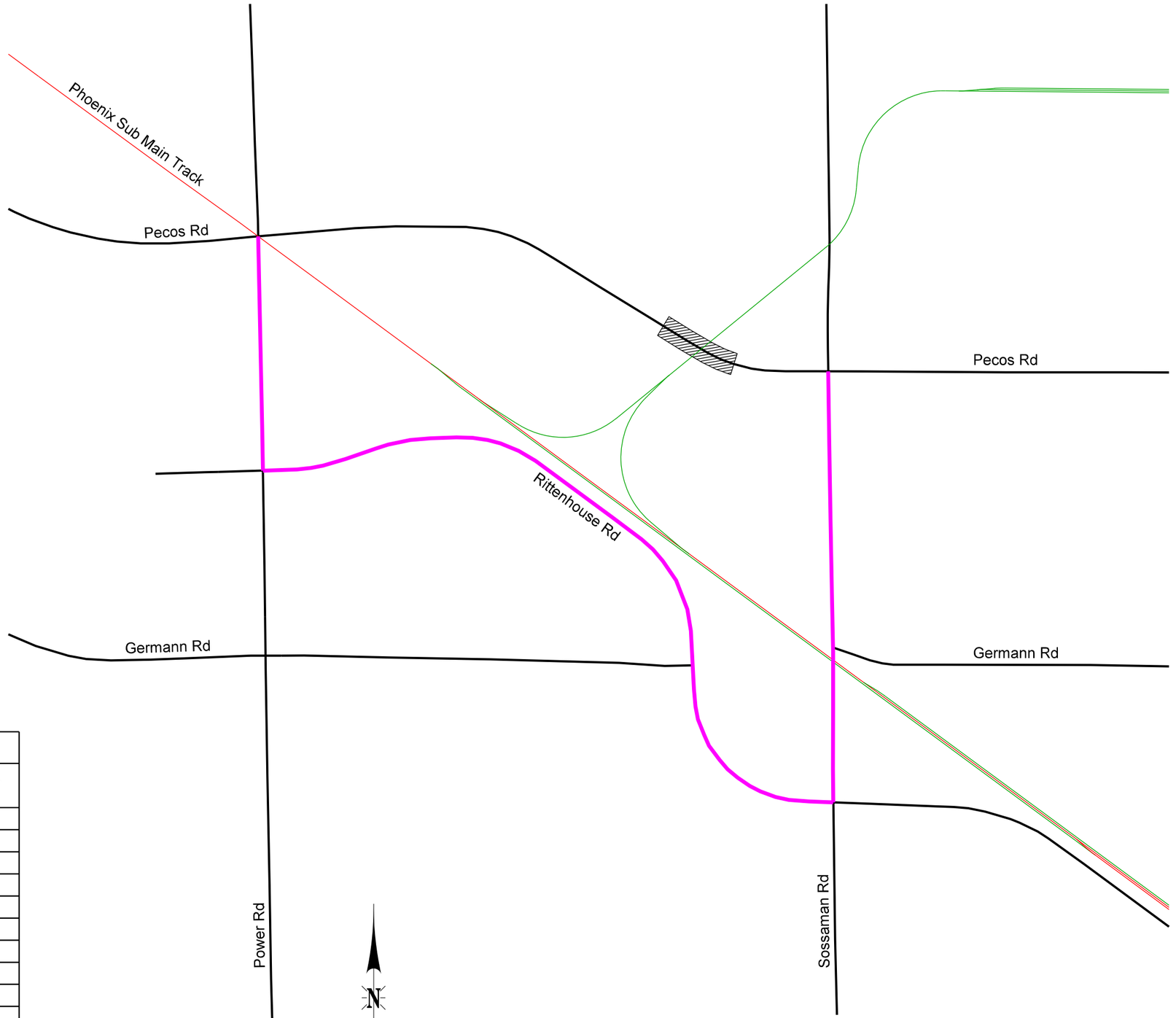
- Variable Message Board (VMS)
- Construction
- Type III Barricade
- Sign
- Detour
- Existing Track
- Proposed Track

	MESSAGE: PHASE I	MESSAGE: PHASE II
X X X X X X X X	LINE 1: PECOS LINE 2: ROAD LINE 3: CLOSED	LINE 1: XX/XX LINE 2: TO LINE 3: XX/XX (XX/XX INDICATES THE DATES OF CLOSURE)

LIST OF TRAFFIC CONTROL DEVICES*

ITEM	MUTCD DEVICE NO.	SIZE	QTY
ROAD CLOSED	R11-2	48" X 30"	X
ROAD CLOSED TO THRU TRAFFIC	R11-4	60" X 30"	X
'PECOS RD' PLAQUE			X
STRAIGHT ARROW AUXILIARY	M6-3	21" X 15"	X
LEFT ARROW AUXILIARY	M6-1L	21" X 15"	X
RIGHT ARROW AUXILIARY	M6-1R	21" X 15"	X
DETOUR (LEFT ARROW)	M4-10L	48" X 18"	X
DETOUR (RIGHT ARROW)	M4-10R	48" X 18"	X
DETOUR	M4-8	24" X 12"	X
END	M4-8B	24" X 12"	X
TYPE III BARRICADE		60" X 48"	X
VARIABLE MESSAGE BOARDS		DAYS	X

* Note: Traffic control quantities included in this table are shown for information only. Payment for these items shall be made under the applicable bid item.



NOT TO SCALE

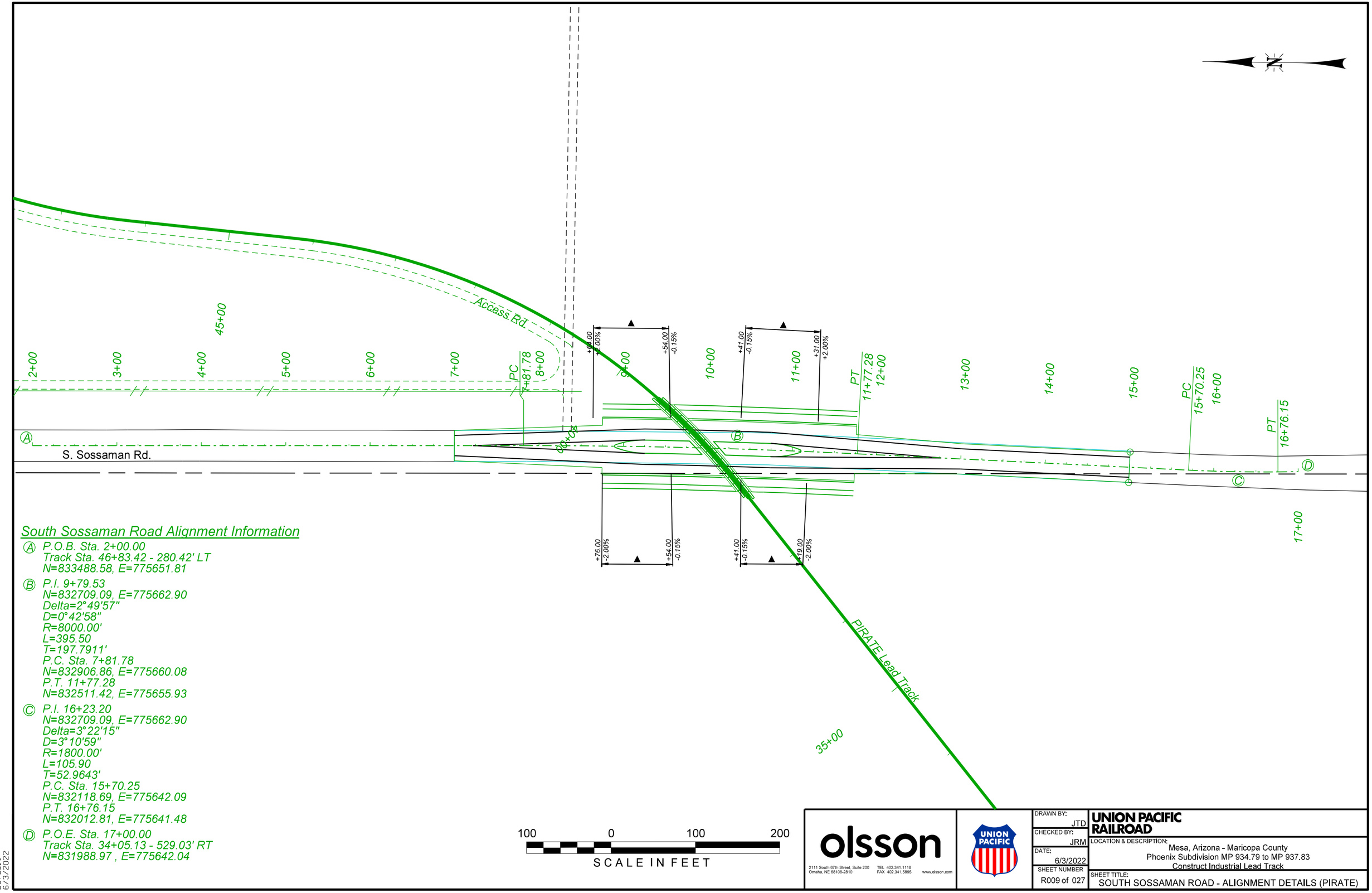
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UNION PACIFIC

DRAWN BY: DMJ
CHECKED BY: JRM
DATE: 6/3/2022
SHEET NUMBER: R008 of 027

UNION PACIFIC RAILROAD
LOCATION & DESCRIPTION: Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track
SHEET TITLE: EAST PECOS ROAD - TRAFFIC CONTROL PLAN

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Default
6/3/2022



South Sossaman Road Alignment Information

Ⓐ *P.O.B. Sta. 2+00.00*
Track Sta. 46+83.42 - 280.42' LT
N=833488.58, E=775651.81

Ⓑ *P.I. 9+79.53*
N=832709.09, E=775662.90
Delta=2°49'57"
D=0°42'58"
R=8000.00'
L=395.50
T=197.7911'
P.C. Sta. 7+81.78
N=832906.86, E=775660.08
P.T. 11+77.28
N=832511.42, E=775655.93

Ⓒ *P.I. 16+23.20*
N=832709.09, E=775662.90
Delta=3°22'15"
D=3°10'59"
R=1800.00'
L=105.90
T=52.9643'
P.C. Sta. 15+70.25
N=832118.69, E=775642.09
P.T. 16+76.15
N=832012.81, E=775641.48

Ⓓ *P.O.E. Sta. 17+00.00*
Track Sta. 34+05.13 - 529.03' RT
N=831988.97 , E=775642.04

100 0 100 200
SCALE IN FEET

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UNION PACIFIC

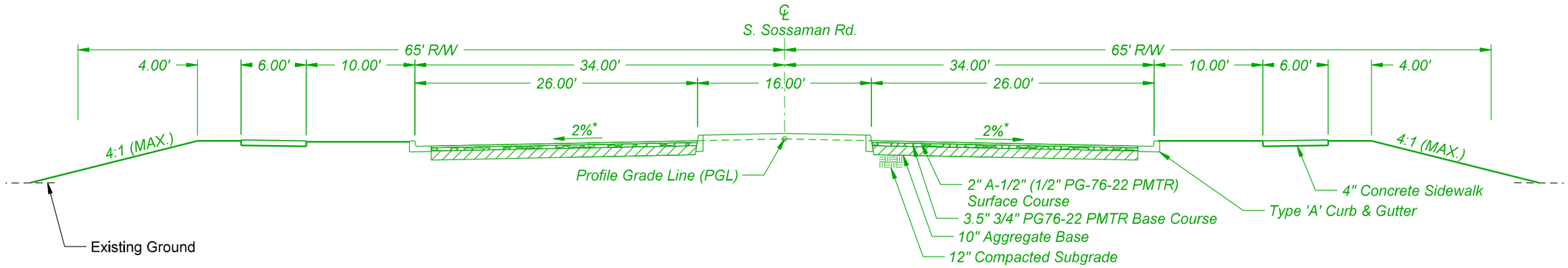
DRAWN BY: JTD
CHECKED BY: JRM
DATE: 6/3/2022
SHEET NUMBER: R009 of 027

UNION PACIFIC RAILROAD
LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track
SHEET TITLE:
SOUTH SOSSAMAN ROAD - ALIGNMENT DETAILS (PIRATE)

Color table: K:\Bentley\Workspace\V8i\projects\Clients\UPRR_Track\UPRR_Track_V8i\color\UPRR.tbl
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6/3/2022

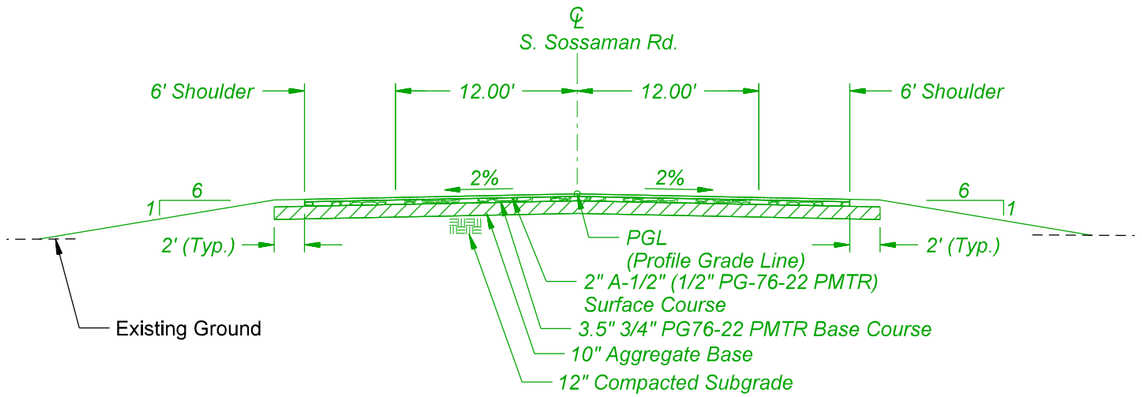
$FILES$

*See Plan View For Superelevation Transition



TYPICAL SECTION

Sta. 8+75 to Sta. 11+75



TYPICAL SECTION

Sta. 7+00 to Sta. 8+75
Sta. 11+75 to Sta. 15+00

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CHECKED BY:	JRM
DATE:	6/3/2022
SHEET NUMBER	R010 of 027

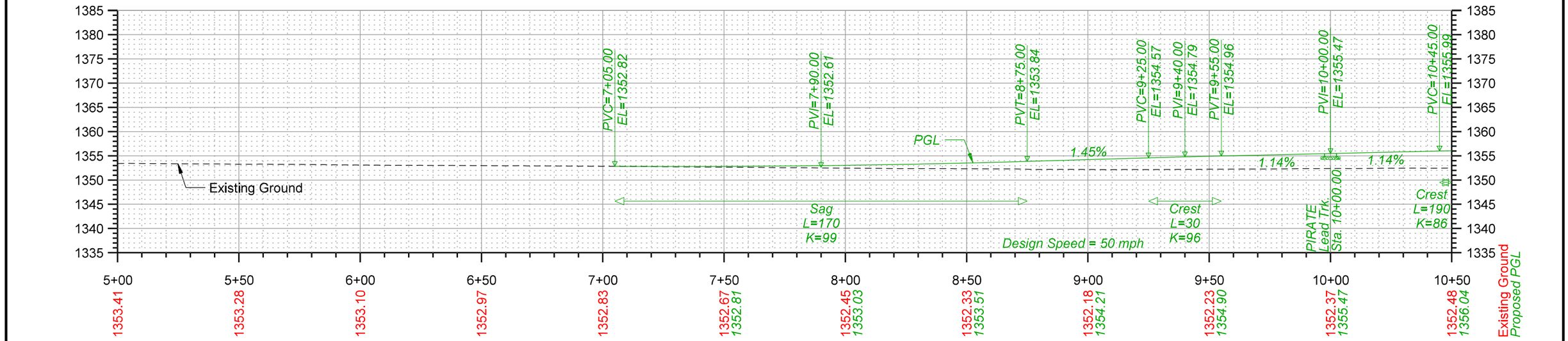
UNION PACIFIC RAILROAD

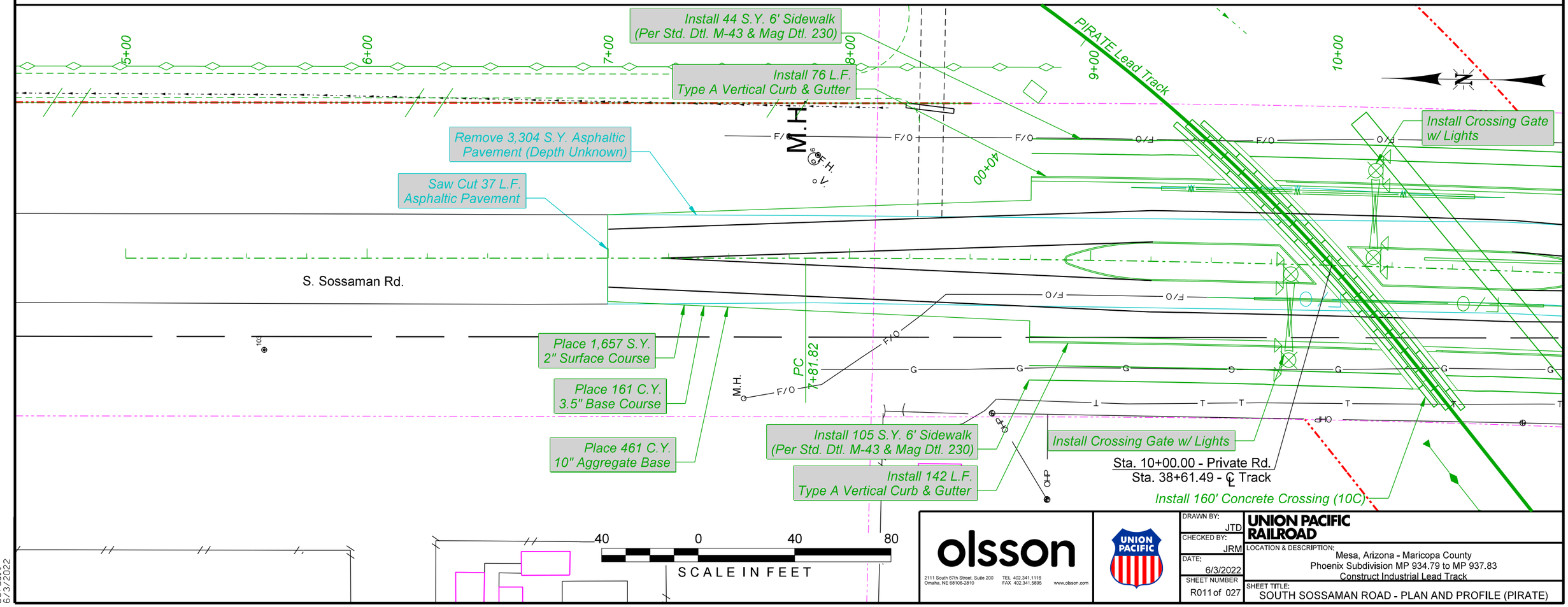
LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
SOSSAMAN ROAD TYPICAL SECTIONS

Color table: K:\Bentley\WorkspaceV8i\projects\Clients\UPRR_Track\UPRR_Track_V8i\color\UPRR.tbl
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UNION PACIFIC

DRAWN BY:	JTD
CHECKED BY:	JRM
DATE:	6/3/2022
SHEET NUMBER	R011 of 027

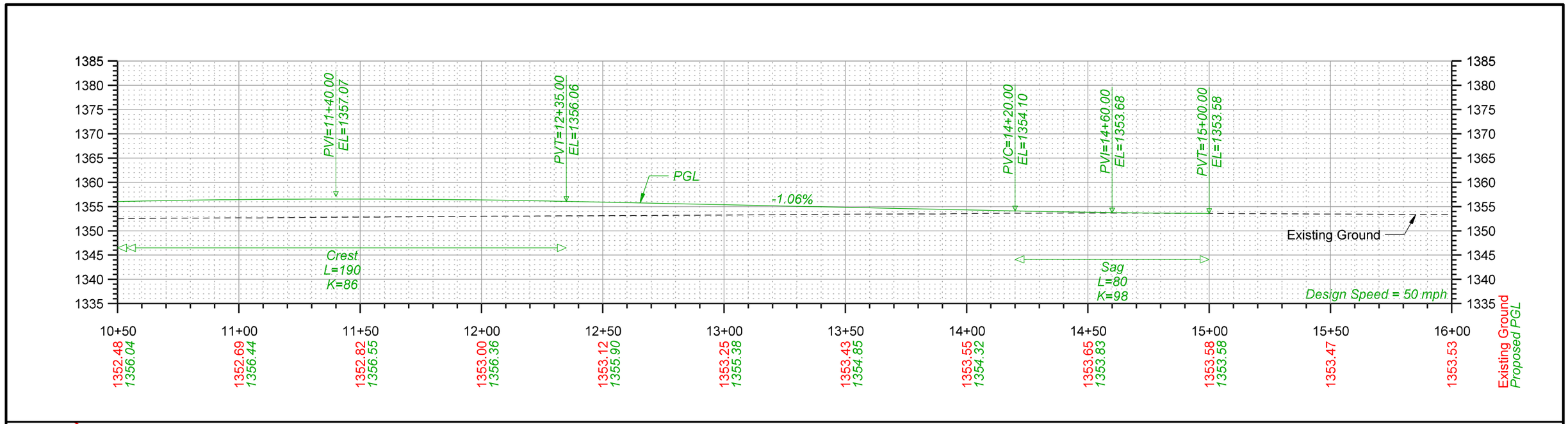
UNION PACIFIC RAILROAD

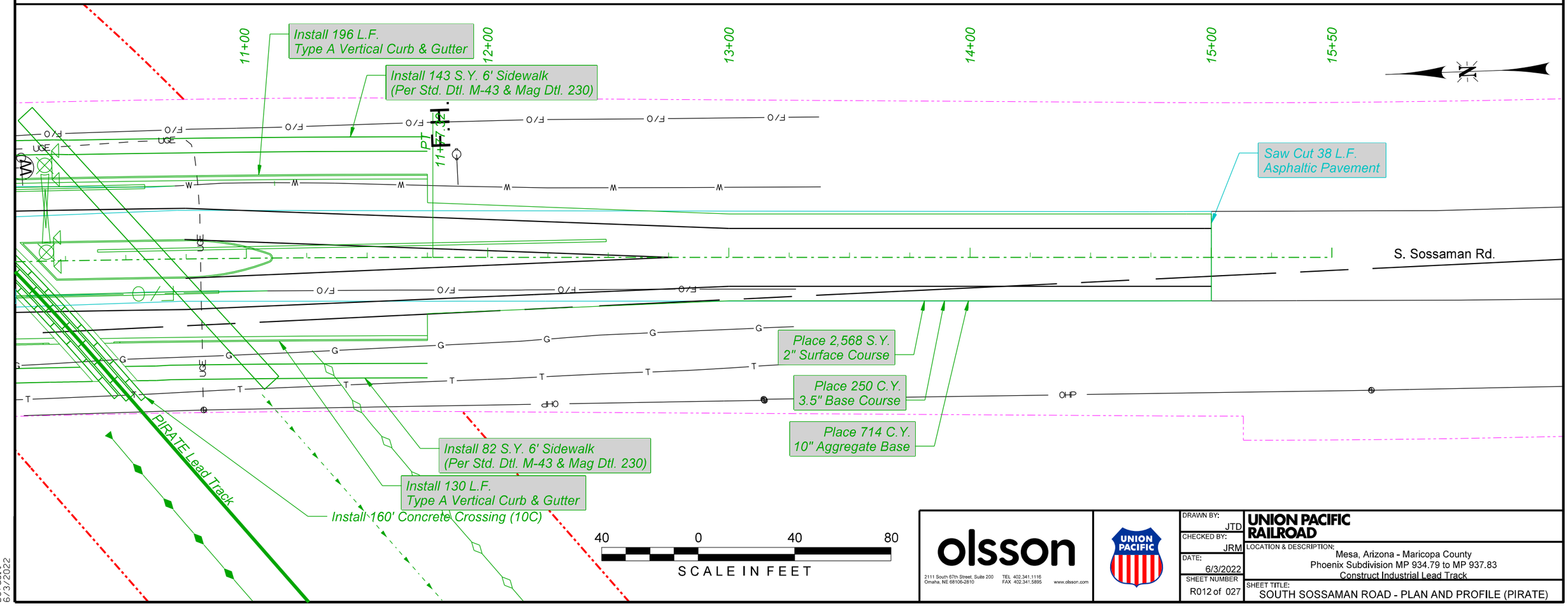
LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
SOUTH SOSSAMAN ROAD - PLAN AND PROFILE (PIRATE)

Color table: K:\Bentley\WorkspaceV8i\projects\Clients\UPRR_Track\UPRR_Track_V8i\color\UPRR.tbl
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UNION PACIFIC

DRAWN BY:	JTD
CHECKED BY:	JRM
DATE:	6/3/2022
SHEET NUMBER	R012 of 027

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
SOUTH SOSSAMAN ROAD - PLAN AND PROFILE (PIRATE)

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6/3/2022

$FILES$

NOTES

1. All traffic control devices and installation shall be in accordance with the latest edition of the Manual of Uniform Traffic Control Devices (MUTCD).
2. Sufficient Type III barricades shall be erected to adequately close the entire roadway width at the intersection.
3. All existing signs in conflict with the construction signs shall be covered in place, as directed by the Engineer. The Contractor shall uncover signs when construction is complete, as directed by the Engineer.
4. All non-regulatory construction signs shall have black letters on an orange background, except as otherwise noted.
5. Flags shall be installed on all construction signs with type A flashing warning lights.
6. All signs mounted on spring stands shall have a minimum mounting height of 2' off the pavement.
7. Place VMS boards 14 days prior to crossing closure through end of closure.
8. Contractor to coordinate closure with City of Mesa 30 days prior to beginning work.

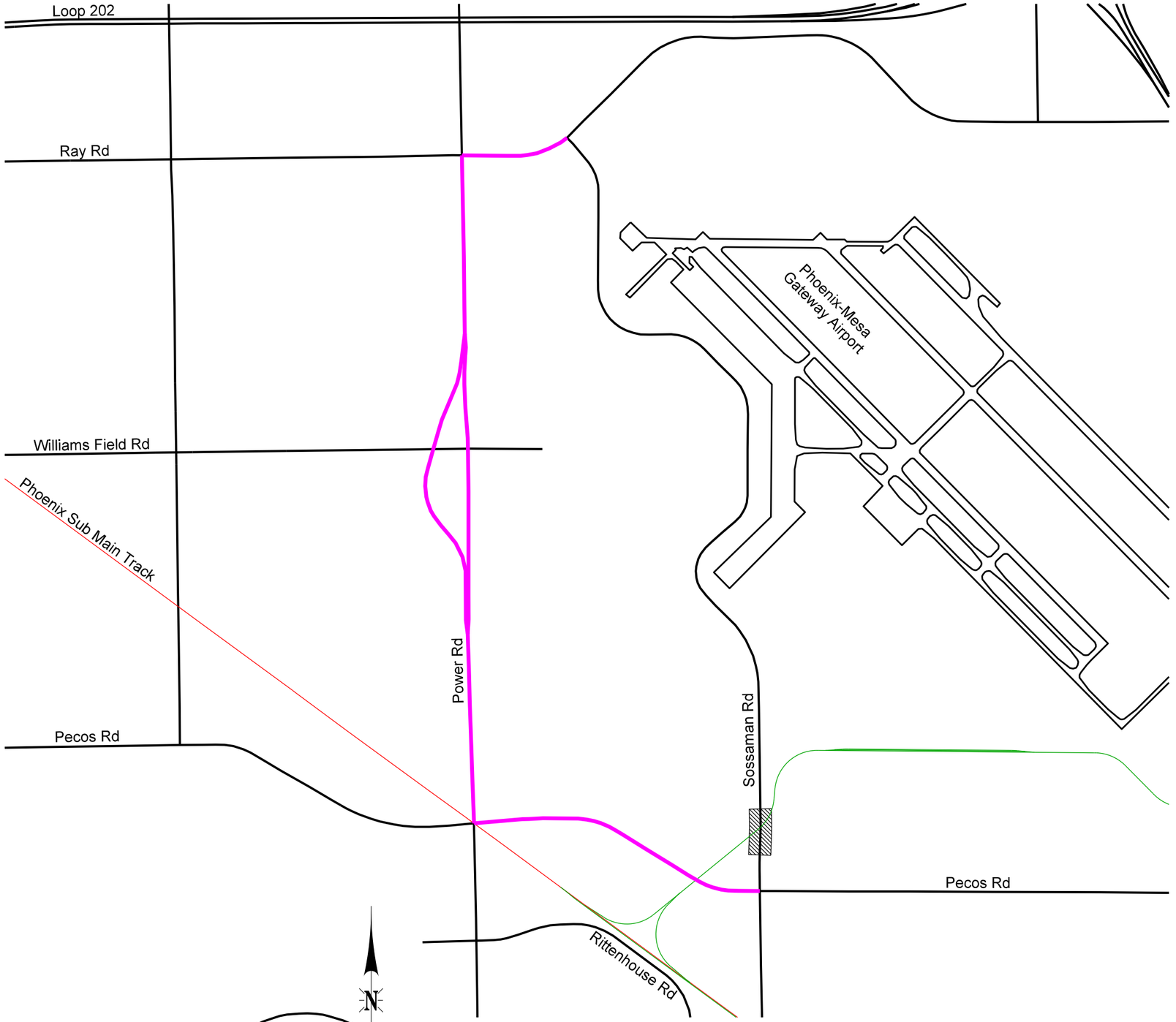
LEGEND

- Variable Message Board (VMS)
- Construction
- Type III Barricade
- Sign
- Detour
- Existing Track
- Proposed Track

	MESSAGE: PHASE I	MESSAGE: PHASE II
X X X X X X X X	LINE 1: SOSSAMAN LINE 2: ROAD LINE 3: CLOSED	LINE 1: XX/XX LINE 2: TO LINE 3: XX/XX (XX/XX INDICATES THE DATES OF CLOSURE)

LIST OF TRAFFIC CONTROL DEVICES*			
ITEM	MUTCD DEVICE NO.	SIZE	QTY
ROAD CLOSED	R11-2	48" X 30"	X
ROAD CLOSED TO THRU TRAFFIC	R11-4	60" X 30"	X
'SOSSAMAN ROAD' PLAQUE			X
STRAIGHT ARROW AUXILIARY	M6-3	21" X 15"	X
LEFT ARROW AUXILIARY	M6-1L	21" X 15"	X
RIGHT ARROW AUXILIARY	M6-1R	21" X 15"	X
DETOUR (LEFT ARROW)	M4-10L	48" X 18"	X
DETOUR (RIGHT ARROW)	M4-10R	48" X 18"	X
DETOUR	M4-8	24" X 12"	X
END	M4-8B	24" X 12"	X
TYPE III BARRICADE		60" X 48"	X
VARIABLE MESSAGE BOARDS		DAYS	133

* Note: Traffic control quantities included in this table are shown for information only. Payment for these items shall be made under the applicable bid item.



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UNION PACIFIC

DRAWN BY:	DMJ
CHECKED BY:	JRM
DATE:	6/3/2022
SHEET NUMBER	R013 of 027

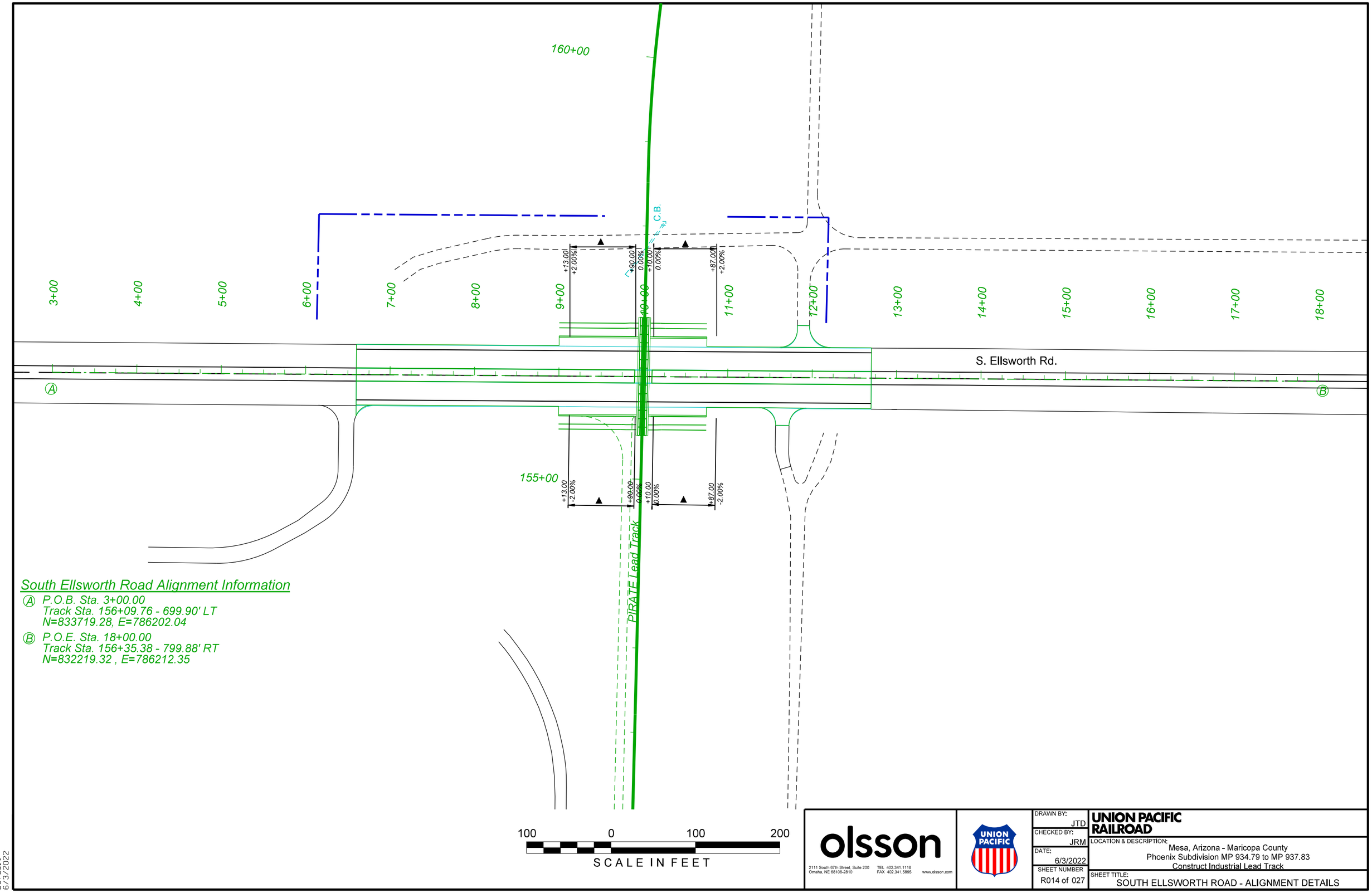
UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
SOUTH SOSSAMAN ROAD - TRAFFIC CONTROL PLAN (PIRATE)

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Default
6/3/2022

$FILES$



South Ellsworth Road Alignment Information

Ⓐ *P.O.B. Sta. 3+00.00*
Track Sta. 156+09.76 - 699.90' LT
N=833719.28, E=786202.04

Ⓑ *P.O.E. Sta. 18+00.00*
Track Sta. 156+35.38 - 799.88' RT
N=832219.32 , E=786212.35

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UNION PACIFIC

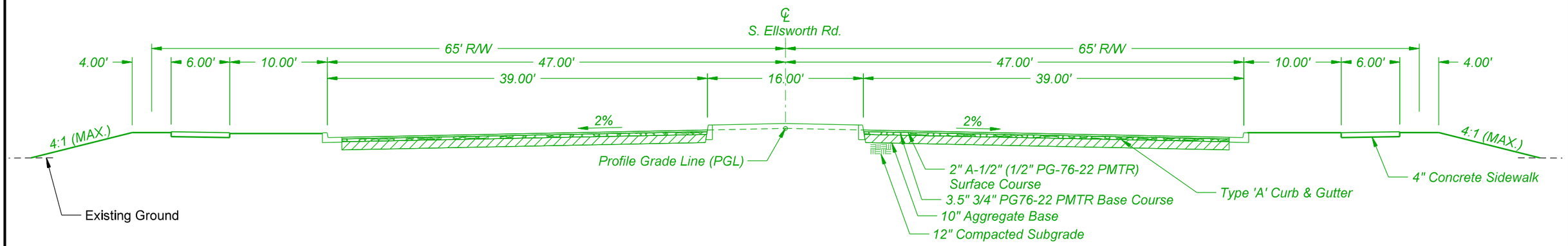
DRAWN BY:	JTD
CHECKED BY:	JRM
DATE:	6/3/2022
SHEET NUMBER	R014 of 027

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

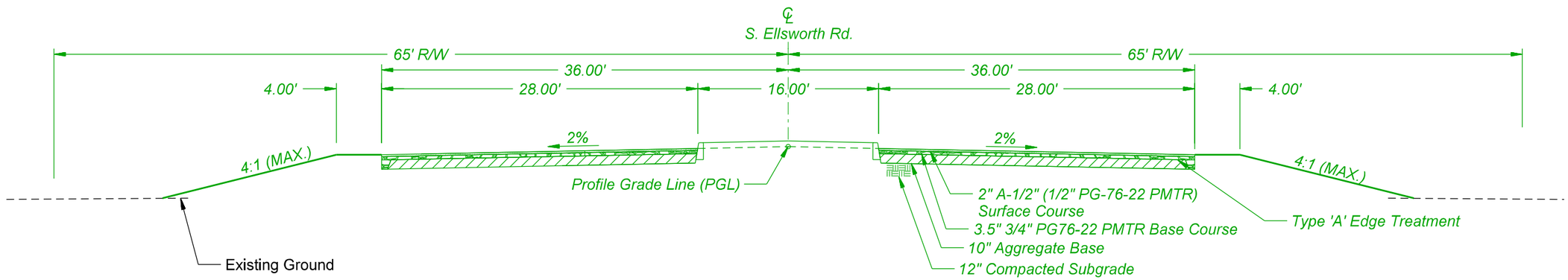
SHEET TITLE:
SOUTH ELLSWORTH ROAD - ALIGNMENT DETAILS

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Default
6/3/2022



TYPICAL SECTION

Sta. 8+75 to Sta. 11+75



TYPICAL SECTION

Sta. 7+00 to Sta. 8+75
Sta. 11+75 to Sta. 15+00

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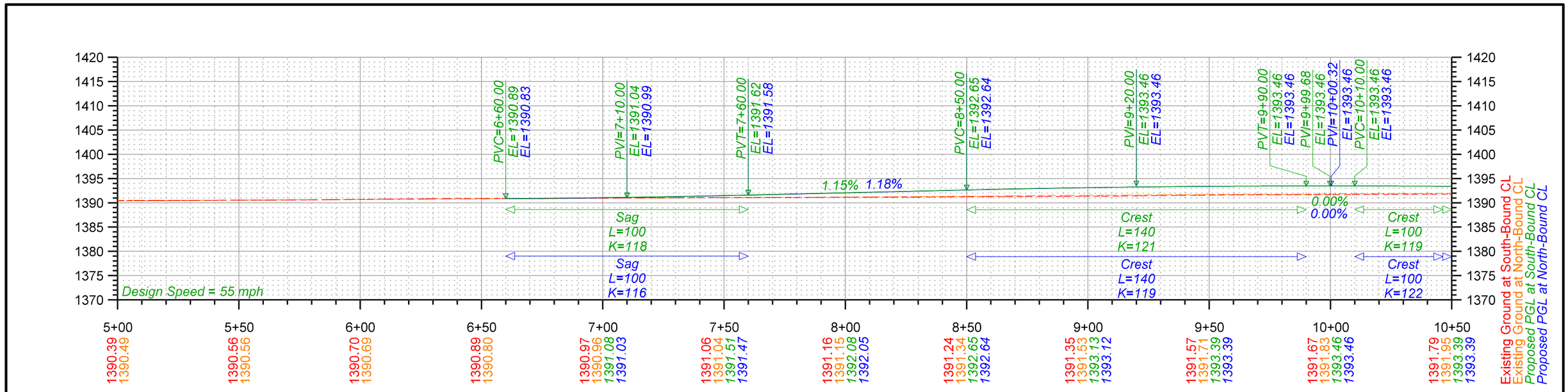
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CHECKED BY:	JRM
DATE:	6/3/2022
SHEET NUMBER	R015 of 027

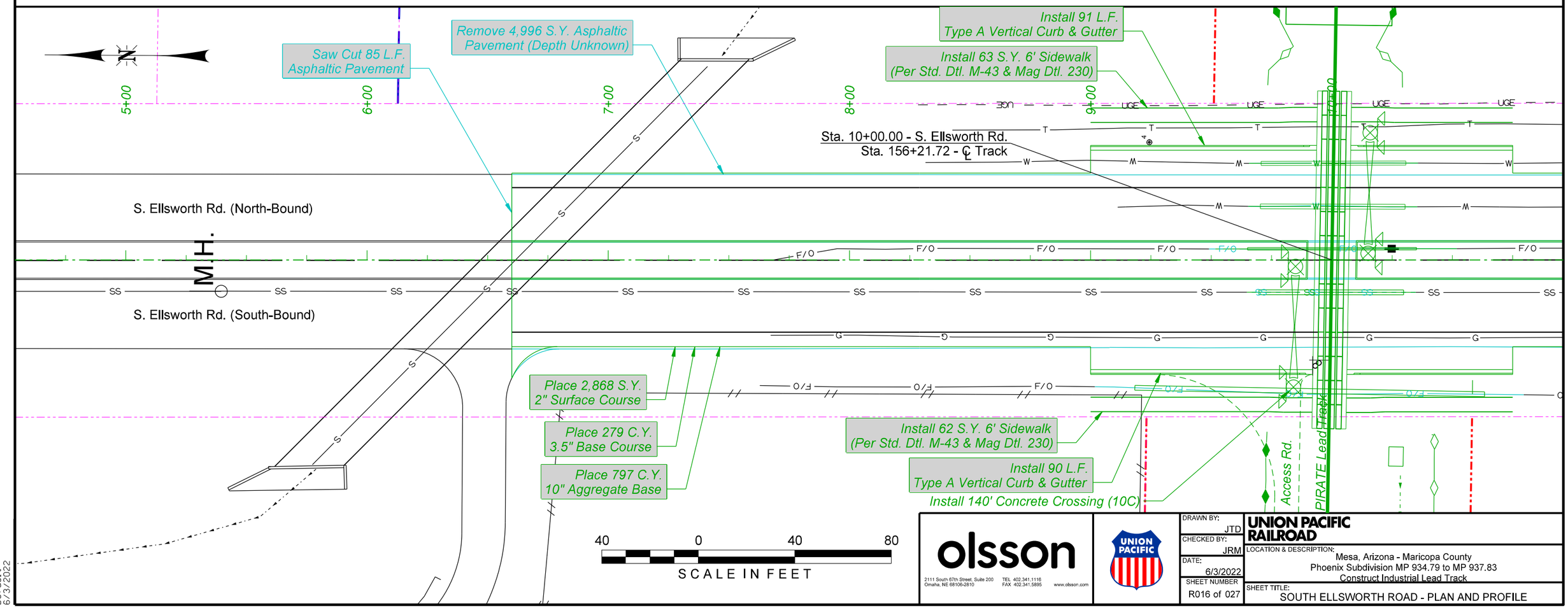
UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
SOUTH ELLSWORTH ROAD - TYPICAL SECTIONS

Color table: K:\Bentley\WorkspaceV8i\projects\Clients\UPRR_Track\UPRR_Track_V8i\color\UPRR.tbl
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DRAWN BY:	JTD
CHECKED BY:	JRM
DATE:	6/3/2022
SHEET NUMBER	R016 of 027

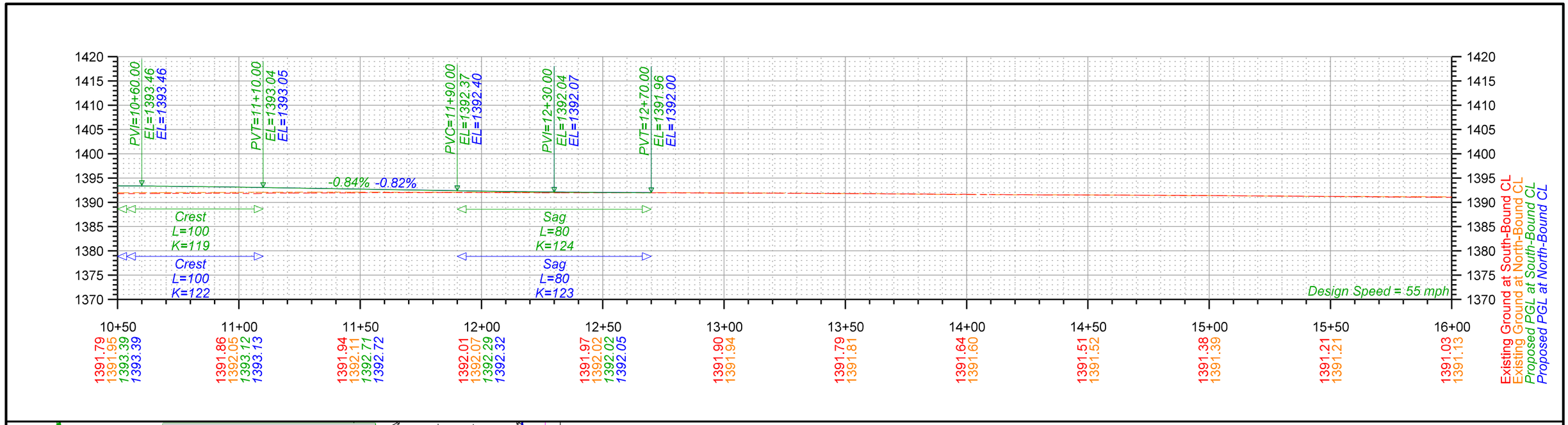
UNION PACIFIC RAILROAD

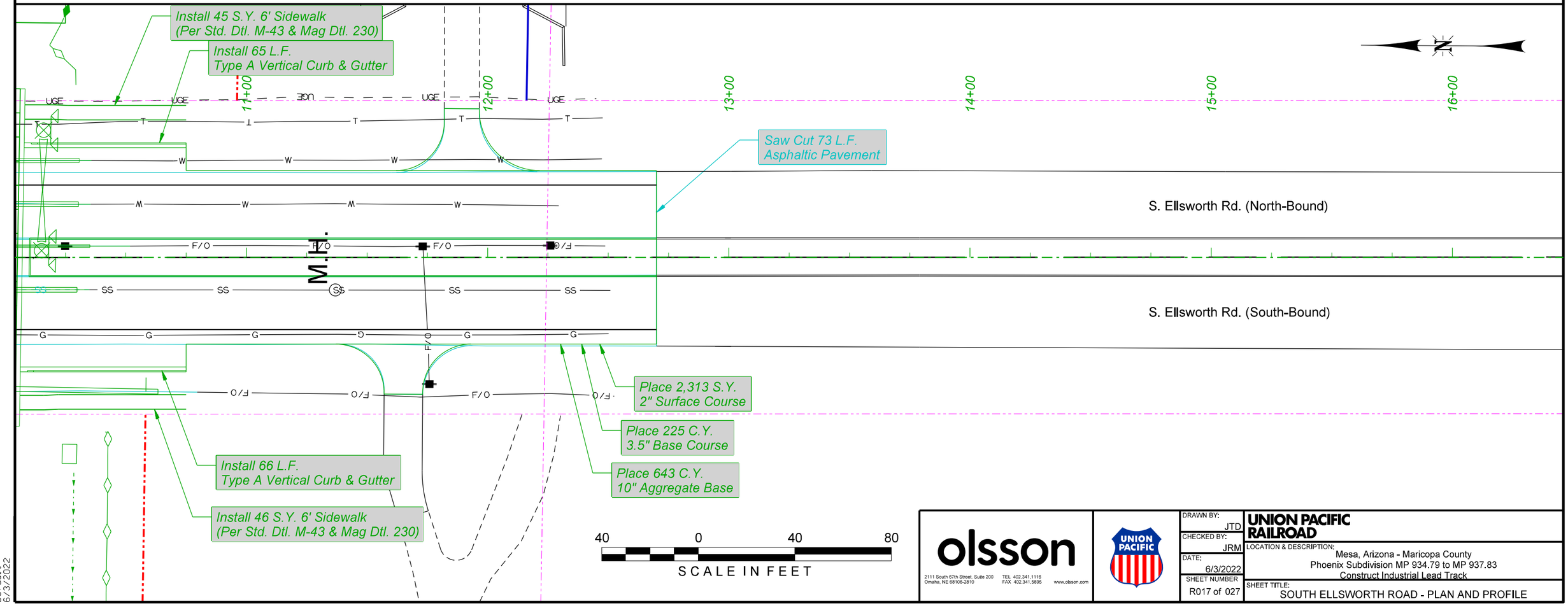
LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
SOUTH ELLSWORTH ROAD - PLAN AND PROFILE

Color table: K:\Bentley\Workspace\V8i\projects\Clients\UPRR_Track\UPRR_Track_V8i\color\UPRR.tbl
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UNION PACIFIC

DRAWN BY:	JTD
CHECKED BY:	JRM
DATE:	6/3/2022
SHEET NUMBER	R017 of 027

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
SOUTH ELLSWORTH ROAD - PLAN AND PROFILE

Color table: K:\Bentley\WorkspaceV8i\projects\Clients\UPRR_Track\UPRR_Track_V8i\color\UPRR.tbl
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6/3/2022

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NOTES

1. All traffic control devices and installation shall be in accordance with the latest edition of the Manual of Uniform Traffic Control Devices (MUTCD).
2. Sufficient Type III barricades shall be erected to adequately close the entire roadway width at the intersection.
3. All existing signs in conflict with the construction signs shall be covered in place, as directed by the Engineer. The Contractor shall uncover signs when construction is complete, as directed by the Engineer.
4. All non-regulatory construction signs shall have black letters on an orange background, except as otherwise noted.
5. Flags shall be installed on all construction signs with type A flashing warning lights.
6. All signs mounted on spring stands shall have a minimum mounting height of 2' off the pavement.
7. Place VMS boards 14 days prior to crossing closure through end of closure.
8. Contractor to coordinate closure with City of Mesa 30 days prior to beginning work.

LEGEND

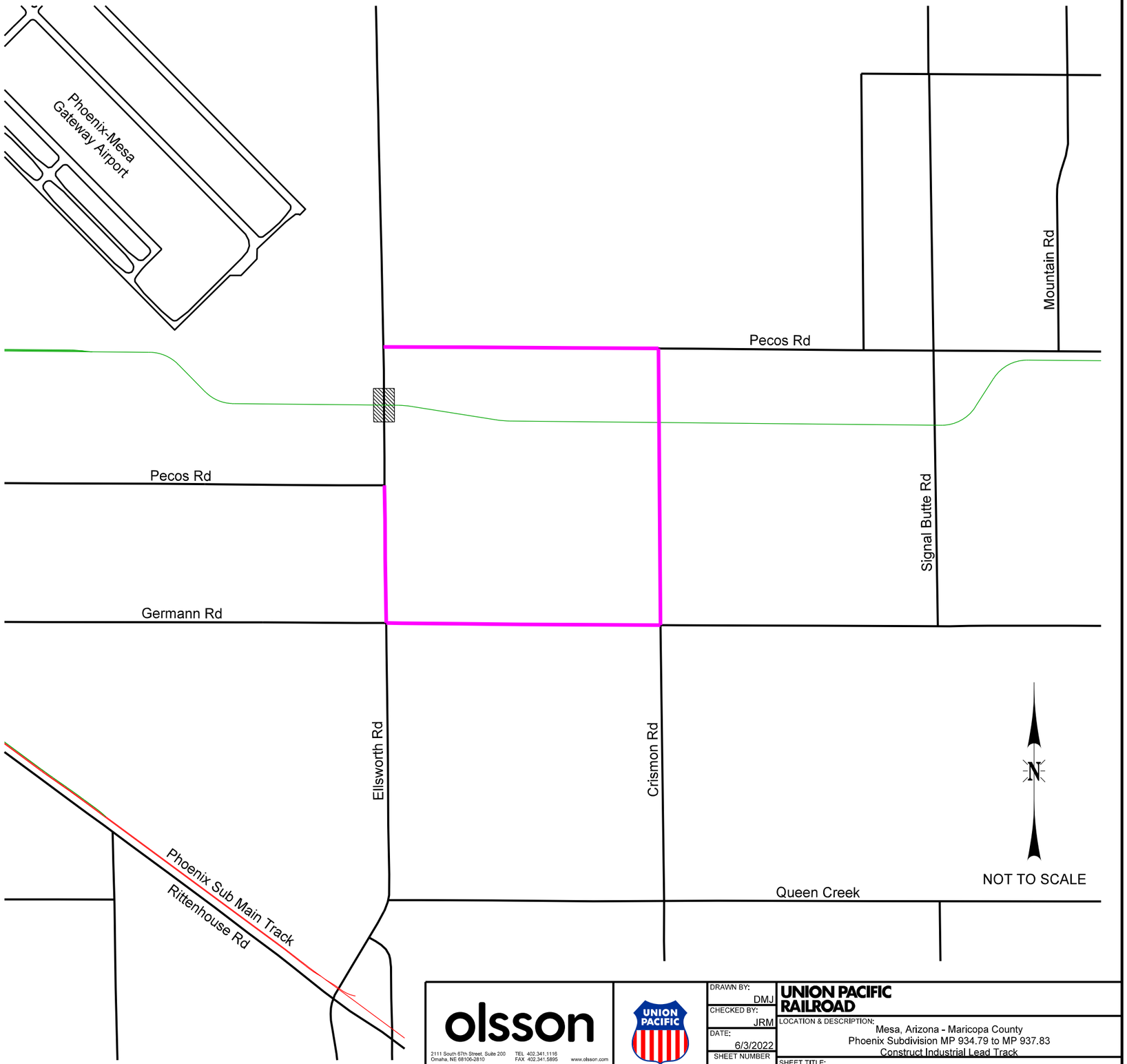
- Variable Message Board (VMS)
- Construction
- Type III Barricade
- Sign
- Detour
- Existing Track
- Proposed Track

	MESSAGE: PHASE I	MESSAGE: PHASE II
X X X X X X X X	LINE 1: ELLSWORTH LINE 2: ROAD LINE 3: CLOSED	LINE 1: XX/XX LINE 2: TO LINE 3: XX/XX (XX/XX INDICATES THE DATES OF CLOSURE)

LIST OF TRAFFIC CONTROL DEVICES*

ITEM	MUTCD DEVICE NO.	SIZE	QTY
ROAD CLOSED	R11-2	48" X 30"	X
ROAD CLOSED TO THRU TRAFFIC	R11-4	60" X 30"	X
'ELLSWORTH ROAD' PLAQUE			X
STRAIGHT ARROW AUXILIARY	M6-3	21" X 15"	X
LEFT ARROW AUXILIARY	M6-1L	21" X 15"	X
RIGHT ARROW AUXILIARY	M6-1R	21" X 15"	X
DETOUR (LEFT ARROW)	M4-10L	48" X 18"	X
DETOUR (RIGHT ARROW)	M4-10R	48" X 18"	X
DETOUR	M4-8	24" X 12"	X
END	M4-8B	24" X 12"	X
TYPE III BARRICADE		60" X 48"	X
VARIABLE MESSAGE BOARDS		DAYS	133

* Note: Traffic control quantities included in this table are shown for information only. Payment for these items shall be made under the applicable bid item.



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CHECKED BY:	JRM
DATE:	6/3/2022
SHEET NUMBER	R018 of 027

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
SOUTH ELLSWORTH ROAD - TRAFFIC CONTROL PLAN

Color table: K:\Bentley\WorkspaceV8i\projects\Clients\UPRR_Track\UPRR_Track_V8i\color\UPRR.tbl
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Default
6/3/2022

Crismon Road Alignment Information

Ⓐ P.O.B. Sta. 5+00.00
Track Sta. 208+77.75 - 449.90' LT
N=833196.55, E=791445.99

Ⓑ P.O.E. Sta. 16+00.00
Track Sta. 209+00.24 - 599.87' RT
N=832096.61, E=791457.63

N

Access Rd.

Crismon Road

5+00 6+00 7+00 8+00 9+00 10+00 11+00 12+00 13+00 14+00 15+00 16+00

210+00

Ⓐ Ⓑ

+90.00 -2.00%

+90.00 +0.28%

+25.00 +0.28%

+25.00 -2.00%

PIRATE Lead Track

Run-Around Track

Access Rd.

205+00

100 0 100 200

SCALE IN FEET

▲ = Transition Roadway Cross Slope

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UNION PACIFIC

DRAWN BY:	JTD
CHECKED BY:	JRM
DATE:	6/3/2022
SHEET NUMBER	R019 of 027

UNION PACIFIC RAILROAD

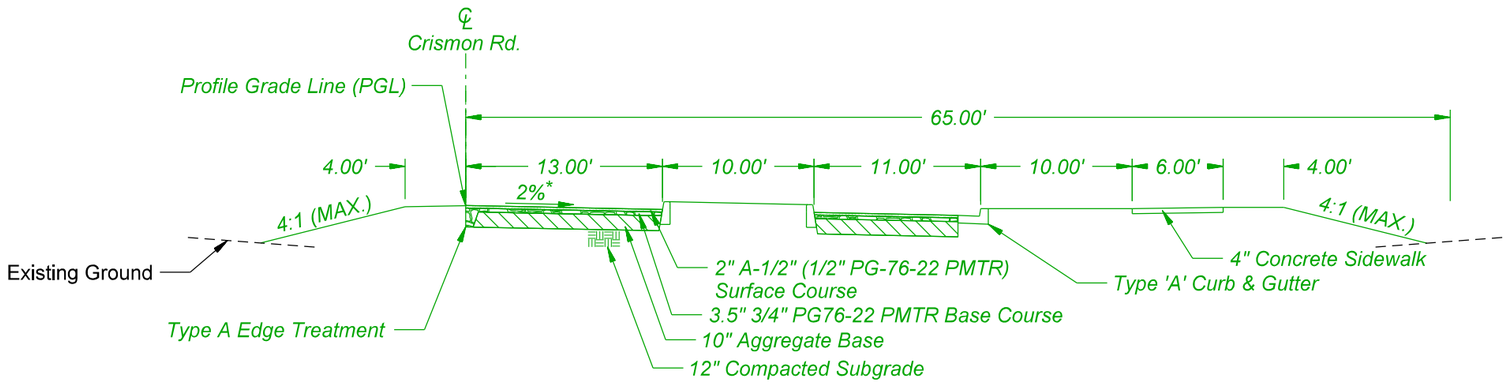
LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
CRISMON ROAD CROSSING - ALIGNMENT DETAILS

Color table: K:\Bentley\WorkspaceV8i\projects\Clients\UPRR_Track\UPRR_Track_V8i\color\UPRR.tbl
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6/3/2022

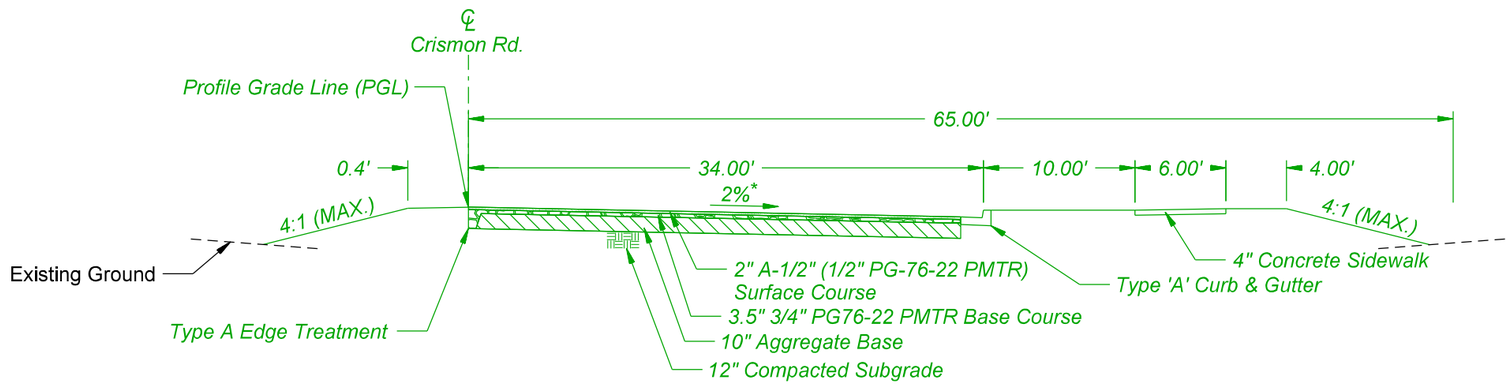
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*See Plan View For Superelevation Transition



TYPICAL SECTION

Sta. 9+50 to Sta. 10+50



TYPICAL SECTION

Sta. 6+20 to Sta. 9+50
Sta. 10+50 to Sta. 13+40

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DRAWN BY:	JTD
CHECKED BY:	JRM
DATE:	6/3/2022
SHEET NUMBER	R020 of 027

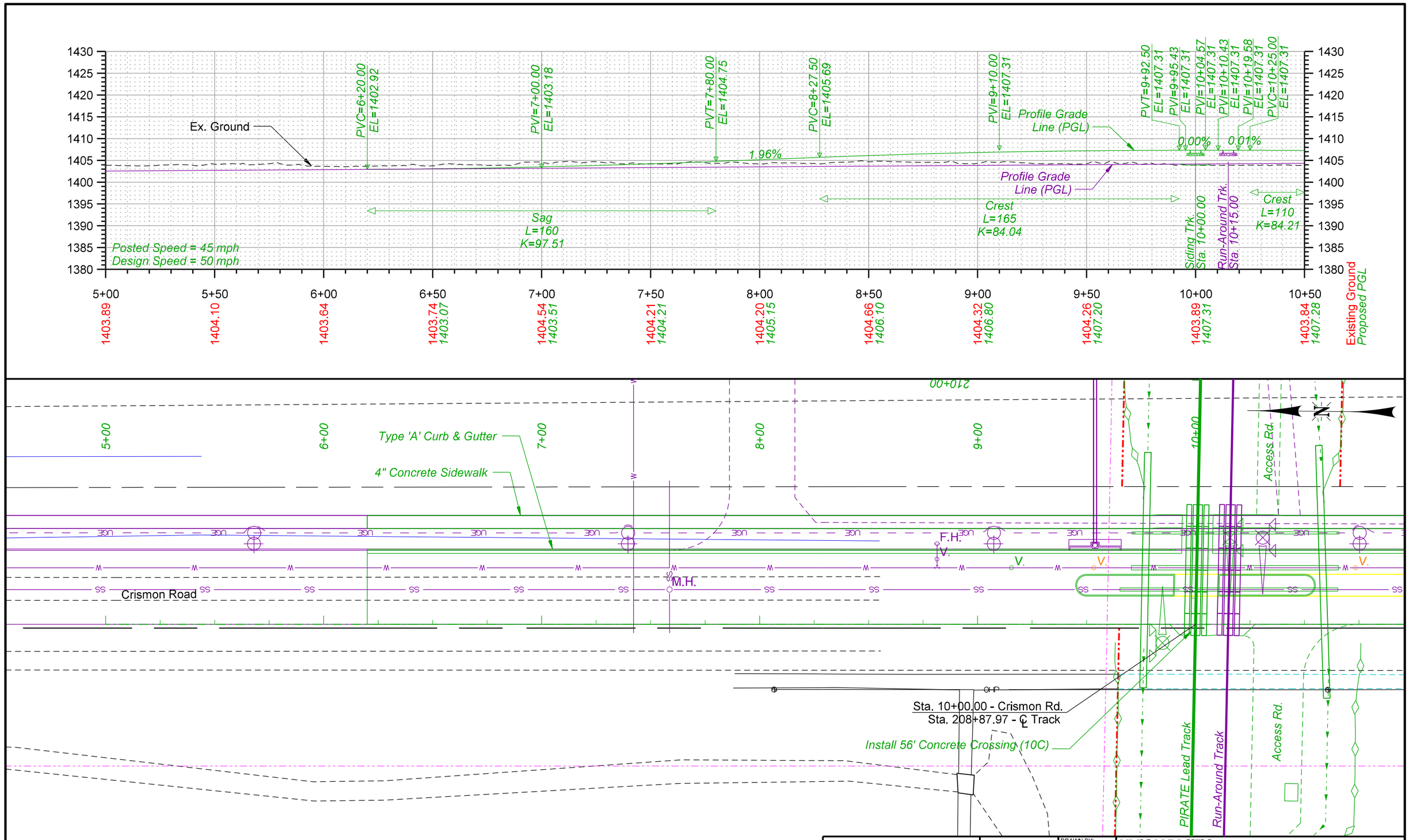
UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
CRISMON ROAD - TYPICAL SECTIONS

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DRAWN BY:	JTD
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DATE:	6/3/2022
SHEET NUMBER	R021 of 027

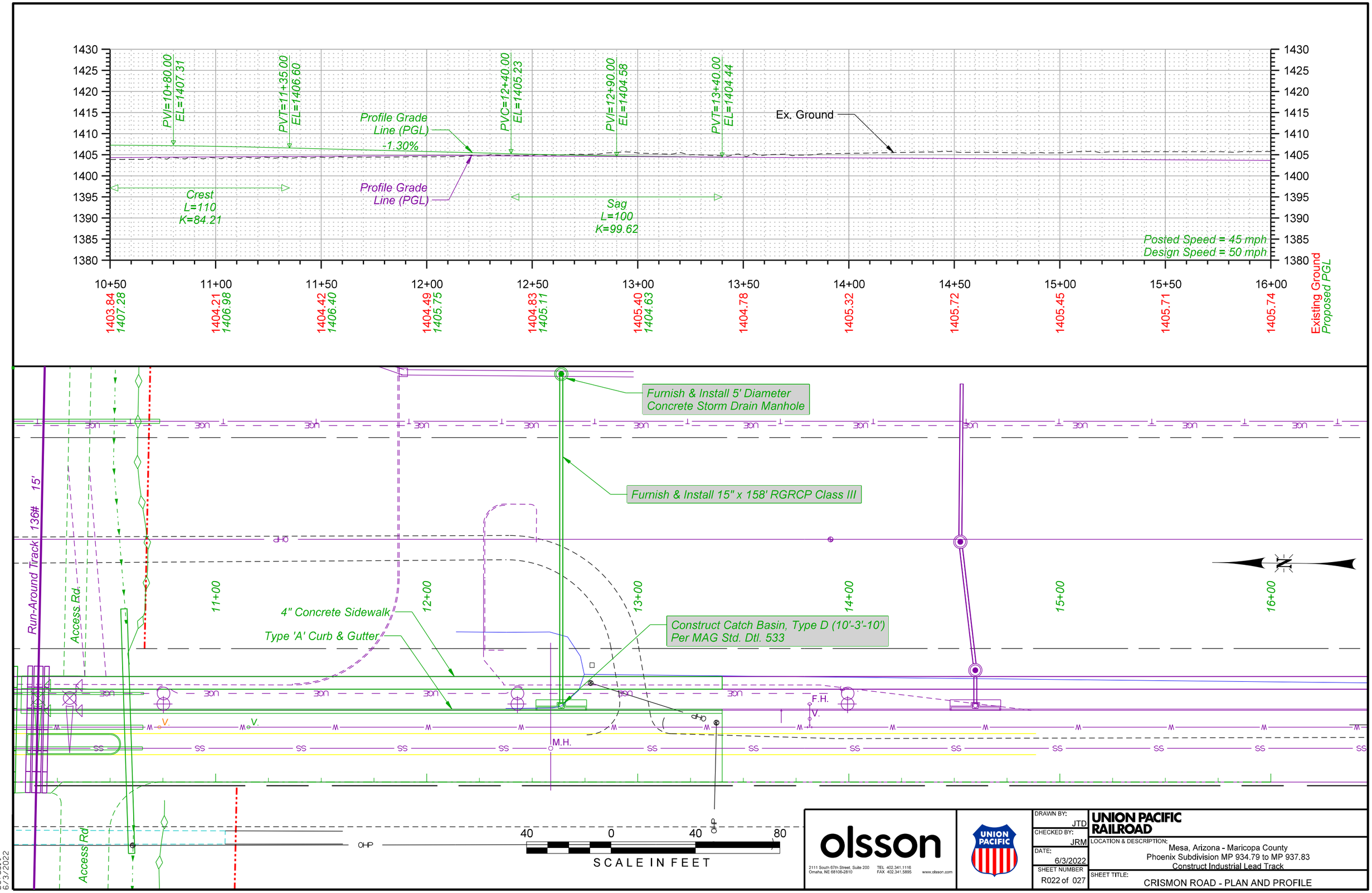
UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
CRISMON ROAD - PLAN AND PROFILE

Color table: K:\Bentley\WorkspaceV8i\projects\Clients\UPRR_Track\UPRR_Track_V8i\color\UPRR.tbl
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6/3/2022

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6/3/2022

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UNION PACIFIC

DRAWN BY:	JTD
CHECKED BY:	JRM
DATE:	6/3/2022
SHEET NUMBER	R022 of 027

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
CRISMON ROAD - PLAN AND PROFILE

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NOTES

1. All traffic control devices and installation shall be in accordance with the latest edition of the Manual of Uniform Traffic Control Devices (MUTCD).
2. Sufficient Type III barricades shall be erected to adequately close the entire roadway width at the intersection.
3. All existing signs in conflict with the construction signs shall be covered in place, as directed by the Engineer. The Contractor shall uncover signs when construction is complete, as directed by the Engineer.
4. All non-regulatory construction signs shall have black letters on an orange background, except as otherwise noted.
5. Flags shall be installed on all construction signs with type A flashing warning lights.
6. All signs mounted on spring stands shall have a minimum mounting height of 2' off the pavement.
7. Place VMS boards 14 days prior to crossing closure through end of closure.
8. Contractor to coordinate closure with City of Mesa and 30 days prior to beginning work.

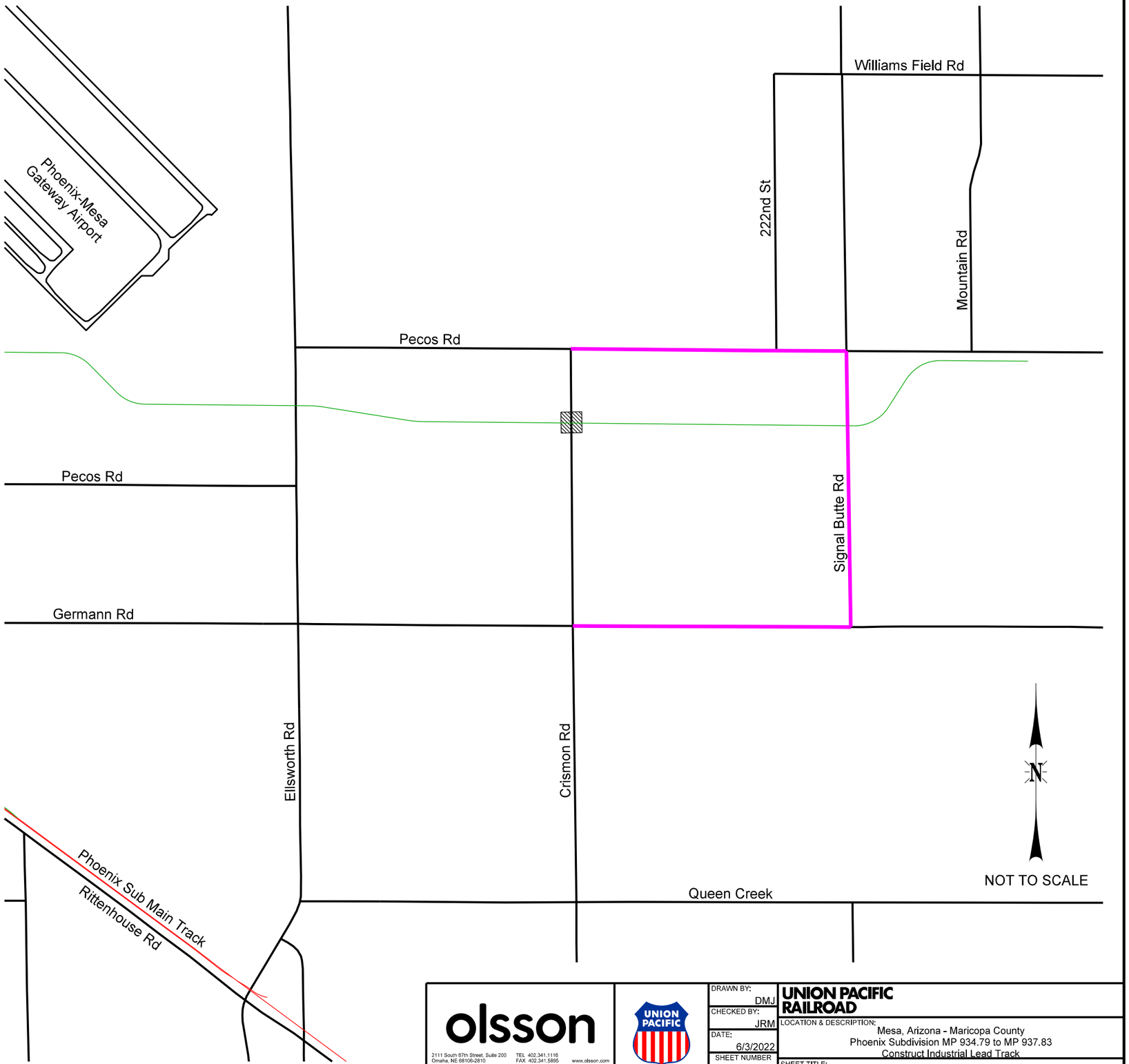
LEGEND

- Variable Message Board (VMS)
- Construction
- Type III Barricade
- Sign
- Detour
- Existing Track
- Proposed Track

MESSAGE: PHASE I	MESSAGE: PHASE II
LINE 1: CRISMON	LINE 1: XX/XX
LINE 2: ROAD	LINE 2: TO
LINE 3: CLOSED	LINE 3: XX/XX
	(XX/XX INDICATES THE DATES OF CLOSURE)

LIST OF TRAFFIC CONTROL DEVICES*			
ITEM	MUTCD DEVICE NO.	SIZE	QTY
ROAD CLOSED	R11-2	48" X 30"	X
ROAD CLOSED TO THRU TRAFFIC	R11-4	60" X 30"	X
'CRISMON ROAD' PLAQUE			X
STRAIGHT ARROW AUXILIARY	M6-3	21" X 15"	X
LEFT ARROW AUXILIARY	M6-1L	21" X 15"	X
RIGHT ARROW AUXILIARY	M6-1R	21" X 15"	X
DETOUR (LEFT ARROW)	M4-10L	48" X 18"	X
DETOUR (RIGHT ARROW)	M4-10R	48" X 18"	X
DETOUR	M4-8	24" X 12"	X
END	M4-8B	24" X 12"	X
TYPE III BARRICADE		60" X 48"	X
VARIABLE MESSAGE BOARDS		DAYS	133

*Note: Traffic control quantities included in this table are shown for information only. Payment for these items shall be made under the applicable bid item.



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UNION PACIFIC

DRAWN BY:	DMJ
CHECKED BY:	JRM
DATE:	6/3/2022
SHEET NUMBER	R023 of 027

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
CRISMON ROAD - TRAFFIC CONTROL PLAN

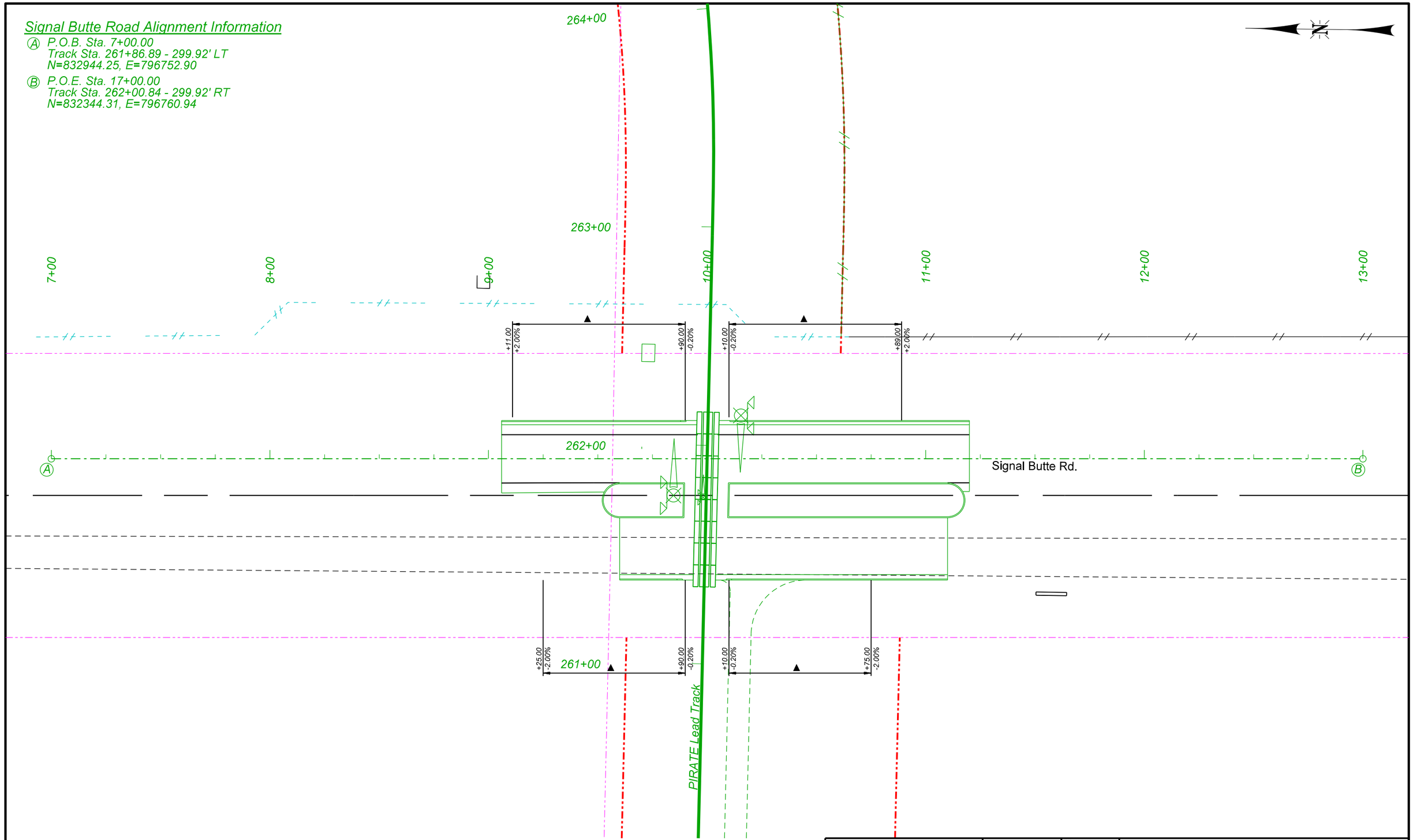
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6/3/2022

$FILES$

Signal Butte Road Alignment Information

Ⓐ P.O.B. Sta. 7+00.00
Track Sta. 261+86.89 - 299.92' LT
N=832944.25, E=796752.90

Ⓑ P.O.E. Sta. 17+00.00
Track Sta. 262+00.84 - 299.92' RT
N=832344.31, E=796760.94



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DRAWN BY: JTD
CHECKED BY: JRM
DATE: 6/3/2022
SHEET NUMBER: R024 of 027

UNION PACIFIC RAILROAD

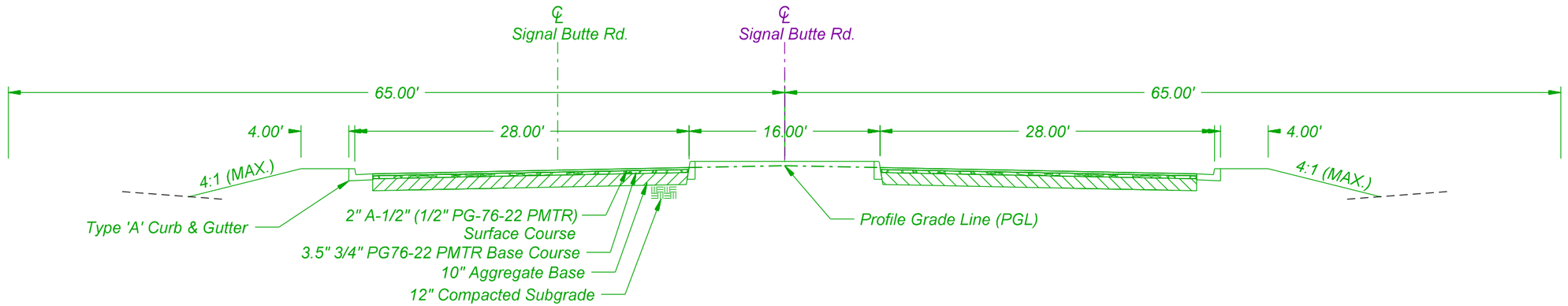
LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
SIGNAL BUTTE ROAD - ALIGNMENT DETAILS

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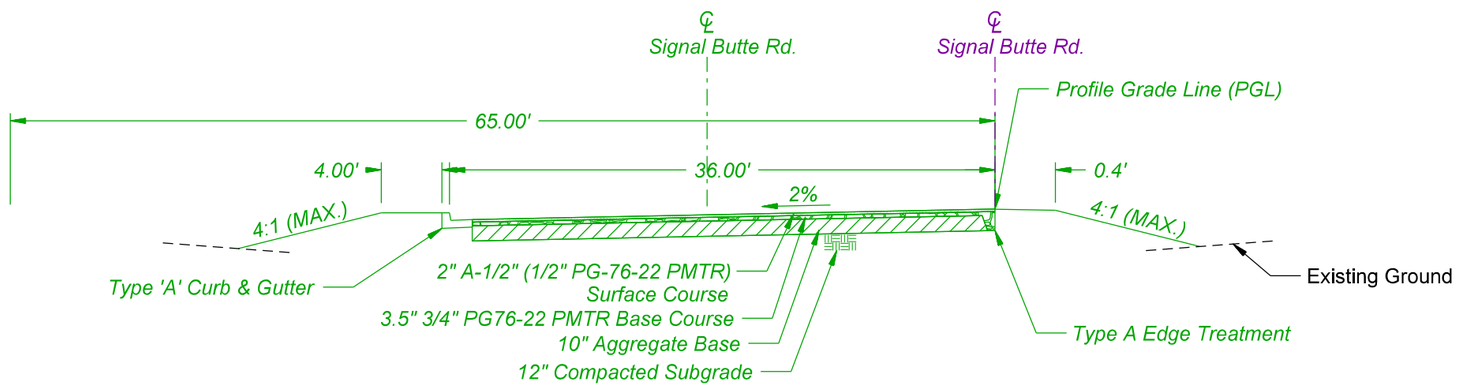
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*See Plan View For Superelevation Transition



TYPICAL SECTION

Sta. 9+60 to Sta. 11+20



TYPICAL SECTION

Sta. 9+06 to Sta. 9+60

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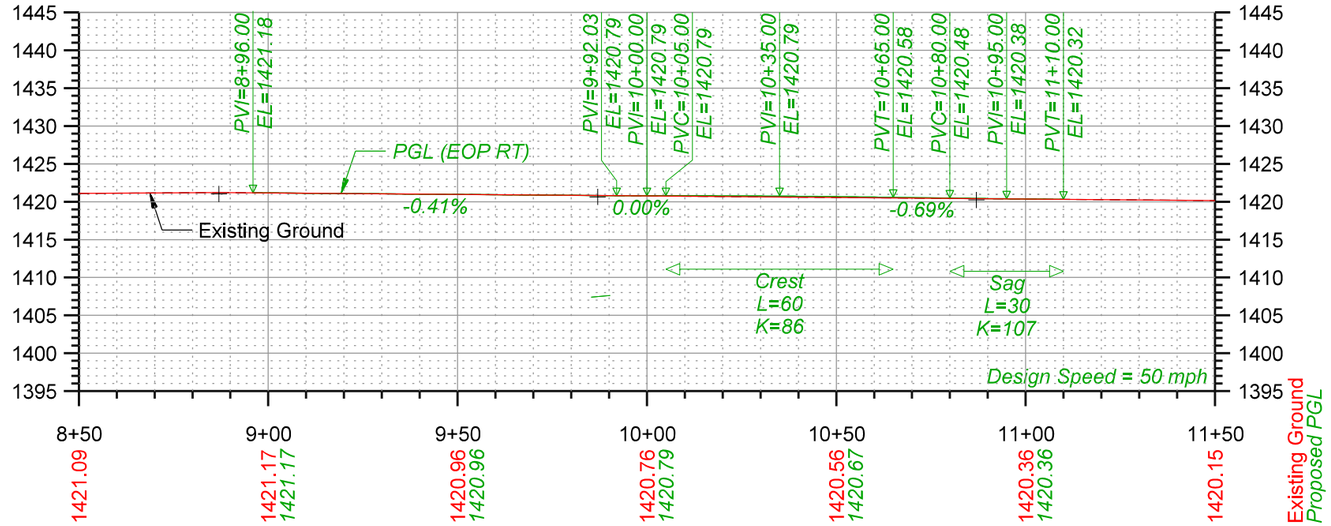
UNION PACIFIC RAILROAD

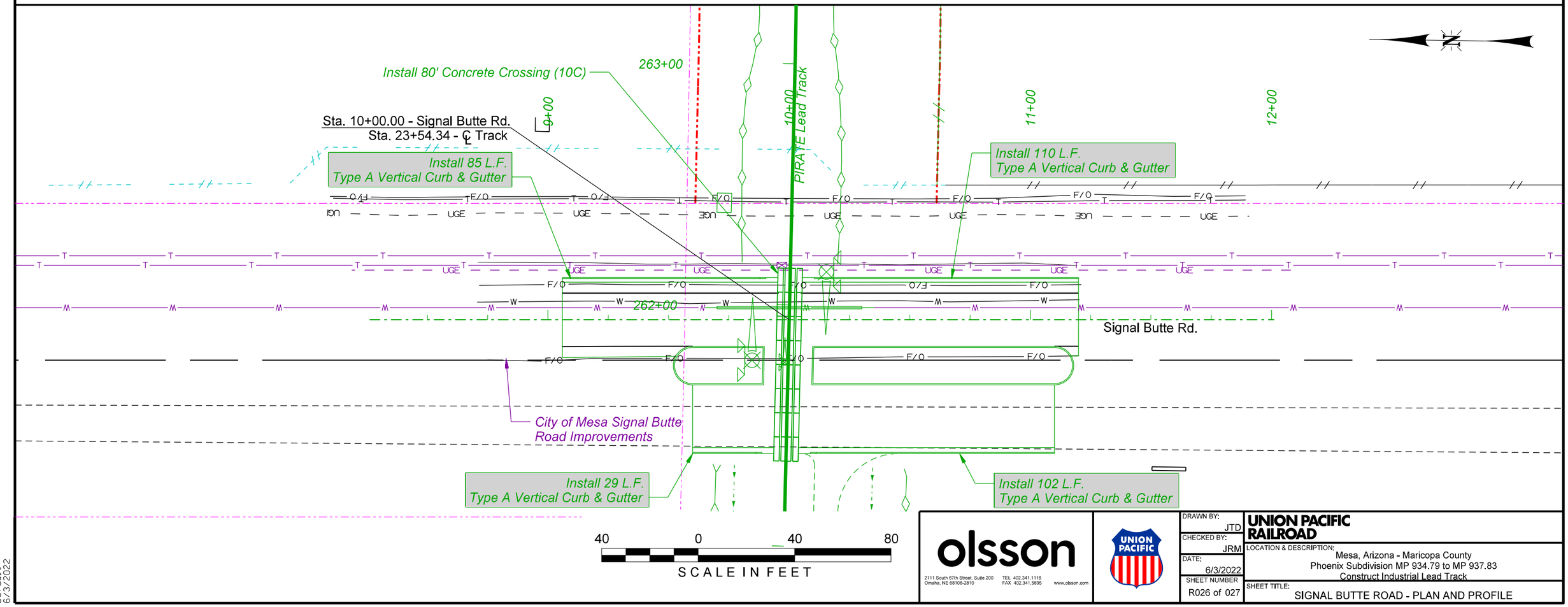
LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
SIGNAL BUTTE ROAD - TYPICAL SECTIONS

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UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
SIGNAL BUTTE ROAD - PLAN AND PROFILE

Color table: K:\Bentley\WorkspaceV8i\projects\Clients\UPRR_Track\UPRR_Track_V8i\color\UPRR.tbl
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NOTES

1. All traffic control devices and installation shall be in accordance with the latest edition of the Manual of Uniform Traffic Control Devices (MUTCD).
2. Sufficient Type III barricades shall be erected to adequately close the entire roadway width at the intersection.
3. All existing signs in conflict with the construction signs shall be covered in place, as directed by the Engineer. The Contractor shall uncover signs when construction is complete, as directed by the Engineer.
4. All non-regulatory construction signs shall have black letters on an orange background, except as otherwise noted.
5. Flags shall be installed on all construction signs with type A flashing warning lights.
6. All signs mounted on spring stands shall have a minimum mounting height of 2' off the pavement.
7. Place VMS boards 14 days prior to crossing closure through end of closure.
8. Contractor to coordinate closure with City of Mesa and 30 days prior to beginning work.

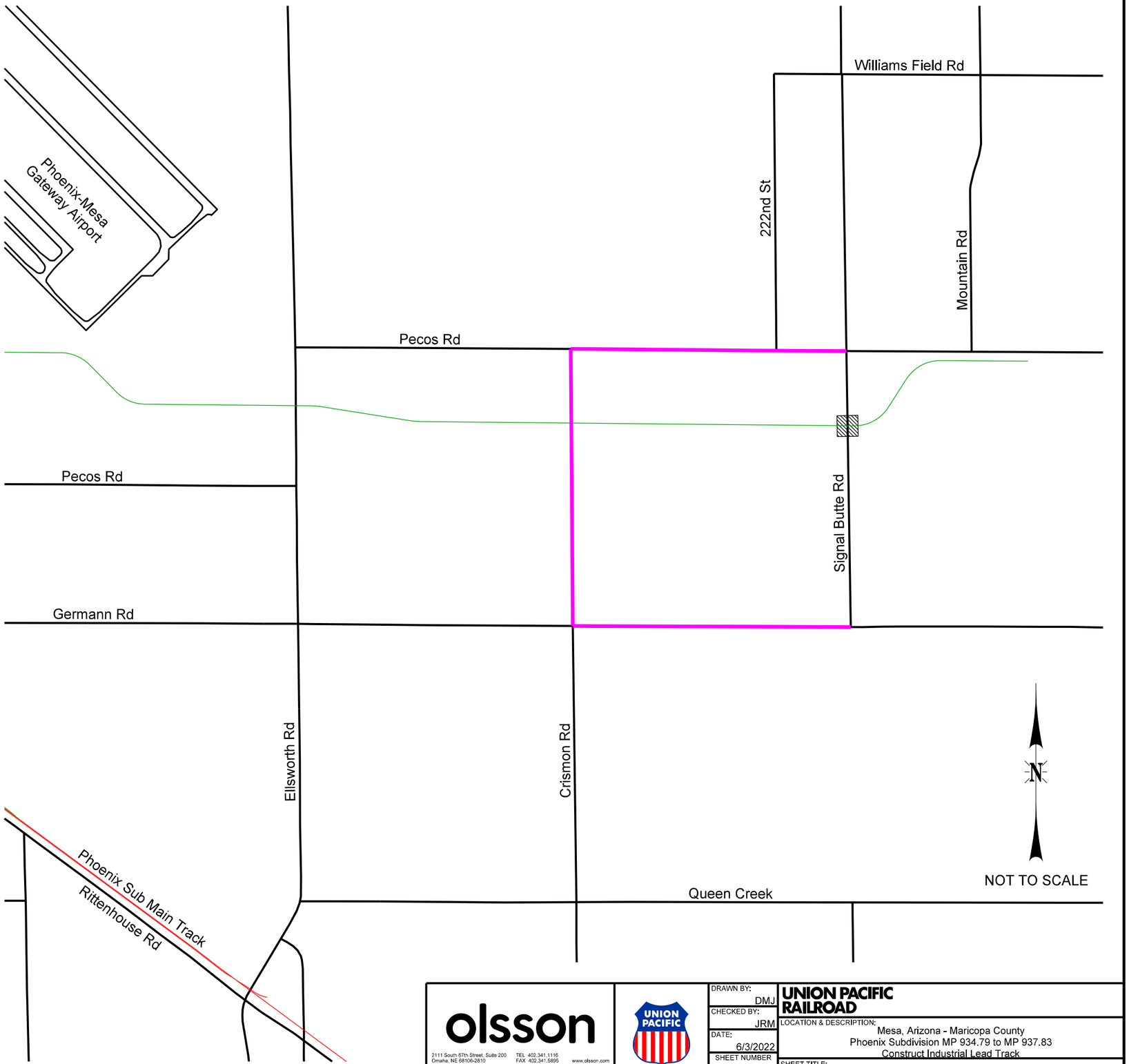
LEGEND

- Variable Message Board (VMS)
- Construction
- Type III Barricade
- Sign
- Detour
- Existing Track
- Proposed Track

MESSAGE: PHASE I	MESSAGE: PHASE II
LINE 1: SIGNAL	LINE 1: XX/XX
LINE 2: BUTTE RD	LINE 2: TO
LINE 3: CLOSED	LINE 3: XX/XX
	(XX/XX INDICATES THE DATES OF CLOSURE)

LIST OF TRAFFIC CONTROL DEVICES*			
ITEM	MUTCD DEVICE NO.	SIZE	QTY
ROAD CLOSED	R11-2	48" X 30"	X
ROAD CLOSED TO THRU TRAFFIC	R11-4	60" X 30"	X
'SIGNAL BUTTE ROAD' PLAQUE			X
STRAIGHT ARROW AUXILIARY	M6-3	21" X 15"	X
LEFT ARROW AUXILIARY	M6-1L	21" X 15"	X
RIGHT ARROW AUXILIARY	M6-1R	21" X 15"	X
DETOUR (LEFT ARROW)	M4-10L	48" X 18"	X
DETOUR (RIGHT ARROW)	M4-10R	48" X 18"	X
DETOUR	M4-8	24" X 12"	X
END	M4-8B	24" X 12"	X
TYPE III BARRICADE		60" X 48"	X
VARIABLE MESSAGE BOARDS		DAYS	133

*Note: Traffic control quantities included in this table are shown for information only. Payment for these items shall be made under the applicable bid item.



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UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
SIGNAL BUTTE ROAD - TRAFFIC CONTROL PLAN

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WATER MAIN NOTES:

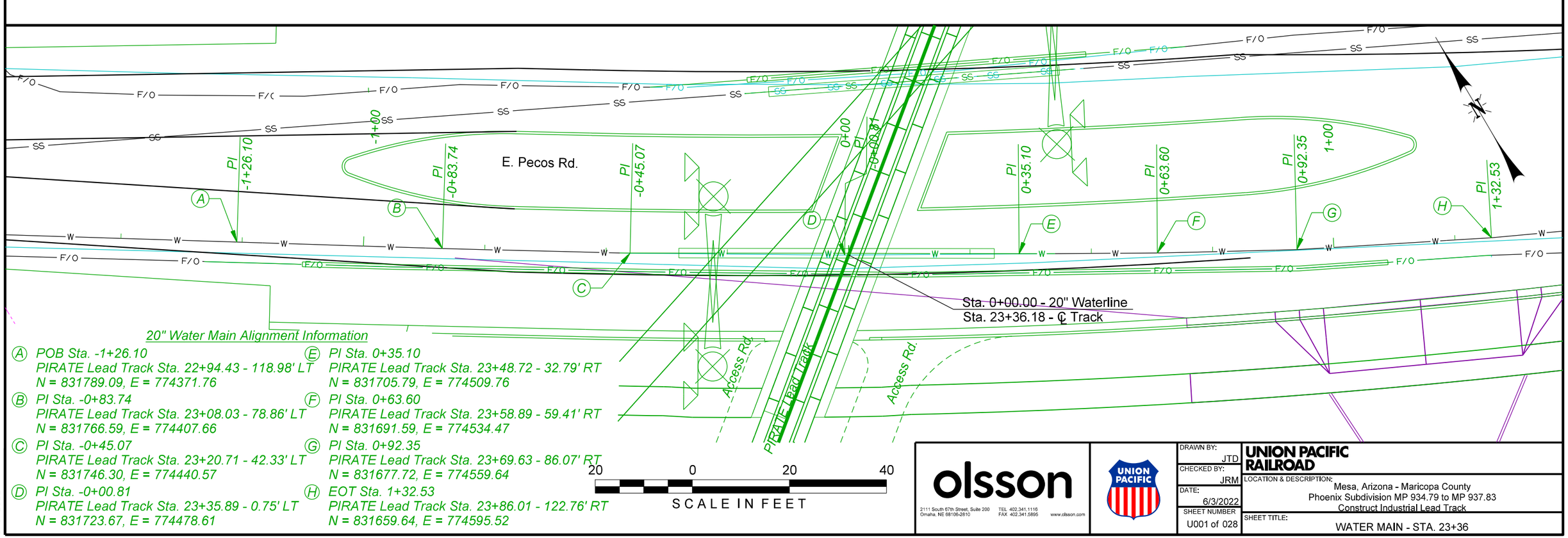
1. THE CONTRACTOR SHALL COORDINATE WITH CITY OF MESA ON CLOSURE OF ALL VALVES AS REQUIRED TO ACCOMMODATE CONSTRUCTION OF THE NEW WATERLINE.
2. THE CONTRACTOR SHALL COORDINATE WATERLINE OUTAGES WITH CITY OF MESA AND SHALL PROVIDE THE NECESSARY MEANS AND METHODS TO MINIMIZE THE LENGTH OF ALL WATER SERVICE OUTAGES. ALL NEW WATERLINE SHALL BE INSTALLED, DISINFECTED, AND TESTED PRIOR TO CONNECTING INTO THE EXISTING SYSTEM IN ORDER TO MINIMIZE DOWNTIME. DURING DOWNTIME THE CONTRACTOR SHALL MAKE TEMPORARY ACCOMMODATIONS FOR WATER, RESTROOM FACILITIES, AND FIRE PROTECTION AS NECESSARY OR AS DIRECTED BY UPRR. REFER TO THE PROJECT SPECIAL CONDITIONS FOR ADDITIONAL REQUIREMENTS.
3. THE CONTRACTOR SHALL FURNISH AND INSTALL TEMPORARY BLOW-OFF HYDRANTS AS NECESSARY FOR FLUSHING (INCIDENTAL). EXISTING OR PROPOSED HYDRANTS THAT ARE LOCATED WITH RESPECT TO THE WATERLINE WORK AND APPROVED BY CITY OF MESA MAY BE USED FOR FLUSHING.
4. THE CONTRACTOR SHALL BUILD TEMPORARY SEDIMENT BASINS AND EROSION MAT FOR DISCHARGE DURING FLUSHING AS NECESSARY TO MINIMIZE EROSION AND TO PREVENT DISCHARGE OF SEDIMENT OFF SITE (INCIDENTAL). AS AN ALTERNATE TO THE TEMPORARY SEDIMENT BASIN THE CONTRACTOR MAY DISCHARGE INTO AN EXISTING DRAINAGEWAY OR DITCH WITH ESTABLISHED VEGETATION AS APPROVED BY THE UPRR PROJECT MANAGER.
5. THE PROJECT PHASING PLANS DETAIL ANTICIPATED SEQUENCING OF WATER MAIN AND ROAD RECONSTRUCTION WORK. THE CONTRACTOR MAY REQUEST TO ALTER THE SEQUENCING OF CONSTRUCTION. ANY PROPOSED CHANGES IN THE SEQUENCING OF WATER MAIN CONSTRUCTION SHALL BE APPROVED BY UPRR.
6. WATER MAINS SHALL BE LAID AT LEAST 10 FEET HORIZONTALLY FROM ANY SEWER LINES OR OTHER SOURCES OF CONTAMINATION. REFER TO ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY. WATER LINES AND SEWER LINES SHALL NOT BE LAID IN THE SAME TRENCH EXCEPT ON THE WRITTEN APPROVAL OF THE ADEQ.

INFORMATIONAL SUMMARY OF QUANTITIES:*

90 L.F. - 20" DIP WATERLINE
4 EA. - 20" X 45° BEND
65 L.F. - 24" STEEL CASING
THRUST BLOCKS AND ANCHORAGES
DISINFECTION AND PRESSURE TESTING
CONNECT TO EXISTING 20" WATER SERVICE
90 L.F. - REMOVE 20" WATERLINE
MOBILIZATION
PAVEMENT/SIDEWALK REMOVAL/REPLACEMENT AS REQUIRED
EXCAVATION AND BACKFILL
TEMPORARY SHORING AS REQUIRED
TRAFFIC CONTROL
ONE-YEAR MAINTENANCE BOND

*THE QUANTITIES SHOWN ABOVE ARE FOR INFORMATIONAL PURPOSES ONLY AND MAY NOT INCLUDE ALL ITEMS, LABOR, AND INCIDENTALS REQUIRED TO COMPLETE THE WORK AS SHOWN.

	CARRIER PIPE	CASING PIPE
CONTENT TO BE HANDLED	POTABLE WATER	-
NOMINAL DIAMETER	20"	24"
PIPE MATERIAL	DUCTILE IRON PIPE	STEEL
SPECIFICATION AND GRADE	CL250 DIP	ASTM A1097
WALL THICKNESS	0.30"	0.4375"
ACTUAL WORKING PRESSURE	UNKNOWN	NA
PRESSURE RATING	250 PSI	NA
MIN. TENSILE STRENGTH	60,000 PSI	35,000 PSI
TYPE OF JOINT	RESTRAINED JOINT	BUTT WELD
COATING	SEE PROJECT SPECS.	NA
METHOD OF INSTALLATION	OPEN CUT	OPEN CUT
SEALS: BOTH ENDS TYPE: RUBBER W/ S.S. BANDS		
BURY: BASE OF RAIL TO TOP OF CASING: 9 FT. 0 IN.		
BURY: 4 FT. 0 IN. MIN. (ROADWAY DITCHES)		
BURY: 4 FT. 0 IN. MIN. (NOT BENEATH TRACKS)		
TYPE, SIZE & SPACING OF INSULATORS OR SUPPORTS: SEE PROJECT SPECS.		
DISTANCE C.L. TRACK TO FACE OF JACKING/RECEIVING PITS FT. IN. NA		
BURY: BASE OF RAIL TO BOTTOM JACKING/RECEIVING PITS FT. IN. NA		
CATHODIC PROTECTION? YES ☐ NO ☒		



20" Water Main Alignment Information

(A) *POB Sta. -1+26.10*
PIRATE Lead Track Sta. 22+94.43 - 118.98' LT
N = 831789.09, E = 774371.76

(B) *PI Sta. -0+83.74*
PIRATE Lead Track Sta. 23+08.03 - 78.86' LT
N = 831766.59, E = 774407.66

(C) *PI Sta. -0+45.07*
PIRATE Lead Track Sta. 23+20.71 - 42.33' LT
N = 831746.30, E = 774440.57

(D) *PI Sta. -0+00.81*
PIRATE Lead Track Sta. 23+35.89 - 0.75' LT
N = 831723.67, E = 774478.61

(E) *PI Sta. 0+35.10*
PIRATE Lead Track Sta. 23+48.72 - 32.79' RT
N = 831705.79, E = 774509.76

(F) *PI Sta. 0+63.60*
PIRATE Lead Track Sta. 23+58.89 - 59.41' RT
N = 831691.59, E = 774534.47

(G) *PI Sta. 0+92.35*
PIRATE Lead Track Sta. 23+69.63 - 86.07' RT
N = 831677.72, E = 774559.64

(H) *EOT Sta. 1+32.53*
PIRATE Lead Track Sta. 23+86.01 - 122.76' RT
N = 831659.64, E = 774595.52

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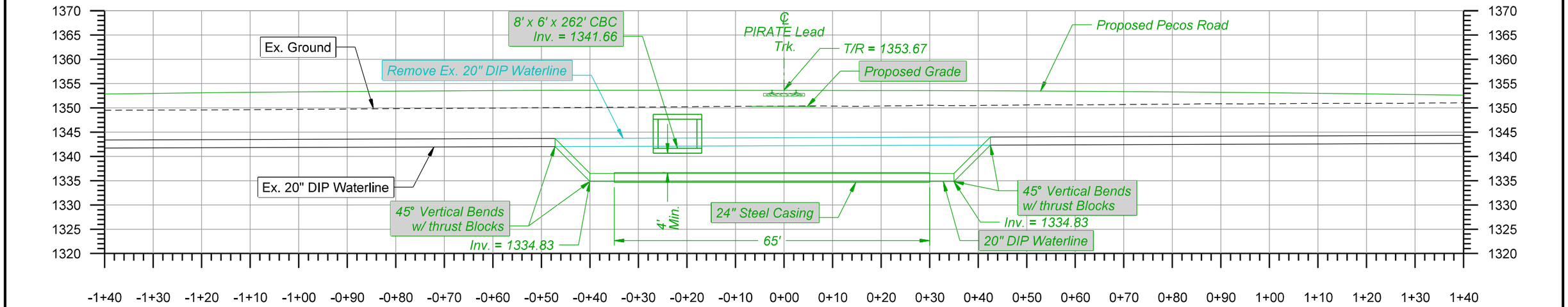
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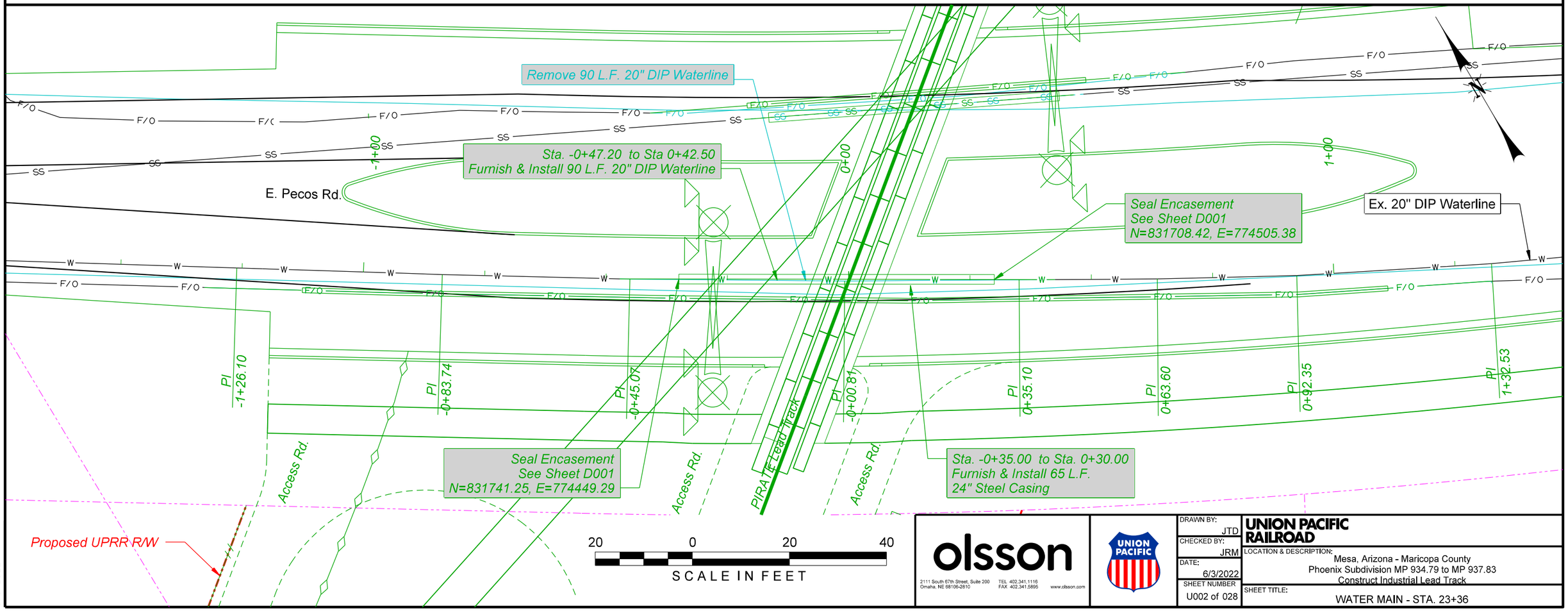
UNION PACIFIC

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DATE: 6/3/2022
SHEET NUMBER: U001 of 028

UNION PACIFIC RAILROAD
LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track
SHEET TITLE:
WATER MAIN - STA. 23+36

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UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
WATER MAIN - STA. 23+36

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SANITARY SEWER NOTES:

1. THE CONTRACTOR SHALL COORDINATE WITH CITY OF MESA TO ACCOMMODATE CONSTRUCTION OF THE NEW SANITARY SEWER LINE.
2. THE CONTRACTOR SHALL COORDINATE SANITARY SEWER LINE OUTAGES WITH CITY OF MESA AND SHALL PROVIDE THE NECESSARY MEANS AND METHODS TO MINIMIZE THE LENGTH OF ALL SANITARY SEWER SERVICE OUTAGES. ALL NEW SANITARY SEWER LINE SHALL BE INSTALLED, AND TESTED PRIOR TO CONNECTING INTO THE EXISTING SYSTEM IN ORDER TO MINIMIZE DOWN TIME.
3. THE CONTRACTOR SHALL CONNECT NEW SDR-26 SANITARY SEWER LINE TO EXISTING CONCRETE MANHOLE BLOCK OUT AND PROVIDE WATER STOP ON TOP AND BOTTOM OF PIPE PER MANUFACTURER RECOMMENDATIONS AND ASTM C923, SEAL WITH GROUT. EXISTING OUTLET TO BE SEALED.
4. IF CORE ON BLOCK OUT IS REQUIRED, CORE BY MACHINE DRILLING ONLY WITH CIRCULAR DIAMOND EDGED HOLE SAW BITCORE.
5. CONTRACTOR TO REBUILD BENCH IN EXISTING MANHOLE TO ACCOMODATE NEW SDR-26 SEWER MAIN TO ACHIEVE PROPER FLOW IN MANHOLE.
6. CONTRACTOR TO BUILD NEW 48" PRECAST MANHOLE, PER MESA STANDARD DETAIL, OVER EXISTING SEWER MAIN.
7. THE CONTRACTOR IS TO DEMOLISH THE EXISTING MANHOLE #58. BRICK MANHOLES TO BE ABANDONED-IN-PLACE SHALL BE DEMOLISHED TO AN ELEVATION AT LEAST 3'-0" BELOW GRADE. PRECAST CONCRETE MANHOLES TO BE ABANDONED-IN-PLACE SHALL REMOVE THE TOP CONE OR RISER SECTION. THE INTERIOR OF THE MANHOLE SHALL BE CLEANED AND STERILIZED PRIOR TO BEING FILLED WITH BACKFILL MATERIAL. BACKFILL SHALL BE SELECT MATERIAL, COMPACTED IN ACCORDANCE WITH MESA STANDARDS.
10. THE CONTRACTOR SHALL PROVIDE THE CITY OF MESA WORK WITH A MATERIALS LIST AND THE FOLLOWING TEST RESULTS:

    SEWER COLLECTION SYSTEMS
    A. EXFILTRATION OR LOW PRESSURE AIR TESTING FOR PIPE LEAKAGE.
    B. DEFLECTION TESTING/MANDREL TESTING FOR PIPE SHAPE.
    C. REMOTE CAMERA TESTING FOR UNIFORM SLOPE.
    D. COMPACTION TESTS FOR TRENCH BACKFILL.
    E. MANHOLE TESTING (NEGATIVE AIR PRESSURE TESTING USING THE "STANDARD TEST METHOD FOR CONCRETE SEWER MANHOLES BY NEGATIVE AIRE PRESSURE (VACUUM TEST), C1244-02E1").

11. THE CONTRACTOR SHALL NOTIFY THE LICENSED LAND SURVEYOR TWO (2) WORKING DAYS IN ADVANCE OF CONSTRUCTION AND SHALL FACILITATE THE SURVEYORS EFFORTS TO FIELD VERIFY THE AS-BUILT LOCATIONS. THE TRENCHES SHALL NOT BE BACKFILLED UNTIL THE SURVEYOR HAS FIELD VERIFIED THE AS-BUILT LOCATIONS FOR THAT PORTION OF POTABLE WATER SYSTEM, SEWER COLLECTION SYSTEM, AND/OR RECLAIMED WATER DISTRIBUTION SYSTEM
12. IT IS THE CONTRACTORS RESPONSIBILITY TO FACILITATE THE INSPECTION OF FINAL INSTALLATION BY OTHERS.
13. AFTER CONSTRUCTION AND FINAL INSPECTION, A PROFESSIONAL ENGINEER OR LICENSED LAND SURVEYOR, REGISTERED IN THE STATE, WILL PREPARE "AS-BUILT" PLANS. A DVD OF THE "AS-BUILT" PLANS, AND TESTING MATERIAL AND INFORMATION SHALL BE SUBMITTED TO THE CITY OF MESA FOR FINAL APPROVAL.

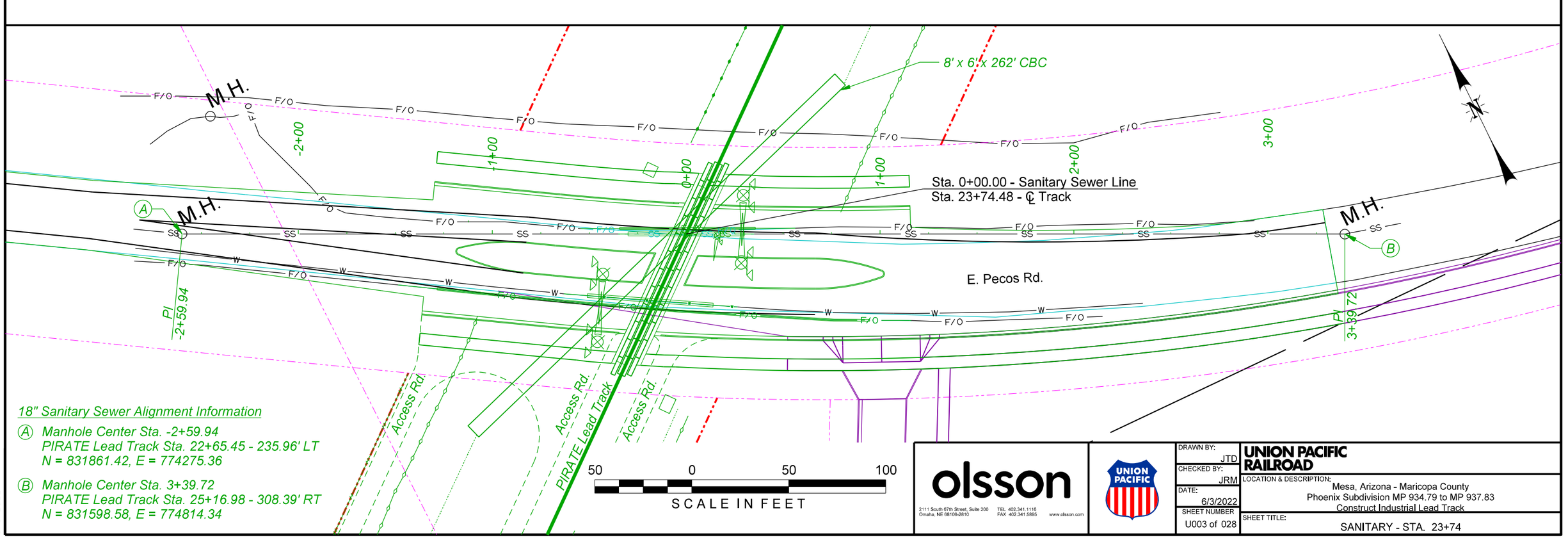
INFORMATIONAL SUMMARY OF QUANTITIES:*

70 L.F. - INSTALL RESTRAINED JOINTS THROUGH CASING
60 L.F. - 24" STEEL CASING

MOBILIZATION
EXCAVATION AND BACKFILL
TEMPORARY SHORING AS REQUIRED
TRAFFIC CONTROL
ONE-YEAR MAINTENANCE BOND

*THE QUANTITIES SHOWN ABOVE ARE FOR INFORMATIONAL PURPOSES ONLY AND MAY NOT INCLUDE ALL ITEMS, LABOR, AND INCIDENTALS REQUIRED TO COMPLETE THE WORK AS SHOWN.

	CARRIER PIPE	CASING PIPE
CONTENT TO BE HANDLED	SANITARY SEWER	-
NOMINAL DIAMETER	18"	24"
PIPE MATERIAL	HDPE	STEEL
SPECIFICATION AND GRADE	SDR-26	ASTM A1097
WALL THICKNESS	0.490"	0.3125"
ACTUAL WORKING PRESSURE	NA	NA
MIN. TENSILE STRENGTH	22,000 LBS.	35,000 PSI
TYPE OF JOINT	RESTRAINED JOINT	BUTT WELD
COATING	SEE PROJECT SPECS.	NA
METHOD OF INSTALLATION	OPEN CUT	OPEN CUT
SEALS: BOTH ENDS TYPE: RUBBER W/ S.S. BANDS		
BURY: BASE OF RAIL TO TOP OF CASING: FT. IN. NA		
BURY: 3 FT. 0 IN. MIN. (ROADWAY DITCHES)		
BURY: 3 FT. 0 IN. MIN. (NOT BENEATH TRACKS)		
TYPE, SIZE & SPACING OF INSULATORS OR SUPPORTS: SEE PROJECT SPECS.		
DISTANCE C.L. TRACK TO FACE OF JACKING/RECEIVING PITS FT. IN. NA		
BURY: BASE OF RAIL TO BOTTOM JACKING/RECEIVING PITS FT. IN. NA		
CATHODIC PROTECTION? YES ☐ NO ☒		



18" Sanitary Sewer Alignment Information

Ⓐ *Manhole Center Sta. -2+59.94*
PIRATE Lead Track Sta. 22+65.45 - 235.96' LT
N = 831861.42, E = 774275.36

Ⓑ *Manhole Center Sta. 3+39.72*
PIRATE Lead Track Sta. 25+16.98 - 308.39' RT
N = 831598.58, E = 774814.34

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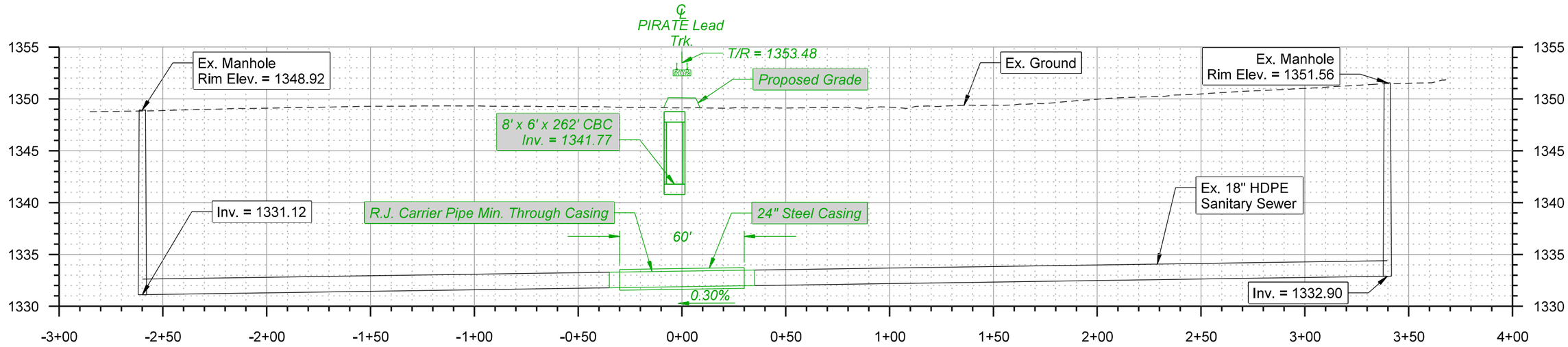
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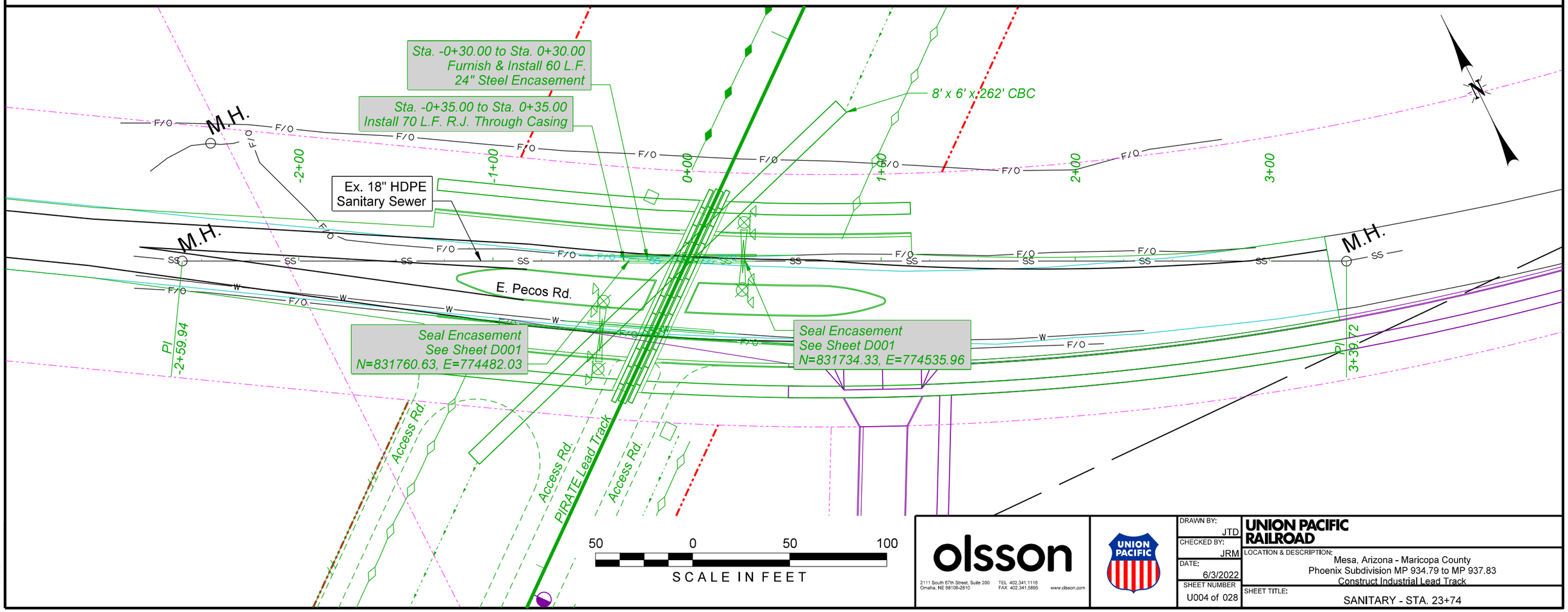
UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
SANITARY - STA. 23+74

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SHEET NUMBER	U004 of 028

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
SANITARY - STA. 23+74

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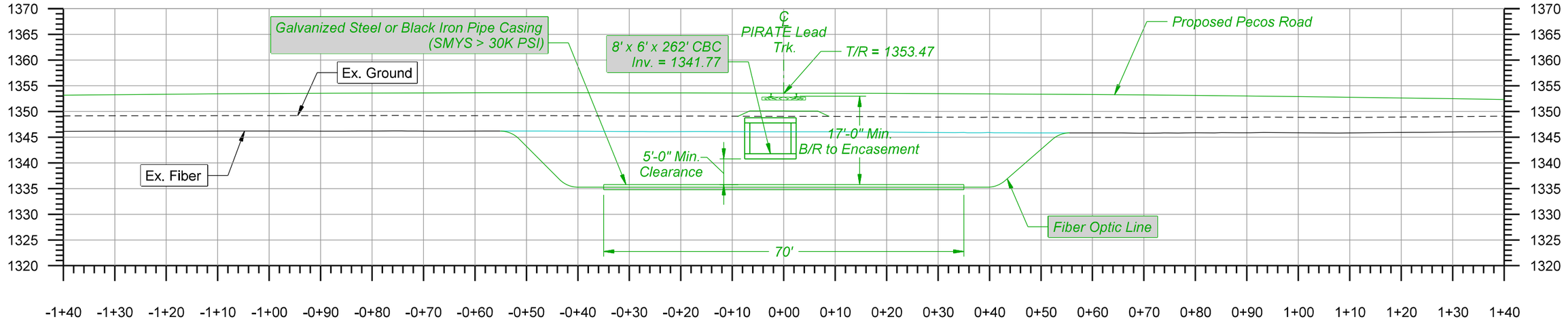
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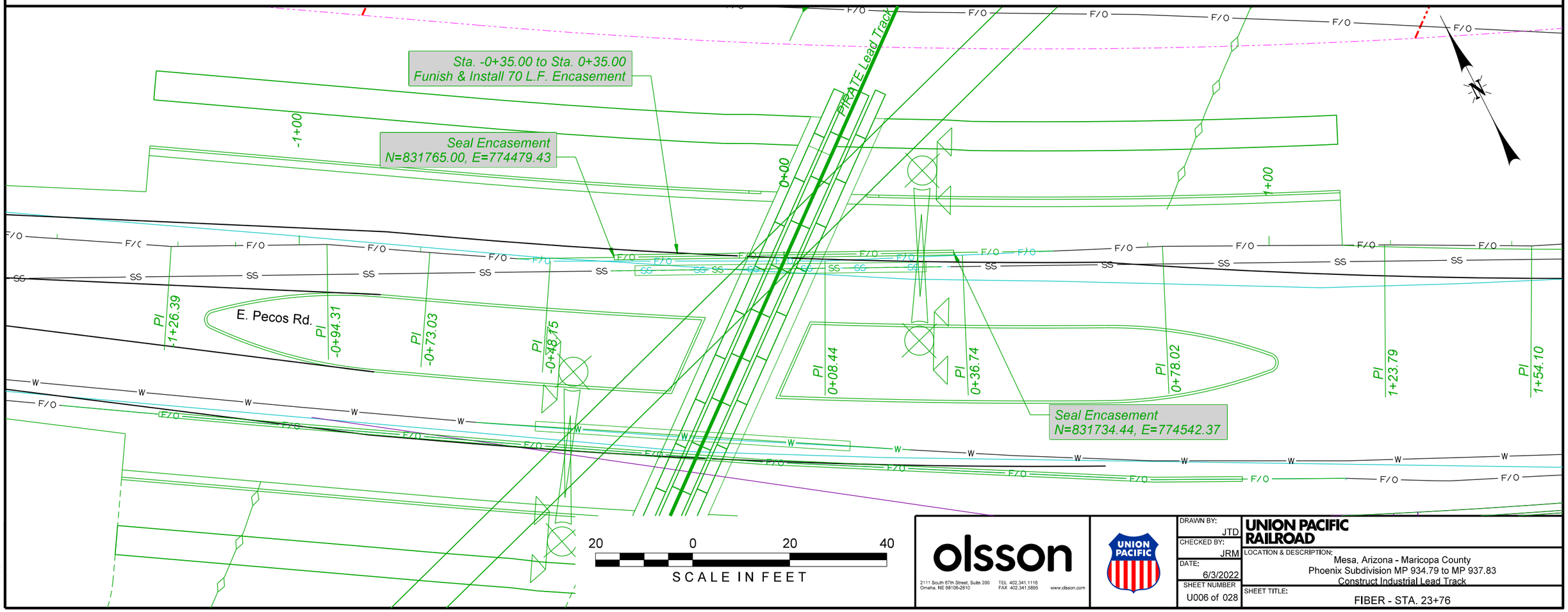
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DATE: 6/3/2022
SHEET NUMBER: U005 of 028

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
FIBER - STA. 23+76





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SHEET NUMBER	U006 of 028

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
FIBER - STA. 23+76

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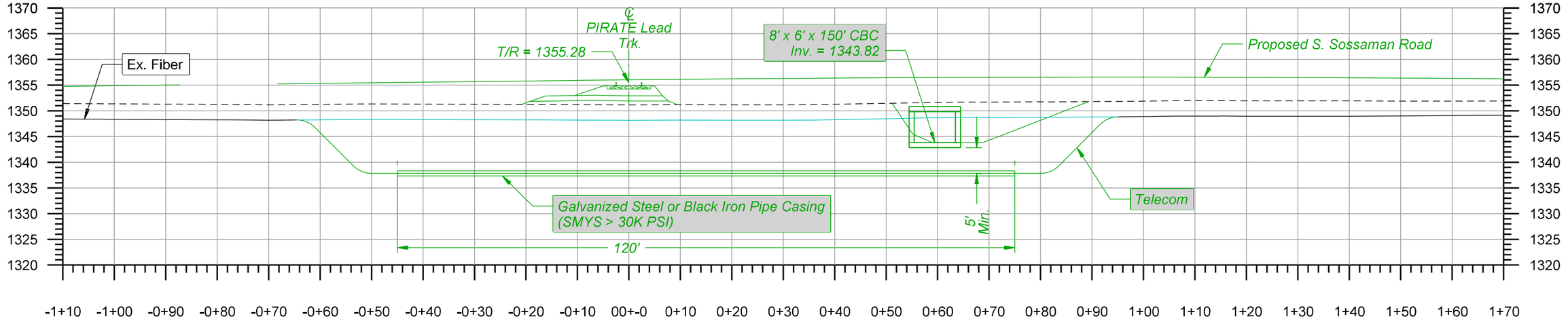
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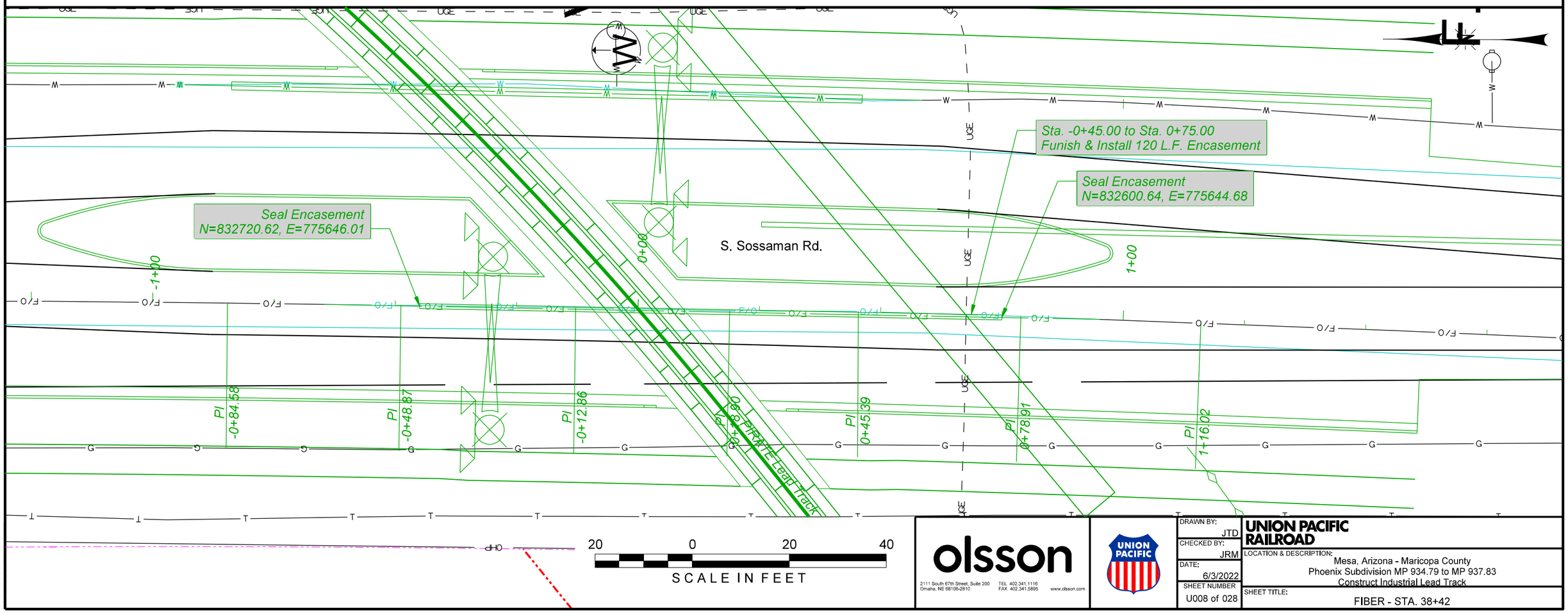
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SHEET NUMBER: U007 of 028

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
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DATE:	6/3/2022
SHEET NUMBER	U008 of 028

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
FIBER - STA. 38+42

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6/3/2022

WATER MAIN NOTES:

1. THE CONTRACTOR SHALL COORDINATE WITH CITY OF MESA ON CLOSURE OF ALL VALVES AS REQUIRED TO ACCOMMODATE CONSTRUCTION OF THE NEW WATERLINE.
2. THE CONTRACTOR SHALL COORDINATE WATERLINE OUTAGES WITH CITY OF MESA AND SHALL PROVIDE THE NECESSARY MEANS AND METHODS TO MINIMIZE THE LENGTH OF ALL WATER SERVICE OUTAGES. ALL NEW WATERLINE SHALL BE INSTALLED, DISINFECTED, AND TESTED PRIOR TO CONNECTING INTO THE EXISTING SYSTEM IN ORDER TO MINIMIZE DOWNTIME. DURING DOWNTIME THE CONTRACTOR SHALL MAKE TEMPORARY ACCOMMODATIONS FOR WATER, RESTROOM FACILITIES, AND FIRE PROTECTION AS NECESSARY OR AS DIRECTED BY UPRR. REFER TO THE PROJECT SPECIAL CONDITIONS FOR ADDITIONAL REQUIREMENTS.
3. THE CONTRACTOR SHALL FURNISH AND INSTALL TEMPORARY BLOW-OFF HYDRANTS AS NECESSARY FOR FLUSHING (INCIDENTAL). EXISTING OR PROPOSED HYDRANTS THAT ARE LOCATED WITH RESPECT TO THE WATERLINE WORK AND APPROVED BY CITY OF MESA MAY BE USED FOR FLUSHING.
4. THE CONTRACTOR SHALL BUILD TEMPORARY SEDIMENT BASINS AND EROSION MAT FOR DISCHARGE DURING FLUSHING AS NECESSARY TO MINIMIZE EROSION AND TO PREVENT DISCHARGE OF SEDIMENT OFF SITE (INCIDENTAL). AS AN ALTERNATE TO THE TEMPORARY SEDIMENT BASIN THE CONTRACTOR MAY DISCHARGE INTO AN EXISTING DRAINAGEWAY OR DITCH WITH ESTABLISHED VEGETATION AS APPROVED BY THE UPRR PROJECT MANAGER.
5. THE PROJECT PHASING PLANS DETAIL ANTICIPATED SEQUENCING OF WATER MAIN AND ROAD RECONSTRUCTION WORK. THE CONTRACTOR MAY REQUEST TO ALTER THE SEQUENCING OF CONSTRUCTION. ANY PROPOSED CHANGES IN THE SEQUENCING OF WATER MAIN CONSTRUCTION SHALL BE APPROVED BY UPRR.
6. WATER MAINS SHALL BE LAID AT LEAST 10 FEET HORIZONTALLY FROM ANY SEWER LINES OR OTHER SOURCES OF CONTAMINATION. REFER TO ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY. WATER LINES AND SEWER LINES SHALL NOT BE LAID IN THE SAME TRENCH EXCEPT ON THE WRITTEN APPROVAL OF THE ADEQ.

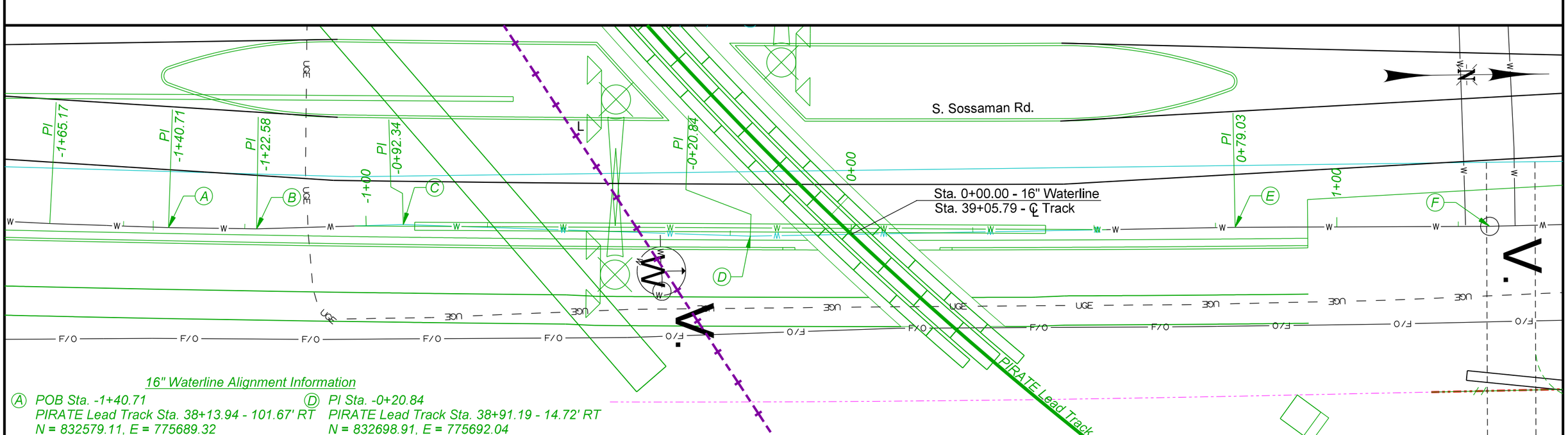
INFORMATIONAL SUMMARY OF QUANTITIES:*

155 L.F. - 16" DIP WATERLINE
4 EA. - 6" X 45° BEND
130 L.F. - 20" STEEL CASING
THRUST BLOCKS AND ANCHORAGES

DISINFECTION AND PRESSURE TESTING
CONNECT TO EXISTING 16" WATER SERVICE
155 L.F. - REMOVE 16" WATERLINE
MOBILIZATION
PAVEMENT/SIDEWALK REMOVAL/REPLACEMENT AS REQUIRED
EXCAVATION AND BACKFILL
TEMPORARY SHORING AS REQUIRED
TRAFFIC CONTROL
ONE-YEAR MAINTENANCE BOND

*THE QUANTITIES SHOWN ABOVE ARE FOR INFORMATIONAL PURPOSES ONLY AND MAY NOT INCLUDE ALL ITEMS, LABOR, AND INCIDENTALS REQUIRED TO COMPLETE THE WORK AS SHOWN.

	CARRIER PIPE	CASING PIPE
CONTENT TO BE HANDLED	POTABLE WATER	-
NOMINAL DIAMETER	16"	20"
PIPE MATERIAL	DUCTILE IRON PIPE	STEEL
SPECIFICATION AND GRADE	CL250 DIP	ASTM A1097
WALL THICKNESS	0.30"	0.4375"
ACTUAL WORKING PRESSURE	UNKNOWN	NA
PRESSURE RATING	250 PSI	NA
MIN. TENSILE STRENGTH	60,000 PSI	35,000 PSI
TYPE OF JOINT	RESTRAINED JOINT	BUTT WELD
COATING	SEE PROJECT SPECS.	NA
METHOD OF INSTALLATION	OPEN CUT	OPEN CUT
SEALS: BOTH ENDS TYPE: RUBBER W/ S.S. BANDS		
BURY: BASE OF RAIL TO TOP OF CASING: 9 FT. 0 IN.		
BURY: 4 FT. 0 IN. MIN. (ROADWAY DITCHES)		
BURY: 4 FT. 0 IN. MIN. (NOT BENEATH TRACKS)		
TYPE, SIZE & SPACING OF INSULATORS OR SUPPORTS: SEE PROJECT SPECS.		
DISTANCE C.L. TRACK TO FACE OF JACKING/RECEIVING PITS FT. IN. NA		
BURY: BASE OF RAIL TO BOTTOM JACKING/RECEIVING PITS FT. IN. NA		
CATHODIC PROTECTION? YES ☐ NO ☒		



16" Waterline Alignment Information

(A) *POB Sta. -1+40.71*
PIRATE Lead Track Sta. 38+13.94 - 101.67' RT
N = 832579.11, E = 775689.32

(B) *PI Sta. -1+22.58*
PIRATE Lead Track Sta. 38+24.99 - 88.03' RT
N = 832597.24, E = 775689.73

(C) *PI Sta. -0+92.34*
PIRATE Lead Track Sta. 38+42.61 - 64.73' RT
N = 832627.47, E = 775689.08

(D) *PI Sta. -0+20.84*
PIRATE Lead Track Sta. 38+91.19 - 14.72' RT
N = 832698.91, E = 775692.04

(E) *PI Sta. 1+31.46*
PIRATE Lead Track Sta. 39+66.48 - 53.05' LT
N = 832798.77, E = 775691.00

(F) *POE Sta. 1+31.46*
PIRATE Lead Track Sta. 40+12.30 - 84.84' LT
N = 832851.21, E = 775691.22

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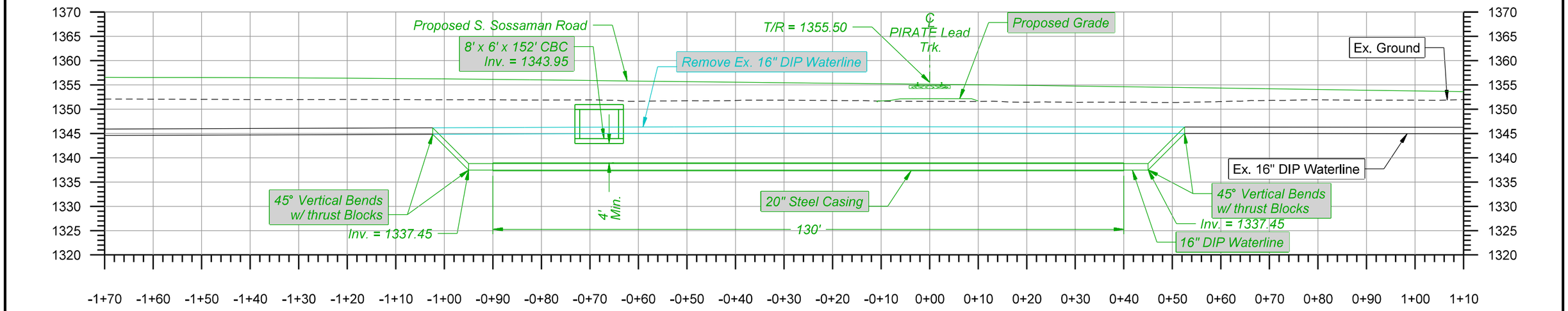
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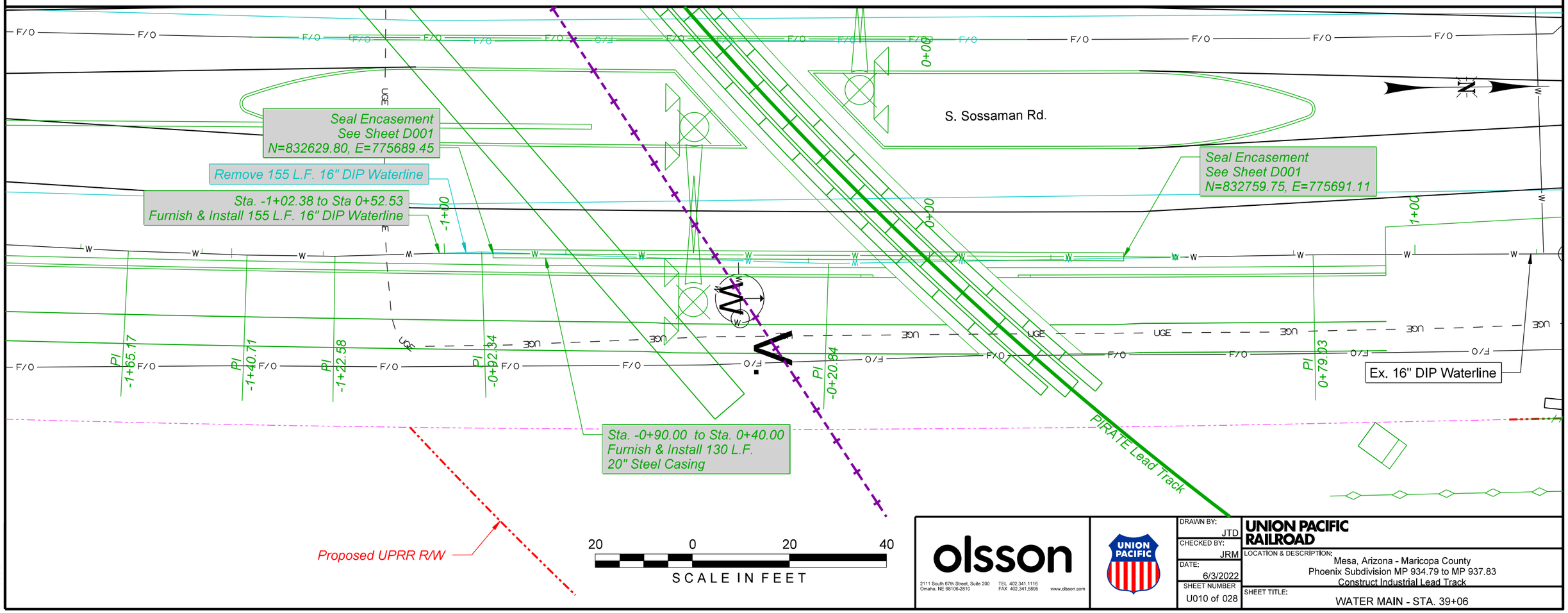
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DATE: 6/3/2022
SHEET NUMBER: U009 of 028

UNION PACIFIC RAILROAD
LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track
SHEET TITLE:
WATER MAIN - STA. 39+06

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UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
WATER MAIN - STA. 39+06

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SANITARY SEWER NOTES:

1. THE CONTRACTOR SHALL COORDINATE WITH CITY OF MESA TO ACCOMMODATE CONSTRUCTION OF THE NEW SANITARY SEWER LINE.
2. THE CONTRACTOR SHALL COORDINATE SANITARY SEWER LINE OUTAGES WITH CITY OF MESA AND SHALL PROVIDE THE NECESSARY MEANS AND METHODS TO MINIMIZE THE LENGTH OF ALL SANITARY SEWER SERVICE OUTAGES. ALL NEW SANITARY SEWER LINE SHALL BE INSTALLED, AND TESTED PRIOR TO CONNECTING INTO THE EXISTING SYSTEM IN ORDER TO MINIMIZE DOWN TIME.
3. THE CONTRACTOR SHALL CONNECT NEW SDR-26 SANITARY SEWER LINE TO EXISTING CONCRETE MANHOLE BLOCK OUT AND PROVIDE WATER STOP ON TOP AND BOTTOM OF PIPE PER MANUFACTURER RECOMMENDATIONS AND ASTM C923, SEAL WITH GROUT. EXISTING OUTLET TO BE SEALED.
4. IF CORE ON BLOCK OUT IS REQUIRED, CORE BY MACHINE DRILLING ONLY WITH CIRCULAR DIAMOND EDGED HOLE SAW BITCORE.
5. CONTRACTOR TO REBUILD BENCH IN EXISTING MANHOLE TO ACCOMODATE NEW SDR-26 SEWER MAIN TO ACHIEVE PROPER FLOW IN MANHOLE.
6. CONTRACTOR TO BUILD NEW 48" PRECAST MANHOLE, PER MESA STANDARD DETAIL, OVER EXISTING SEWER MAIN.
7. THE CONTRACTOR IS TO DEMOLISH THE EXISTING MANHOLE #58. BRICK MANHOLES TO BE ABANDONED-IN-PLACE SHALL BE DEMOLISHED TO AN ELEVATION AT LEAST 3'-0" BELOW GRADE. PRECAST CONCRETE MANHOLES TO BE ABANDONED-IN-PLACE SHALL REMOVE THE TOP CONE OR RISER SECTION. THE INTERIOR OF THE MANHOLE SHALL BE CLEANED AND STERILIZED PRIOR TO BEING FILLED WITH BACKFILL MATERIAL. BACKFILL SHALL BE SELECT MATERIAL, COMPACTED IN ACCORDANCE WITH MESA STANDARDS.
8. PIPE BEDDING PER MESA "PIPE EMBEDMENT AND BACKFILL UNDER STREET AT ANY DEPTH".
9. ROADWAY CONSTRUCTION AT MAPLE STREET AND 5TH AVENUE TO FOLLOW SPECIAL CONDITIONS.
10. THE CONTRACTOR SHALL PROVIDE THE CITY OF MESA WORK WITH A MATERIALS LIST AND THE FOLLOWING TEST RESULTS:

    SEWER COLLECTION SYSTEMS
    A. EXFILTRATION OR LOW PRESSURE AIR TESTING FOR PIPE LEAKAGE.
    B. DEFLECTION TESTING/MANDREL TESTING FOR PIPE SHAPE.
    C. REMOTE CAMERA TESTING FOR UNIFORM SLOPE.
    D. COMPACTION TESTS FOR TRENCH BACKFILL.
    E. MANHOLE TESTING (NEGATIVE AIR PRESSURE TESTING USING THE "STANDARD TEST METHOD FOR CONCRETE SEWER MANHOLES BY NEGATIVE AIRE PRESSURE (VACUUM TEST), C1244-02E1").

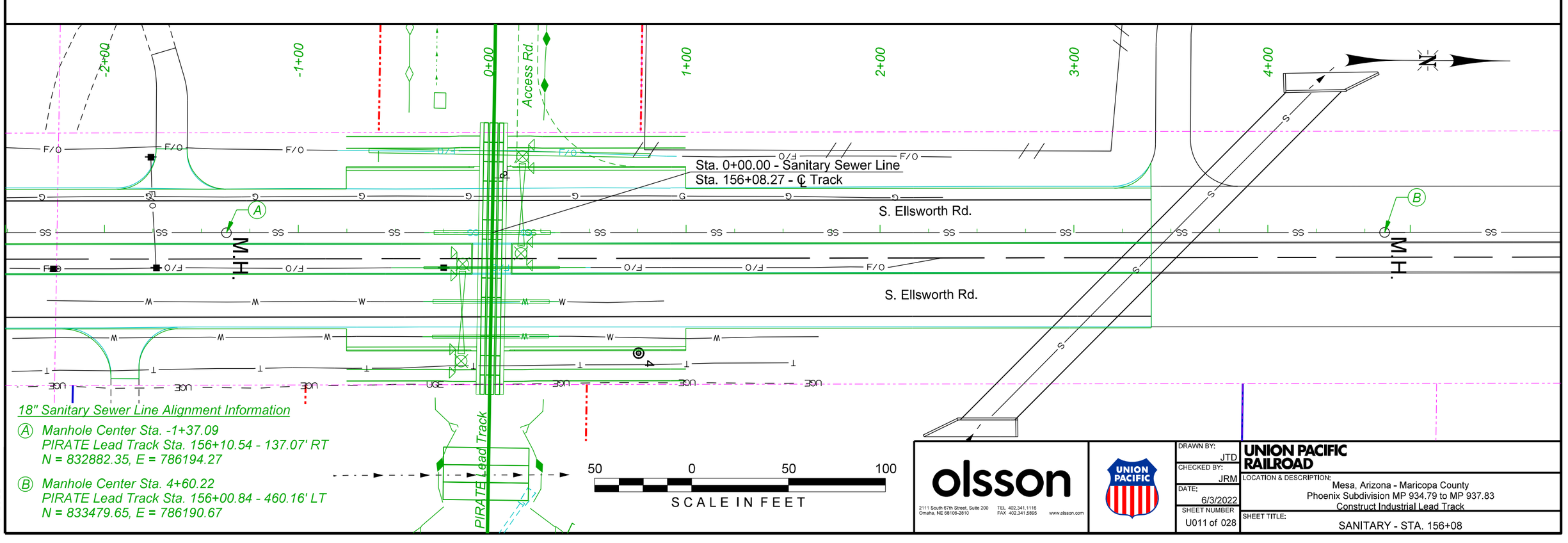
11. THE CONTRACTOR SHALL NOTIFY THE LICENSED LAND SURVEYOR TWO (2) WORKING DAYS IN ADVANCE OF CONSTRUCTION AND SHALL FACILITATE THE SURVEYORS EFFORTS TO FIELD VERIFY THE AS-BUILT LOCATIONS. THE TRENCHES SHALL NOT BE BACKFILLED UNTIL THE SURVEYOR HAS FIELD VERIFIED THE AS-BUILT LOCATIONS FOR THAT PORTION OF POTABLE WATER SYSTEM, SEWER COLLECTION SYSTEM, AND/OR RECLAIMED WATER DISTRIBUTION SYSTEM
12. IT IS THE CONTRACTORS RESPONSIBILITY TO FACILITATE THE INSPECTION OF FINAL INSTALLATION BY OTHERS.
13. AFTER CONSTRUCTION AND FINAL INSPECTION, A PROFESSIONAL ENGINEER OR LICENSED LAND SURVEYOR, REGISTERED IN THE STATE, WILL PREPARE "AS-BUILT" PLANS. A DVD OF THE "AS-BUILT" PLANS, AND TESTING MATERIAL AND INFORMATION SHALL BE SUBMITTED TO THE CITY OF MESA FOR FINAL APPROVAL.

INFORMATIONAL SUMMARY OF QUANTITIES:*

60 L.F. - 24" STEEL CASING
70 L.F. - INSTALL RESTRAINED JOINTS THROUGH CASING
2 EA. - CONNECT TO EXISTING SANITARY SEWER LINE
MOBILIZATION
EXCAVATION AND BACKFILL
TEMPORARY SHORING AS REQUIRED
TRAFFIC CONTROL
ONE-YEAR MAINTENANCE BOND

*THE QUANTITIES SHOWN ABOVE ARE FOR INFORMATIONAL PURPOSES ONLY AND MAY NOT INCLUDE ALL ITEMS, LABOR, AND INCIDENTALS REQUIRED TO COMPLETE THE WORK AS SHOWN.

	CARRIER PIPE	CASING PIPE
CONTENT TO BE HANDLED	SANITARY SEWER	-
NOMINAL DIAMETER	18"	24"
PIPE MATERIAL	HDPE	STEEL
SPECIFICATION AND GRADE	SDR-26	ASTM A1097
WALL THICKNESS	0.490"	0.3125"
ACTUAL WORKING PRESSURE	NA	NA
MIN. TENSILE STRENGTH	22,000 LBS.	35,000 PSI
TYPE OF JOINT	RESTRAINED JOINT	BUTT WELD
COATING	SEE PROJECT SPECS.	NA
METHOD OF INSTALLATION	OPEN CUT	OPEN CUT
SEALS: BOTH ENDS TYPE: RUBBER W/ S.S. BANDS		
BURY: BASE OF RAIL TO TOP OF CASING: FT. IN. NA		
BURY: 3 FT. 0 IN. MIN. (ROADWAY DITCHES)		
BURY: 3 FT. 0 IN. MIN. (NOT BENEATH TRACKS)		
TYPE, SIZE & SPACING OF INSULATORS OR SUPPORTS: SEE PROJECT SPECS.		
DISTANCE C.L. TRACK TO FACE OF JACKING/RECEIVING PITS FT. IN. NA		
BURY: BASE OF RAIL TO BOTTOM JACKING/RECEIVING PITS FT. IN. NA		
CATHODIC PROTECTION? YES ☐ NO ☒		



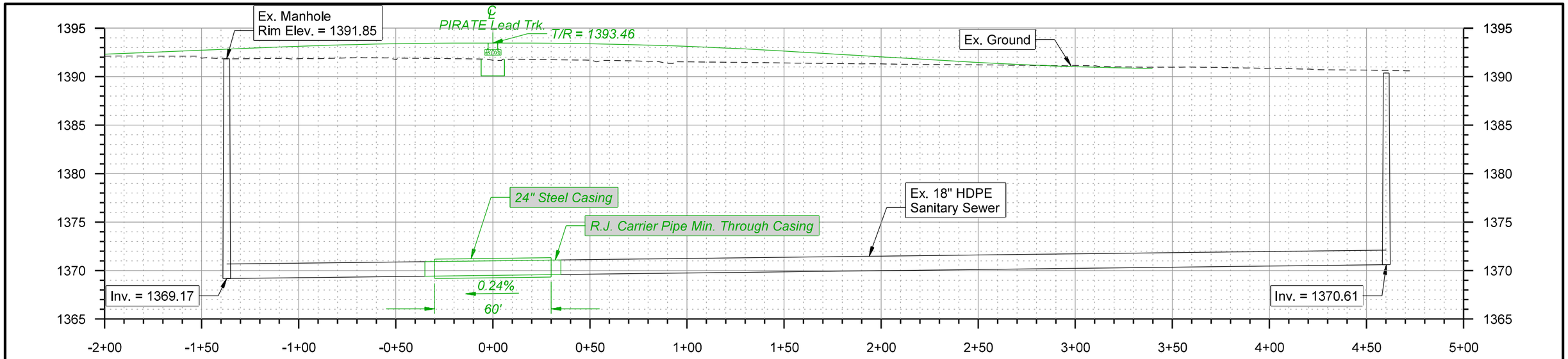
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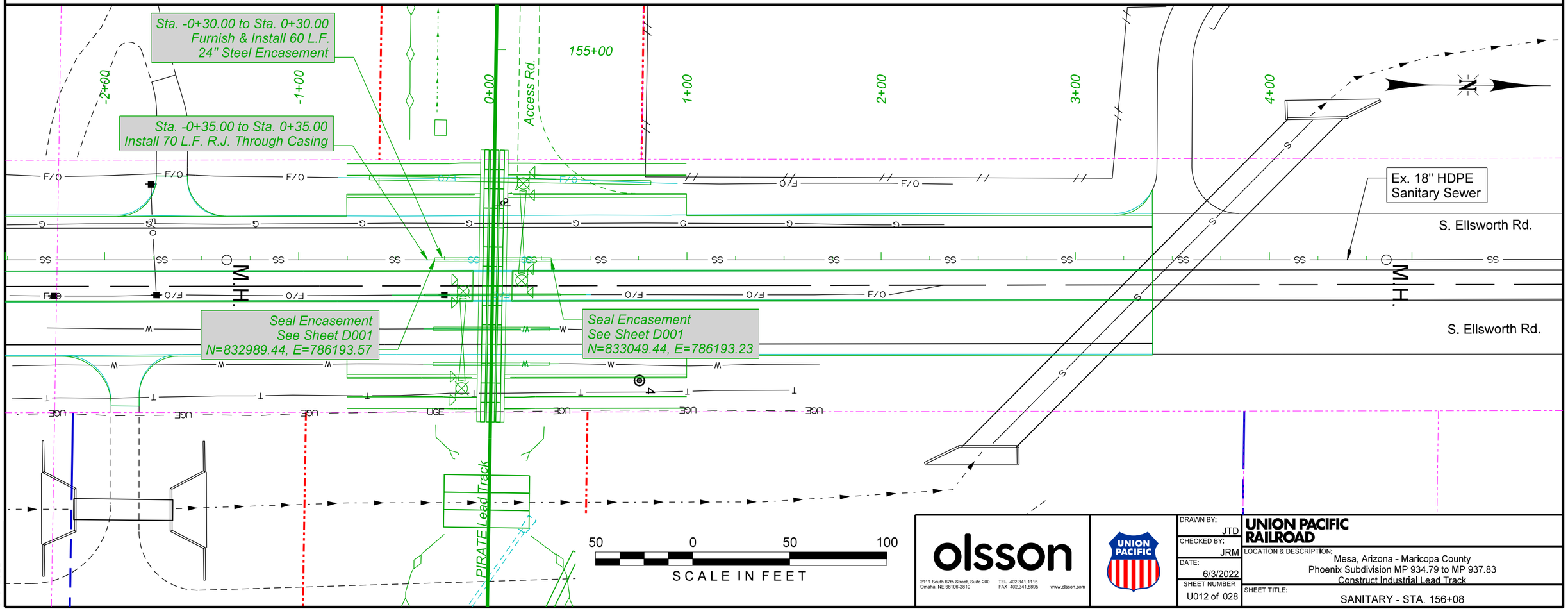
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DATE: 6/3/2022
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UNION PACIFIC RAILROAD
LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track
SHEET TITLE:
SANITARY - STA. 156+08

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UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
SANITARY - STA. 156+08

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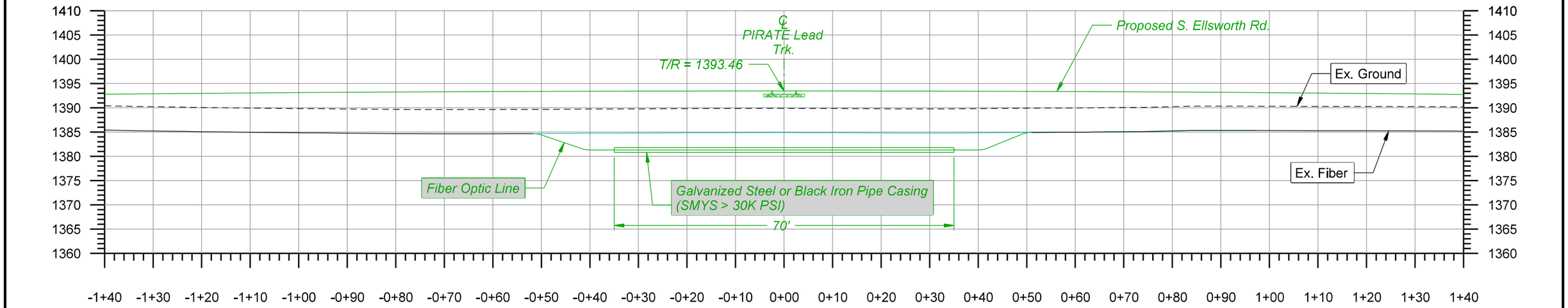
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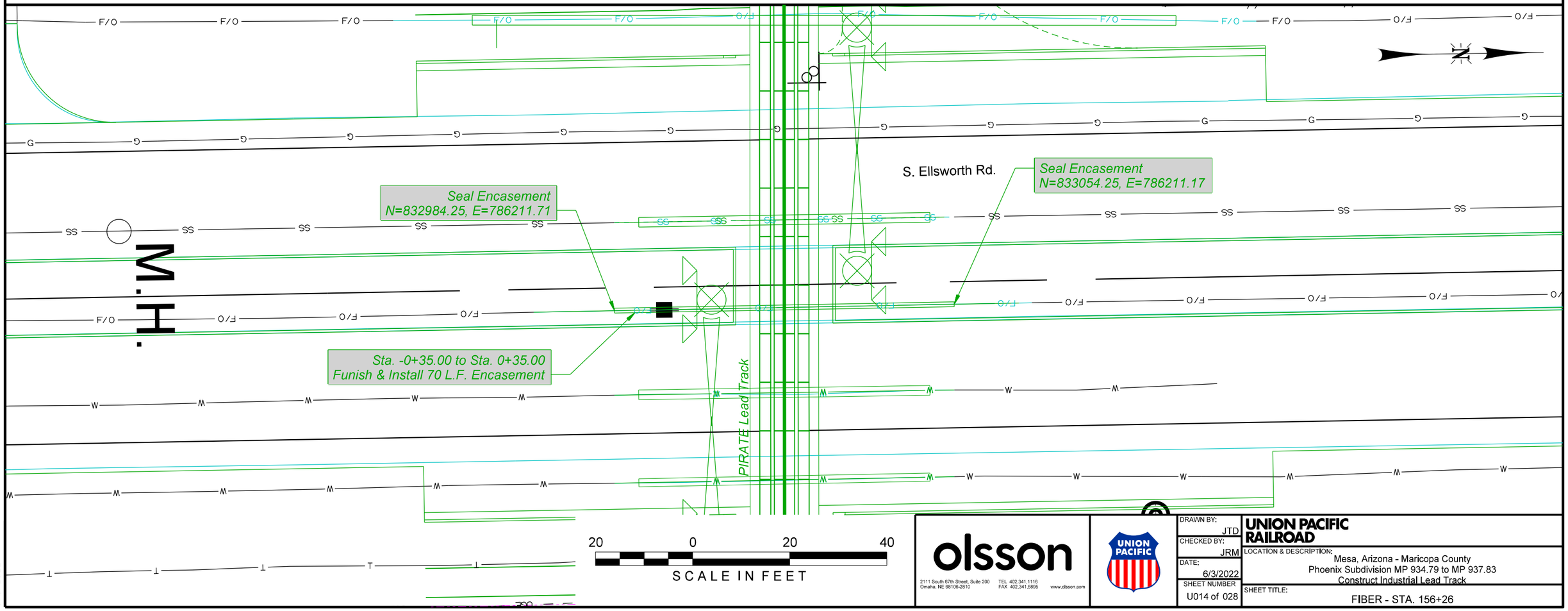
UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
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Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
FIBER - STA. 155+66

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SHEET NUMBER	U014 of 028

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
FIBER - STA. 156+26

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WATER MAIN NOTES:

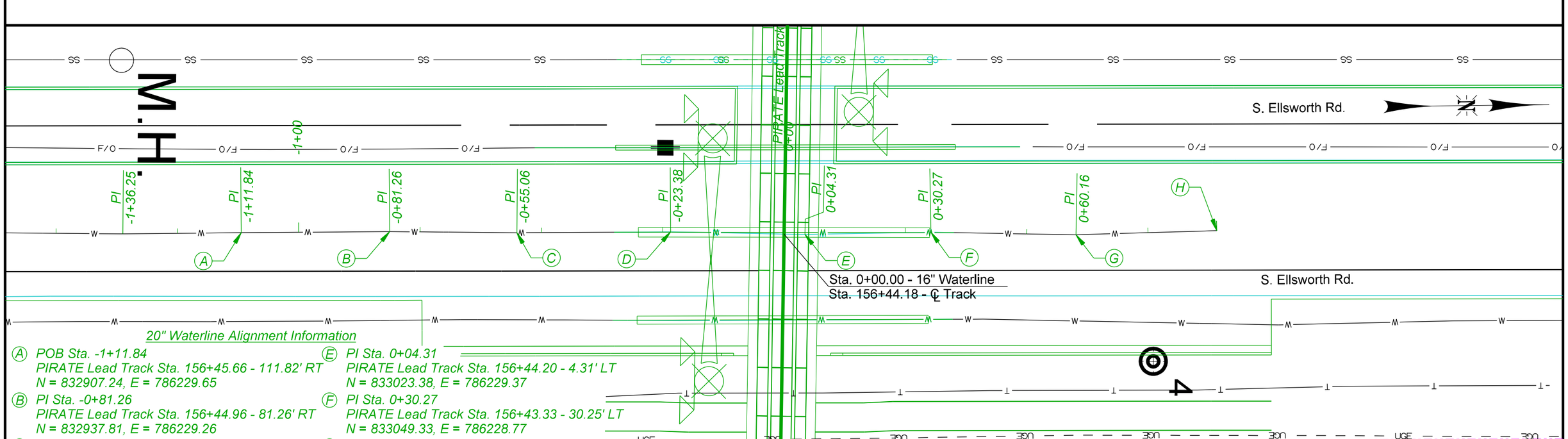
1. THE CONTRACTOR SHALL COORDINATE WITH LIBERTY UTILITIES ON CLOSURE OF ALL VALVES AS REQUIRED TO ACCOMMODATE CONSTRUCTION OF THE NEW WATERLINE.
2. THE CONTRACTOR SHALL COORDINATE WATERLINE OUTAGES WITH LIBERTY UTILITIES AND SHALL PROVIDE THE NECESSARY MEANS AND METHODS TO MINIMIZE THE LENGTH OF ALL WATER SERVICE OUTAGES. ALL NEW WATERLINE SHALL BE INSTALLED, DISINFECTED, AND TESTED PRIOR TO CONNECTING INTO THE EXISTING SYSTEM IN ORDER TO MINIMIZE DOWNTIME. DURING DOWNTIME THE CONTRACTOR SHALL MAKE TEMPORARY ACCOMMODATIONS FOR WATER, RESTROOM FACILITIES, AND FIRE PROTECTION AS NECESSARY OR AS DIRECTED BY UPRR. REFER TO THE PROJECT SPECIAL CONDITIONS FOR ADDITIONAL REQUIREMENTS.
3. THE CONTRACTOR SHALL FURNISH AND INSTALL TEMPORARY BLOW-OFF HYDRANTS AS NECESSARY FOR FLUSHING (INCIDENTAL). EXISTING OR PROPOSED HYDRANTS THAT ARE LOCATED WITH RESPECT TO THE WATERLINE WORK AND APPROVED BY LIBERTY UTILITIES MAY BE USED FOR FLUSHING.
4. THE CONTRACTOR SHALL BUILD TEMPORARY SEDIMENT BASINS AND EROSION MAT FOR DISCHARGE DURING FLUSHING AS NECESSARY TO MINIMIZE EROSION AND TO PREVENT DISCHARGE OF SEDIMENT OFF SITE (INCIDENTAL). AS AN ALTERNATE TO THE TEMPORARY SEDIMENT BASIN THE CONTRACTOR MAY DISCHARGE INTO AN EXISTING DRAINAGEWAY OR DITCH WITH ESTABLISHED VEGETATION AS APPROVED BY THE UPRR PROJECT MANAGER.
5. THE PROJECT PHASING PLANS DETAIL ANTICIPATED SEQUENCING OF WATER MAIN AND ROAD RECONSTRUCTION WORK. THE CONTRACTOR MAY REQUEST TO ALTER THE SEQUENCING OF CONSTRUCTION. ANY PROPOSED CHANGES IN THE SEQUENCING OF WATER MAIN CONSTRUCTION SHALL BE APPROVED BY UPRR.
6. WATER MAINS SHALL BE LAID AT LEAST 10 FEET HORIZONTALLY FROM ANY SEWER LINES OR OTHER SOURCES OF CONTAMINATION. REFER TO ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY. WATER LINES AND SEWER LINES SHALL NOT BE LAID IN THE SAME TRENCH EXCEPT ON THE WRITTEN APPROVAL OF THE ADEQ.

INFORMATIONAL SUMMARY OF QUANTITIES:*

60 L.F. - 24" CMP CASING
70 L.F. - INSTALL RESTRAINED JOINTS THROUGH CASING
MOBILIZATION
PAVEMENT/SIDEWALK REMOVAL/REPLACEMENT AS REQUIRED
EXCAVATION AND BACKFILL
TEMPORARY SHORING AS REQUIRED
TRAFFIC CONTROL
ONE-YEAR MAINTENANCE BOND

*THE QUANTITIES SHOWN ABOVE ARE FOR INFORMATIONAL PURPOSES ONLY AND MAY NOT INCLUDE ALL ITEMS, LABOR, AND INCIDENTALS REQUIRED TO COMPLETE THE WORK AS SHOWN.

	CARRIER PIPE	CASING PIPE
CONTENT TO BE HANDLED	POTABLE WATER	-
NOMINAL DIAMETER	20"	24"
PIPE MATERIAL	DUCTILE IRON PIPE	STEEL
SPECIFICATION AND GRADE	CL250 DIP	ASTM A1097
WALL THICKNESS	0.30"	0.4375"
ACTUAL WORKING PRESSURE	UNKNOWN	NA
PRESSURE RATING	250 PSI	NA
MIN. TENSILE STRENGTH	60,000 PSI	35,000 PSI
TYPE OF JOINT	RESTRAINED JOINT	BUTT WELD
COATING	SEE PROJECT SPECS.	NA
METHOD OF INSTALLATION	OPEN CUT	OPEN CUT
SEALS: BOTH ENDS TYPE: RUBBER W/ S.S. BANDS		
BURY: BASE OF RAIL TO TOP OF CASING: 9 FT. 0 IN.		
BURY: 4 FT. 0 IN. MIN. (ROADWAY DITCHES)		
BURY: 4 FT. 0 IN. MIN. (NOT BENEATH TRACKS)		
TYPE, SIZE & SPACING OF INSULATORS OR SUPPORTS: SEE PROJECT SPECS.		
DISTANCE C.L. TRACK TO FACE OF JACKING/RECEIVING PITS FT. IN. NA		
BURY: BASE OF RAIL TO BOTTOM JACKING/RECEIVING PITS FT. IN. NA		
CATHODIC PROTECTION? YES ☐ NO ☒		



20" Waterline Alignment Information

(A) *POB Sta. -1+11.84*
PIRATE Lead Track Sta. 156+45.66 - 111.82' RT
N = 832907.24, E = 786229.65

(B) *PI Sta. -0+81.26*
PIRATE Lead Track Sta. 156+44.96 - 81.26' RT
N = 832937.81, E = 786229.26

(C) *PI Sta. -0+55.06*
PIRATE Lead Track Sta. 156+44.77 - 55.06' RT
N = 832964.01, E = 786229.34

(D) *PI Sta. -0+23.38*
PIRATE Lead Track Sta. 156+44.10 - 23.39' RT
N = 832995.69, E = 786228.99

(E) *PI Sta. 0+04.31*
PIRATE Lead Track Sta. 156+44.20 - 4.31' LT
N = 833023.38, E = 786229.37

(F) *PI Sta. 0+30.27*
PIRATE Lead Track Sta. 156+43.33 - 30.25' LT
N = 833049.33, E = 786228.77

(G) *PI Sta. 0+60.16*
PIRATE Lead Track Sta. 156+43.38 - 60.14' LT
N = 833079.22, E = 786229.13

(H) *EOT Sta. 0+89.19*
PIRATE Lead Track Sta. 156+42.08 - 89.14' LT
N = 833108.23, E = 786228.12

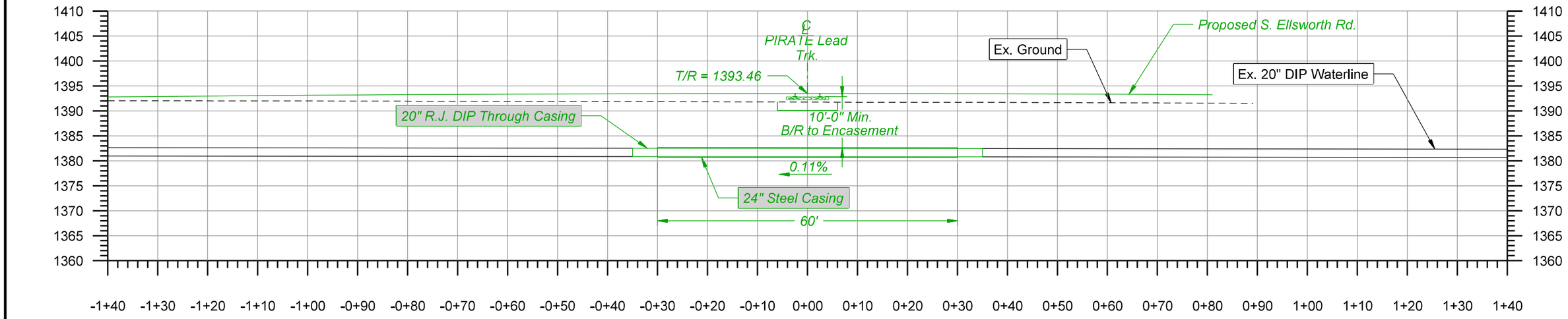
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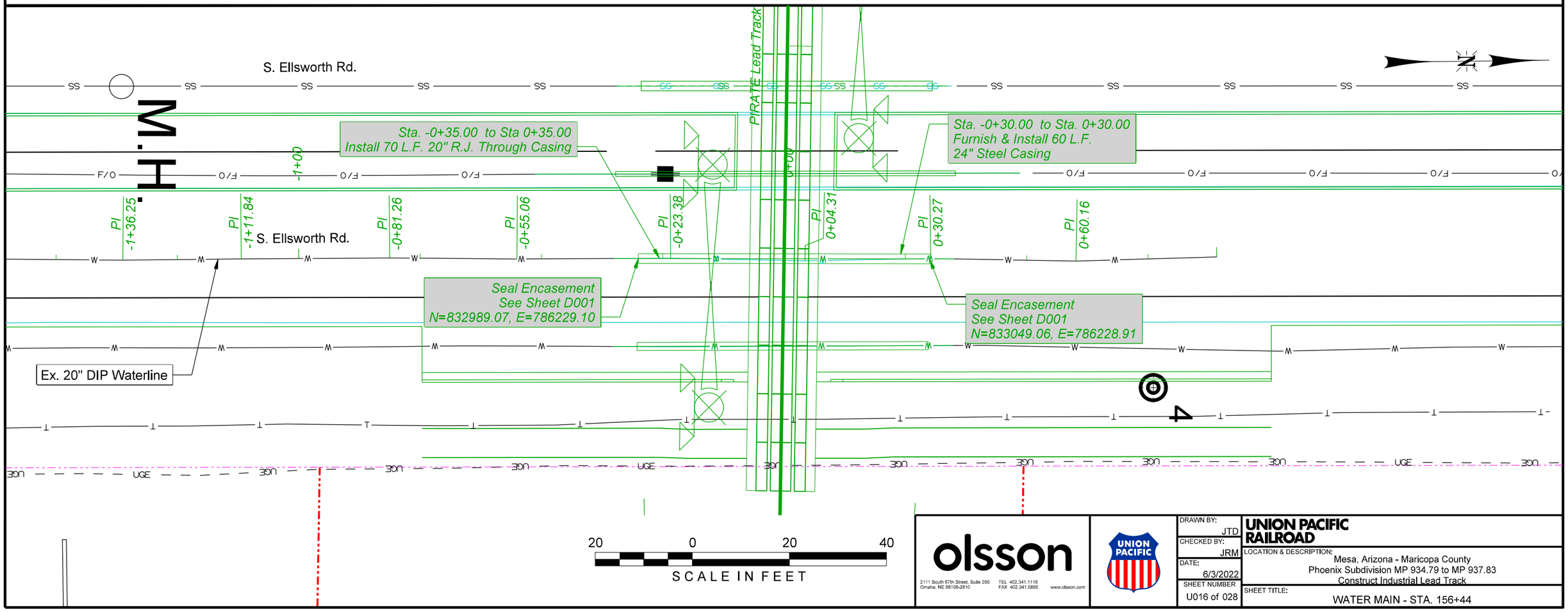
UNION PACIFIC

DRAWN BY: JTD
CHECKED BY: JRM
DATE: 6/3/2022
SHEET NUMBER: U015 of 028

UNION PACIFIC RAILROAD
LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track
SHEET TITLE:
WATER MAIN - STA. 156+44

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DRAWN BY:	JTD
CHECKED BY:	JRM
DATE:	6/3/2022
SHEET NUMBER	U016 of 028

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
WATER MAIN - STA. 156+44

Color table: K:\Bentley\WorkspaceV8i\projects\Clients\UPRR_Track\UPRR_Track_V8i\color\UPRR.tbl
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WATER MAIN NOTES:

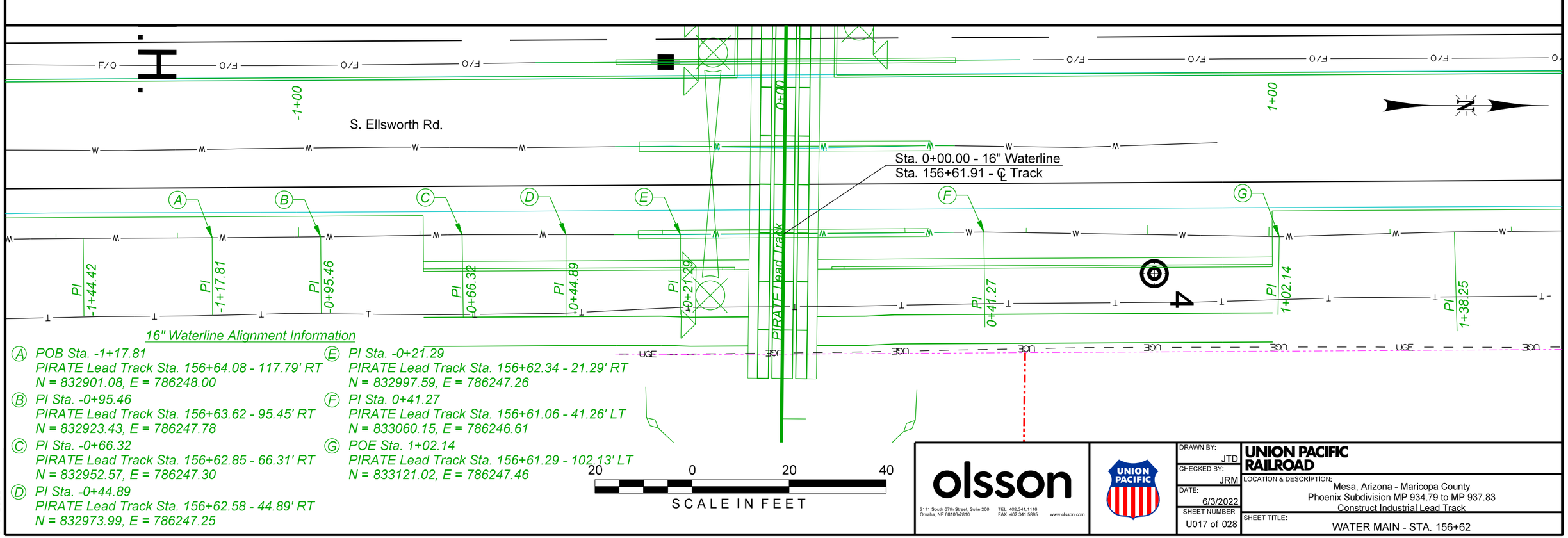
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6. WATER MAINS SHALL BE LAID AT LEAST 10 FEET HORIZONTALLY FROM ANY SEWER LINES OR OTHER SOURCES OF CONTAMINATION. REFER TO ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY. WATER LINES AND SEWER LINES SHALL NOT BE LAID IN THE SAME TRENCH EXCEPT ON THE WRITTEN APPROVAL OF THE ADEQ.

INFORMATIONAL SUMMARY OF QUANTITIES:*

60 L.F. - 20" CMP CASING
70 L.F. - INSTALL RESTRAINED JOINTS THROUGH CASING
MOBILIZATION
PAVEMENT/SIDEWALK REMOVAL/REPLACEMENT AS REQUIRED
EXCAVATION AND BACKFILL
TEMPORARY SHORING AS REQUIRED
TRAFFIC CONTROL
ONE-YEAR MAINTENANCE BOND

*THE QUANTITIES SHOWN ABOVE ARE FOR INFORMATIONAL PURPOSES ONLY AND MAY NOT INCLUDE ALL ITEMS, LABOR, AND INCIDENTALS REQUIRED TO COMPLETE THE WORK AS SHOWN.

	CARRIER PIPE	CASING PIPE
CONTENT TO BE HANDLED	POTABLE WATER	-
NOMINAL DIAMETER	16"	20"
PIPE MATERIAL	DUCTILE IRON PIPE	STEEL
SPECIFICATION AND GRADE	CL250 DIP	ASTM A1097
WALL THICKNESS	0.30"	0.4375"
ACTUAL WORKING PRESSURE	UNKNOWN	NA
PRESSURE RATING	250 PSI	NA
MIN. TENSILE STRENGTH	60,000 PSI	35,000 PSI
TYPE OF JOINT	RESTRAINED JOINT	BUTT WELD
COATING	SEE PROJECT SPECS.	NA
METHOD OF INSTALLATION	OPEN CUT	OPEN CUT
SEALS: BOTH ENDS TYPE: RUBBER W/ S.S. BANDS		
BURY: BASE OF RAIL TO TOP OF CASING: 9 FT. 0 IN.		
BURY: 4 FT. 0 IN. MIN. (ROADWAY DITCHES)		
BURY: 4 FT. 0 IN. MIN. (NOT BENEATH TRACKS)		
TYPE, SIZE & SPACING OF INSULATORS OR SUPPORTS: SEE PROJECT SPECS.		
DISTANCE C.L. TRACK TO FACE OF JACKING/RECEIVING PITS FT. IN. NA		
BURY: BASE OF RAIL TO BOTTOM JACKING/RECEIVING PITS FT. IN. NA		
CATHODIC PROTECTION? YES ☐ NO ☒		



16" Waterline Alignment Information

(A) *POB Sta. -1+17.81*
PIRATE Lead Track Sta. 156+64.08 - 117.79' RT
N = 832901.08, E = 786248.00

(B) *PI Sta. -0+95.46*
PIRATE Lead Track Sta. 156+63.62 - 95.45' RT
N = 832923.43, E = 786247.78

(C) *PI Sta. -0+66.32*
PIRATE Lead Track Sta. 156+62.85 - 66.31' RT
N = 832952.57, E = 786247.30

(D) *PI Sta. -0+44.89*
PIRATE Lead Track Sta. 156+62.58 - 44.89' RT
N = 832973.99, E = 786247.25

(E) *PI Sta. -0+21.29*
PIRATE Lead Track Sta. 156+62.34 - 21.29' RT
N = 832997.59, E = 786247.26

(F) *PI Sta. 0+41.27*
PIRATE Lead Track Sta. 156+61.06 - 41.26' LT
N = 833060.15, E = 786246.61

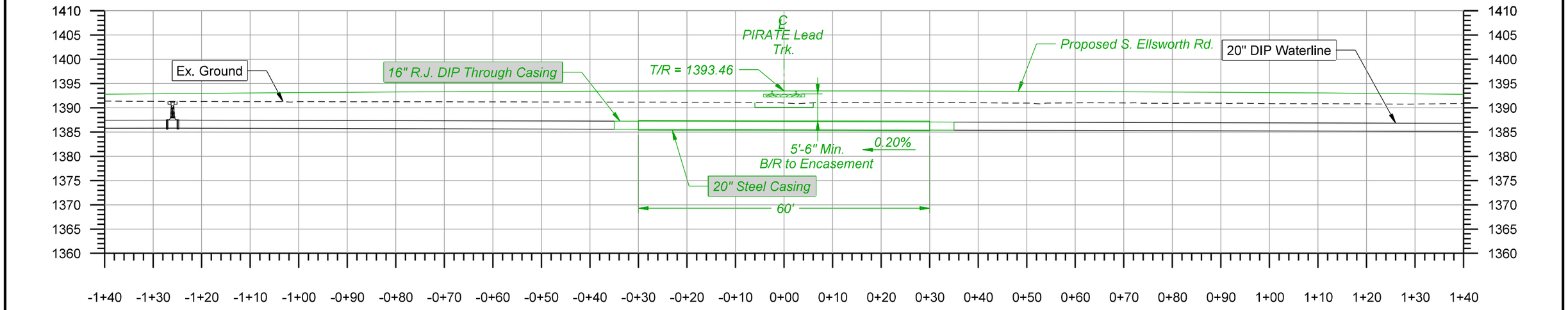
(G) *POE Sta. 1+02.14*
PIRATE Lead Track Sta. 156+61.29 - 102.13' LT
N = 833121.02, E = 786247.46

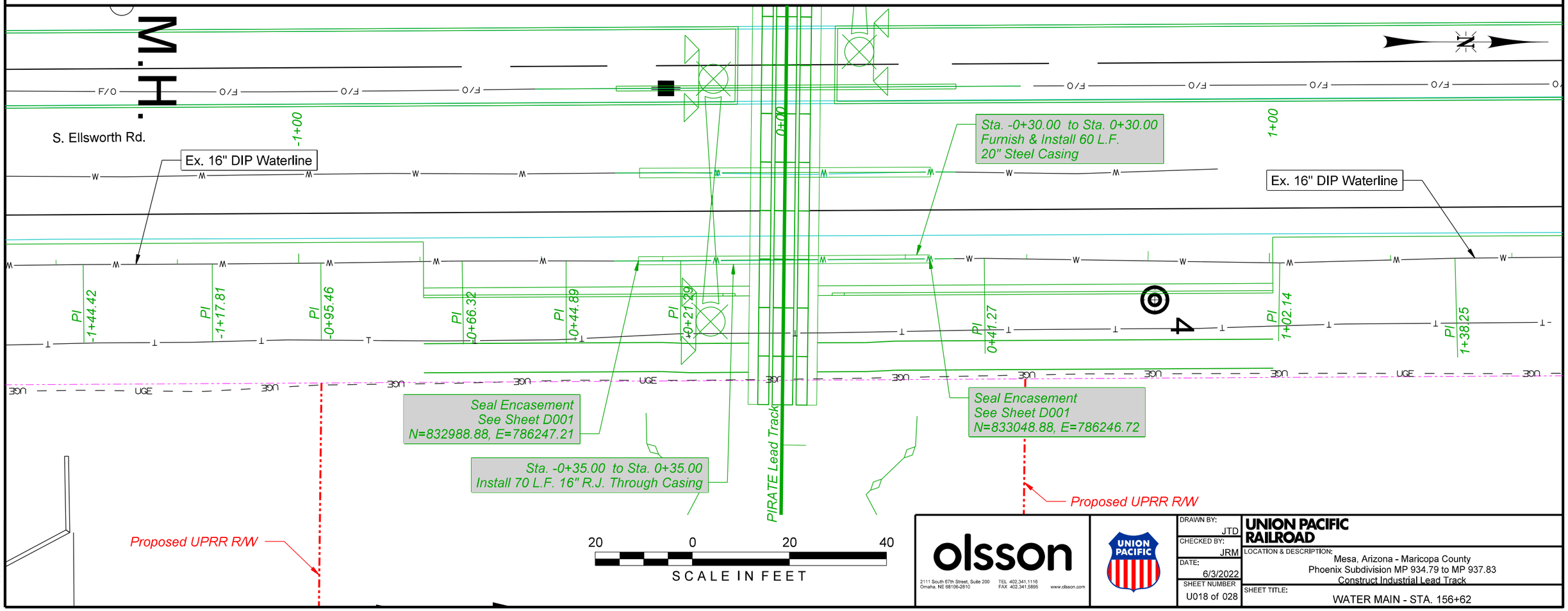
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DATE: 6/3/2022
SHEET NUMBER: U017 of 028

UNION PACIFIC RAILROAD
LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track
SHEET TITLE:
WATER MAIN - STA. 156+62

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DATE:	6/3/2022
SHEET NUMBER	U018 of 028

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
WATER MAIN - STA. 156+62

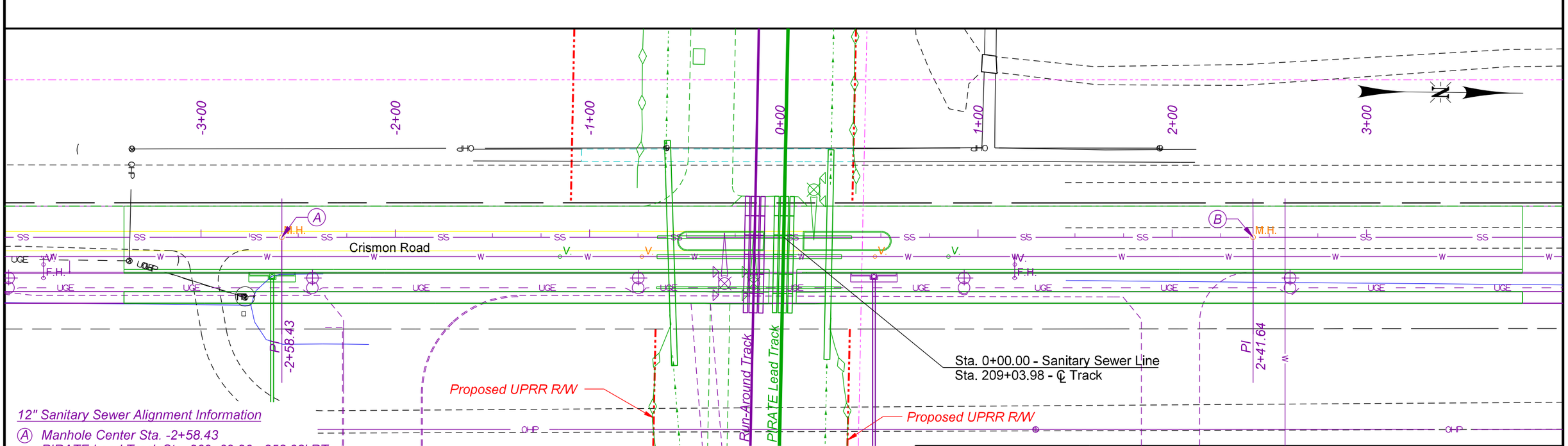
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6/3/2022

INFORMATIONAL SUMMARY OF QUANTITIES:*

100 L.F. - 18" STEEL CASING
2 EA. - ADJUST MANHOLE TO GRADE
110 L.F. (MIN.) - INSTALL RESTRAINED JOINTS THROUGH CASING
MOBILIZATION
EXCAVATION AND BACKFILL
TEMPORARY SHORING AS REQUIRED
TRAFFIC CONTROL

*THE QUANTITIES SHOWN ABOVE ARE FOR INFORMATIONAL PURPOSES ONLY AND MAY NOT INCLUDE ALL ITEMS, LABOR, AND INCIDENTALS REQUIRED TO COMPLETE THE WORK AS SHOWN.

	CARRIER PIPE	CASING PIPE
CONTENT TO BE HANDLED	SANITARY SEWER	-
NOMINAL DIAMETER	12"	18"
PIPE MATERIAL	PVC	STEEL
SPECIFICATION AND GRADE	SDR-26	ASTM A1097
WALL THICKNESS	0.490"	0.3125"
ACTUAL WORKING PRESSURE	NA	NA
MIN. TENSILE STRENGTH	22,000 LBS.	35,000 PSI
TYPE OF JOINT	RESTRAINED JOINT	BUTT WELD
COATING	SEE PROJECT SPECS.	NA
METHOD OF INSTALLATION	OPEN CUT	OPEN CUT
SEALS: BOTH ENDS TYPE: RUBBER W/ S.S. BANDS		
BURY: BASE OF RAIL TO TOP OF CASING: FT. IN. NA		
BURY: 3 FT. 0 IN. MIN. (ROADWAY DITCHES)		
BURY: 3 FT. 0 IN. MIN. (NOT BENEATH TRACKS)		
TYPE, SIZE & SPACING OF INSULATORS OR SUPPORTS: SEE PROJECT SPECS.		
DISTANCE C.L. TRACK TO FACE OF JACKING/RECEIVING PITS FT. IN. NA		
BURY: BASE OF RAIL TO BOTTOM JACKING/RECEIVING PITS FT. IN. NA		
CATHODIC PROTECTION? YES ☐ NO ☒		



12" Sanitary Sewer Alignment Information

Ⓐ *Manhole Center Sta. -2+58.43*
PIRATE Lead Track Sta. 209+09.26 - 258.38' RT
N = 832438.00, E = 791470.02

Ⓑ *Manhole Center Sta. 2+41.64*
PIRATE Lead Track Sta. 208+99.04 - 241.59' LT
N = 832938.05, E = 791464.72

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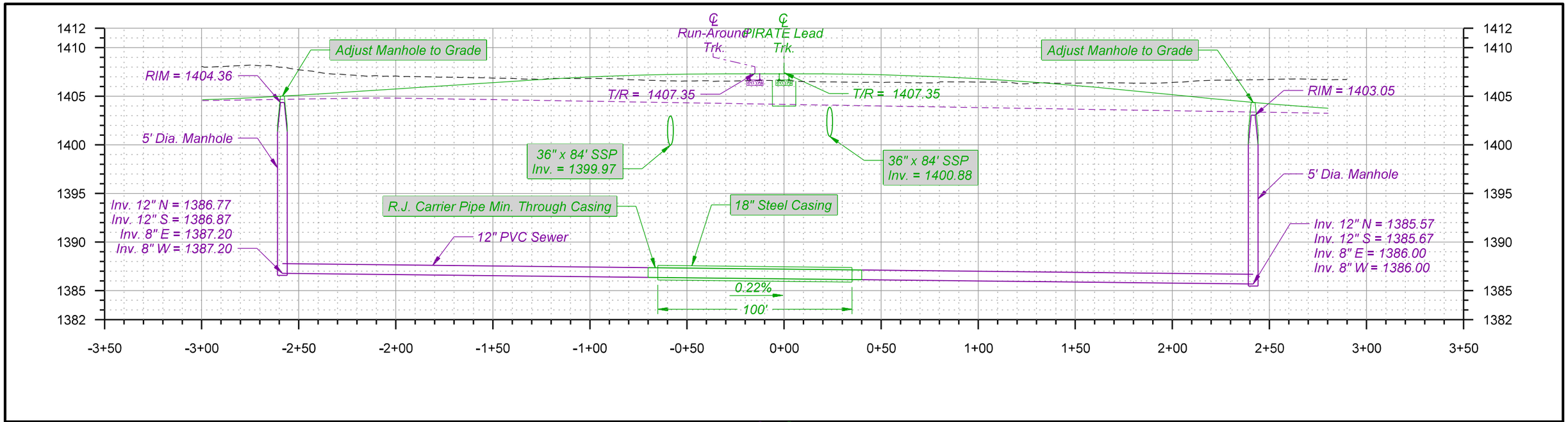
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CHECKED BY:	JRM
DATE:	6/3/2022
SHEET NUMBER	U019 of 028

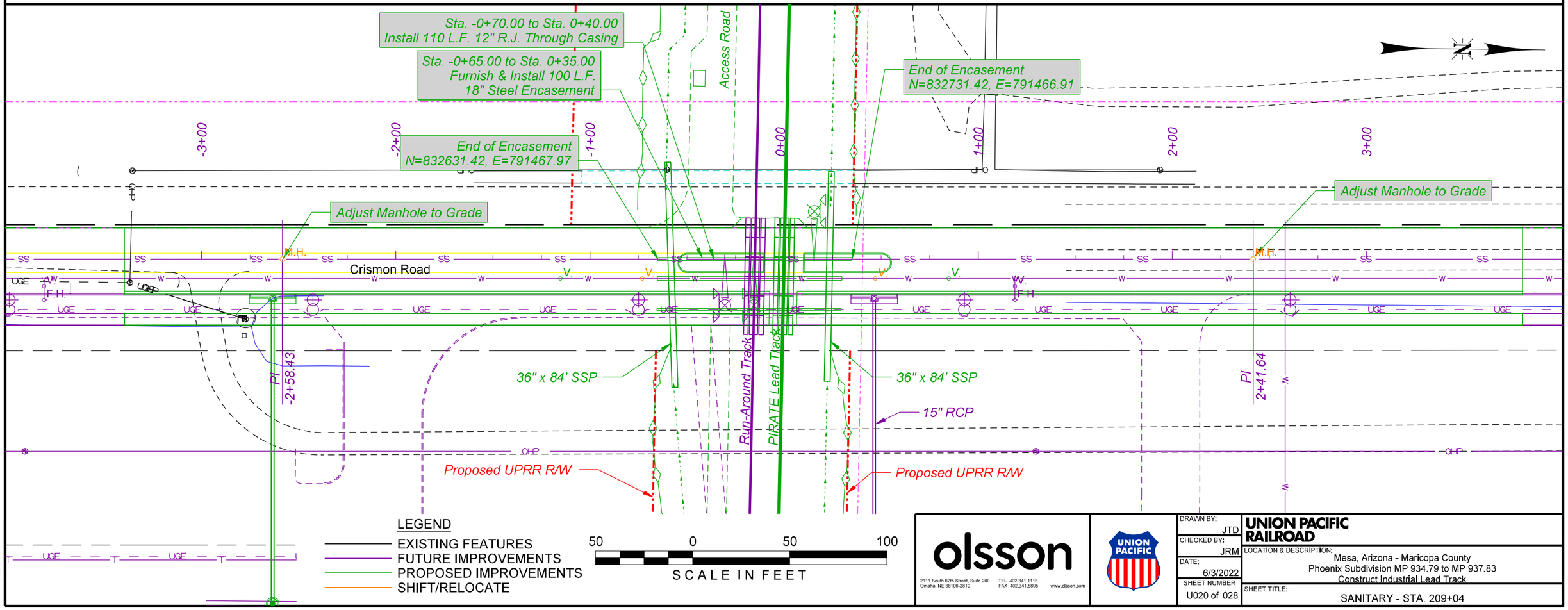
UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
SANITARY - STA. 209+04

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6/3/2022





LEGEND

- EXISTING FEATURES
- FUTURE IMPROVEMENTS
- PROPOSED IMPROVEMENTS
- SHIFT/RELOCATE

50 0 50 100

SCALE IN FEET

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DATE:	6/3/2022
SHEET NUMBER	U020 of 028

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
SANITARY - STA. 209+04

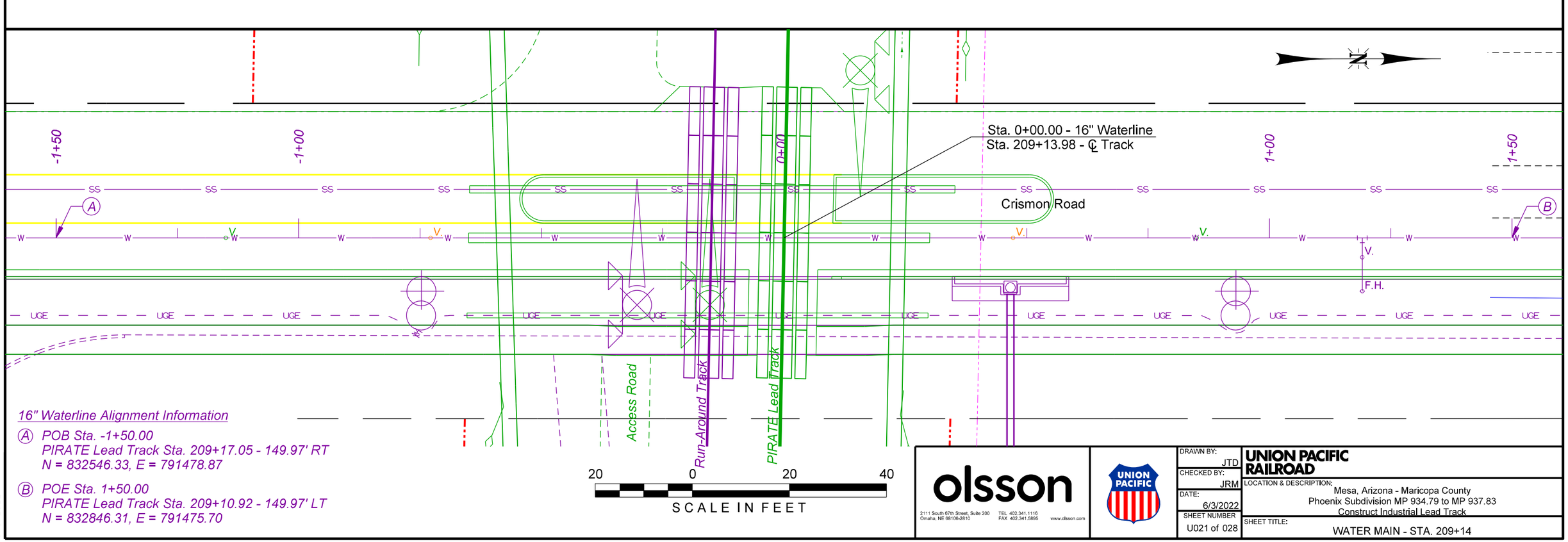
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6/3/2022

INFORMATIONAL SUMMARY OF QUANTITIES:*

95 L.F. - 24" STEEL CASING
2 EA. - RELOCATE ISOLATION VALVE
105 L.F. (MIN.) - INSTALL RESTRAINED JOINTS THROUGH CASING
1 EA. - ADJUST HYDRANT TO GRADE
MOBILIZATION
EXCAVATION AND BACKFILL
TEMPORARY SHORING AS REQUIRED
TRAFFIC CONTROL

*THE QUANTITIES SHOWN ABOVE ARE FOR INFORMATIONAL PURPOSES ONLY AND MAY NOT INCLUDE ALL ITEMS, LABOR, AND INCIDENTALS REQUIRED TO COMPLETE THE WORK AS SHOWN.

	CARRIER PIPE	CASING PIPE
CONTENT TO BE HANDLED	POTABLE WATER	-
NOMINAL DIAMETER	16"	24"
PIPE MATERIAL	DUCTILE IRON PIPE	STEEL
SPECIFICATION AND GRADE	CL250 DIP	ASTM A1097
WALL THICKNESS	0.30"	0.4375"
ACTUAL WORKING PRESSURE	UNKNOWN	NA
PRESSURE RATING	250 PSI	NA
MIN. TENSILE STRENGTH	60,000 PSI	35,000 PSI
TYPE OF JOINT	RESTRAINED JOINT	BUTT WELD
COATING	SEE PROJECT SPECS.	NA
METHOD OF INSTALLATION	OPEN CUT	OPEN CUT
SEALS: BOTH ENDS TYPE: RUBBER W/ S.S. BANDS		
BURY: BASE OF RAIL TO TOP OF CASING: 9 FT. 0 IN.		
BURY: 4 FT. 0 IN. MIN. (ROADWAY DITCHES)		
BURY: 4 FT. 0 IN. MIN. (NOT BENEATH TRACKS)		
TYPE, SIZE & SPACING OF INSULATORS OR SUPPORTS: SEE PROJECT SPECS.		
DISTANCE C.L. TRACK TO FACE OF JACKING/RECEIVING PITS FT. IN. NA		
BURY: BASE OF RAIL TO BOTTOM JACKING/RECEIVING PITS FT. IN. NA		
CATHODIC PROTECTION? YES ☐ NO ☒		



16" Waterline Alignment Information

Ⓐ *POB Sta. -1+50.00*
PIRATE Lead Track Sta. 209+17.05 - 149.97' RT
N = 832546.33, E = 791478.87

Ⓑ *POE Sta. 1+50.00*
PIRATE Lead Track Sta. 209+10.92 - 149.97' LT
N = 832846.31, E = 791475.70

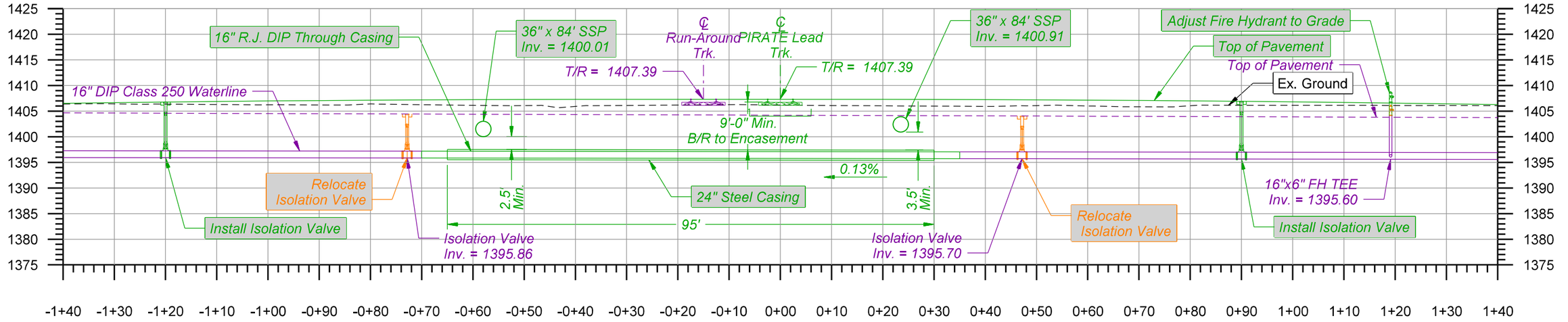
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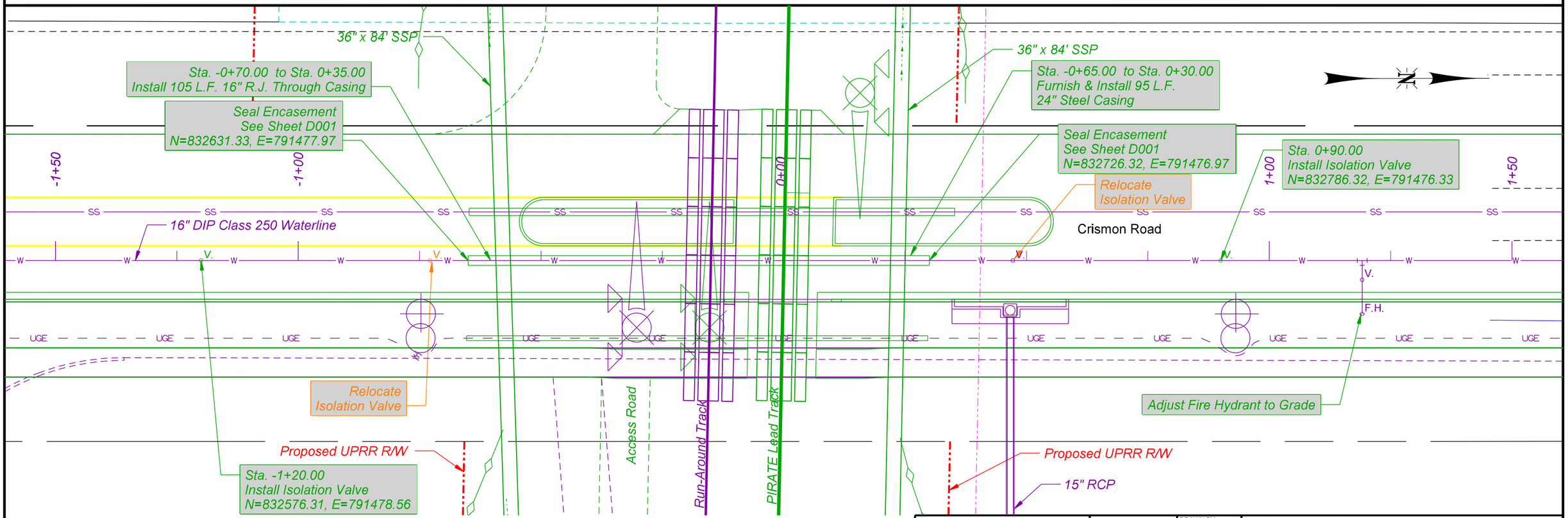
UNION PACIFIC

DRAWN BY: JTD
CHECKED BY: JRM
DATE: 6/3/2022
SHEET NUMBER: U021 of 028

UNION PACIFIC RAILROAD
LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track
SHEET TITLE:
WATER MAIN - STA. 209+14

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SCALE IN FEET

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UNION PACIFIC

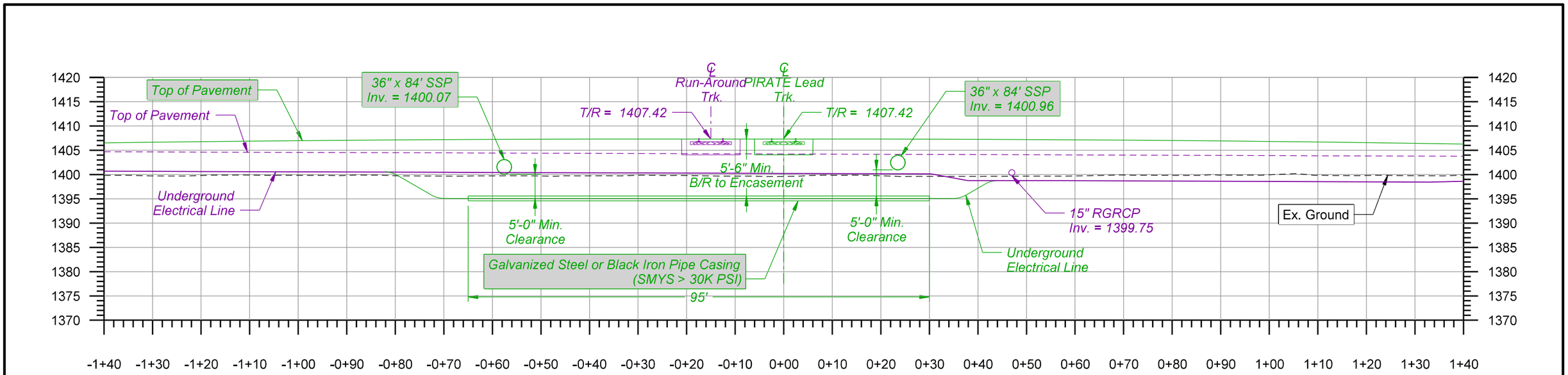
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SHEET NUMBER	U022 of 028

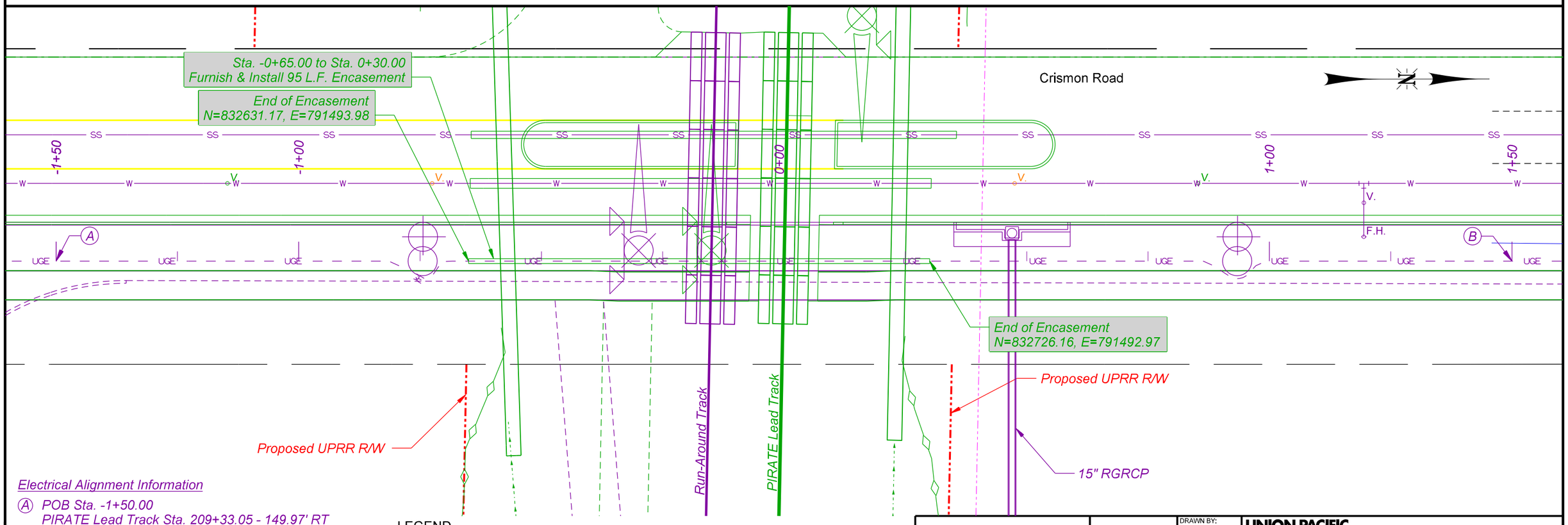
UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
WATER MAIN - STA. 209+14

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Default
6/3/2022





Electrical Alignment Information

Ⓐ *POB Sta. -1+50.00*
PIRATE Lead Track Sta. 209+33.05 - 149.97' RT
N = 832546.17, E = 791494.88

Ⓑ *POE Sta. 1+50.00*
PIRATE Lead Track Sta. 209+26.92 - 149.97' LT
N = 832846.16, E = 791491.71

LEGEND

- EXISTING FEATURES
- FUTURE IMPROVEMENTS
- PROPOSED IMPROVEMENTS
- SHIFT/RELOCATE

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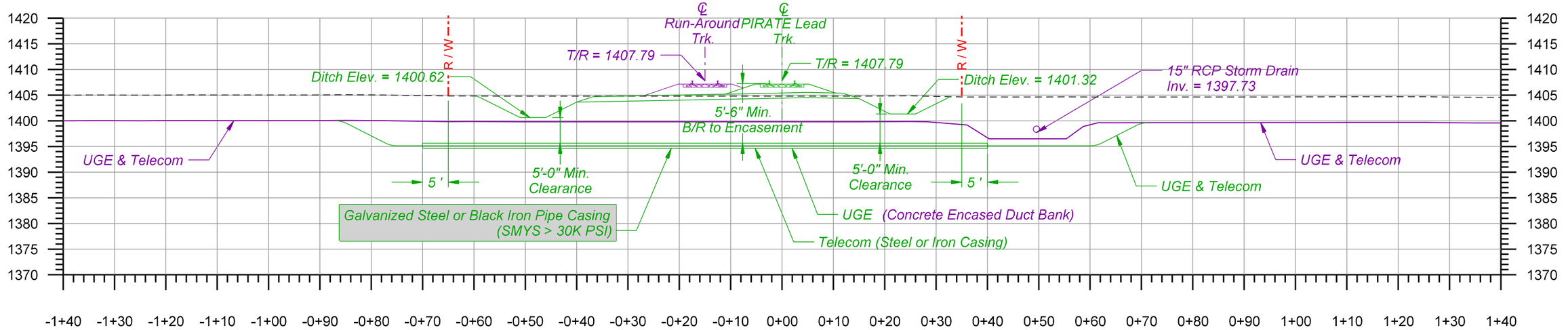
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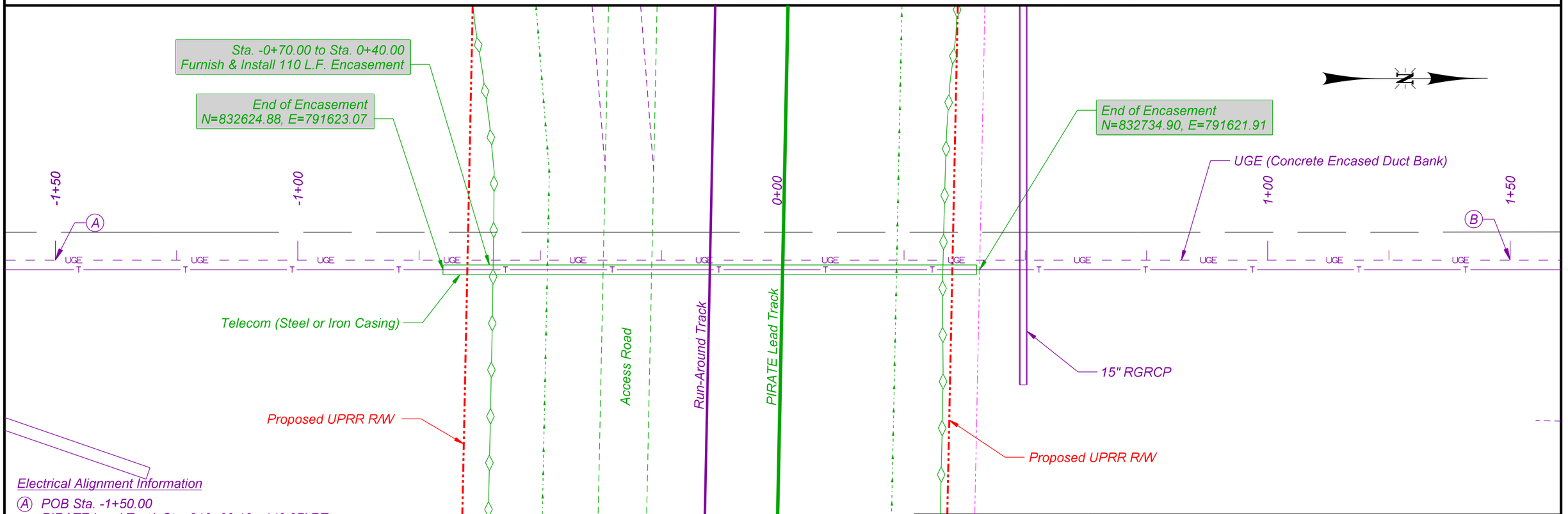
UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
ELECTRICAL - STA. 209+30

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6/3/2022





Electrical Alignment Information

Ⓐ POB Sta. -1+50.00
PIRATE Lead Track Sta. 210+60.10 - 149.97' RT
N = 832544.92, E = 791621.92

Ⓑ POE Sta. 1+50.00
PIRATE Lead Track Sta. 210+53.97 - 149.97' LT
N = 832844.90, E = 791618.75

LEGEND
- EXISTING FEATURES
- FUTURE IMPROVEMENTS
- PROPOSED IMPROVEMENTS
- SHIFT/RELOCATE

20 0 20 40
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SHEET NUMBER: U024 of 028

UNION PACIFIC RAILROAD
LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track
SHEET TITLE:
TELECOM - STA. 210+57

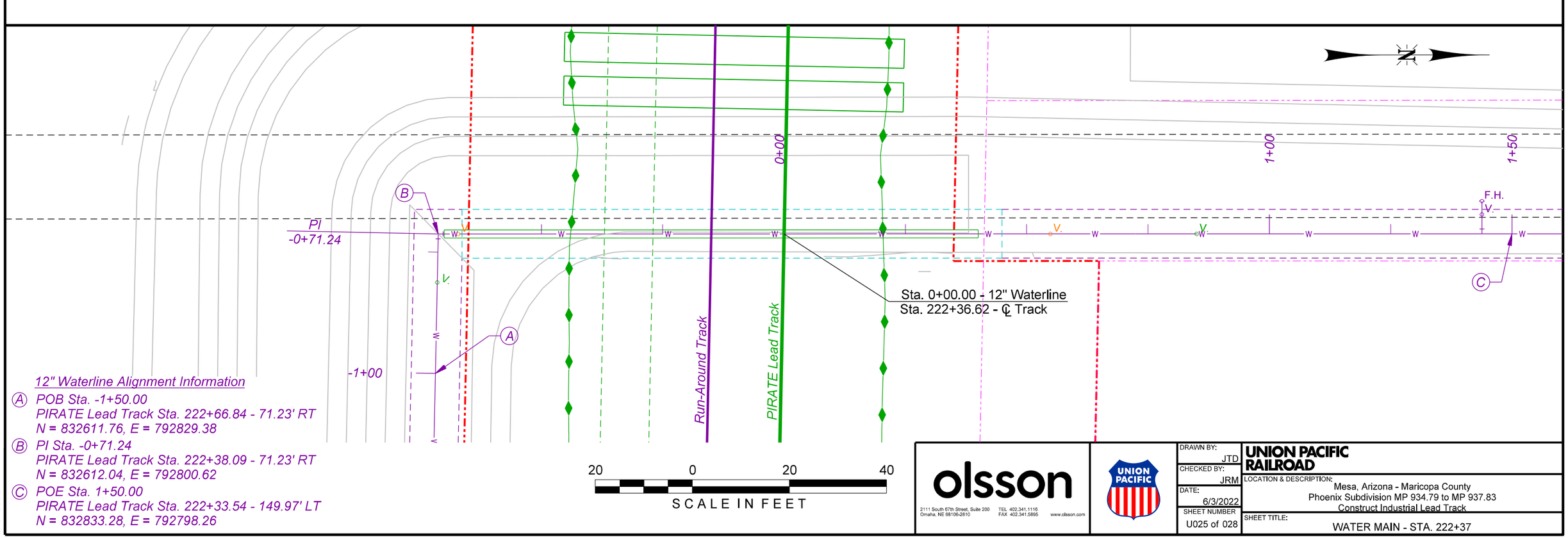
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6/3/2022

INFORMATIONAL SUMMARY OF QUANTITIES:*

110 L.F. - 20" STEEL CASING
2 EA. - RELOCATE ISOLATION VALVE
120 L.F. (MIN.) - INSTALL RESTRAINED JOINTS THROUGH CASING
MOBILIZATION
EXCAVATION AND BACKFILL
TEMPORARY SHORING AS REQUIRED

*THE QUANTITIES SHOWN ABOVE ARE FOR INFORMATIONAL PURPOSES ONLY AND MAY NOT INCLUDE ALL ITEMS, LABOR, AND INCIDENTALS REQUIRED TO COMPLETE THE WORK AS SHOWN.

	CARRIER PIPE	CASING PIPE
CONTENT TO BE HANDLED	POTABLE WATER	-
NOMINAL DIAMETER	12"	20"
PIPE MATERIAL	DUCTILE IRON PIPE	STEEL
SPECIFICATION AND GRADE	CL350 DIP	ASTM A1097
WALL THICKNESS	0.28"	0.3750"
ACTUAL WORKING PRESSURE	UNKNOWN	NA
PRESSURE RATING	350 PSI	NA
MIN. TENSILE STRENGTH	60,000 PSI	35,000 PSI
TYPE OF JOINT	RESTRAINED JOINT	BUTT WELD
COATING	SEE PROJECT SPECS.	NA
METHOD OF INSTALLATION	OPEN CUT	OPEN CUT
SEALS: BOTH ENDS TYPE: RUBBER W/ S.S. BANDS		
BURY: BASE OF RAIL TO TOP OF CASING: 10 FT. 0 IN.		
BURY: 4 FT. 0 IN. MIN. (ROADWAY DITCHES)		
BURY: 4 FT. 0 IN. MIN. (NOT BENEATH TRACKS)		
TYPE, SIZE & SPACING OF INSULATORS OR SUPPORTS: SEE PROJECT SPECS.		
DISTANCE C.L. TRACK TO FACE OF JACKING/RECEIVING PITS FT. IN. NA		
BURY: BASE OF RAIL TO BOTTOM JACKING/RECEIVING PITS FT. IN. NA		
CATHODIC PROTECTION? YES ☐ NO ☒		



12" Waterline Alignment Information

Ⓐ *POB Sta. -1+50.00*
PIRATE Lead Track Sta. 222+66.84 - 71.23' RT
N = 832611.76, E = 792829.38

Ⓑ *PI Sta. -0+71.24*
PIRATE Lead Track Sta. 222+38.09 - 71.23' RT
N = 832612.04, E = 792800.62

Ⓒ *POE Sta. 1+50.00*
PIRATE Lead Track Sta. 222+33.54 - 149.97' LT
N = 832833.28, E = 792798.26

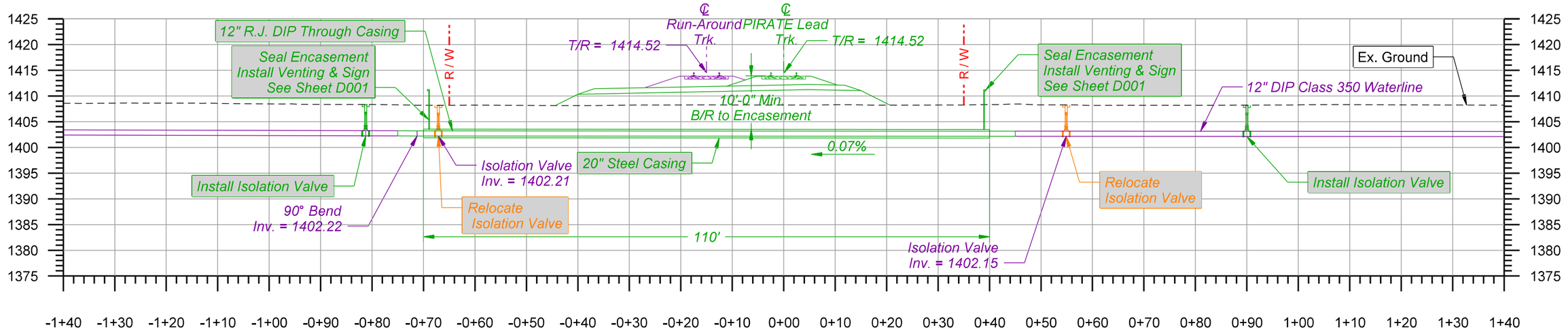
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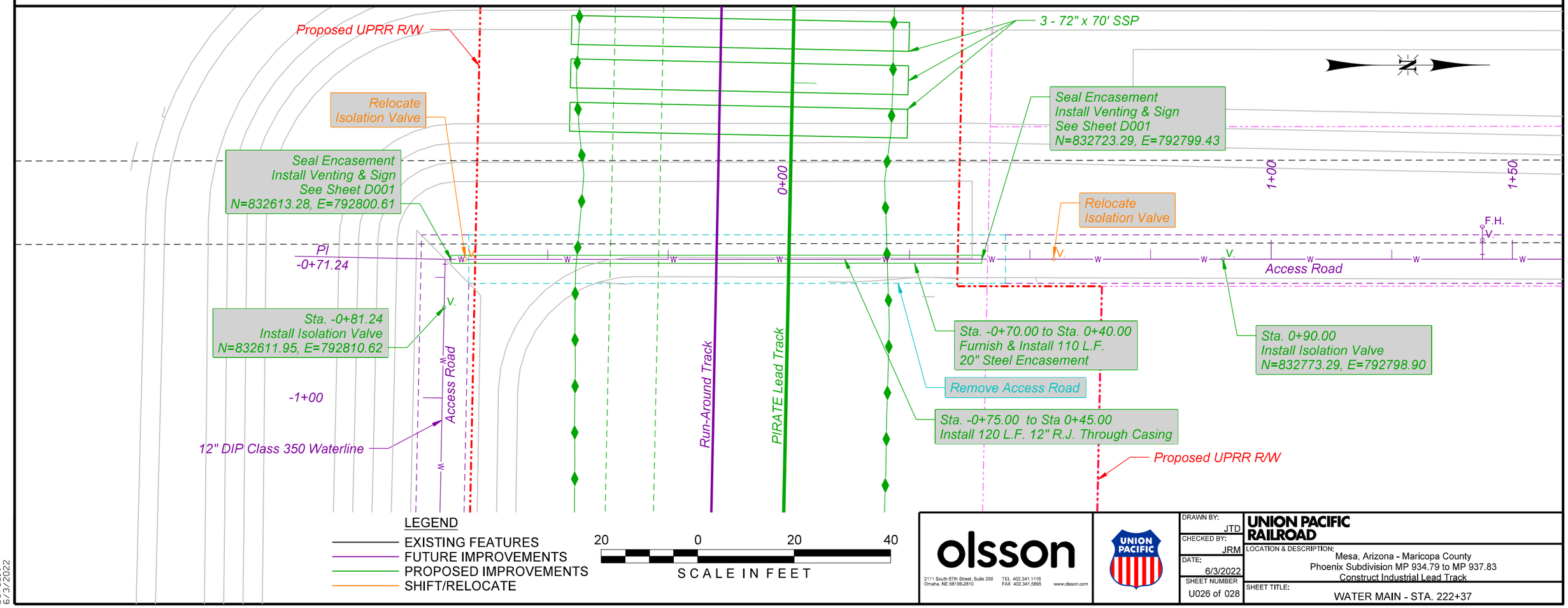
UNION PACIFIC

DRAWN BY: JTD
CHECKED BY: JRM
DATE: 6/3/2022
SHEET NUMBER: U025 of 028

UNION PACIFIC RAILROAD
LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track
SHEET TITLE:
WATER MAIN - STA. 222+37

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DATE:	6/3/2022
SHEET NUMBER	U026 of 028

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
WATER MAIN - STA. 222+37

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WATER MAIN NOTES:

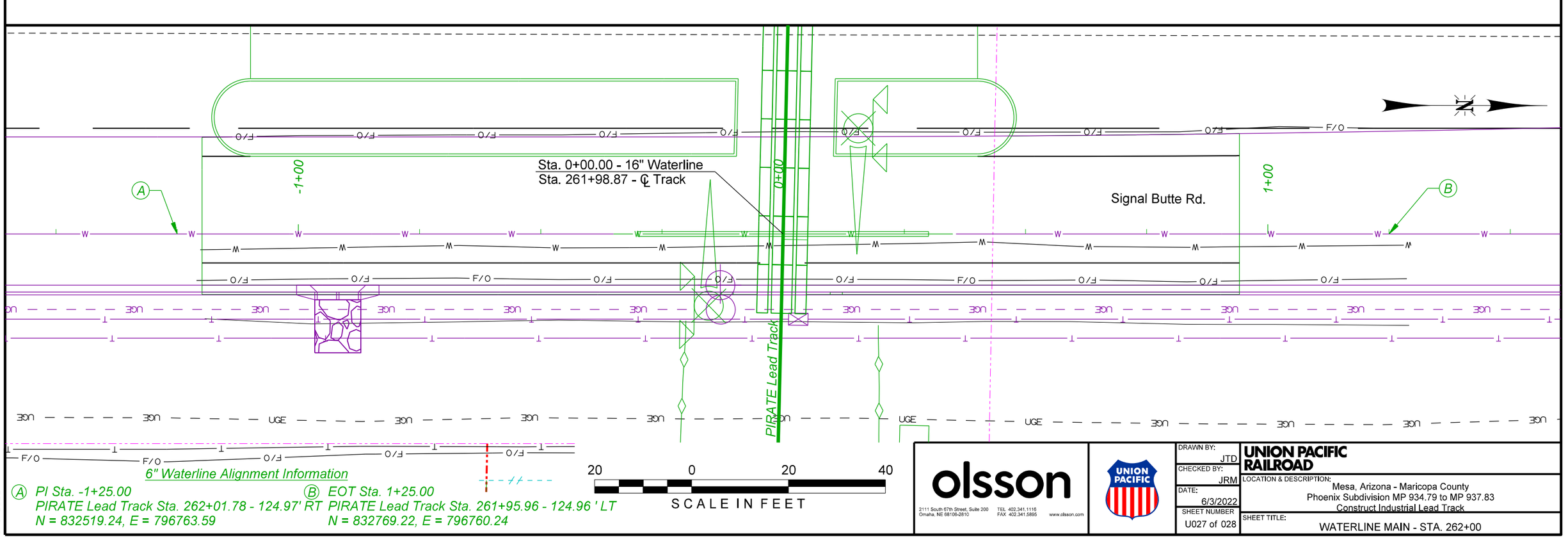
1. THE CONTRACTOR SHALL COORDINATE WITH LIBERTY UTILITIES ON CLOSURE OF ALL VALVES AS REQUIRED TO ACCOMMODATE CONSTRUCTION OF THE NEW WATERLINE.
2. THE CONTRACTOR SHALL COORDINATE WATERLINE OUTAGES WITH LIBERTY UTILITIES AND SHALL PROVIDE THE NECESSARY MEANS AND METHODS TO MINIMIZE THE LENGTH OF ALL WATER SERVICE OUTAGES. ALL NEW WATERLINE SHALL BE INSTALLED, DISINFECTED, AND TESTED PRIOR TO CONNECTING INTO THE EXISTING SYSTEM IN ORDER TO MINIMIZE DOWN TIME. DURING DOWNTIME THE CONTRACTOR SHALL MAKE TEMPORARY ACCOMMODATIONS FOR WATER, RESTROOM FACILITIES, AND FIRE PROTECTION AS NECESSARY OR AS DIRECTED BY UPRR. REFER TO THE PROJECT SPECIAL CONDITIONS FOR ADDITIONAL REQUIREMENTS.
3. THE CONTRACTOR SHALL FURNISH AND INSTALL TEMPORARY BLOW-OFF HYDRANTS AS NECESSARY FOR FLUSHING (INCIDENTAL). EXISTING OR PROPOSED HYDRANTS THAT ARE LOCATED WITH RESPECT TO THE WATERLINE WORK AND APPROVED BY LIBERTY UTILITIES MAY BE USED FOR FLUSHING.
4. THE CONTRACTOR SHALL BUILD TEMPORARY SEDIMENT BASINS AND EROSION MAT FOR DISCHARGE DURING FLUSHING AS NECESSARY TO MINIMIZE EROSION AND TO PREVENT DISCHARGE OF SEDIMENT OFF SITE (INCIDENTAL). AS AN ALTERNATE TO THE TEMPORARY SEDIMENT BASIN THE CONTRACTOR MAY DISCHARGE INTO AN EXISTING DRAINAGEWAY OR DITCH WITH ESTABLISHED VEGETATION AS APPROVED BY THE UPRR PROJECT MANAGER.
5. THE PROJECT PHASING PLANS DETAIL ANTICIPATED SEQUENCING OF WATER MAIN AND ROAD RECONSTRUCTION WORK. THE CONTRACTOR MAY REQUEST TO ALTER THE SEQUENCING OF CONSTRUCTION. ANY PROPOSED CHANGES IN THE SEQUENCING OF WATER MAIN CONSTRUCTION SHALL BE APPROVED BY UPRR.
6. WATER MAINS SHALL BE LAID AT LEAST 10 FEET HORIZONTALLY FROM ANY SEWER LINES OR OTHER SOURCES OF CONTAMINATION. REFER TO ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY. WATER LINES AND SEWER LINES SHALL NOT BE LAID IN THE SAME TRENCH EXCEPT ON THE WRITTEN APPROVAL OF THE ADEQ.

INFORMATIONAL SUMMARY OF QUANTITIES:*

70 L.F. - INSTALL RESTRAINED JOINTS THROUGH CASING
60 L.F. - 20" CMP CASING
MOBILIZATION
PAVEMENT/SIDEWALK REMOVAL/REPLACEMENT AS REQUIRED
EXCAVATION AND BACKFILL
TEMPORARY SHORING AS REQUIRED
TRAFFIC CONTROL
ONE-YEAR MAINTENANCE BOND

*THE QUANTITIES SHOWN ABOVE ARE FOR INFORMATIONAL PURPOSES ONLY AND MAY NOT INCLUDE ALL ITEMS, LABOR, AND INCIDENTALS REQUIRED TO COMPLETE THE WORK AS SHOWN.

	CARRIER PIPE	CASING PIPE
CONTENT TO BE HANDLED	POTABLE WATER	-
NOMINAL DIAMETER	16"	20"
PIPE MATERIAL	DUCTILE IRON PIPE	GALVANIZED STEEL
SPECIFICATION AND GRADE	CL350 DIP	ASTM A760, 16 GAUGE
WALL THICKNESS	0.25"	0.064" MIN.
ACTUAL WORKING PRESSURE	UNKNOWN	NA
PRESSURE RATING	250 PSI	NA
MIN. TENSILE STRENGTH	30,000 PSI	35,000 PSI
TYPE OF JOINT	PUSH/PULL IN	WELDED
COATING	NA	SEE PROJECT SPECS.
METHOD OF INSTALLATION	OPEN CUT	OPEN CUT
SEALS: BOTH ENDS TYPE: RUBBER W/ S.S. BANDS		
BURY: BASE OF RAIL TO TOP OF CASING: 9 FT. 6 IN.		
BURY: 4 FT. 0 IN. MIN. (ROADWAY DITCHES)		
BURY: 4 FT. 0 IN. MIN. (NOT BENEATH TRACKS)		
TYPE, SIZE & SPACING OF INSULATORS OR SUPPORTS: SEE PROJECT SPECS.		
DISTANCE C.L. TRACK TO FACE OF JACKING/RECEIVING PITS FT. IN. NA		
BURY: BASE OF RAIL TO BOTTOM JACKING/RECEIVING PITS FT. IN. NA		
CATHODIC PROTECTION? YES ☒ NO ☐		



6" Waterline Alignment Information

Ⓐ PI Sta. -1+25.00
PIRATE Lead Track Sta. 262+01.78 - 124.97' RT
N = 832519.24, E = 796763.59

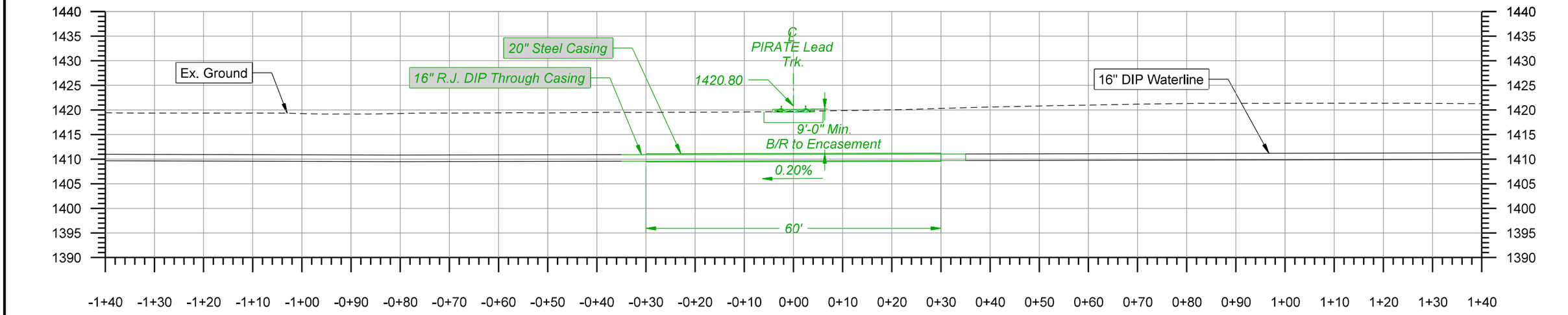
Ⓑ EOT Sta. 1+25.00
PIRATE Lead Track Sta. 261+95.96 - 124.96 ' LT
N = 832769.22, E = 796760.24

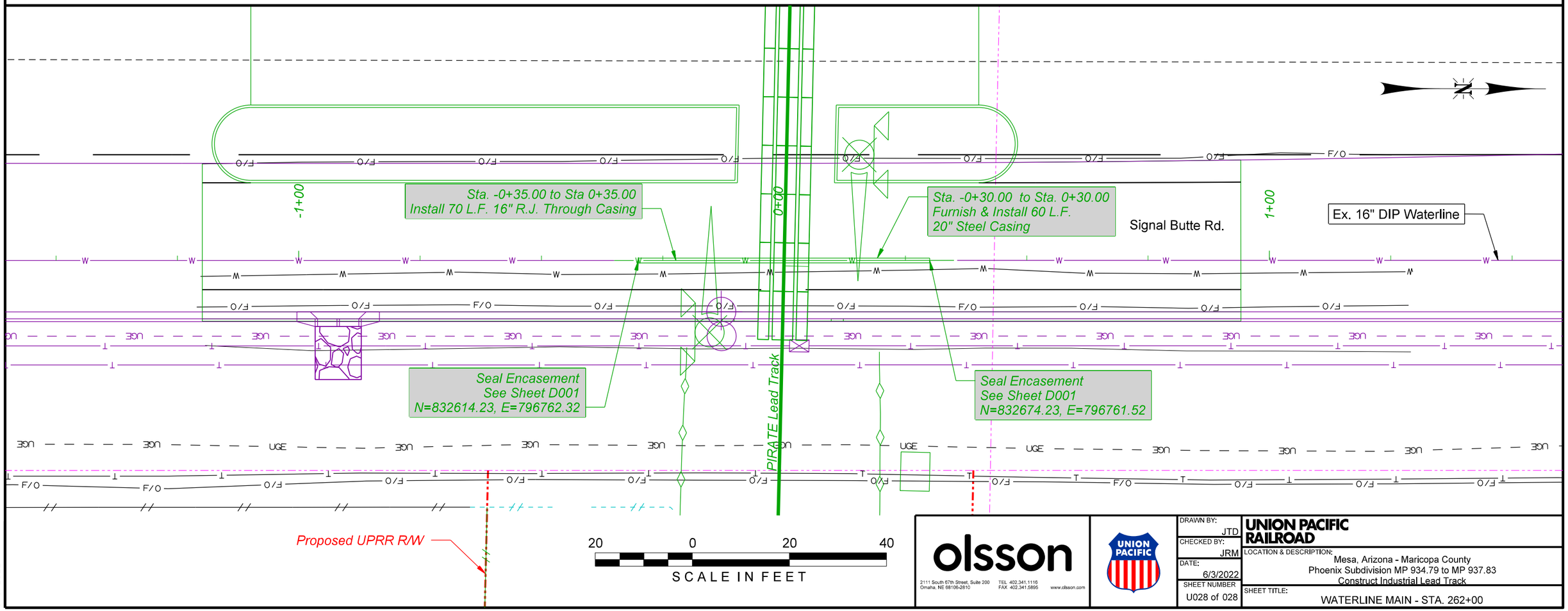
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DATE: 6/3/2022
SHEET NUMBER: U027 of 028

UNION PACIFIC RAILROAD
LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track
SHEET TITLE:
WATERLINE MAIN - STA. 262+00

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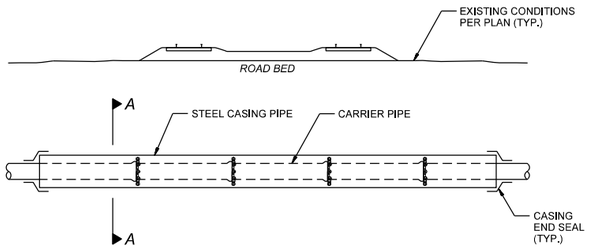
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SHEET NUMBER	U028 of 028

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
WATERLINE MAIN - STA. 262+00

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ELEVATION

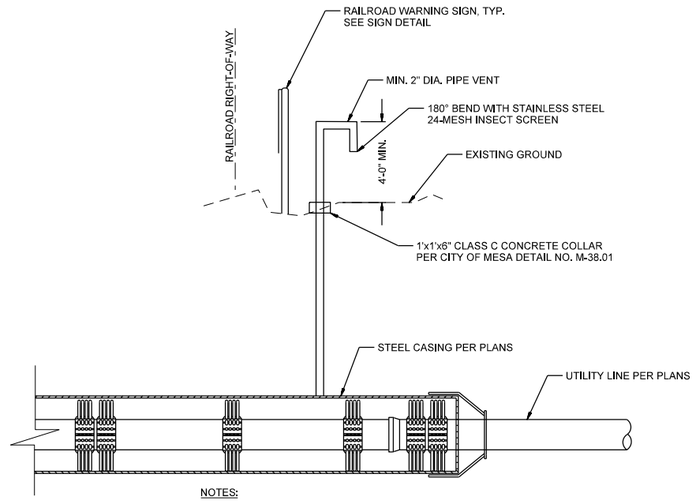
STEEL CASING WALL THICKNESS CHART		
MINIMUM THICKNESS		DIAMETER OF CASING PIPE
.2500"	1/4"	12" OR LESS
.3125"	5/16"	OVER 12"-18"
.3750"	3/8"	OVER 18"-22"
.4375"	7/16"	OVER 22"-28"
.5000"	1/2"	OVER 28"-34"
.5625"	9/16"	OVER 34"-42"
.6250"	5/8"	OVER 42"-48"
OVER 48" MUST BE APPROVED BY R.R.		
NOTE: THIS CHART IS ONLY FOR SMOOTH STEEL CASING PIPES WITH MINIMUM YIELD STRENGTH OF 35,000 PSI.		

NOTES:

1. CASING CONSTRUCTION SHALL COMPLY WITH CITY OF MESA DETAIL NO. M-55 OR UPRR SPECIFICATIONS AND REQUIREMENTS (https://www.up.com/real_estate/utilities/pipeline/pipespecs/index.htm). THE CONTRACTOR AND ALL AFFILIATES SHALL NOT TAKE ADVANTAGE OF ANY APPARENT ERRORS, OMISSIONS, OR DISCREPANCIES ENCOUNTERED, UPON SUCH DISCOVERY, THE APPROPRIATE REPRESENTATIVE SHALL BE IMMEDIATELY NOTIFIED TO PROVIDE FURTHER INTERPRETATION, CLARIFICATION, OR REMEDIATION TO HELP FULFILL INTENT OR APPLICATION. IN ALL CASES, THE MOST RESTRICTIVE SPECIFICATIONS AND PROVISIONS SHALL GOVERN WHEN DISCREPANCIES ARE ENCOUNTERED.
2. CASE CONSTRUCTION PER MAG 602, WITH CASE REPAIR PER AWWA C200-17.
3. ALL HORIZONTAL DISTANCES TO BE MEASURED AT RIGHT ANGLES FROM OUTSIDE RAIL OF TRACK.
4. CASING TO BE EXTENDED BEYOND THE CENTERLINE OF TRACK AT RIGHT ANGLES AS SHOWN ON PLANS.
5. CASING AND CARRIER PIPE MUST BE PLACED A MINIMUM OF 2 FEET BELOW EXISTING FIBER OPTIC CABLE IF ANY EXISTS. ANY EXCAVATION REQUIRED WITHIN 5 FEET OF ANY EXISTING FIBER OPTIC CABLE MUST BE HAND DUG.
6. MANUFACTURED ISOLATORS SHALL BE STAINLESS STEEL SHELL FOR DI CARRIER PIPE WITH ULTRA HIGH MOLECULAR WEIGHT POLYETHYLENE (UHMW PE) RUNNERS BY CASCADE, OR ENGINEER APPROVED EQUAL.
7. CARRIER AND CASING PIPE LOCATION, SIZES, AND DEPTHS PER PLAN AND PROFILES.
8. VIDEO DOCUMENTATION OF FINAL PLACEMENT SHALL BE PROVIDED TO CITY OF MESA.
9. CASING ACCEPTANCE IS CONTINGENT UPON THE WRITTEN APPROVAL FROM THE CITY ENGINEER OR DESIGNEE.

CASING DETAIL

NOT TO SCALE

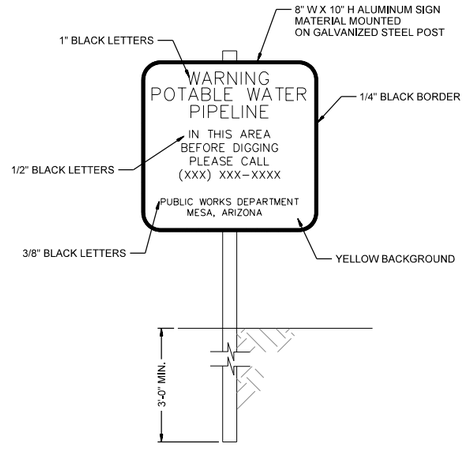


NOTES:

1. CONTRACTOR IS TO INSTALL VENT PIPE AND WARNING SIGNS AS SHOWN.
2. MATERIAL FOR VENT PIPES IS TO BE SCH. 40 STEEL WITH WELDED JOINTS, PRIMED FOR FIELD PAINTING.
3. PAINT FOR VENT PIPES IS TO BE A 4 TO 6 MIL APPLICATION OF EPOXY-POLYAMIDE PAINT EQUAL TO TNEMEC SERIES 66 HI-BUILD EPOXOLINE, SAFETY YELLOW.

ENCASEMENT VENT DETAIL

NOT TO SCALE



NOTES:

1. WARNING SIGNS MAY BE GALVANIZED TUBE "U" OR "C" POSTS WITH RECTANGULAR ALUMINUM SIGNS MEETING ASTM B209 ATTACHED, OR SINGLE UNIT CARSONITE SIGNS.

RAILROAD WARNING SIGN DETAIL

NOT TO SCALE

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UNION PACIFIC

DRAWN BY:	RSP
CHECKED BY:	RCK
DATE:	6/3/2022
SHEET NUMBER	D001 of 001

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
ENCASEMENT DETAILS

Color table: K:\Bentley\WorkspaceV8i\projects\Clients\UPRR_Track\UPRR_Track_V8i\color\UPRR.tbl
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6/3/2022

Construct 1,738 L.F.
Chain Link Fence

Furnish & Install 2 - 48" x 150' CMP
See Sheet C006

50' Kinder Morgan Easement

Ex. Kinder Morgan Gas Line

Access Rd.

Access Rd.

Pirate Lead Track
70 MPH
136#

Phoenix Sub Main Track
113# Wood 60 MPH

Germann Siding
136# Wood 30 MPH

East Wye Trk. 136#

1495+00

500+00

100 0 100 200
SCALE IN FEET

LEGEND

- Existing Minor Contour
- Existing Major Contour (5 ft)
- Proposed Minor Contour
- Proposed Major Contour (5 ft)

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UNION PACIFIC

DRAWN BY:	JTD
CHECKED BY:	JRM
DATE:	6/3/2022
SHEET NUMBER	GD001 of 003

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
GRADING PLAN

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Default
6/3/2022

LEGEND

Existing Minor Contour

Existing Major Contour (5 ft)

Proposed Minor Contour

Proposed Major Contour (5 ft)

Construct 1,361 L.F. Chain Link Fence

PIRATE Lead Track 20 MPH - 136#

200 0 200 400

SCALE IN FEET

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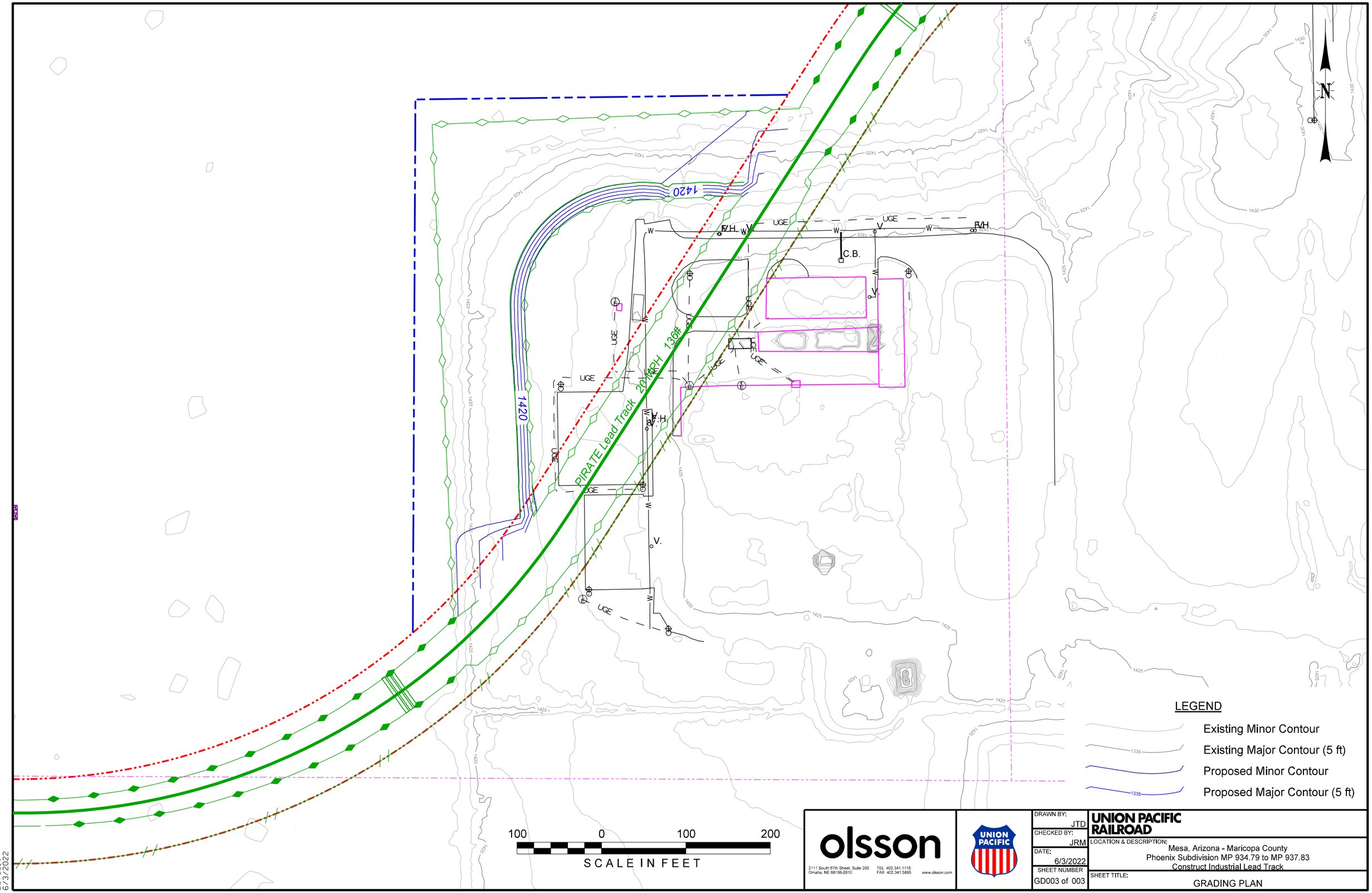
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CHECKED BY:	JRM
DATE:	6/3/2022
SHEET NUMBER	GD002 of 003

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
GRADING PLAN

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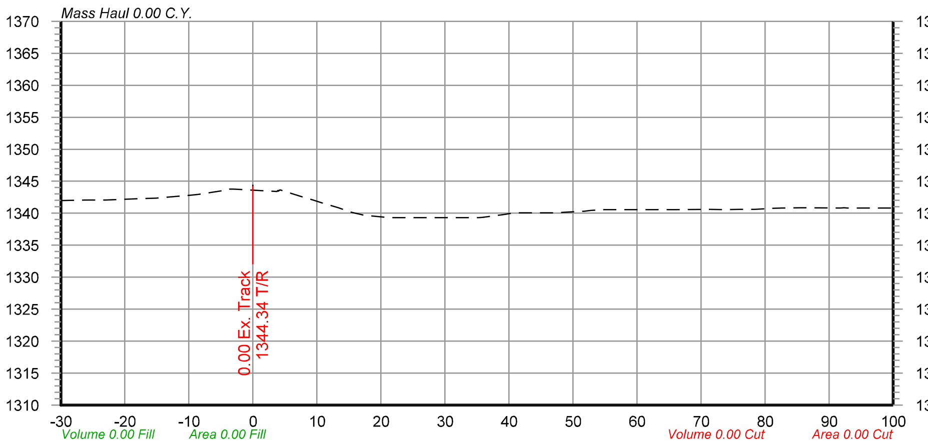
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CHECKED BY:	JRM
DATE:	6/3/2022
SHEET NUMBER	GD003 of 003

UNION PACIFIC RAILROAD

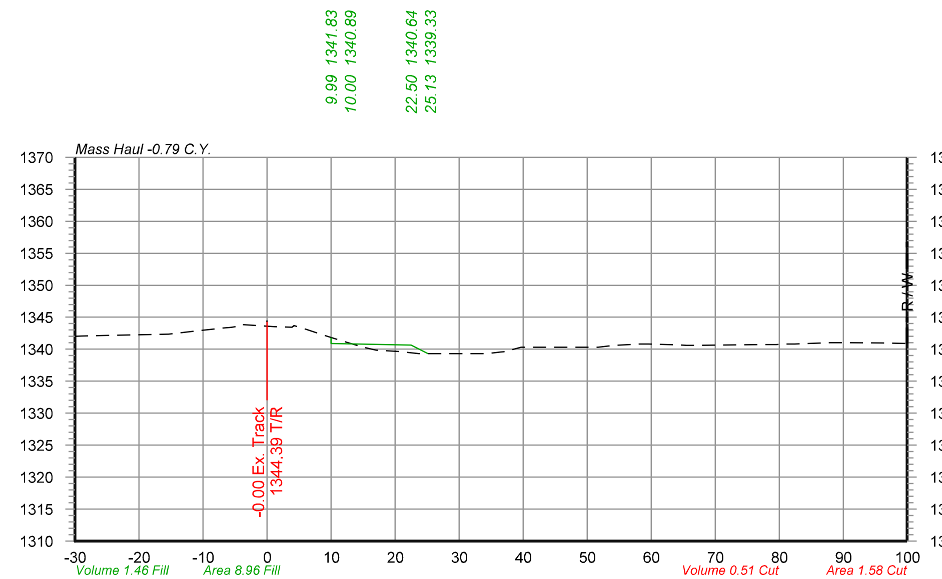
LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
GRADING PLAN

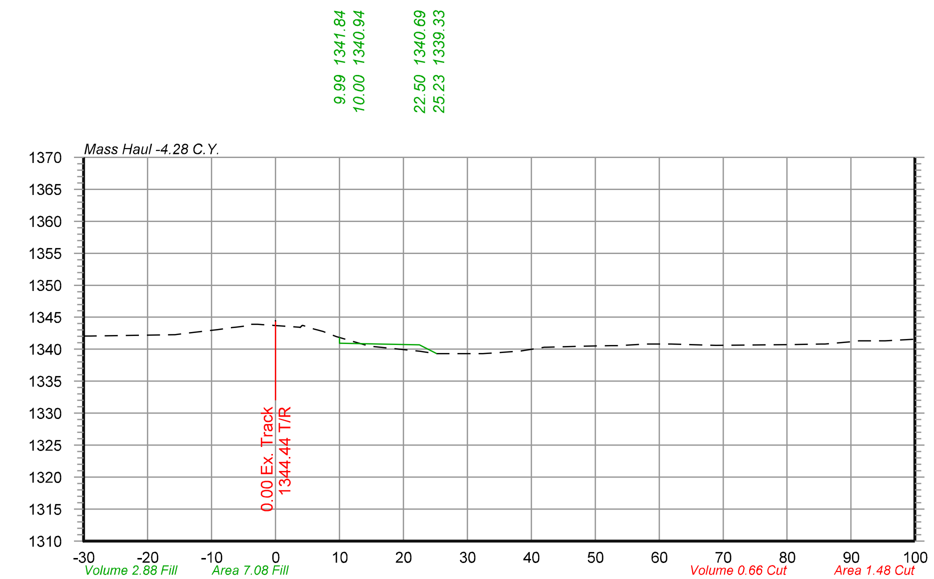
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6/3/2022



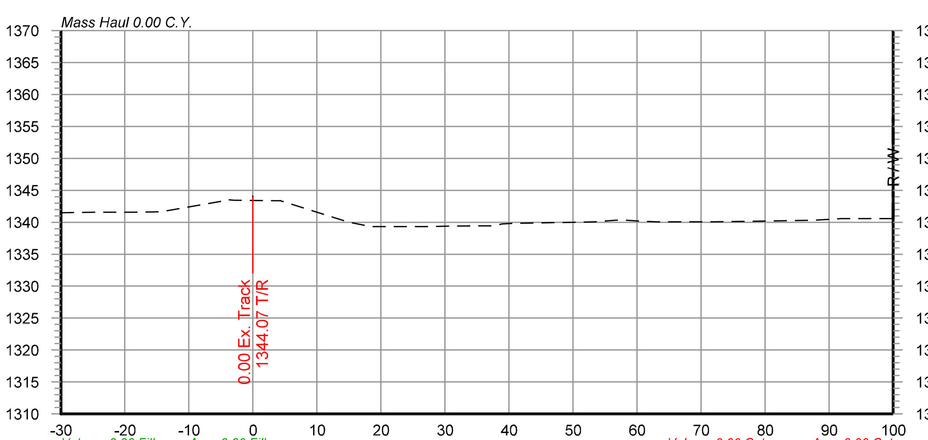
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-11.77	1342.63
-9.76	1342.80
-4.21	1343.60
3.79	1343.41
8.36	1342.35
10.71	1341.65
13.35	1340.83
15.43	1340.16
20.43	1339.39
22.80	1339.33
28.27	1339.33
35.31	1339.33
39.32	1339.80
43.02	1340.08
47.27	1340.06
49.27	1340.19
51.81	1340.33
54.85	1340.58
58.30	1340.58
62.63	1340.58
66.14	1340.58
71.27	1340.58
73.68	1340.58
75.93	1340.58
78.37	1340.58
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96.88	1340.83
100.00	1340.83



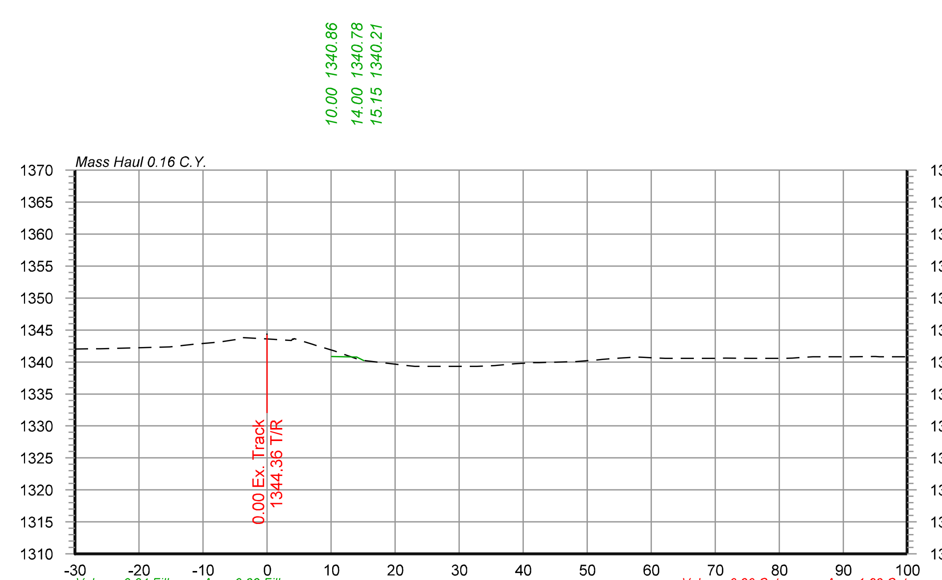
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1.22	1343.50
3.92	1343.45
6.12	1343.10
8.74	1342.21
11.55	1341.36
14.87	1340.36
17.03	1339.87
20.64	1339.62
23.72	1339.33
27.71	1339.33
34.32	1339.33
36.45	1339.55
38.74	1340.08
45.02	1340.33
49.55	1340.33
51.73	1340.33
53.83	1340.57
58.22	1340.79
62.49	1340.72
65.55	1340.59
77.39	1340.74
79.56	1340.74
82.44	1340.83
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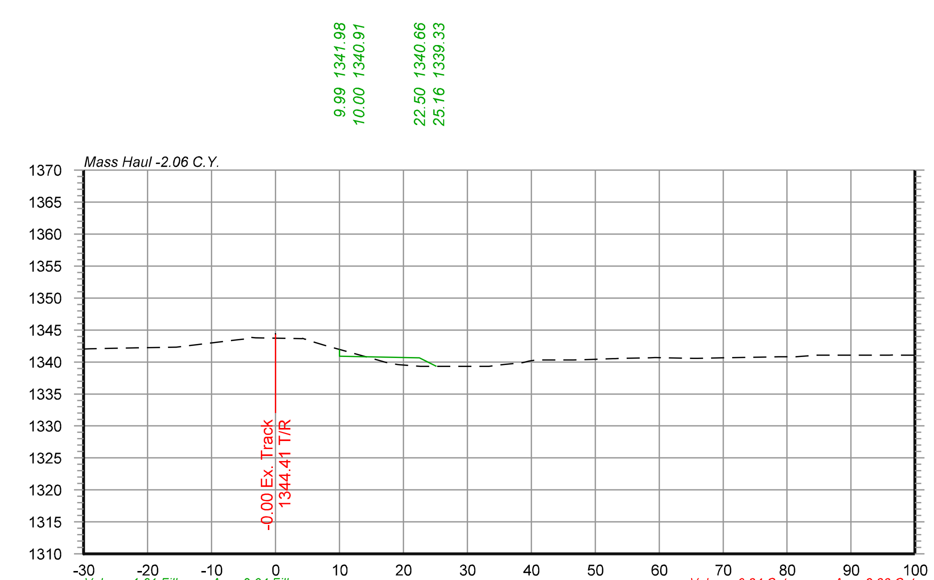
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-15.71	1342.29
-9.06	1343.07
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-4.20	1343.68
3.75	1343.43
6.02	1343.15
9.50	1341.99
14.37	1340.55
22.56	1339.67
25.03	1339.33
27.18	1339.33
29.68	1339.33
32.42	1339.33
34.47	1339.45
38.40	1339.71
42.06	1340.30
48.29	1340.47
52.48	1340.58
55.10	1340.65
57.88	1340.83
61.31	1340.83
67.33	1340.66
77.02	1340.70
81.05	1340.74
85.36	1340.81
87.82	1340.98
90.24	1341.20
92.83	1341.33
95.32	1341.33
99.10	1341.54



Offset	Elevation
-30.00	1341.48
-24.82	1341.58
-19.72	1341.58
-15.70	1341.61
-5.18	1343.21
-3.03	1343.46
4.21	1343.35
6.31	1342.73
14.89	1340.03
18.24	1339.34
27.21	1339.32
31.07	1339.40
37.62	1339.44
40.47	1339.83
49.47	1340.00
51.88	1340.04
56.66	1340.30
60.20	1340.18
63.06	1340.08
67.06	1340.07
70.88	1340.08
74.78	1340.12
77.98	1340.17
87.72	1340.33
91.94	1340.55
98.10	1340.58



Offset	Elevation
-30.00	1342.03
-27.53	1342.08
-16.74	1342.32
-12.18	1342.69
-9.42	1342.95
-7.20	1343.15
-4.21	1343.62
-0.11	1343.62
3.78	1343.36
7.07	1342.77
10.51	1341.72
14.48	1340.33
21.85	1339.43
25.21	1339.33
27.50	1339.33
30.37	1339.32
32.79	1339.33
35.59	1339.42
38.76	1339.71
40.80	1339.87
48.31	1340.08
51.37	1340.31
54.33	1340.55
57.71	1340.75
62.16	1340.58
69.84	1340.58
75.50	1340.58
79.62	1340.58
82.11	1340.62
85.28	1340.83
91.32	1340.83
94.62	1340.84
99.56	1340.83



Offset	Elevation
-30.00	1342.03
-20.67	1342.23
-17.73	1342.28
-15.49	1342.32
-5.82	1343.47
-3.08	1343.78
4.16	1343.64
7.68	1342.62
15.05	1340.57
17.26	1339.93
19.47	1339.56
22.67	1339.33
27.01	1339.33
31.67	1339.33
34.89	1339.52
38.69	1339.90
40.79	1340.33
44.52	1340.33
46.59	1340.33
49.51	1340.39
52.81	1340.52
58.48	1340.64
61.06	1340.64
65.35	1340.58
69.71	1340.64
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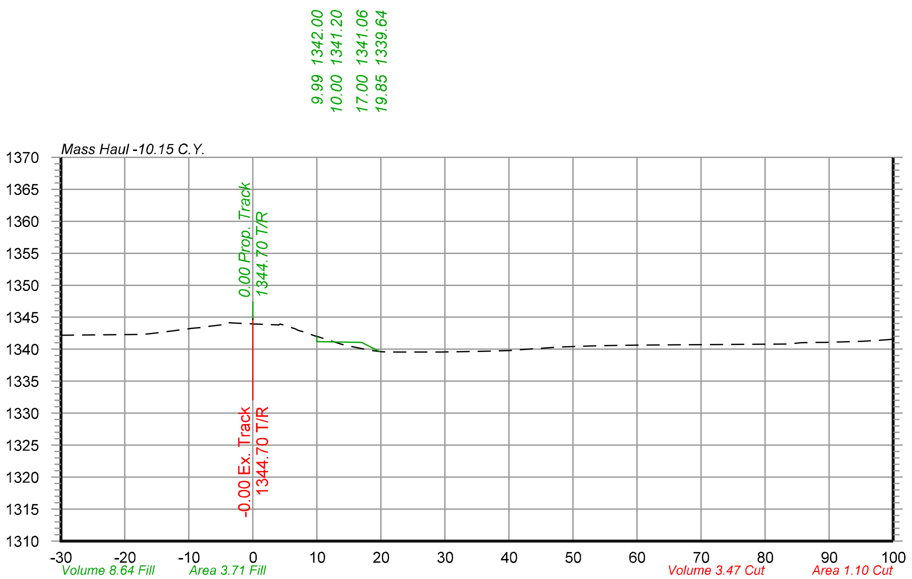
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DATE: 6/3/2022
SHEET NUMBER X001 of 115

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

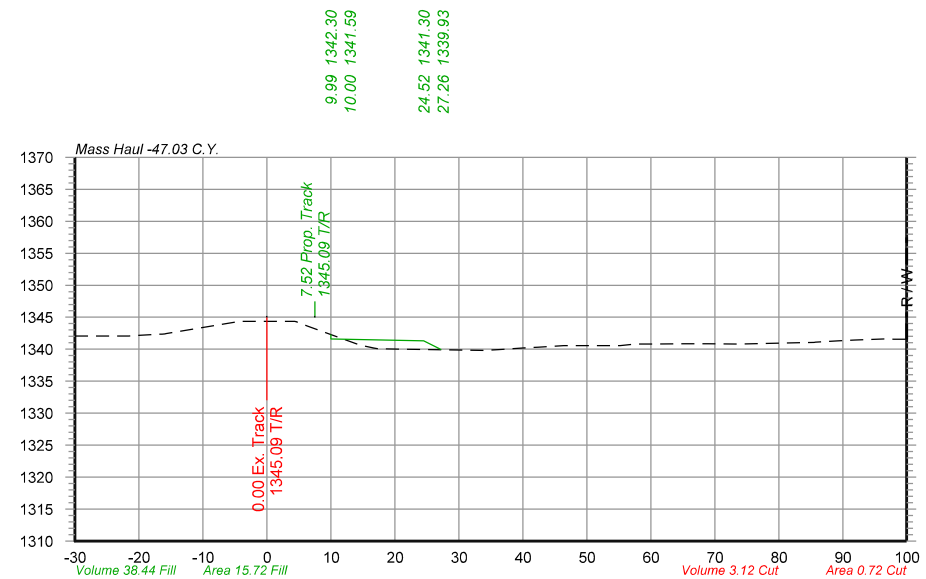
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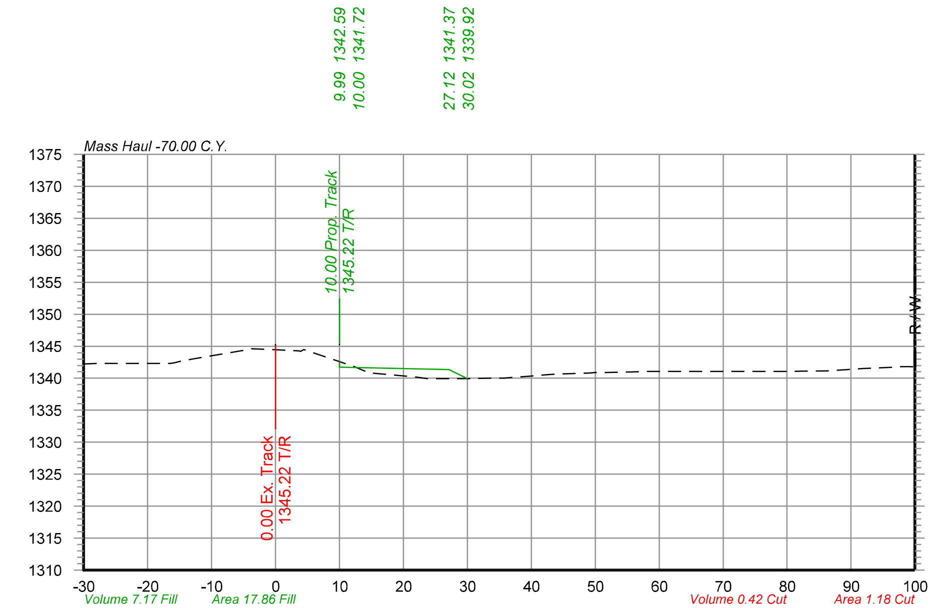
1483+87

Offset	Elevation
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-12.31	1342.88
-9.46	1343.26
-7.36	1343.52
-4.16	1343.90
-0.78	1343.99
3.65	1343.79
6.60	1343.20
9.61	1342.11
13.88	1340.79
18.19	1339.85
20.23	1339.59
29.28	1339.58
36.48	1339.70
40.57	1339.83
43.71	1340.06
47.25	1340.33
49.30	1340.40
51.75	1340.47
54.80	1340.58
60.31	1340.62
83.62	1340.83
85.63	1341.00
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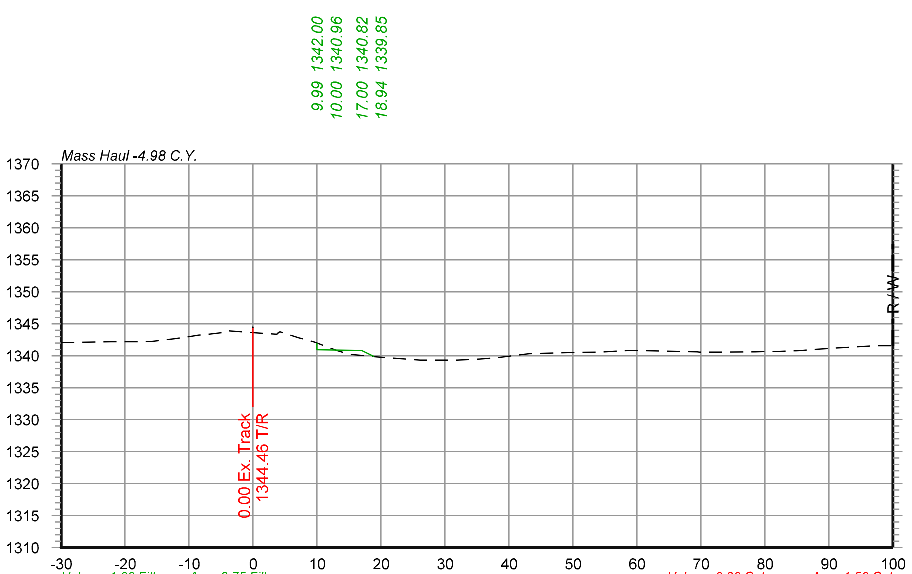
1485+00

Offset	Elevation
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-25.82	1342.08
-22.59	1342.07
-20.46	1342.16
-16.68	1342.36
-5.00	1344.22
4.29	1344.36
6.38	1343.62
14.53	1340.64
16.72	1340.20
20.47	1340.03
33.97	1339.83
36.18	1339.95
40.48	1340.23
46.40	1340.57
51.72	1340.56
55.19	1340.58
57.60	1340.83
60.50	1340.83
65.18	1340.84
68.99	1340.84
73.32	1340.83
83.19	1341.02
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96.42	1341.58
100.00	1341.58



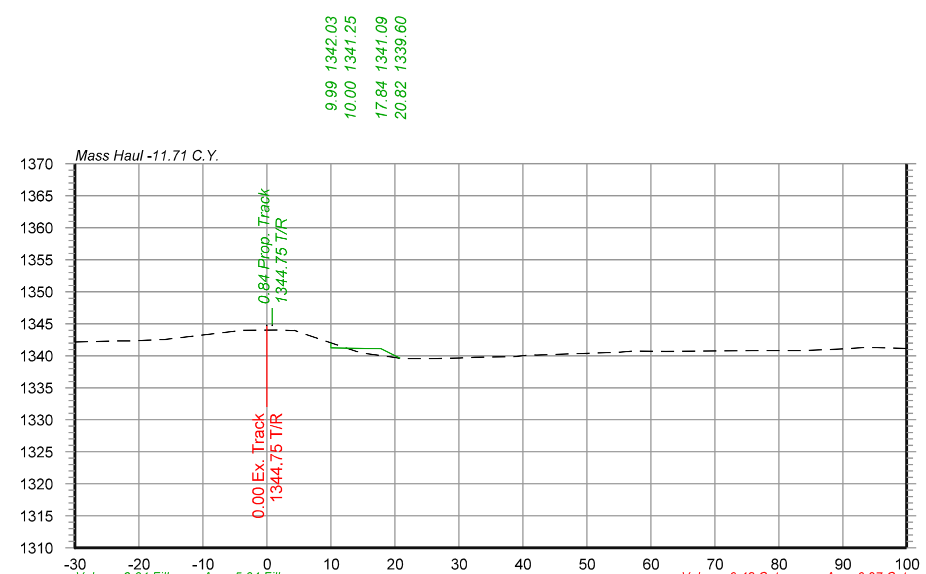
1485+37

Offset	Elevation
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-16.43	1342.33
-12.64	1343.05
-4.26	1344.48
-0.49	1344.48
3.71	1344.26
12.33	1341.79
14.45	1340.88
21.96	1340.20
30.09	1339.92
33.94	1340.02
37.78	1340.17
41.59	1340.48
43.93	1340.65
49.11	1340.83
51.77	1340.90
55.51	1340.99
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63.73	1341.07
66.21	1341.07
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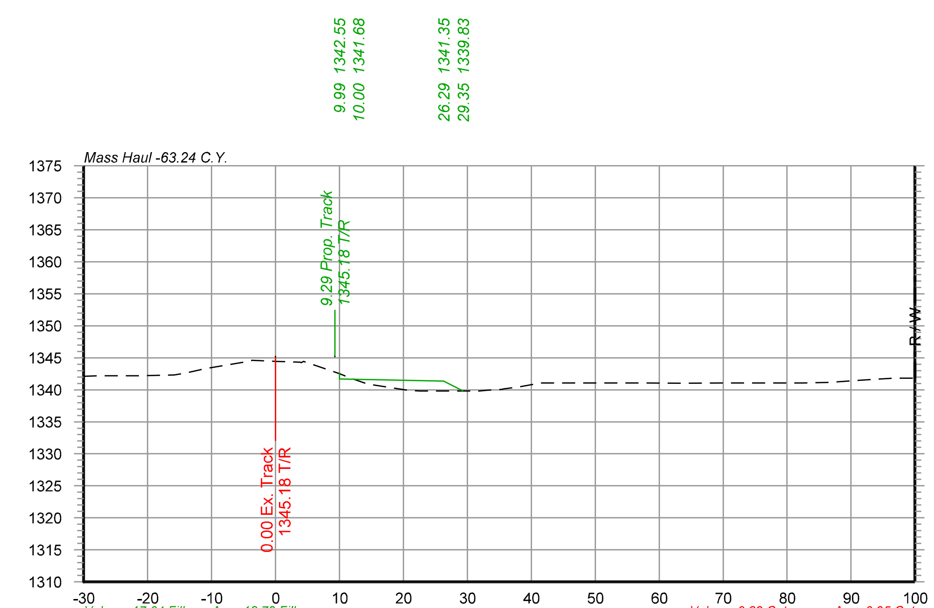
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-7.63	1343.29
-4.20	1343.70
1.21	1343.51
3.74	1343.37
7.22	1342.78
9.59	1342.15
13.01	1340.85
15.44	1340.20
19.36	1339.80
26.13	1339.33
29.18	1339.33
31.37	1339.33
35.45	1339.47
38.08	1339.68
42.47	1340.22
50.42	1340.50
54.30	1340.58
57.03	1340.73
59.57	1340.81
69.44	1340.59
72.92	1340.58
78.50	1340.62
81.70	1340.65
84.37	1340.77
87.07	1340.93
89.62	1341.12
92.37	1341.27
96.56	1341.52
100.00	1341.58



1484+00

Offset	Elevation
-30.00	1342.15
-26.92	1342.24
-23.62	1342.33
-21.23	1342.33
-18.67	1342.44
-16.18	1342.54
-6.93	1343.62
-4.88	1343.86
1.85	1344.01
4.16	1343.93
13.94	1340.69
20.05	1339.73
24.47	1339.58
30.14	1339.64
32.45	1339.78
38.62	1339.86
41.17	1340.15
47.74	1340.33
50.50	1340.41
55.21	1340.58
57.68	1340.72
62.33	1340.70
77.67	1340.82
82.07	1340.83
89.82	1341.07
93.78	1341.30
100.00	1341.16



1485+27

Offset	Elevation
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-27.64	1342.19
-21.48	1342.19
-15.86	1342.33
-11.67	1343.16
-4.22	1344.44
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10.02	1342.54
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25.35	1339.83
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69.99	1341.06
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75.64	1341.08
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81.17	1341.08
86.24	1341.15
91.23	1341.48
96.66	1341.83
100.00	1341.83

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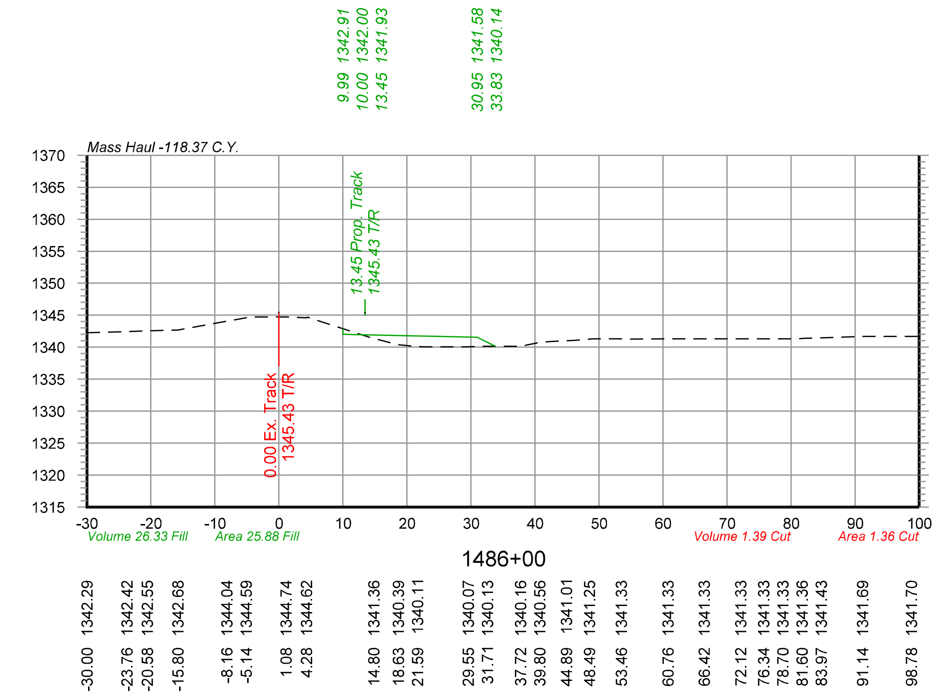
UNION PACIFIC RAILROAD

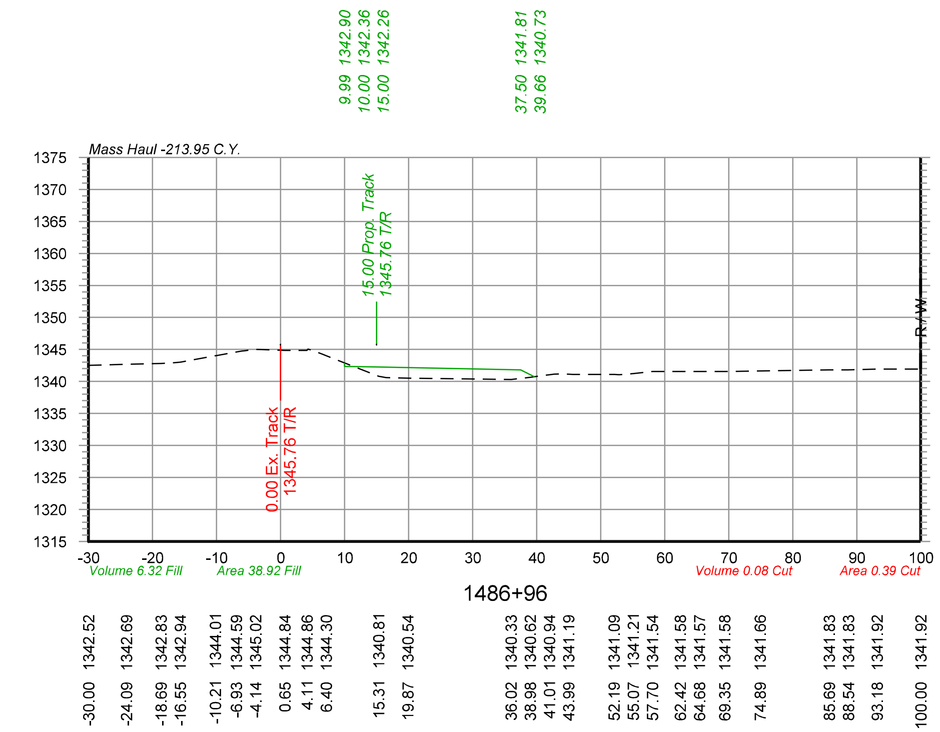
LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

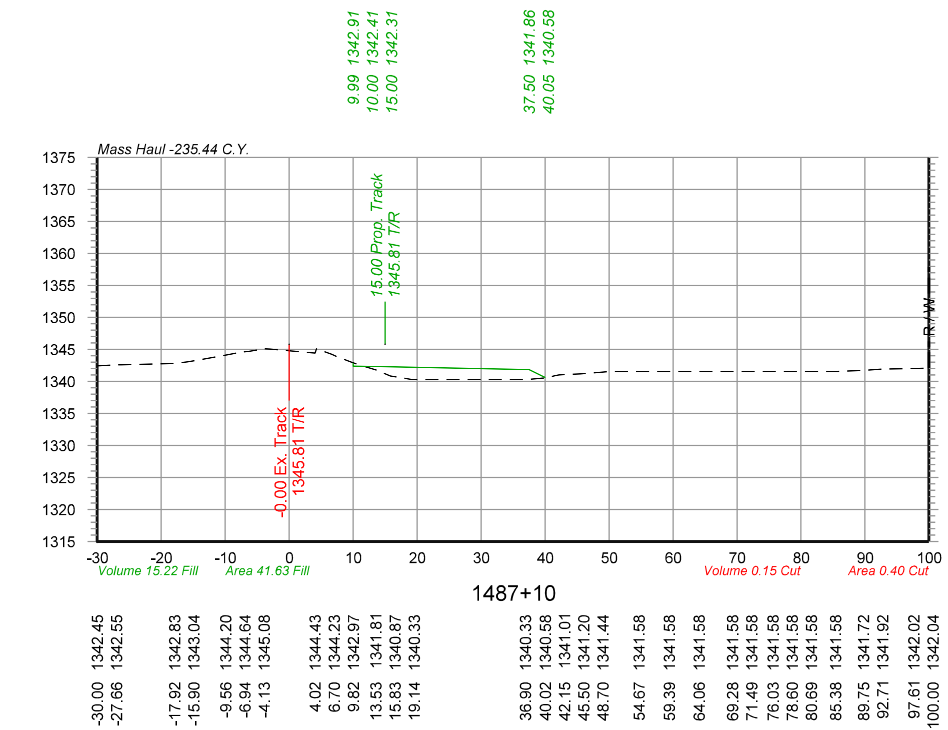
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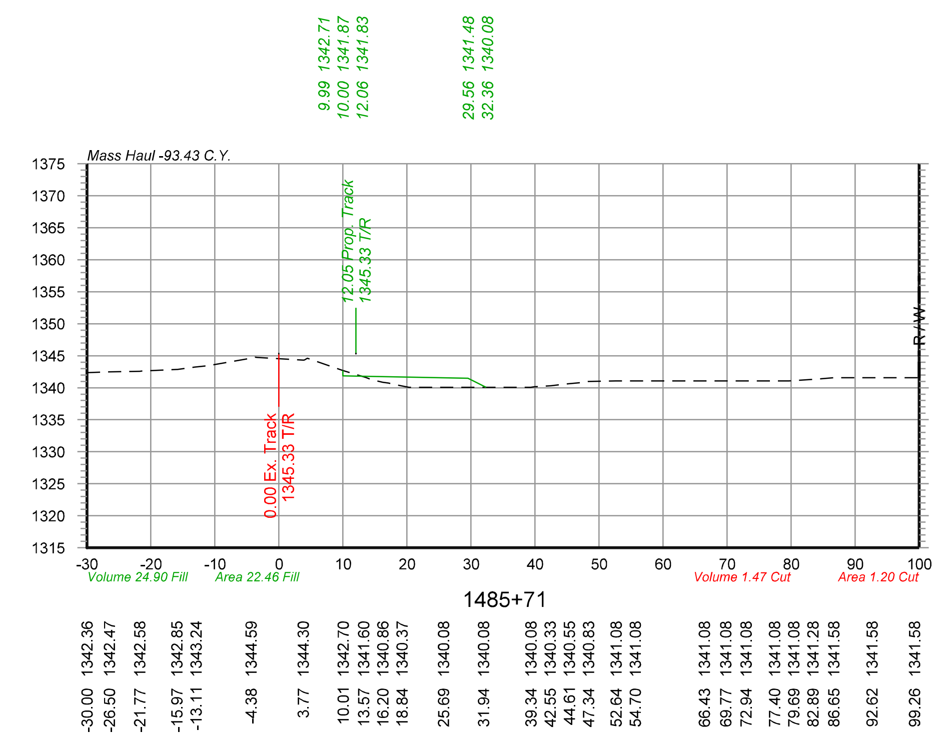
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6/3/2022

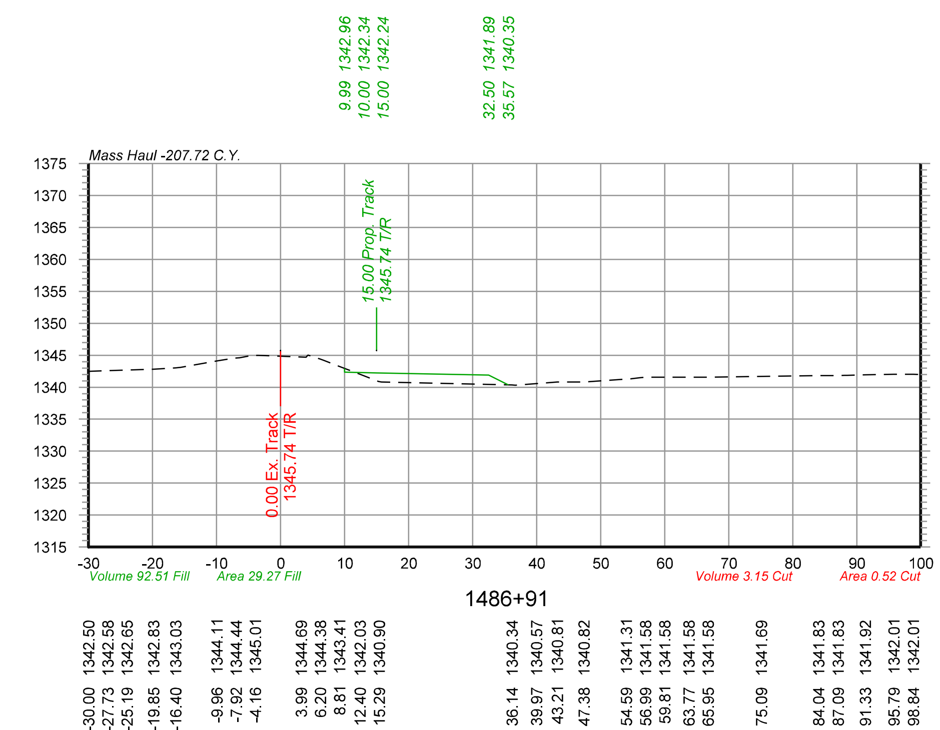
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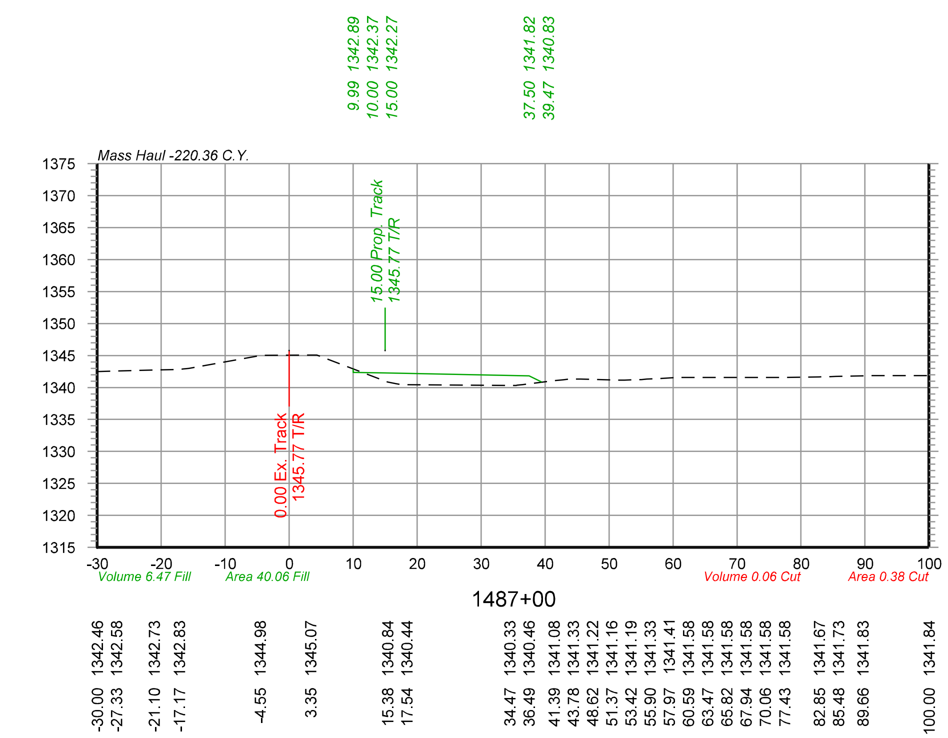










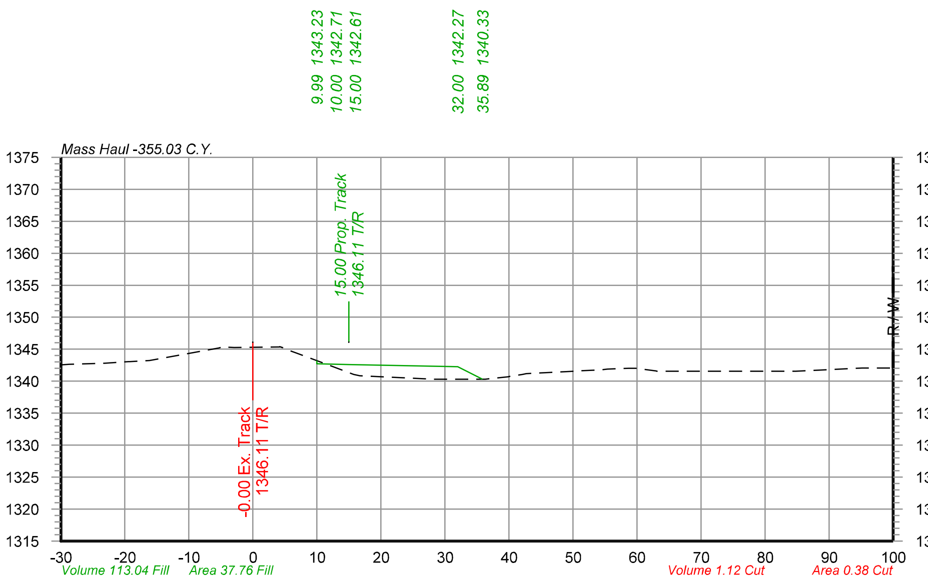


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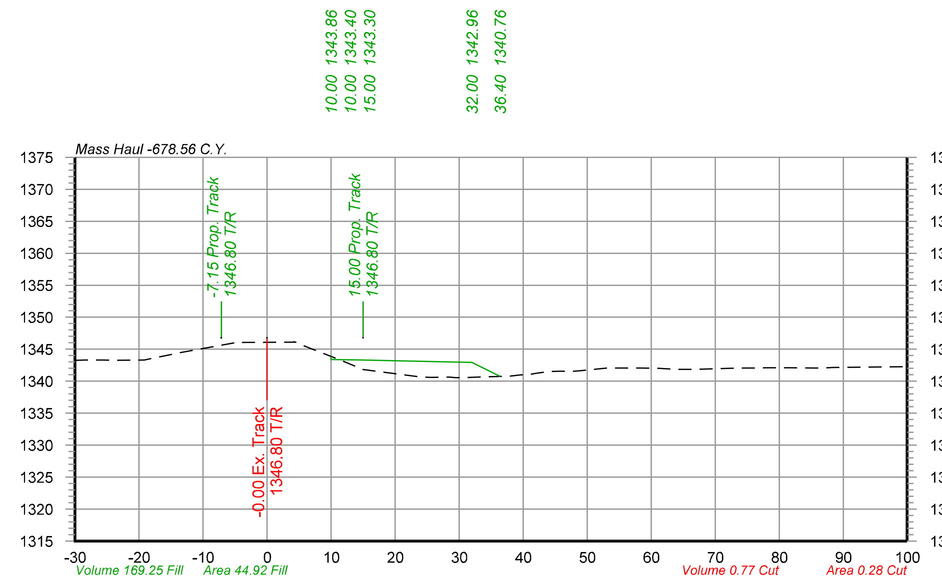
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CHECKED BY: JRM	LOCATION & DESCRIPTION: Mesa, Arizona - Maricopa County Phoenix Subdivision MP 934.79 to MP 937.83 Construct Industrial Lead Track
DATE: 6/3/2022	
SHEET NUMBER X003 of 115	SHEET TITLE: SIDING TRACK CROSS SECTIONS STA.1485+71 TO STA.1487+10

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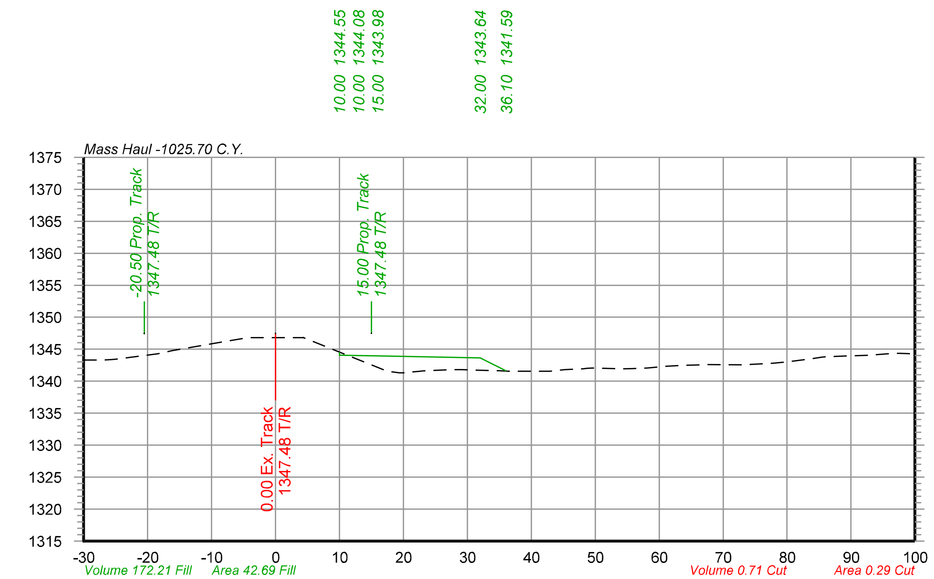
1488+00

Offset	Elevation
-30.00	1342.57
-23.15	1342.83
-19.45	1343.07
-16.28	1343.22
-5.35	1345.21
-2.93	1345.26
4.20	1345.35
6.83	1344.40
11.86	1342.54
15.74	1341.08
24.80	1340.48
28.23	1340.33
34.94	1340.33
37.01	1340.39
39.85	1340.68
42.13	1341.08
50.23	1341.57
54.36	1341.79
57.48	1341.99
59.84	1342.00
63.00	1341.59
68.08	1341.58
73.42	1341.58
75.65	1341.58
80.00	1341.58
82.74	1341.58
84.76	1341.58
88.36	1341.73
94.22	1342.03
97.88	1342.08
100.00	1342.08



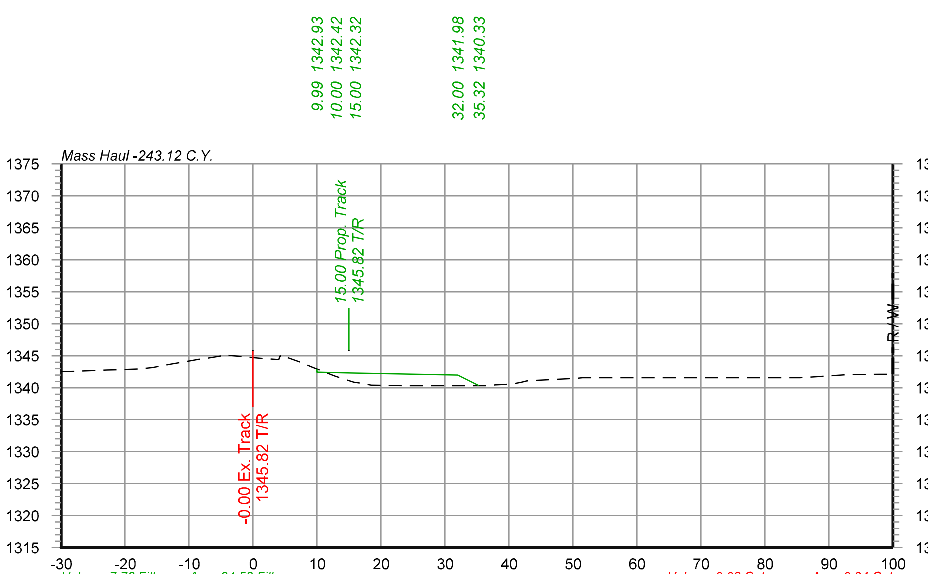
1490+00

Offset	Elevation
-30.00	1343.23
-25.73	1343.33
-23.63	1343.26
-19.31	1343.31
-14.94	1344.20
-5.22	1345.97
4.20	1346.11
11.73	1343.17
15.05	1341.83
23.45	1340.74
26.04	1340.59
28.49	1340.63
30.65	1340.58
34.01	1340.69
38.07	1340.83
41.06	1341.08
43.77	1341.48
45.84	1341.58
48.00	1341.58
52.70	1342.03
55.84	1342.08
58.26	1342.08
61.10	1342.00
63.96	1341.87
66.88	1341.86
72.37	1342.01
74.47	1342.08
77.96	1342.08
81.34	1342.08
85.47	1342.08
88.32	1342.13
99.71	1342.26



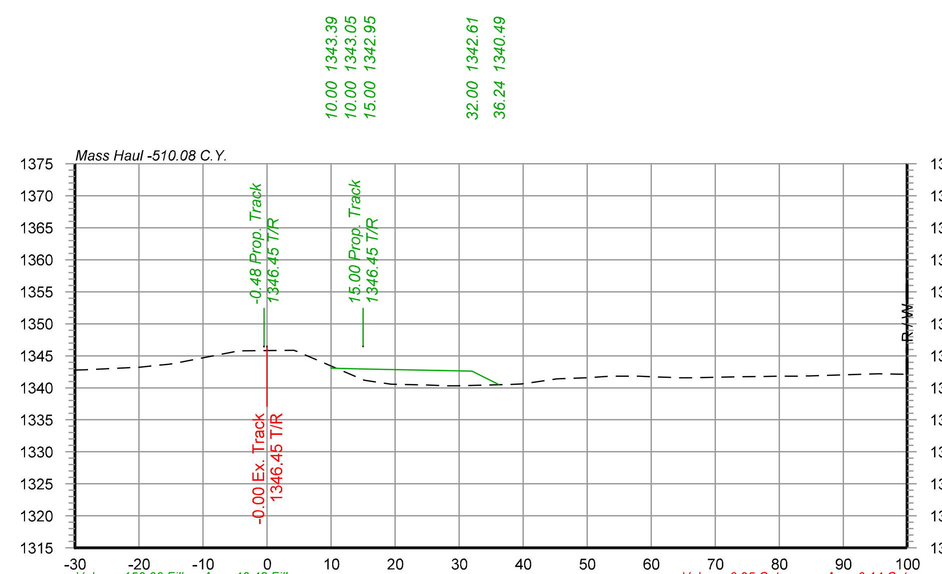
1492+00

Offset	Elevation
-30.00	1343.33
-26.87	1343.33
-18.56	1344.26
-16.21	1344.79
-9.01	1346.03
-5.05	1346.68
4.31	1346.81
10.08	1344.52
16.11	1342.09
19.38	1341.33
22.68	1341.58
26.60	1341.78
29.16	1341.81
31.39	1341.73
34.42	1341.63
36.44	1341.58
39.89	1341.58
42.94	1341.57
45.22	1341.83
48.06	1341.93
54.36	1341.95
58.08	1342.08
60.66	1342.33
63.61	1342.46
66.79	1342.58
73.00	1342.58
77.76	1342.83
83.89	1343.53
85.96	1343.83
88.99	1343.95
92.99	1344.08
96.07	1344.33
98.98	1344.33



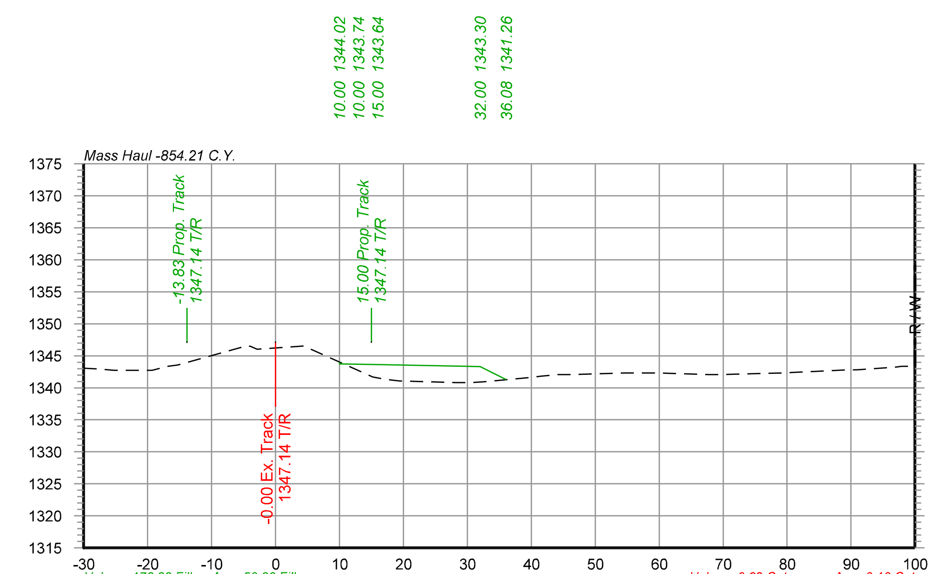
1487+16

Offset	Elevation
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-27.96	1342.58
-22.77	1342.79
-17.67	1342.95
-12.58	1343.72
-9.90	1344.21
-7.66	1344.51
-4.13	1345.10
1.09	1344.62
4.03	1344.40
8.01	1343.77
10.68	1342.66
12.84	1341.83
15.80	1340.87
18.48	1340.42
23.81	1340.33
36.86	1340.33
40.35	1340.57
42.81	1341.08
50.69	1341.49
53.49	1341.58
56.64	1341.58
58.94	1341.58
61.04	1341.58
65.80	1341.58
71.65	1341.58
73.90	1341.58
76.74	1341.58
80.63	1341.58
83.10	1341.58
85.49	1341.58
87.61	1341.68
92.50	1342.02
97.91	1342.10
100.00	1342.10



1489+00

Offset	Elevation
-30.00	1342.78
-27.55	1342.86
-19.71	1343.23
-16.67	1343.55
-5.07	1345.66
4.07	1345.84
15.17	1341.17
17.94	1340.77
24.98	1340.42
28.12	1340.33
37.94	1340.54
40.05	1340.65
45.27	1341.38
49.80	1341.58
53.55	1341.83
56.20	1341.83
60.95	1341.69
63.76	1341.60
66.02	1341.58
74.20	1341.73
77.68	1341.79
79.81	1341.83
82.94	1341.83
91.31	1342.08
95.45	1342.18
100.00	1342.12



1491+00

Offset	Elevation
-30.00	1343.07
-27.70	1342.93
-25.24	1342.74
-19.81	1342.74
-16.86	1343.34
-5.22	1346.34
-2.89	1346.04
4.39	1346.52
15.21	1341.69
17.62	1341.29
21.19	1341.01
24.08	1340.94
28.27	1340.83
30.55	1340.83
32.57	1340.94
39.34	1341.55
41.50	1341.83
44.18	1342.07
46.21	1342.08
49.00	1342.15
54.50	1342.33
57.27	1342.33
59.87	1342.33
63.88	1342.20
67.73	1342.08
77.36	1342.28
79.89	1342.37
84.50	1342.58
88.79	1342.76
90.98	1342.83
96.98	1343.24
100.00	1343.34

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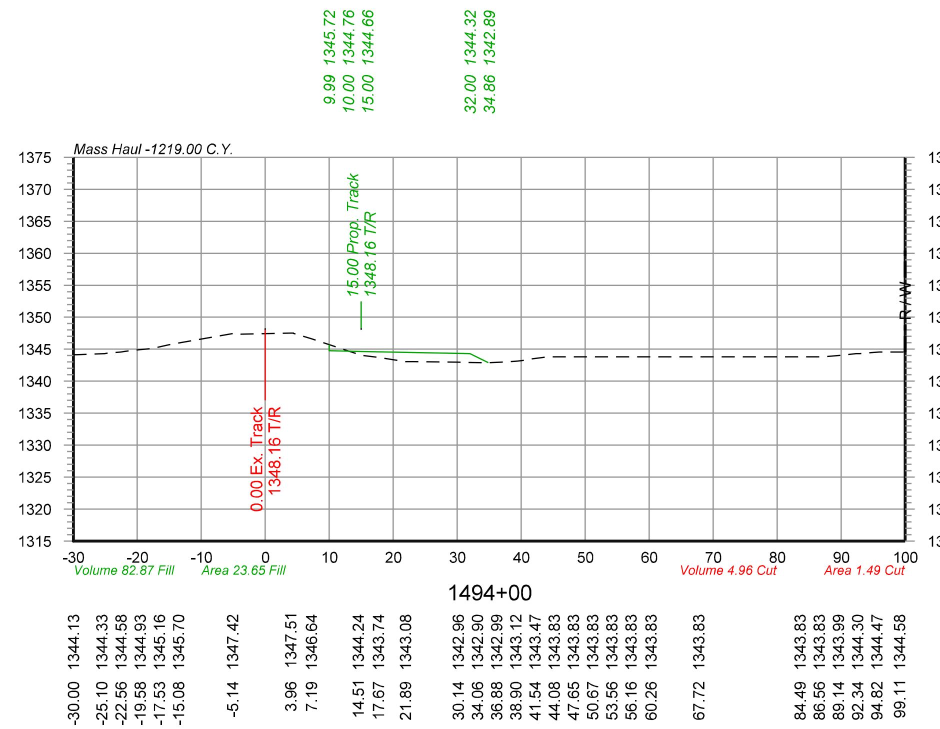
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DATE: 6/3/2022
SHEET NUMBER X004 of 115

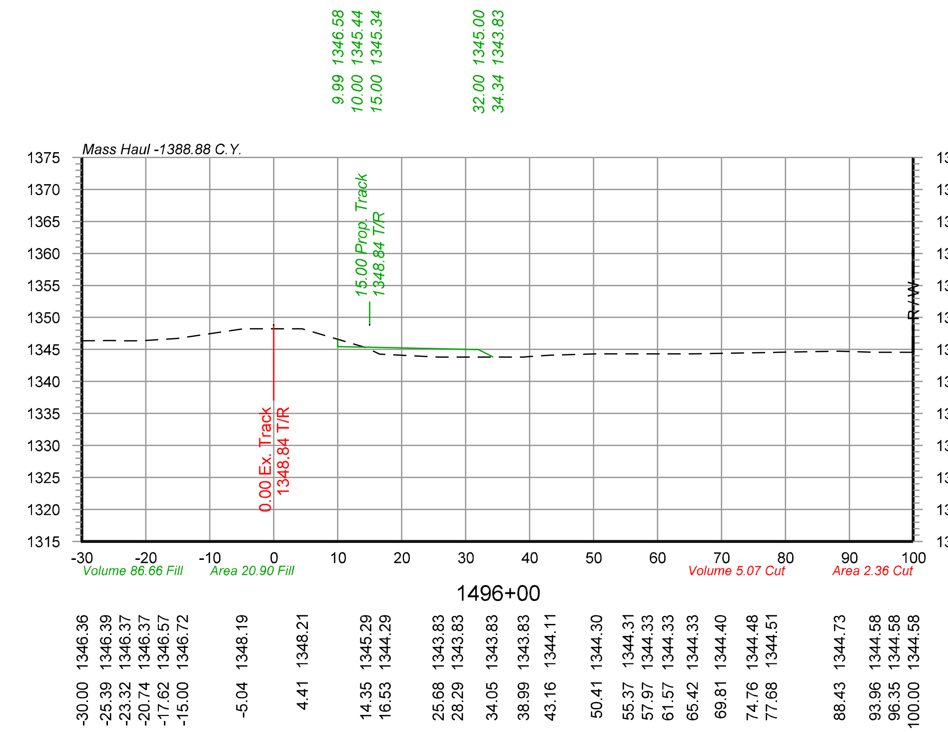
UNION PACIFIC RAILROAD

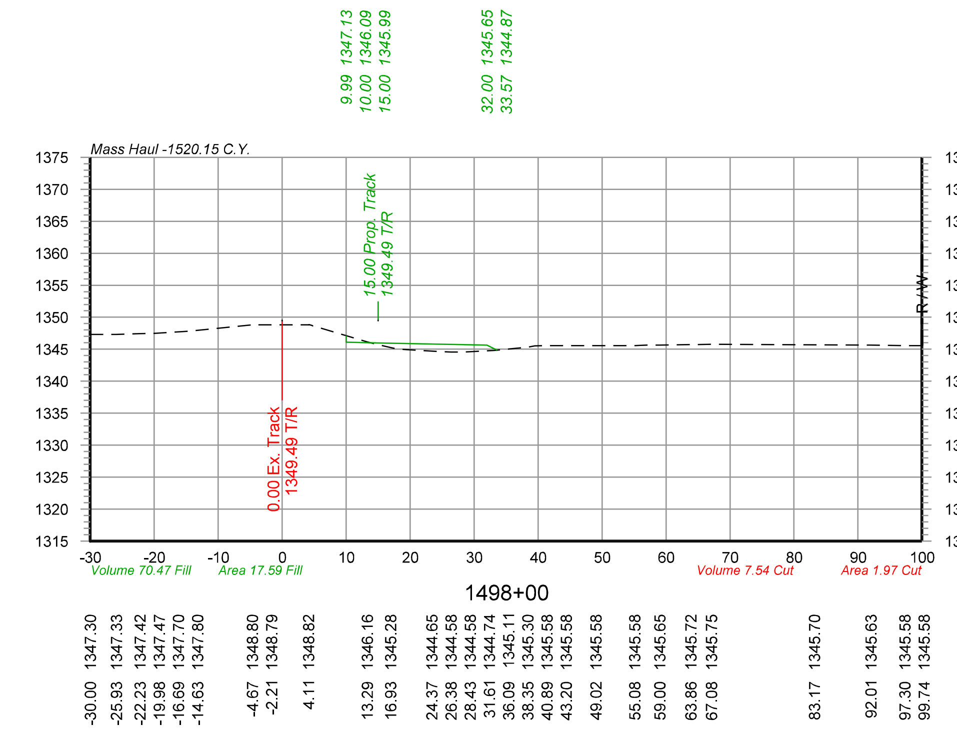
LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

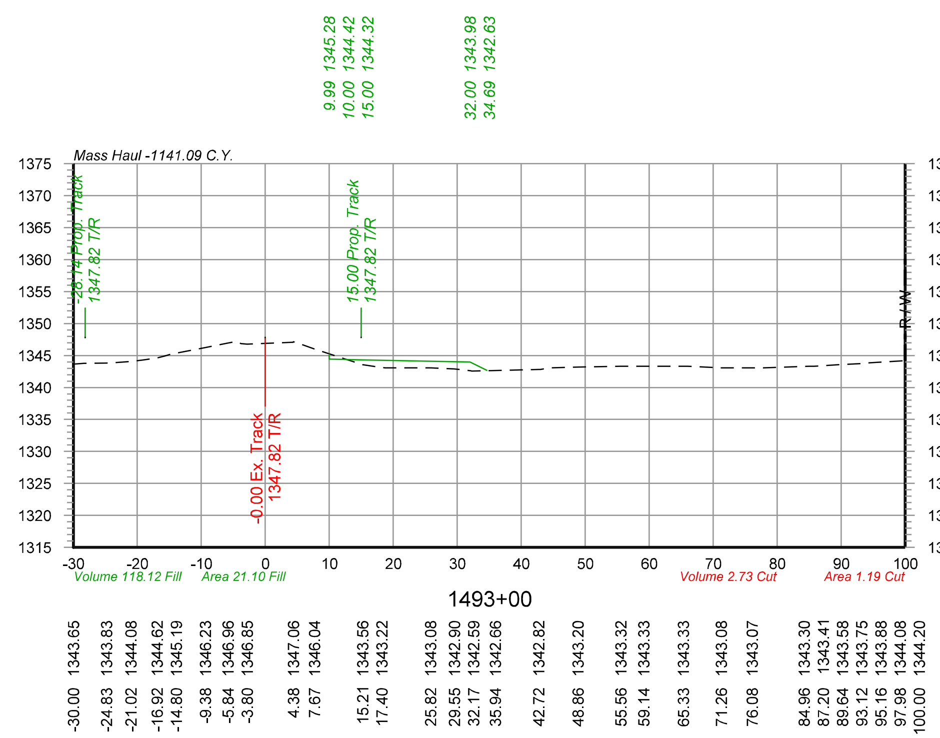
SHEET TITLE:
SIDING TRACK CROSS SECTIONS STA.1487+16 TO STA.1492+00

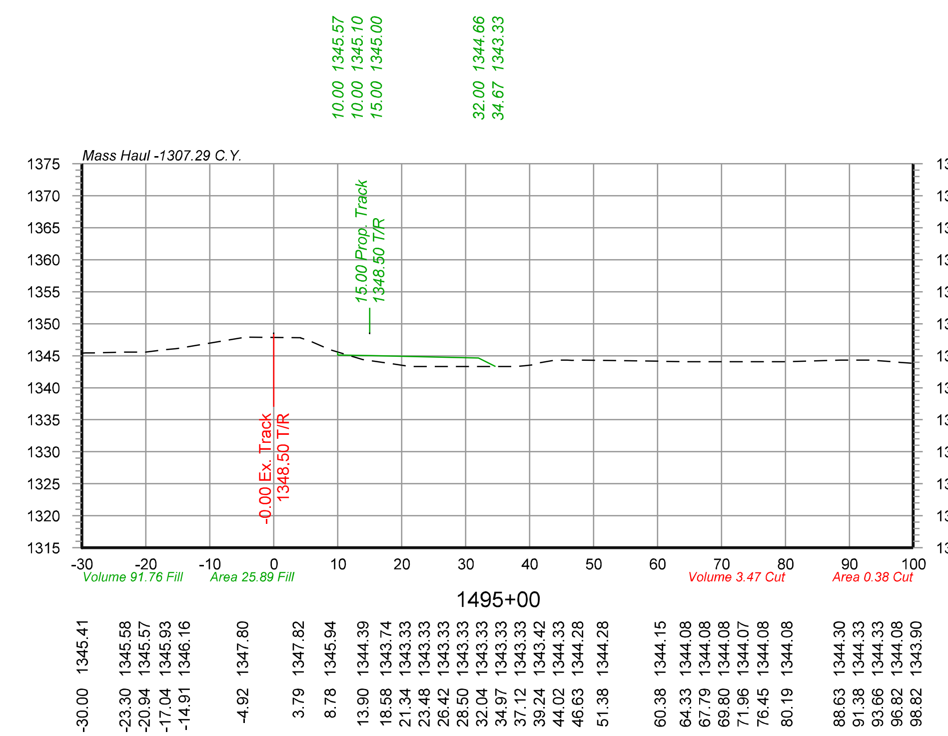
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6/3/2022
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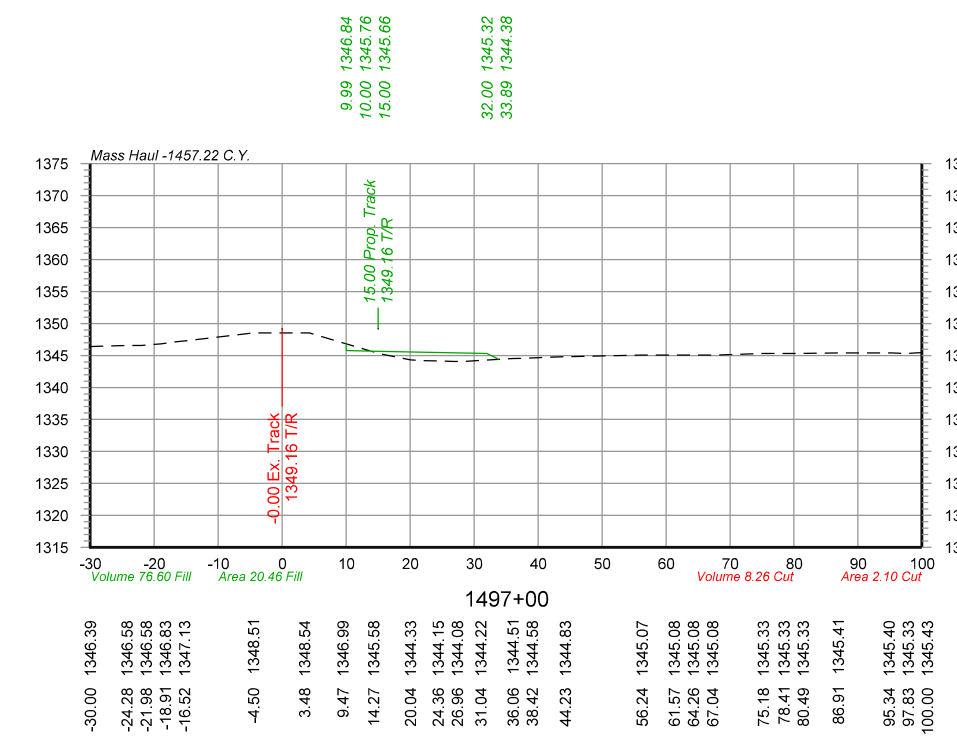










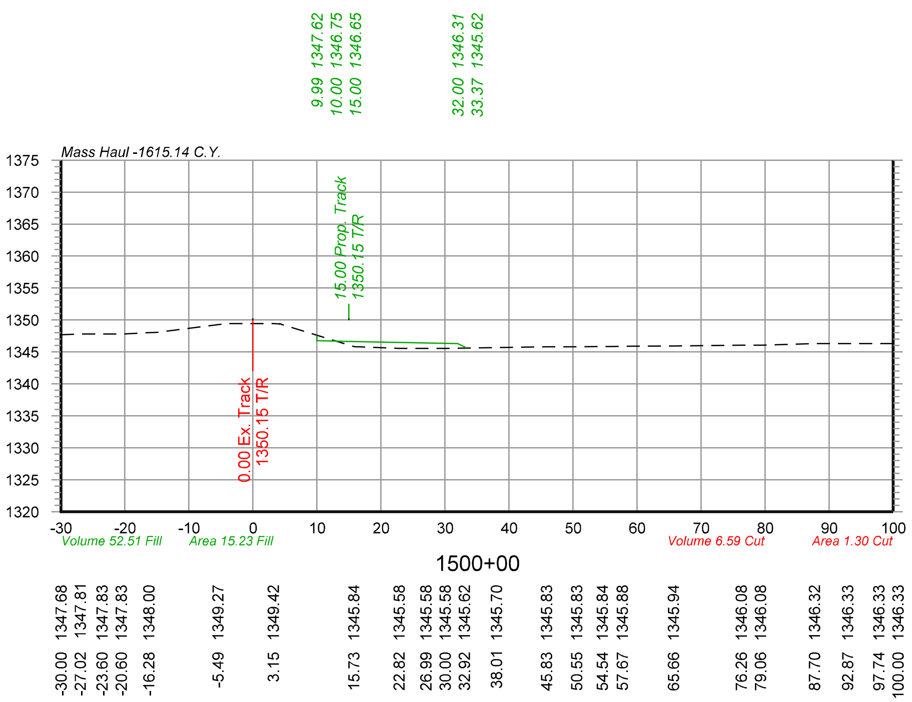


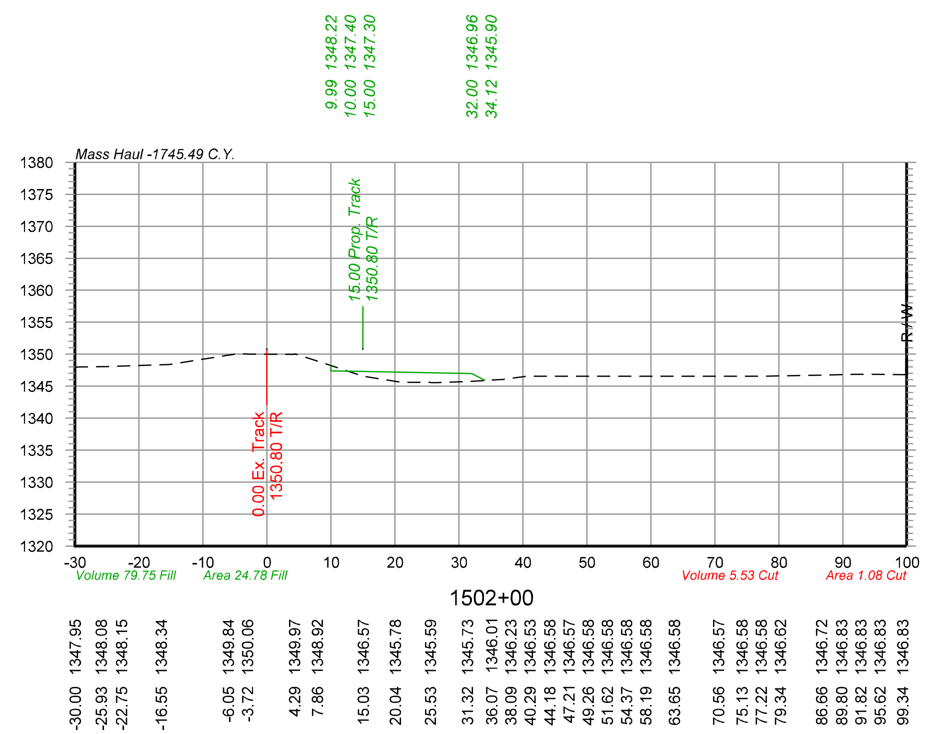
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6/3/2022

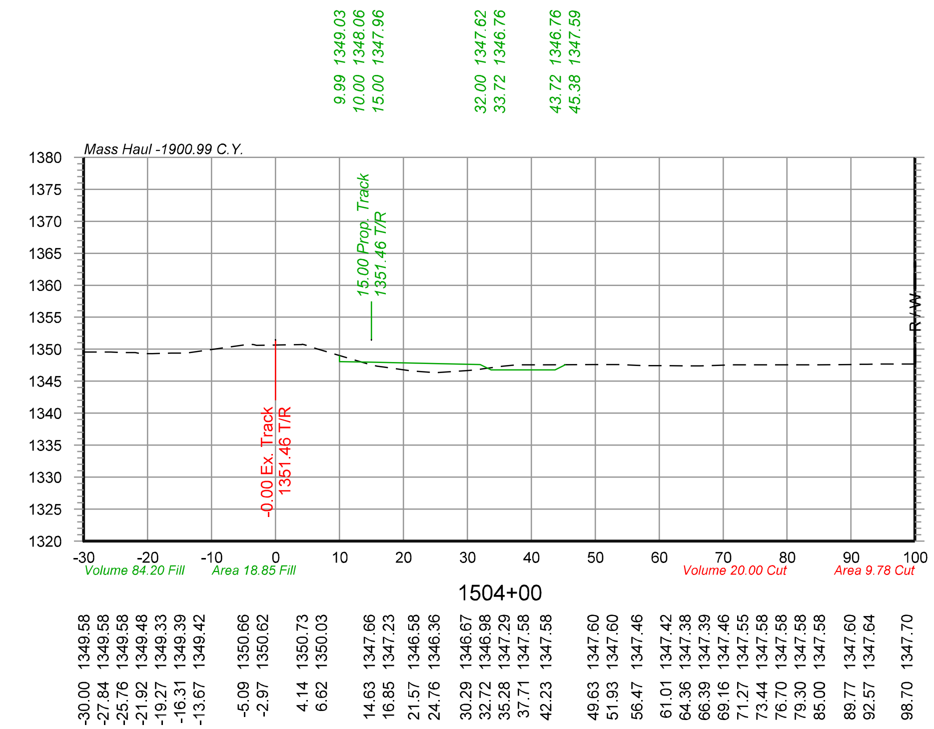
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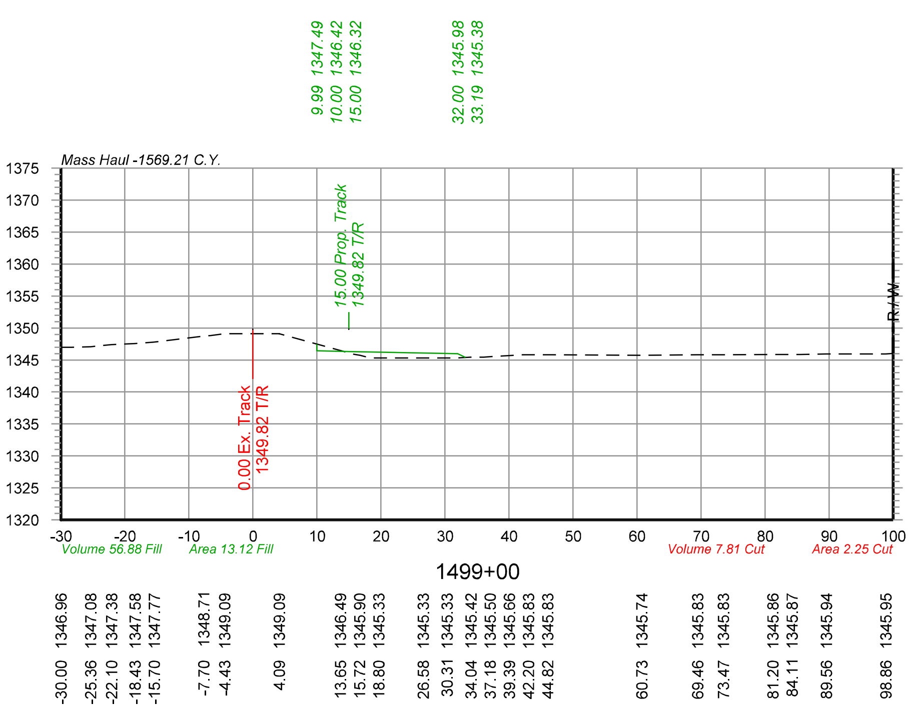
DRAWN BY: JTD	**UNION PACIFIC RAILROAD**
CHECKED BY: JRM	LOCATION & DESCRIPTION: Mesa, Arizona - Maricopa County Phoenix Subdivision MP 934.79 to MP 937.83 Construct Industrial Lead Track
DATE: 6/3/2022	
SHEET NUMBER X005 of 115	SHEET TITLE: SIDING TRACK CROSS SECTIONS STA.1493+00 TO STA.1498+00

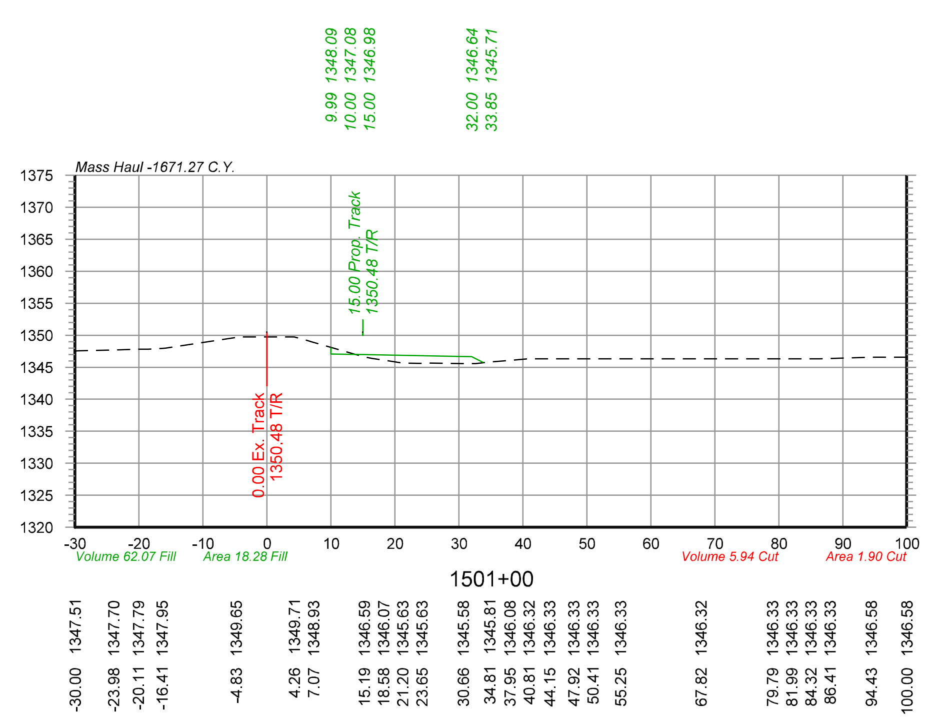
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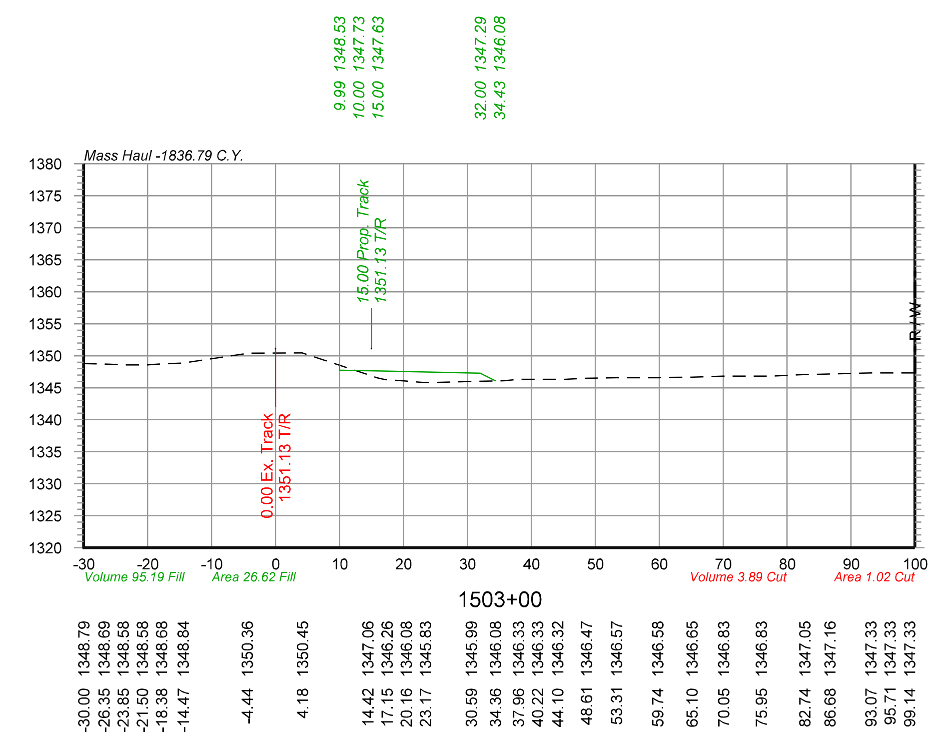












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6/3/2022

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DATE: 6/3/2022
SHEET NUMBER: X006 of 115

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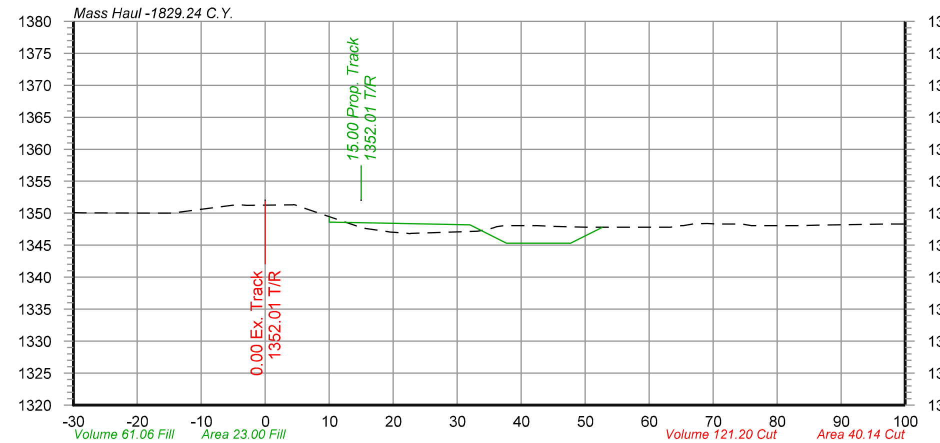
LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
SIDING TRACK CROSS SECTIONS STA.1499+00 TO STA.1504+00

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1506+00

9.99	1349.45
10.00	1348.61
15.00	1348.51
32.00	1348.17
37.72	1345.31
47.72	1345.31
52.71	1347.81

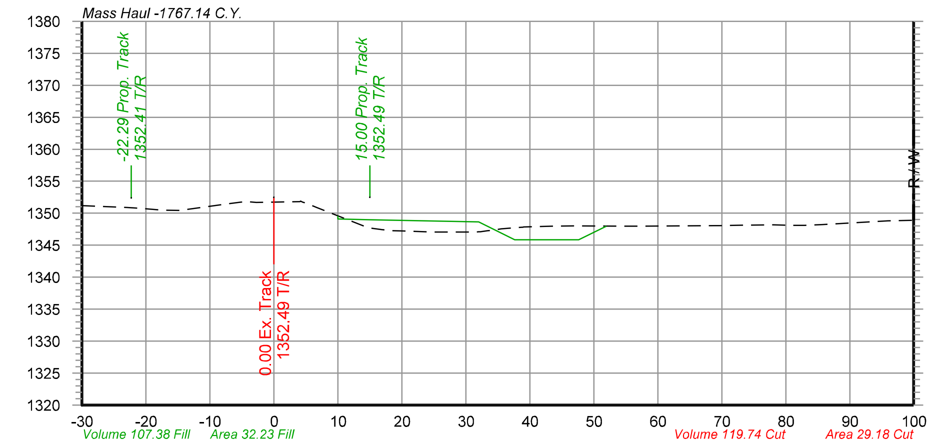


1506+00

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-14.61	1350.00
-5.26	1351.23
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6.65	1350.59
14.60	1347.87
19.27	1347.09
21.92	1346.88
33.15	1347.20
35.69	1347.74
41.26	1348.08
45.28	1347.93
50.30	1347.83
54.87	1347.83
63.28	1347.83
65.36	1348.08
69.09	1348.40
73.97	1348.33
75.99	1348.08
79.50	1348.07
81.94	1348.08
86.76	1348.16
97.22	1348.29
100.00	1348.33

1508+00

10.00	1349.58
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37.65	1345.83
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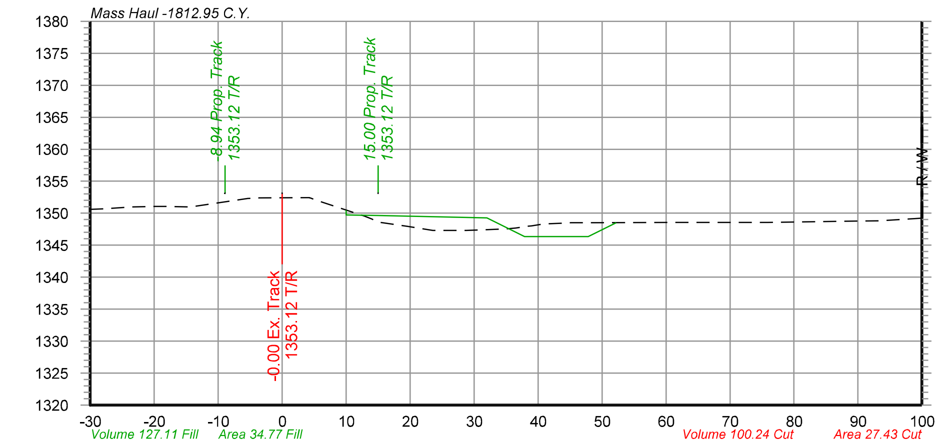


1508+00

-30.00	1351.17
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-19.94	1350.68
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-7.47	1351.43
-5.22	1351.71
-2.76	1351.70
4.08	1351.80
6.28	1351.05
14.43	1347.85
16.87	1347.45
20.15	1347.23
24.80	1347.08
31.66	1347.08
33.92	1347.32
37.65	1347.74
43.60	1347.99
46.87	1348.02
54.72	1347.98
57.45	1347.98
68.98	1348.08
73.85	1348.15
78.03	1348.18
80.76	1348.11
82.95	1348.12
85.77	1348.22
95.98	1348.81
100.00	1348.89

1510+00

9.99	1350.49
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47.87	1346.35
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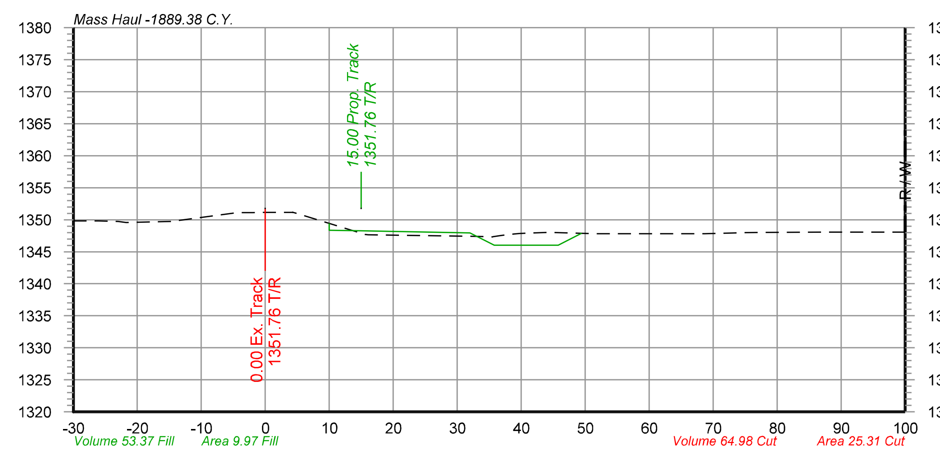


1510+00

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4.15	1352.43
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23.54	1347.33
25.84	1347.33
28.78	1347.33
32.17	1347.43
35.15	1347.58
38.47	1347.98
40.98	1348.33
43.74	1348.42
48.76	1348.50
61.13	1348.58
68.93	1348.58
71.82	1348.58
75.95	1348.58
89.38	1348.77
93.34	1348.83
100.00	1349.24

1505+00

9.99	1349.42
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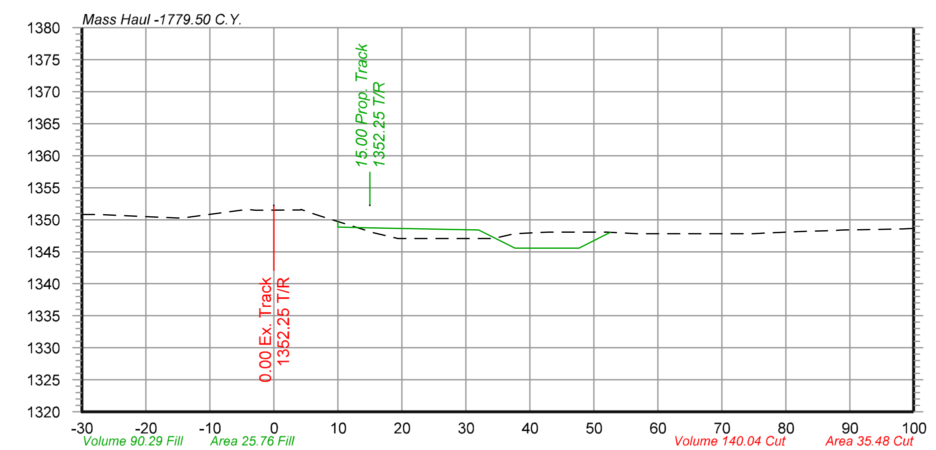


1505+00

-30.00	1349.83
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-23.03	1349.74
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-4.39	1351.09
-1.87	1351.13
3.57	1351.16
14.70	1347.98
21.83	1347.55
33.30	1347.38
35.53	1347.33
38.86	1347.79
44.33	1348.02
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59.51	1347.82
62.81	1347.83
67.22	1347.83
73.52	1347.96
77.99	1348.03
87.30	1348.08
92.07	1348.08
95.94	1348.08
98.76	1348.08

1507+00

9.99	1349.73
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52.63	1348.04

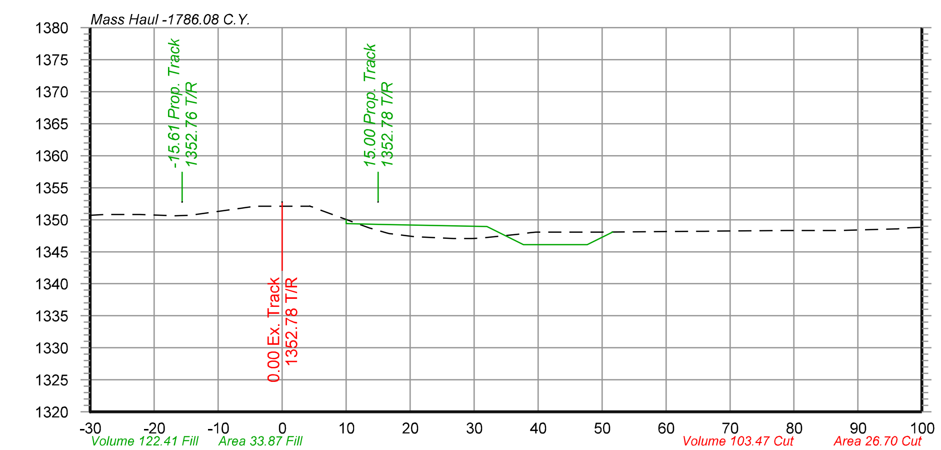


1507+00

-30.00	1350.83
-26.46	1350.77
-20.03	1350.48
-15.13	1350.29
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-2.83	1351.48
4.16	1351.53
7.16	1350.63
15.67	1347.92
18.16	1347.36
20.89	1347.08
23.91	1347.08
27.13	1347.08
29.15	1347.08
31.48	1347.08
34.29	1347.08
37.60	1347.82
41.80	1348.01
44.02	1348.08
46.37	1348.08
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56.03	1347.84
60.48	1347.83
62.49	1347.83
65.02	1347.83
67.51	1347.83
70.57	1347.83
74.91	1347.83
77.10	1347.94
80.14	1348.08
83.04	1348.19
86.38	1348.28
88.87	1348.38
92.00	1348.43
98.31	1348.58

1509+00

9.99	1350.05
10.00	1349.38
15.00	1349.28
32.00	1348.94
37.70	1346.09
47.70	1346.09
51.70	1348.09



1509+00

-30.00	1350.71
-27.57	1350.83
-23.53	1350.83
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13.57	1348.73
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20.96	1347.33
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48.17	1348.08
64.29	1348.20
68.12	1348.22
78.83	1348.32
81.03	1348.33
85.93	1348.33
88.48	1348.37
95.81	1348.58
100.00	1348.82

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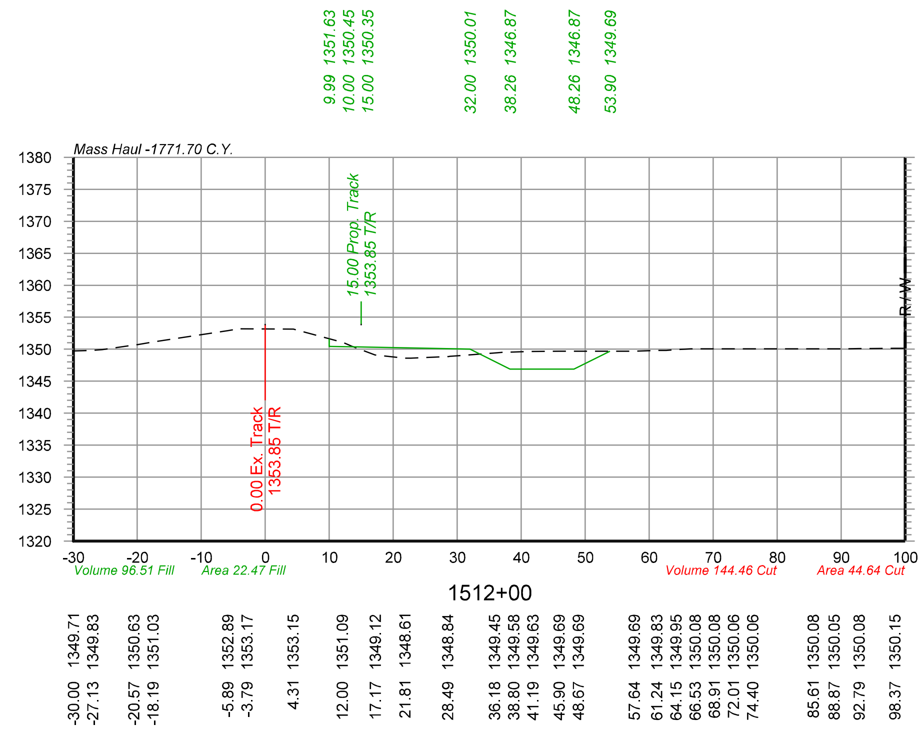
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DATE: 6/3/2022
SHEET NUMBER: X007 of 115

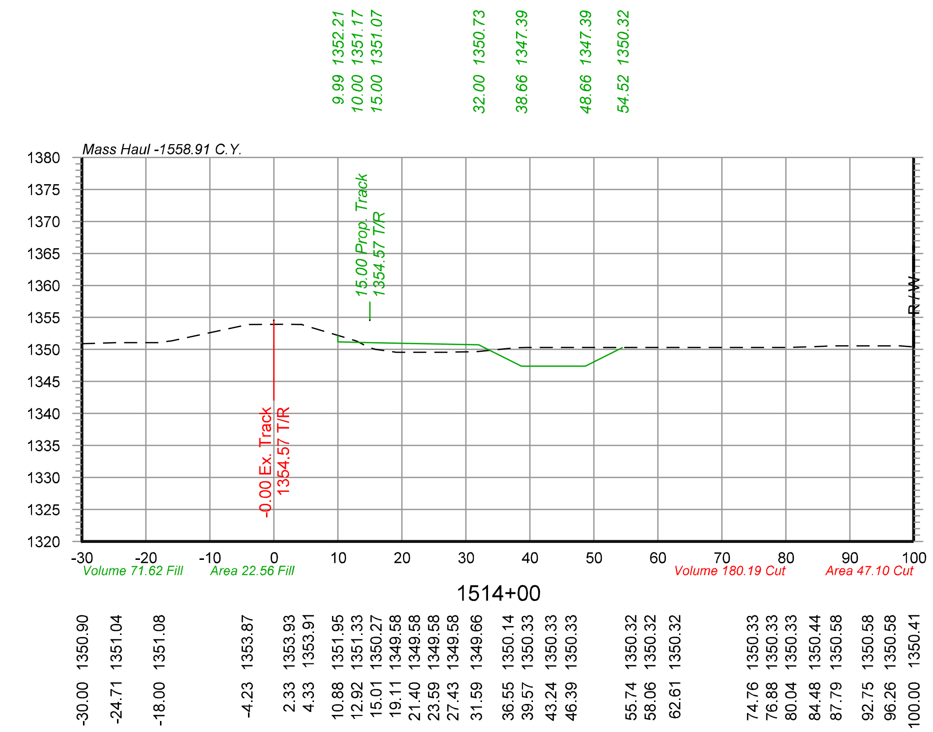
UNION PACIFIC RAILROAD

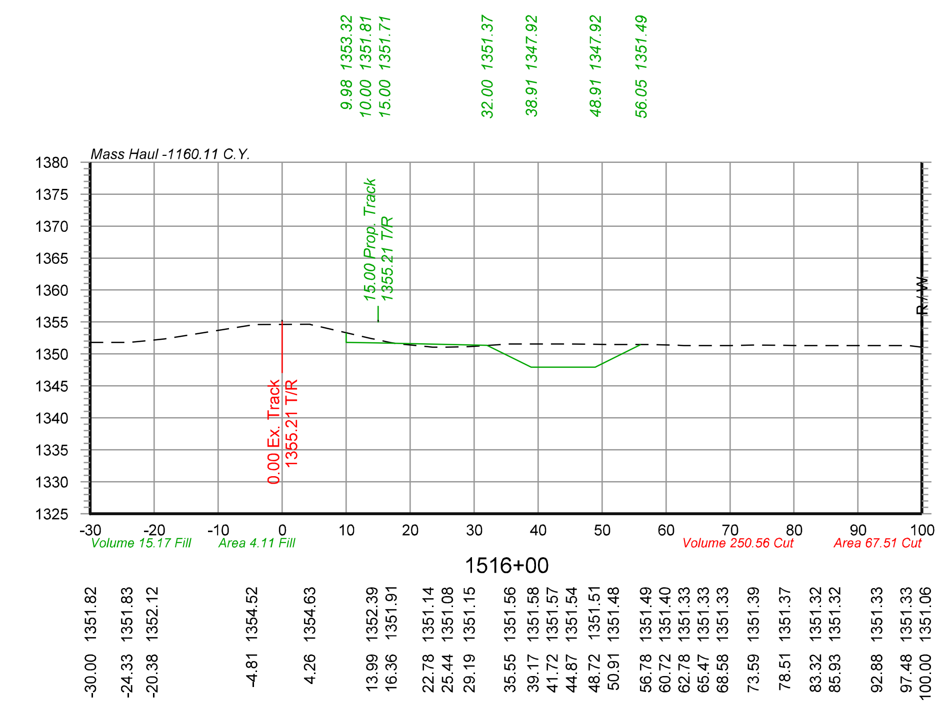
LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

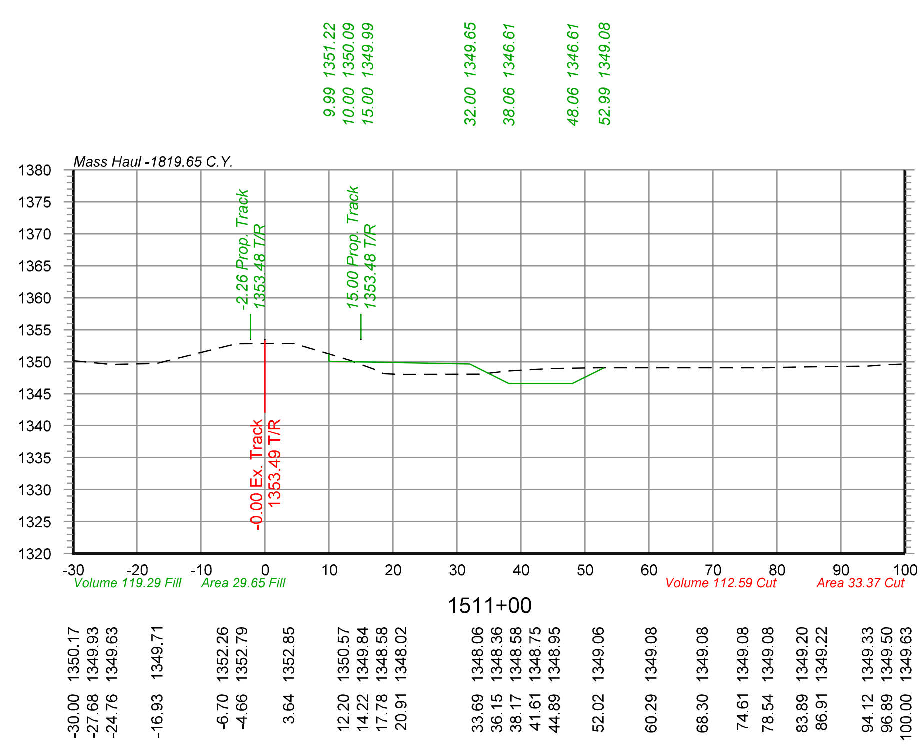
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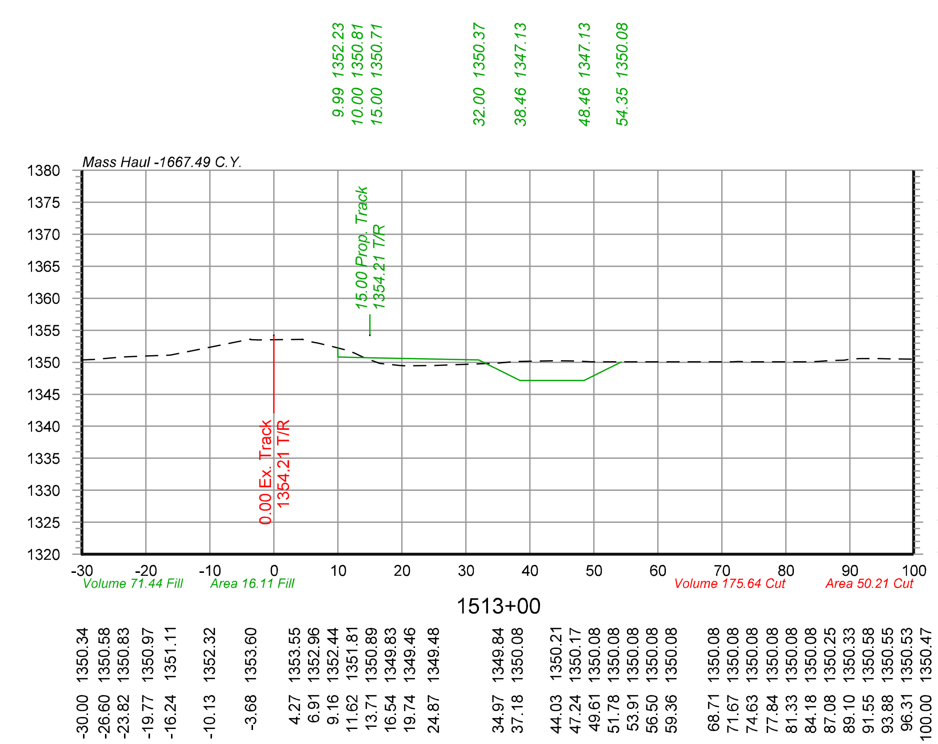
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6/3/2022
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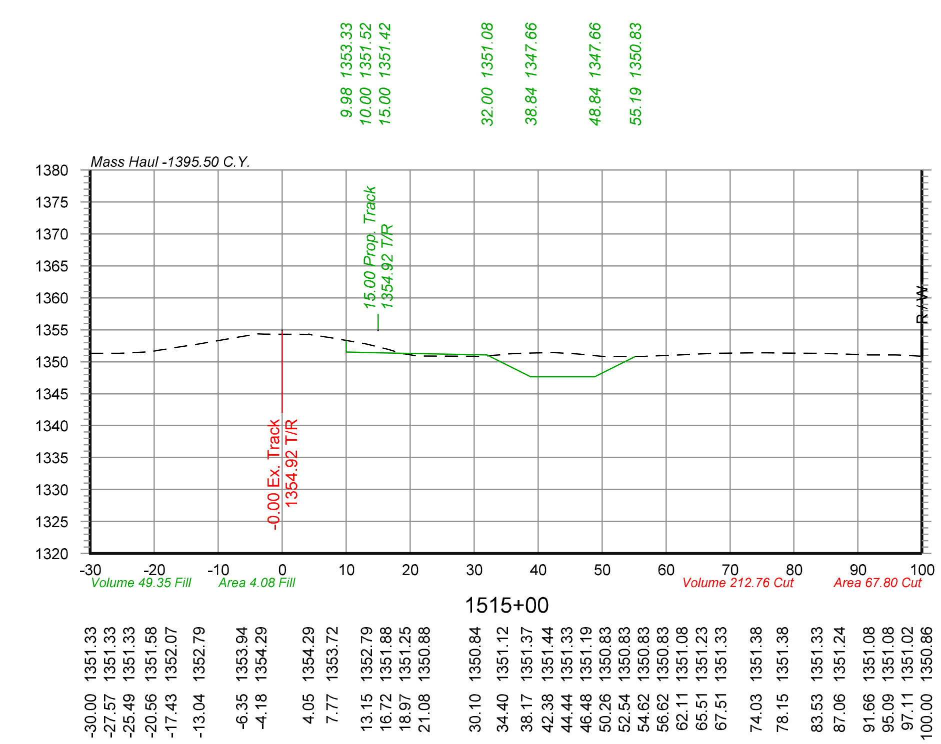










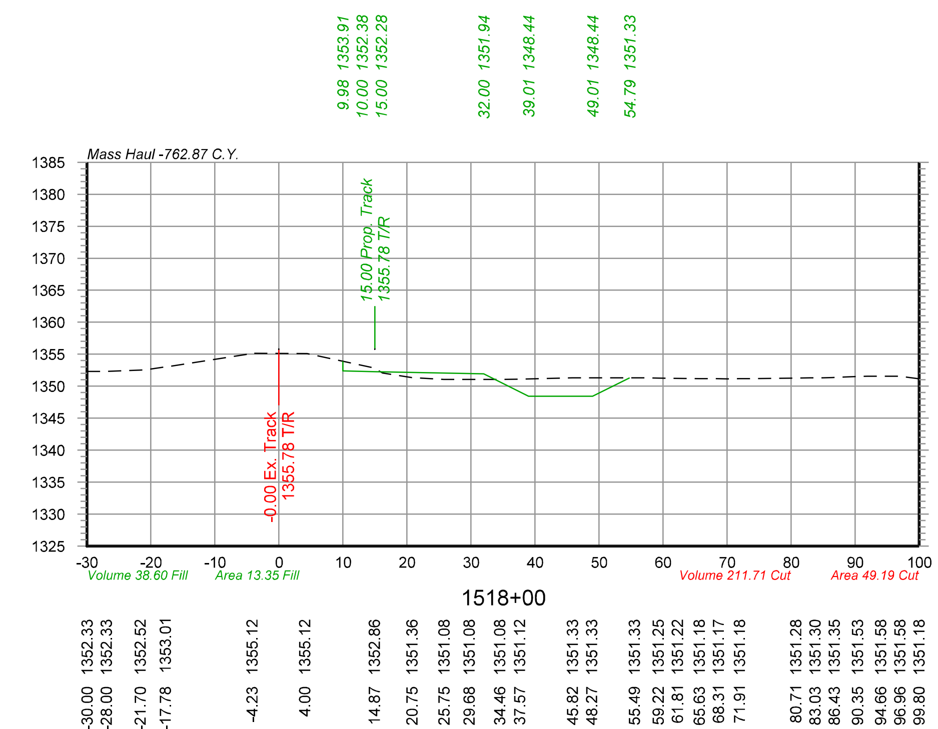


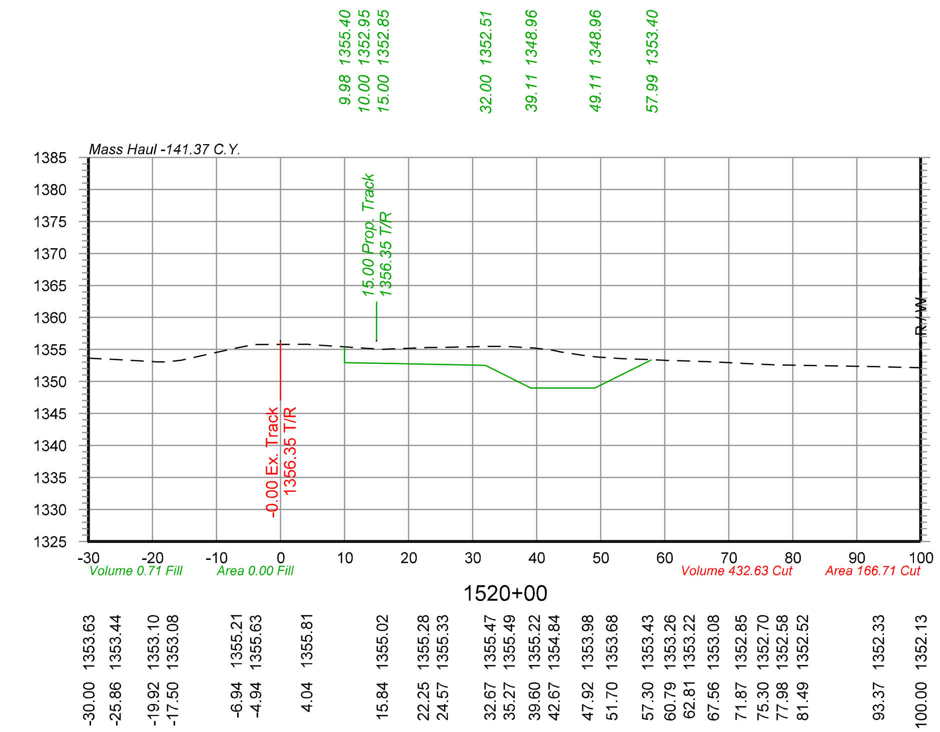
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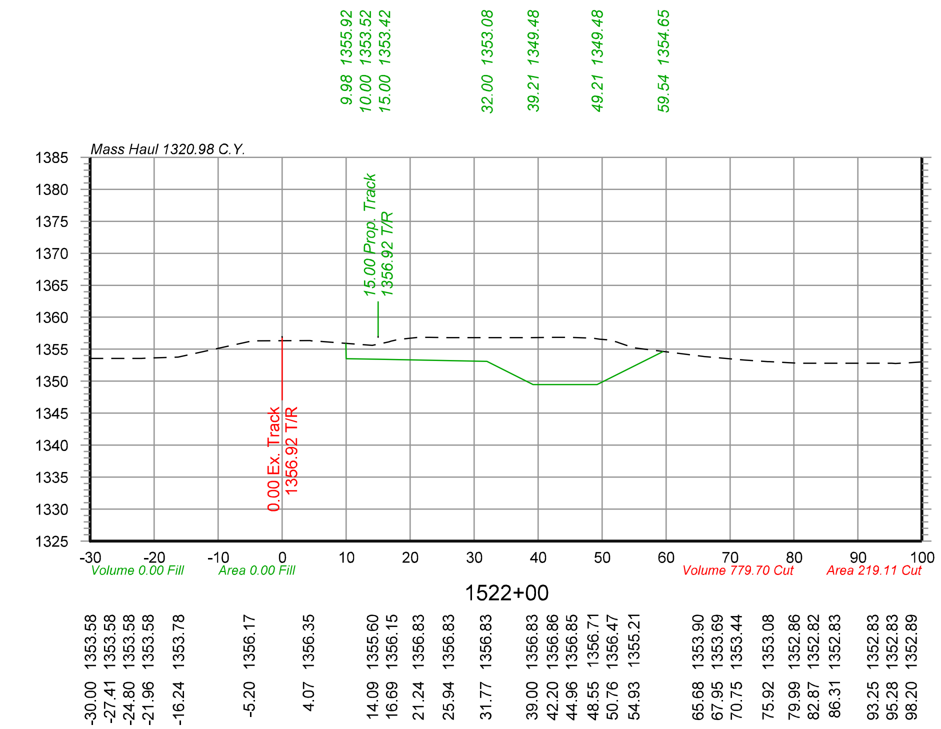
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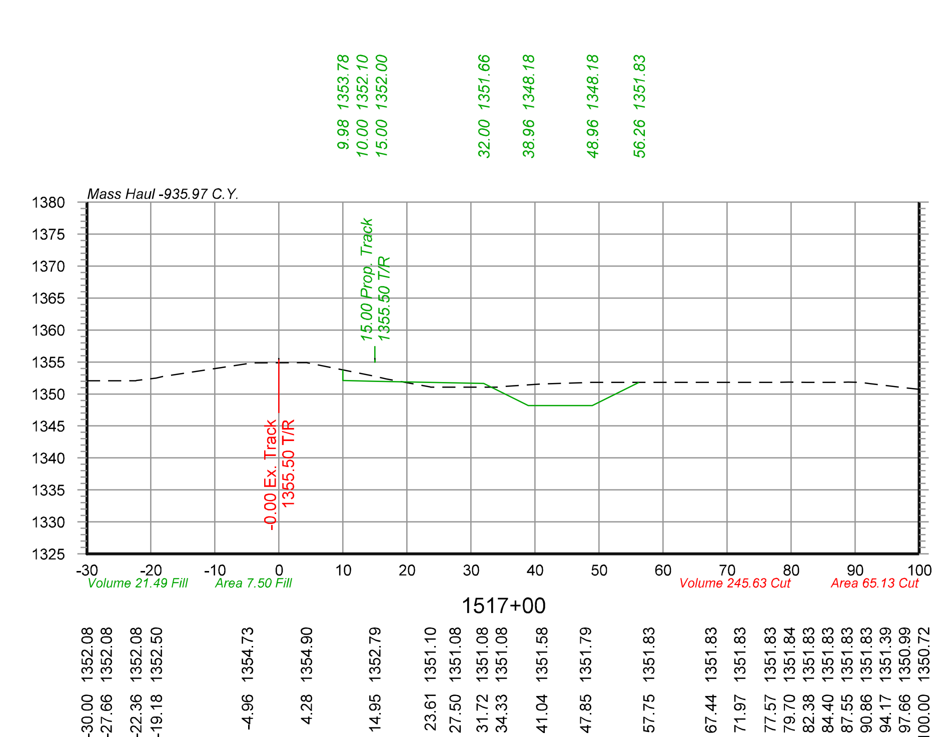
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CHECKED BY: JRM	LOCATION & DESCRIPTION: Mesa, Arizona - Maricopa County Phoenix Subdivision MP 934.79 to MP 937.83 Construct Industrial Lead Track
DATE: 6/3/2022	
SHEET NUMBER X008 of 115	SHEET TITLE: SIDING TRACK CROSS SECTIONS STA.1511+00 TO STA.1516+00

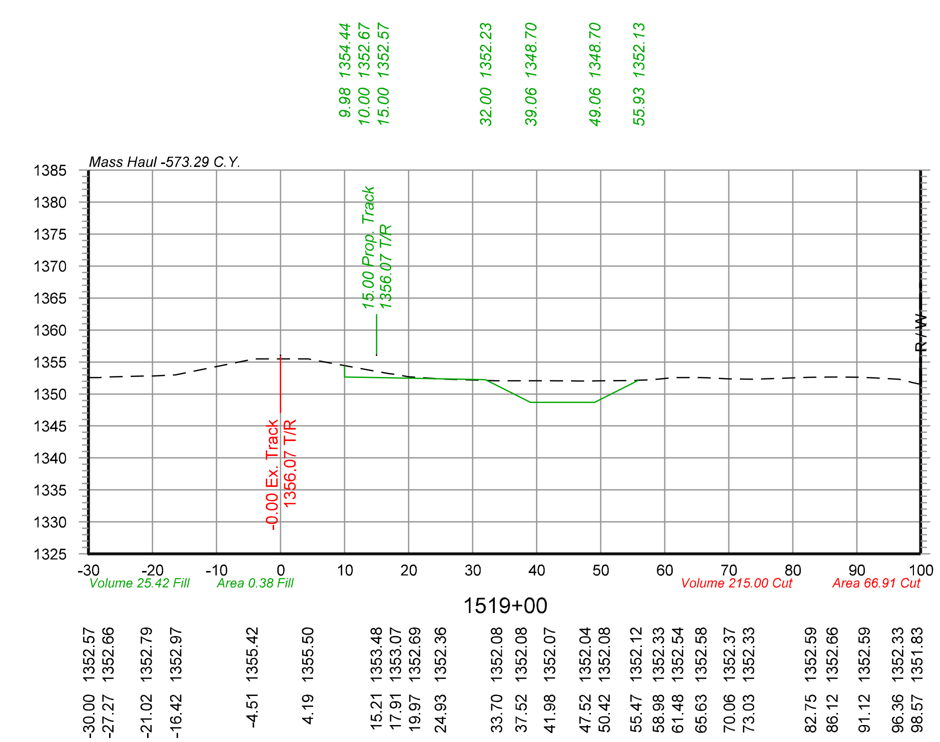
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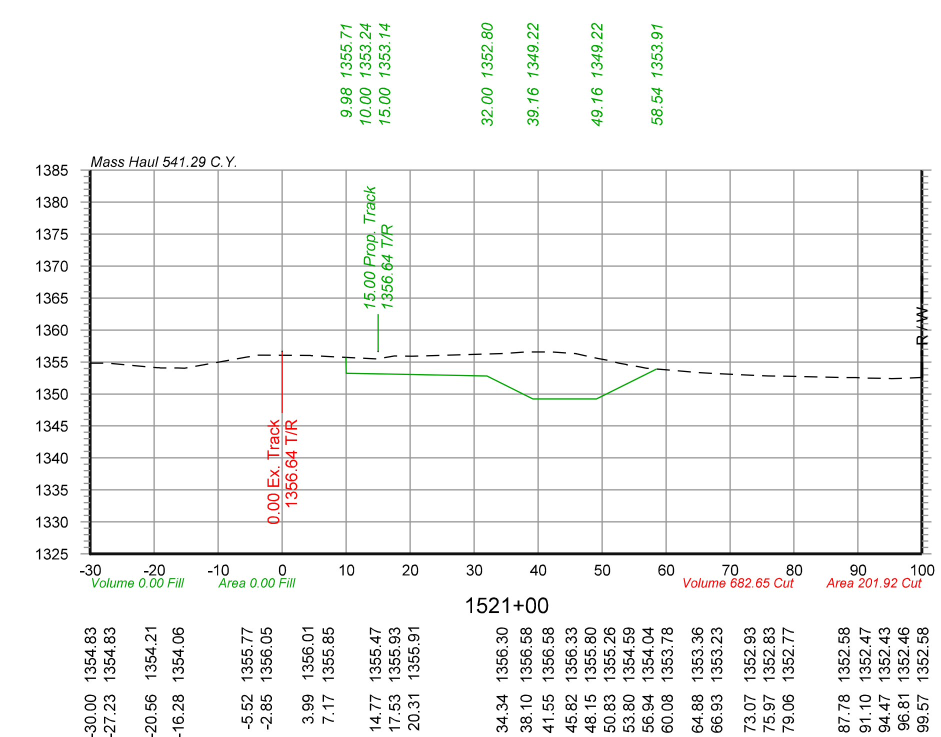












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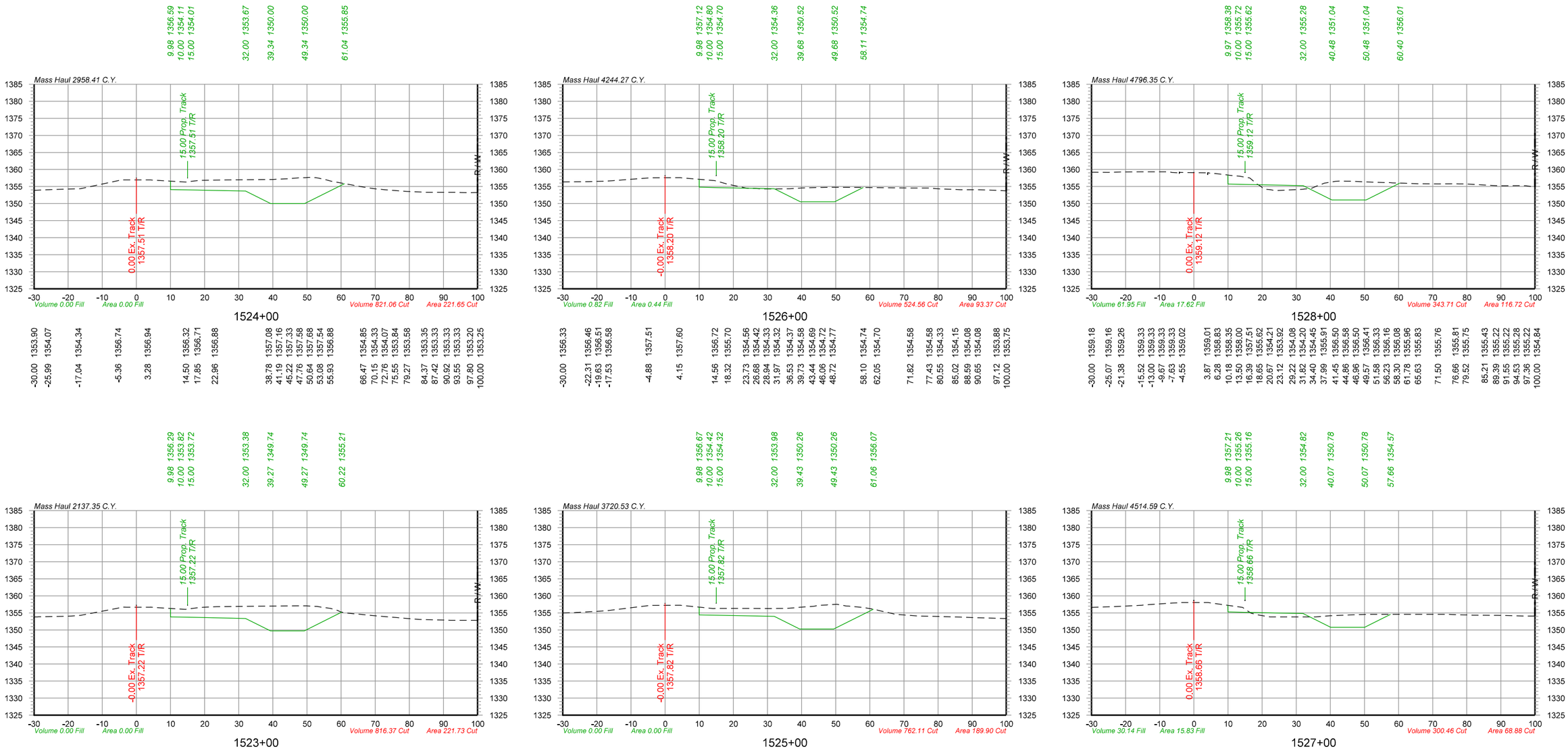
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DATE: 6/3/2022
SHEET NUMBER X009 of 115

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LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
SIDING TRACK CROSS SECTIONS STA.1517+00 TO STA.1522+00

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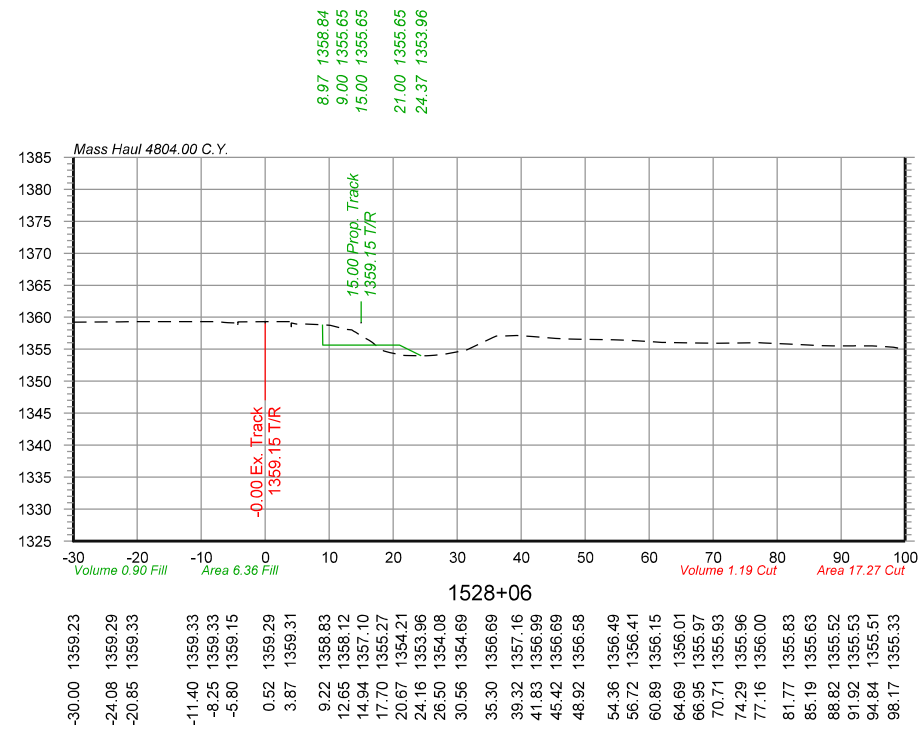
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SHEET NUMBER: X010 of 115

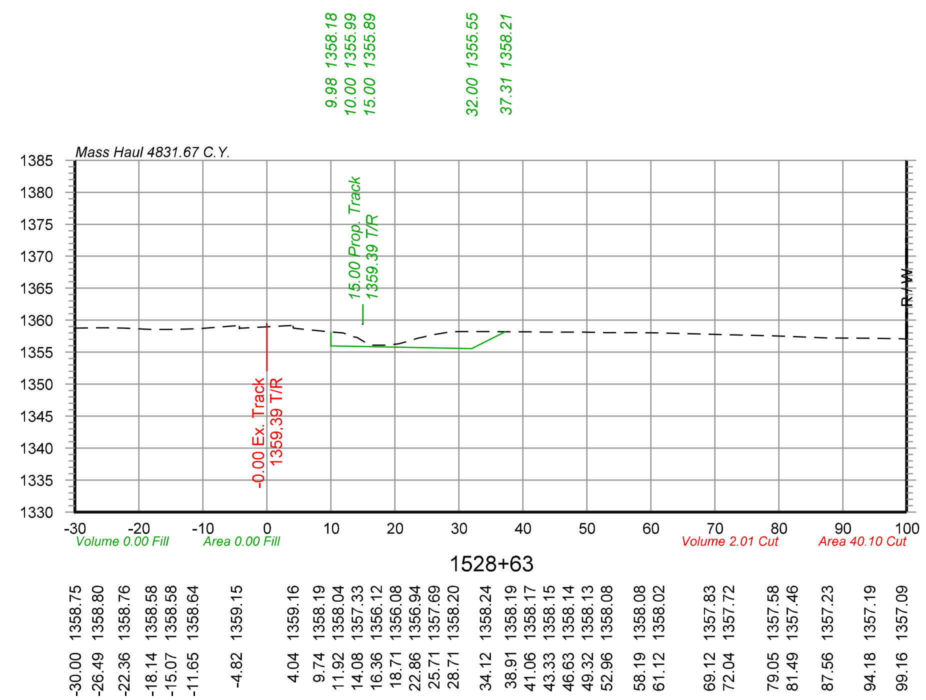
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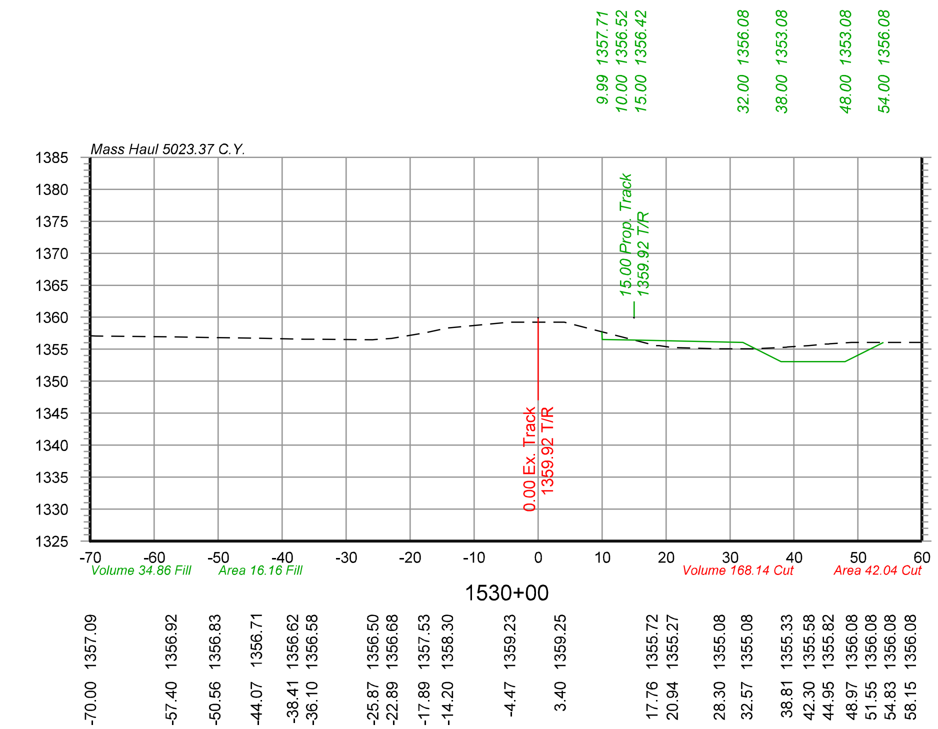
LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

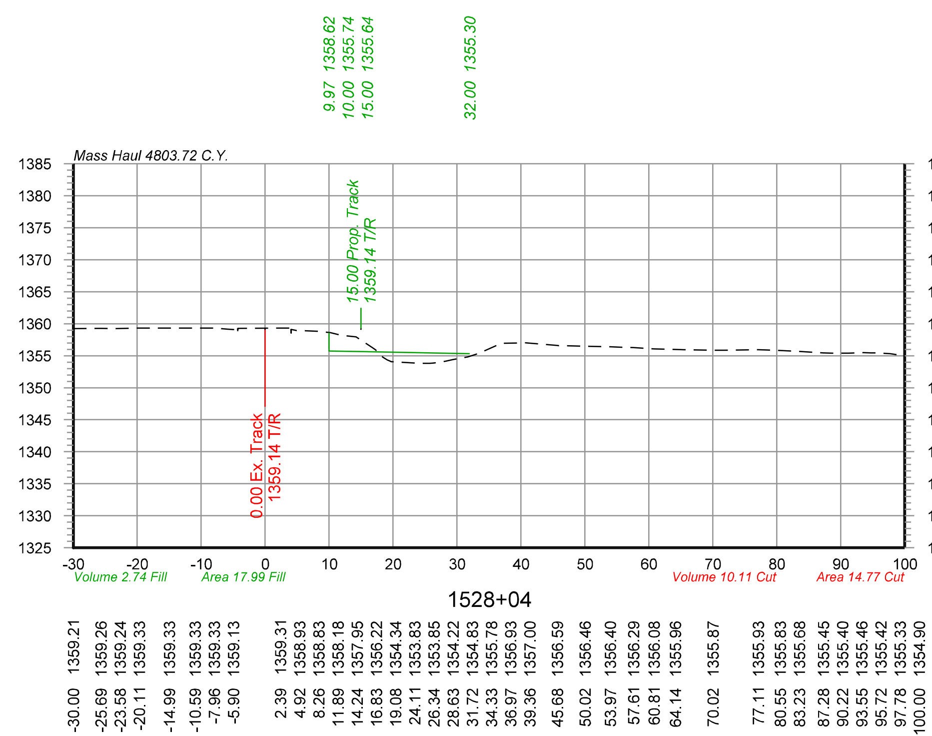
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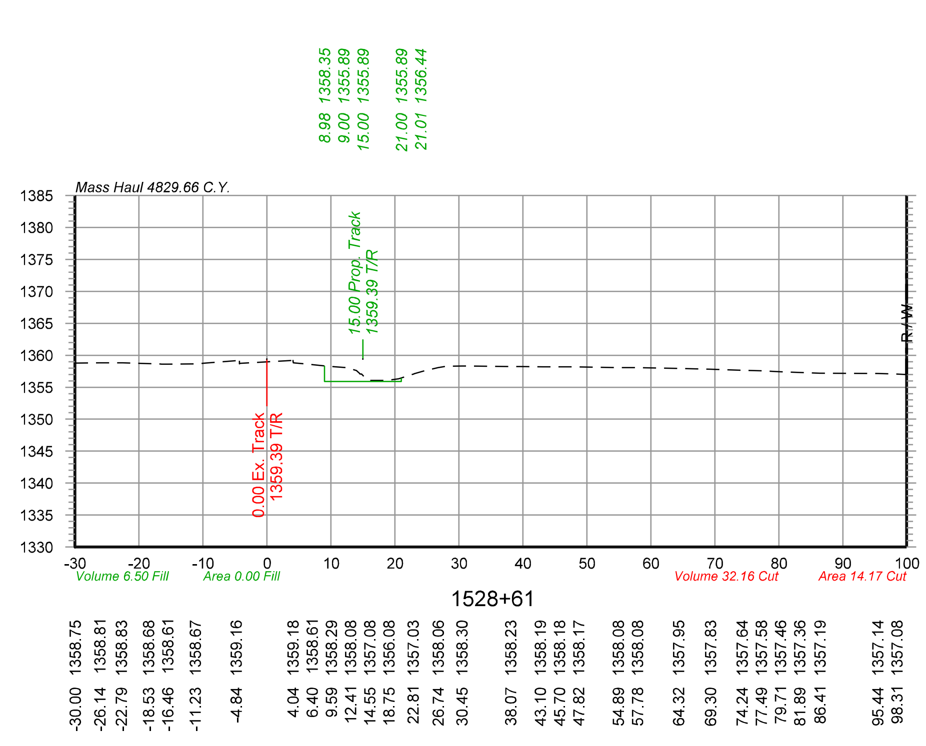
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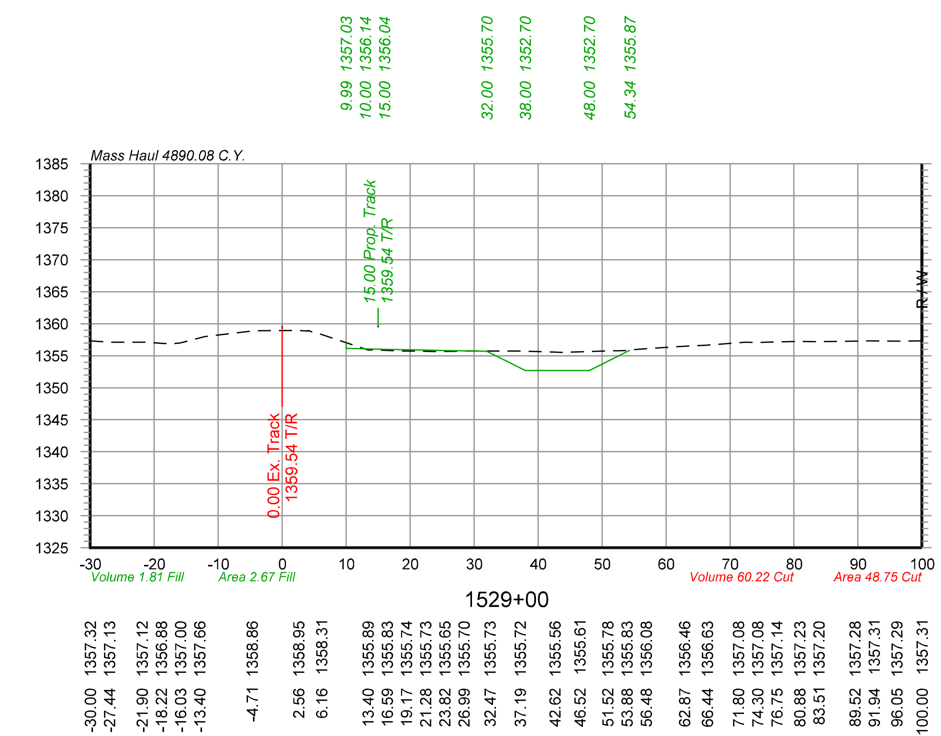












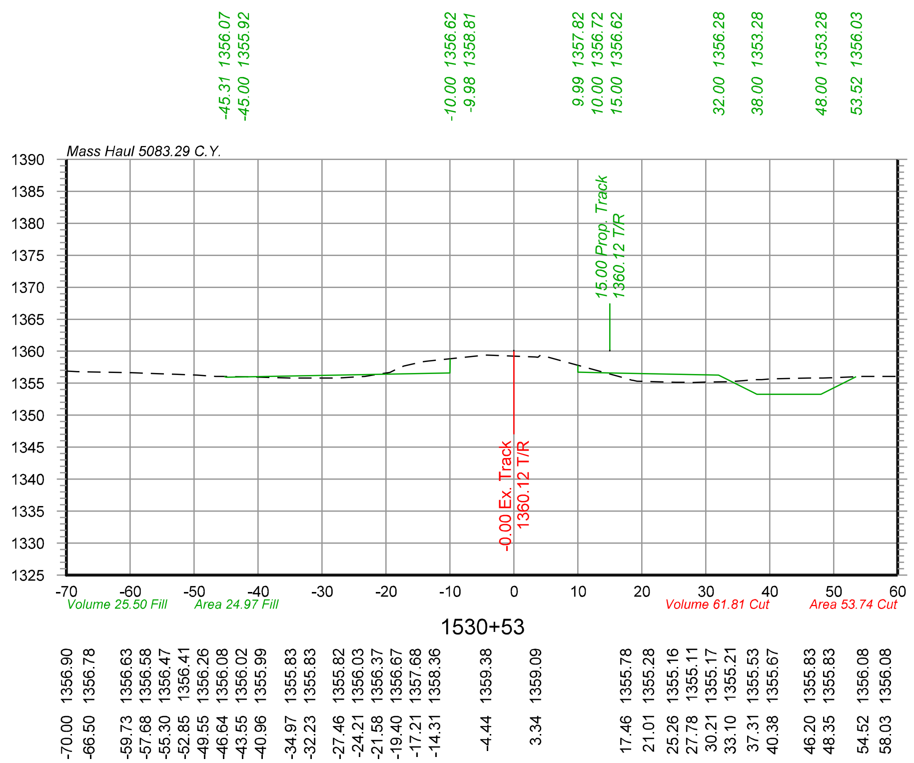
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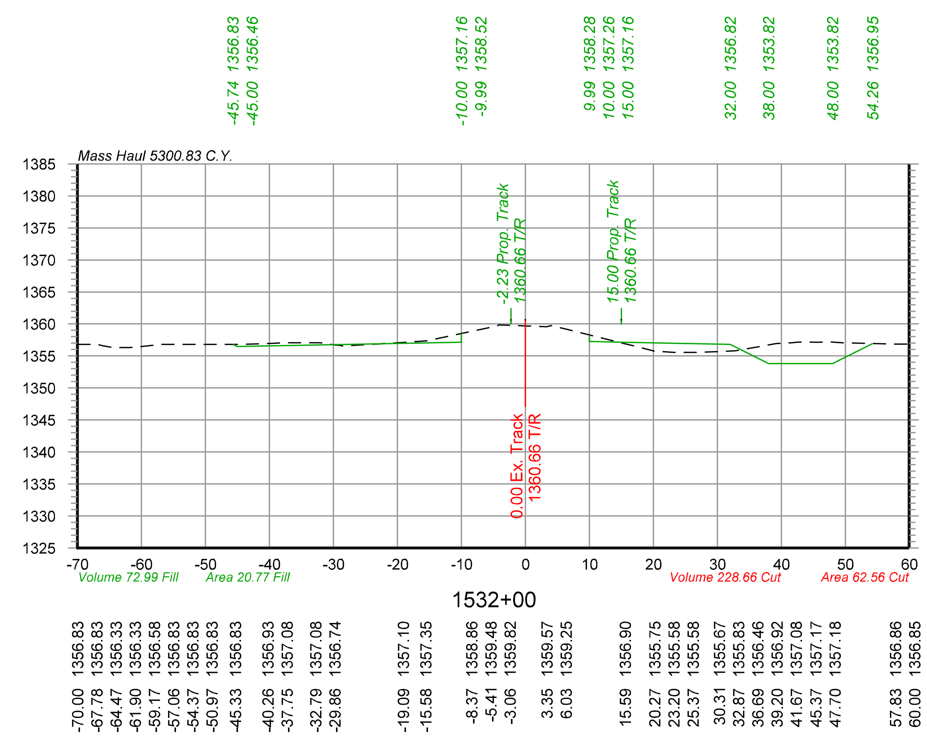
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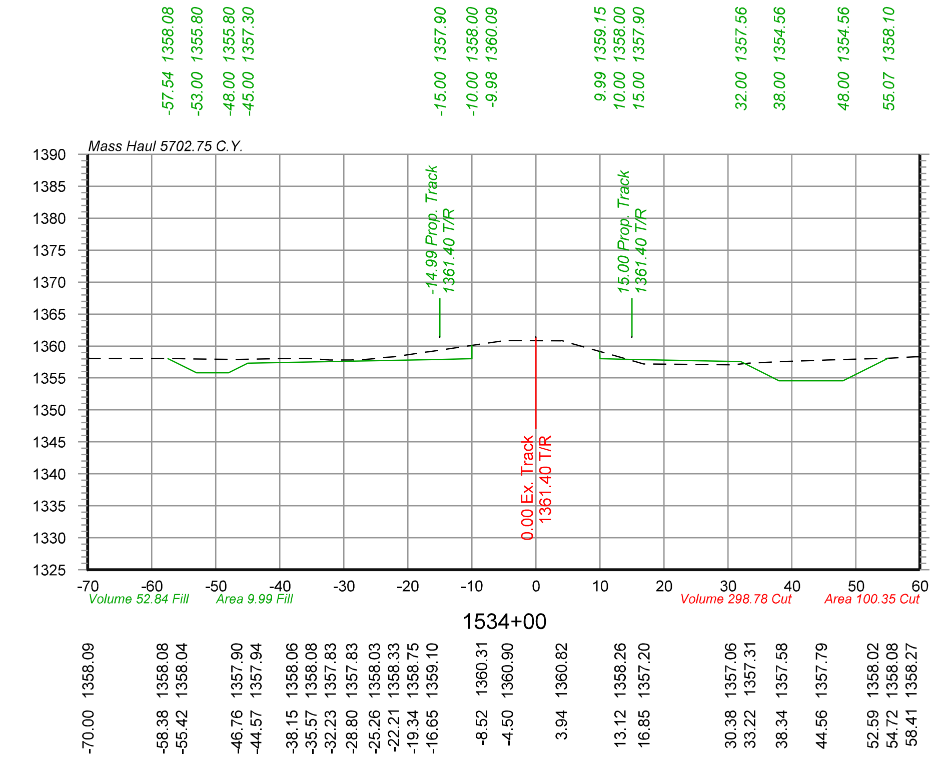
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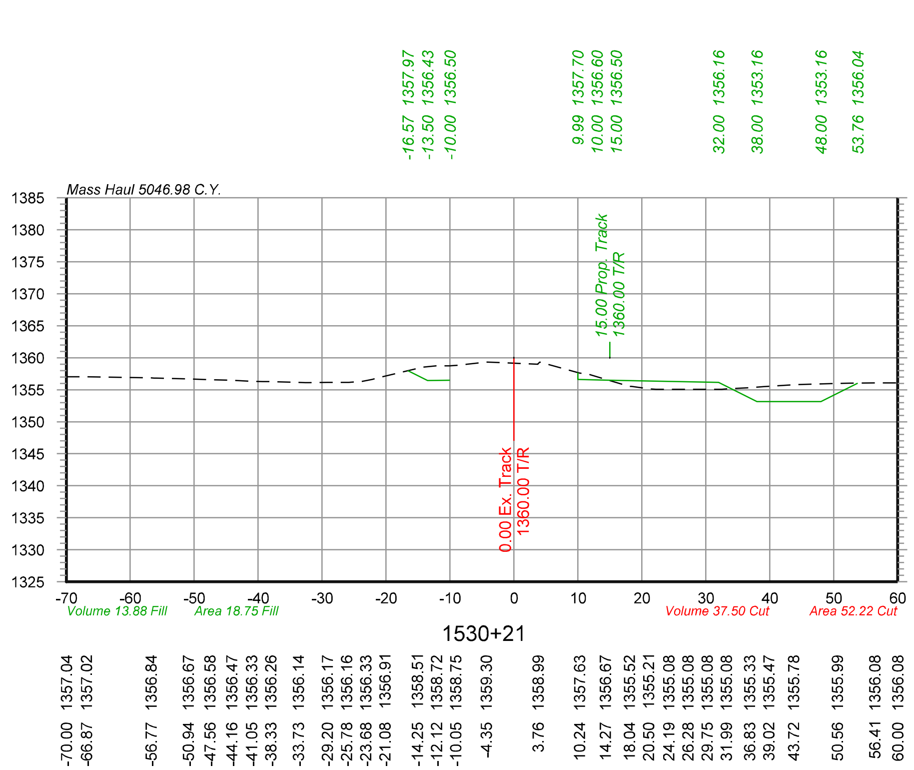
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CHECKED BY: JRM	LOCATION & DESCRIPTION: Mesa, Arizona - Maricopa County Phoenix Subdivision MP 934.79 to MP 937.83 Construct Industrial Lead Track
DATE: 6/3/2022	
SHEET NUMBER X011 of 115	SHEET TITLE: SIDING TRACK CROSS SECTIONS STA.1528+04 TO STA.1530+00

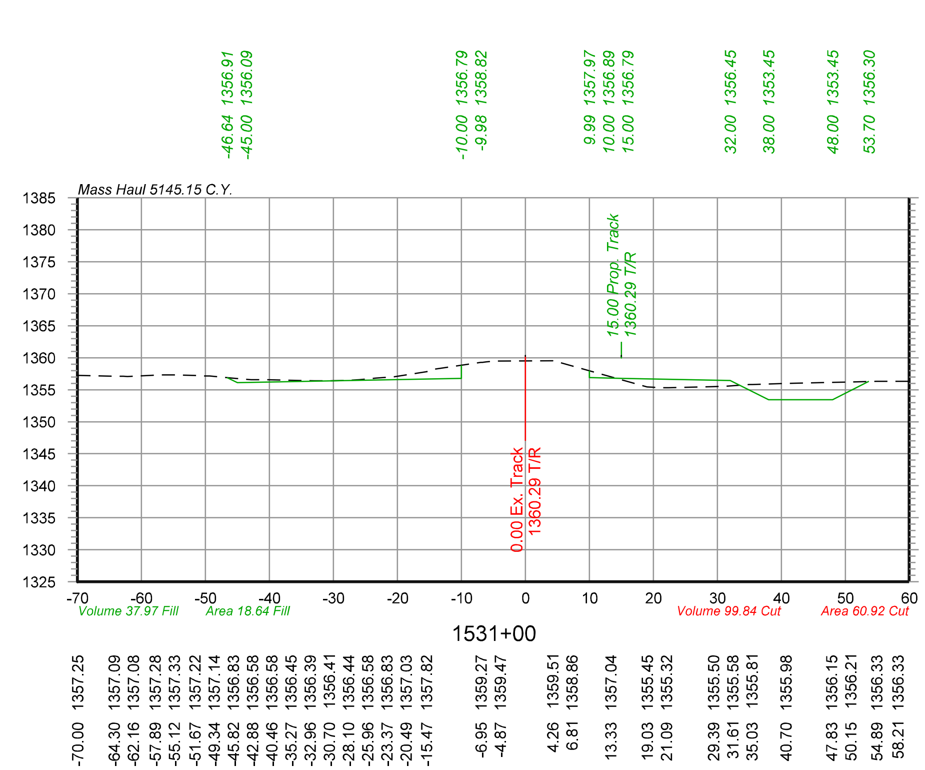
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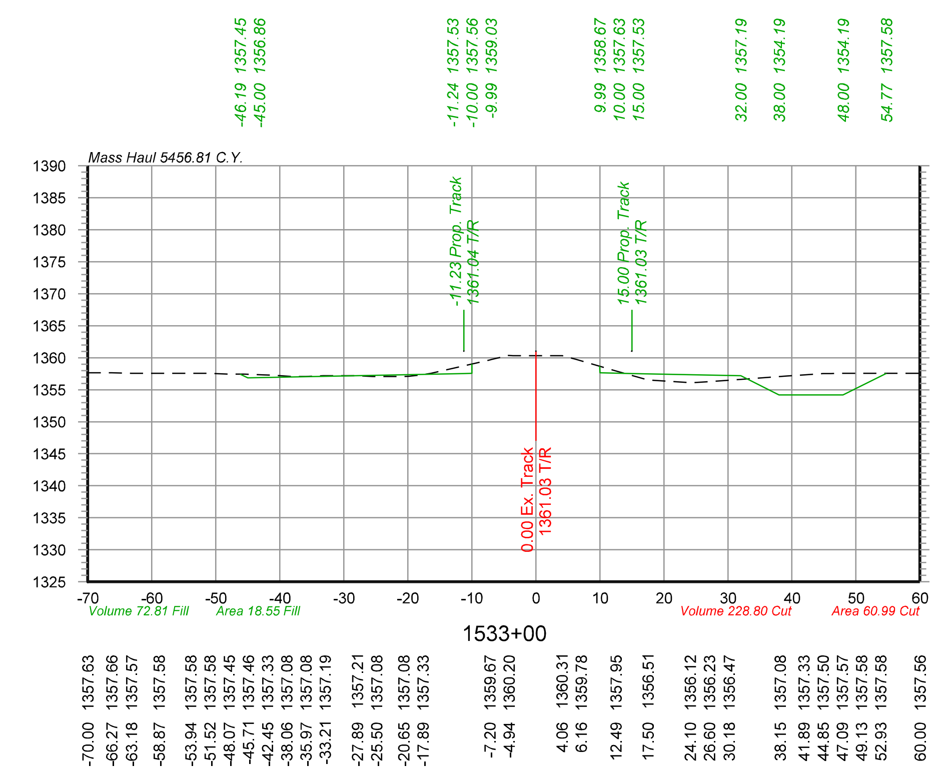












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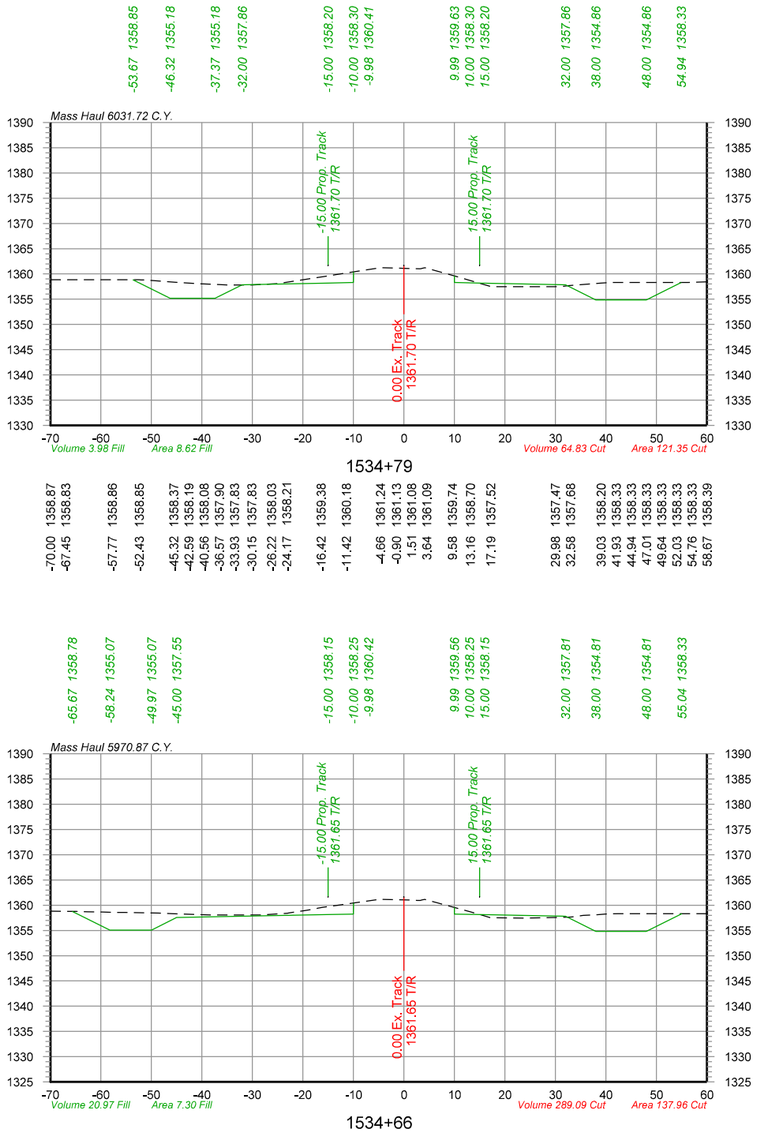
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SHEET NUMBER X012 of 115

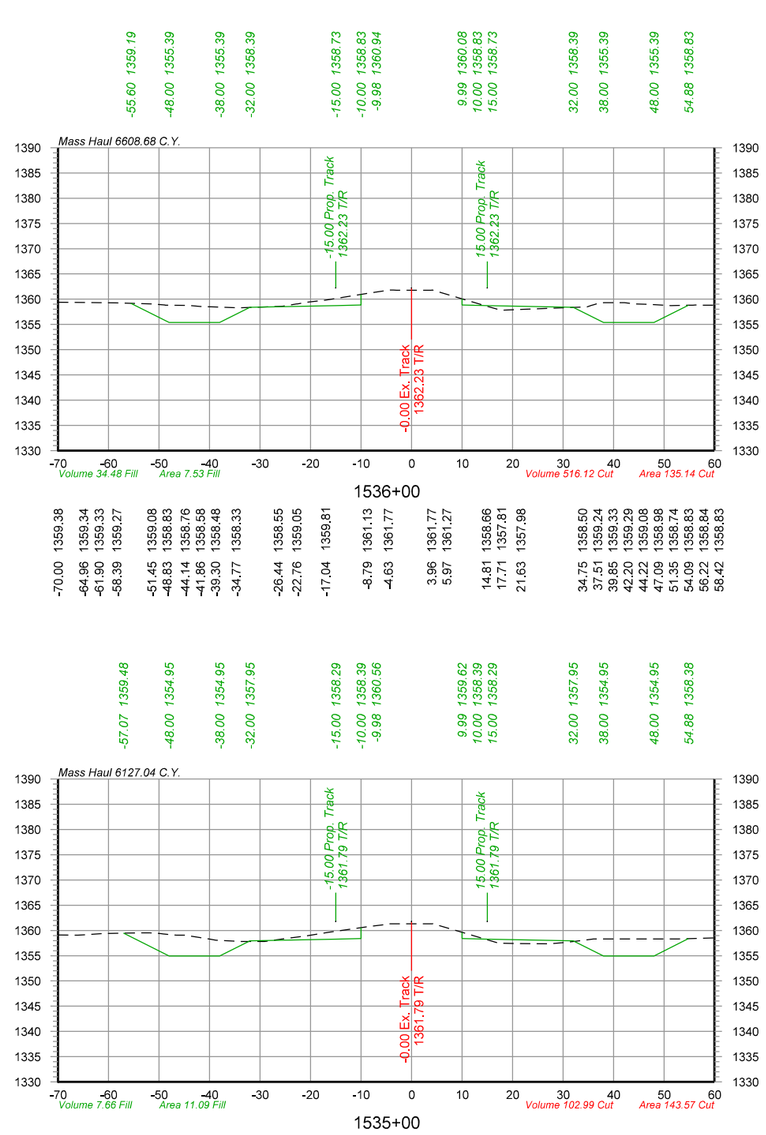
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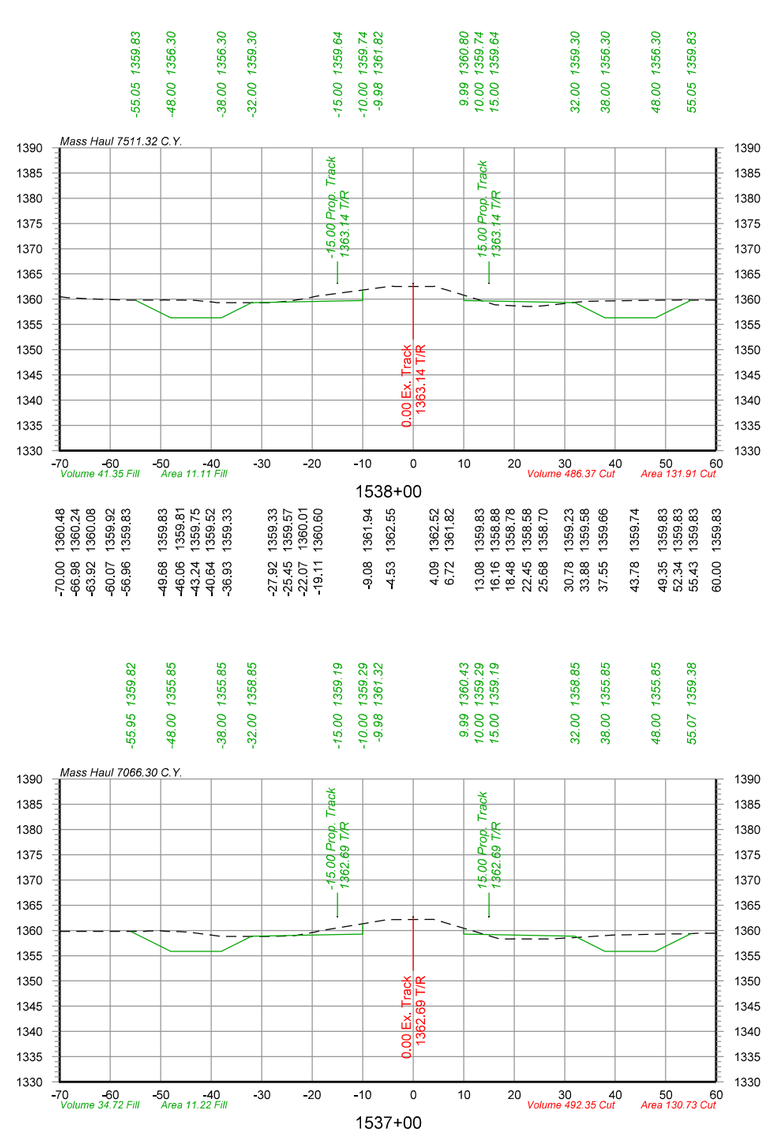
LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
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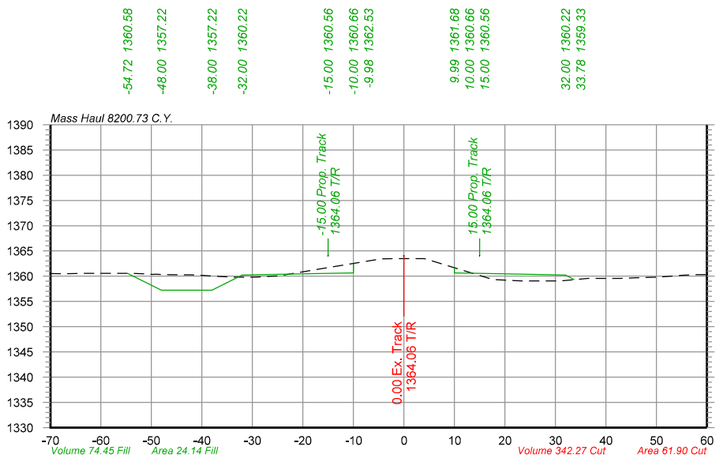
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SHEET NUMBER	X013 of 115

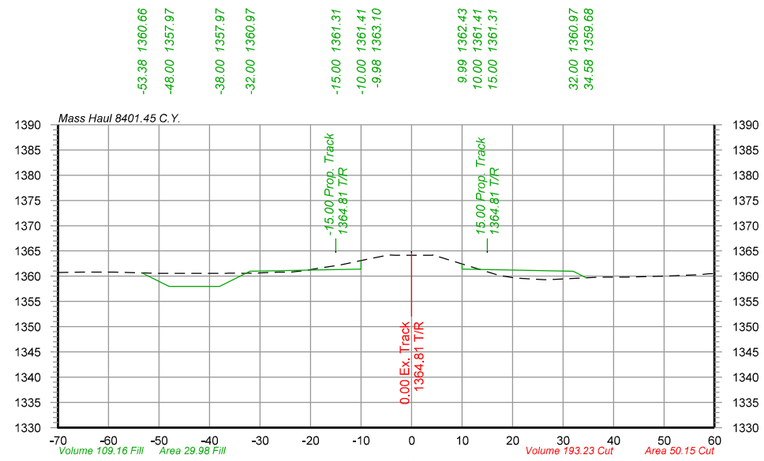
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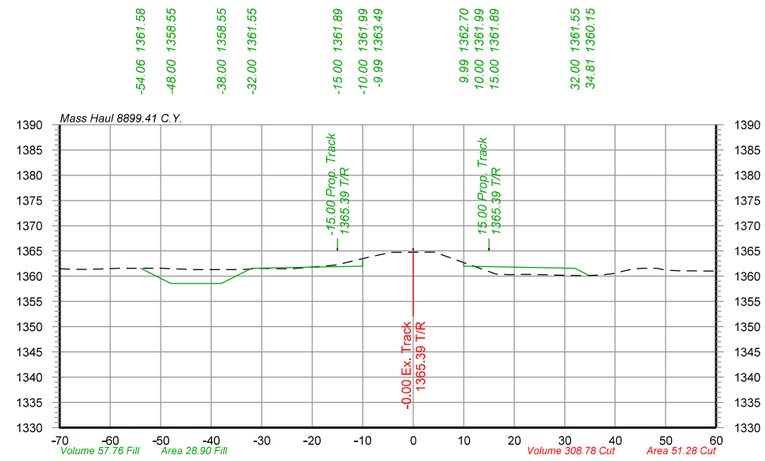
LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

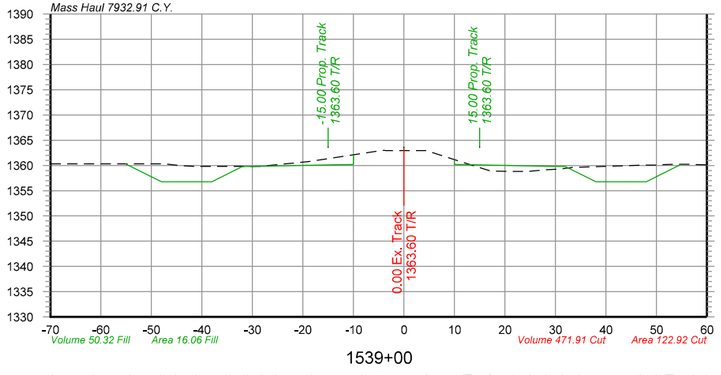
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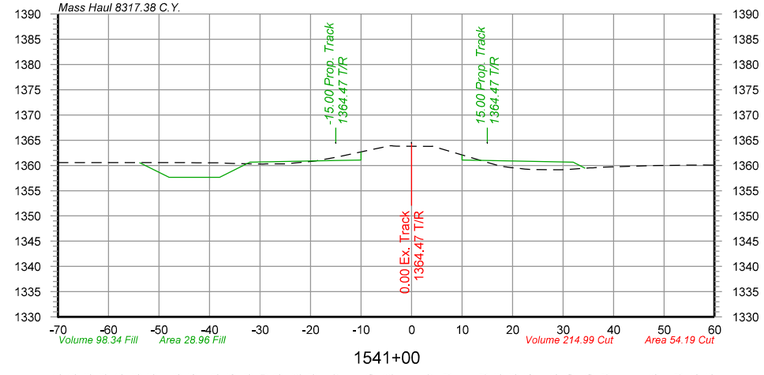
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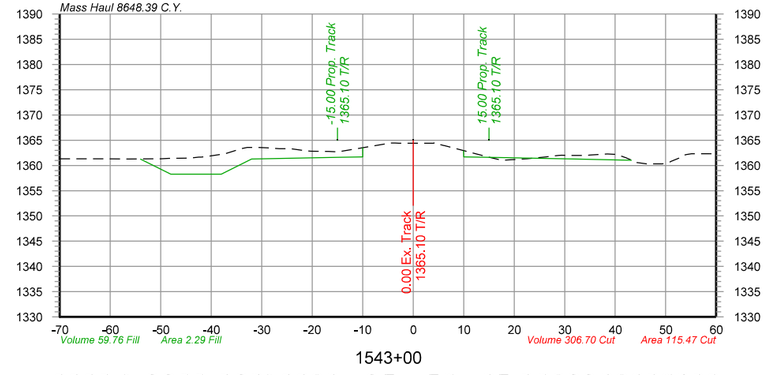












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DATE:	6/3/2022
SHEET NUMBER	X014 of 115

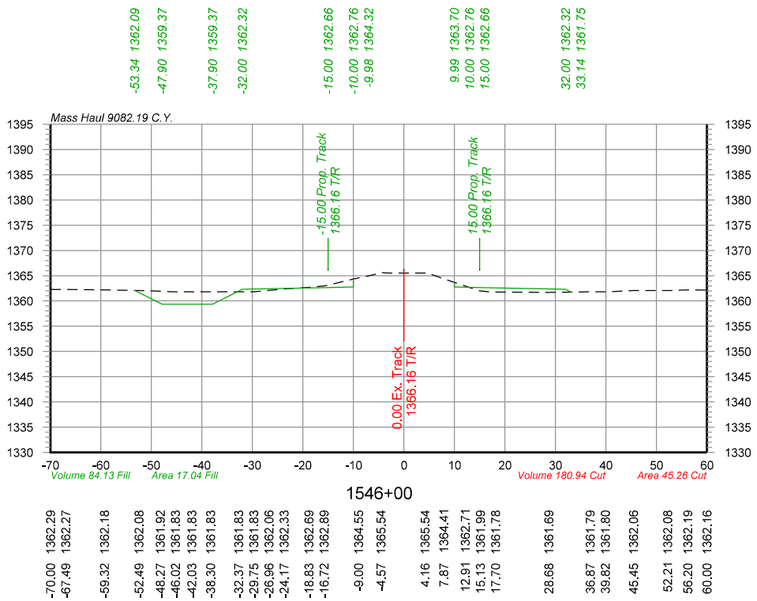
UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
SIDING TRACK CROSS SECTIONS STA.1539+00 TO STA.1544+00

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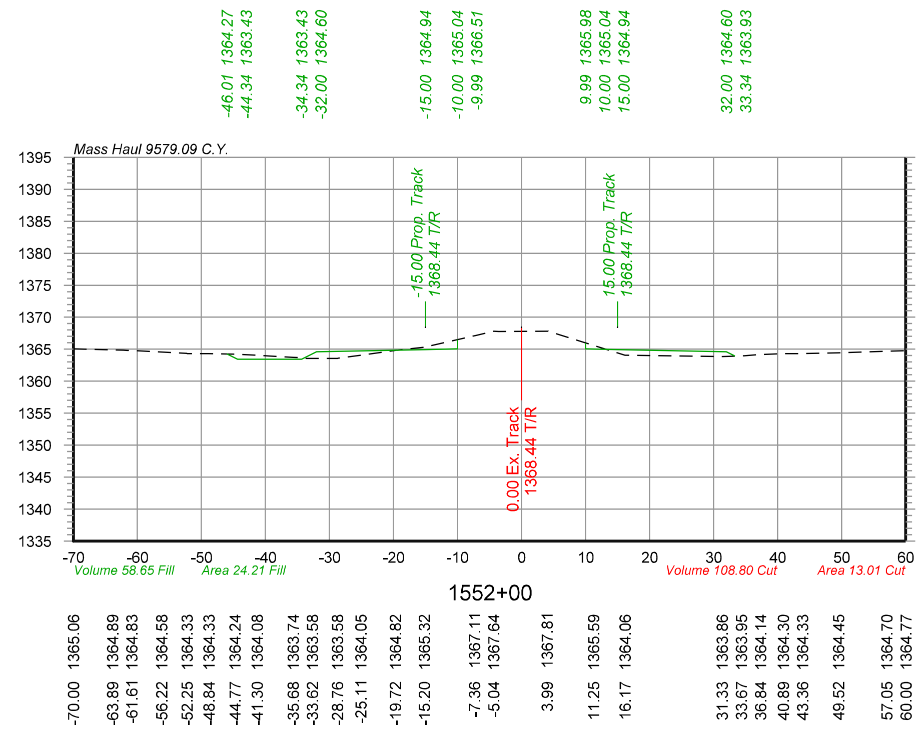
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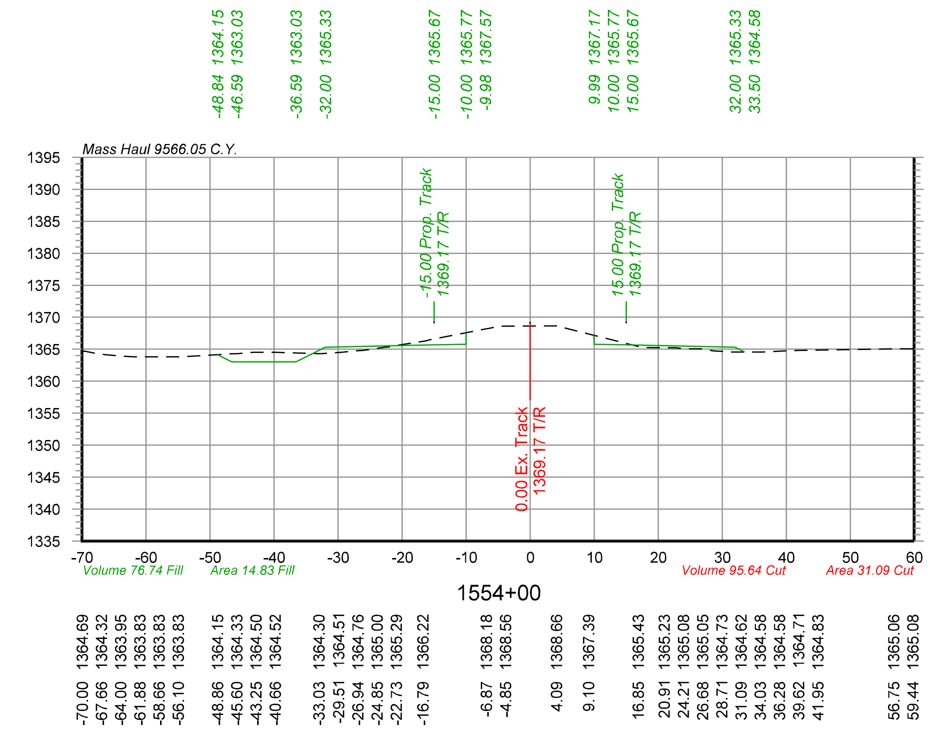
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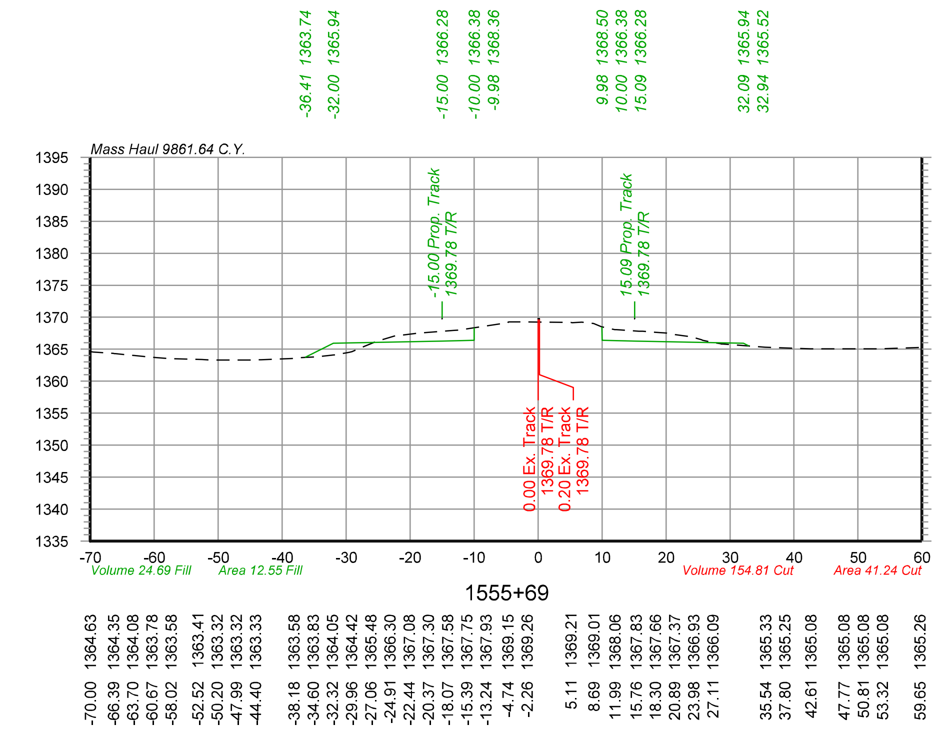
LOCATION & DESCRIPTION:
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Construct Industrial Lead Track

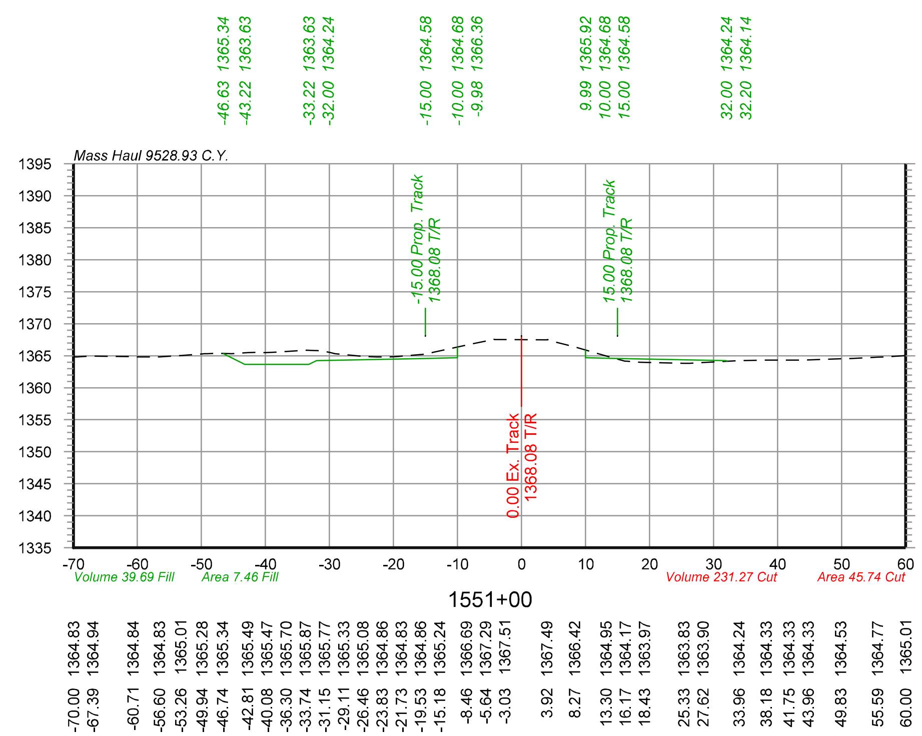
SHEET TITLE:
SIDING TRACK CROSS SECTIONS STA.1545+00 TO STA.1550+00

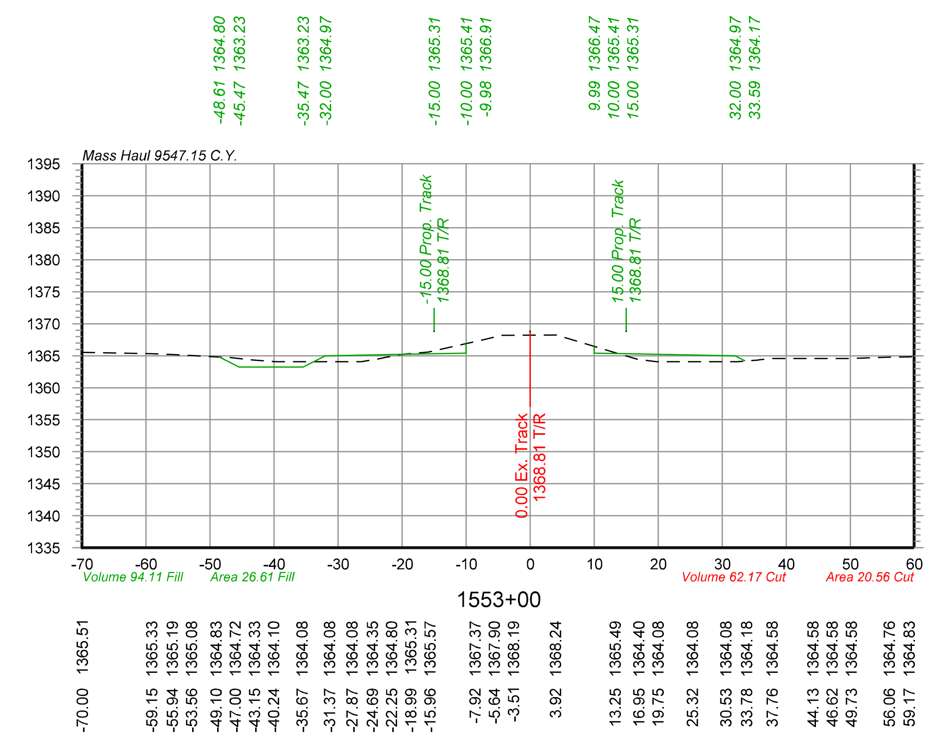
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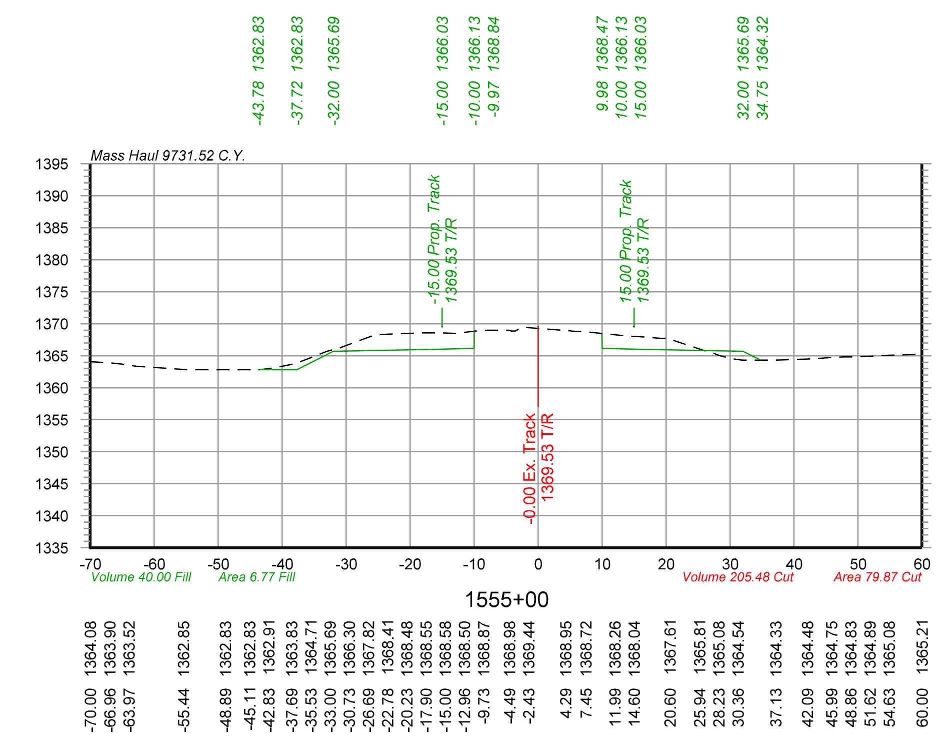












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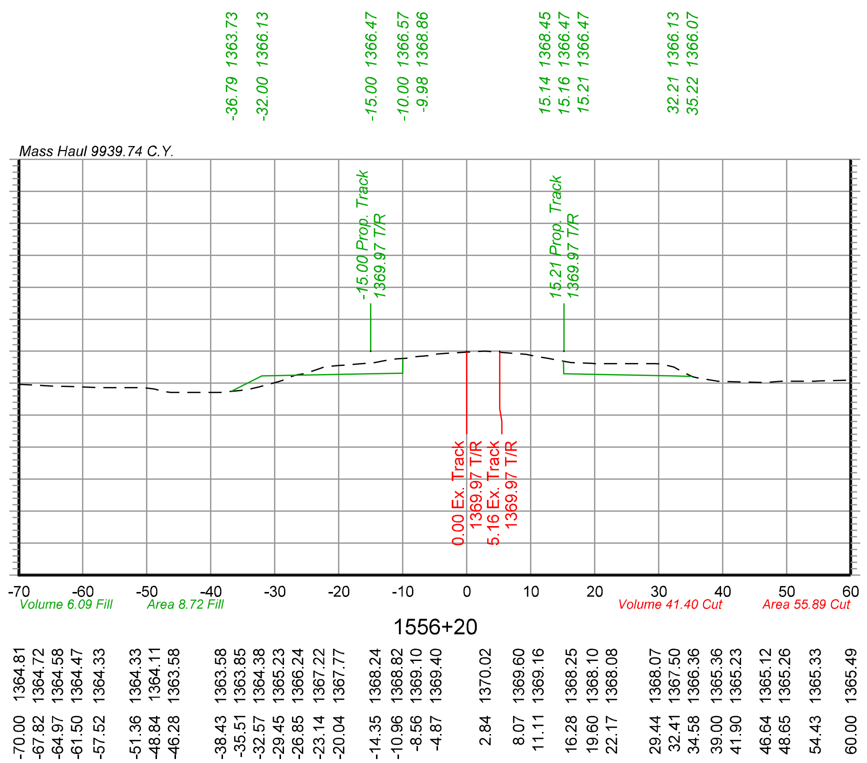
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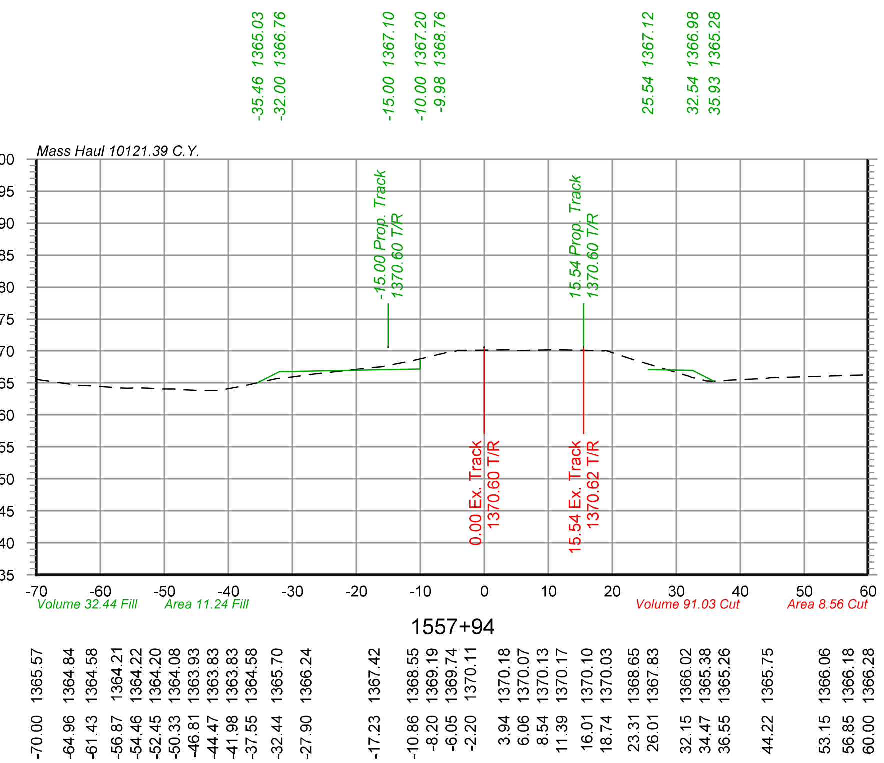
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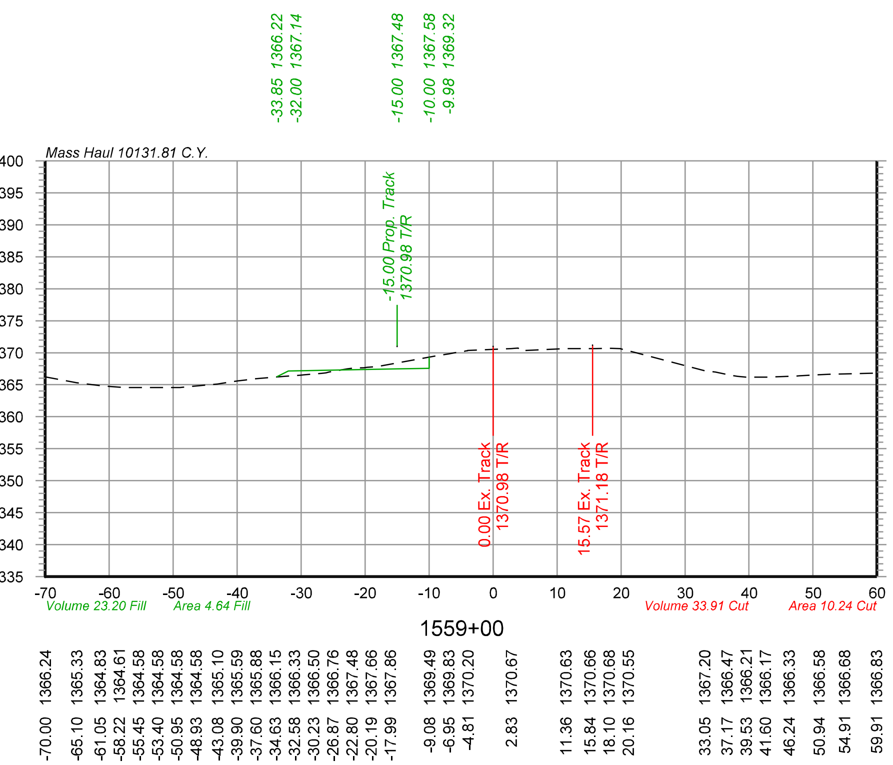
LOCATION & DESCRIPTION:
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Construct Industrial Lead Track

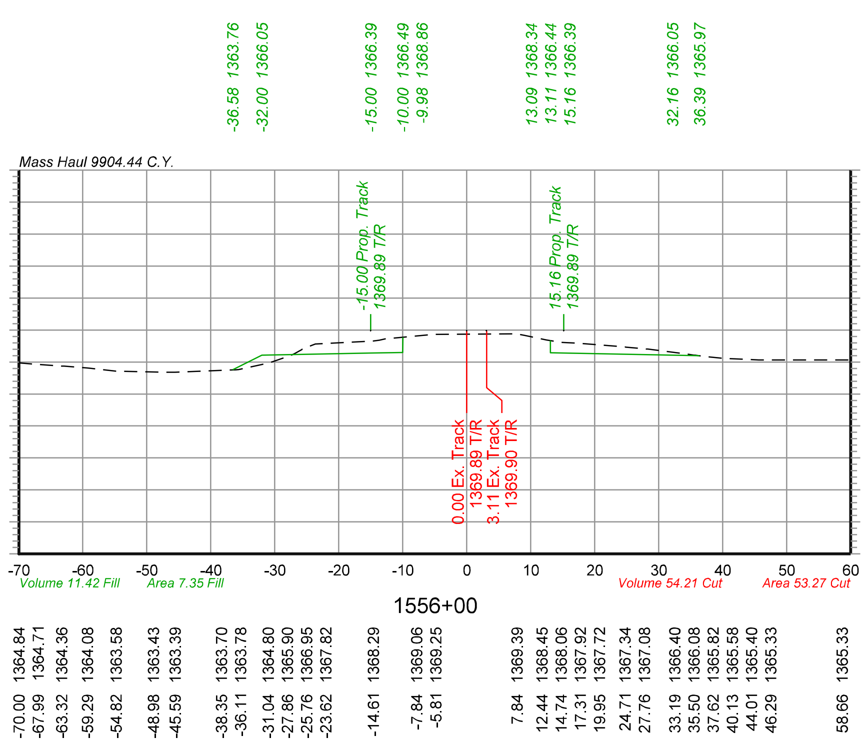
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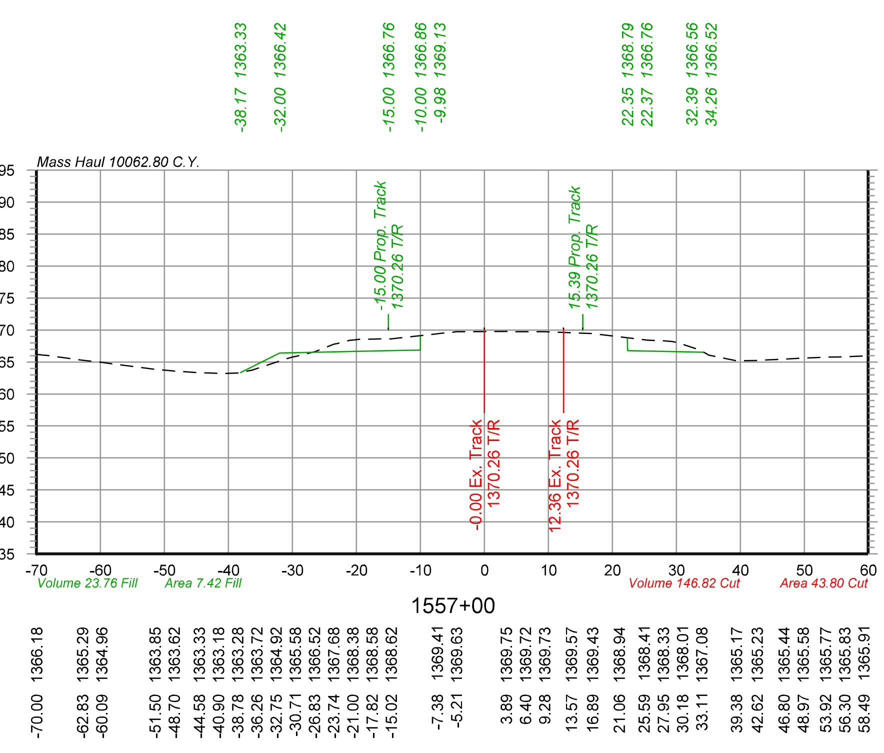
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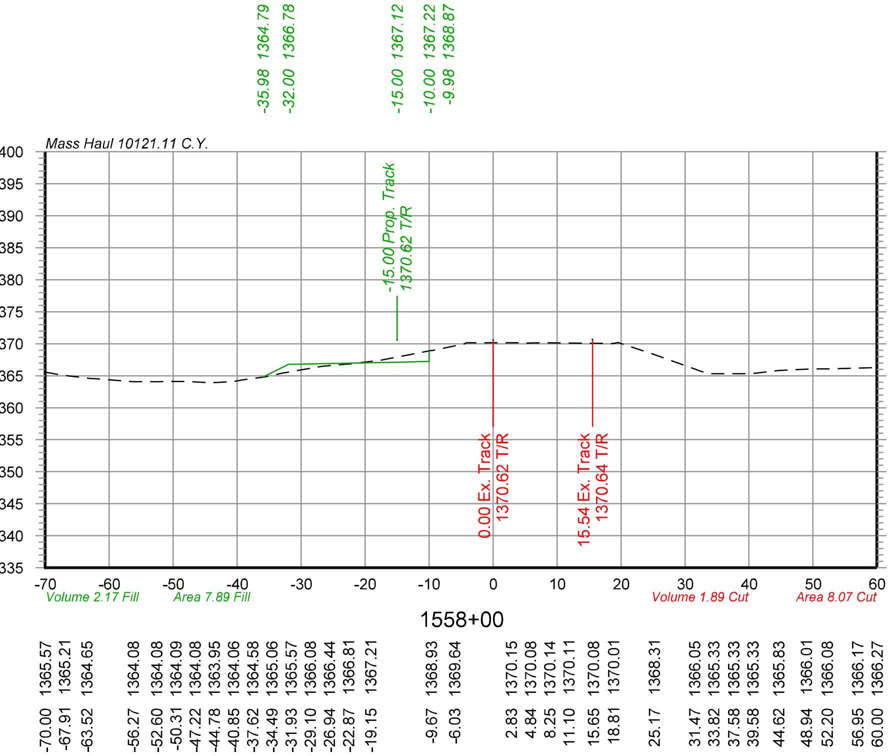










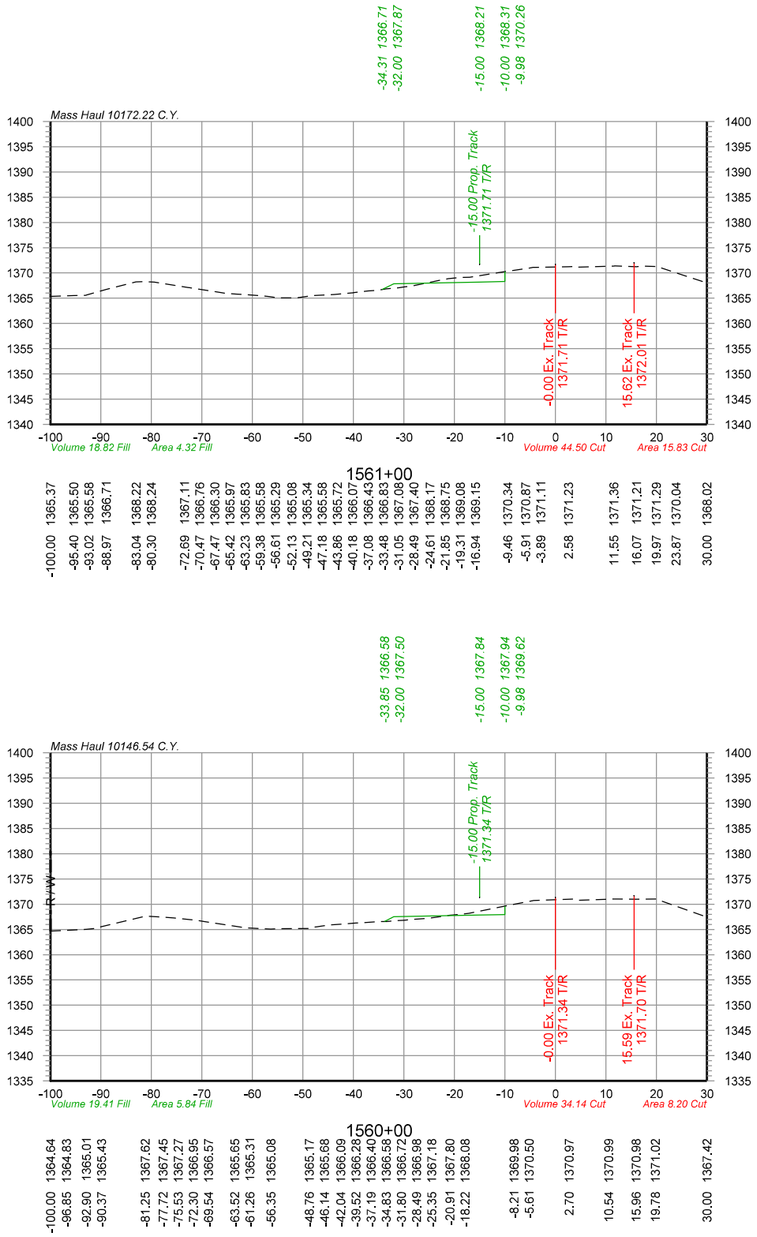


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CHECKED BY: JRM	LOCATION & DESCRIPTION: Mesa, Arizona - Maricopa County Phoenix Subdivision MP 934.79 to MP 937.83 Construct Industrial Lead Track
DATE: 6/3/2022	
SHEET NUMBER X017 of 115	SHEET TITLE: SIDING TRACK CROSS SECTIONS STA.1556+00 TO STA.1559+00

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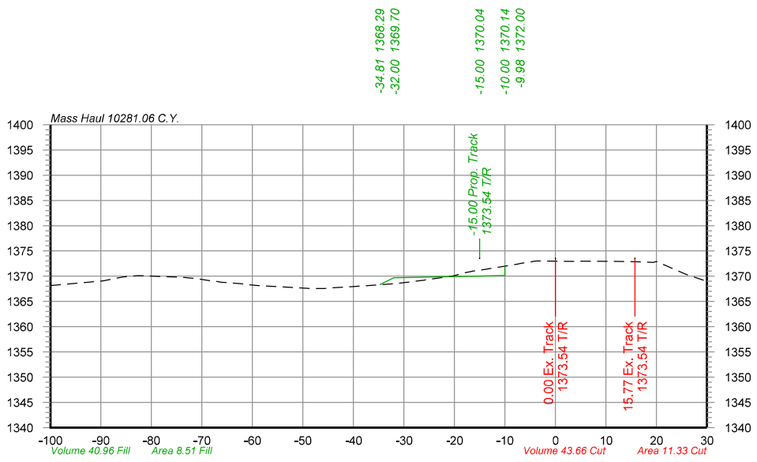
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SHEET NUMBER	X018 of 115

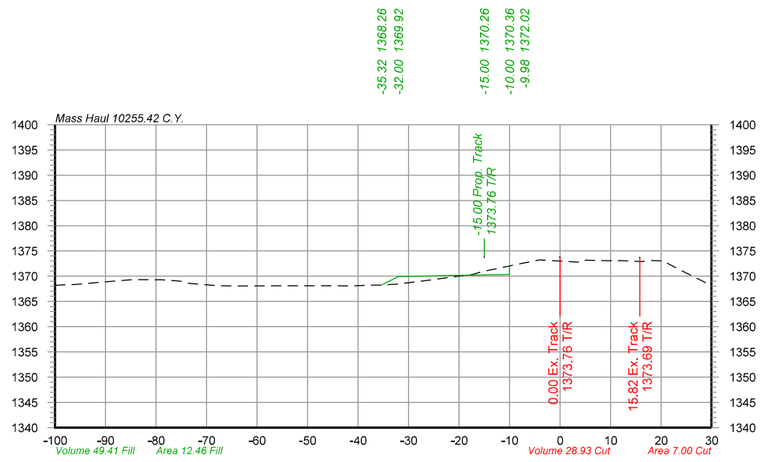
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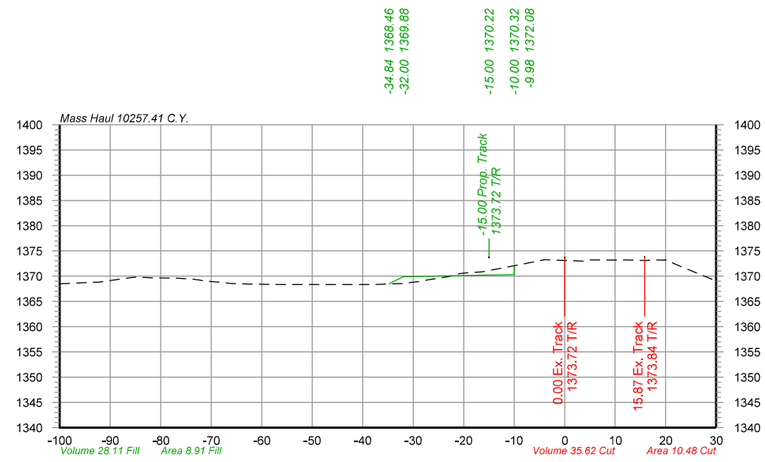
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Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

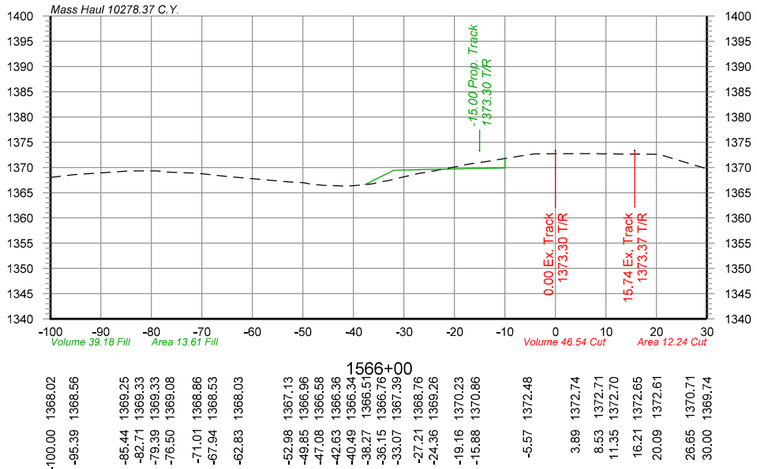
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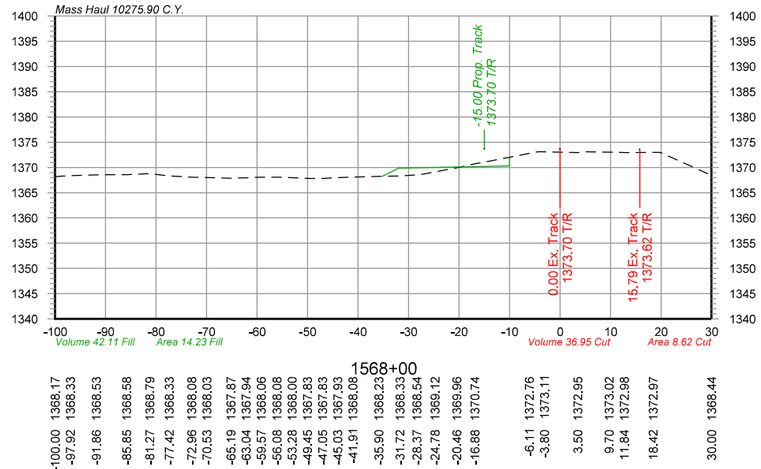
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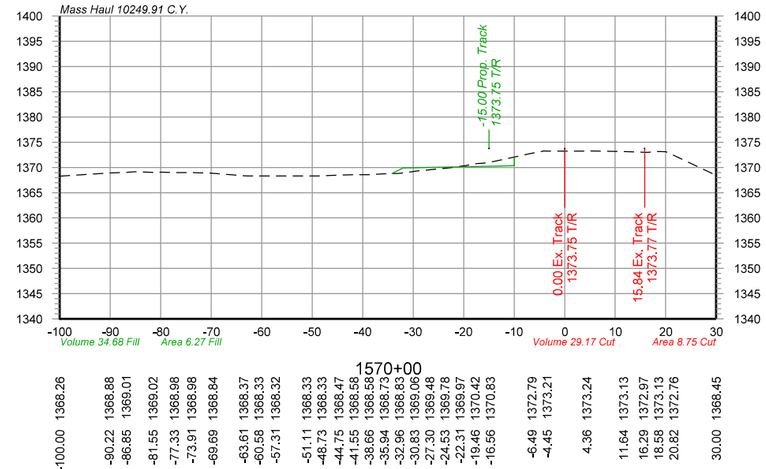












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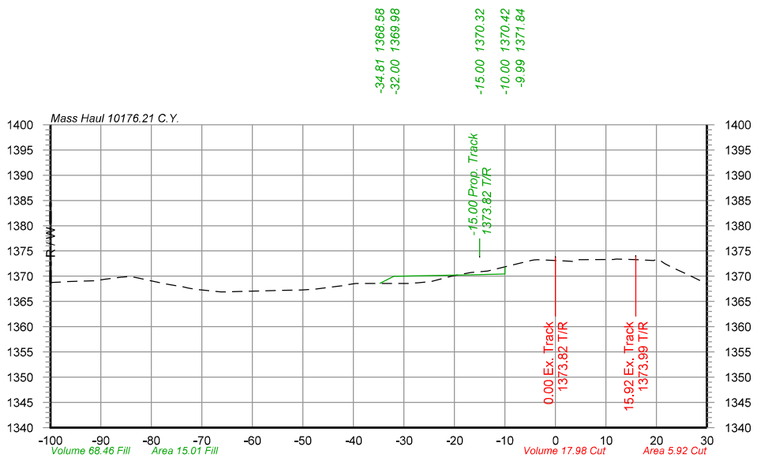
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CHECKED BY: JRM
DATE: 6/3/2022
SHEET NUMBER: X019 of 115

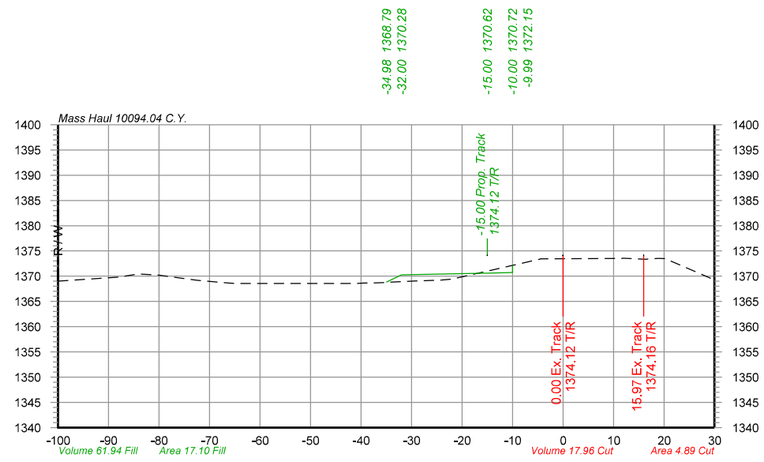
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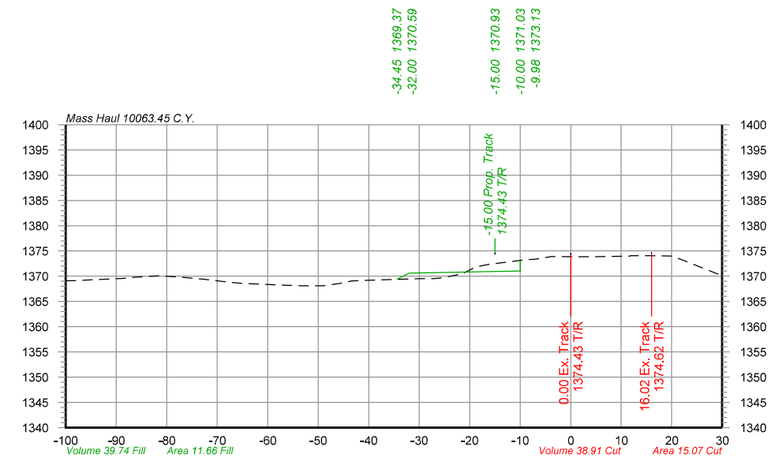
LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
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Construct Industrial Lead Track

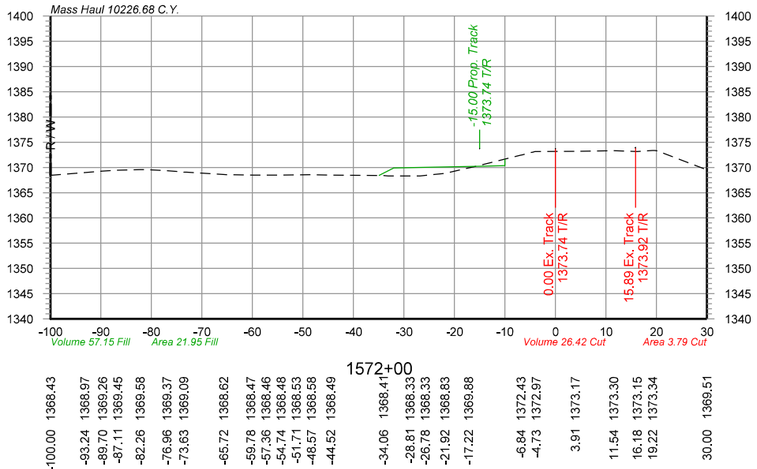
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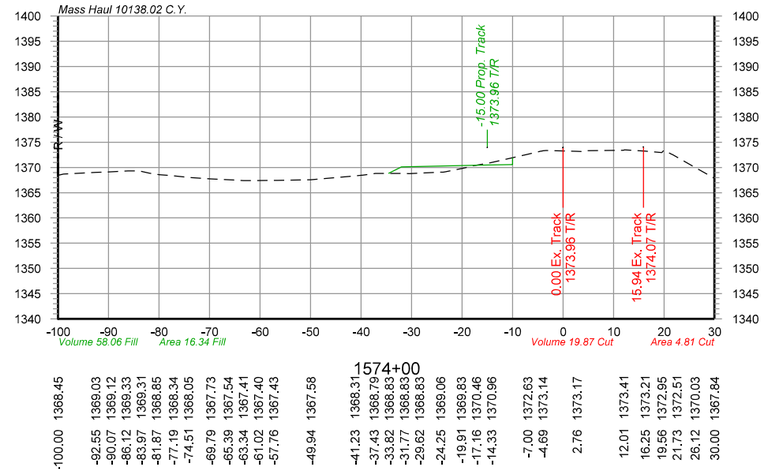
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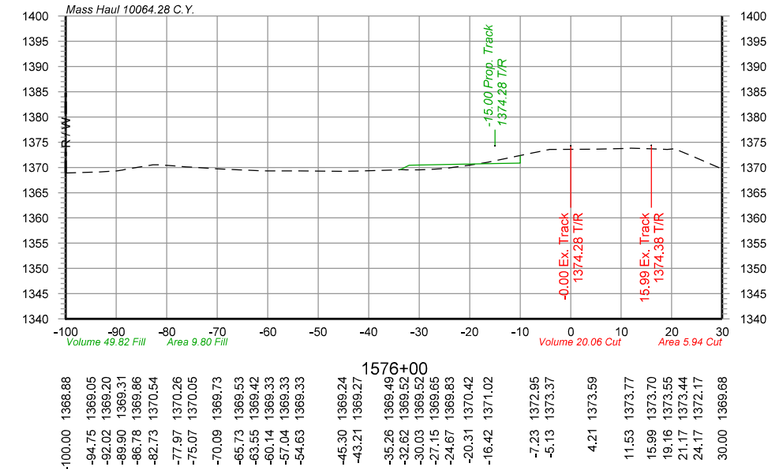












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DATE: 6/3/2022
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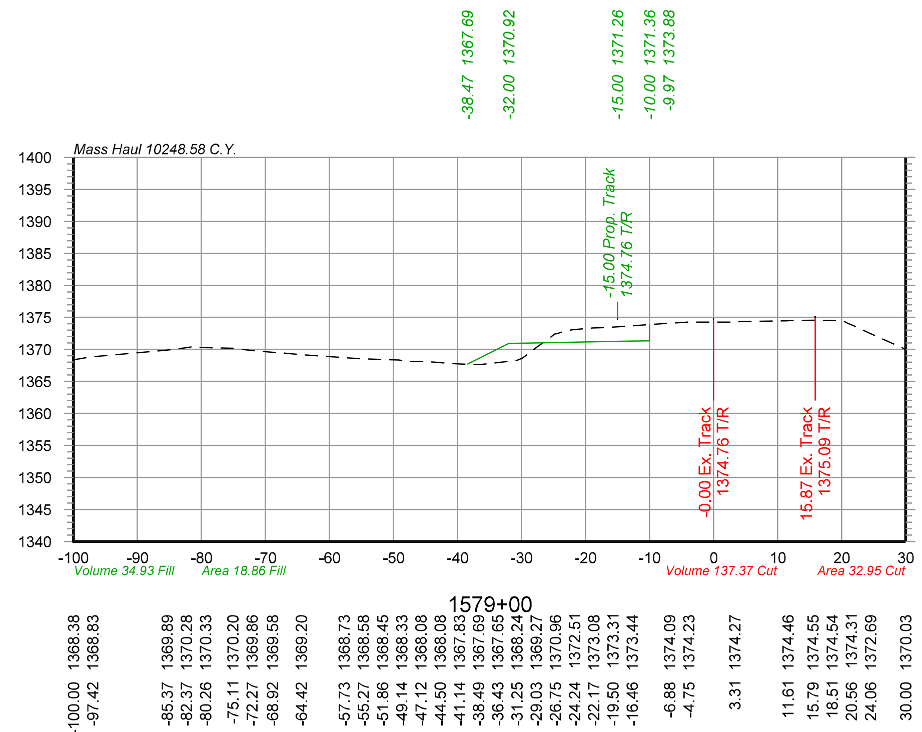
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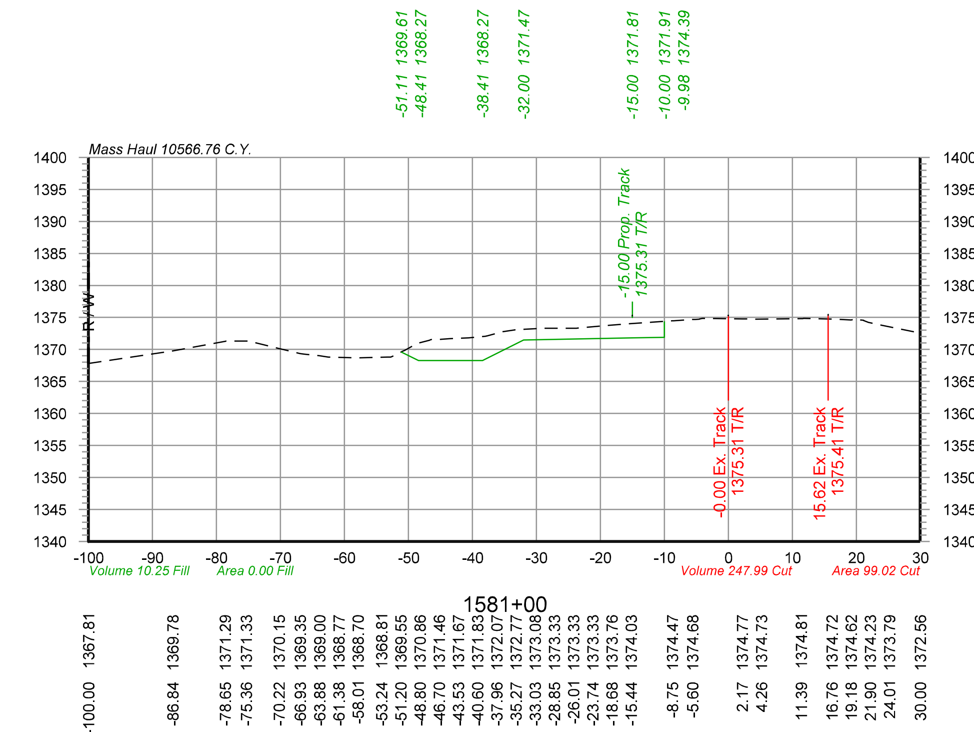
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Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

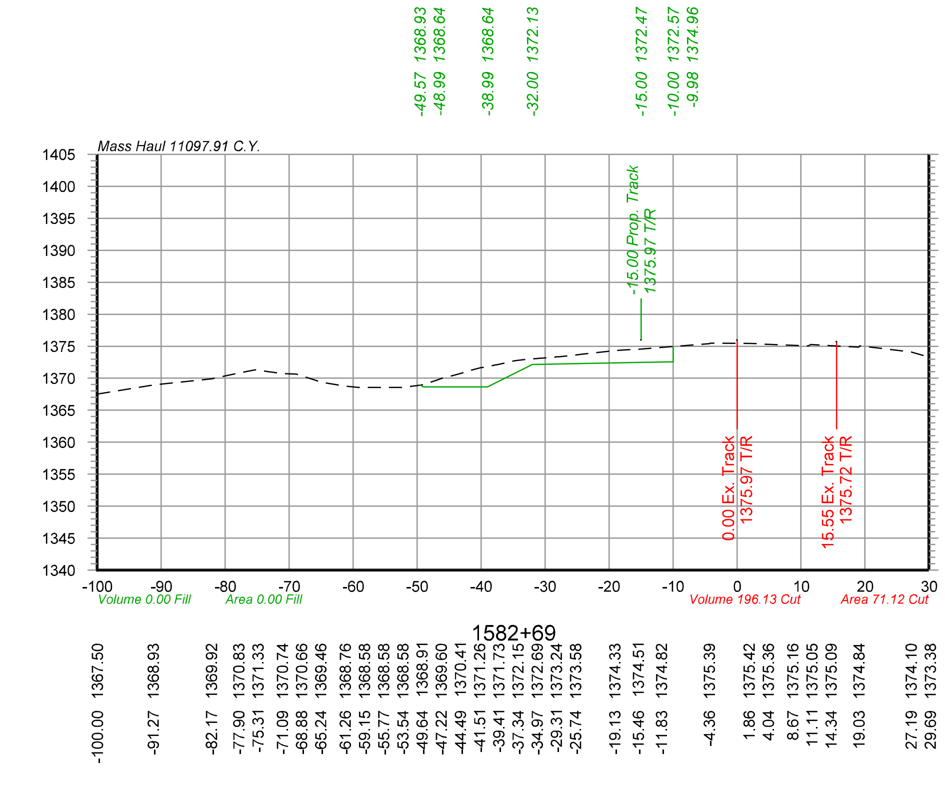
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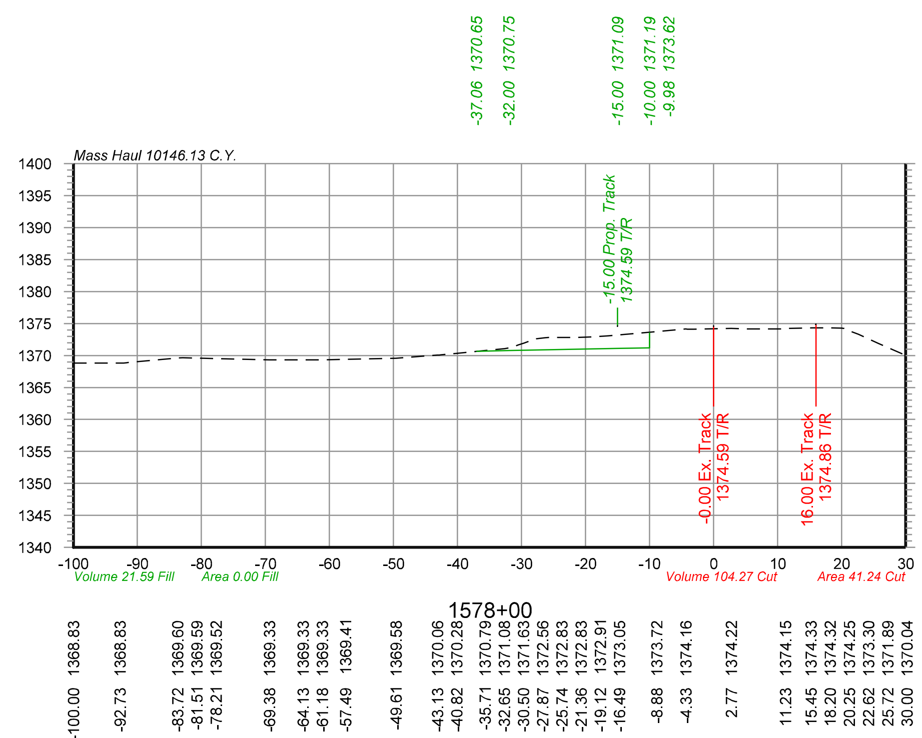
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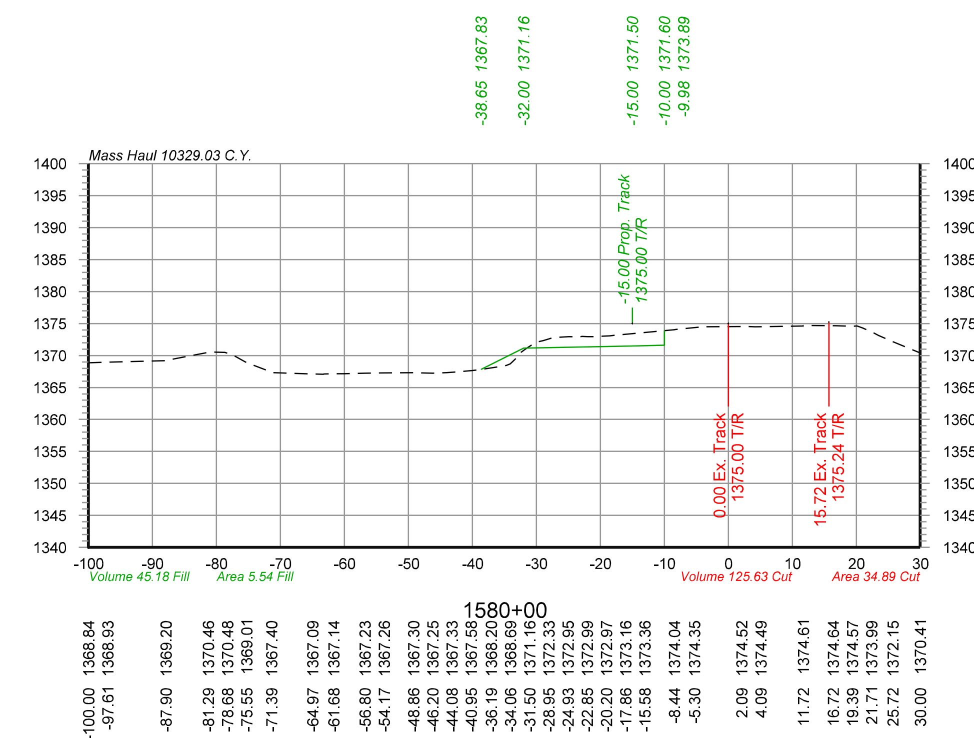
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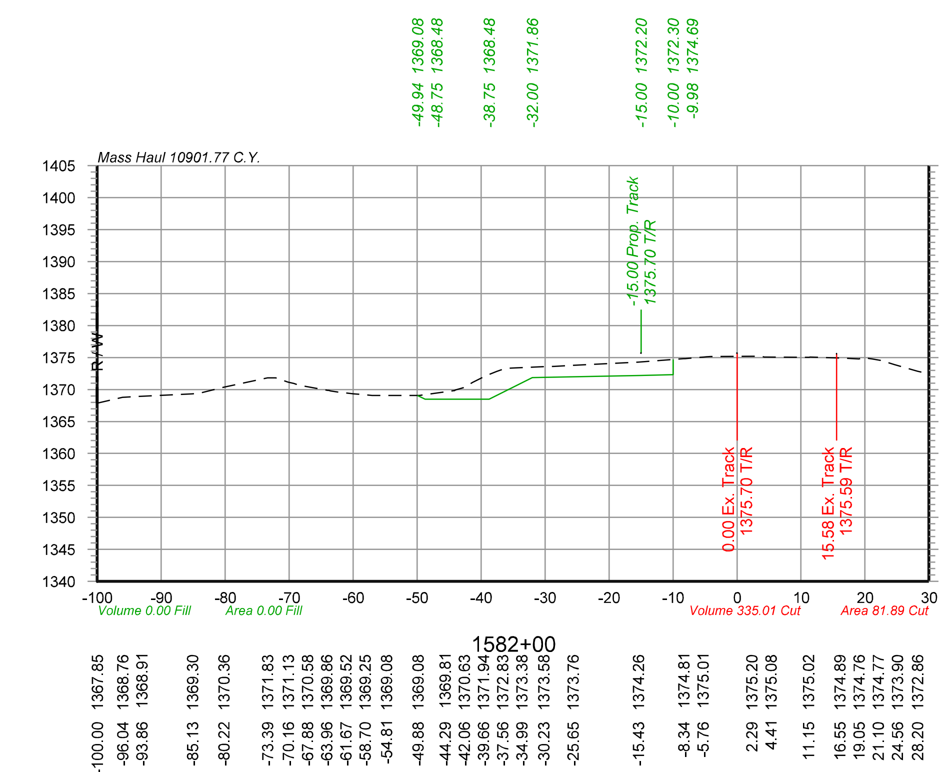












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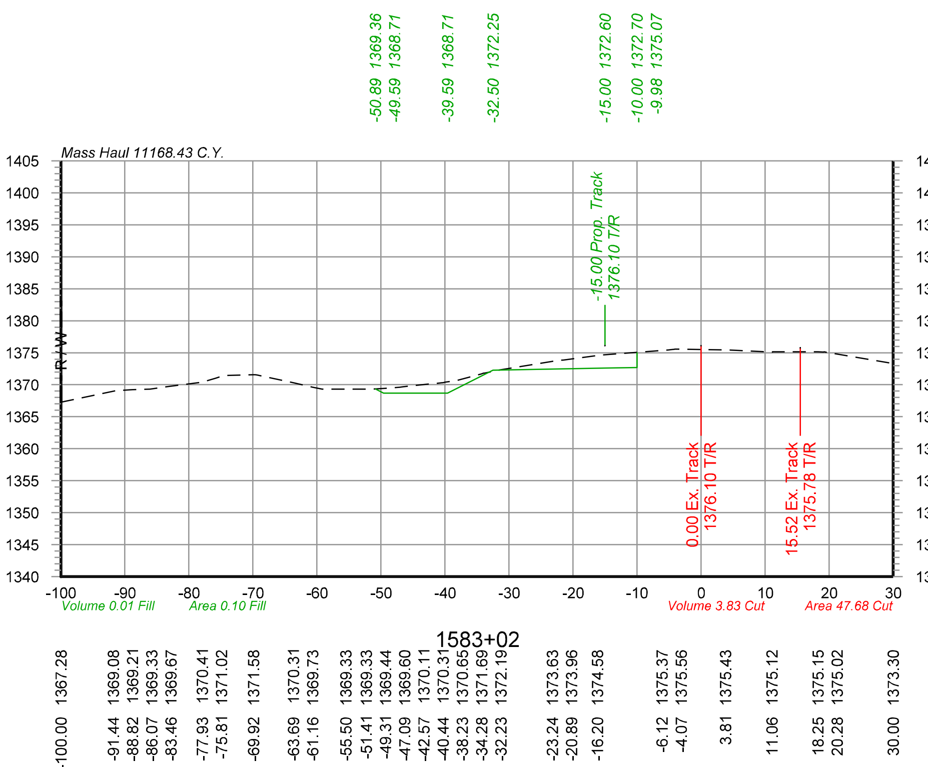
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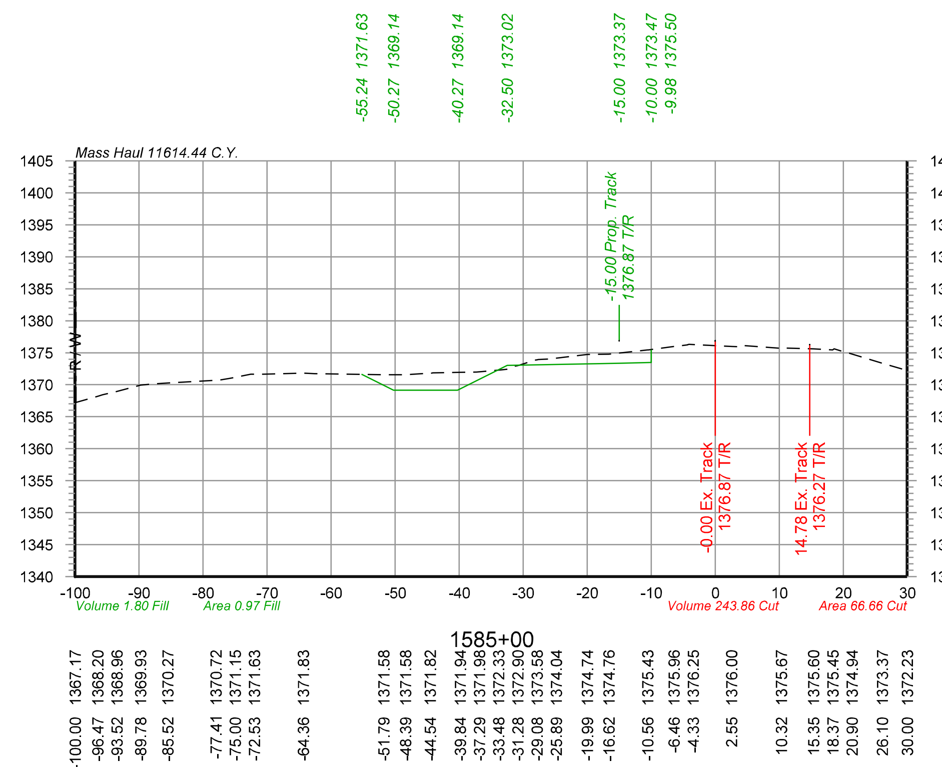
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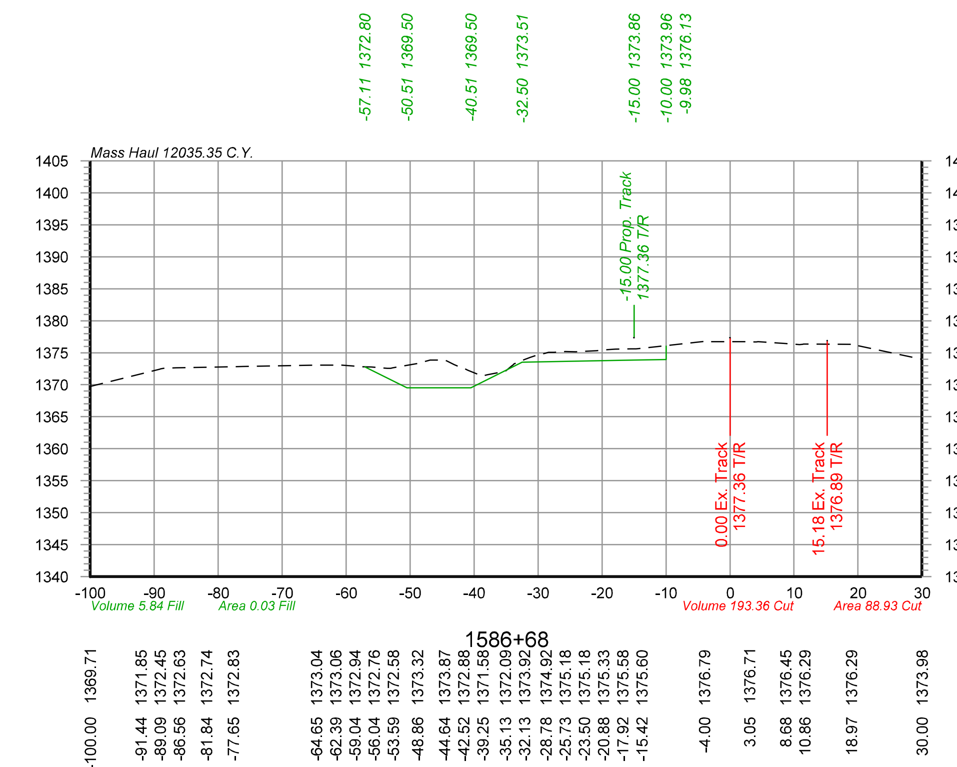
LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

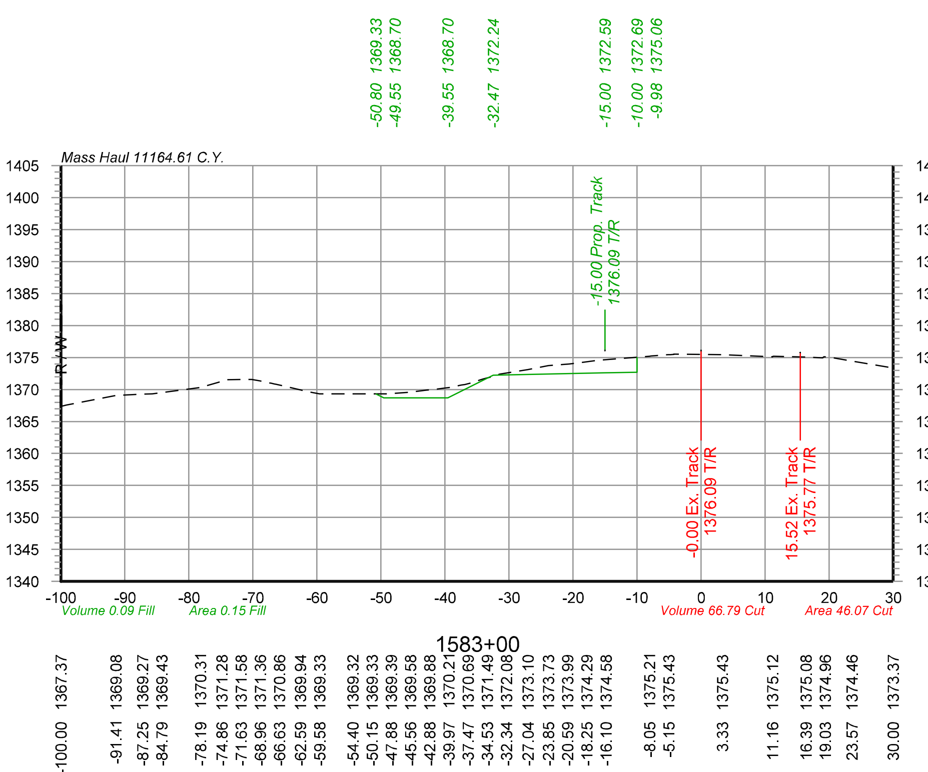
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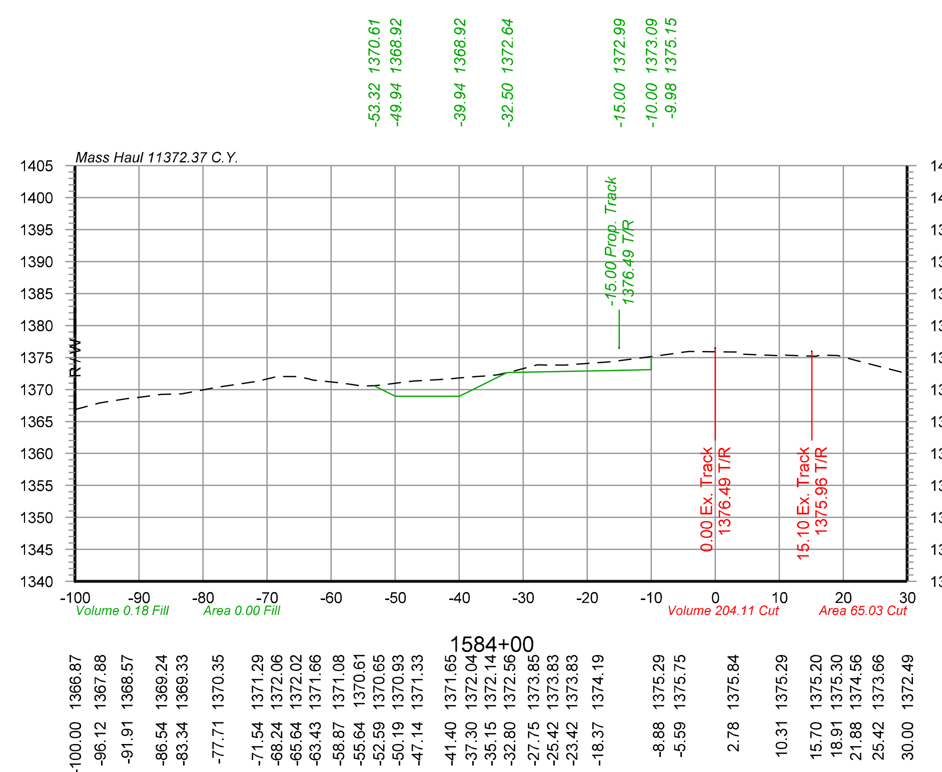
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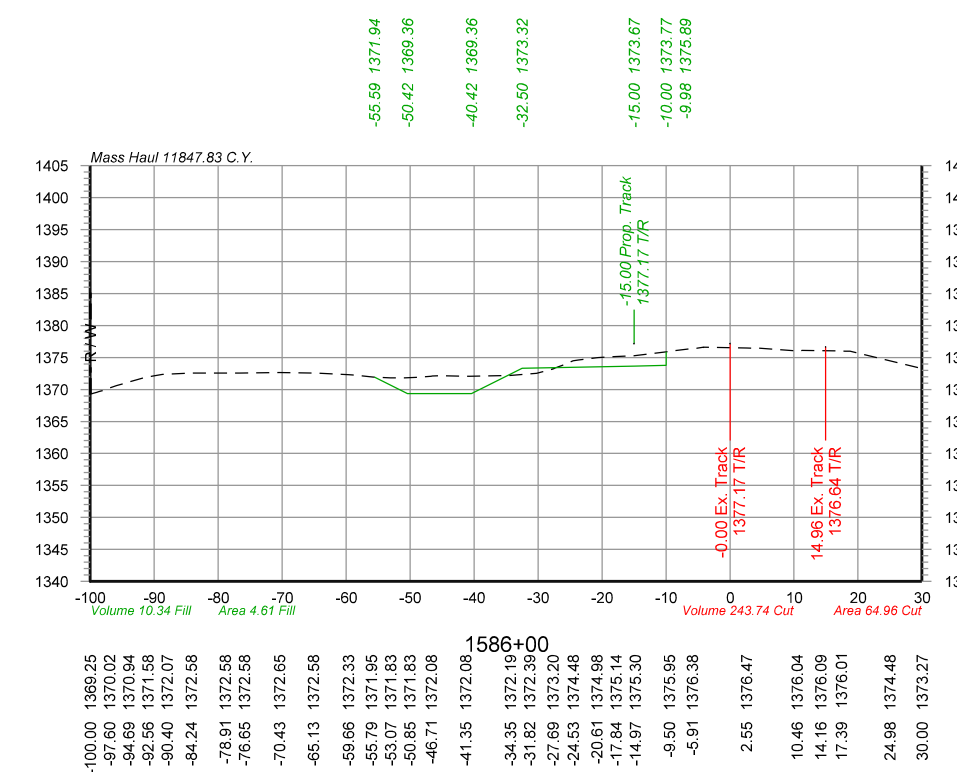










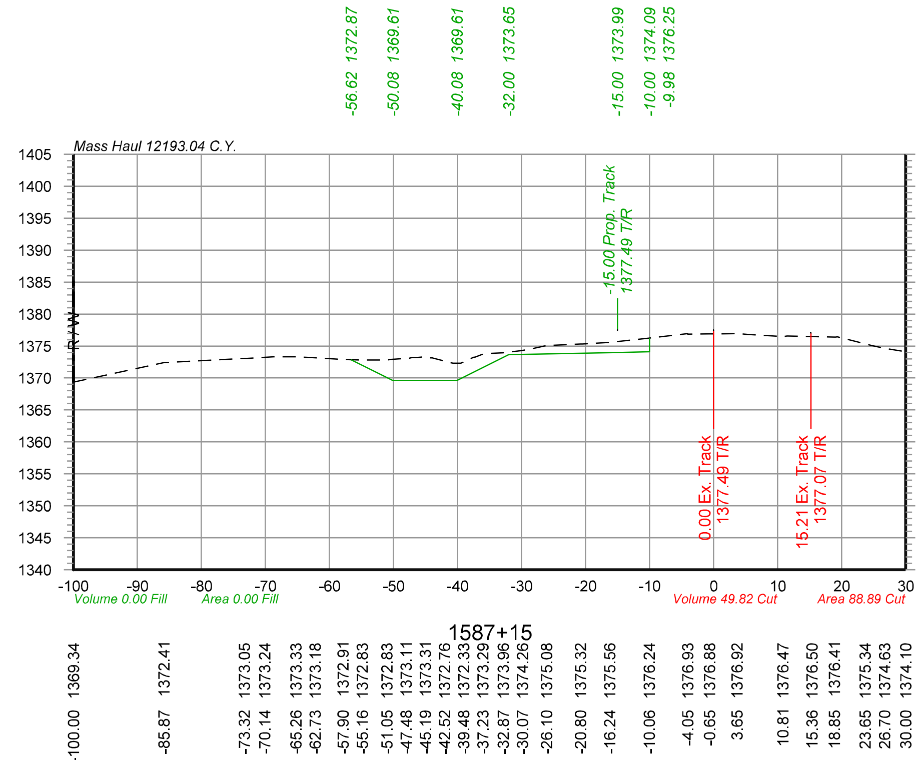


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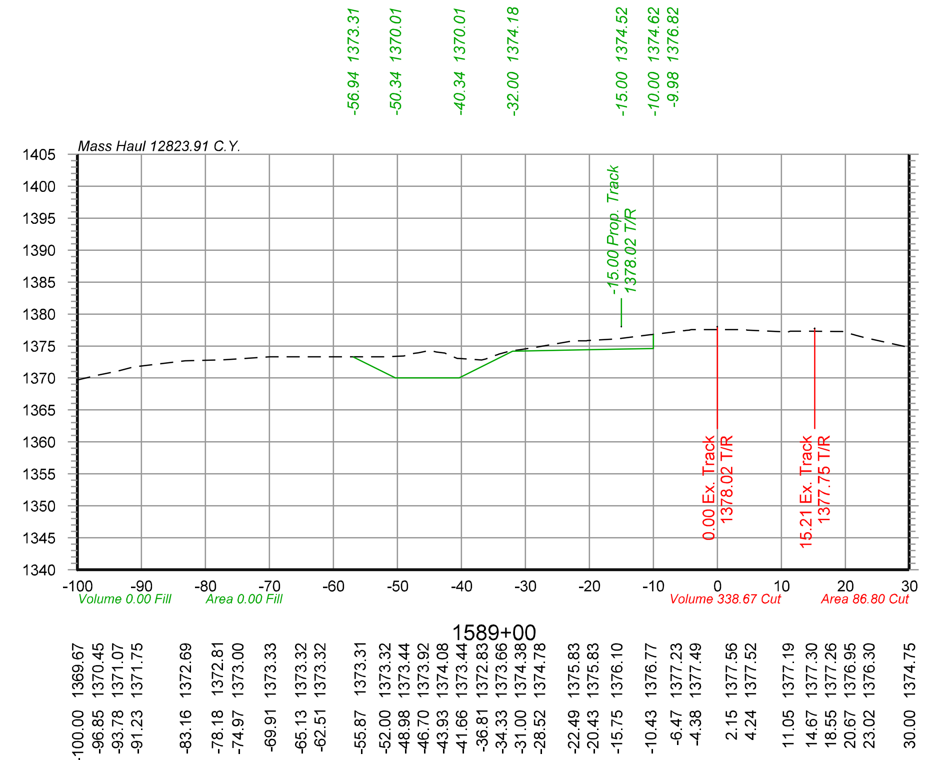
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CHECKED BY: JRM	LOCATION & DESCRIPTION: Mesa, Arizona - Maricopa County Phoenix Subdivision MP 934.79 to MP 937.83 Construct Industrial Lead Track
DATE: 6/3/2022	
SHEET NUMBER X022 of 115	SHEET TITLE: SIDING TRACK CROSS SECTIONS STA.1583+00 TO STA.1586+68

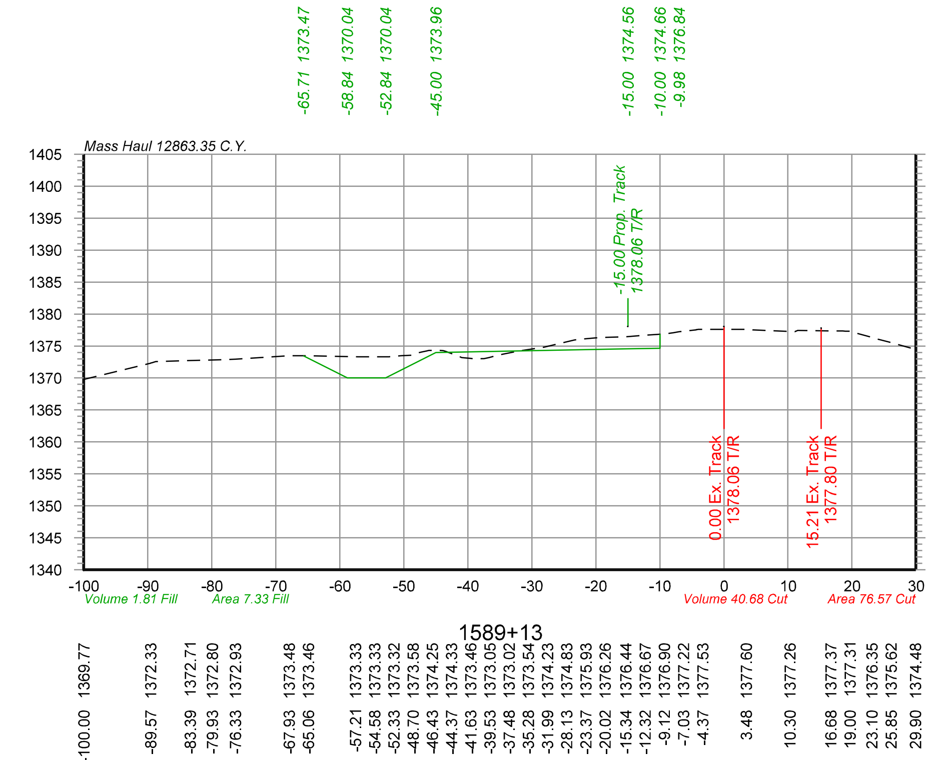
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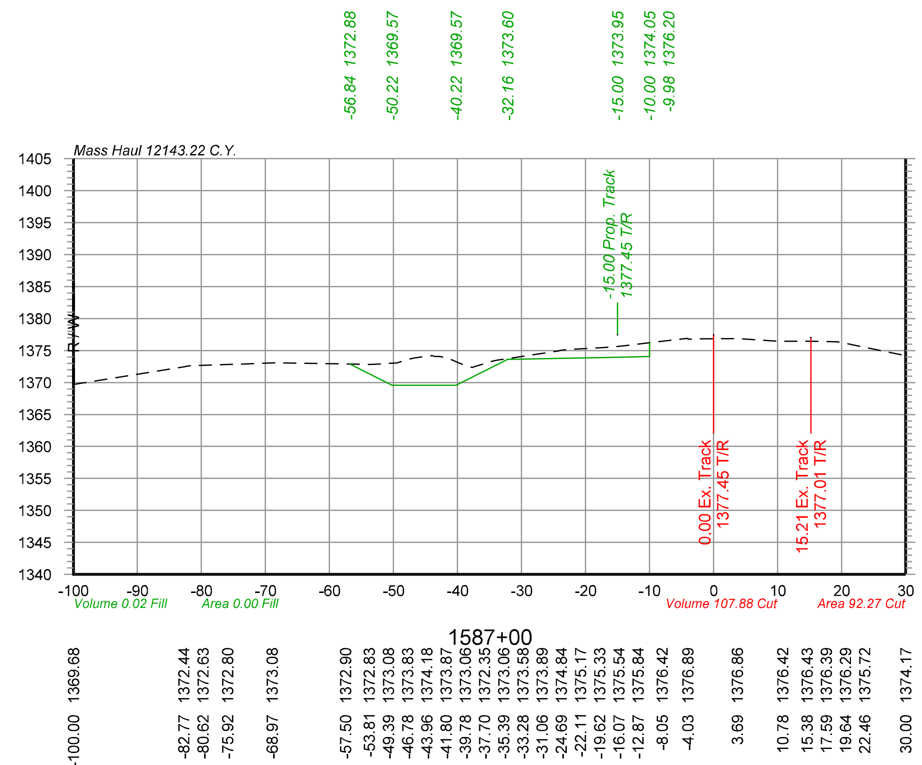
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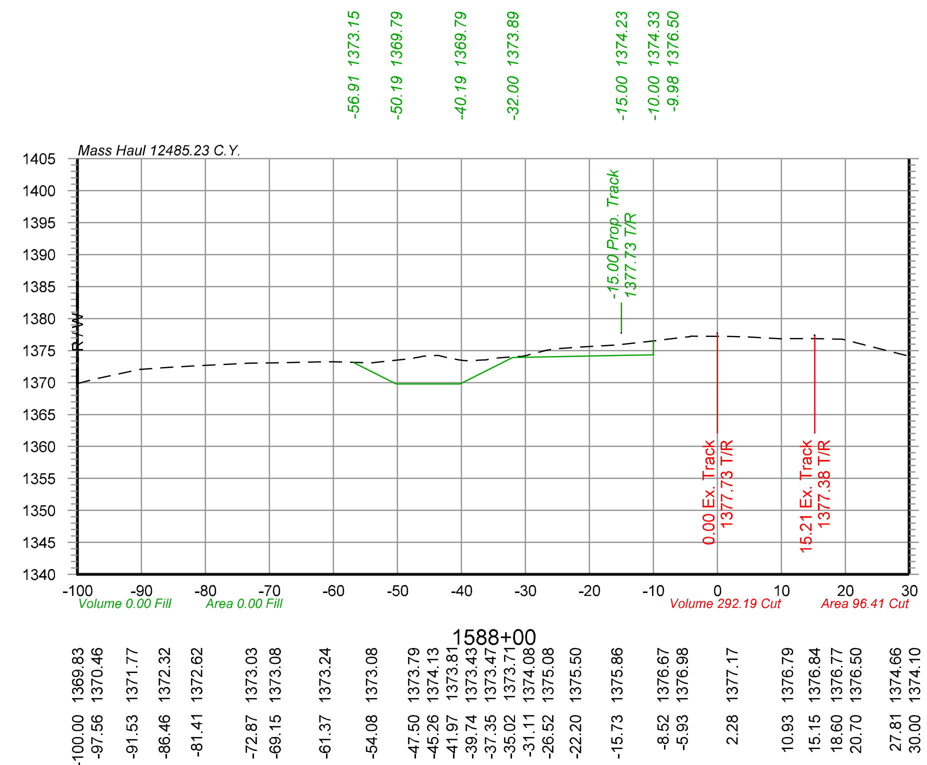
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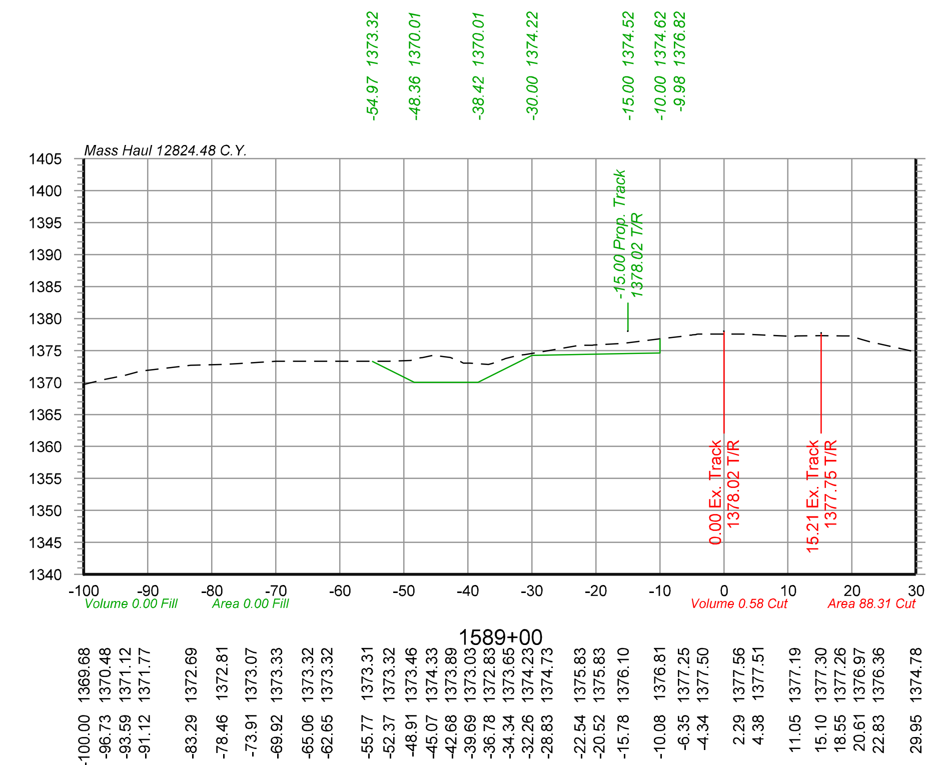
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1587+00



1588+00



1589+00

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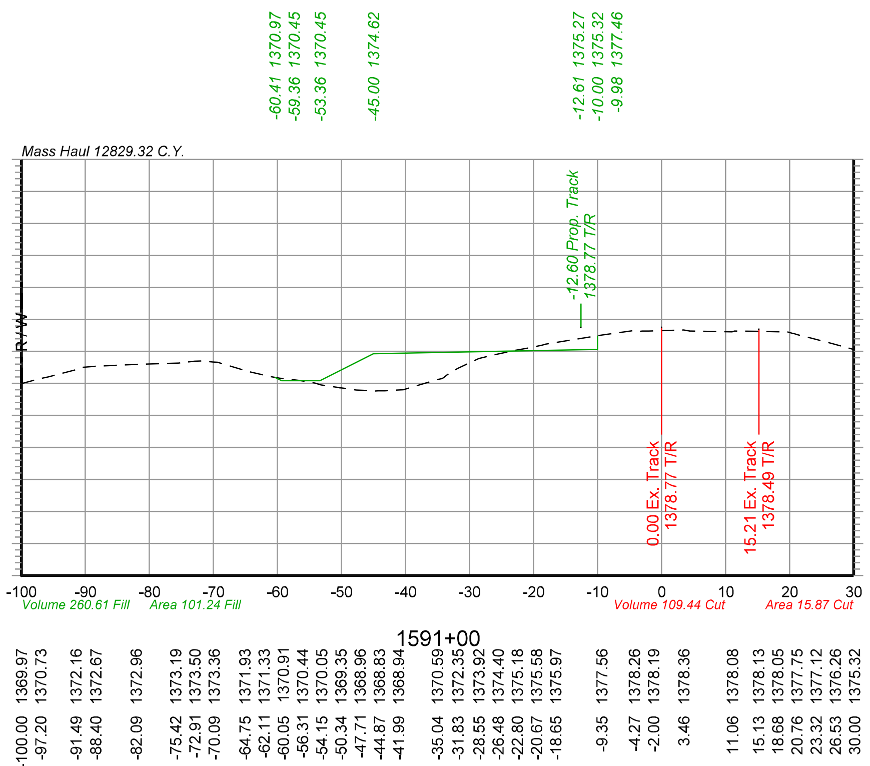
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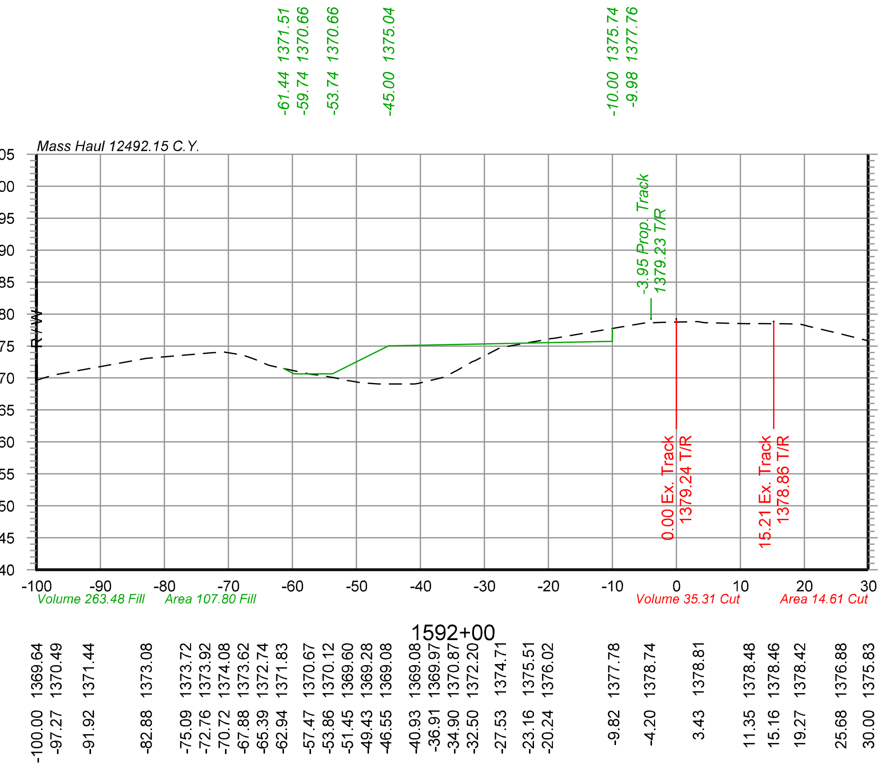
LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

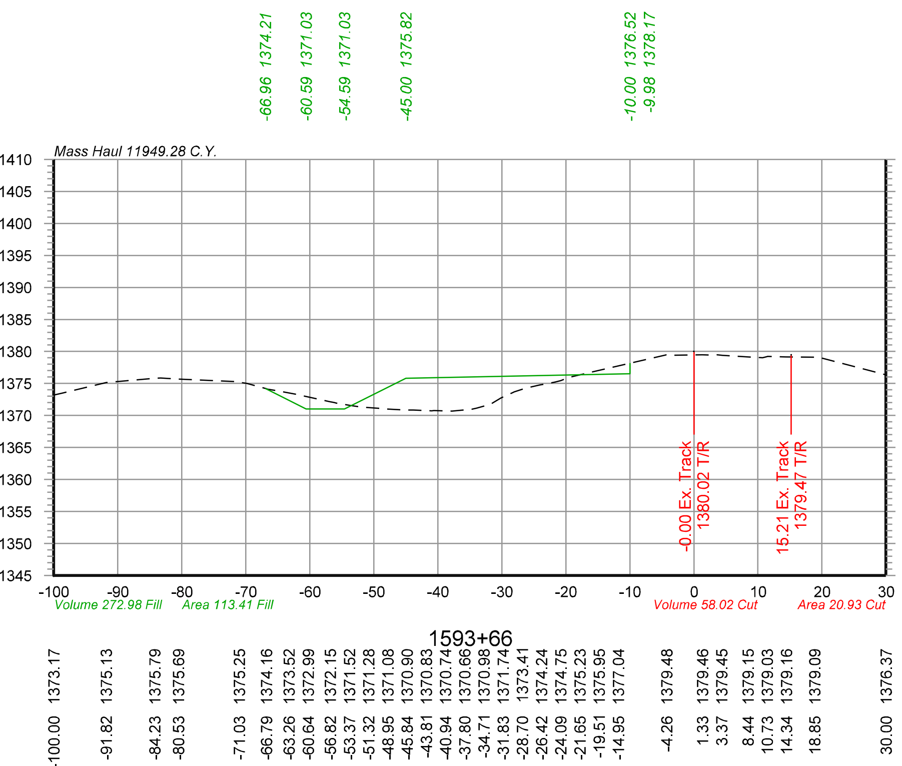
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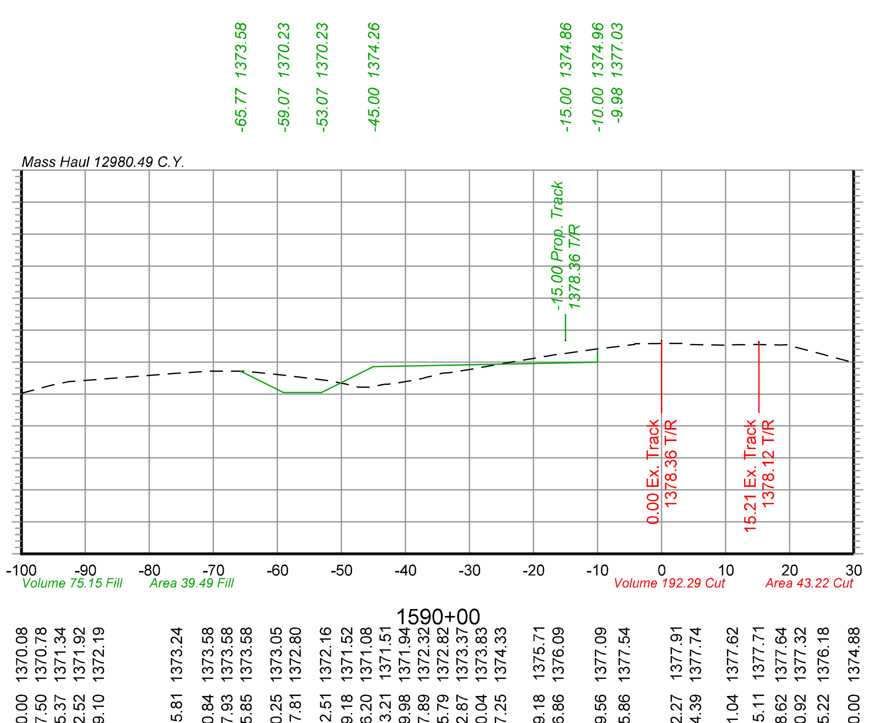
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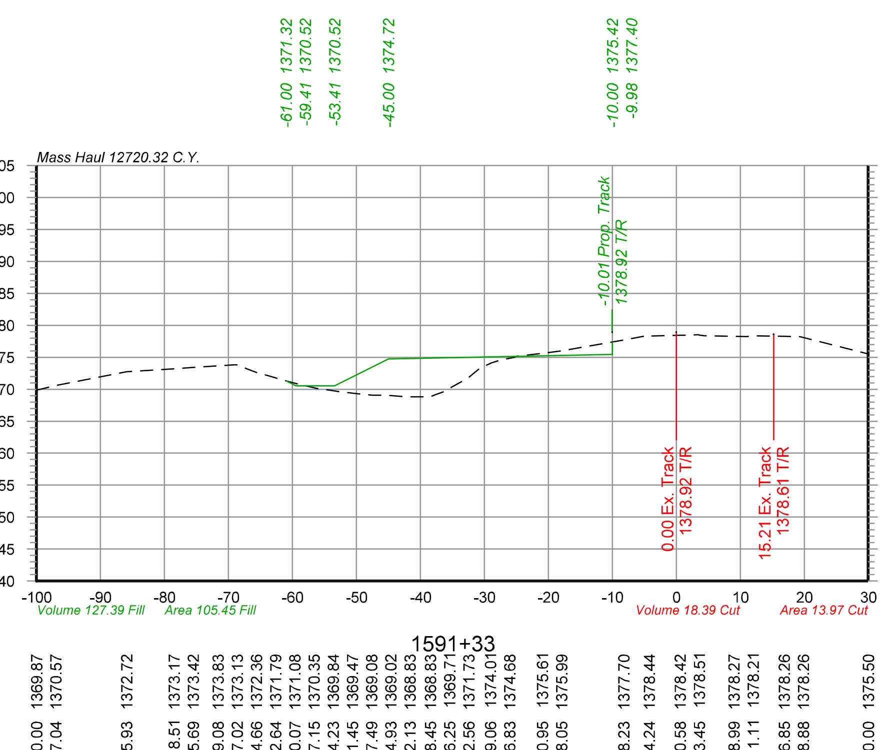
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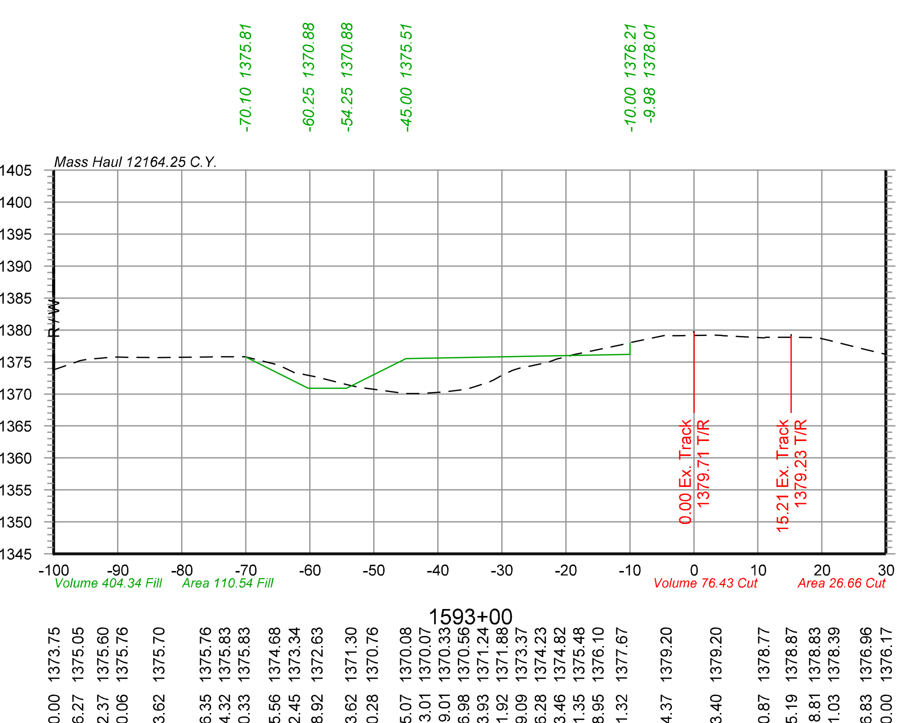












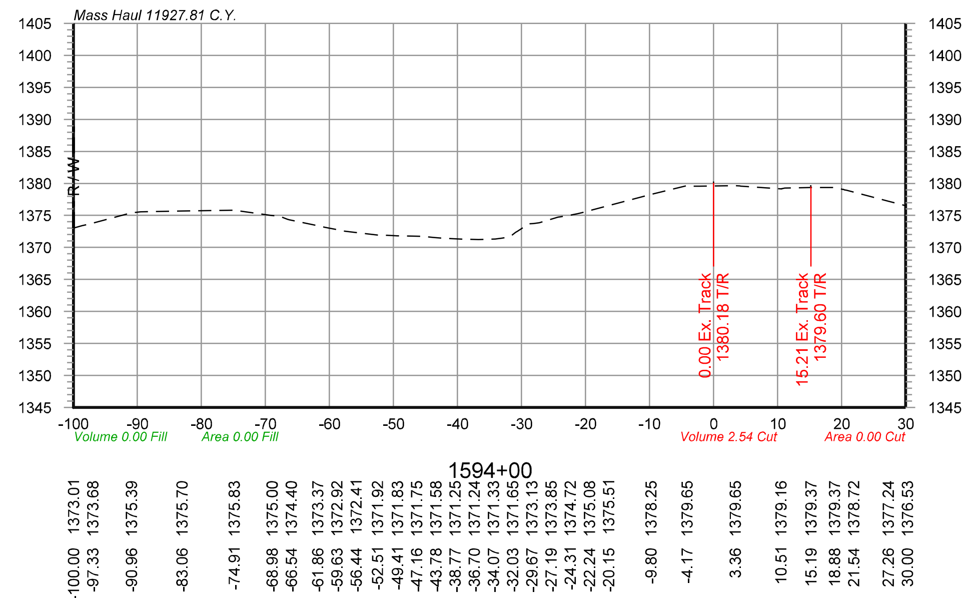
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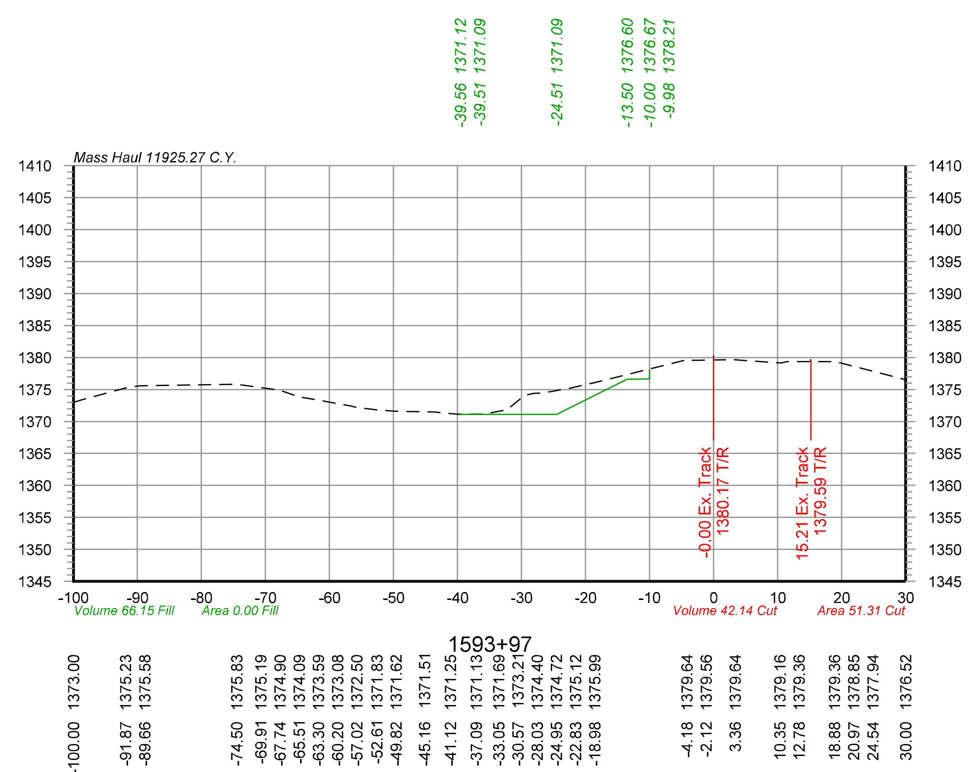
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CHECKED BY: JRM	LOCATION & DESCRIPTION: Mesa, Arizona - Maricopa County Phoenix Subdivision MP 934.79 to MP 937.83 Construct Industrial Lead Track
DATE: 6/3/2022	
SHEET NUMBER X024 of 115	SHEET TITLE: SIDING TRACK CROSS SECTIONS STA.1590+00 TO STA.1593+66

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Siding Trk Grading Quantities

Proposed Subgrade
Station: 1482+00.00 to 1594+00.00
Cut: 19,223 C.Y.
Fill: 7,295 C.Y.
Net: 11,928 C.Y. (Cut)
Subballast: 10,469 C.Y.
Clearing & Grubbing: 11.06 Acres
Seeding: 4.06 Acres

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CHECKED BY: JRM
DATE: 6/3/2022
SHEET NUMBER X025 of 115

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
SIDING TRACK CROSS SECTIONS STA.1593+97 TO STA.1594+00

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End Area Volume Report

Alignment Name: Ex Main - Survey

Baseline Station	Station Quantities - Cut - Area	Cut - Volume	Fill - Area	Fill - Volume	Mass Ordinate
1482+00.00	0.00	0.00	0.00	0.00	0.00
1482+80.00	0.00	0.00	0.00	0.00	0.00
1482+86.68	1.63	0.20	0.32	0.04	0.16
1482+88.12					0.00
1482+95.18	1.58	0.51	8.96	1.46	-0.79
1483+00.00	2.23	0.34	9.04	1.61	-2.06
1483+09.66	1.48	0.66	7.08	2.88	-4.28
1483+15.16	1.50	0.30	2.75	1.00	-4.98
1483+87.40	1.10	3.47	3.71	8.64	-10.15
1484+00.00	0.97	0.48	5.04	2.04	-11.71
1485+00.00	0.72	3.12	15.72	38.44	-47.03
1485+26.67	0.95	0.82	18.79	17.04	-63.24
1485+37.23	1.18	0.42	17.86	7.17	-70.00
1485+70.58	1.20	1.47	22.46	24.90	-93.43
1486+00.00	1.36	1.39	25.88	26.33	-118.37
1486+90.58	0.52	3.15	29.27	92.51	-207.72
1486+95.58	0.39	0.08	38.92	6.32	-213.95
1487+00.00	0.38	0.06	40.06	6.47	-220.36
1487+10.06	0.40	0.15	41.63	15.22	-235.44
1487+15.56	0.34	0.08	34.53	7.76	-243.12
1488+00.00	0.38	1.12	37.76	113.04	-355.03
1489+00.00	0.14	0.95	46.48	156.00	-510.08
1490+00.00	0.28	0.77	44.92	169.25	-678.56
1491+00.00	0.10	0.69	50.30	176.33	-854.21
1492+00.00	0.29	0.71	42.69	172.21	-1025.70
1493+00.00	1.19	2.73	21.10	118.12	-1141.09
1494+00.00	1.49	4.96	23.65	82.87	-1219.00
1495+00.00	0.38	3.47	25.89	91.76	-1307.29
1496+00.00	2.36	5.07	20.90	86.66	-1388.88
1497+00.00	2.10	8.26	20.46	76.60	-1457.22
1498+00.00	1.97	7.54	17.59	70.47	-1520.15
1499+00.00	2.25	7.81	13.12	56.88	-1569.21
1500+00.00	1.30	6.59	15.23	52.51	-1615.14
1501+00.00	1.90	5.94	18.28	62.07	-1671.27
1502+00.00	1.08	5.53	24.78	79.75	-1745.49
1503+00.00	1.02	3.89	26.62	95.19	-1836.79
1504+00.00	9.78	20.00	18.85	84.20	-1900.99
1505+00.00	25.31	64.98	9.97	53.37	-1889.38
1506+00.00	40.14	121.20	23.00	61.06	-1829.24
1507+00.00	35.48	140.04	25.76	90.29	-1779.50
1508+00.00	29.18	119.74	32.23	107.38	-1767.14
1509+00.00	26.70	103.47	33.87	122.41	-1786.08
1510+00.00	27.43	100.24	34.77	127.11	-1812.95
1511+00.00	33.37	112.59	29.65	119.29	-1819.65
1512+00.00	44.64	144.46	22.47	96.51	-1771.70
1513+00.00	50.21	175.64	16.11	71.44	-1667.49
1514+00.00	47.10	180.19	22.56	71.62	-1558.91
1515+00.00	67.80	212.76	4.08	49.35	-1395.50
1516+00.00	67.51	250.56	4.11	15.17	-1160.11
1517+00.00	65.13	245.63	7.50	21.49	-935.97
1518+00.00	49.19	211.71	13.35	38.60	-762.87
1519+00.00	66.91	215.00	0.38	25.42	-573.29
1520+00.00	166.71	432.63	0.00	0.71	-141.37
1520+20.71					0.00
1521+00.00	201.92	682.65	0.00	0.00	541.29
1522+00.00	219.11	779.70	0.00	0.00	1320.98
1523+00.00	221.73	816.37	0.00	0.00	2137.35

End Area Volume Report

Alignment Name: Ex Main - Survey

Baseline Station	Station Quantities - Cut - Area	Cut - Volume	Fill - Area	Fill - Volume	Mass Ordinate
1524+00.00	221.65	821.06	0.00	0.00	2958.41
1525+00.00	189.90	762.11	0.00	0.00	3720.53
1526+00.00	93.37	524.56	0.44	0.82	4244.27
1527+00.00	68.88	300.46	15.83	30.14	4514.59
1528+00.00	116.72	343.71	17.62	61.95	4796.35
1528+04.15	14.77	10.11	17.99	2.74	4803.72
1528+06.15	17.27	1.19	6.36	0.90	4804.00
1528+61.40	14.17	32.16	0.00	6.50	4829.66
1528+63.40	40.10	2.01	0.00	0.00	4831.67
1529+00.00	48.75	60.22	2.67	1.81	4890.08
1530+00.00	42.04	168.14	16.16	34.86	5023.37
1530+21.48	52.22	37.50	18.75	13.88	5046.98
1530+52.98	53.74	61.81	24.97	25.50	5083.29
1531+00.00	60.92	99.84	18.64	37.97	5145.15
1532+00.00	62.56	228.66	20.77	72.99	5300.83
1533+00.00	60.99	228.80	18.55	72.81	5456.81
1534+00.00	100.35	298.78	9.99	52.84	5702.75
1534+65.51	137.96	289.09	7.30	20.97	5970.87
1534+79.01	121.35	64.83	8.62	3.98	6031.72
1535+00.00	143.57	102.99	11.09	7.66	6127.04
1536+00.00	135.14	516.12	7.53	34.48	6608.68
1537+00.00	130.73	492.35	11.22	34.72	7066.30
1538+00.00	131.91	486.37	11.11	41.35	7511.32
1539+00.00	122.92	471.91	16.06	50.32	7932.91
1540+00.00	61.90	342.27	24.14	74.45	8200.73
1541+00.00	54.19	214.99	28.96	98.34	8317.38
1542+00.00	50.15	193.23	29.98	109.16	8401.45
1543+00.00	115.47	306.70	2.29	59.76	8648.39
1544+00.00	51.28	308.78	28.90	57.76	8899.41
1545+00.00	52.44	192.08	28.39	106.10	8985.39
1546+00.00	45.26	180.94	17.04	84.13	9082.19
1547+00.00	43.76	164.86	17.33	63.64	9183.42
1548+00.00	25.74	128.70	22.77	74.25	9237.87
1549+00.00	17.08	79.29	24.29	87.15	9230.02
1550+00.00	79.14	178.19	13.97	70.86	9337.35
1551+00.00	45.74	231.27	7.46	39.69	9528.93
1552+00.00	13.01	108.80	24.21	58.65	9579.09
1553+00.00	20.56	62.17	26.61	94.11	9547.15
1554+00.00	31.09	95.64	14.83	76.74	9566.05
1555+00.00	79.87	205.48	6.77	40.00	9731.52
1555+69.02	41.24	154.81	12.55	24.69	9861.64
1556+00.00	53.27	54.21	7.35	11.42	9904.44
1556+20.48	55.89	41.40	8.72	6.09	9939.74
1557+00.00	43.80	146.82	7.42	23.76	10062.80
1557+93.87	8.56	91.03	11.24	32.44	10121.39
1558+00.00	8.07	1.89	7.89	2.17	10121.11
1559+00.00	10.24	33.91	4.64	23.20	10131.81
1560+00.00	8.20	34.14	5.84	19.41	10146.54
1561+00.00	15.83	44.50	4.32	18.82	10172.22
1562+00.00	8.38	44.83	7.39	21.69	10195.36
1563+00.00	8.52	31.30	7.49	27.56	10199.09
1564+00.00	17.69	48.53	1.45	16.56	10231.06
1565+00.00	12.89	56.62	7.55	16.67	10271.01
1566+00.00	12.24	46.54	13.61	39.18	10278.37
1567+00.00	11.33	43.66	8.51	40.96	10281.06
1568+00.00	8.62	36.95	14.23	42.11	10275.90
1569+00.00	7.00	28.93	12.46	49.41	10255.42

End Area Volume Report

Alignment Name: Ex Main - Survey

Baseline Station	Station Quantities - Cut - Area	Cut - Volume	Fill - Area	Fill - Volume	Mass Ordinate
1570+00.00	8.75	29.17	6.27	34.68	10249.91
1571+00.00	10.48	35.62	8.91	28.11	10257.41
1572+00.00	3.79	26.42	21.95	57.15	10226.68
1573+00.00	5.92	17.98	15.01	68.46	10176.21
1574+00.00	4.81	19.87	16.34	58.06	10138.02
1575+00.00	4.89	17.96	17.10	61.94	10094.04
1576+00.00	5.94	20.06	9.80	49.82	10064.28
1577+00.00	15.07	38.91	11.66	39.74	10063.45
1578+00.00	41.24	104.27	0.00	21.59	10146.13
1579+00.00	32.95	137.37	18.86	34.93	10248.58
1580+00.00	34.89	125.63	5.54	45.18	10329.03
1581+00.00	99.02	247.99	0.00	10.25	10566.76
1582+00.00	81.89	335.01	0.00	0.00	10901.77
1582+69.22	71.12	196.13	0.00	0.00	11097.91
1583+00.00	46.07	66.79	0.15	0.09	11164.61
1583+02.21	47.68	3.83	0.10	0.01	11168.43
1584+00.00	65.03	204.11	0.00	0.18	11372.37
1585+00.00	66.66	243.86	0.97	1.80	11614.44
1586+00.00	64.96	243.74	4.61	10.34	11847.83
1586+67.85	88.93	193.36	0.03	5.84	12035.35
1587+00.00	92.27	107.88	0.00	0.02	12143.22
1587+14.85	88.89	49.82	0.00	0.00	12193.04
1588+00.00	96.41	292.19	0.00	0.00	12485.23
1588+99.82	86.80	338.67	0.00	0.00	12823.91
1589+00.00	88.31	0.58	0.00	0.00	12824.48
1589+13.32	76.57	40.68	7.33	1.81	12863.35
1590+00.00	43.22	192.29	39.49	75.15	12980.49
1591+00.00	15.87	109.44	101.24	260.61	12829.32
1591+33.28	13.97	18.39	105.45	127.39	12720.32
1592+00.00	14.61	35.31	107.80	263.48	12492.15
1593+00.00	26.66	76.43	110.54	404.34	12164.25
1593+65.83	20.93	58.02	113.41	272.98	11949.28
1593+97.33	51.31	42.14	0.00	66.15	11925.27
1594+00.00	0.00	2.54	0.00	0.00	11927.81
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Default
6/3/2022

olsson
2111 South 67th Street, Suite 200
Omaha, NE 68106-2810
TEL 402.341.1116
FAX 402.341.5895
www.olsson.com

UNION PACIFIC

DRAWN BY: JTD
CHECKED BY: JRM
DATE: 2/19/2022
SHEET NUMBER: X026 of 115

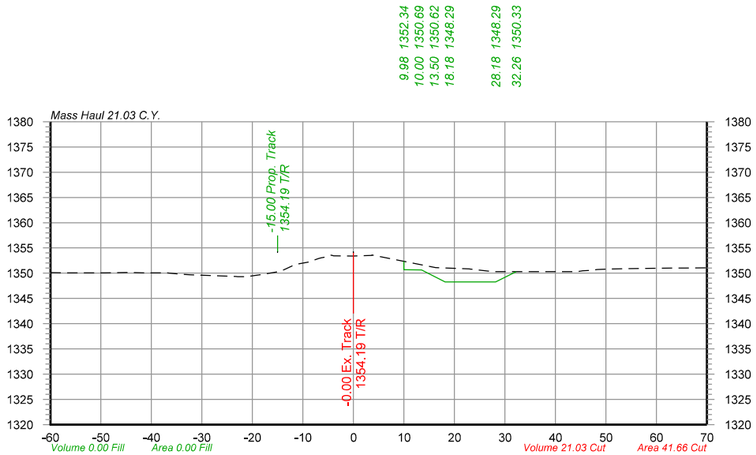
UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
SIDING TRACK EARTHWORK SUMMARY

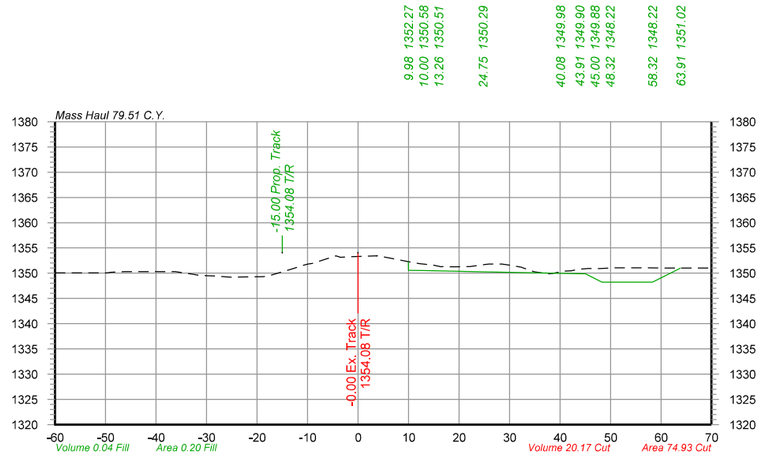
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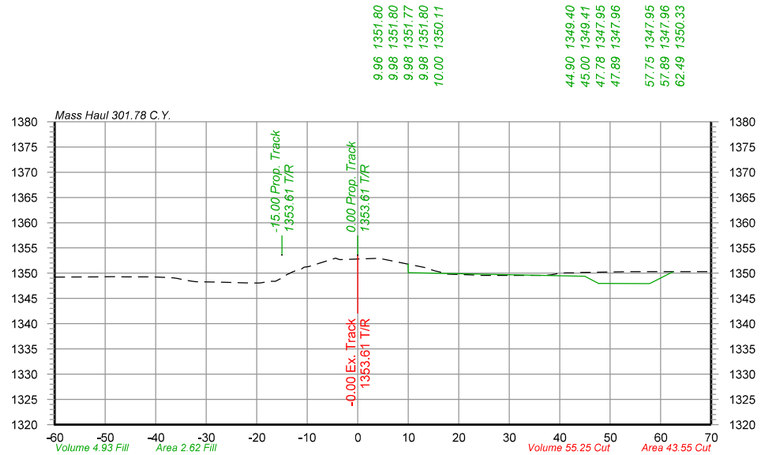
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-41.36	1350.08	32.26	1350.33
-38.85	1350.08		
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-23.26	1349.34		
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3.64	1353.52		
12.70	1351.80		
16.31	1351.09		
22.97	1350.83		
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27.70	1350.33		
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47.11	1350.58		
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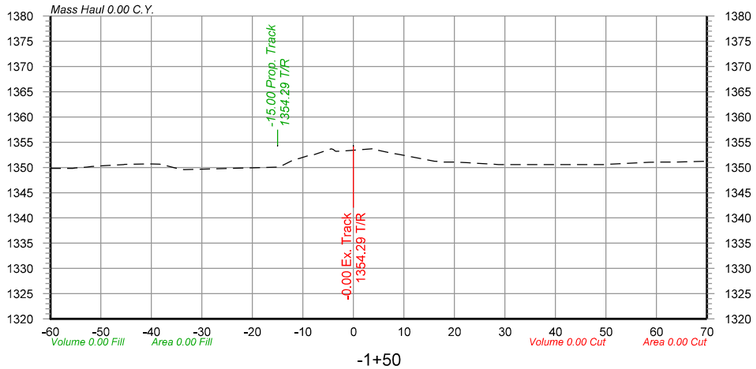
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-48.89	1350.18	24.75	1350.29
-46.25	1350.33	40.08	1349.98
-44.20	1350.33	43.91	1349.90
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-37.38	1350.33	48.32	1348.22
-35.09	1350.13	58.32	1348.22
-32.78	1349.80	63.91	1351.02
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-25.54	1349.22		
-18.78	1349.29		
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-4.39	1353.44		
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14.87	1351.62		
17.41	1351.25		
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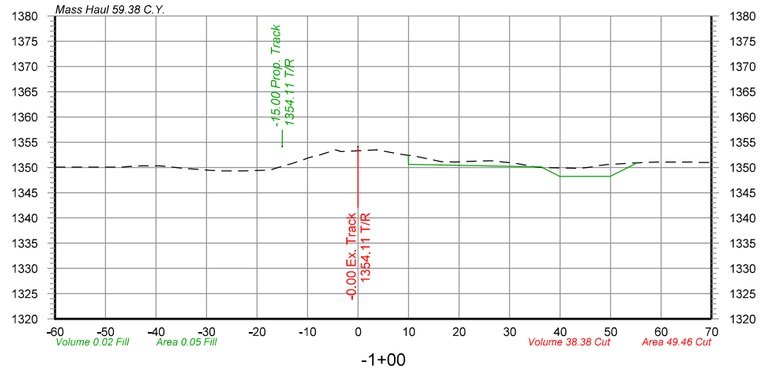
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24.57	1349.58		
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29.64	1349.58		
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34.67	1349.58		
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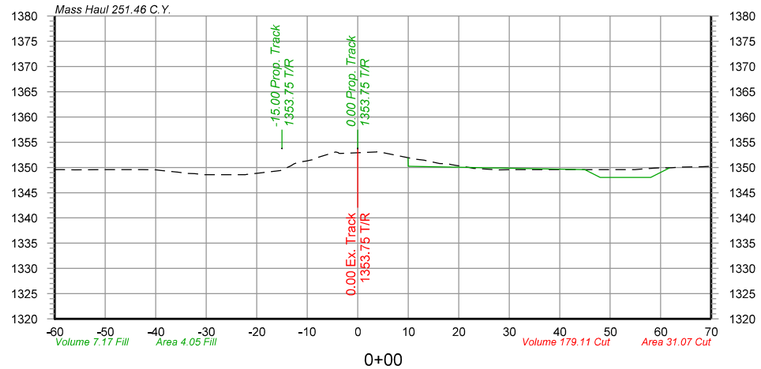
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63.66	1351.08		
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-1+00

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-56.08	1350.07	10.00	1350.61
-50.57	1350.07	36.24	1350.09
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-45.47	1350.18	49.94	1348.24
-42.96	1350.33	55.26	1350.90
-40.16	1350.33		
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-26.76	1349.33		
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8.19	1352.64		
11.10	1352.28		
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42.49	1349.87		
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49.21	1350.58		
53.52	1350.83		
59.09	1351.07		
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66.02	1351.08		
70.00	1350.99		



0+00

-60.00	1349.58	9.98	1351.91
-56.04	1349.54	10.00	1350.25
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41.25	1349.58		
45.91	1349.56		
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53.69	1349.58		
56.30	1349.67		
58.70	1349.87		
62.16	1349.96		
68.24	1350.16		

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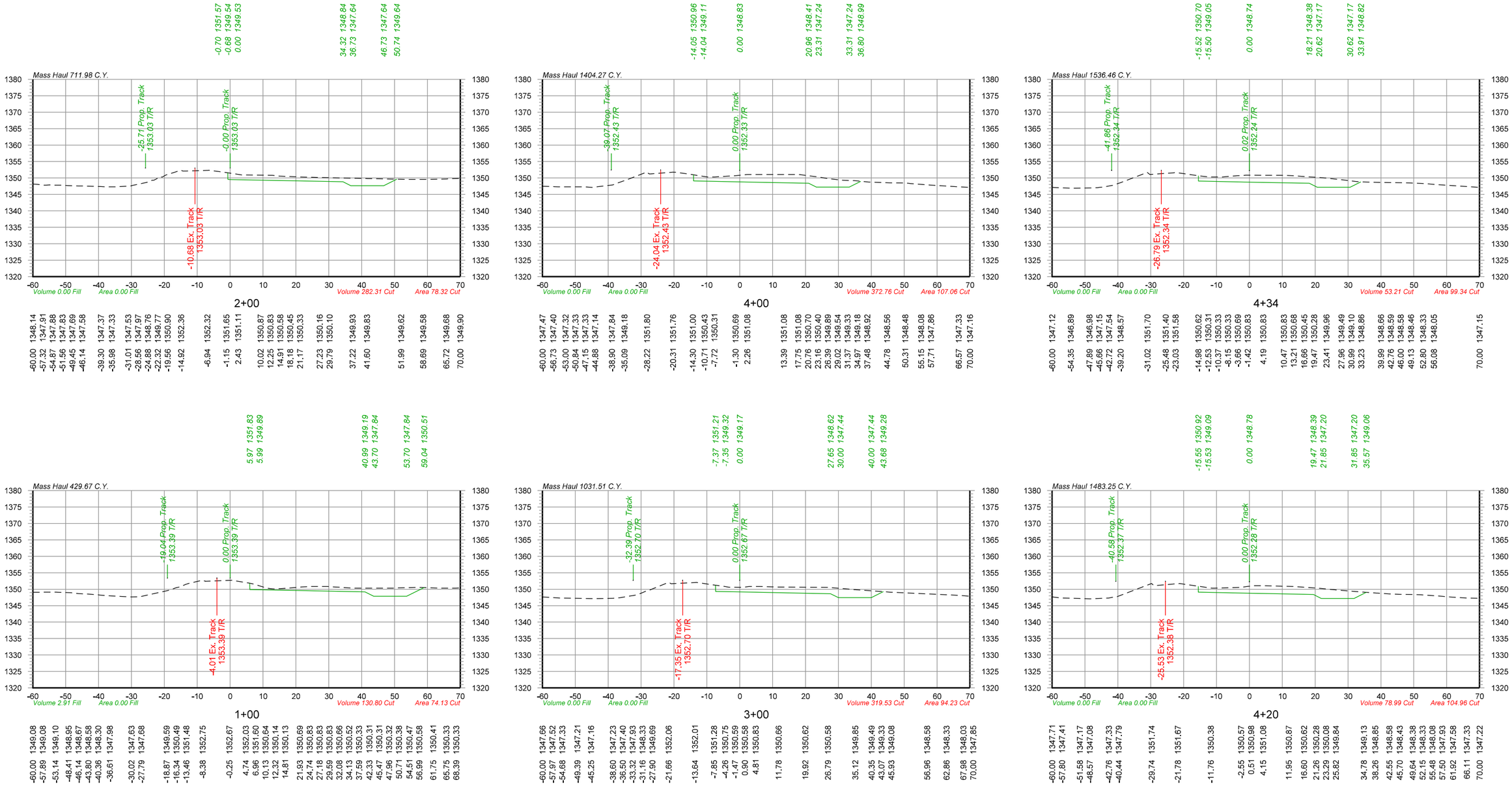
UNION PACIFIC

DRAWN BY: JTD
CHECKED BY: JRM
DATE: 6/3/2022
SHEET NUMBER: X027 of 115

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
EAST WYE TRACK CROSS SECTIONS STA.-1+50 TO STA.0+40



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Default
6/3/2022

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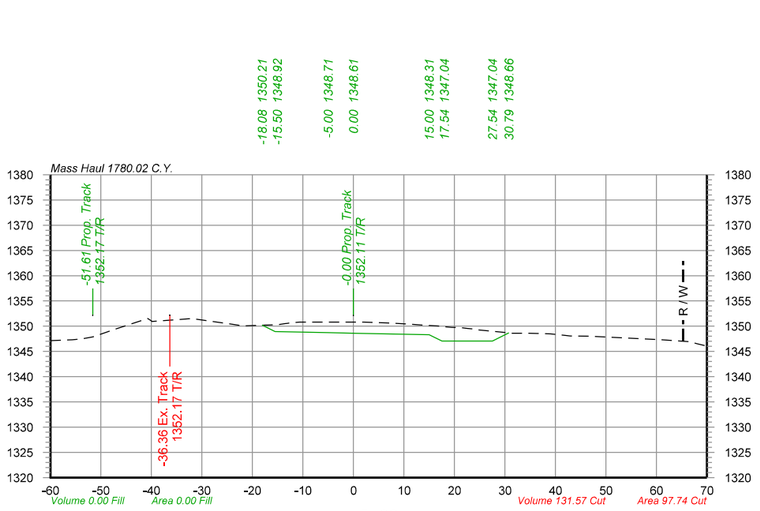
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DATE: 6/3/2022
SHEET NUMBER: X028 of 115

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
EAST WYE TRACK CROSS SECTIONS STA.1+00 TO STA.4+34

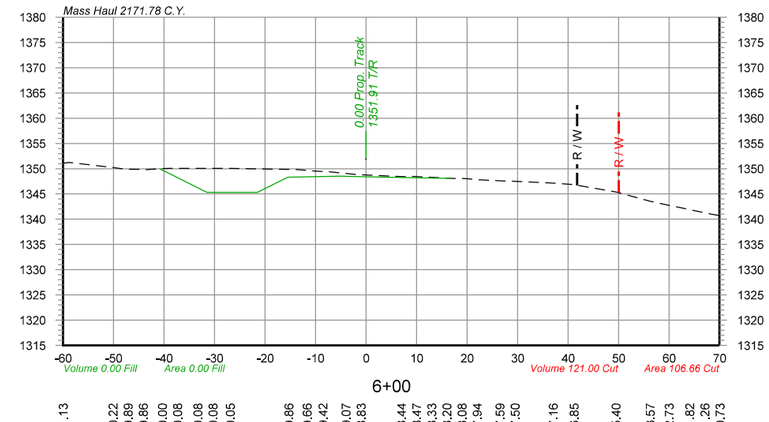
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-15.50	1348.92	17.54	1347.04
-5.00	1348.71	27.54	1347.04
0.00	1348.61	30.79	1348.66

-60.00	1347.15	-14.86	1350.33	6.66	1350.65	29.93	1348.76	61.11	1347.30
-55.69	1347.33	-12.65	1350.63	11.29	1350.39	32.85	1348.59	66.53	1346.95
-52.44	1347.73	-10.40	1350.82	14.18	1350.17	36.42	1348.58	70.00	1346.04
-49.16	1348.72	-8.44	1350.83	17.08	1350.00	39.06	1348.49		
-40.74	1351.52	-3.66	1350.83	19.45	1349.76	41.88	1348.17		
-34.10	1351.36	0.13	1350.81	22.52	1349.58	46.77	1348.01		
-32.04	1351.53								
-25.84	1350.66								
-21.86	1350.07								

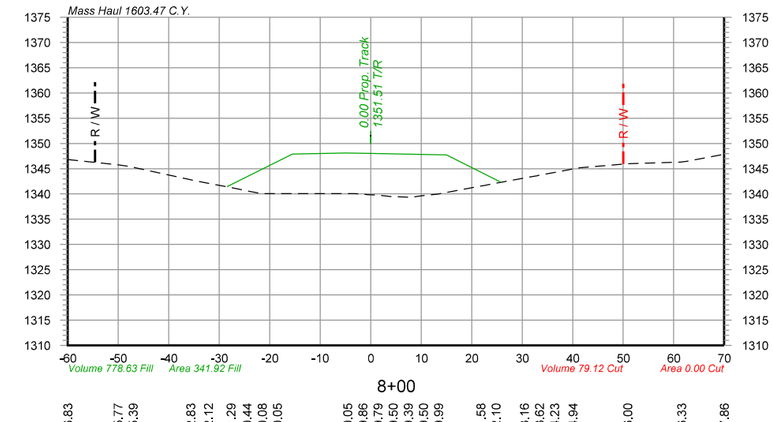
5+00



-40.85	1349.98	15.00	1348.11
-31.50	1345.30	16.79	1348.11
-21.50	1345.30		
-15.50	1348.30		
-5.00	1348.51		
0.00	1348.41		

-60.00	1351.13	-15.31	1349.86	6.99	1348.44	26.50	1347.59	49.48	1345.40
-50.14	1350.22	-11.69	1349.66	9.05	1348.47	29.01	1347.50	56.25	1343.57
-47.62	1349.89	-8.56	1349.42	12.50	1348.33			60.00	1342.73
-44.29	1349.86	-3.99	1349.07	15.02	1348.20	37.04	1347.16	64.46	1341.82
-40.35	1350.00	-1.64	1348.83	17.46	1348.08	41.18	1346.85	67.08	1341.26
-38.31	1350.08			20.90	1347.94			70.00	1340.73
-33.33	1350.08								
-30.47	1350.08								
-26.91	1350.05								

6+00

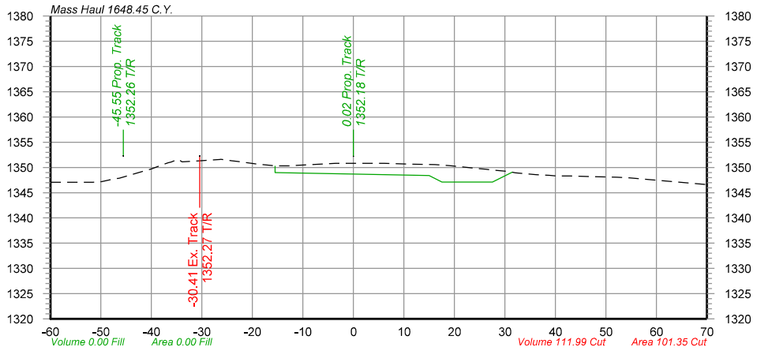


-28.44	1341.43	15.00	1347.71
-15.50	1347.90	25.81	1342.31
-5.00	1348.11		
0.00	1348.01		

-60.00	1346.83	-35.66	1342.83	-27.68	1341.29	-23.63	1340.44	-21.51	1340.08
-50.07	1345.77	-32.16	1342.12					-19.45	1340.05
-47.46	1345.39								

-3.09	1340.05	1.41	1339.79	6.68	1339.39	13.39	1339.99	24.67	1342.10
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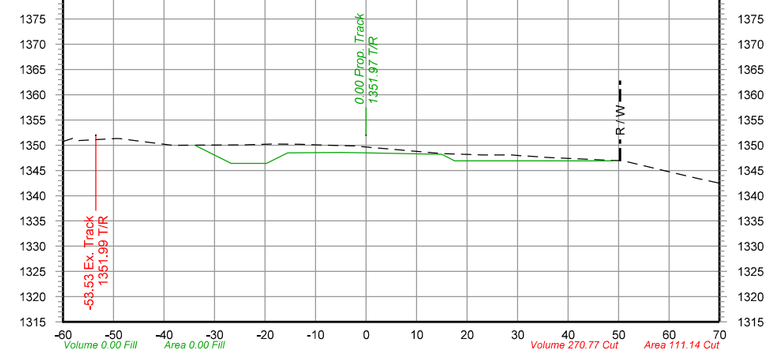
8+00



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0.00	1348.68	27.54	1347.11
		31.47	1349.07

-60.00	1347.08	-5.86	1350.71	16.19	1350.58	30.86	1349.20	70.00	1346.60
-56.63	1347.08	-3.52	1350.83	19.04	1350.34	33.41	1348.83		
-53.17	1347.08	0.12	1350.83	21.96	1350.08	36.22	1348.58		
-49.85	1347.17	2.80	1350.83	24.75	1349.77	38.79	1348.44		
-47.40	1347.71	6.13	1350.83	26.89	1349.58	41.18	1348.32		
-41.67	1349.25	11.47	1350.67			46.96	1348.19		
-37.74	1350.56								
-34.70	1351.61								
-30.45	1351.31								
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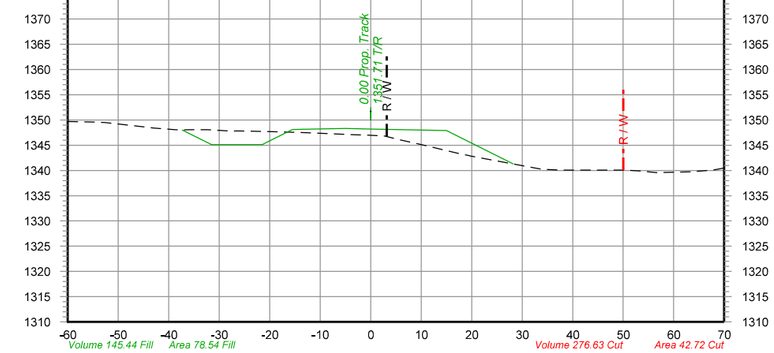
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-26.70	1346.39	17.54	1346.90
-19.70	1346.39		
-15.50	1348.49		
-5.00	1348.57		
0.00	1348.47		

-60.00	1350.74	-24.17	1350.08	-2.41	1349.84	22.12	1348.10	50.92	1346.90
-57.98	1351.27	-19.80	1350.21	-0.13	1349.63	24.40	1348.08		
-55.63	1350.99			4.32	1348.27	27.88	1348.08	57.46	1345.34
-49.54	1351.31			6.77	1349.06	31.43	1347.85		
-47.49	1351.15			11.05	1348.69	33.70	1347.72	65.73	1343.39
-43.05	1350.55			13.88	1348.43	36.09	1347.56	70.00	1342.48
-38.33	1349.96								
-31.44	1350.04								
-24.17	1350.08								
-19.80	1350.21								
-13.30	1350.19								
-9.89	1350.08								

5+70



-37.36	1348.03	15.00	1347.91
-31.50	1345.10	28.28	1341.27
-21.50	1345.10		
-15.50	1348.10		
-5.00	1348.31		
0.00	1348.21		

-60.00	1349.69	-38.73	1348.08	-28.12	1347.83	-3.24	1347.08	30.06	1340.94
-54.23	1349.58	-36.00	1348.08	-25.79	1347.83	-0.46	1346.98	33.89	1340.23
-44.39	1348.55	-32.37	1348.08	-20.02	1347.70	2.78	1346.83	37.85	1340.08
				-14.18	1347.52	5.30	1346.17	39.97	1340.08
				-10.93	1347.38	8.98	1345.38	42.33	1340.08
								44.42	1340.08
								49.42	1340.08
								53.36	1339.88
								56.65	1339.58
								63.41	1339.74
								67.62	1340.06
								70.00	1340.47

7+00

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CHECKED BY: JRM
DATE: 6/3/2022
SHEET NUMBER: X029 of 115

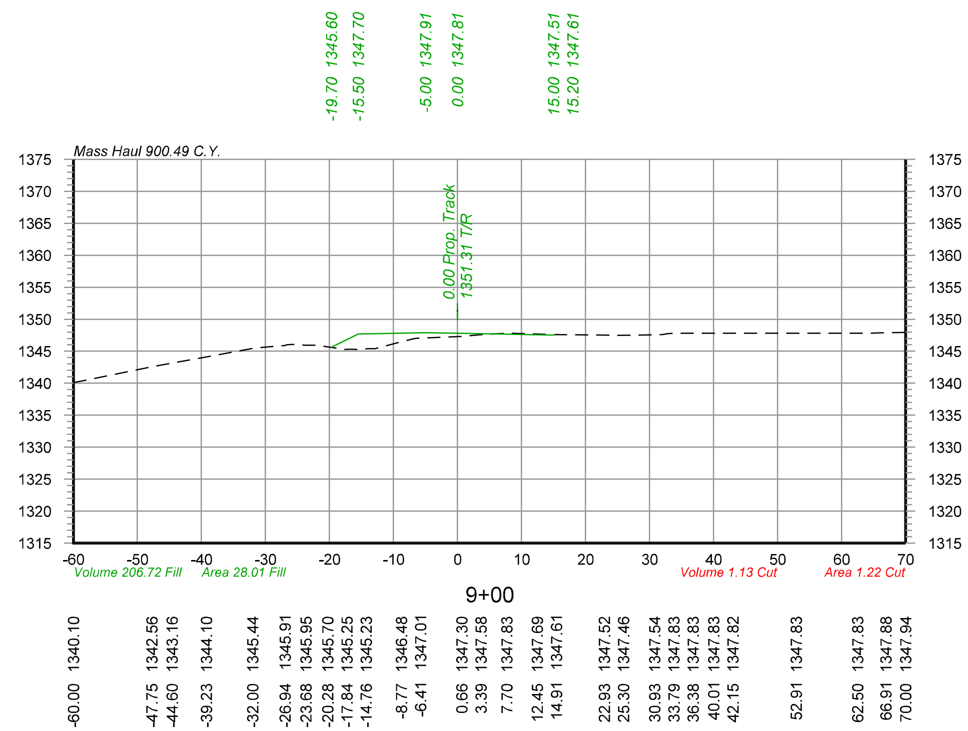
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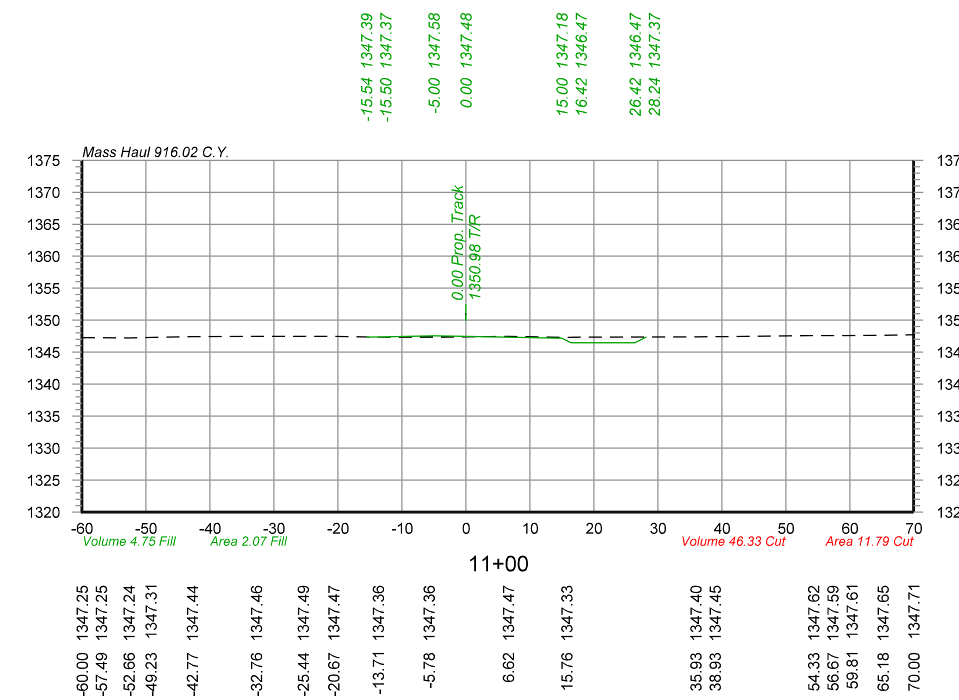
LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

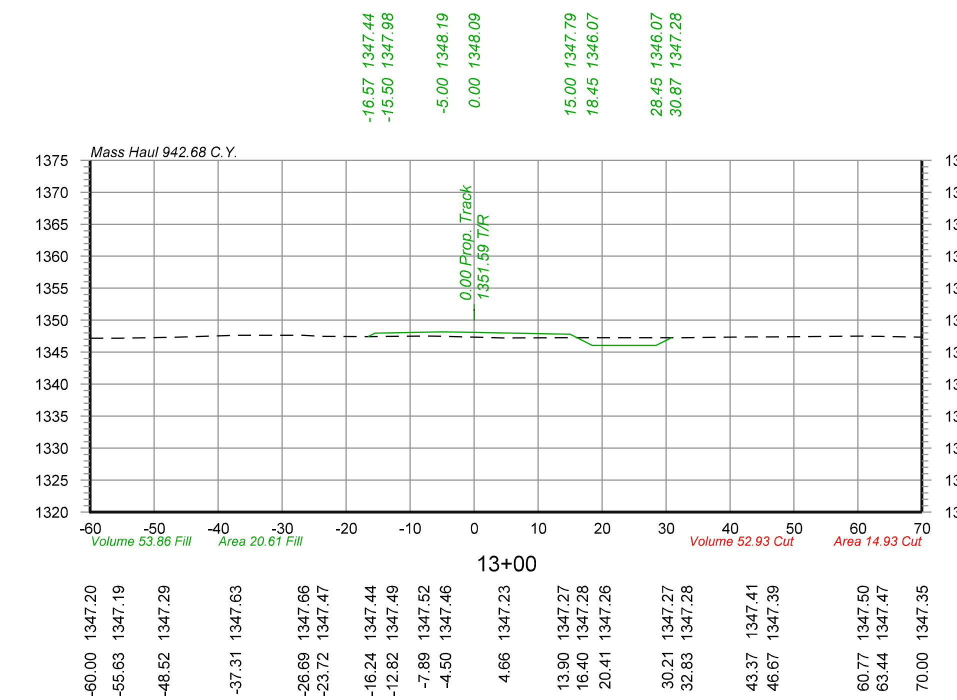
SHEET TITLE:
EAST WYE TRACK CROSS SECTIONS STA.4+64 TO STA.8+00

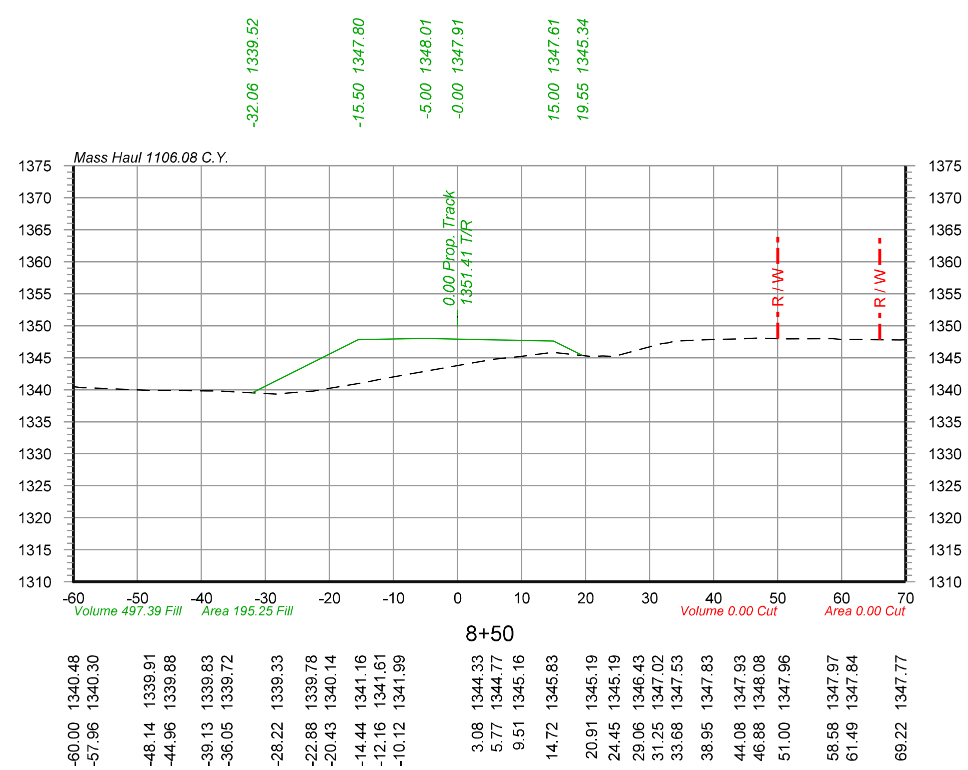
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6/3/2022

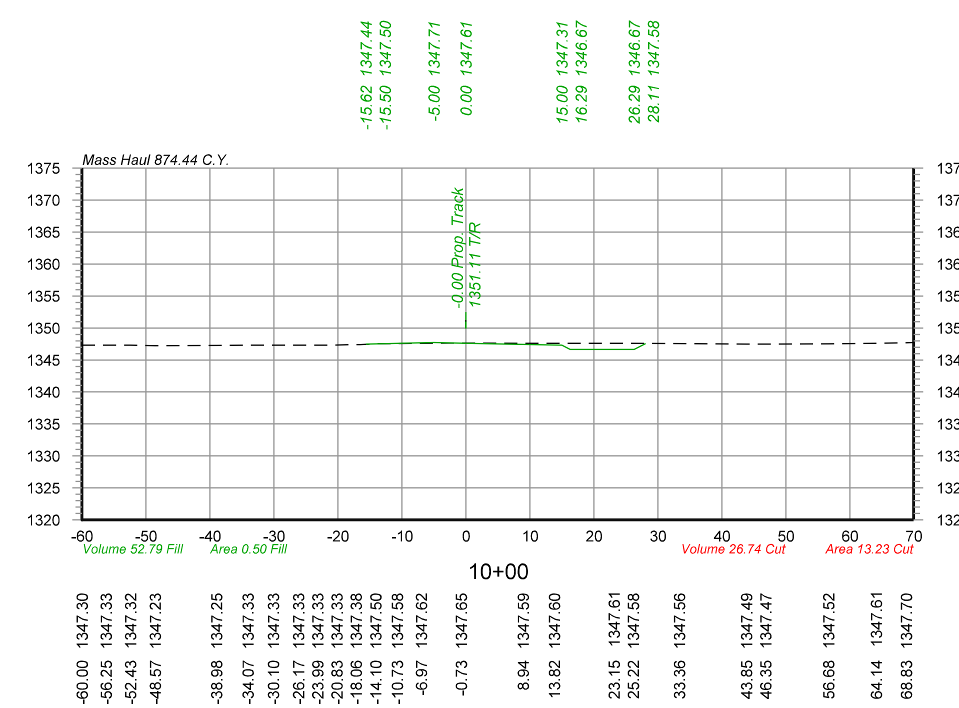
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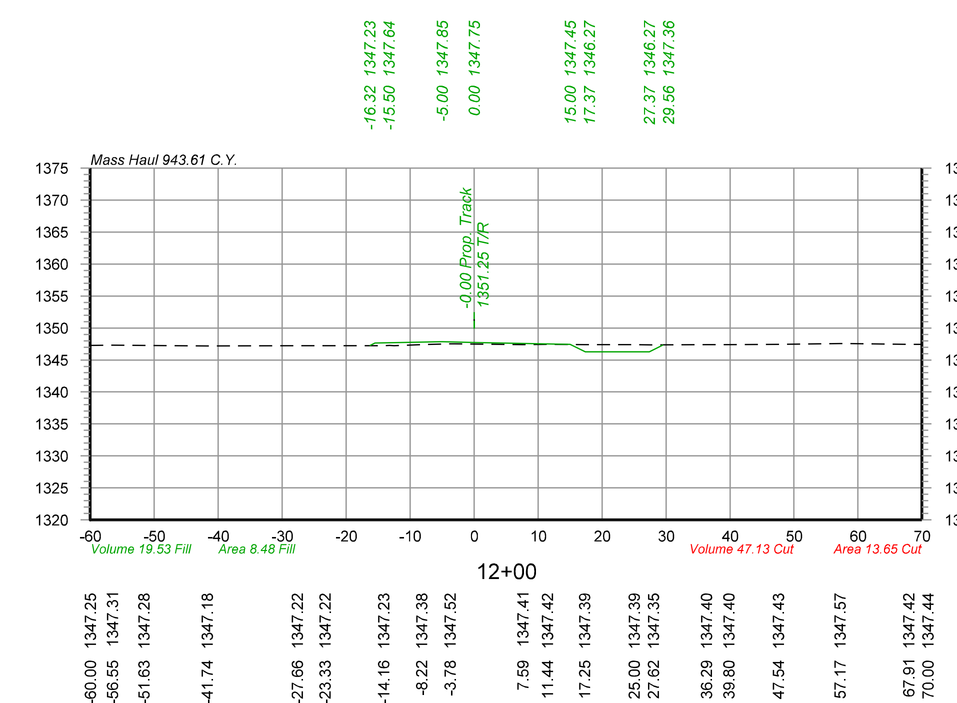










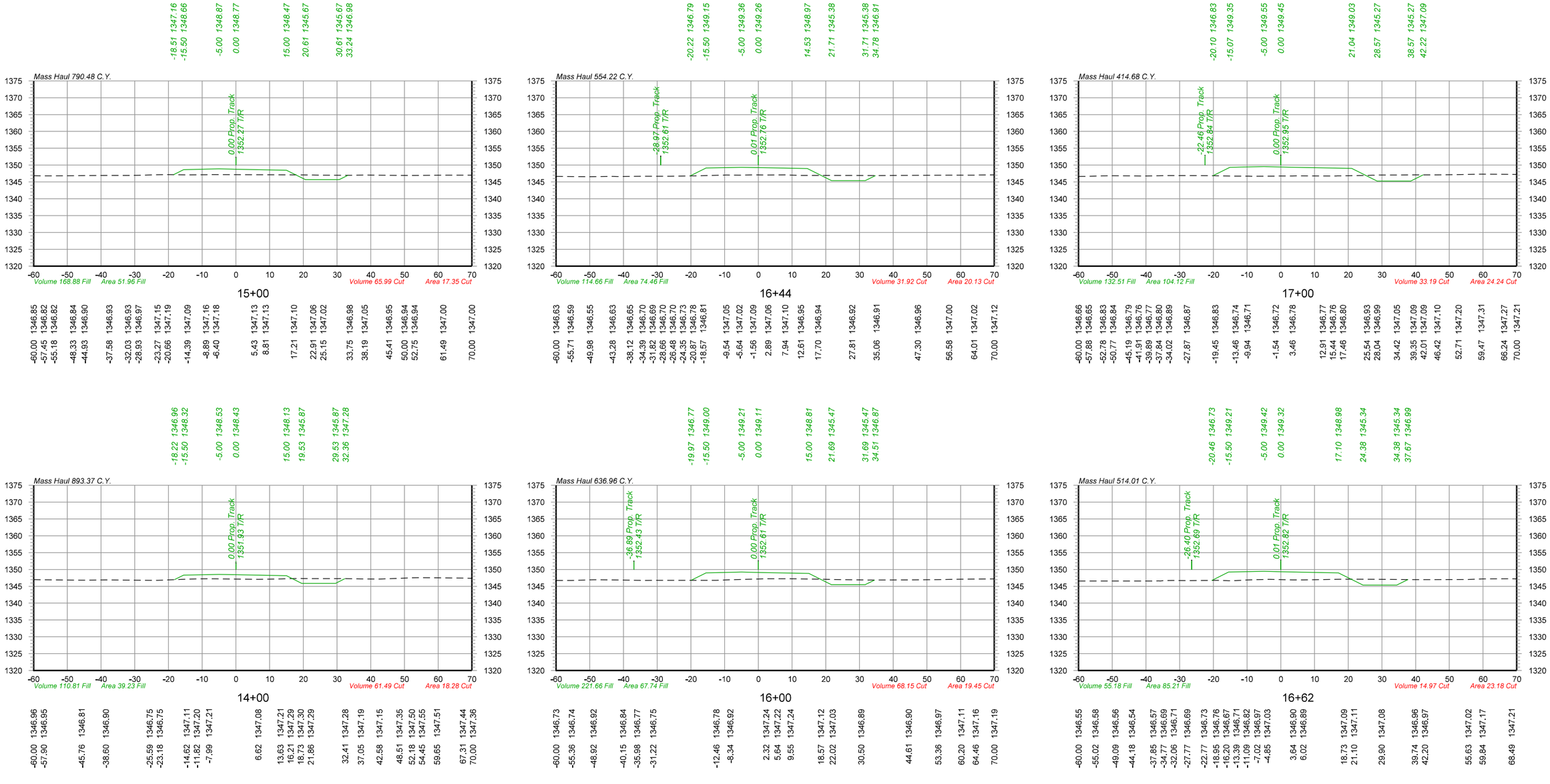


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CHECKED BY: JRM	LOCATION & DESCRIPTION: Mesa, Arizona - Maricopa County Phoenix Subdivision MP 934.79 to MP 937.83 Construct Industrial Lead Track
DATE: 6/3/2022	
SHEET NUMBER X030 of 115	SHEET TITLE: EAST WYE TRACK CROSS SECTIONS STA.8+50 TO STA.13+00

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6/3/2022

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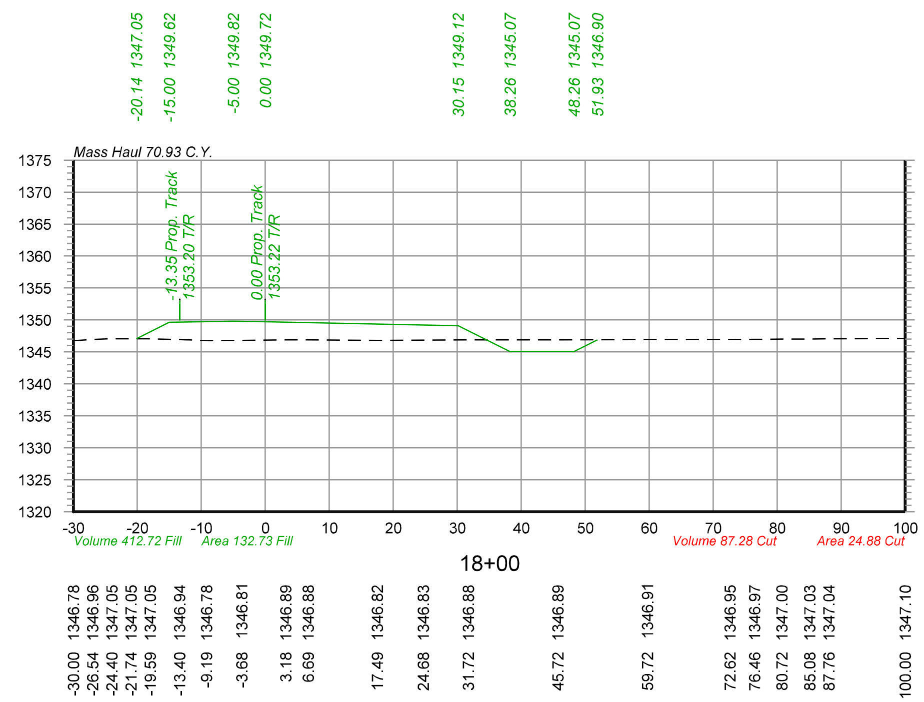
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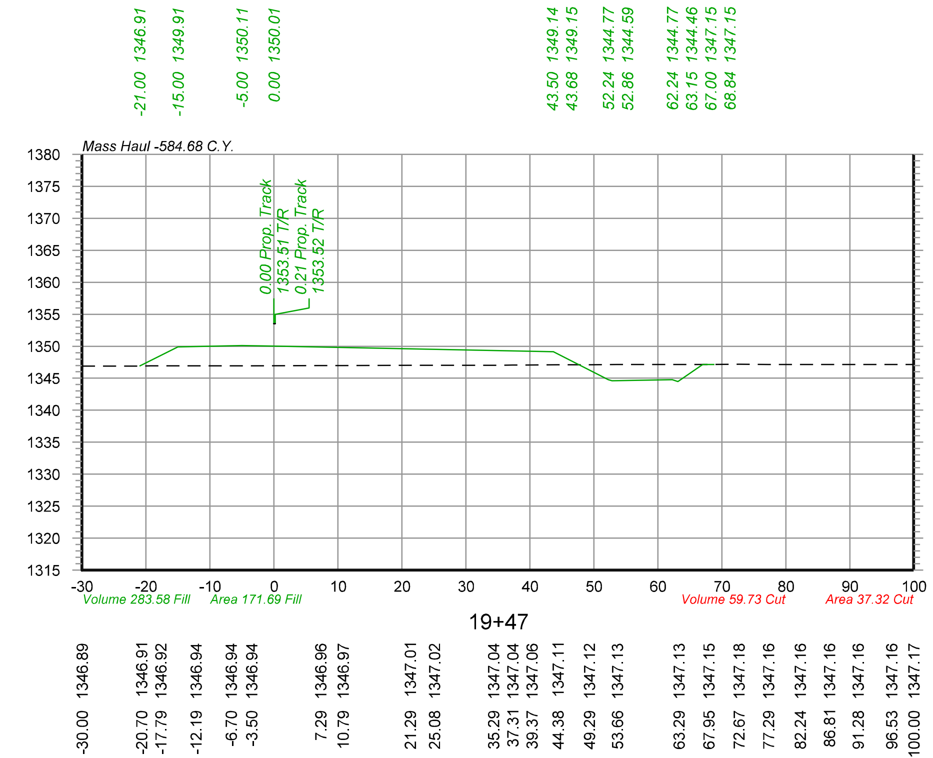
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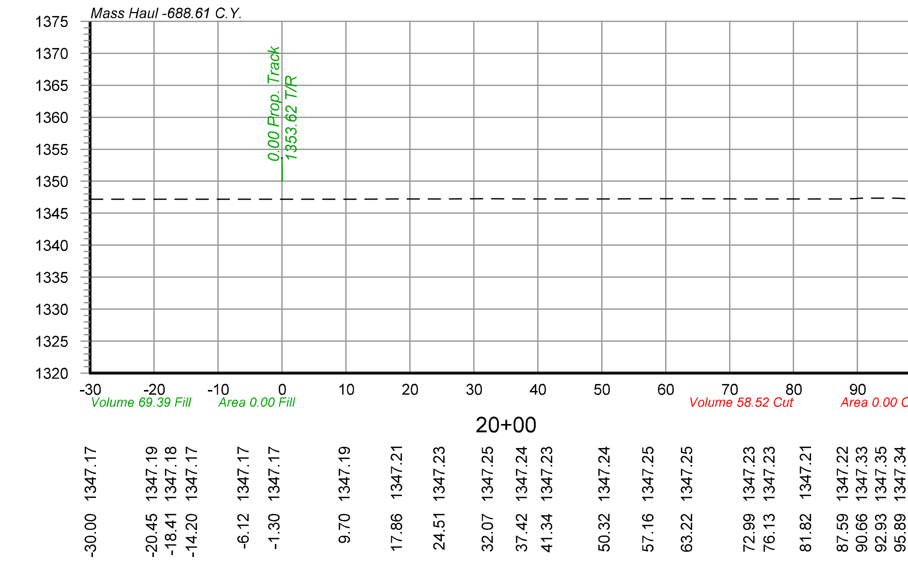
LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

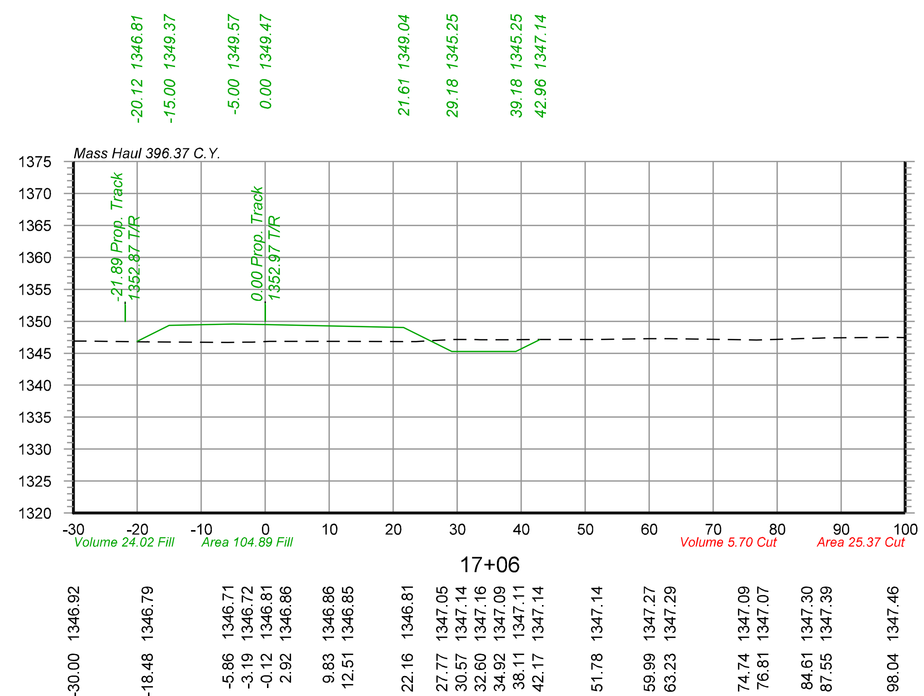
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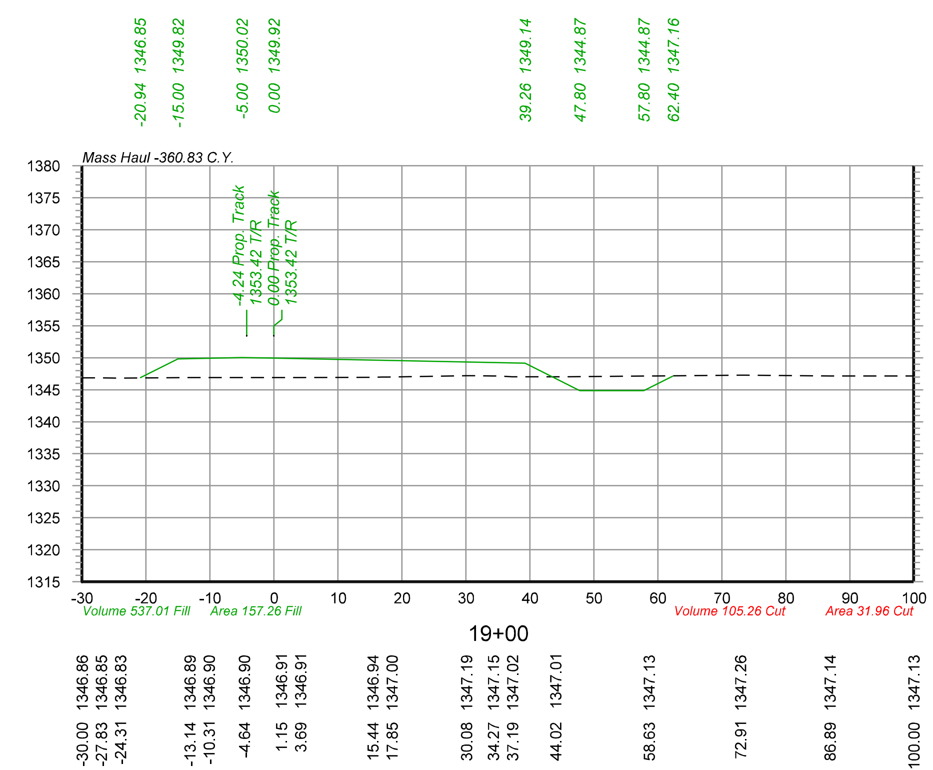
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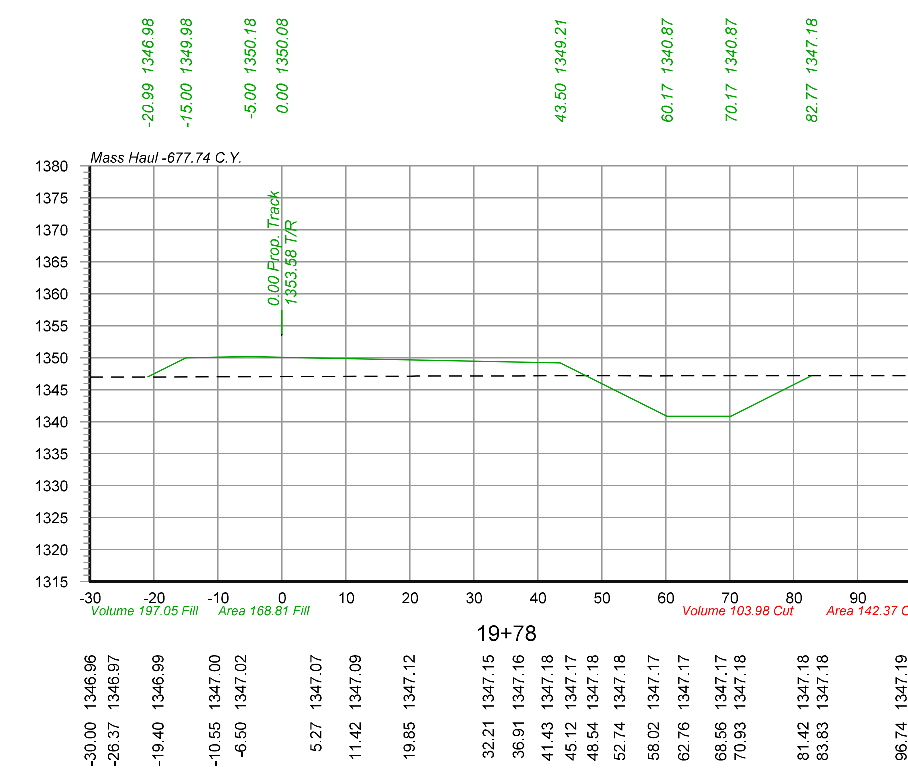












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CHECKED BY: JRM	LOCATION & DESCRIPTION: Mesa, Arizona - Maricopa County Phoenix Subdivision MP 934.79 to MP 937.83 Construct Industrial Lead Track
DATE: 6/3/2022	
SHEET NUMBER X032 of 115	SHEET TITLE: EAST WYE TRACK CROSS SECTIONS STA.17+06 TO STA.20+00

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6/3/2022
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End Area Volume Report					
Alignment Name:	East Wye Track				
	Station Quantities				
	Cut		Fill		
Baseline Station	**Area**	**Volume**	**Area**	**Volume**	**Mass Ordinate**
49.00	0.00	0.00	0.00	0.00	0.00
21.74	41.66	21.03	0.00	0.00	21.03
-1.00	49.46	38.38	0.05	0.02	59.38
91.24	74.93	20.17	0.20	0.04	79.51
0+00.00	31.07	179.11	4.05	7.17	251.46
0+39.98	43.55	55.25	2.62	4.93	301.78
1+00.00	74.13	130.80	0.00	2.91	429.67
2+00.00	78.32	282.31	0.00	0.00	711.98
3+00.00	94.23	319.53	0.00	0.00	1031.51
4+00.00	107.06	372.76	0.00	0.00	1404.27
4+20.12	104.96	78.99	0.00	0.00	1483.25
4+34.18	99.34	53.21	0.00	0.00	1536.46
4+64.32	101.35	111.99	0.00	0.00	1648.45
5+00.00	97.74	131.57	0.00	0.00	1780.02
5+70.00	111.14	270.77	0.00	0.00	2050.78
6+00.00	106.66	121.00	0.00	0.00	2171.78
7+00.00	42.72	276.63	78.54	145.44	2302.98
8+00.00	0.00	79.12	341.92	778.63	1603.47
8+50.00	0.00	0.00	195.25	497.39	1106.08
9+00.00	1.22	1.13	28.01	206.72	900.49
10+00.00	13.23	26.74	0.50	52.79	874.44
11+00.00	11.79	46.33	2.07	4.75	916.02
12+00.00	13.65	47.13	8.48	19.53	943.61
13+00.00	14.93	52.93	20.61	53.86	942.68
14+00.00	18.28	61.49	39.23	110.81	893.37
15+00.00	17.35	65.99	51.96	168.88	790.48
16+00.00	19.45	68.15	67.74	221.66	636.96
16+43.54	20.13	31.92	74.46	114.66	554.22
16+62.21	23.18	14.97	85.21	55.18	514.01
17+00.00	24.24	33.19	104.12	132.51	414.68
17+06.21	25.37	5.70	104.89	24.02	396.37
18+00.00	24.88	87.28	132.73	412.72	70.93
18+16.43					0.00
19+00.00	31.96	105.26	157.26	537.01	-360.83
19+46.55	37.32	59.73	171.69	283.58	-584.68
19+77.80	142.37	103.98	168.81	197.05	-677.74
20+00.00	0.00	58.52	0.00	69.39	-688.61
Grand Total:		**3413.04**		**4101.65**	

Grading Quantities

Proposed Subgrade
Station: 0+00.00 to 20+00.00
Cut: 3,413 C.Y.
Fill: 4,104 C.Y.
Net: 689 C.Y. (Fill)

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DRAWN BY: JTD
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DATE: 2/19/2022
SHEET NUMBER: X033 of 115

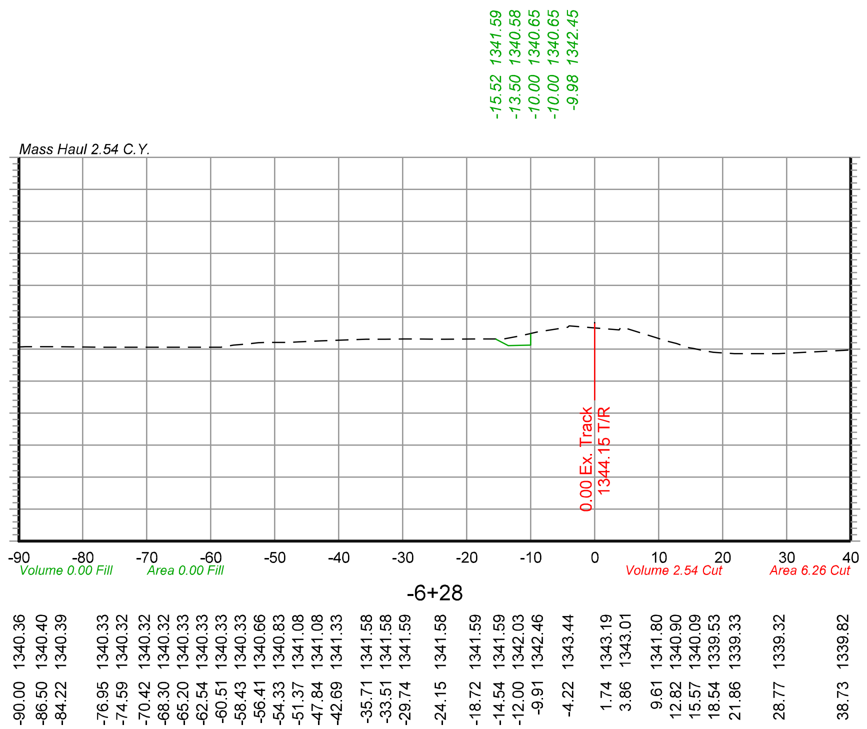
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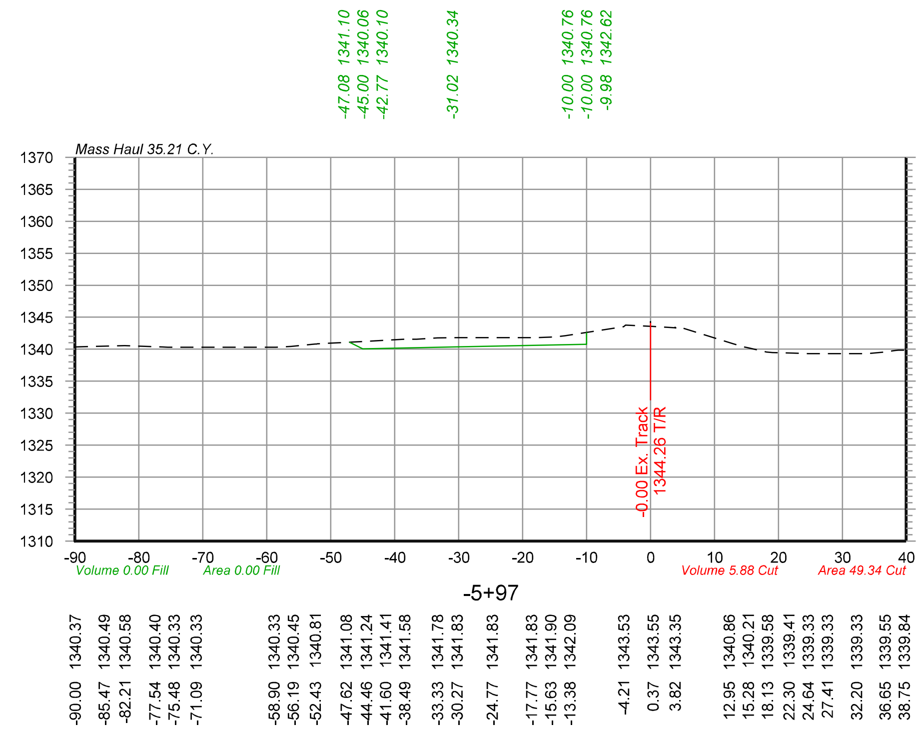
LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

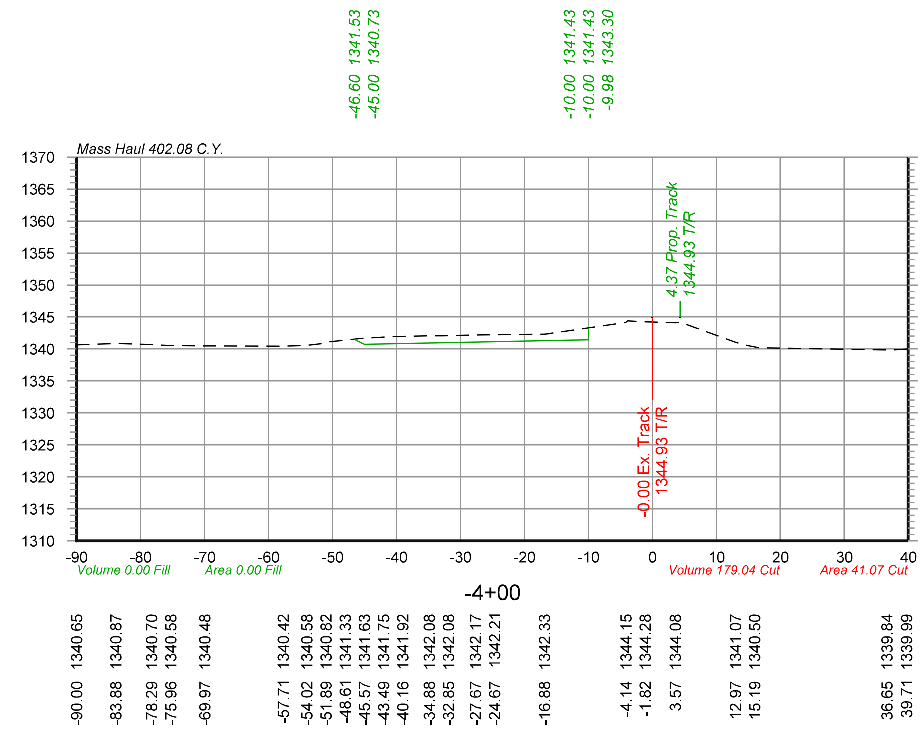
SHEET TITLE:
EAST WYE TRACK EARTHWORK SUMMARY

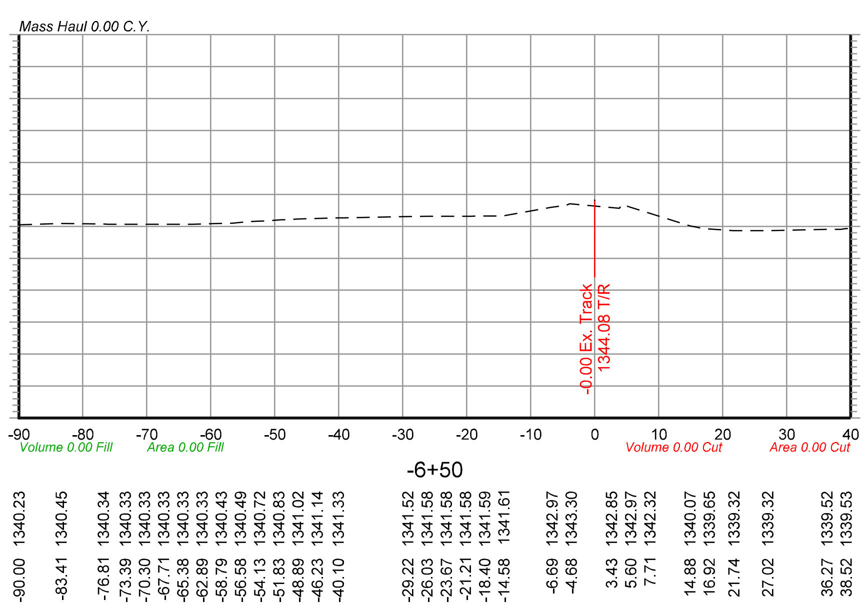
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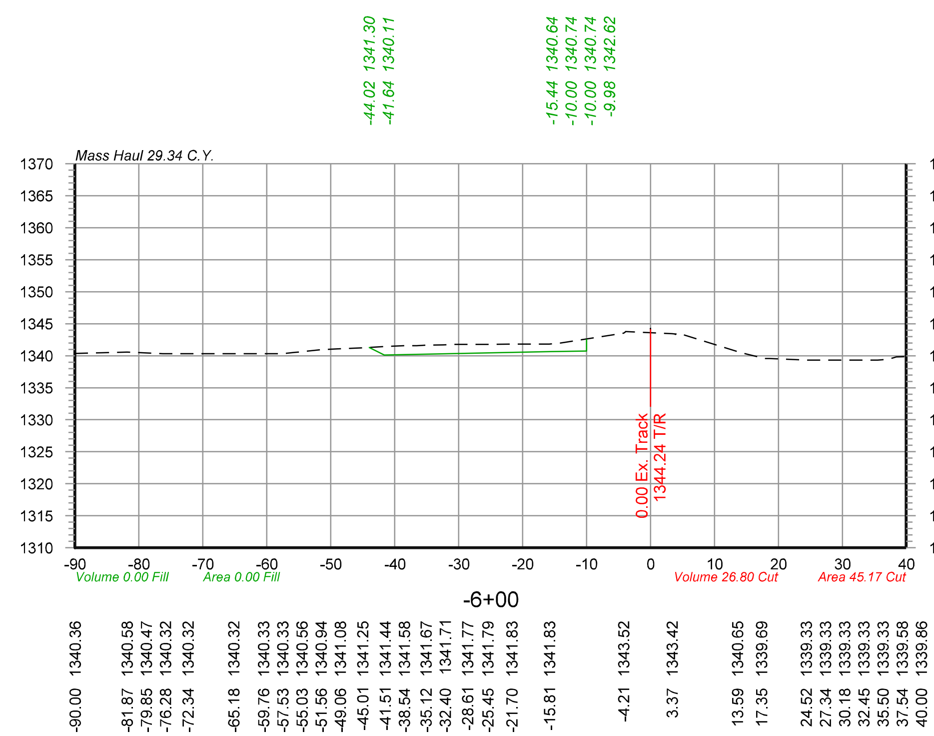
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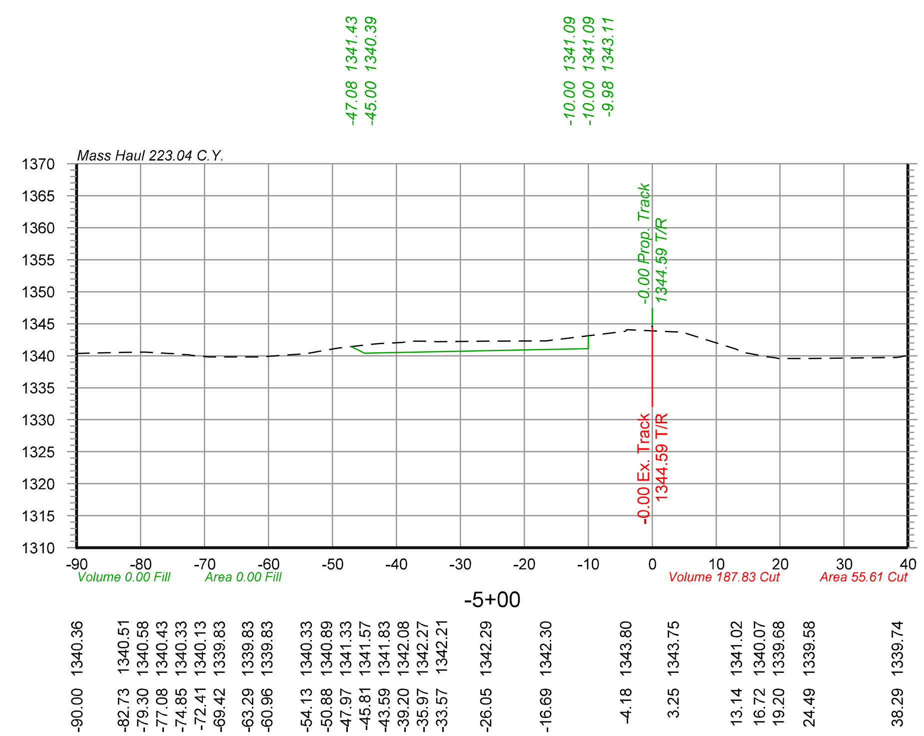












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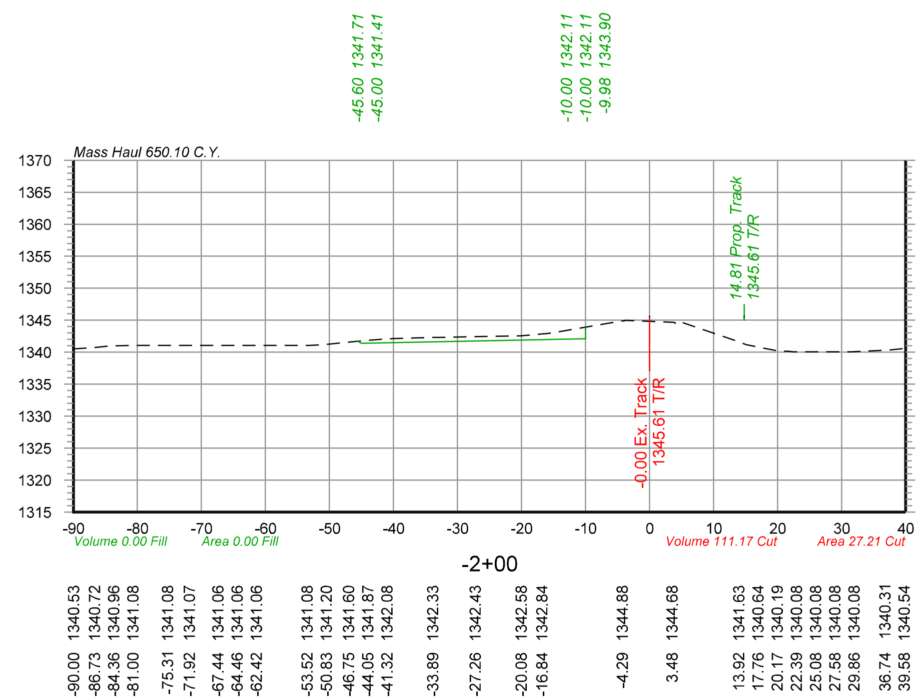
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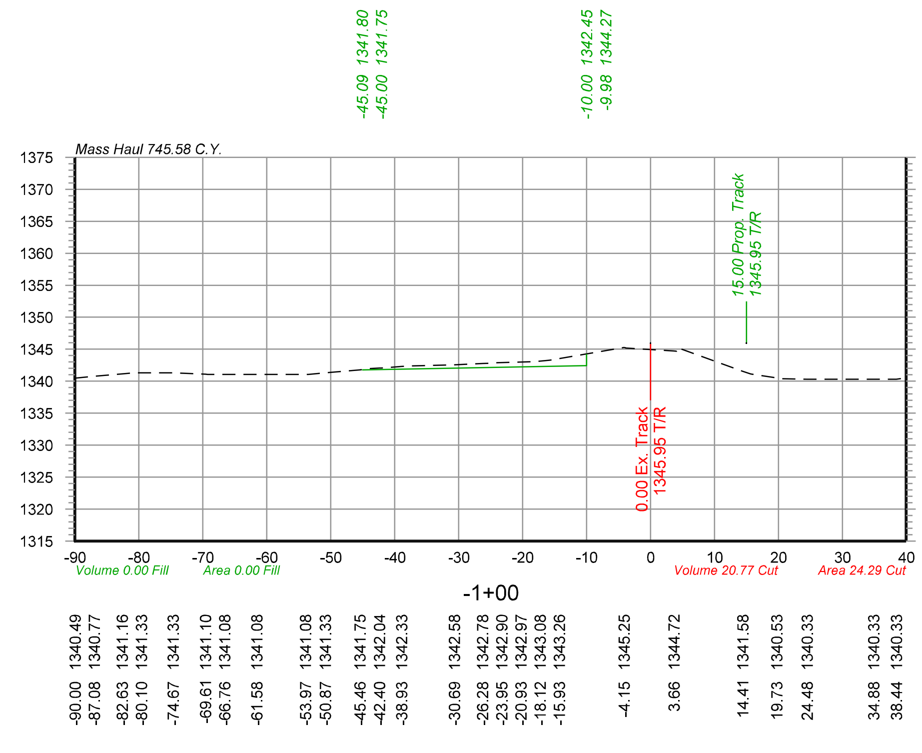
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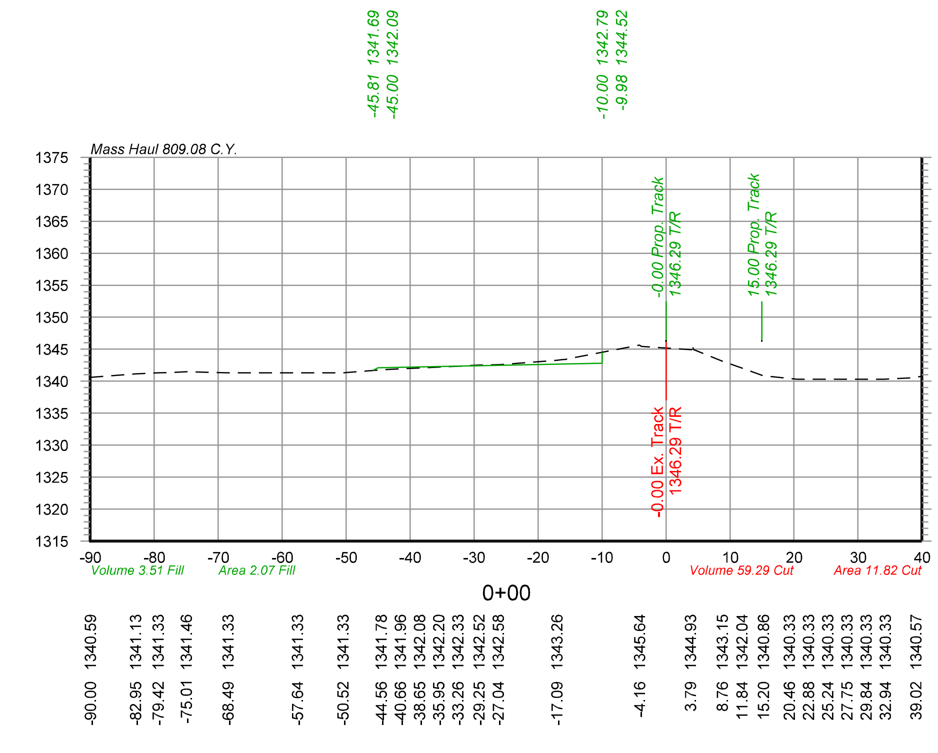
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Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

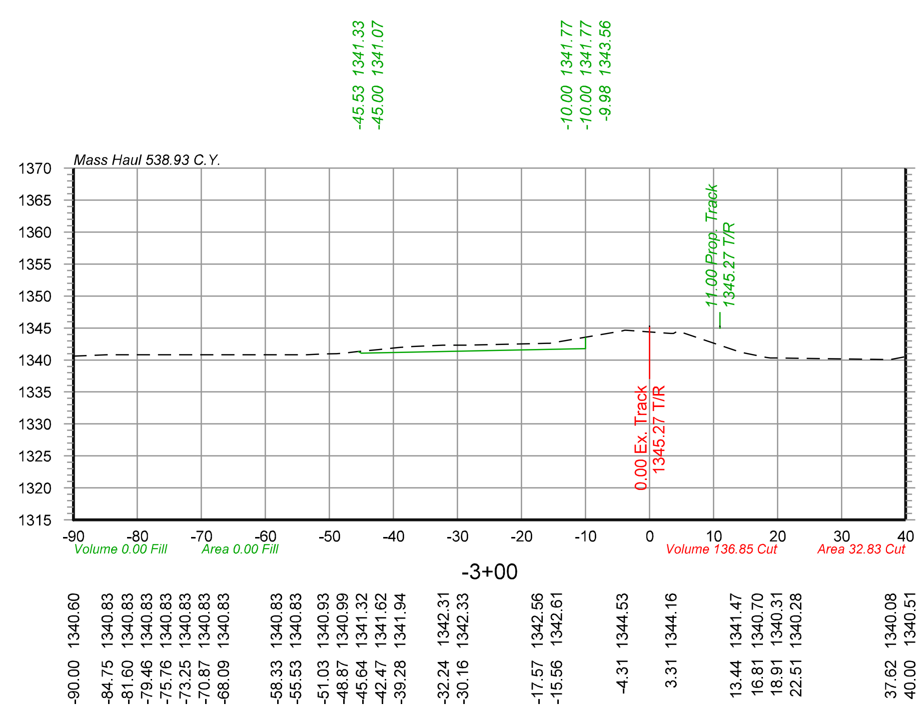
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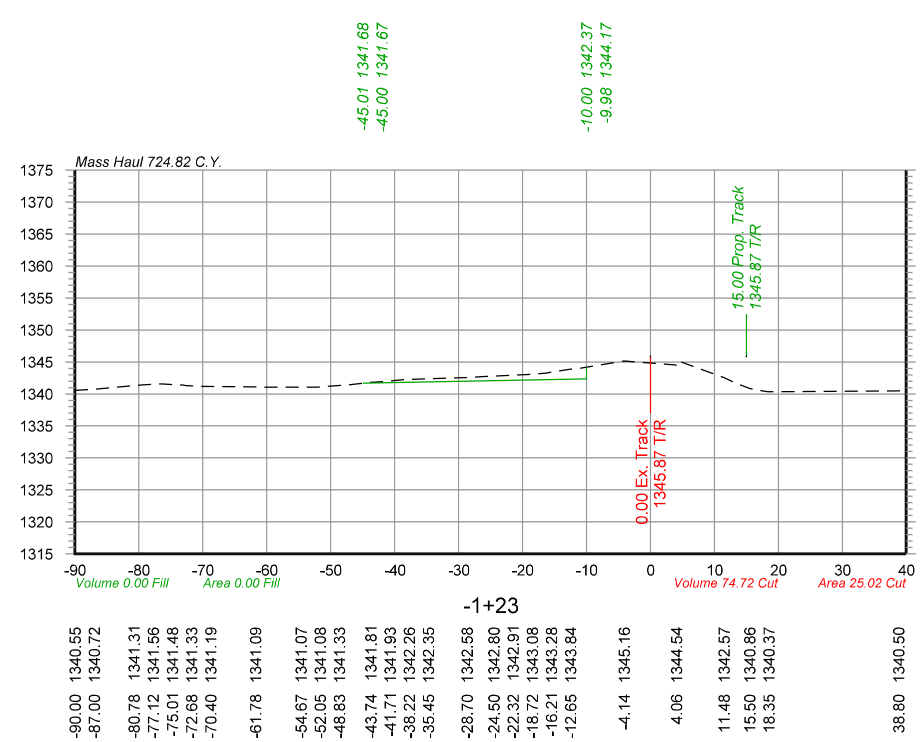
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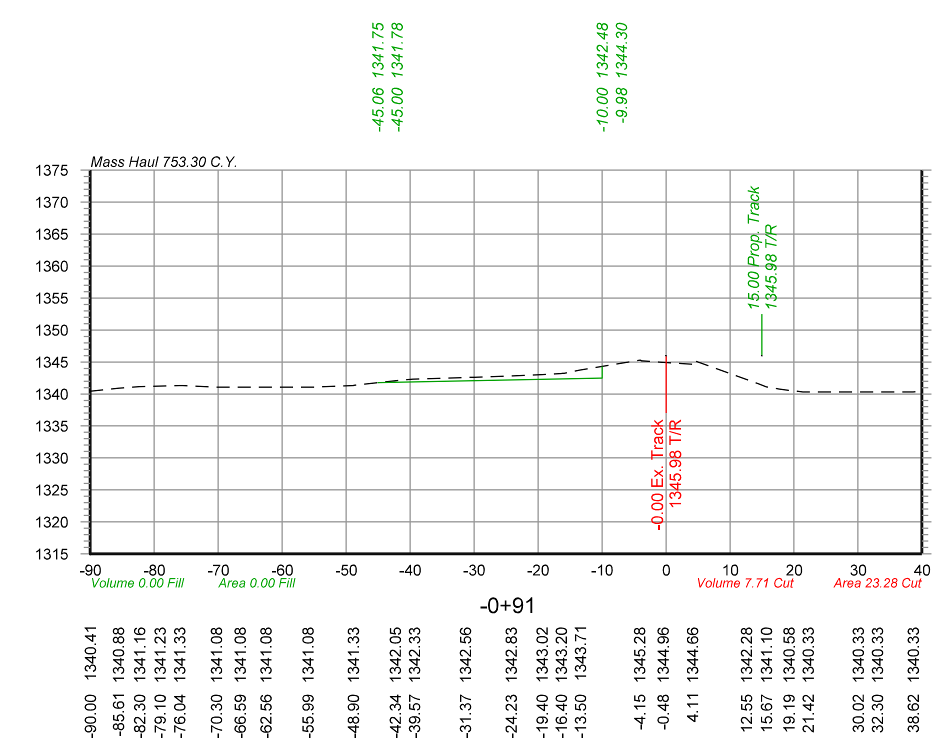












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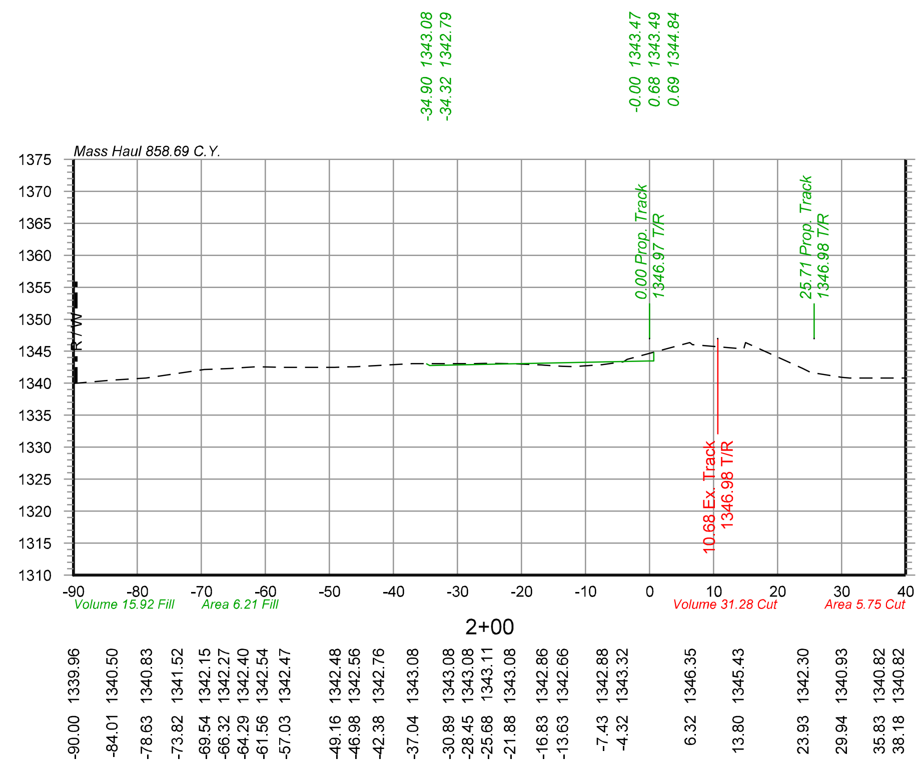
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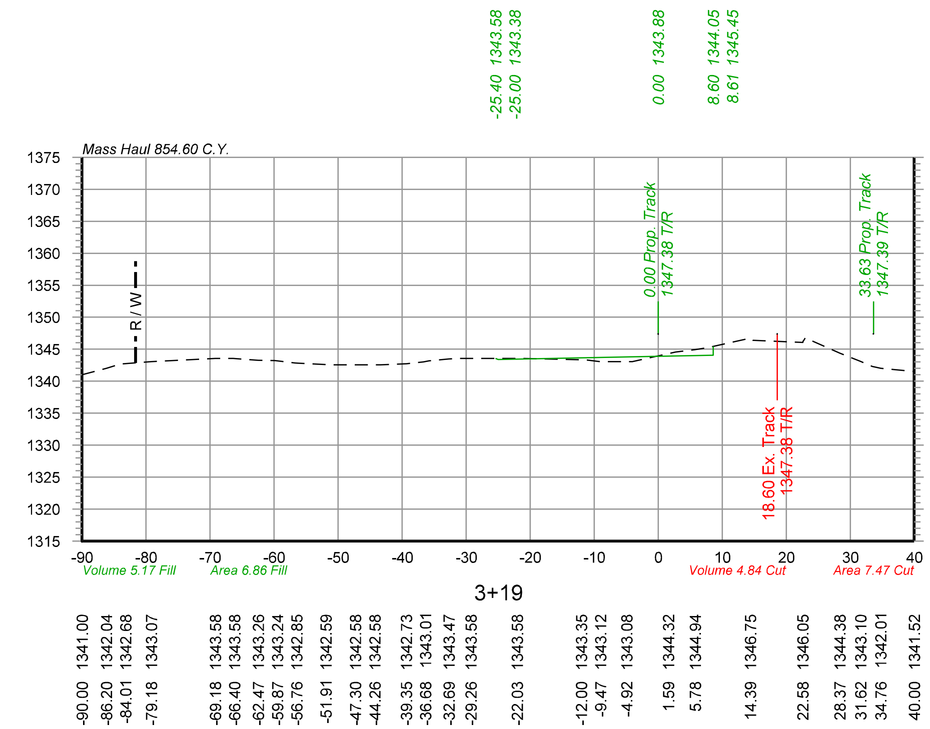
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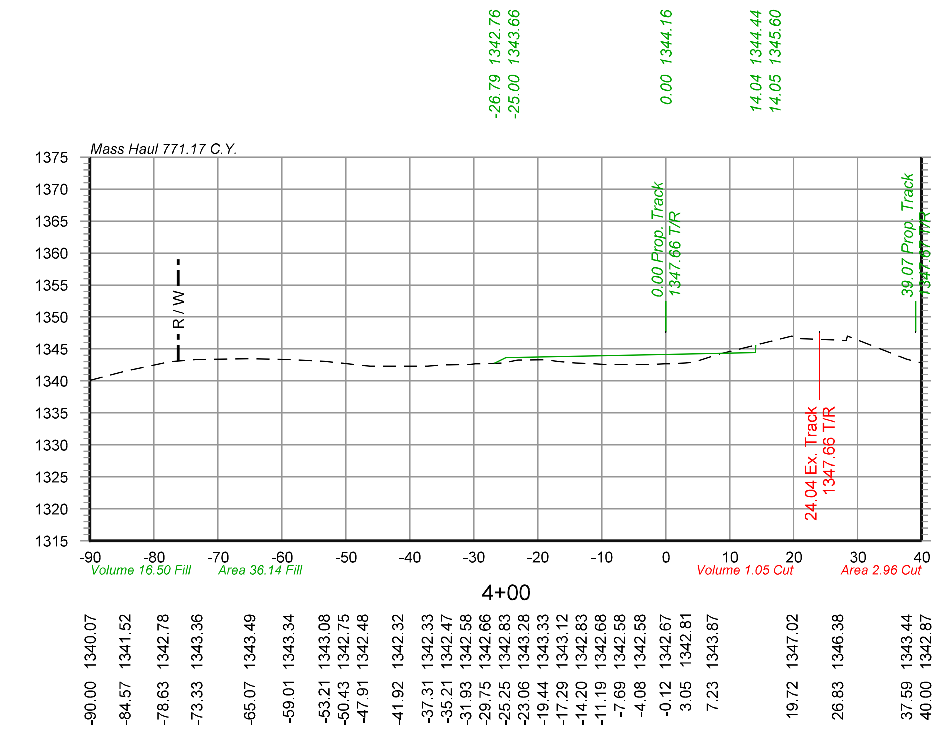
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Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

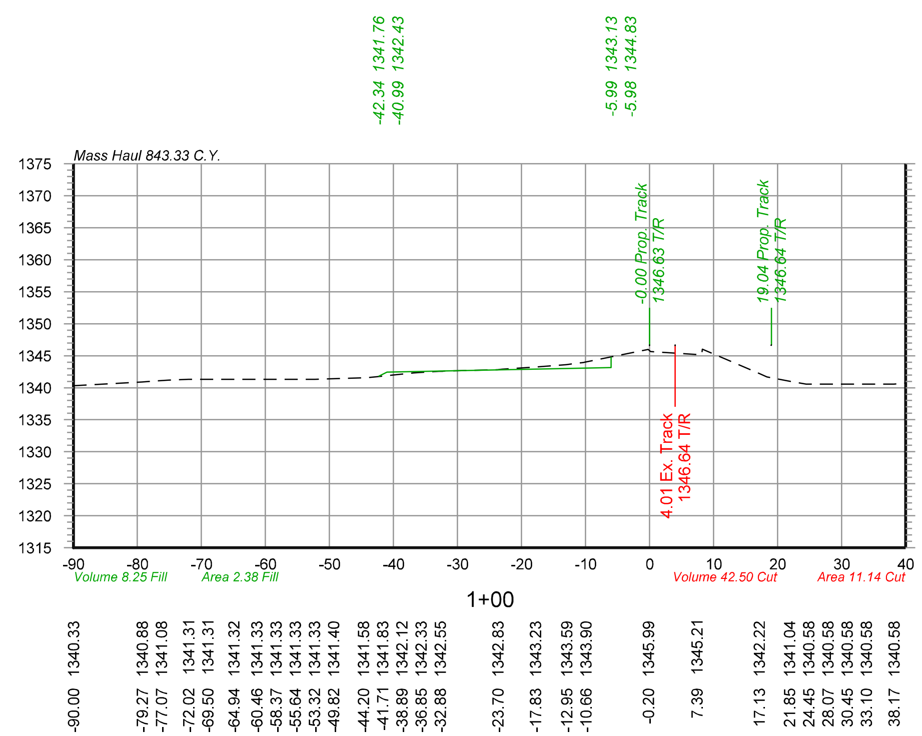
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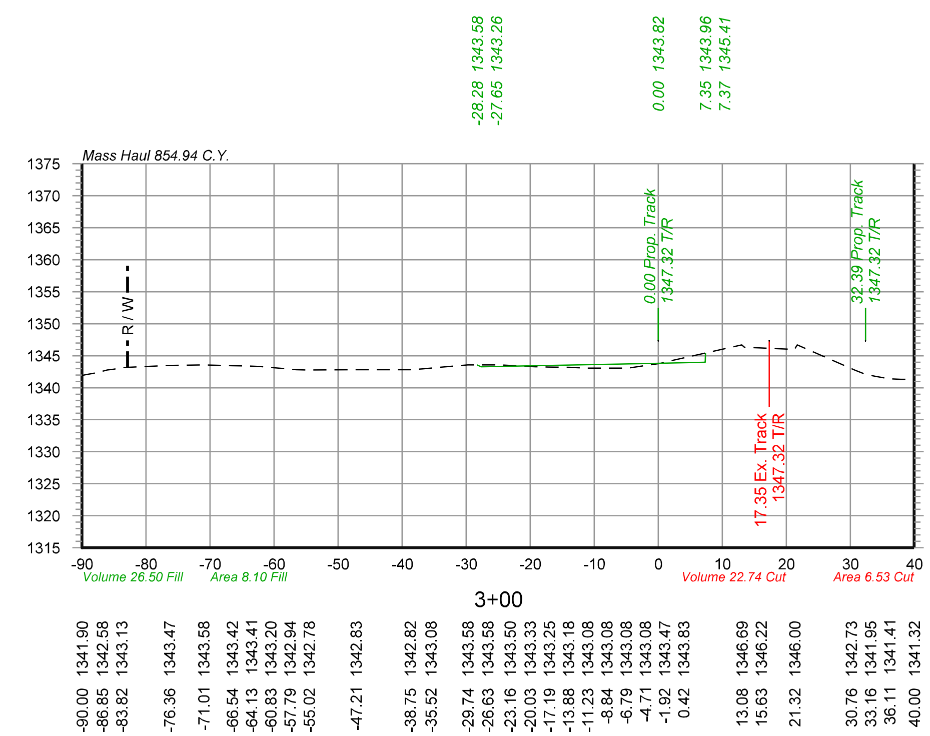
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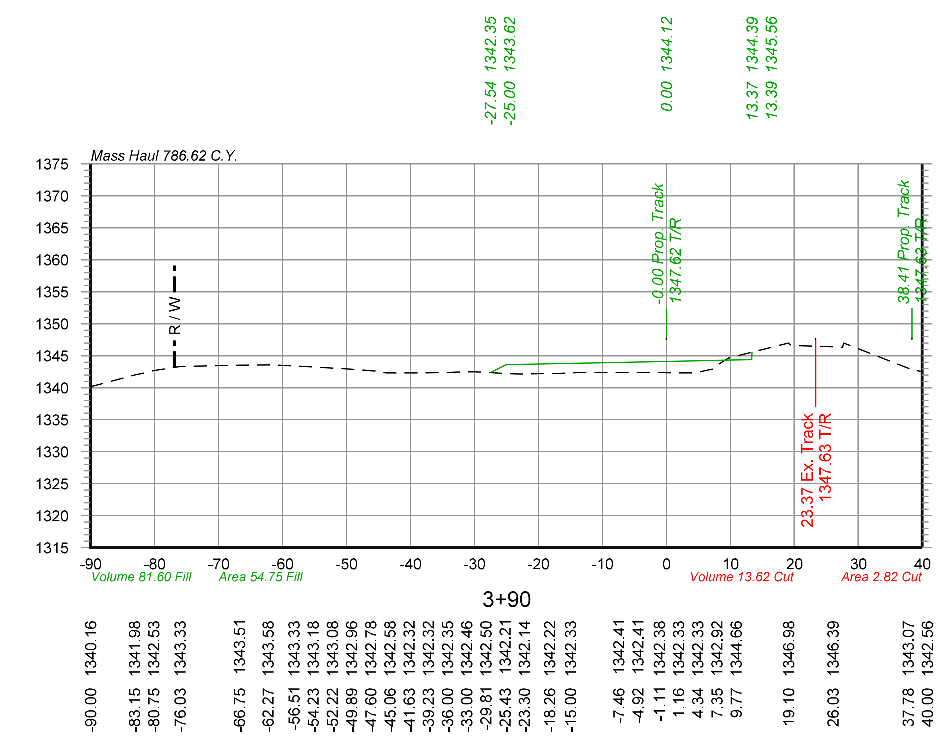










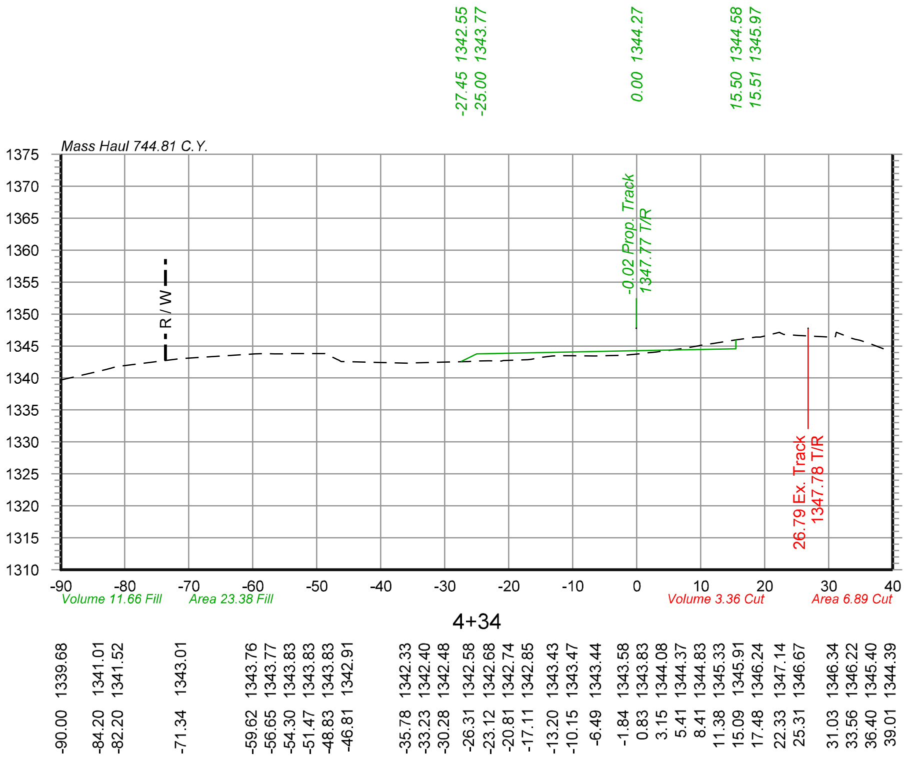


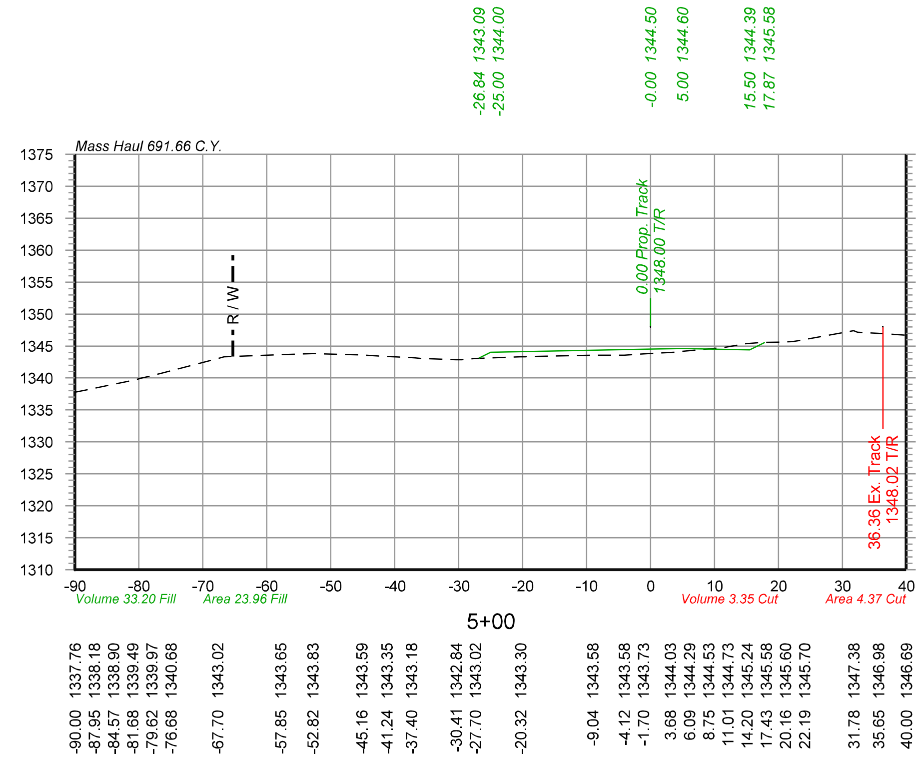
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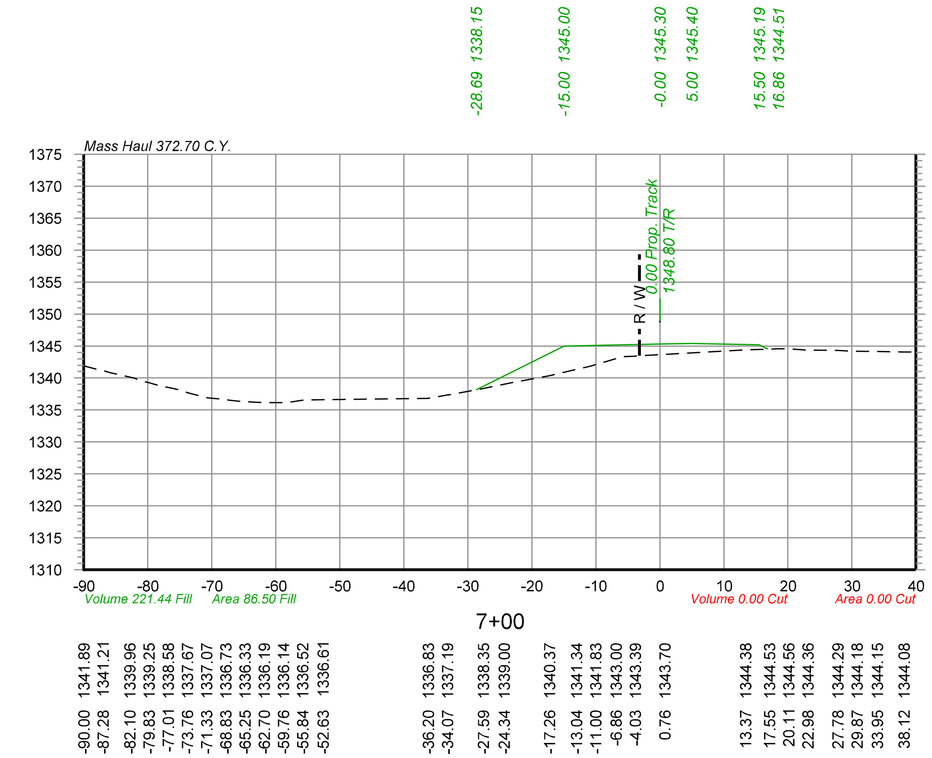
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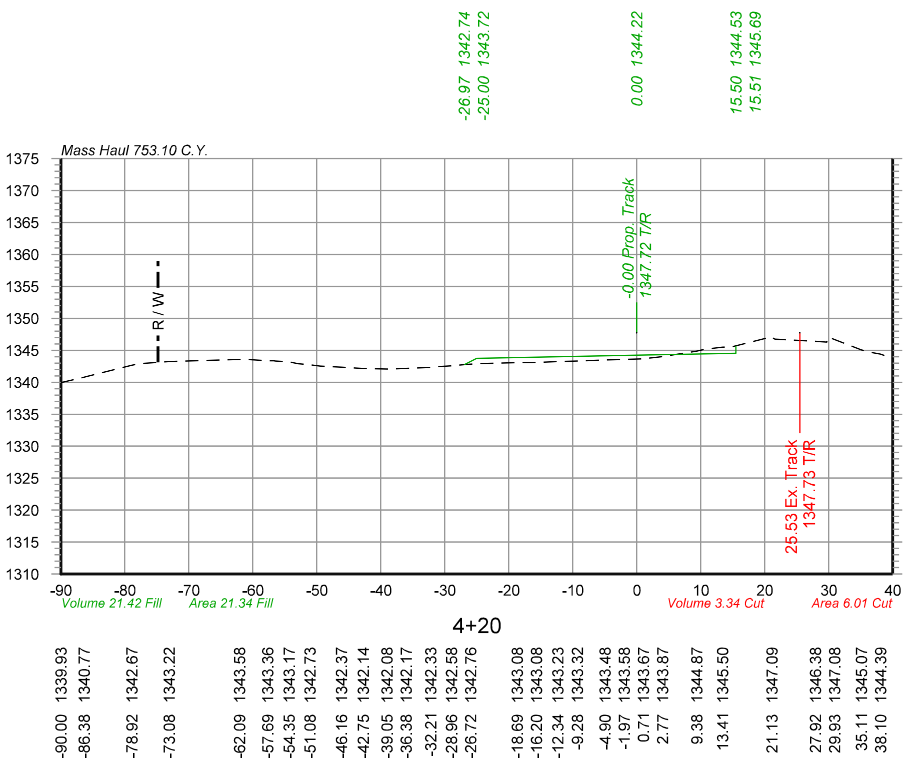
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CHECKED BY: JRM	LOCATION & DESCRIPTION: Mesa, Arizona - Maricopa County Phoenix Subdivision MP 934.79 to MP 937.83 Construct Industrial Lead Track
DATE: 6/3/2022	
SHEET NUMBER X036 of 115	SHEET TITLE: PIRATE LEAD TRACK CROSS SECTIONS STA.1+00 TO STA.4+00

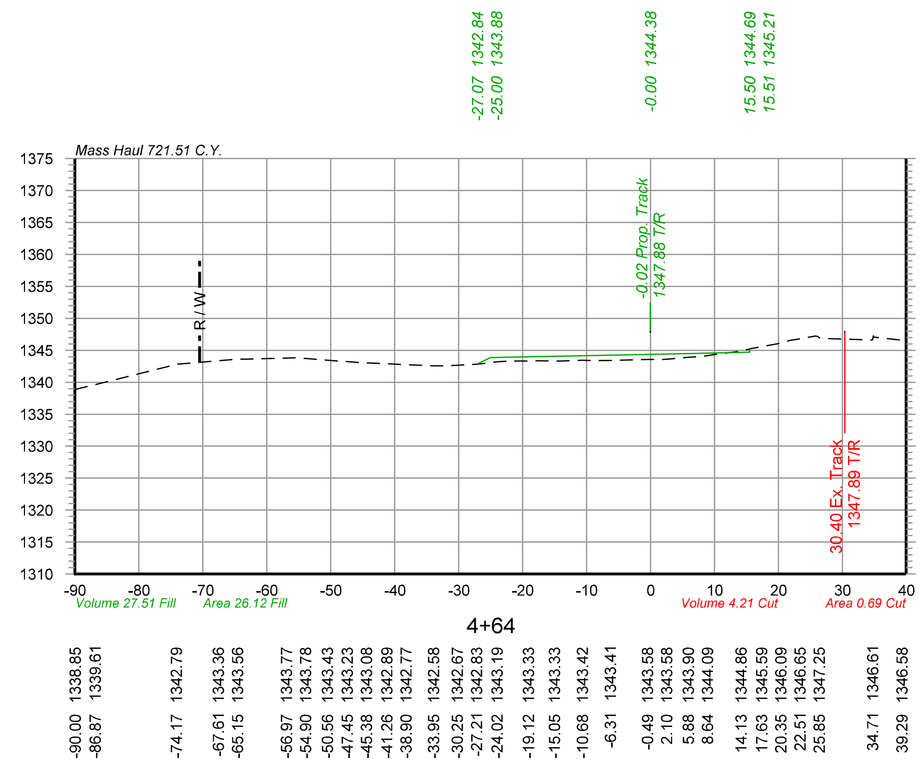
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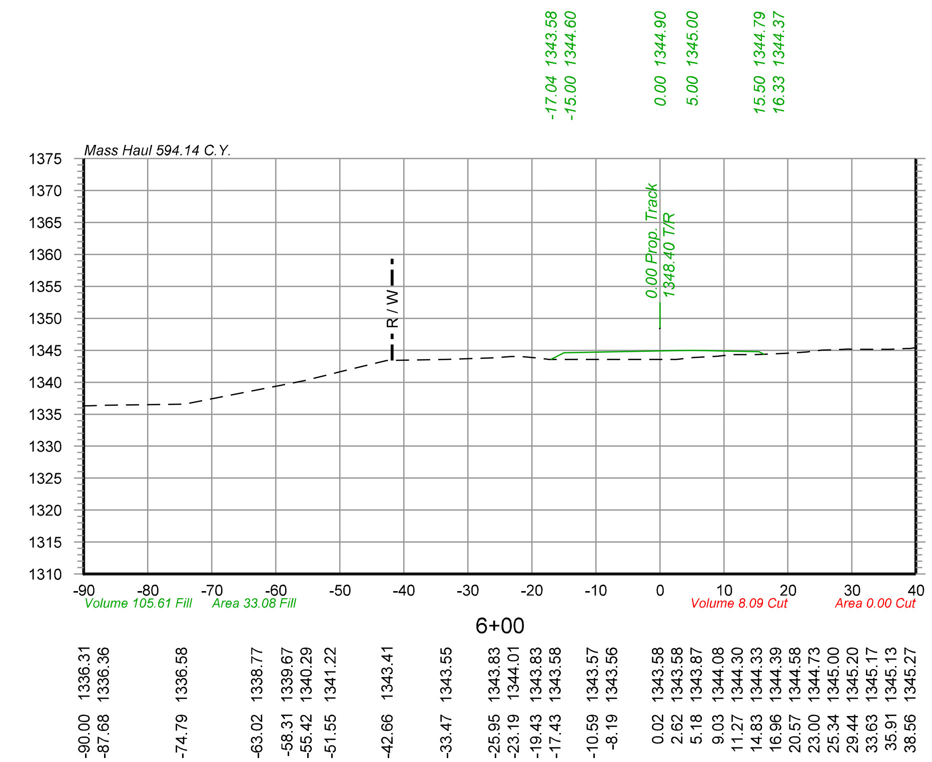












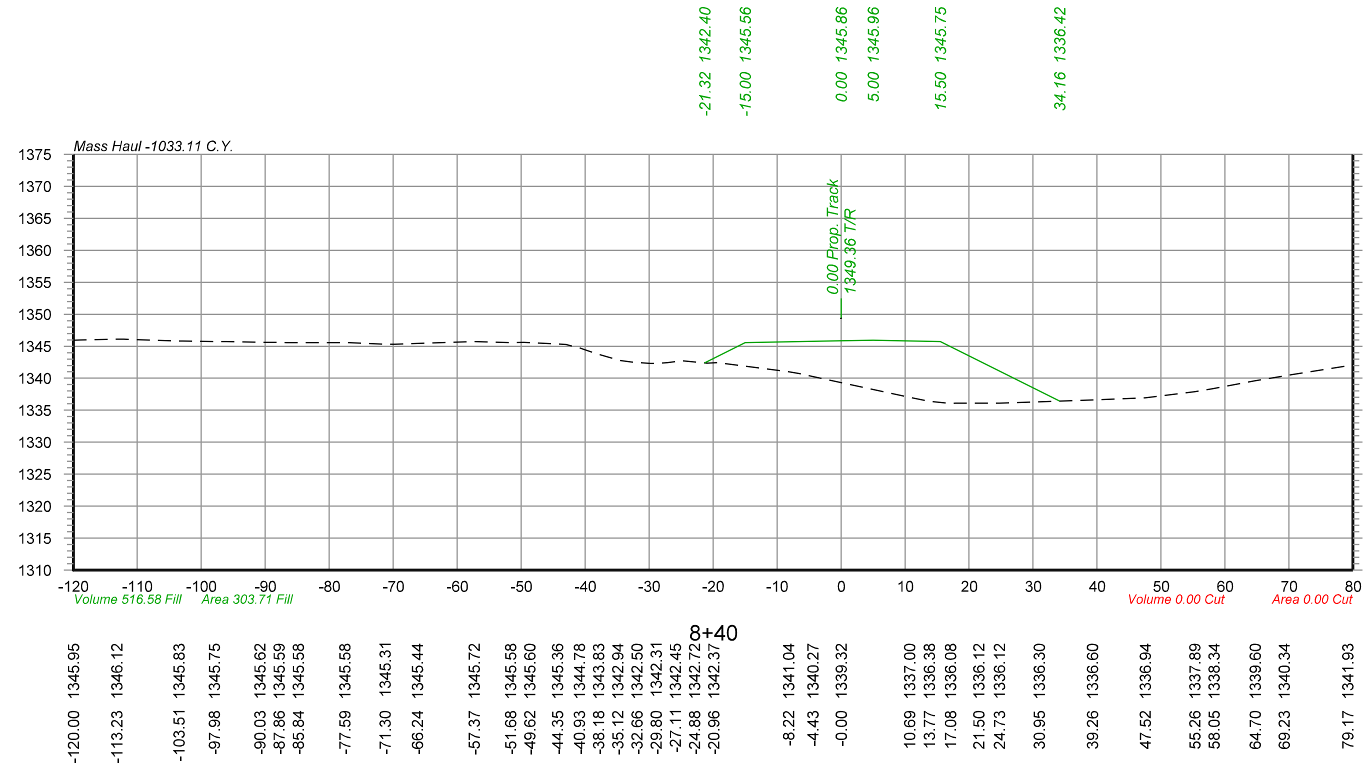
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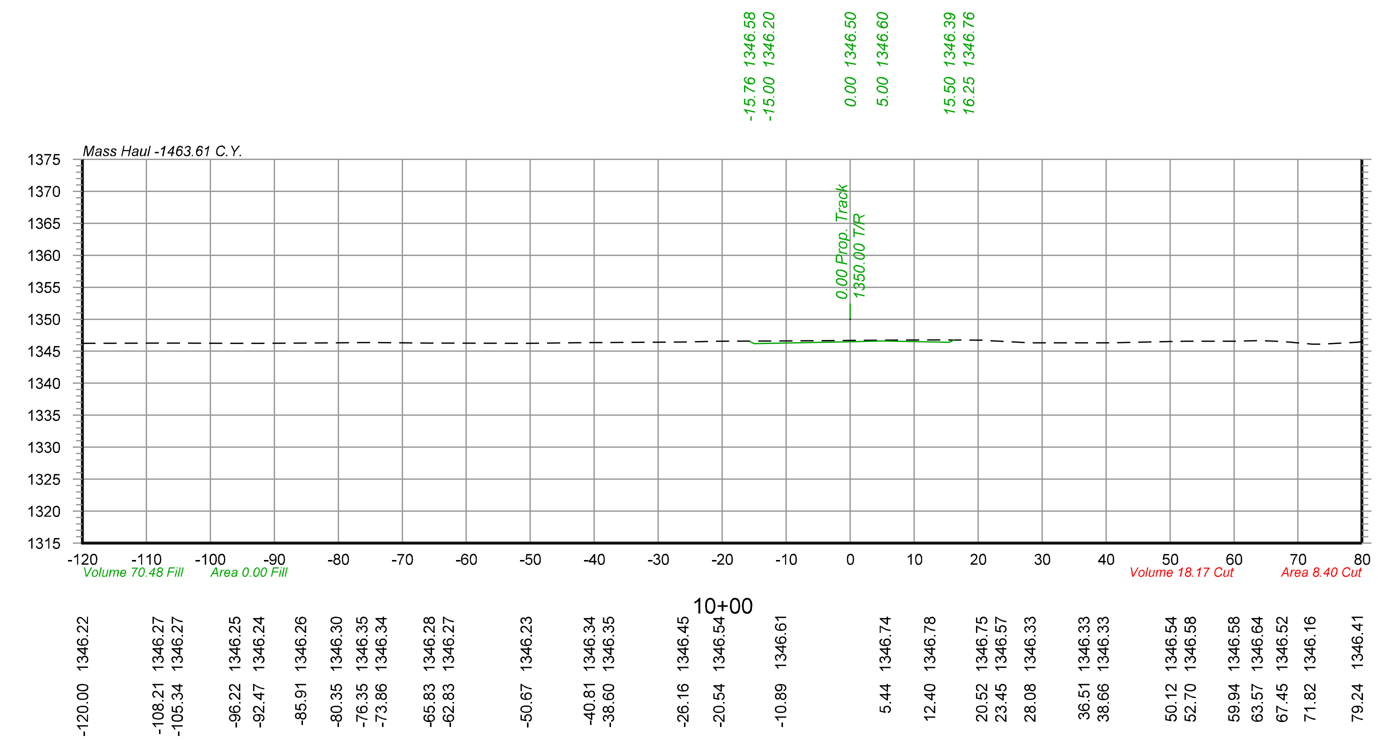
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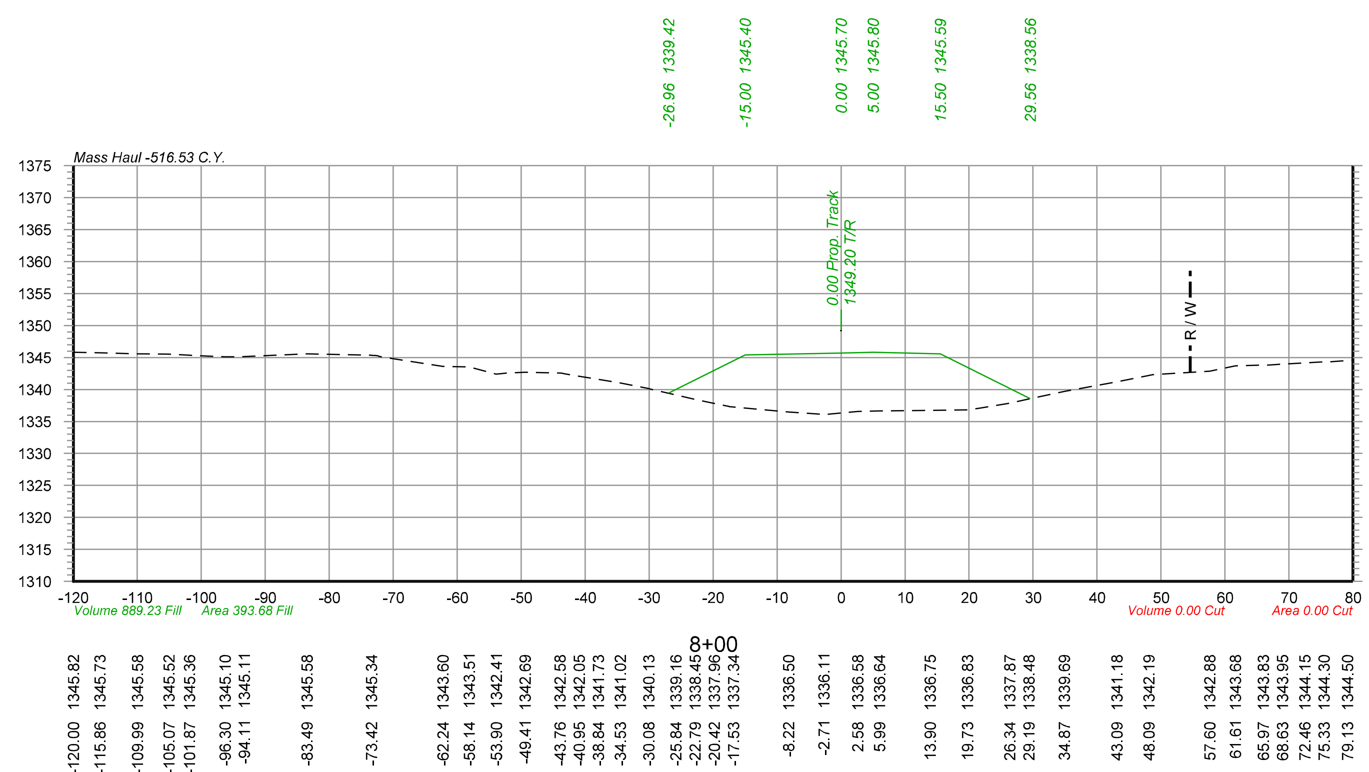
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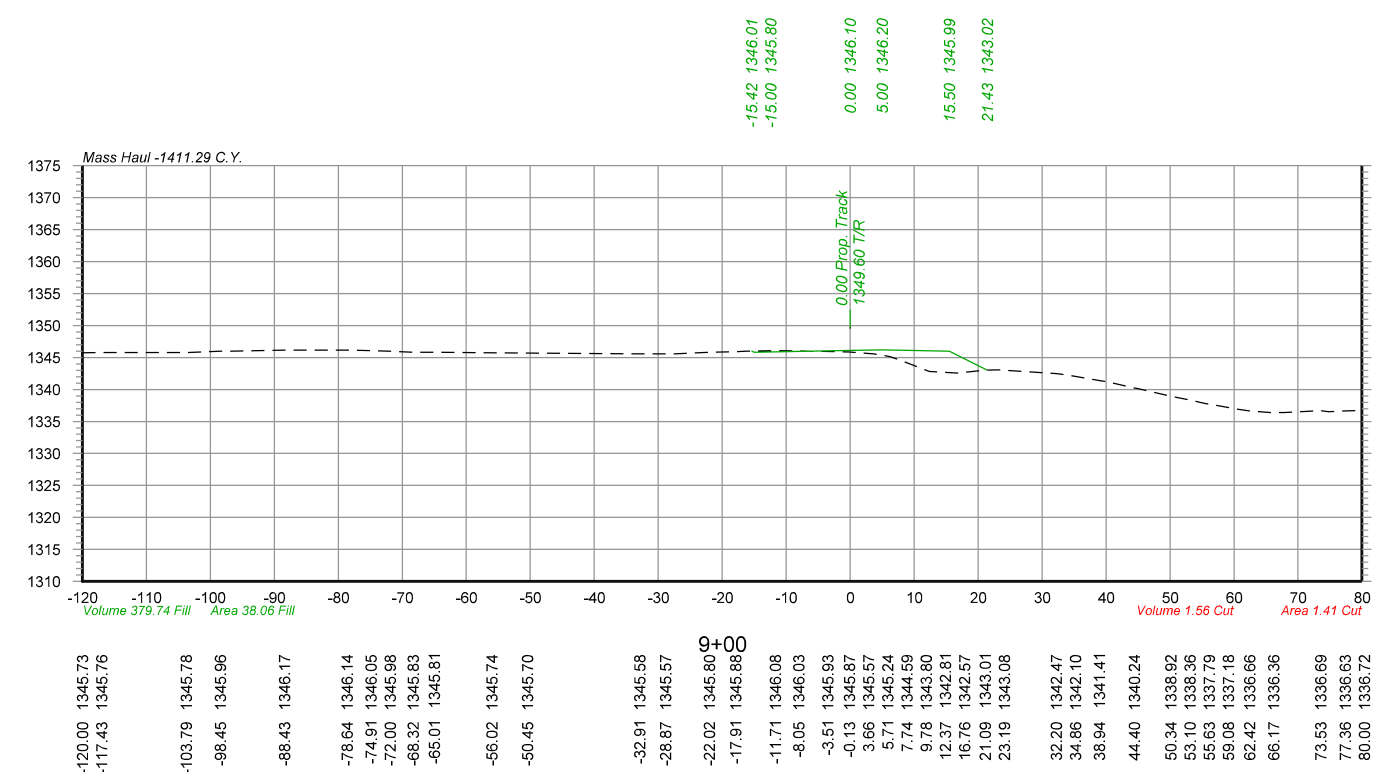
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CHECKED BY: JRM	LOCATION & DESCRIPTION: Mesa, Arizona - Maricopa County Phoenix Subdivision MP 934.79 to MP 937.83 Construct Industrial Lead Track
DATE: 6/3/2022	
SHEET NUMBER X037 of 115	SHEET TITLE: PIRATE LEAD TRACK CROSS SECTIONS STA.4+20 TO STA.7+00

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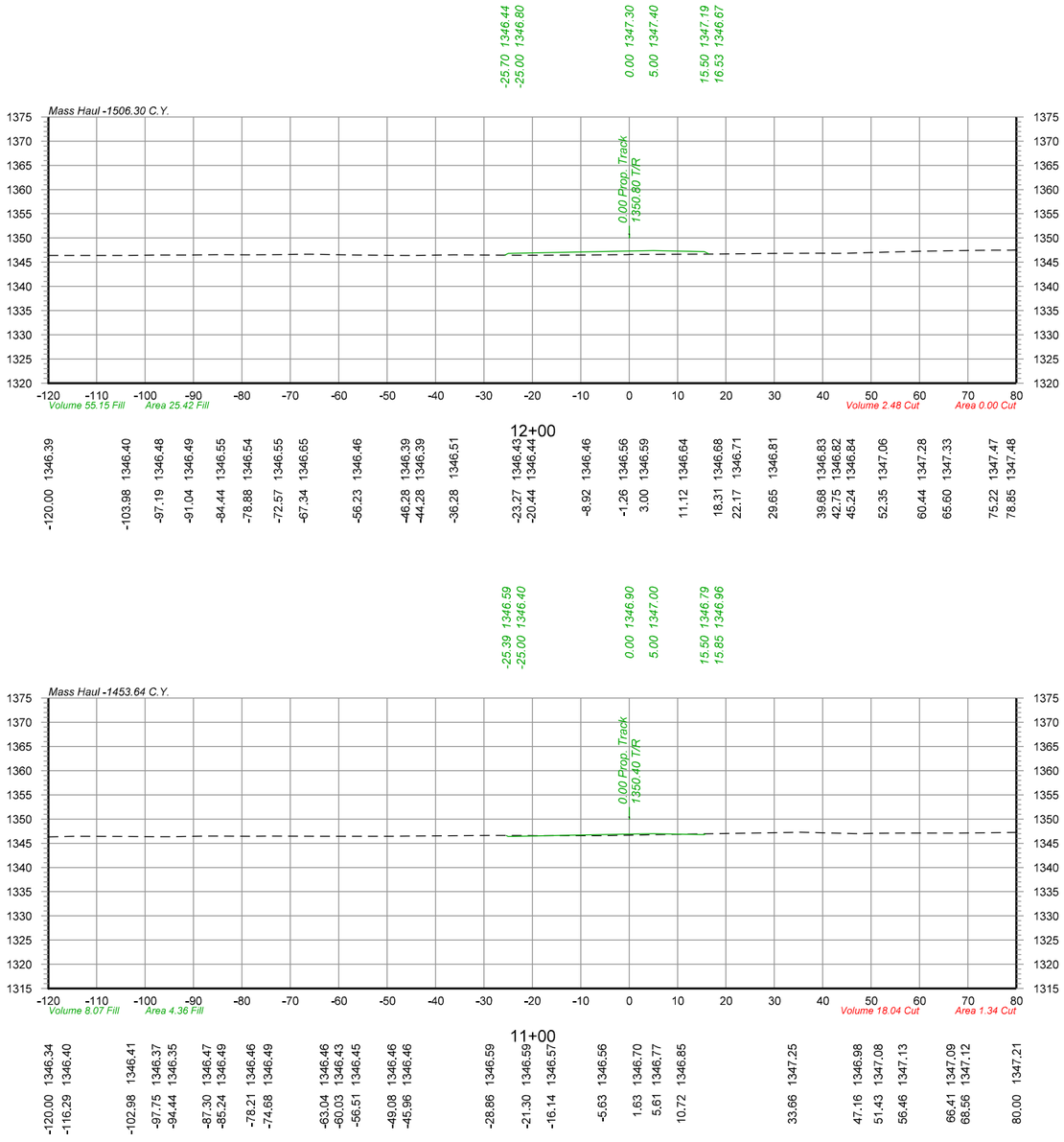


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CHECKED BY: JRM	LOCATION & DESCRIPTION: Mesa, Arizona - Maricopa County Phoenix Subdivision MP 934.79 to MP 937.83 Construct Industrial Lead Track
DATE: 6/3/2022	
SHEET NUMBER X038 of 115	SHEET TITLE: PIRATE LEAD TRACK CROSS SECTIONS STA.8+00 TO STA.10+00

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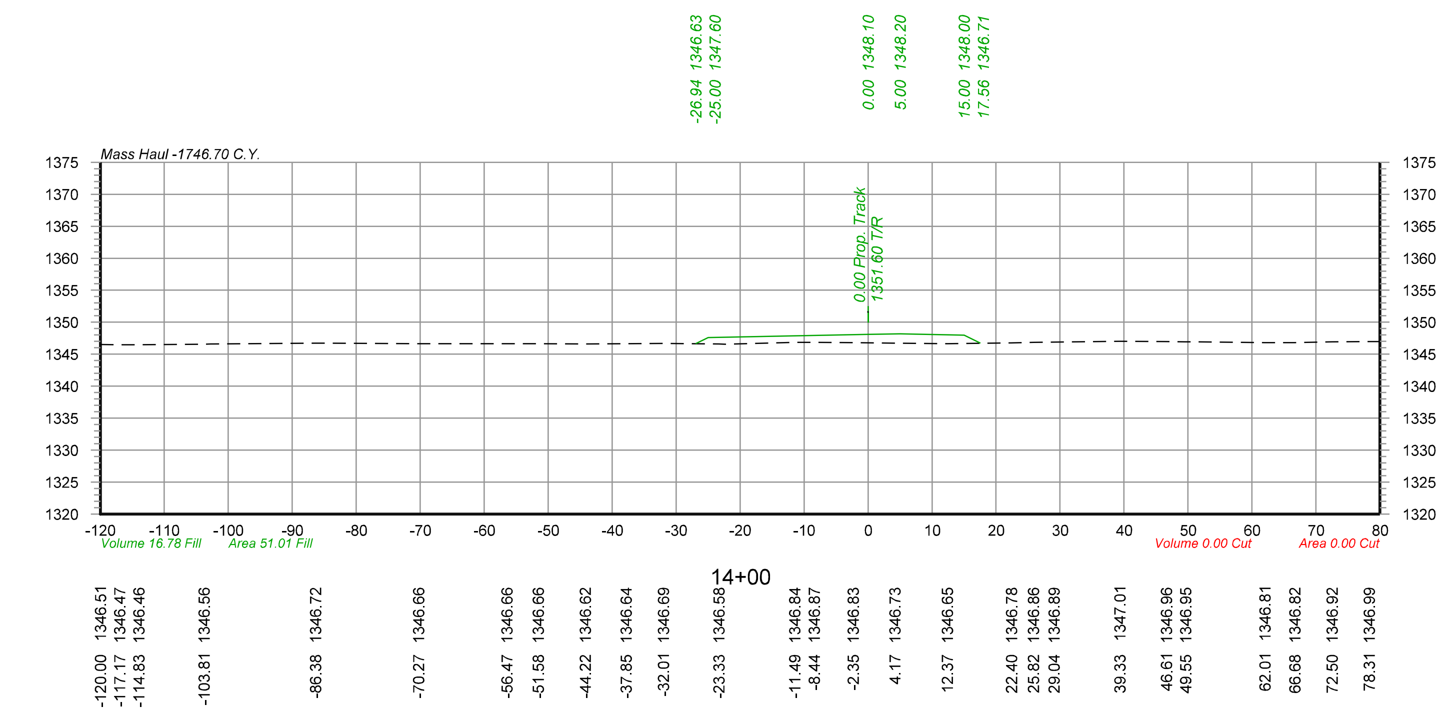
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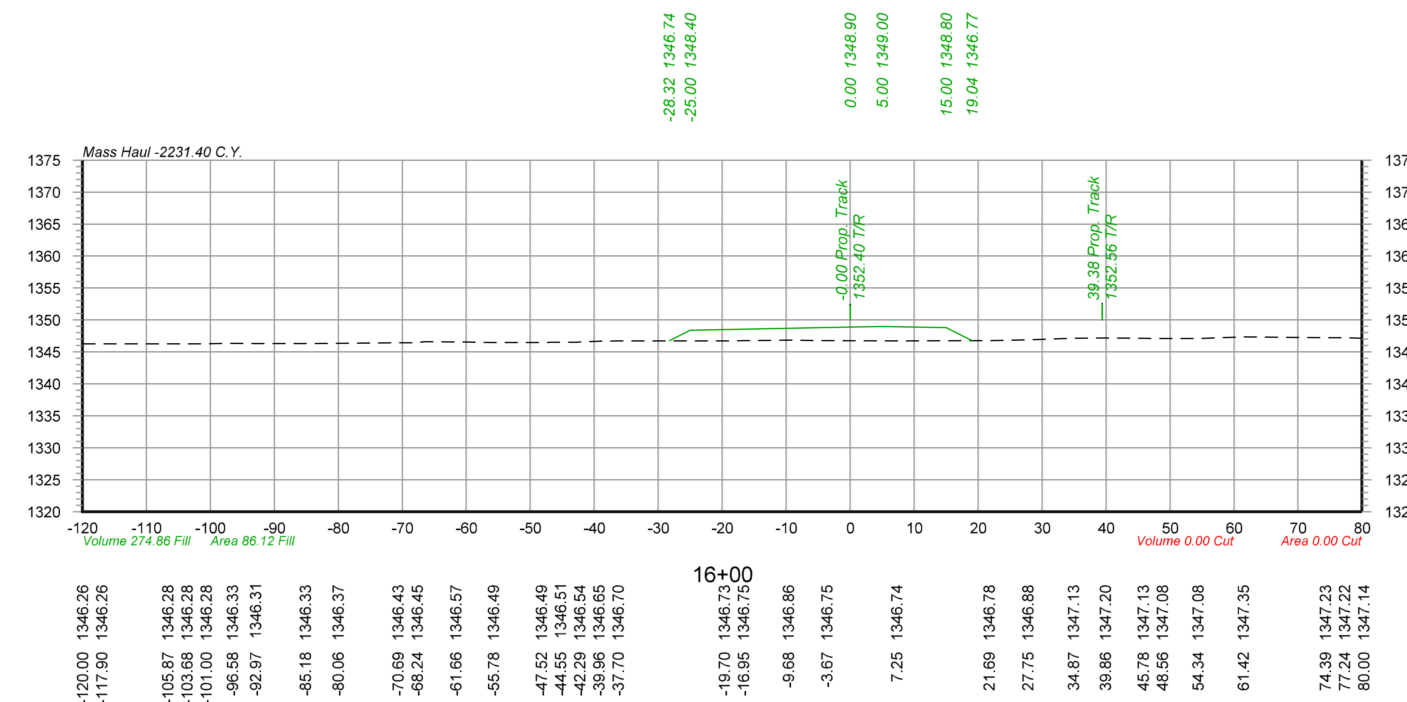
LOCATION & DESCRIPTION:
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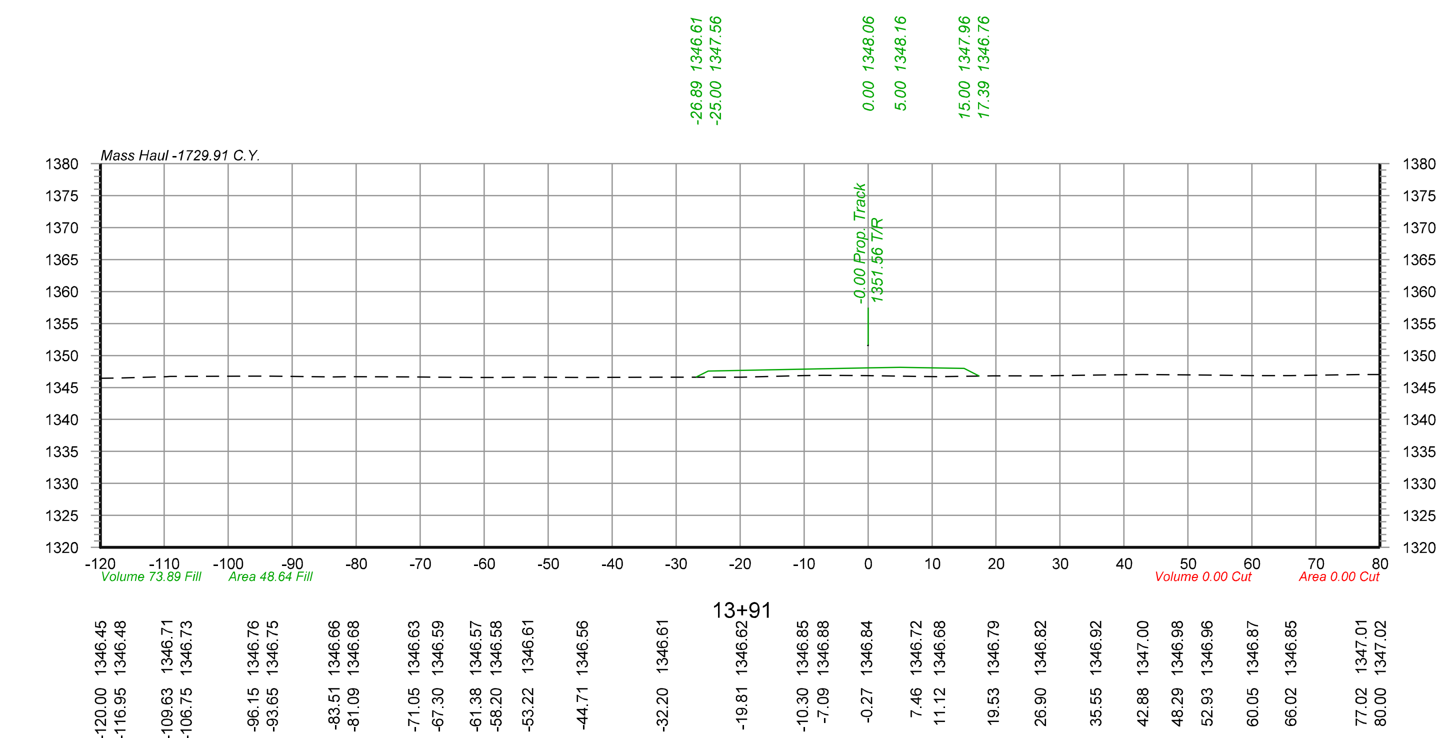
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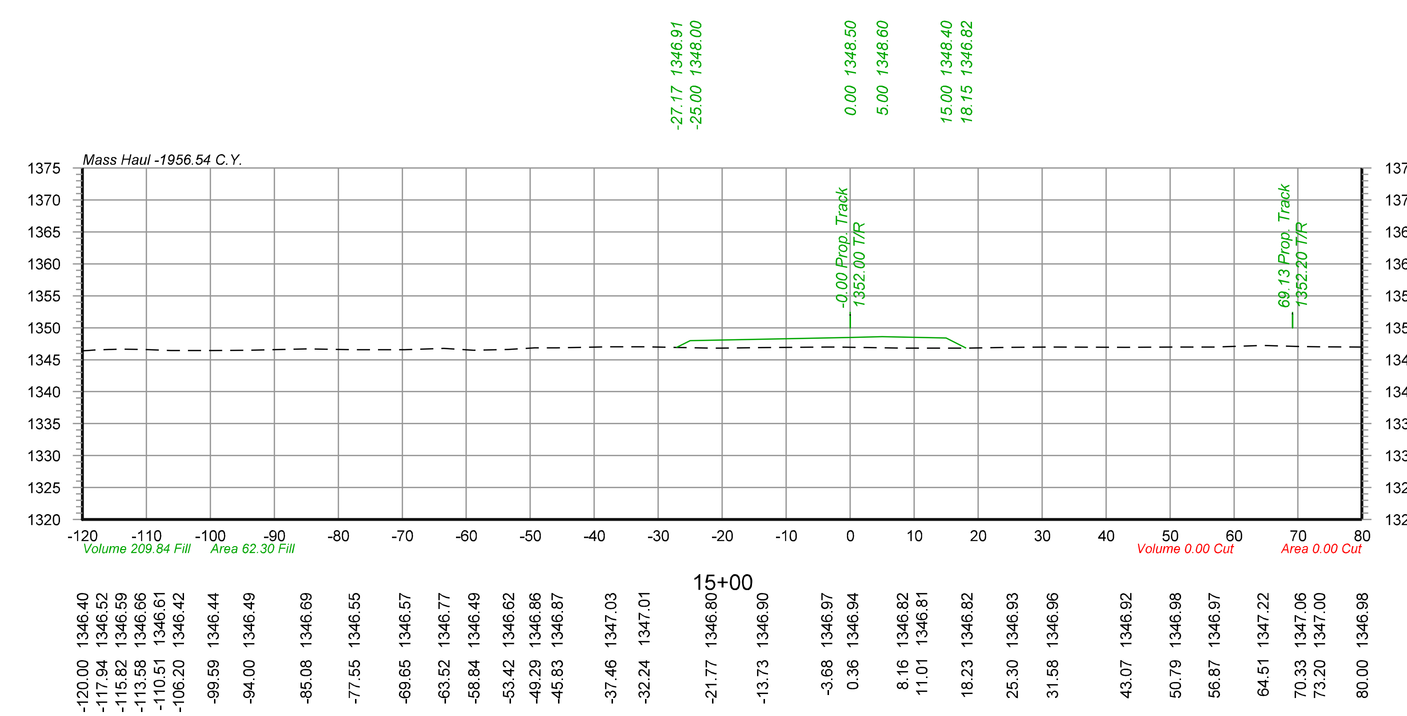
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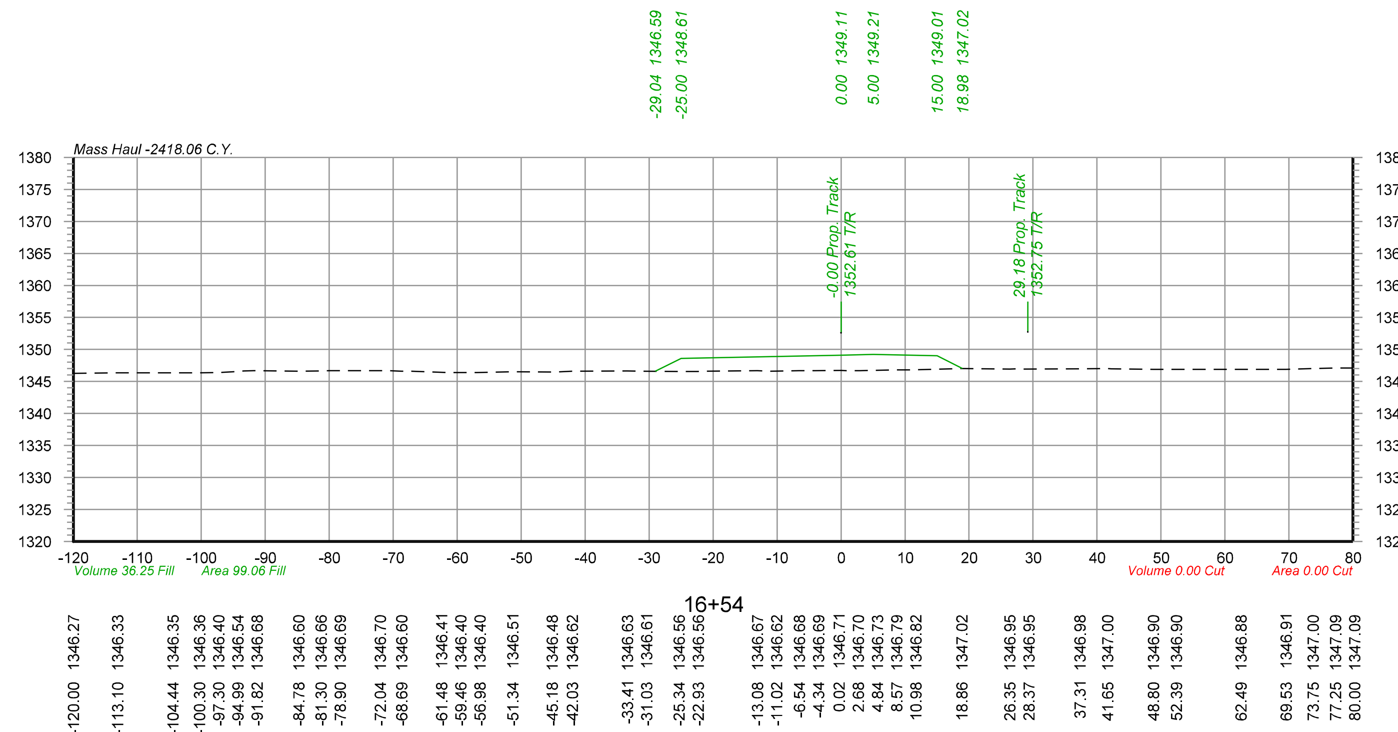


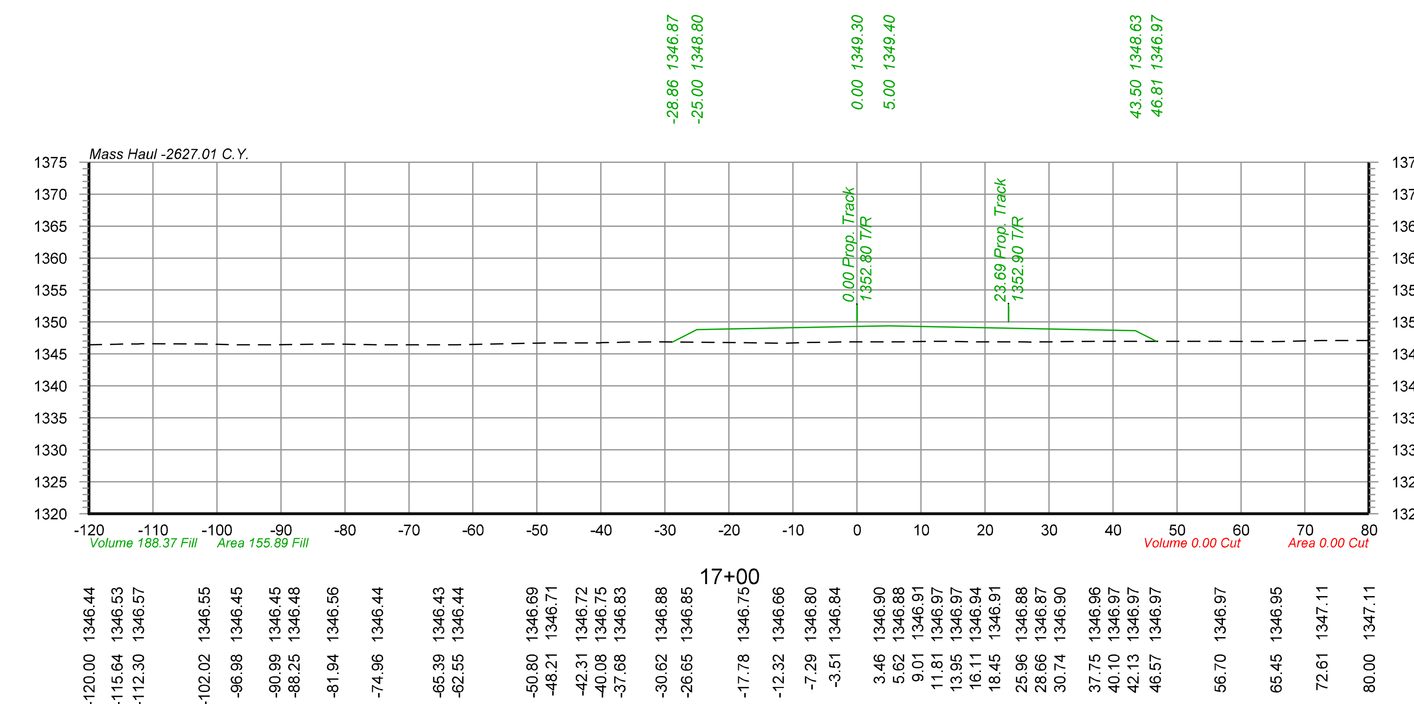
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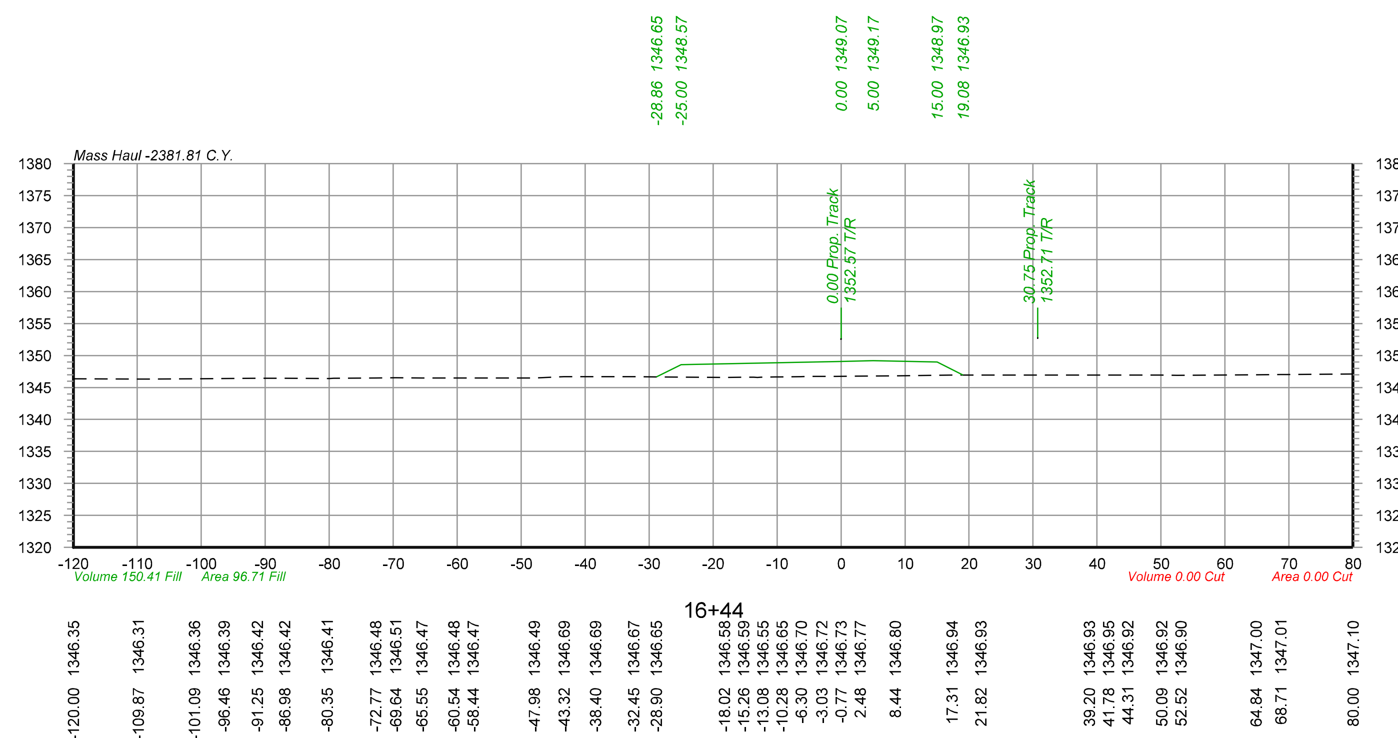
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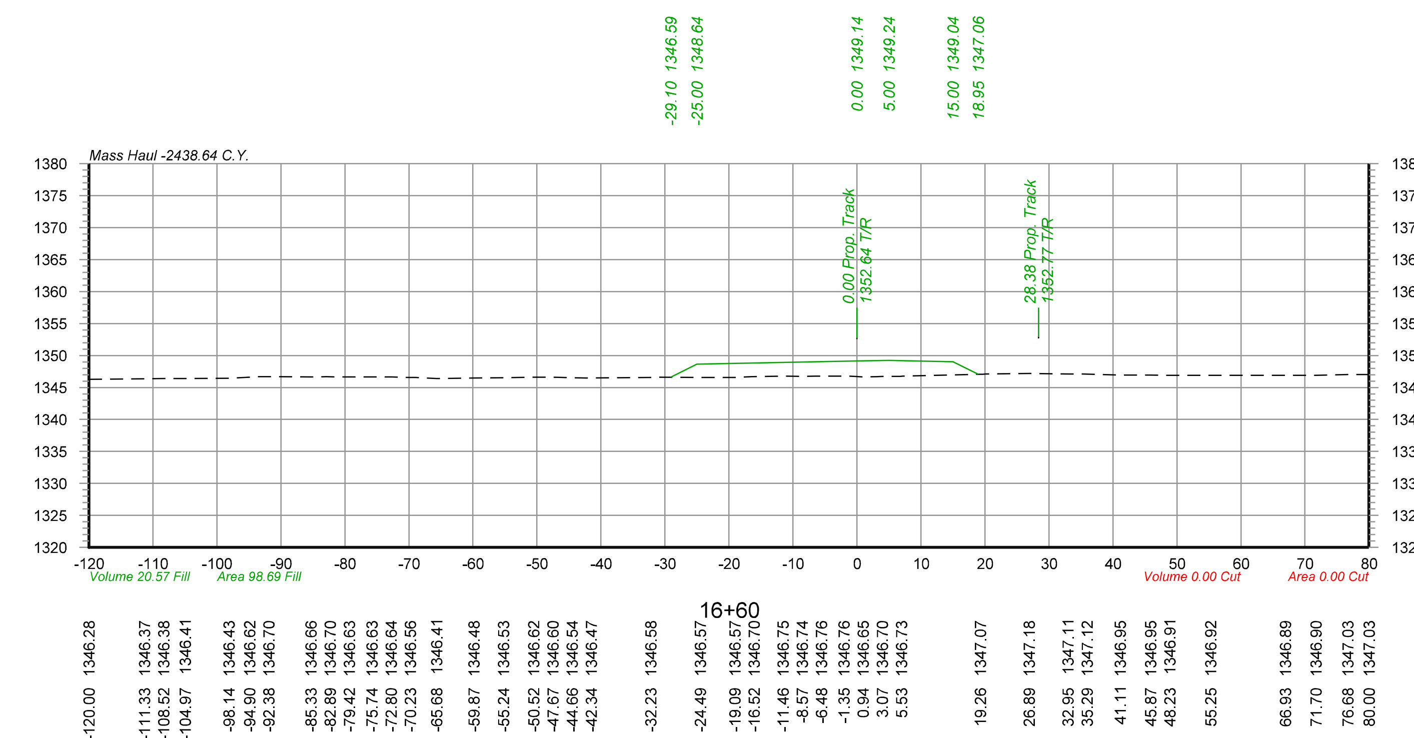
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CHECKED BY: JRM	LOCATION & DESCRIPTION: Mesa, Arizona - Maricopa County Phoenix Subdivision MP 934.79 to MP 937.83 Construct Industrial Lead Track
DATE: 6/3/2022	
SHEET NUMBER X040 of 115	SHEET TITLE: PIRATE LEAD TRACK CROSS SECTIONS STA.13+91 TO STA.16+00

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DATE: 6/3/2022
SHEET NUMBER X041 of 115

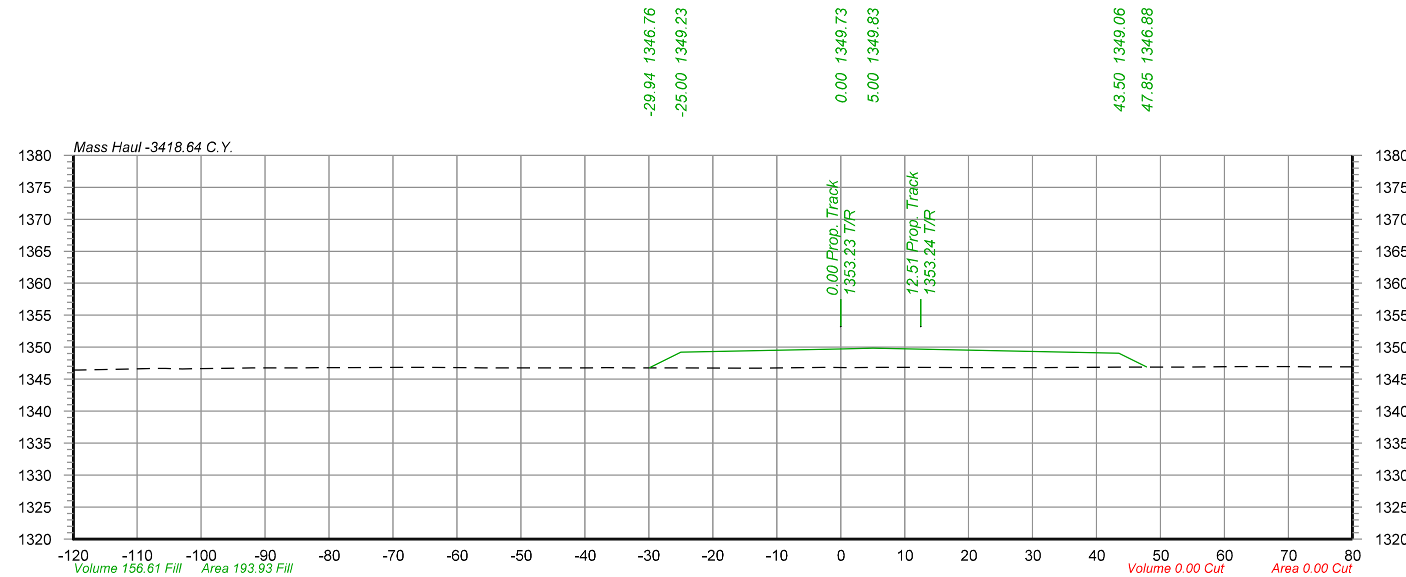
UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
PIRATE LEAD TRACK CROSS SECTIONS STA.16+44 TO STA.17+00

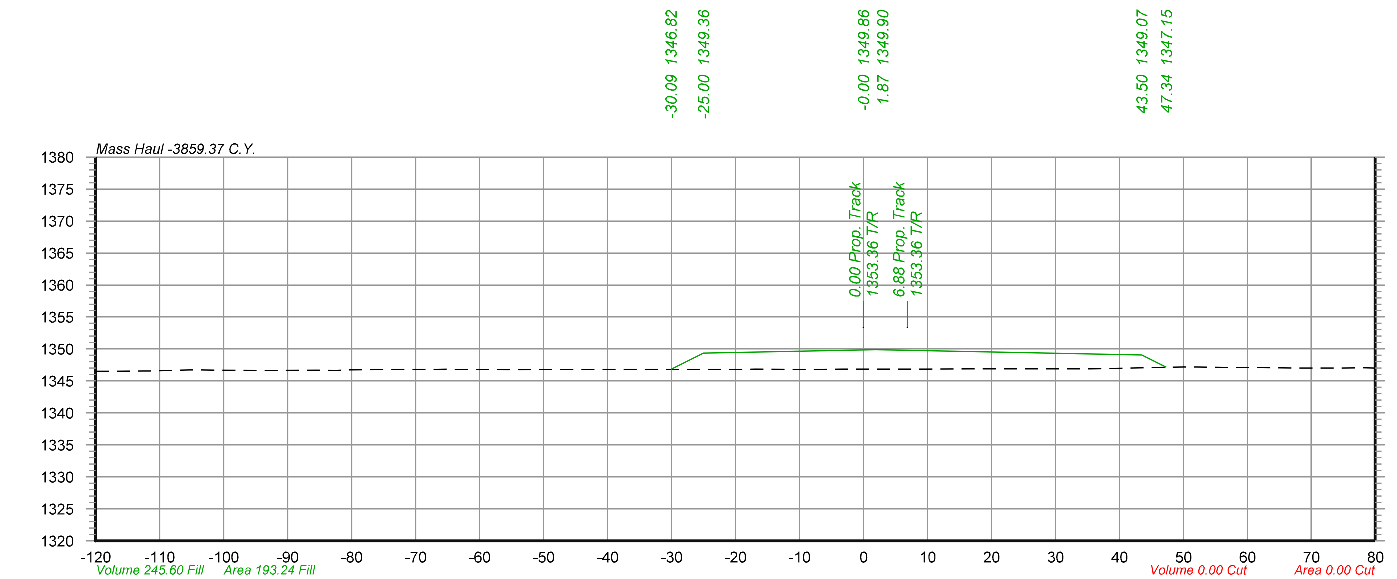
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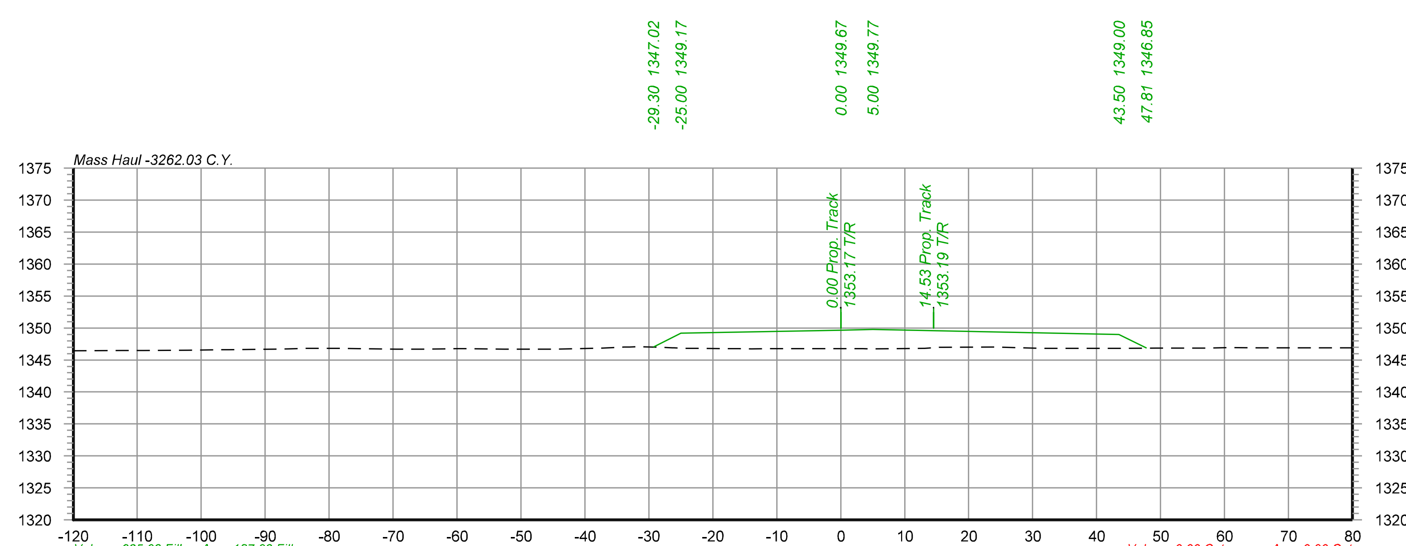
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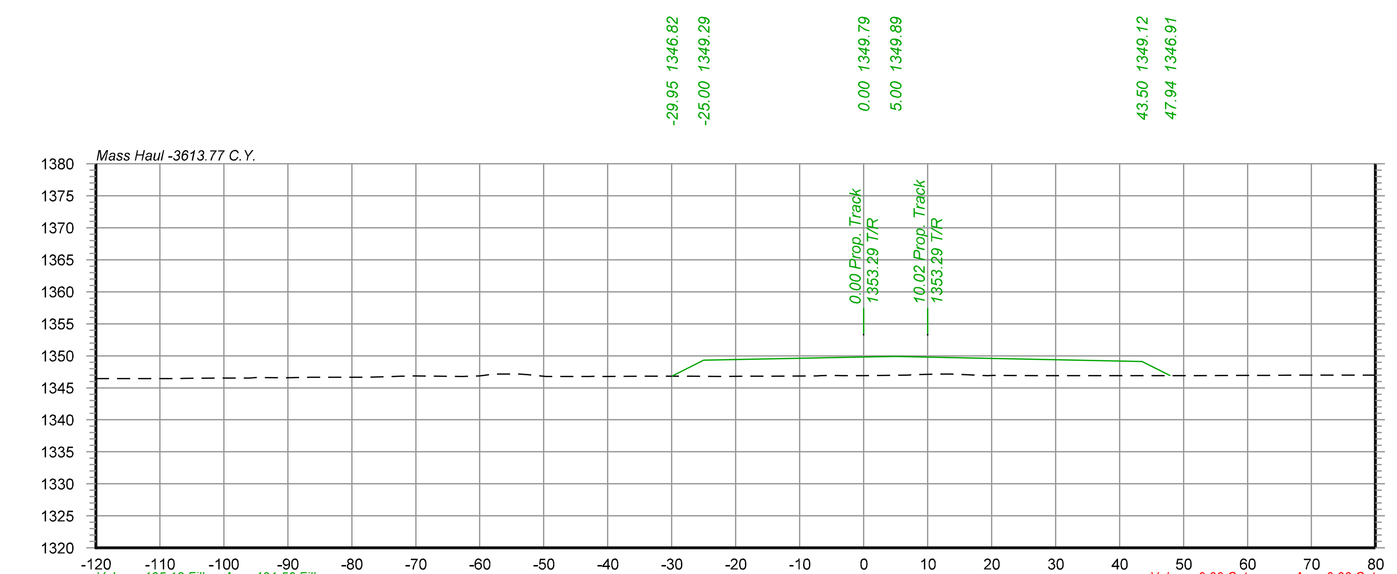
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18+00

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-90.51	1346.58
-86.37	1346.66
-81.52	1346.66
-78.20	1346.65
-74.73	1346.72
-72.29	1346.80
-62.72	1346.76
-60.07	1346.87
-57.85	1347.13
-53.93	1347.14
-49.69	1346.77
-42.93	1346.78
-40.40	1346.75
-33.91	1346.80
-31.75	1346.80
-29.51	1346.82
-27.23	1346.81
-22.15	1346.78
-18.48	1346.80
-14.14	1346.82
-7.33	1346.86
-5.11	1346.92
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11.89	1347.13
14.77	1347.11
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33.14	1346.90
36.06	1346.90
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51.88	1346.91
58.95	1346.93
62.88	1346.94
67.70	1346.96
71.86	1346.97
80.00	1346.98

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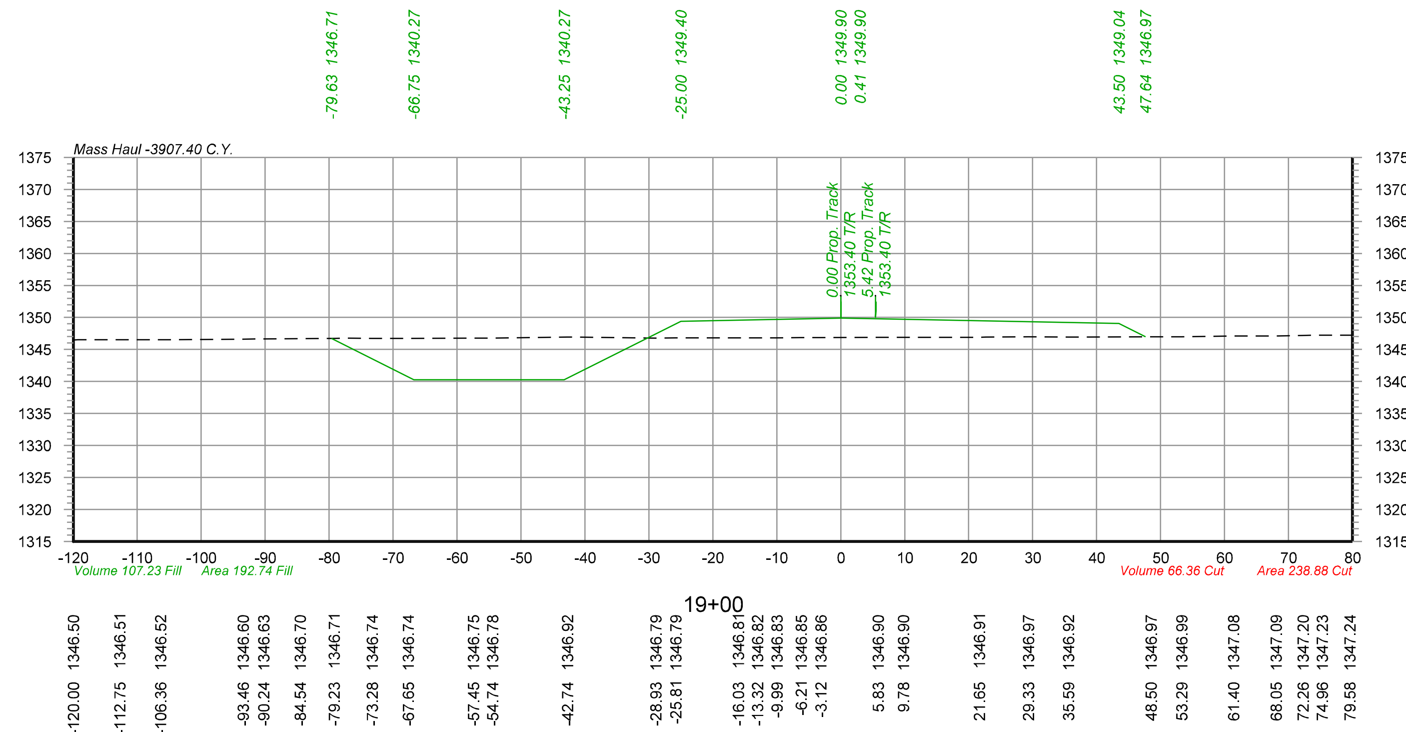
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SHEET NUMBER X042 of 115

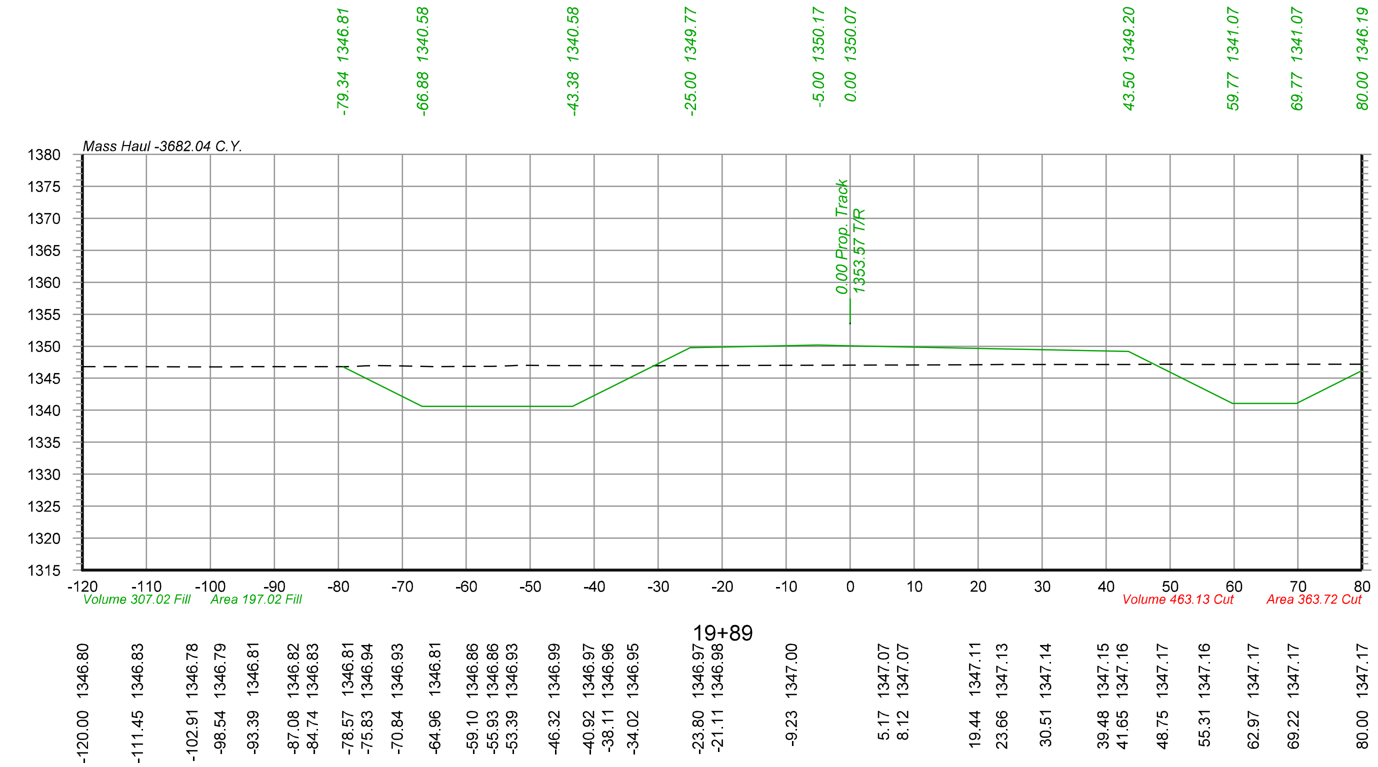
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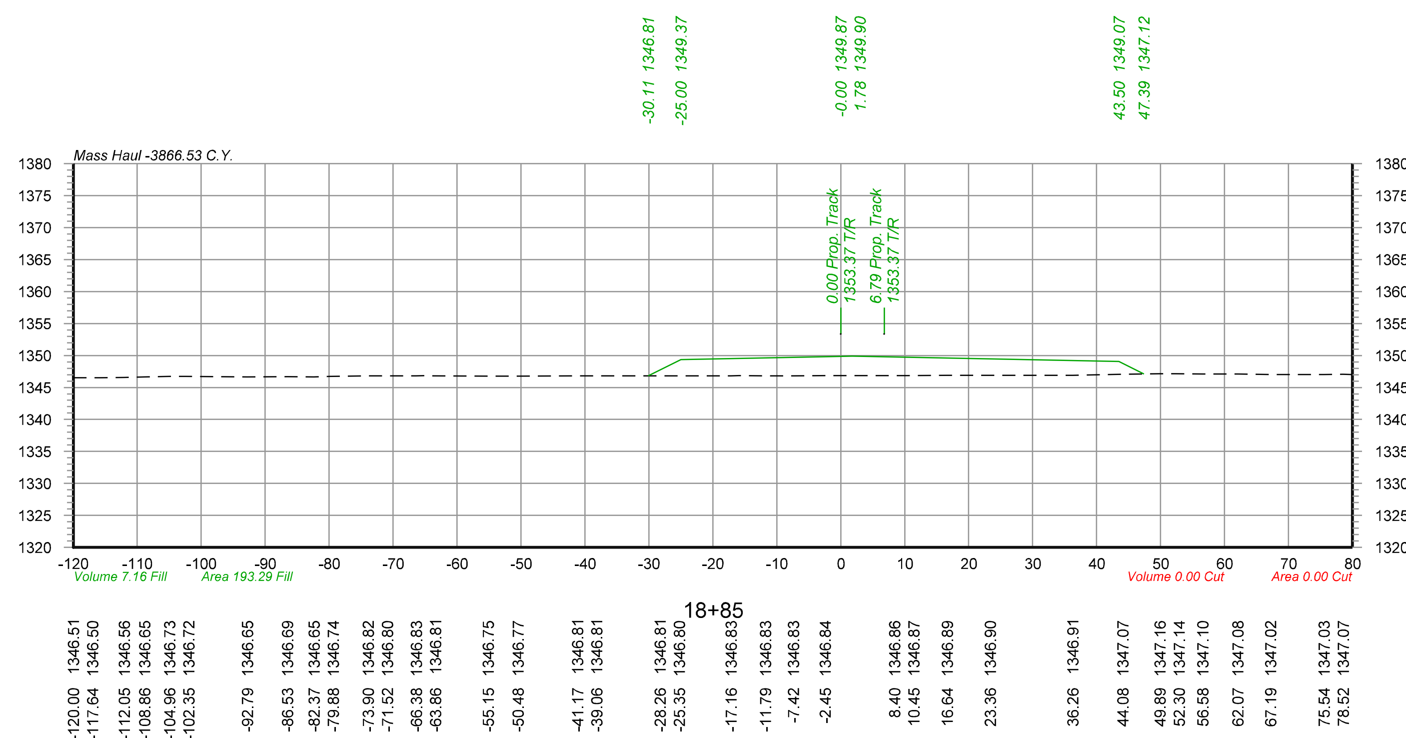
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Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

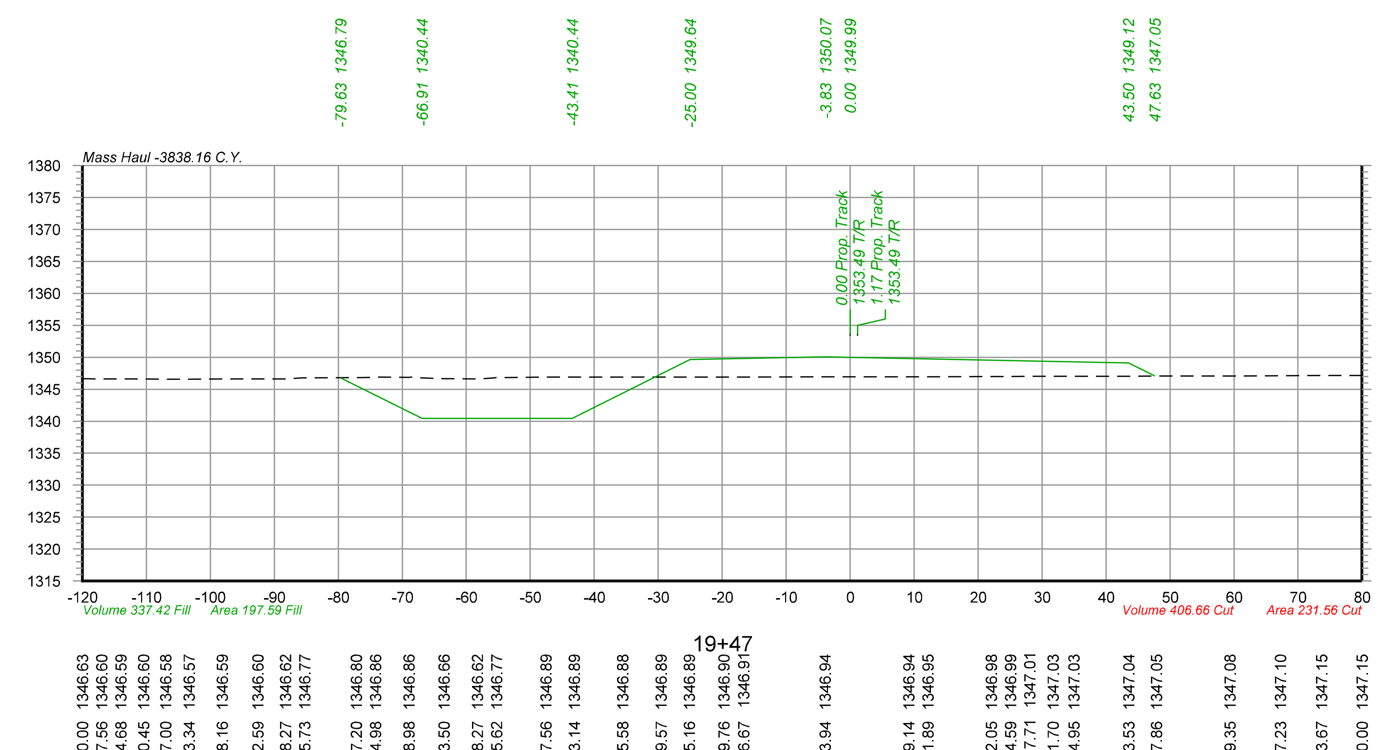
SHEET TITLE:
PIRATE LEAD TRACK CROSS SECTIONS STA.18+00 TO STA.18+84

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6/3/2022
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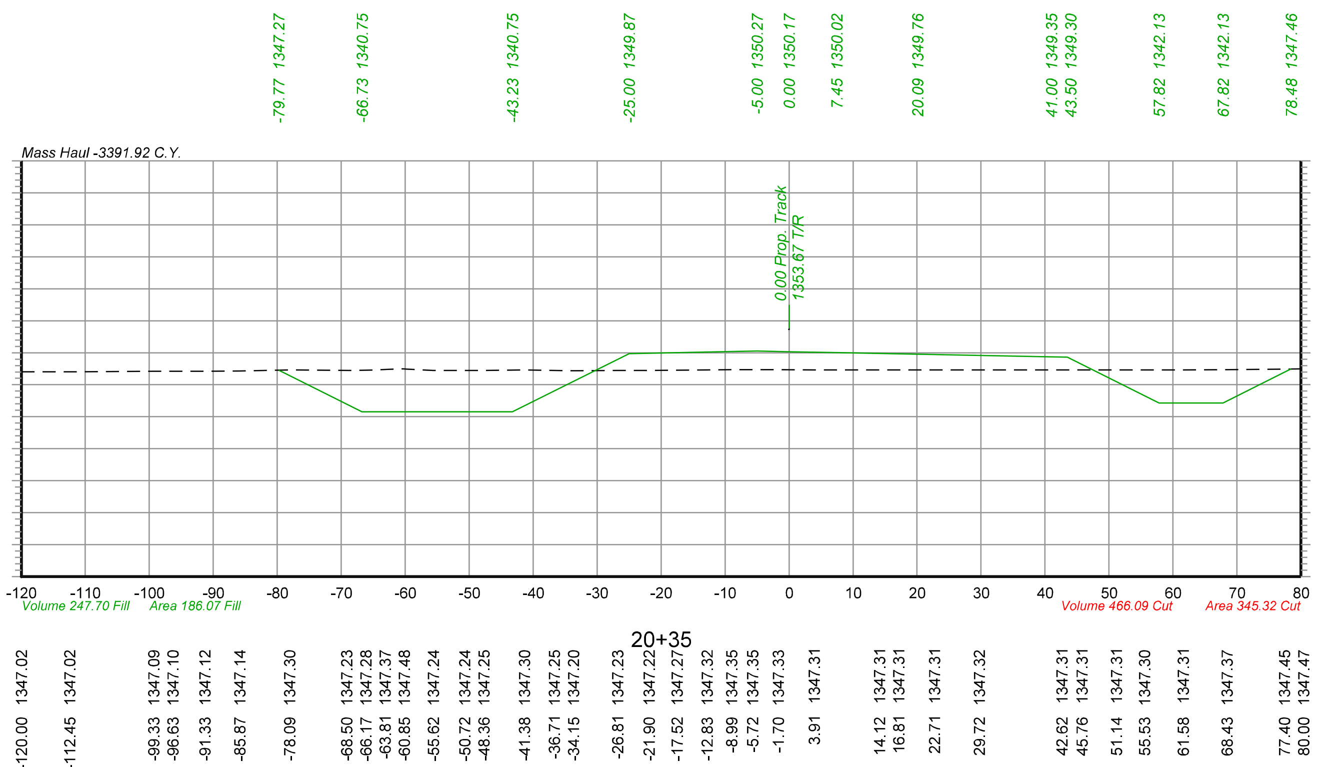


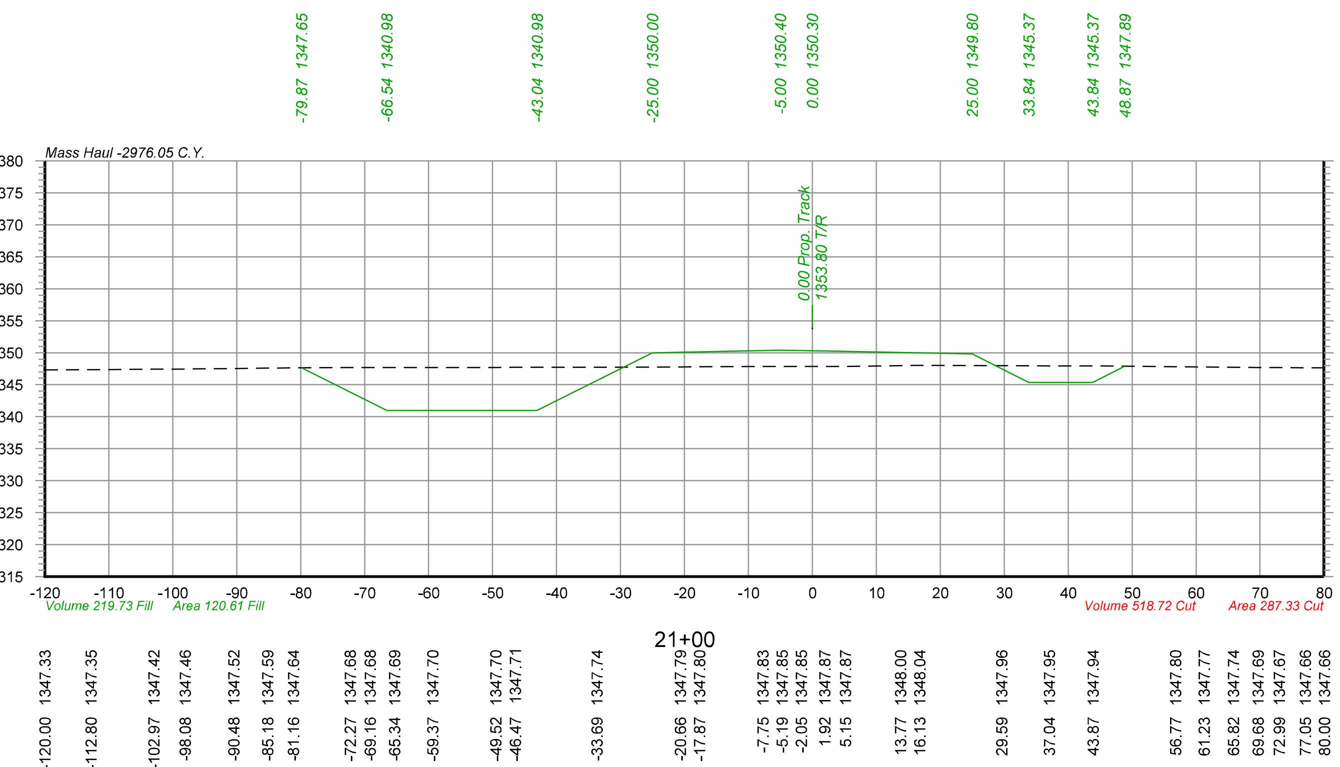
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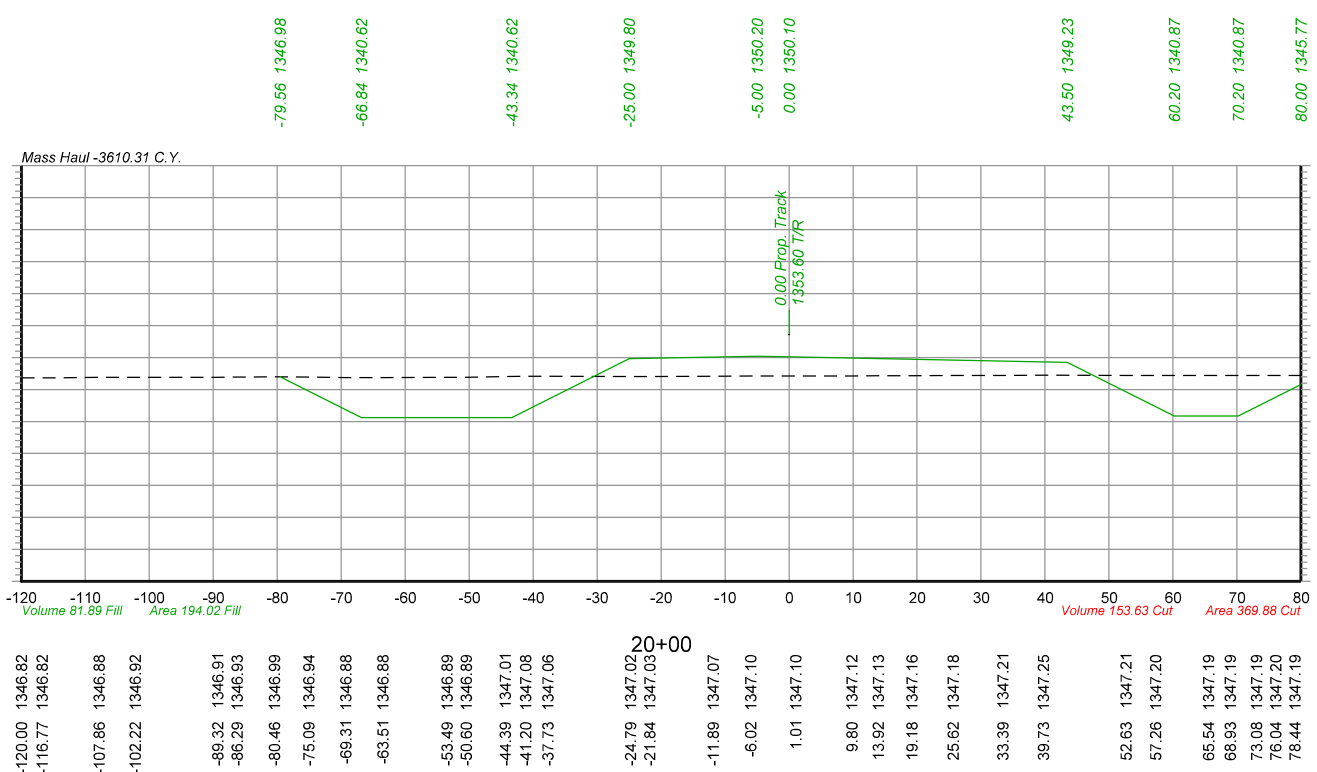
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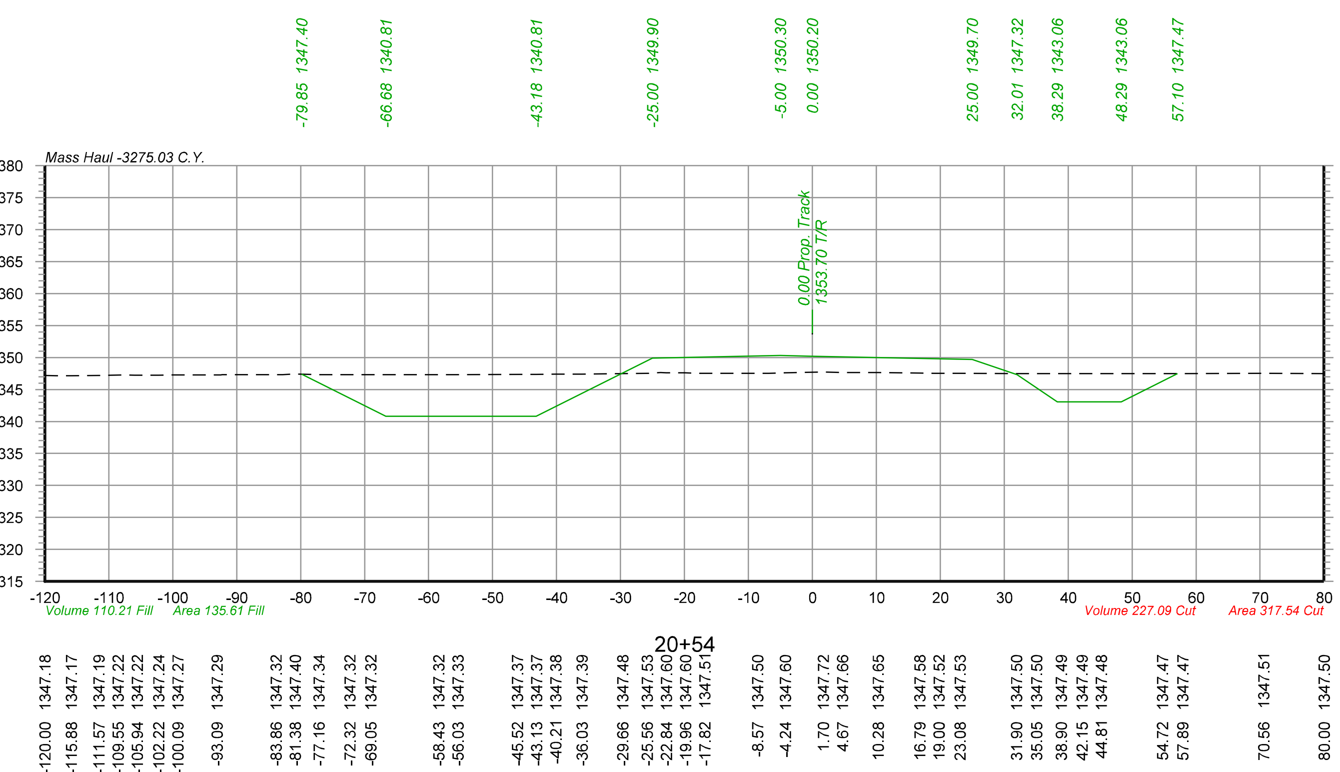
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CHECKED BY: JRM	LOCATION & DESCRIPTION: Mesa, Arizona - Maricopa County Phoenix Subdivision MP 934.79 to MP 937.83 Construct Industrial Lead Track
DATE: 6/3/2022	
SHEET NUMBER X043 of 115	SHEET TITLE: PIRATE LEAD TRACK CROSS SECTIONS STA.18+85 TO STA.19+89

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6/3/2022









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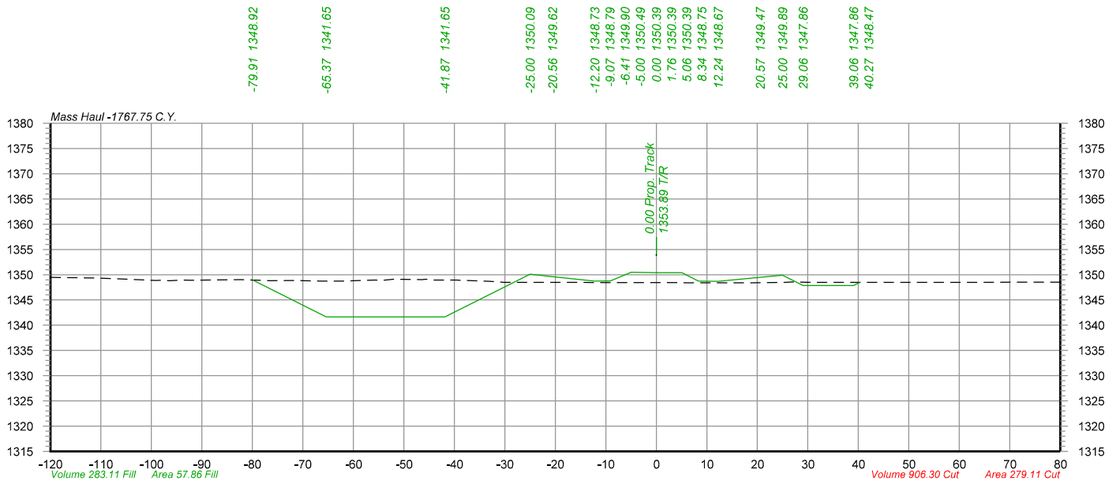
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DATE: 6/3/2022
SHEET NUMBER: X044 of 115

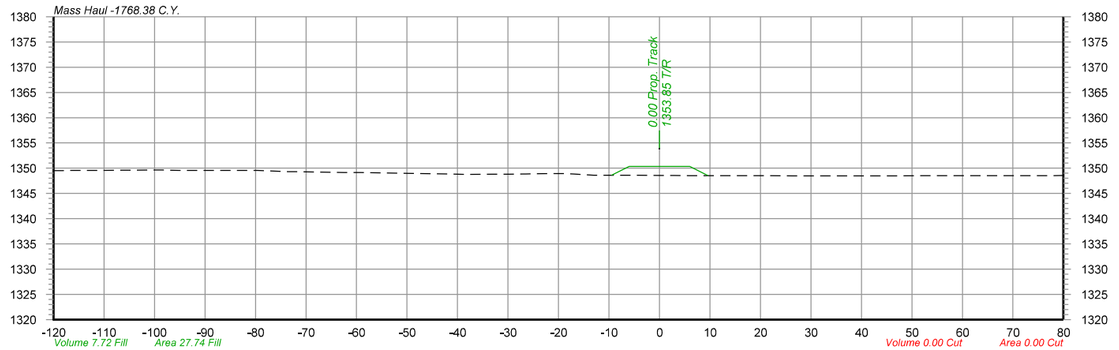
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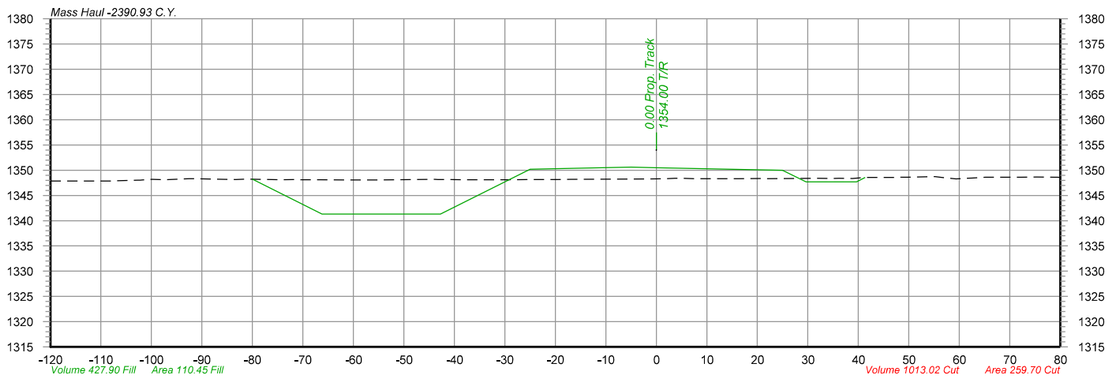
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Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

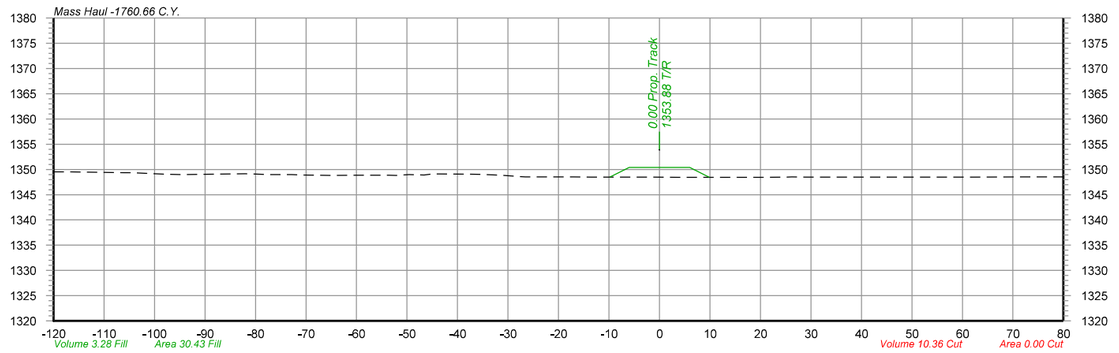
SHEET TITLE:
PIRATE LEAD TRACK CROSS SECTIONS STA.20+00 TO STA.21+00

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DATE:	6/3/2022
SHEET NUMBER	X045 of 115

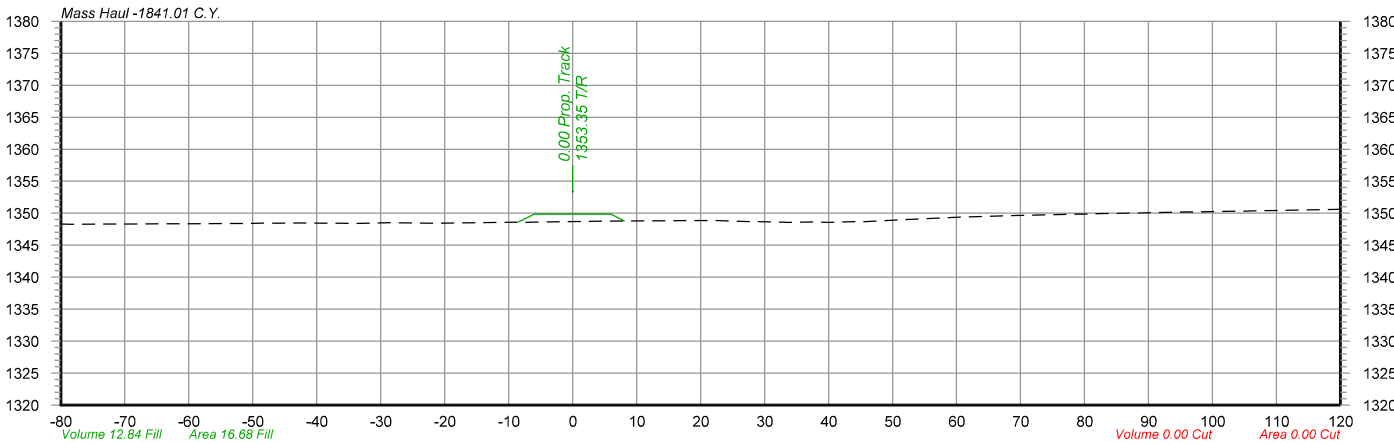
UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
PIRATE LEAD TRACK CROSS SECTIONS STA.22+00 TO STA.23+00

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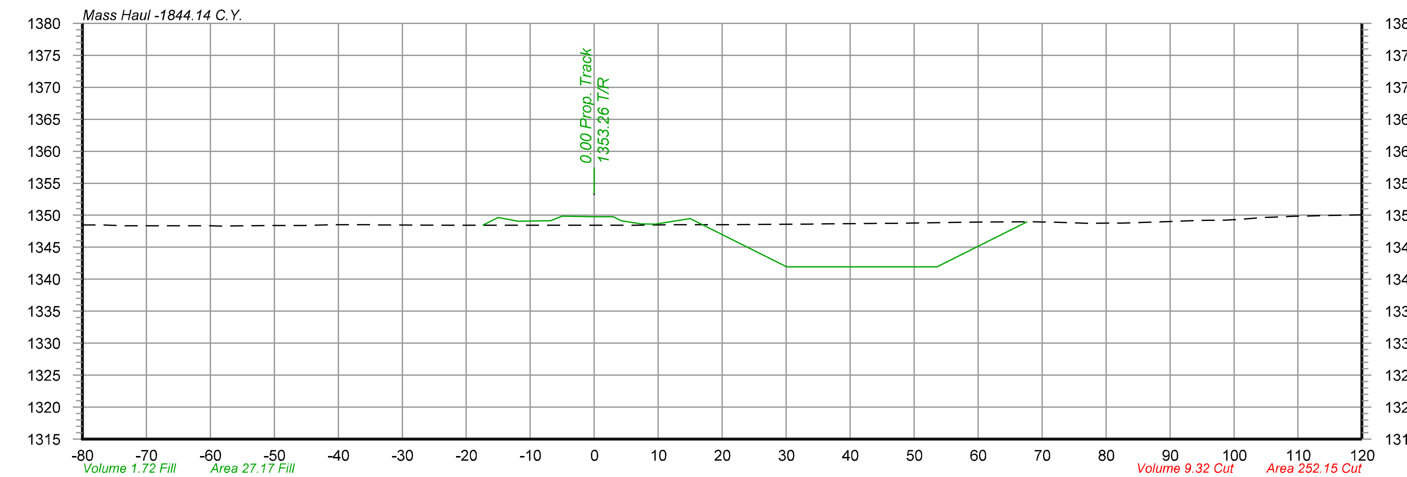
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24+00

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-64.08 1348.34
-59.86 1348.37
-53.43 1348.37
-50.66 1348.38
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-28.61 1348.51
-21.79 1348.44
-18.31 1348.47
-8.24 1348.59
5.38 1348.76
11.56 1348.82
15.16 1348.82
17.41 1348.87
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27.58 1348.69
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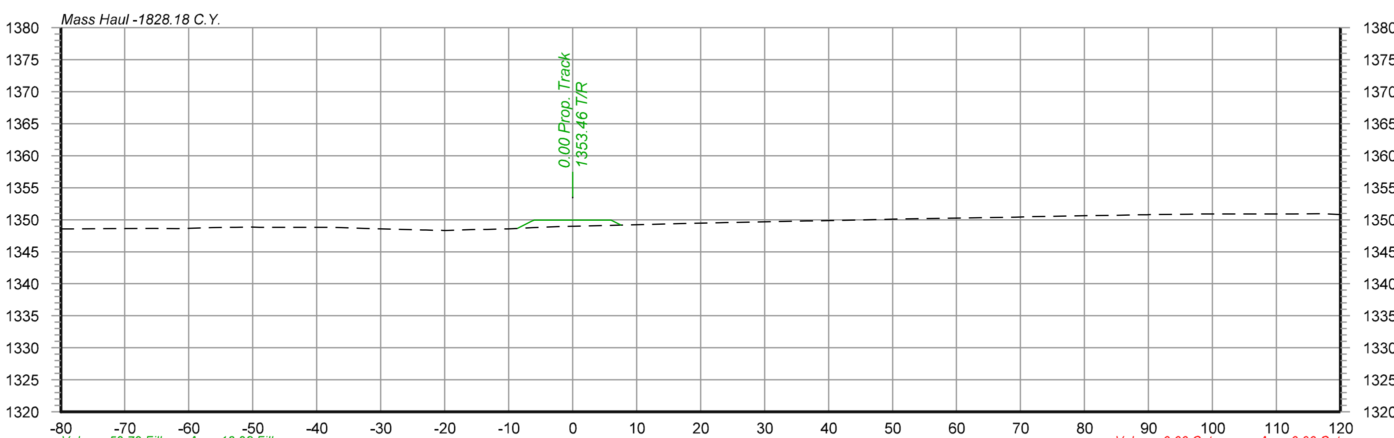
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67.67 1348.97



24+18

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90.08 1349.03
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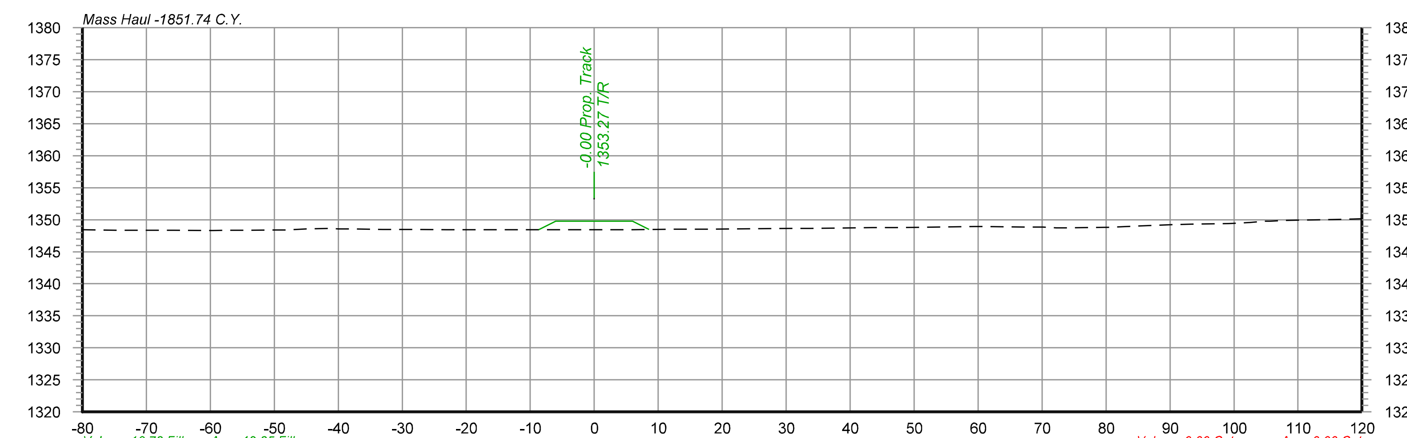
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6.00 1349.96
6.25 1349.83
7.60 1349.16



23+77

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-65.40 1348.66
-61.79 1348.60
-56.23 1348.78
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26.82 1349.62
28.89 1349.66
36.57 1349.80
45.73 1349.98
50.71 1350.09
53.11 1350.13
58.09 1350.23
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63.65 1350.32
66.23 1350.36
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71.63 1350.46
74.52 1350.51
76.55 1350.55
81.12 1350.63
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88.50 1350.77
96.23 1350.85
102.65 1350.92
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117.18 1350.94
119.93 1350.82

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-6.00 1349.77
0.00 1349.77
6.00 1349.77
8.57 1348.48



24+16

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-74.73 1348.37
-72.55 1348.35
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115.18 1350.03
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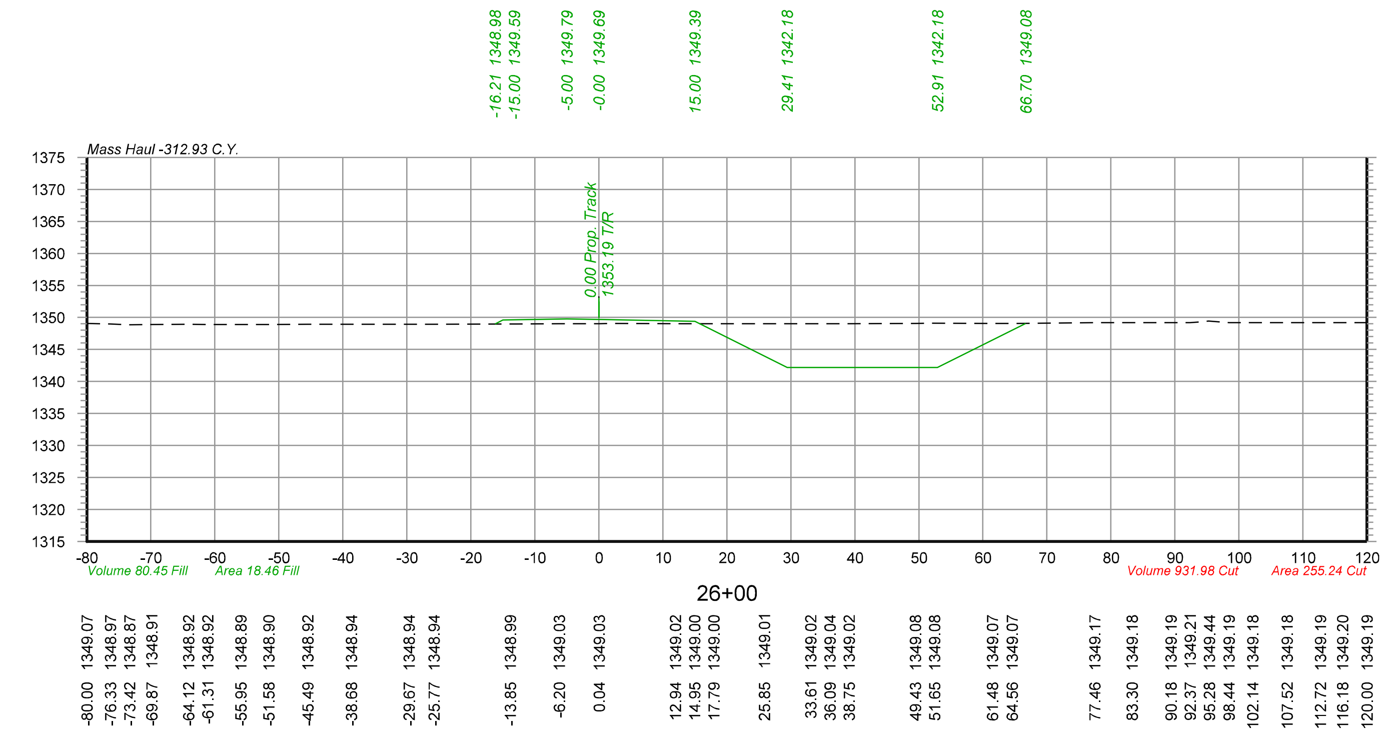
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SHEET NUMBER X046 of 115

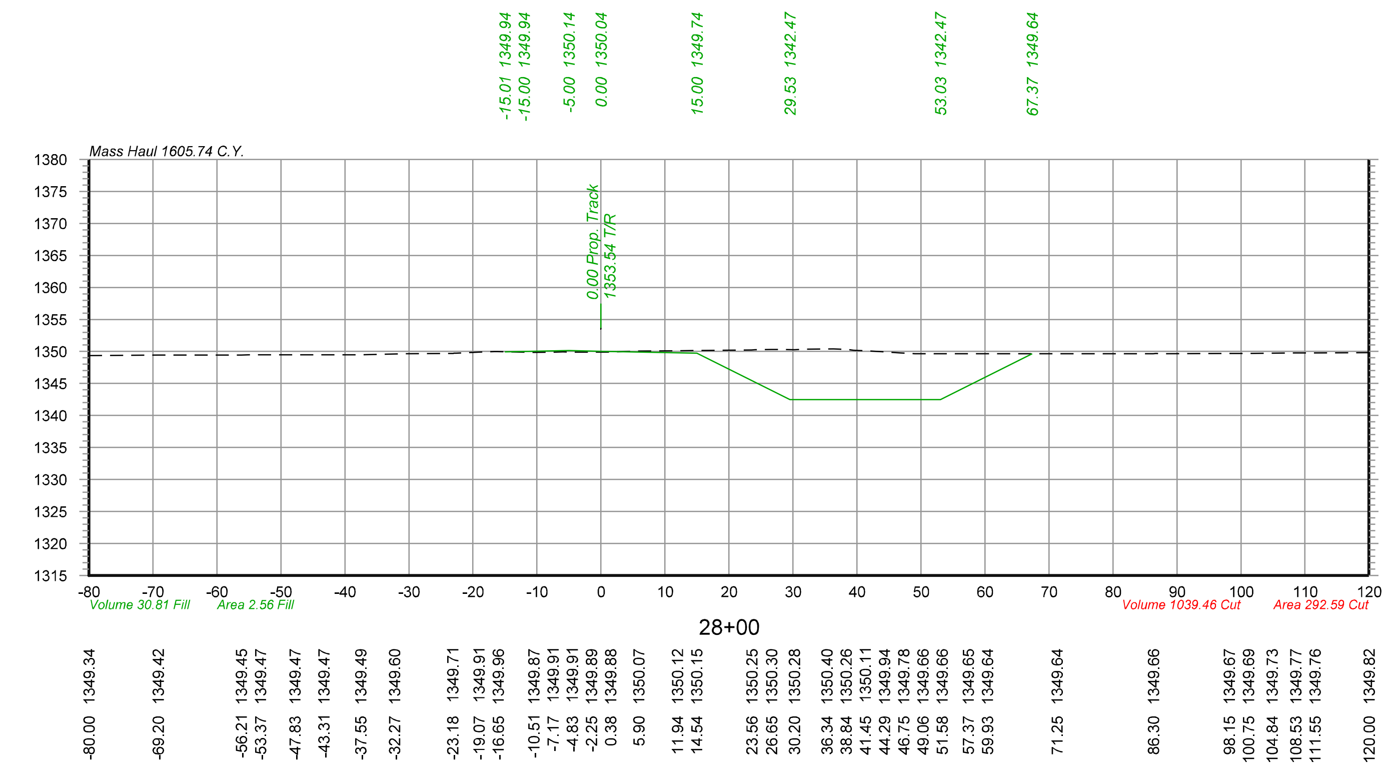
UNION PACIFIC RAILROAD

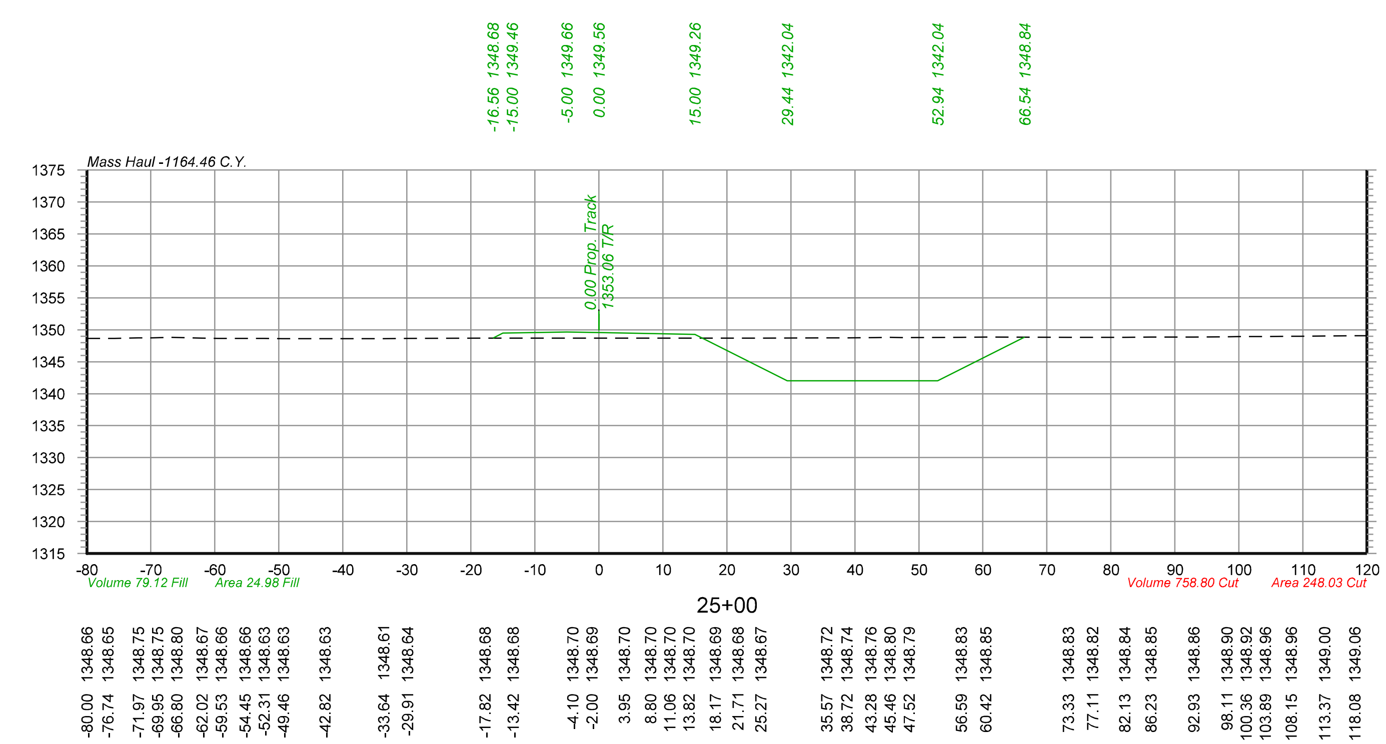
LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

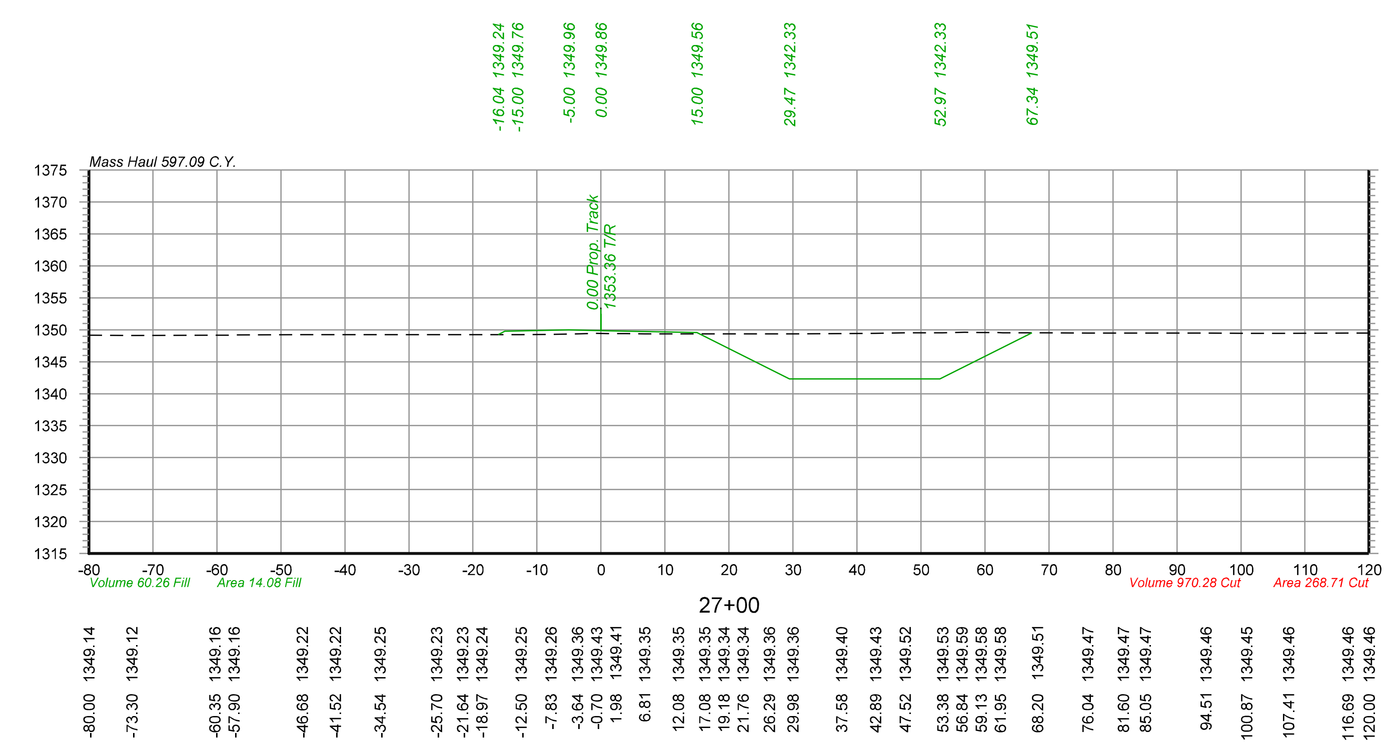
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PIRATE LEAD TRACK CROSS SECTIONS STA.23+77 TO STA.24+18

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SHEET NUMBER	X047 of 115

UNION PACIFIC RAILROAD

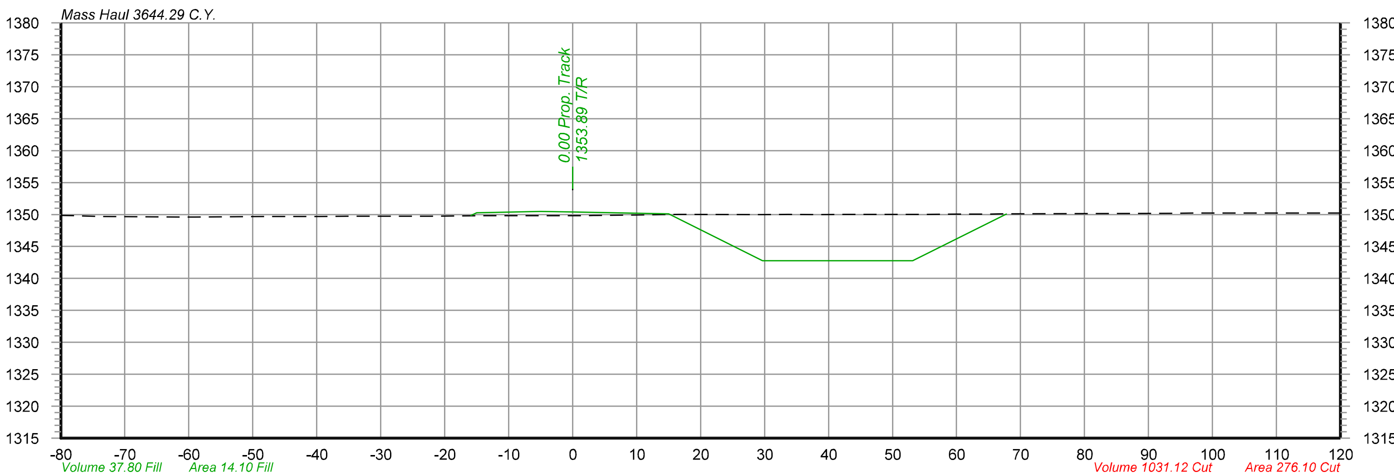
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Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
PIRATE LEAD TRACK CROSS SECTIONS STA.25+00 TO STA.28+00

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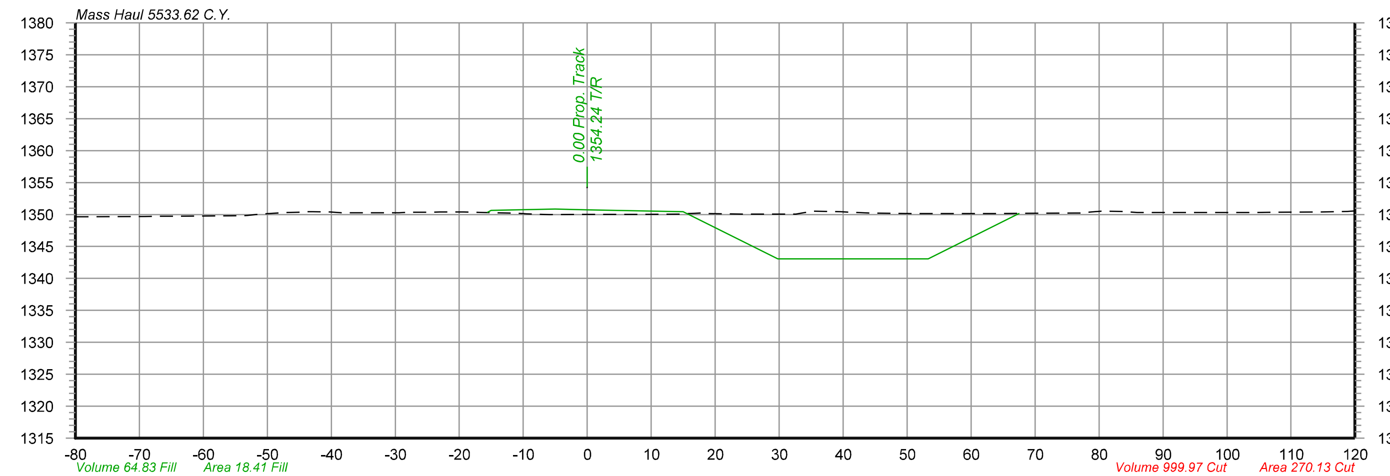
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67.84 1350.10



30+00

-80.00	1349.84
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2.03	1349.83
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29.49	1349.99
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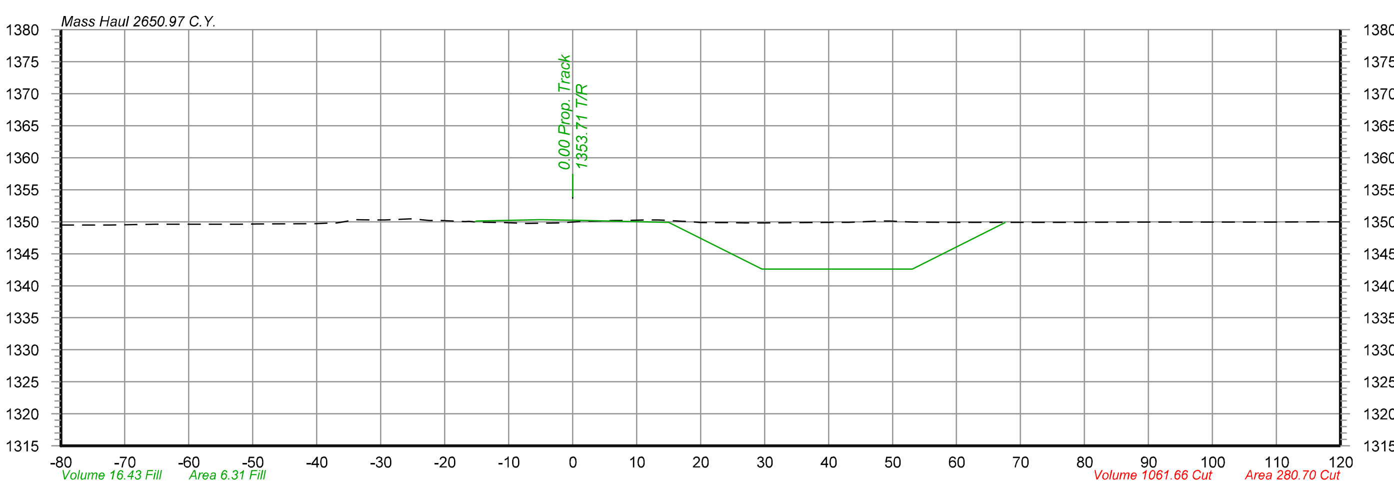
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67.55 1350.18



32+00

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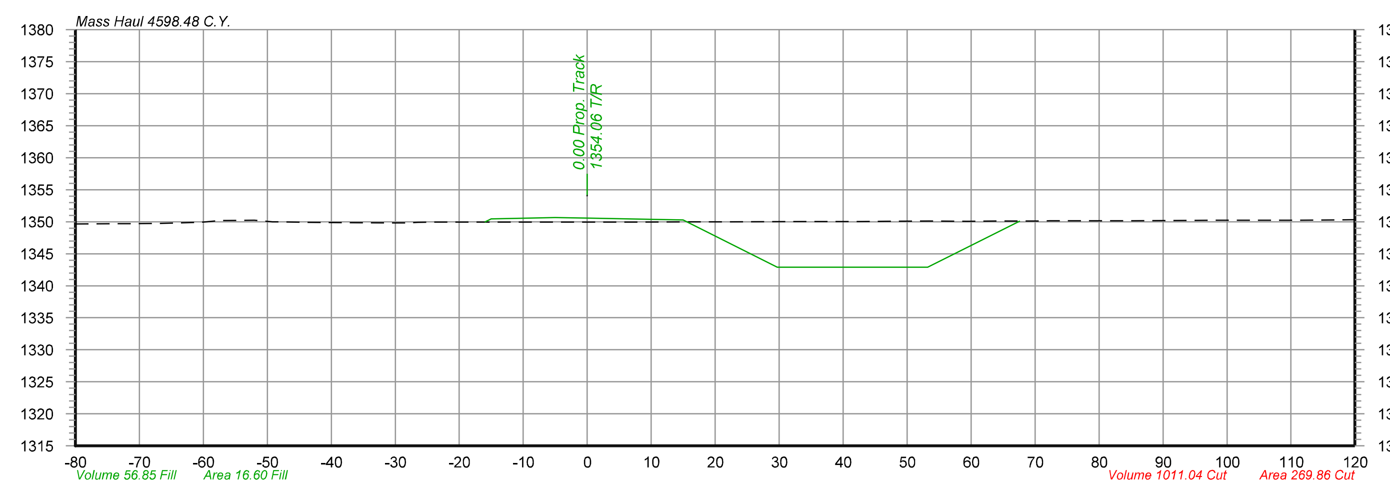
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29.60 1342.61
53.10 1342.61
67.66 1349.90



29+00

-80.00	1349.49
-77.88	1349.49
-72.29	1349.50
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3.66	1350.13
6.47	1350.18
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17.20	1350.07
20.23	1349.87
24.11	1349.85
27.13	1349.82
29.70	1349.83
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60.57	1349.89
62.84	1349.89
69.95	1349.90
76.97	1349.90
89.88	1349.92
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102.78	1349.95
108.81	1349.96
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31+00

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116.74	1350.28
120.00	1350.31

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SHEET NUMBER X048 of 115

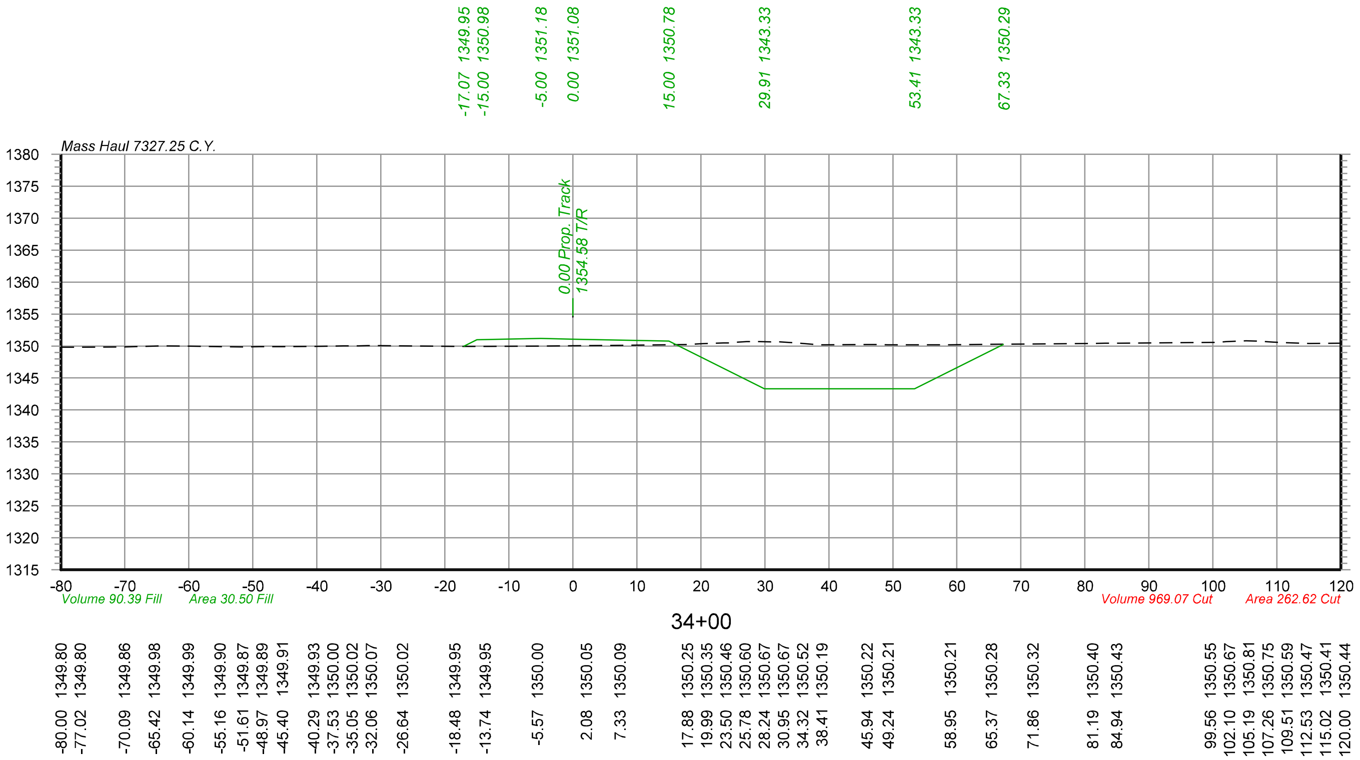
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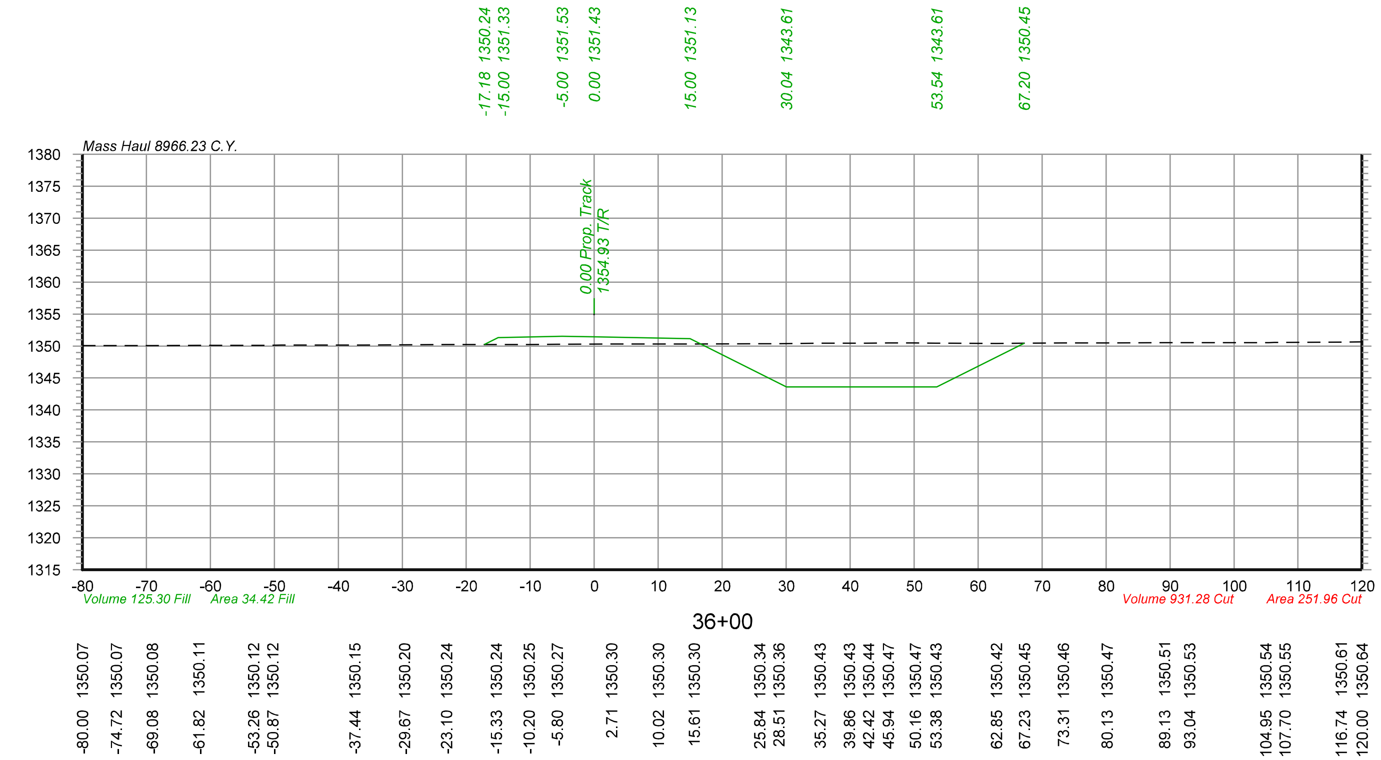
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Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

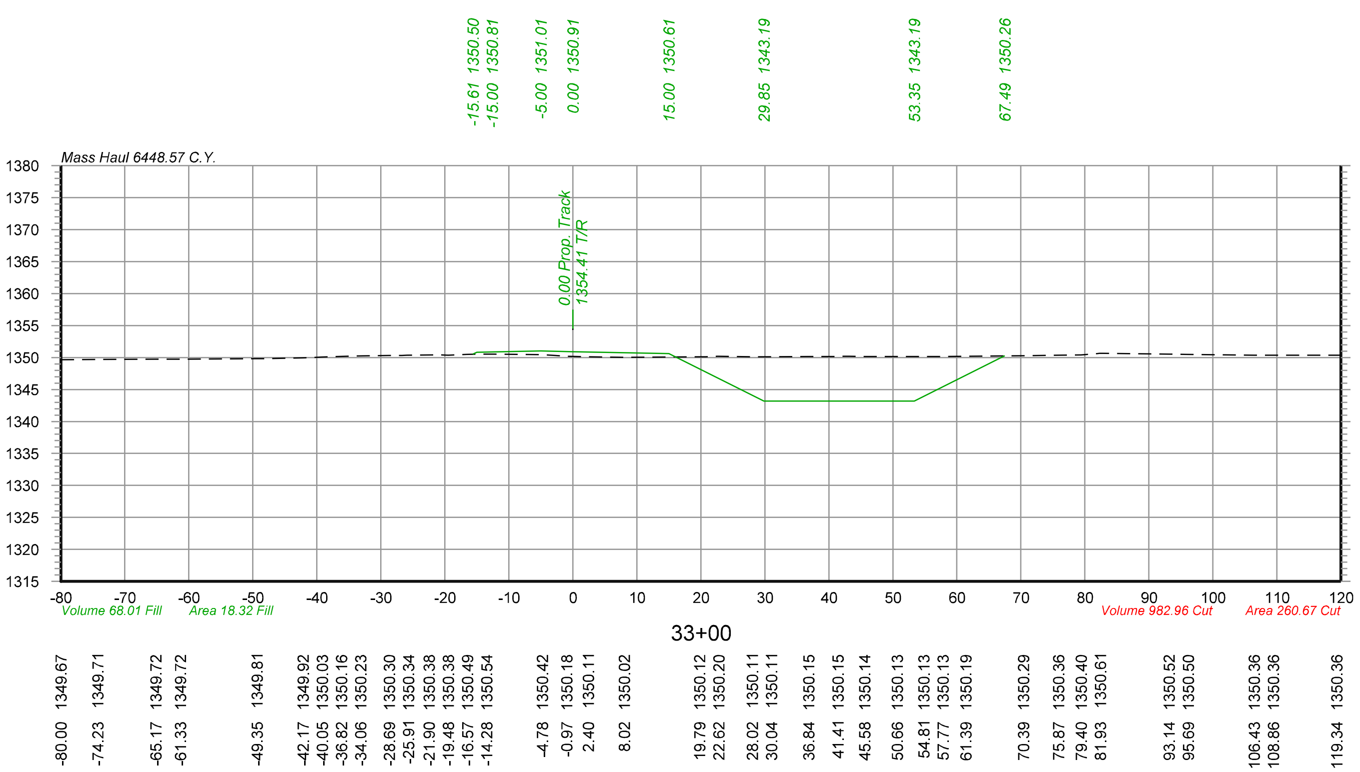
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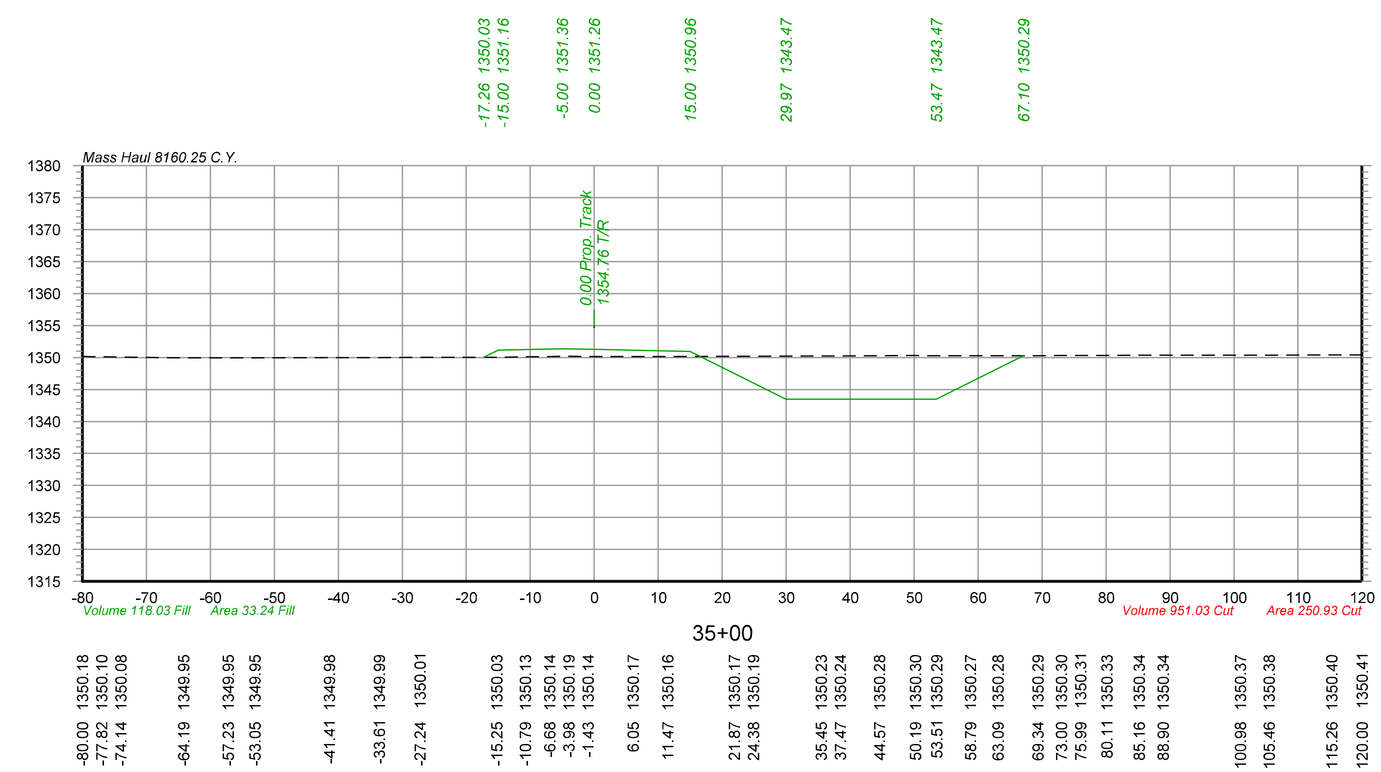
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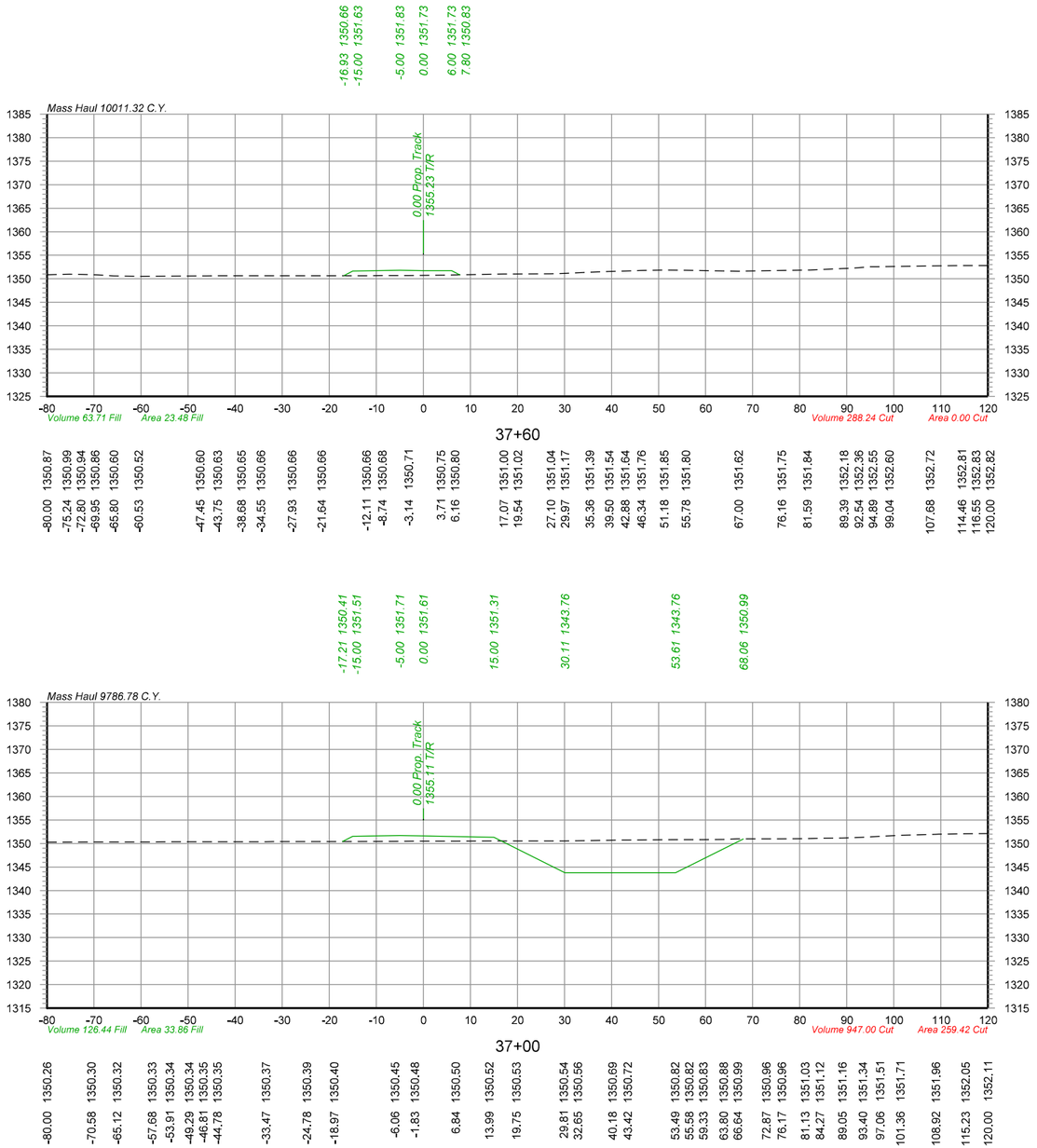


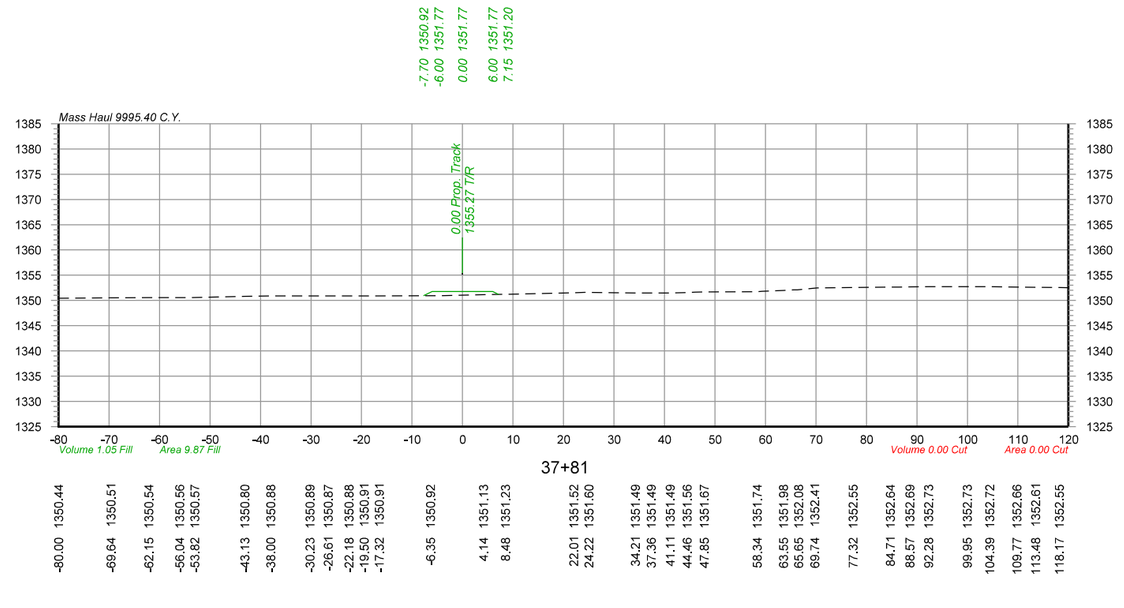
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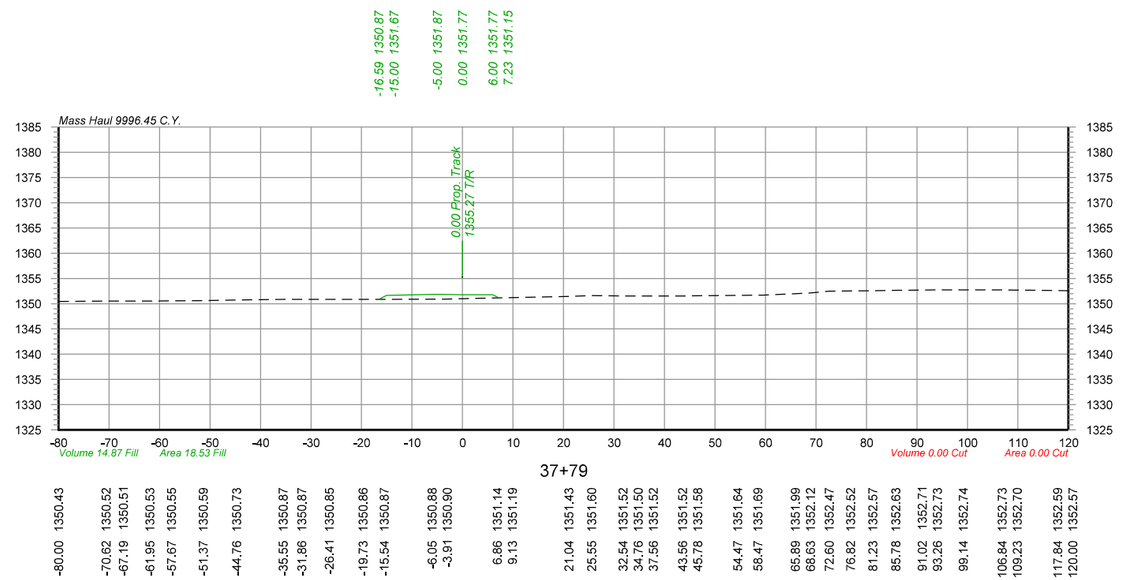
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CHECKED BY: JRM	LOCATION & DESCRIPTION: Mesa, Arizona - Maricopa County Phoenix Subdivision MP 934.79 to MP 937.83 Construct Industrial Lead Track
DATE: 6/3/2022	
SHEET NUMBER X049 of 115	SHEET TITLE: PIRATE LEAD TRACK CROSS SECTIONS STA.33+00 TO STA.36+00

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CHECKED BY: JRM
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SHEET NUMBER: X050 of 115

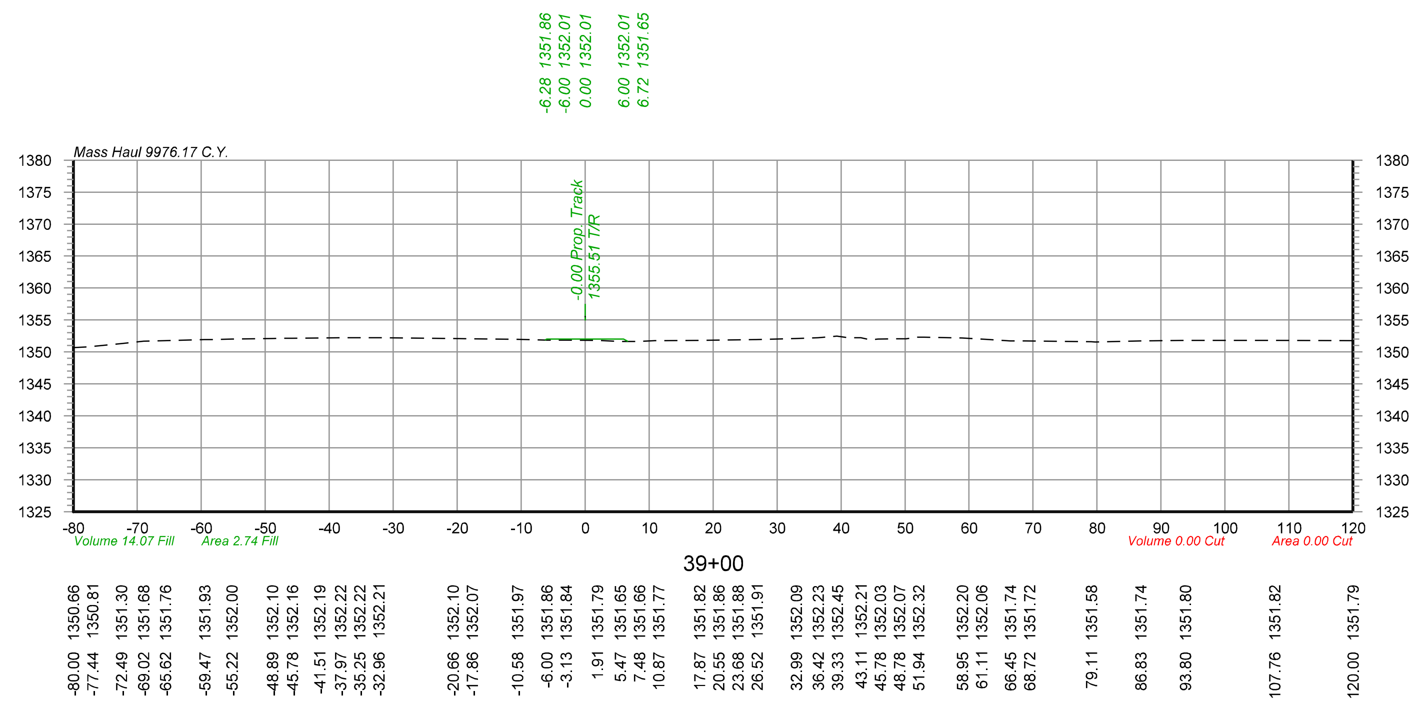
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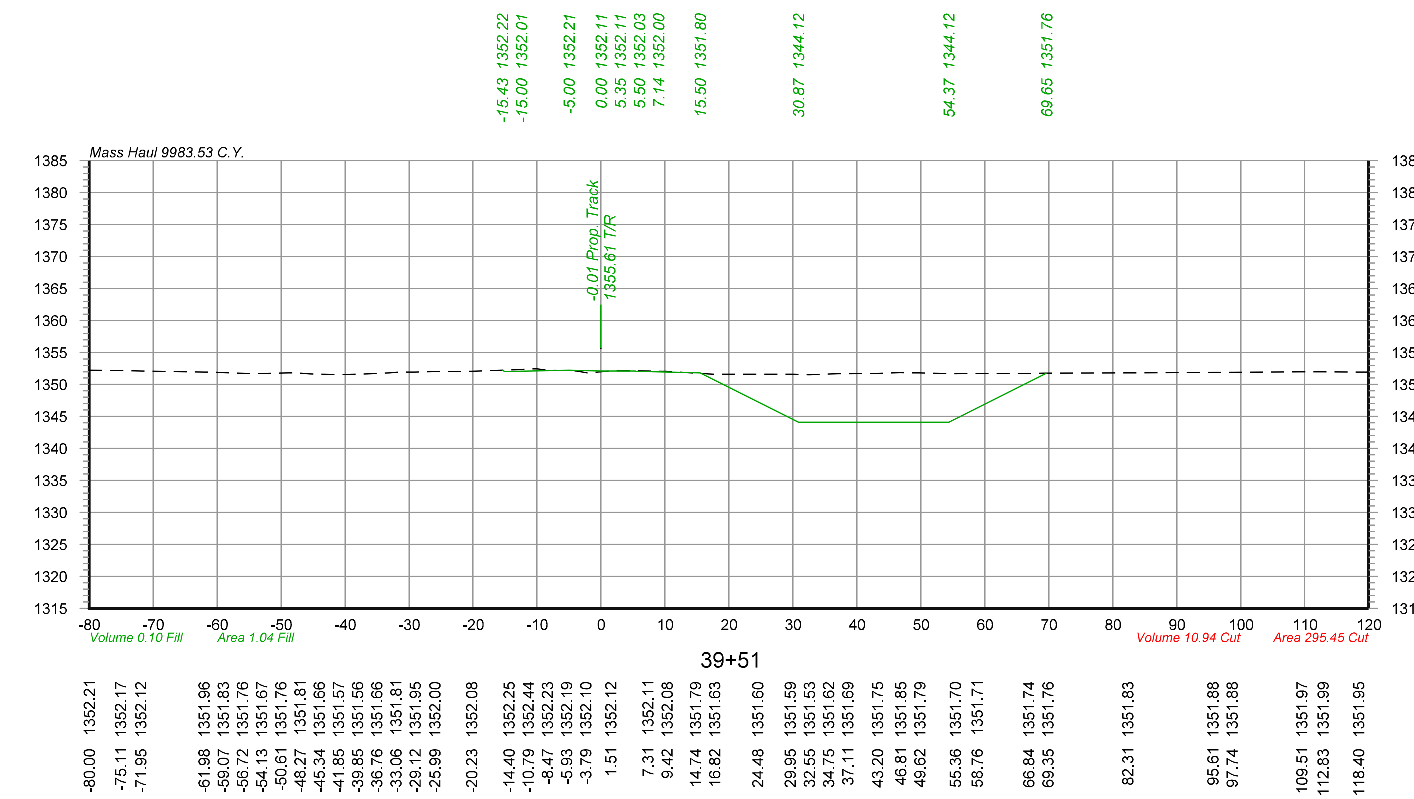
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Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

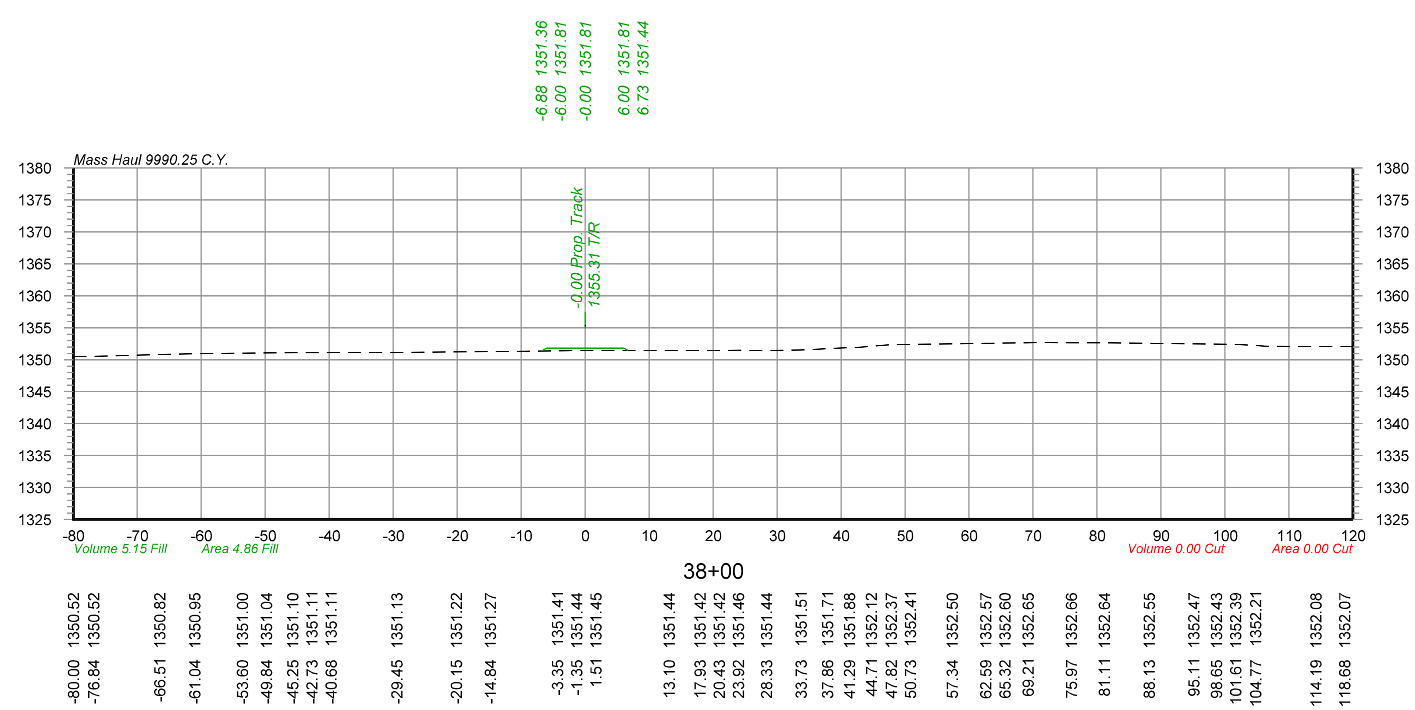
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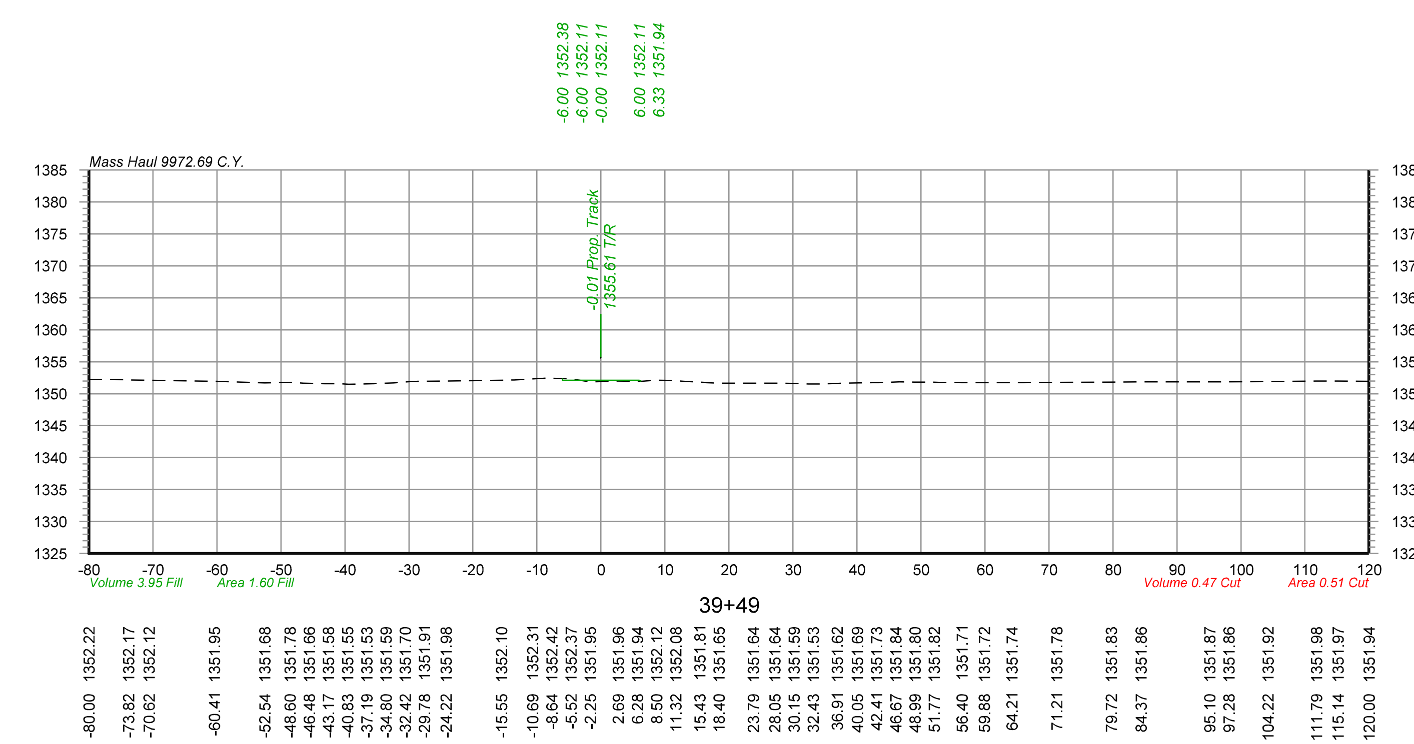
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SHEET NUMBER	X051 of 115

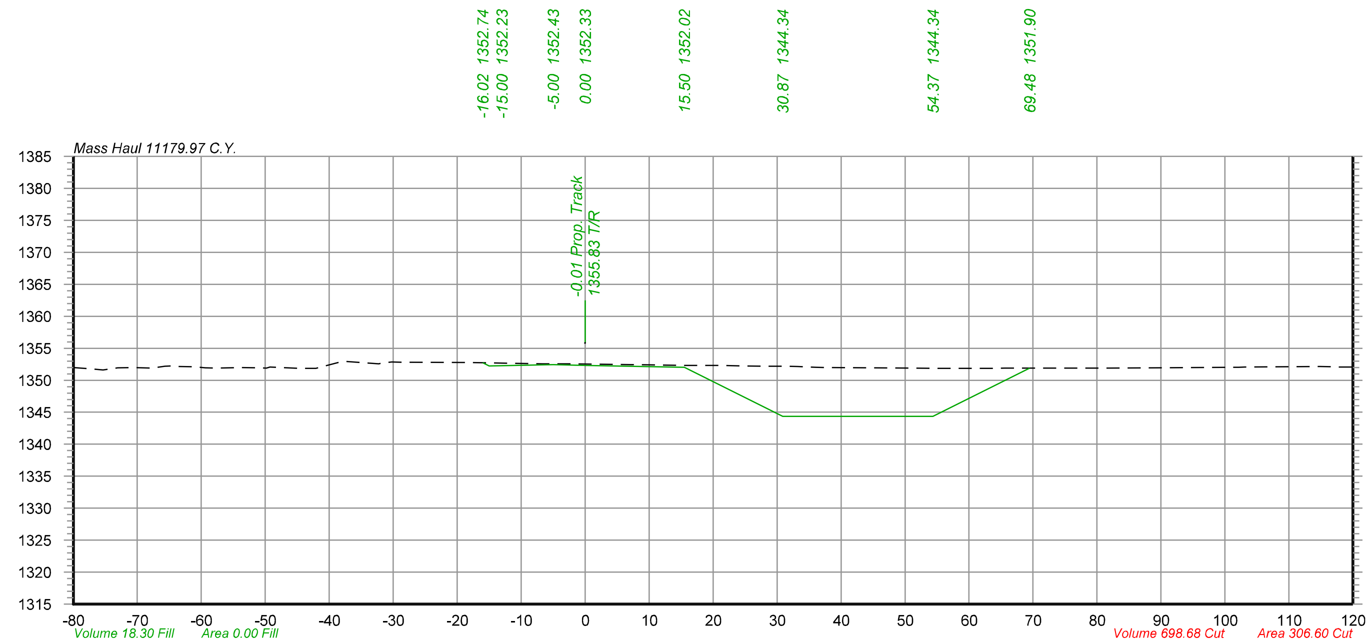
UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
PIRATE LEAD TRACK CROSS SECTIONS STA.38+00 TO STA.39+51

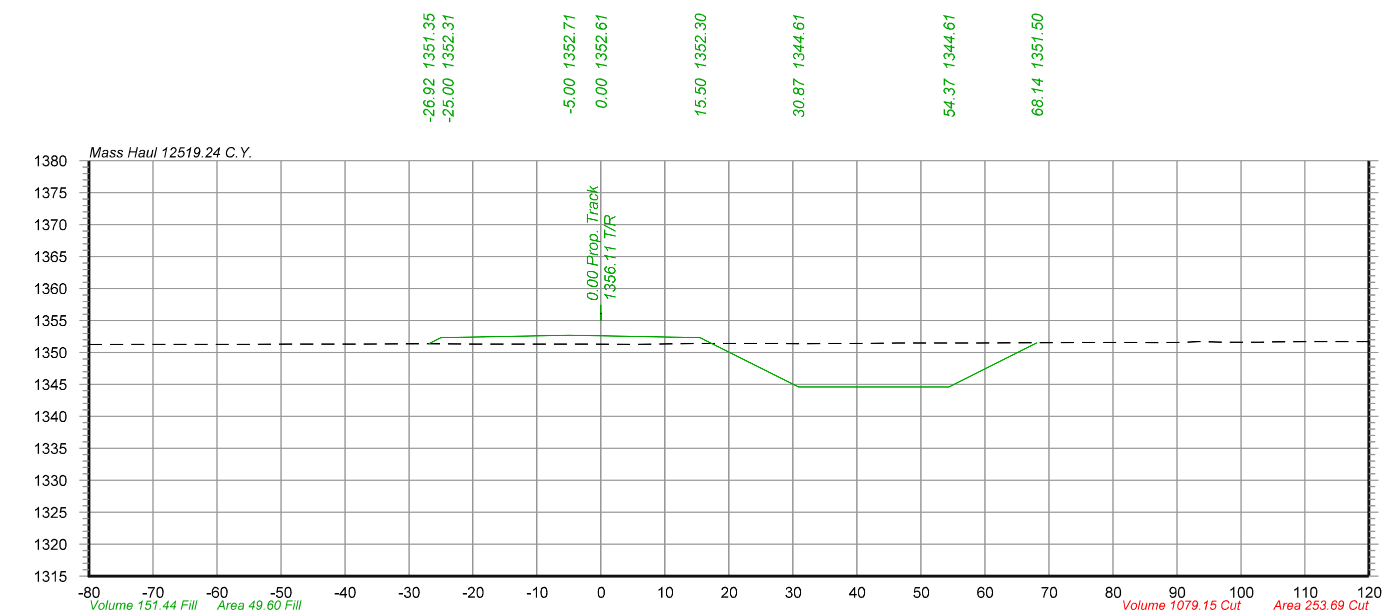
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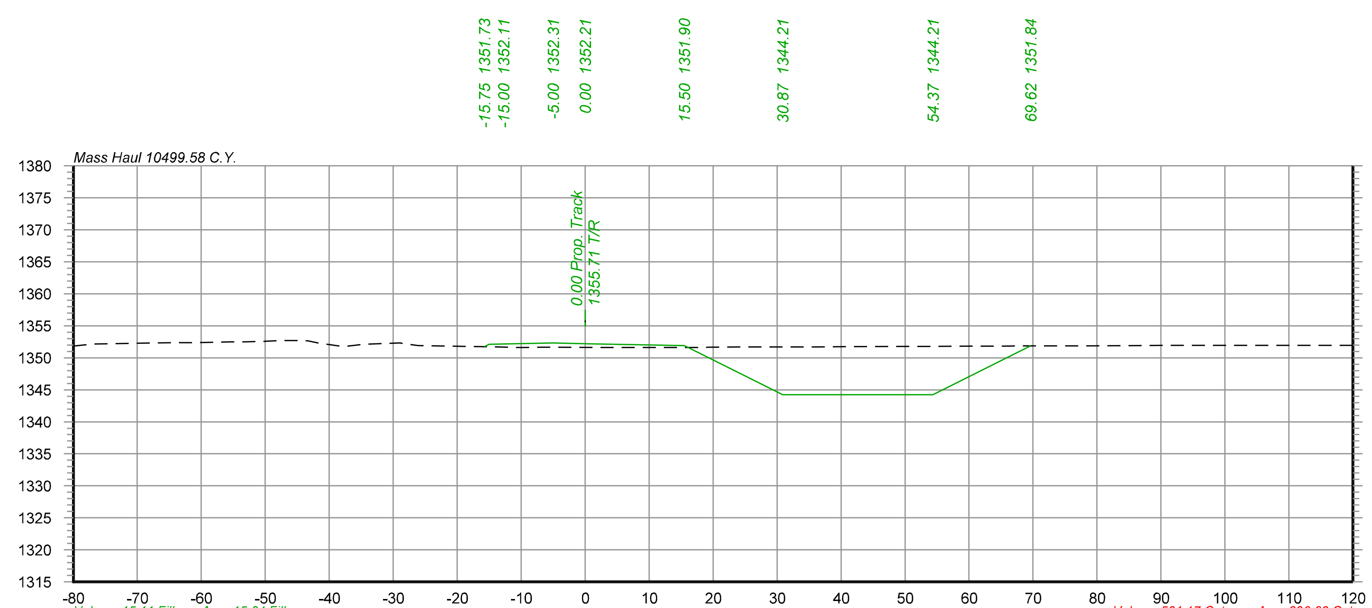
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-2.39	1352.56
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19.95	1352.30
24.65	1352.25
28.26	1352.19
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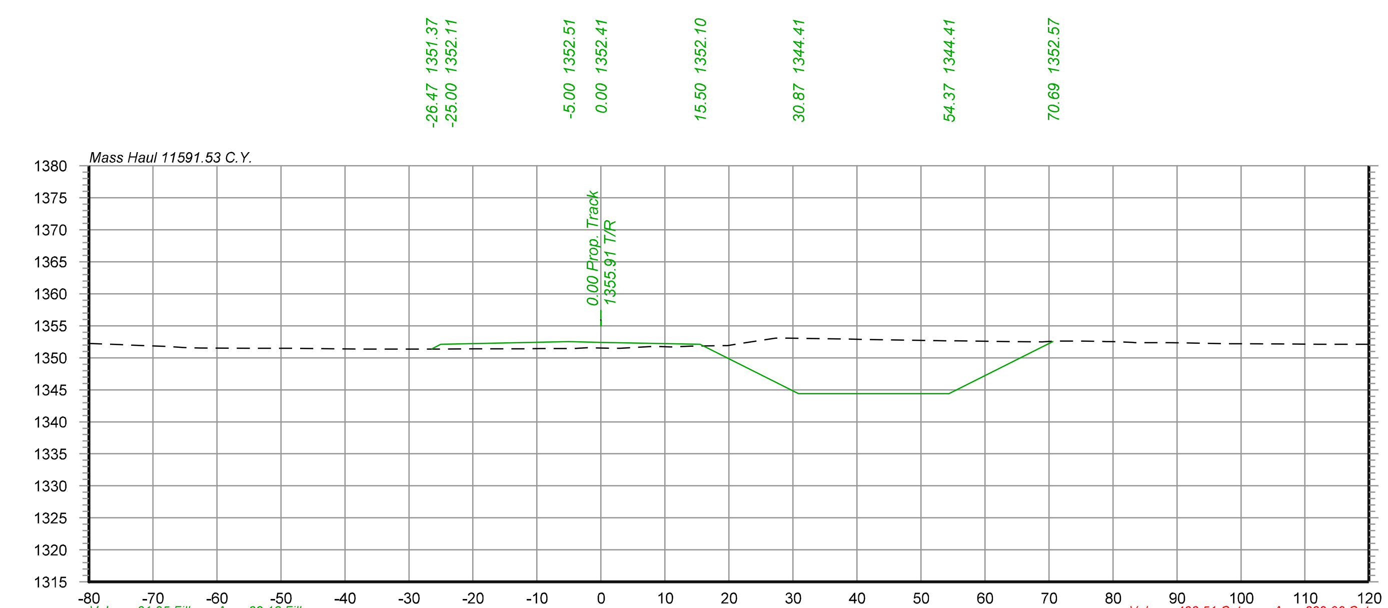
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69.63	1351.50
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87.51	1351.54
91.26	1351.61
93.42	1351.67
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100.51	1351.60
103.10	1351.60
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40+00

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90.19	1351.94
101.53	1351.93
115.81	1351.96
119.77	1351.96



41+00

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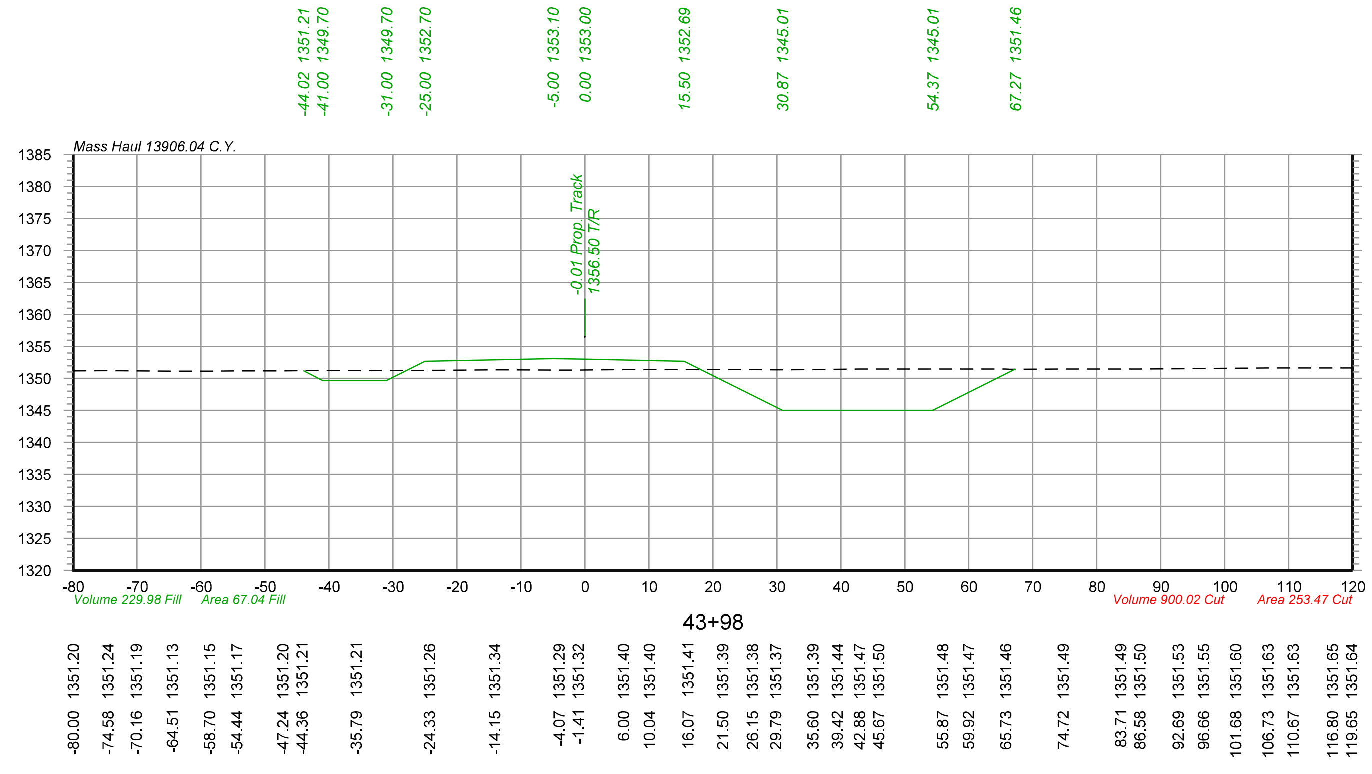
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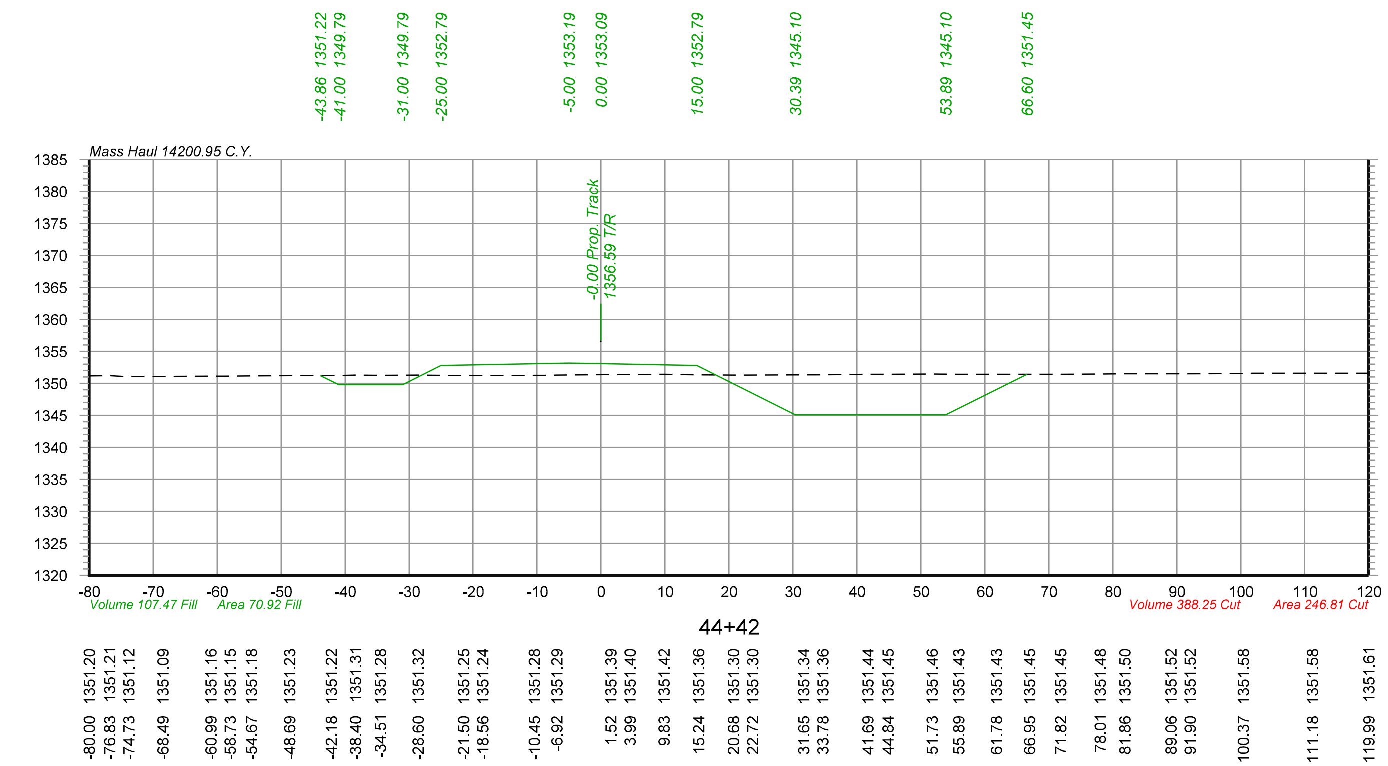
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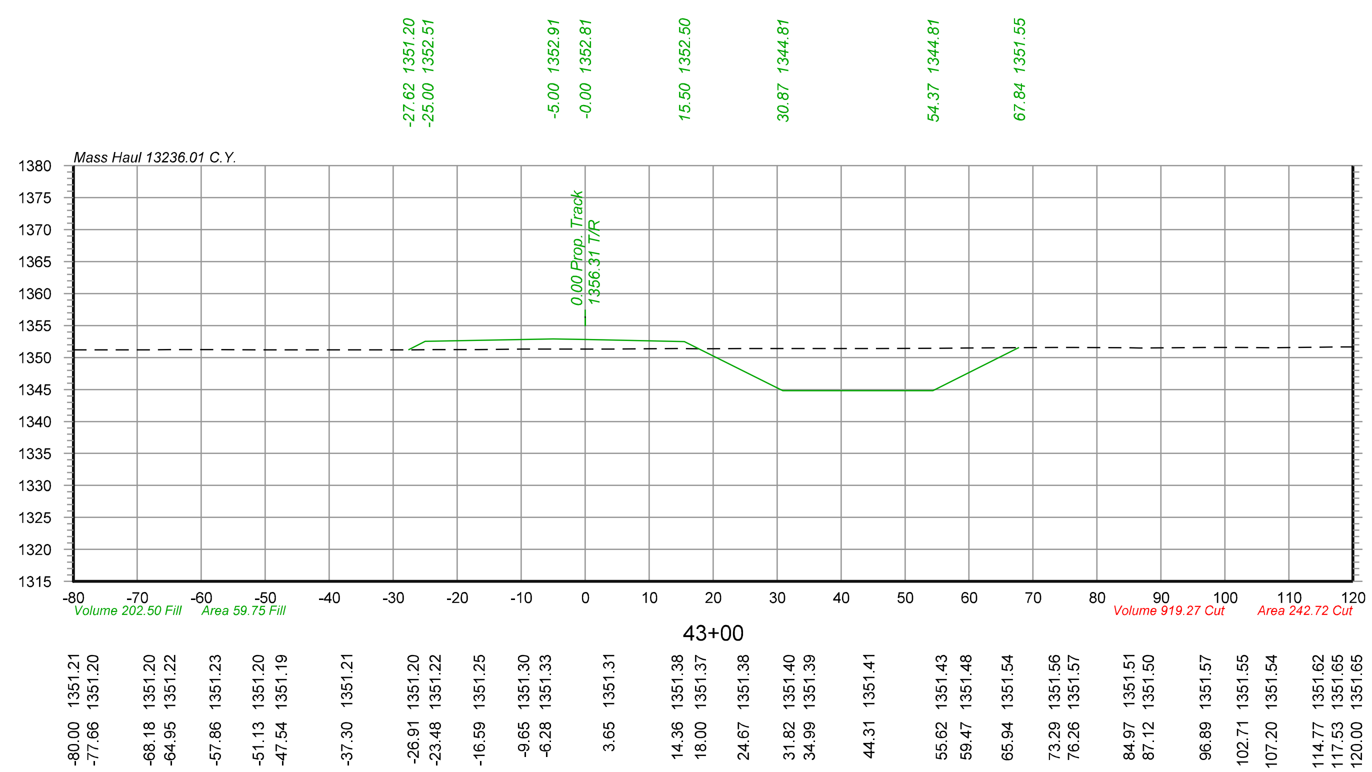
LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
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Construct Industrial Lead Track

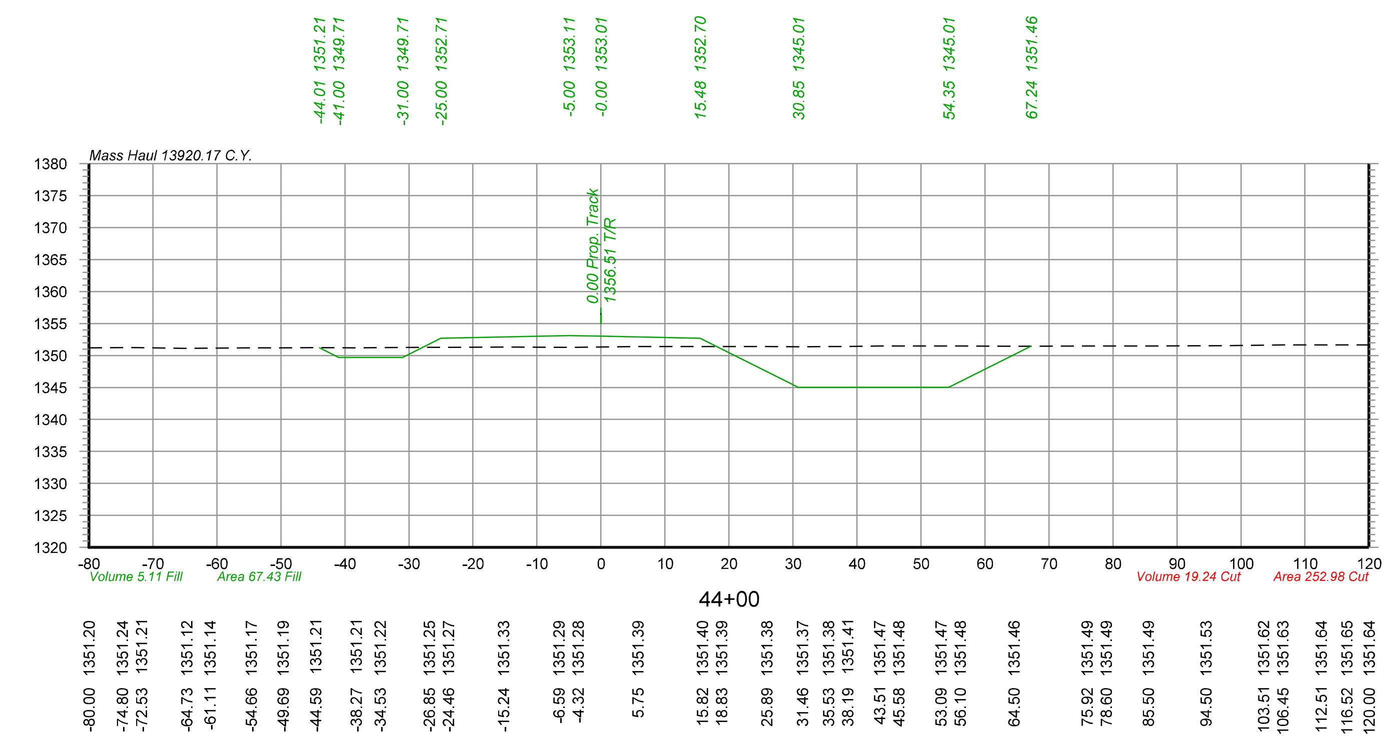
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PIRATE LEAD TRACK CROSS SECTIONS STA.40+00 TO STA.42+00

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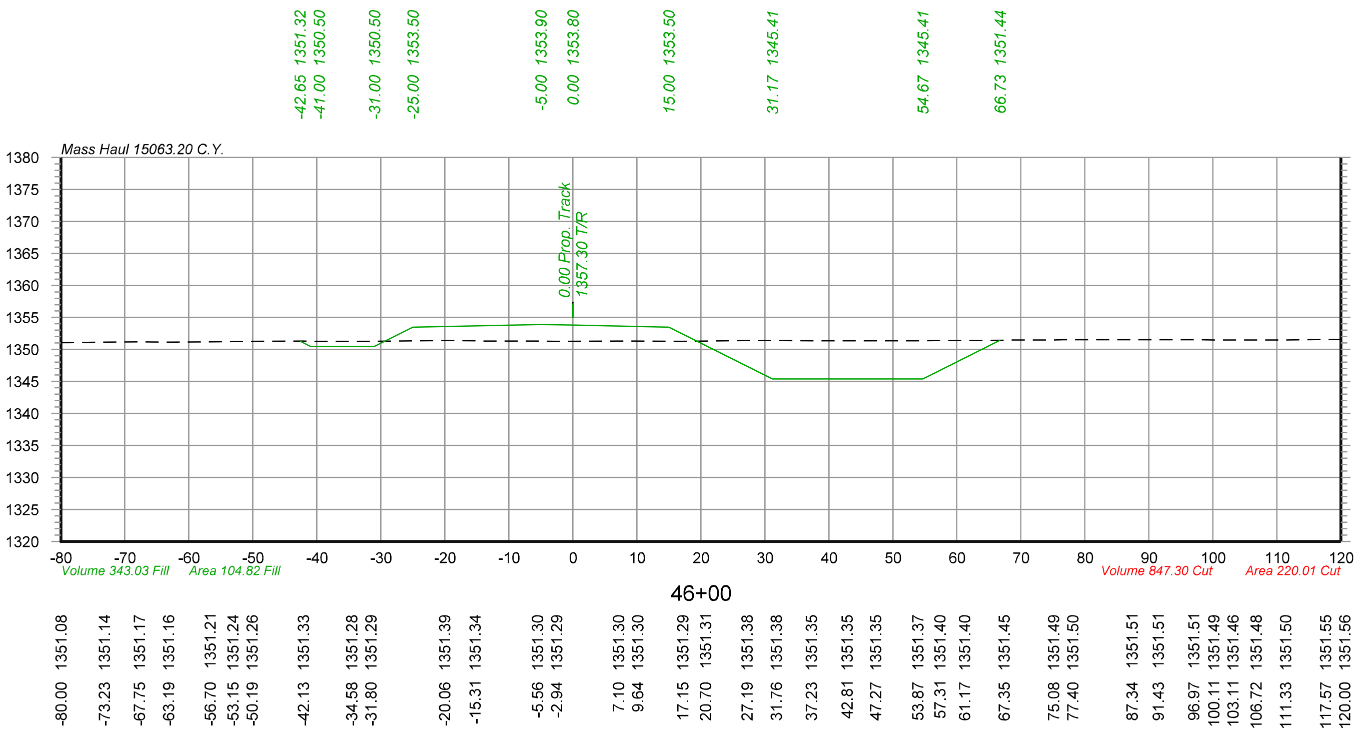
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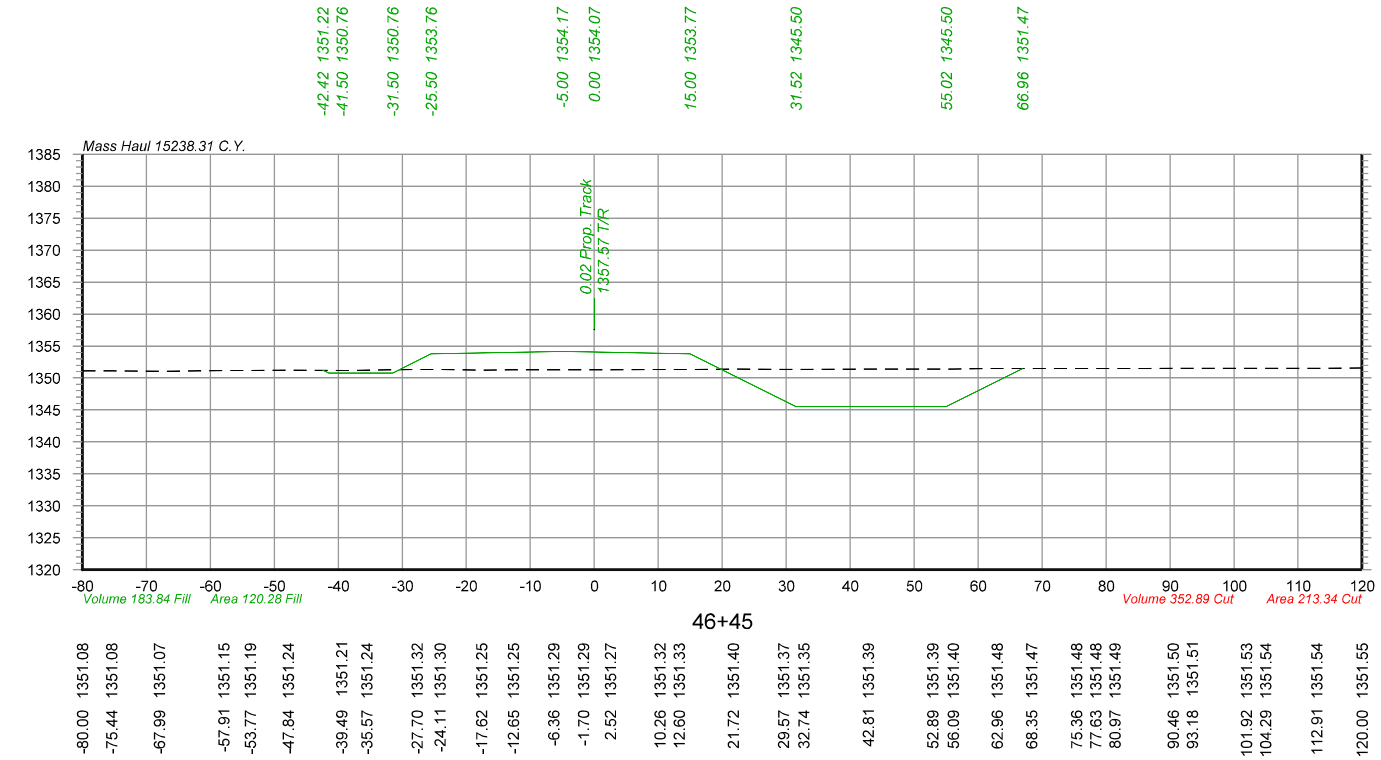
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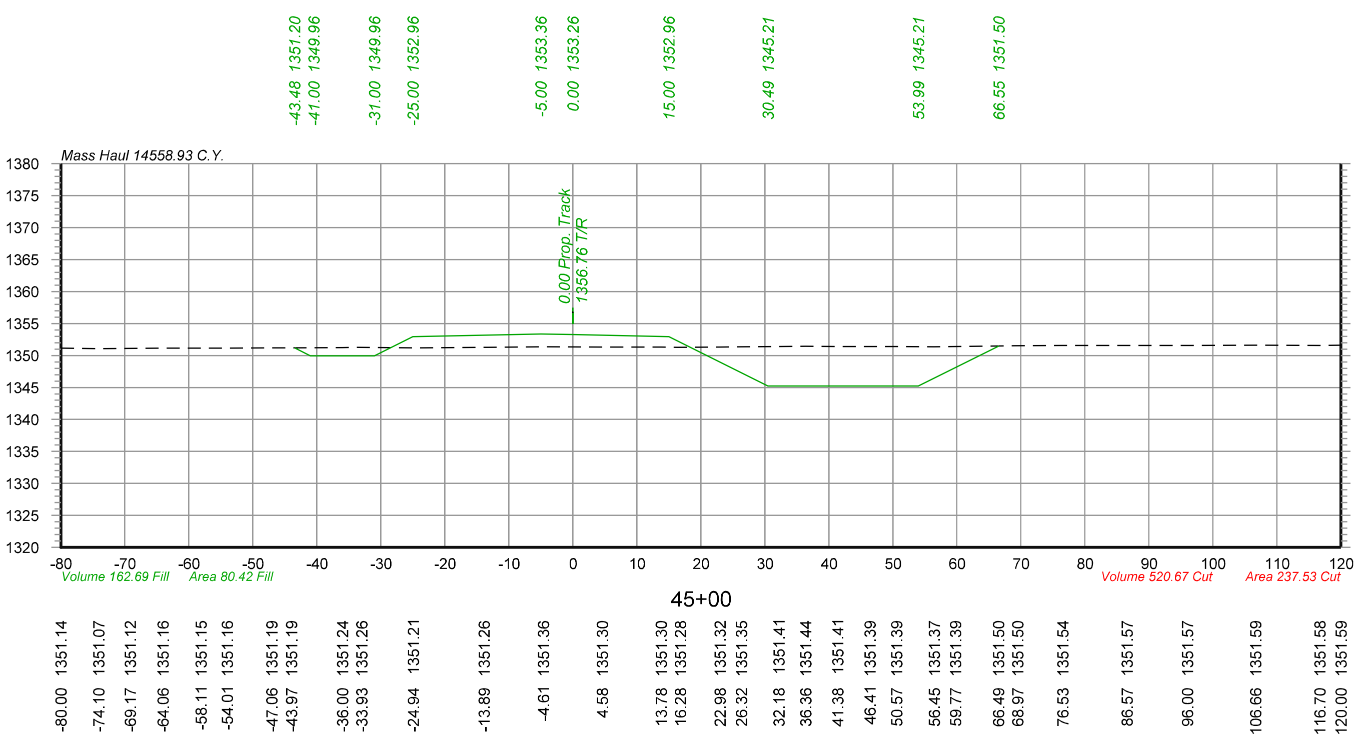
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DATE: 6/3/2022	
SHEET NUMBER X053 of 115	SHEET TITLE: PIRATE LEAD TRACK CROSS SECTIONS STA.43+00 TO STA.44+42

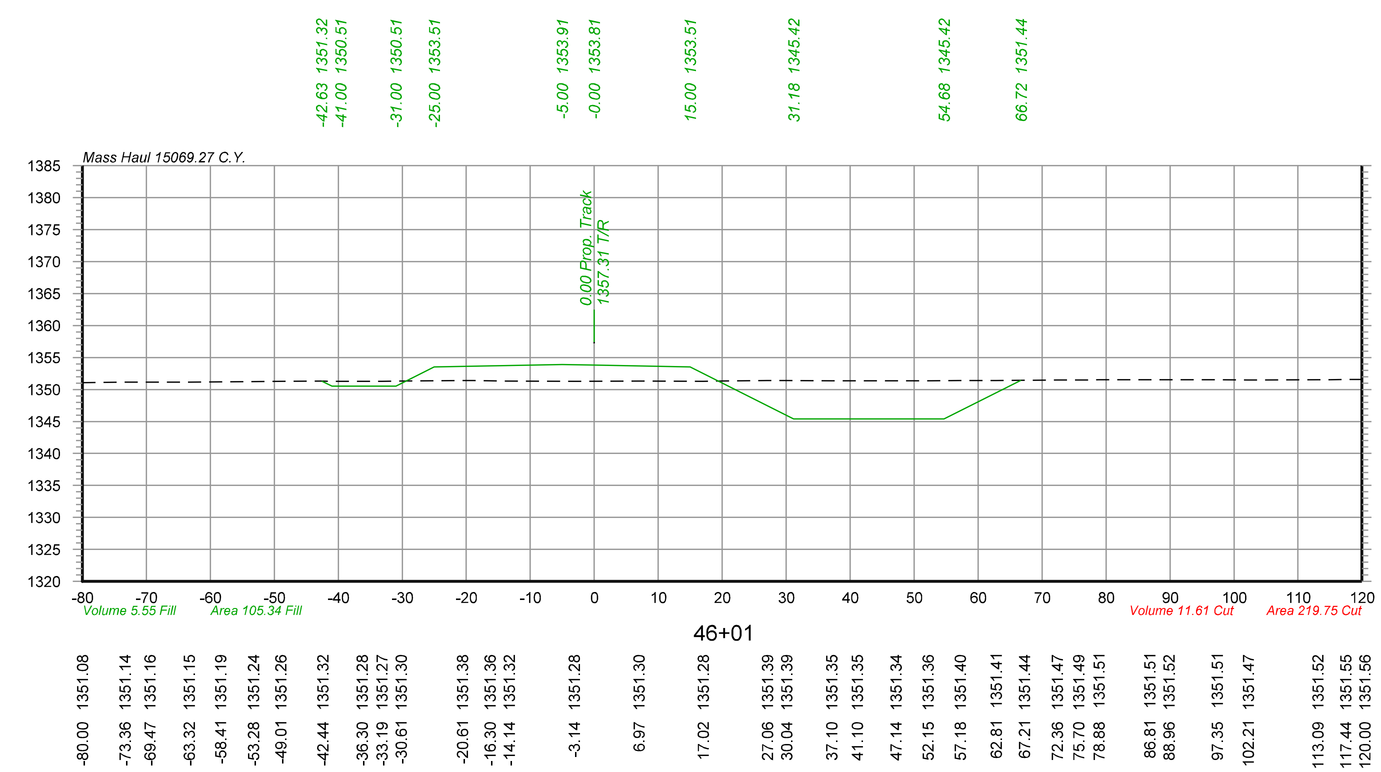
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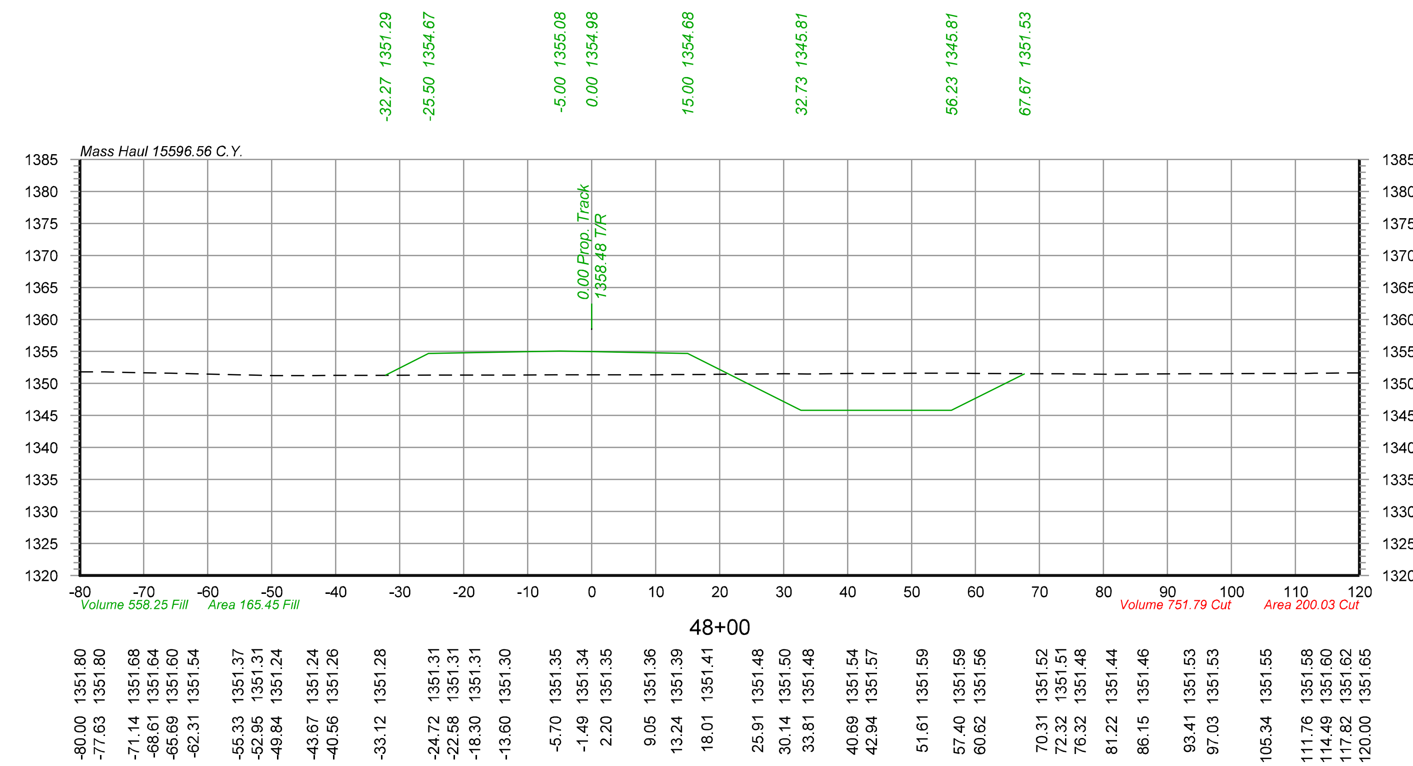


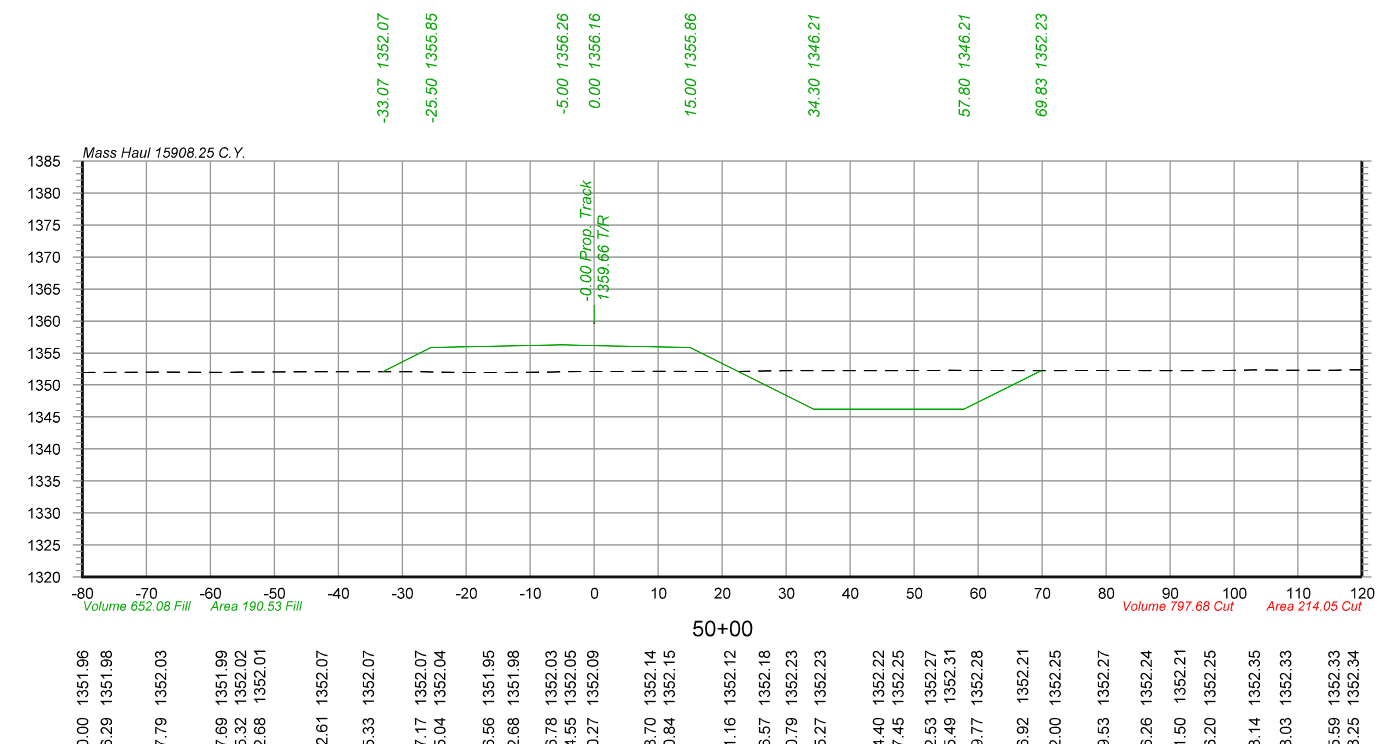


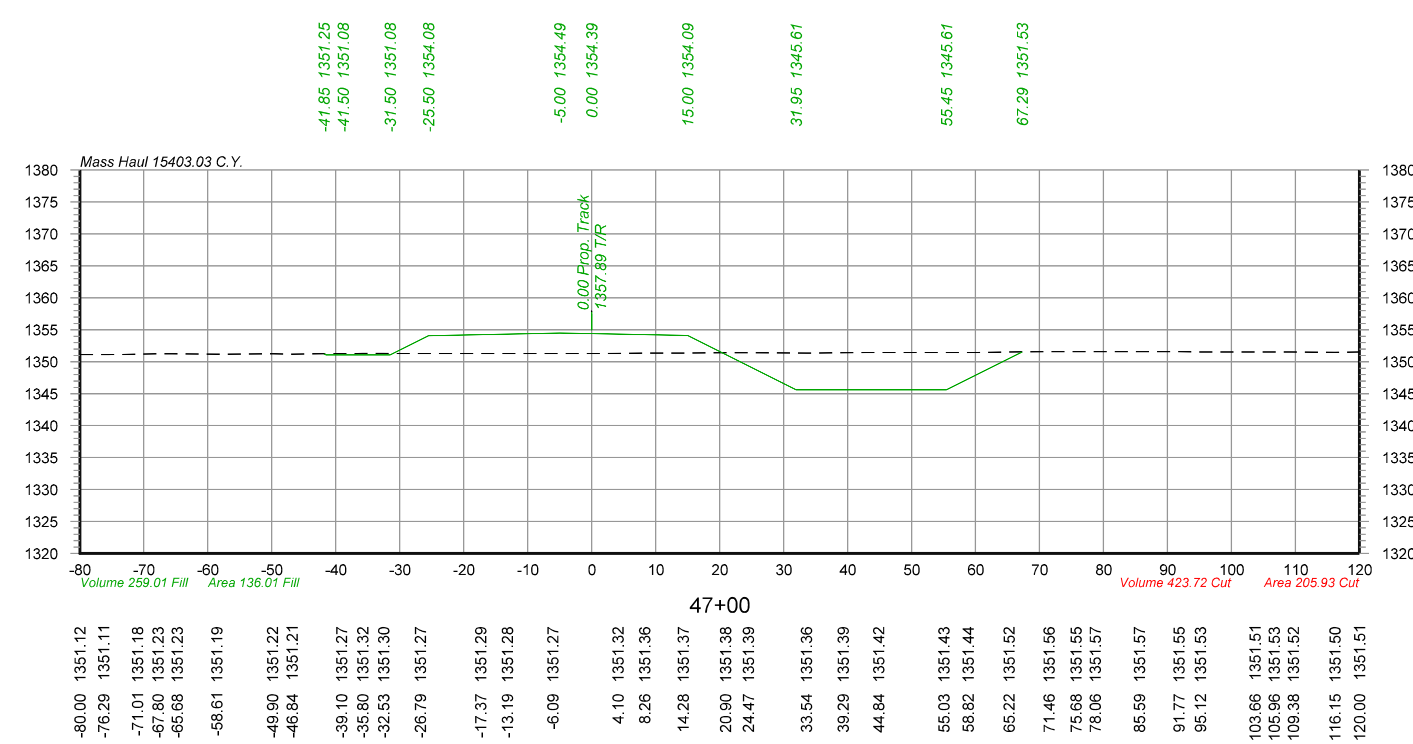
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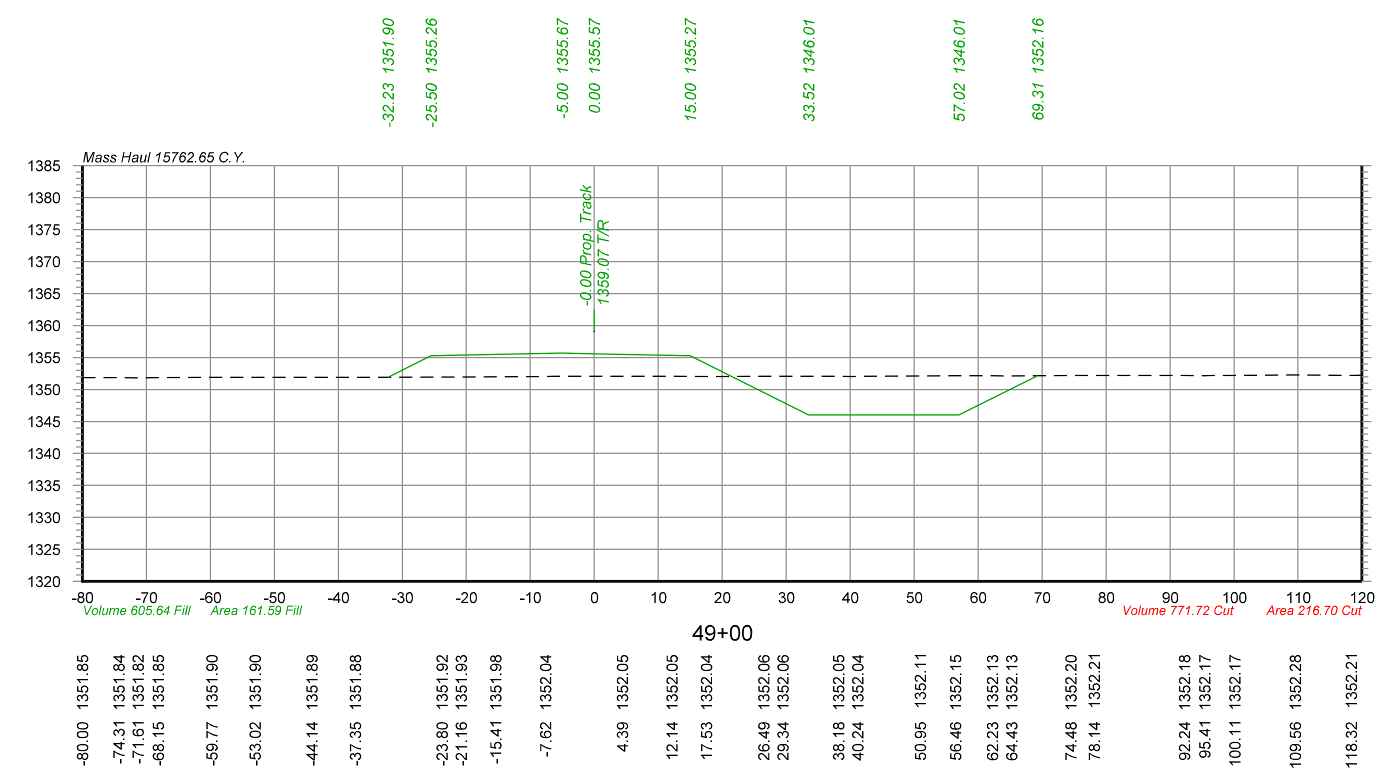
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DATE: 6/3/2022	
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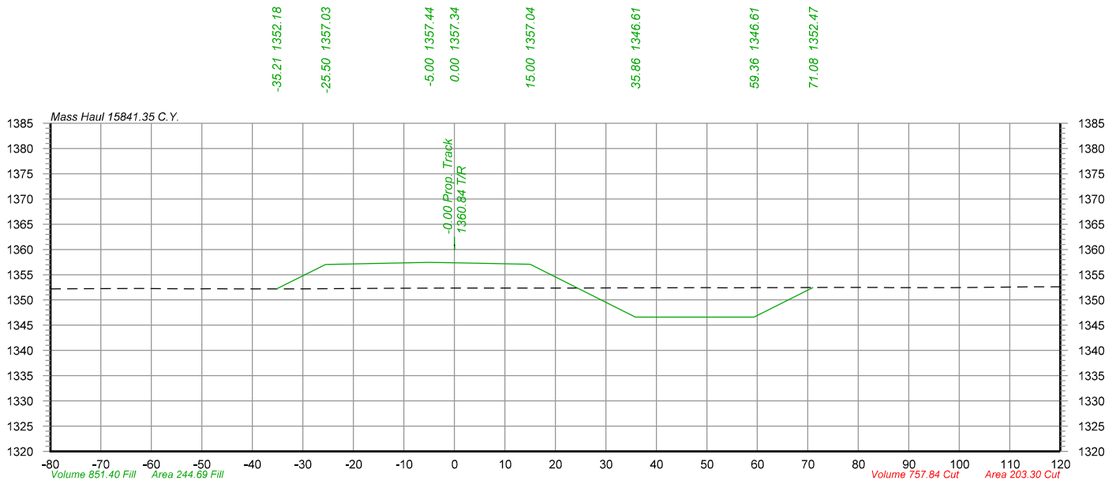
DRAWN BY: JTD
CHECKED BY: JRM
DATE: 6/3/2022
SHEET NUMBER X055 of 115

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
PIRATE LEAD TRACK CROSS SECTIONS STA.47+00 TO STA.50+00

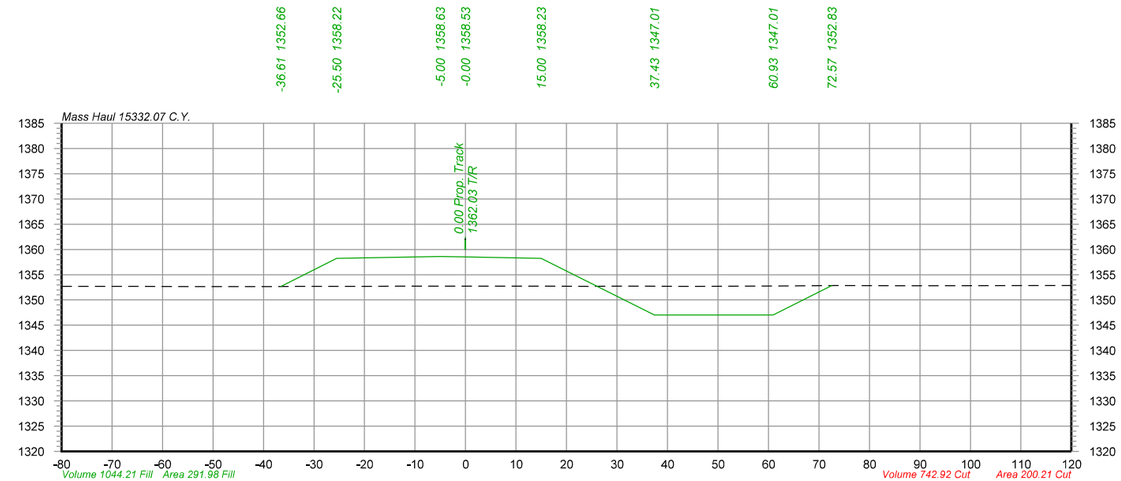
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-35.21	1352.18
-25.50	1357.03
-5.00	1357.44
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15.00	1357.04
35.86	1346.61
59.36	1346.61
71.08	1352.47

52+00

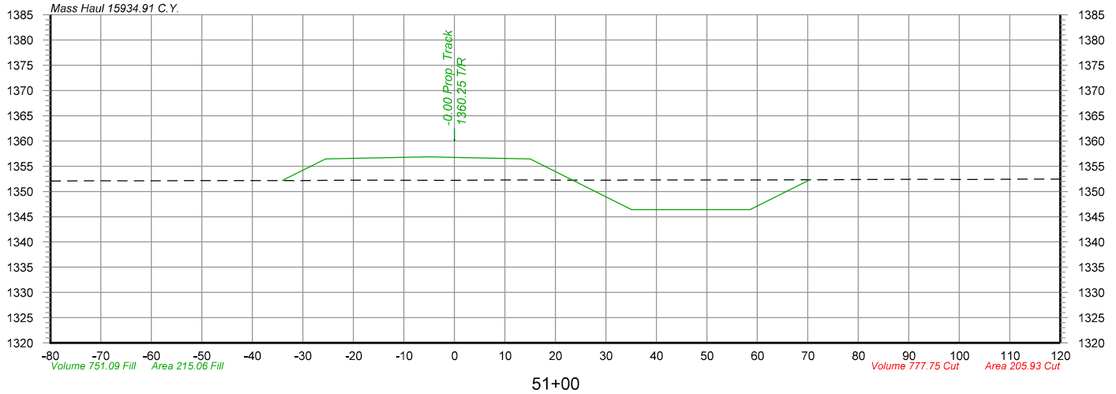
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-44.57	1352.18
-36.90	1352.17
-34.71	1352.18
-30.82	1352.21
-24.77	1352.25
-18.62	1352.28
-12.60	1352.31
-1.51	1352.35
2.46	1352.34
7.80	1352.35
11.97	1352.35
20.94	1352.34
23.46	1352.34
34.72	1352.38
38.38	1352.40
49.78	1352.43
53.62	1352.42
60.30	1352.42
66.37	1352.43
73.14	1352.49
83.90	1352.47
86.26	1352.45
88.55	1352.45
93.88	1352.44
98.88	1352.42
107.57	1352.51
114.32	1352.59
120.00	1352.59



-36.61	1352.66
-25.50	1358.22
-5.00	1358.63
-0.00	1358.53
15.00	1358.23
37.43	1347.01
60.93	1347.01
72.57	1352.83

54+00

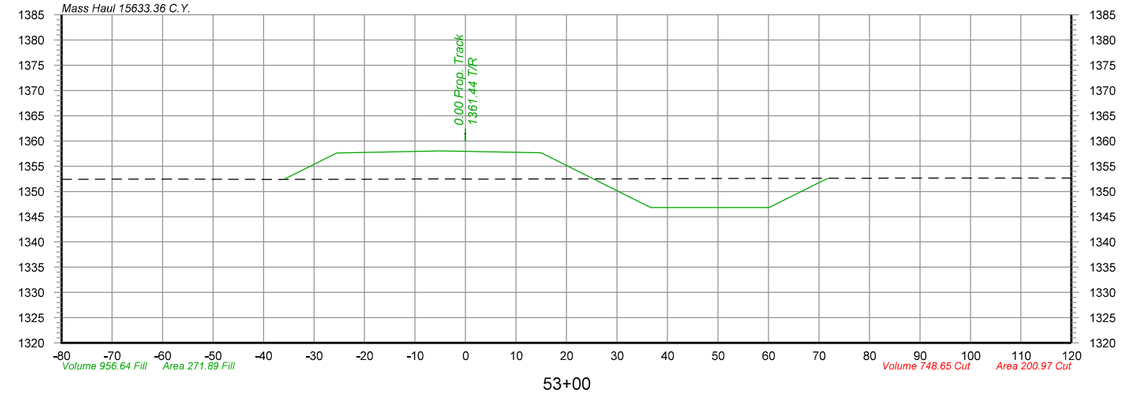
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-44.05	1352.66
-38.32	1352.66
-33.09	1352.68
-28.09	1352.68
-18.44	1352.70
-13.62	1352.72
-8.32	1352.72
-4.69	1352.74
2.41	1352.75
9.01	1352.74
13.36	1352.73
16.45	1352.72
24.23	1352.70
29.75	1352.72
35.16	1352.72
42.77	1352.70
46.57	1352.70
63.73	1352.78
68.12	1352.82
73.55	1352.84
85.96	1352.82
89.40	1352.81
92.22	1352.81
114.44	1352.84
120.00	1352.86



-34.12	1352.13
-25.50	1356.44
-5.00	1356.85
-0.00	1356.75
15.00	1356.45
35.08	1346.41
58.58	1346.41
70.38	1352.31

51+00

-80.00	1352.08
-77.23	1352.09
-73.26	1352.11
-64.23	1352.09
-58.65	1352.10
-51.79	1352.14
-36.05	1352.14
-32.49	1352.13
-30.49	1352.15
-26.00	1352.18
-20.36	1352.23
-16.00	1352.22
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22.14	1352.22
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32.71	1352.22
43.53	1352.27
47.34	1352.26
52.64	1352.27
60.77	1352.28
68.89	1352.30
73.90	1352.33
79.24	1352.36
91.23	1352.40
96.48	1352.39
100.87	1352.37
113.26	1352.43
119.74	1352.44



-36.01	1352.37
-25.50	1357.63
-5.00	1358.04
0.00	1357.94
15.00	1357.64
36.64	1346.81
60.14	1346.81
71.76	1352.62

53+00

-80.00	1352.38
-77.71	1352.38
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-59.95	1352.45
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51.71	1352.57
68.48	1352.62
80.02	1352.62
83.43	1352.63
89.18	1352.66
95.12	1352.64
98.43	1352.65
116.46	1352.65
119.24	1352.66

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SHEET NUMBER	X056 of 115

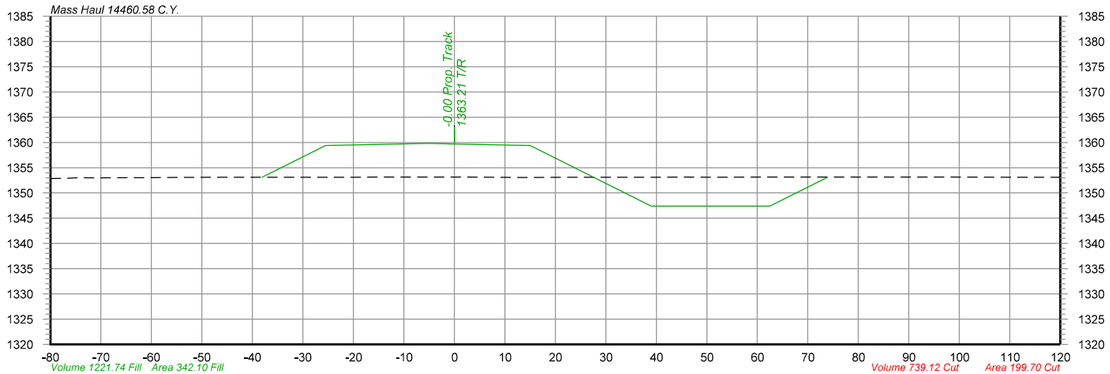
UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
PIRATE LEAD TRACK CROSS SECTIONS STA.51+00 TO STA.54+00

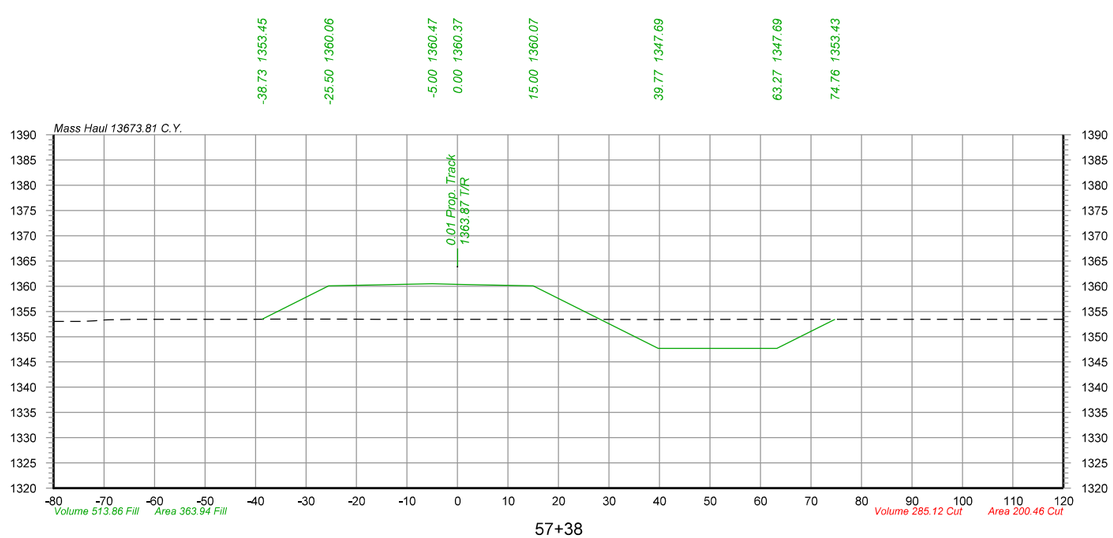
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6/3/2022

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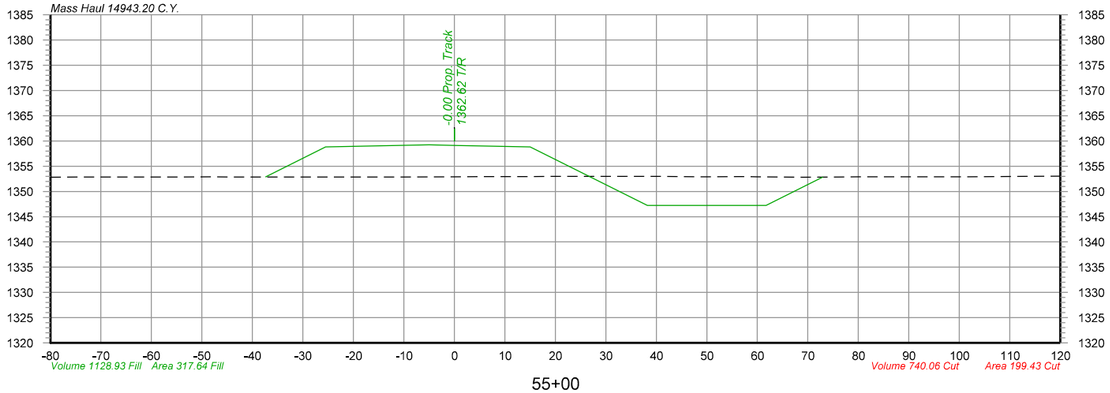
56+00

-80.00	1352.85	-47.52	1353.11	-19.91	1353.12	2.27	1353.13	13.35	1353.06	22.44	1353.09	31.19	1353.09	39.28	1353.10	45.45	1353.13	50.84	1353.13	60.85	1353.16	81.61	1353.17	92.04	1353.15	96.13	1353.13	98.76	1353.14	110.58	1353.12	120.00	1353.12
-76.95	1352.90	-45.21	1353.10	-15.62	1353.15															62.88	1353.16												
-74.16	1353.02	-39.91	1353.11	-8.86	1353.15																												
-70.83	1352.99																																
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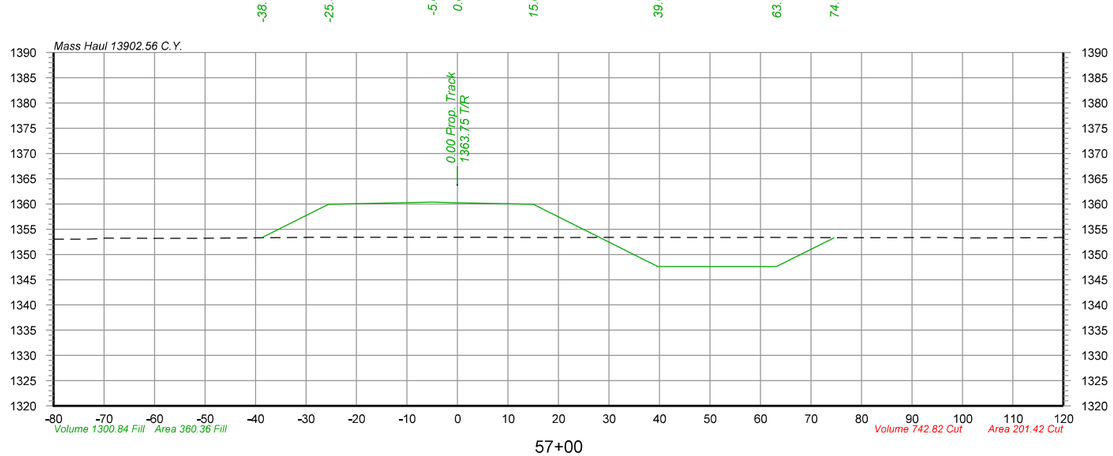
57+38

-80.00	1353.04	-44.82	1353.42	-22.90	1353.46	-9.60	1353.44	9.26	1353.45	24.93	1353.44	41.62	1353.40	61.39	1353.43	82.53	1353.45	99.48	1353.43	111.25	1353.45		
-76.61	1353.04	-40.43	1353.44	-15.83	1353.45			17.20	1353.45	37.66	1353.42	58.31	1353.43	74.97	1353.43	85.96	1353.46	103.57	1353.45	120.00	1353.44		
-74.37	1353.04	-36.40	1353.46																				
-71.83	1353.17																						
-68.77	1353.35																						
-63.53	1353.43																						
-56.87	1353.43																						



55+00

-80.00	1352.81	-60.71	1352.87	-47.97	1352.88	-21.97	1352.85	-13.51	1352.87	0.66	1352.89	14.98	1352.96	25.26	1353.00	32.15	1353.00	40.80	1352.96	48.65	1352.90	56.25	1352.92	68.99	1352.82	76.18	1352.88	86.99	1352.89	101.64	1352.91	112.41	1352.97	119.77	1353.01
-74.55	1352.84	-58.63	1352.84	-44.55	1352.86			-10.52	1352.87	5.72	1352.93	19.05	1352.97									59.77	1352.91			79.93	1352.88	90.59	1352.90						
-69.29	1352.84	-54.34	1352.86																														



57+00

-80.00	1353.04	-60.12	1353.18	-51.57	1353.21	-47.55	1353.25	-37.05	1353.33	-27.89	1353.38	-20.17	1353.39	-10.15	1353.42	-4.86	1353.40	7.75	1353.39	23.35	1353.36	34.21	1353.38	46.30	1353.35	56.75	1353.37	64.81	1353.38	76.96	1353.33	82.21	1353.32	95.41	1353.34	100.35	1353.29	103.53	1353.29	116.28	1353.33	120.00	1353.34
-76.49	1353.04	-57.60	1353.18															10.95	1353.37							59.39	1353.38																
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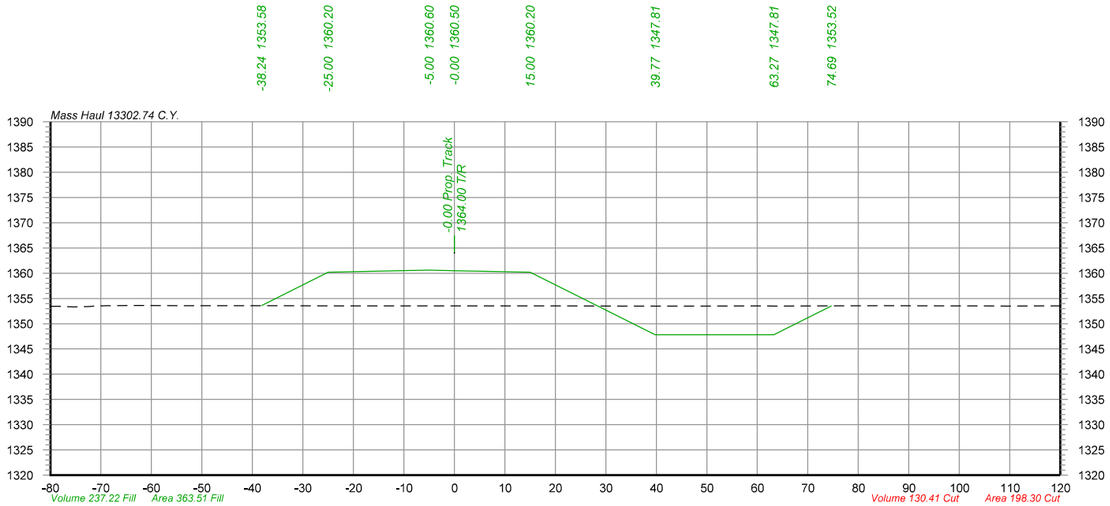
DRAWN BY: JTD
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DATE: 6/3/2022
SHEET NUMBER: X057 of 115

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
PIRATE LEAD TRACK CROSS SECTIONS STA.55+00 TO STA.57+38

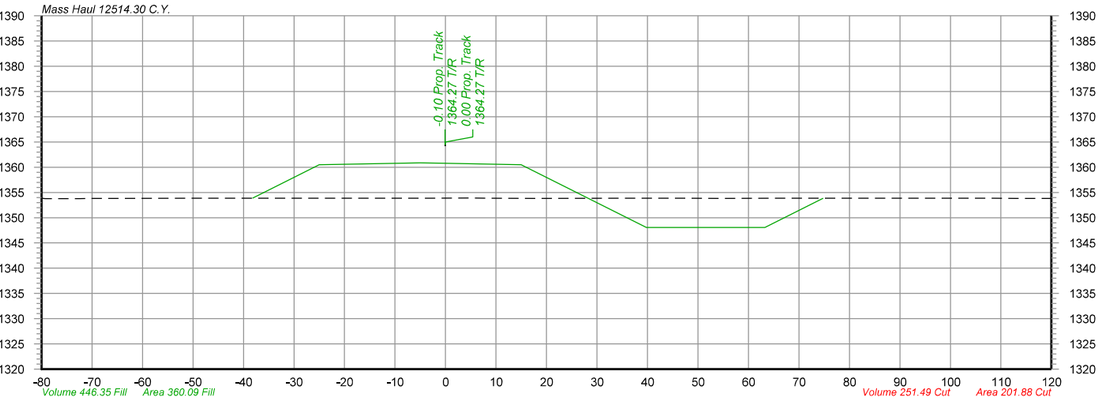
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58+00

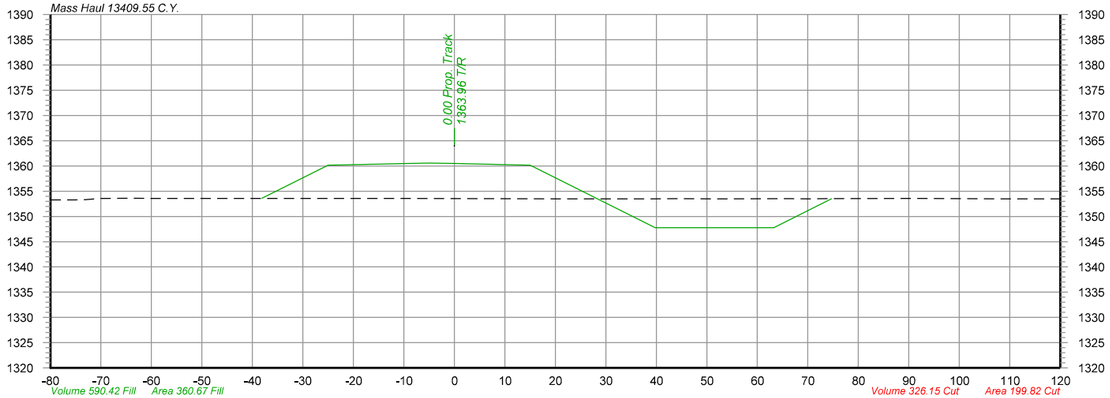
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1353.44	1353.33	1353.42	1353.53	1353.55	1353.61	1353.60	1353.57	1353.57	1353.59	1353.52	1353.52	1353.51	1353.54	1353.54	1353.54	1353.53	1353.52	1353.53	1353.50	1353.49	1353.50	1353.49	1353.50	1353.50	1353.51	1353.54	1353.51	1353.51	1353.49	1353.53	1353.53



-38.22	-25.00	-5.00	-0.00	15.00	39.77	63.27	74.80
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59+34

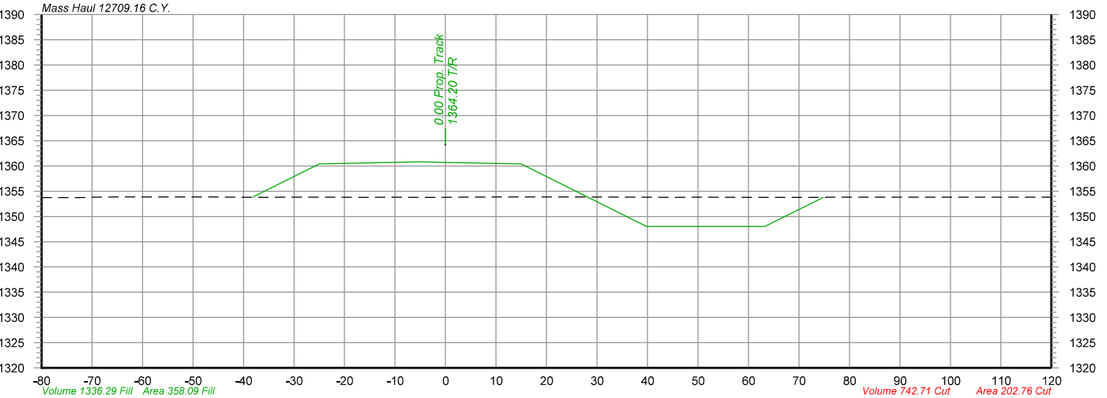
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1353.84	1353.79	1353.79	1353.79	1353.81	1353.80	1353.86	1353.86	1353.87	1353.84	1353.87	1353.88	1353.86	1353.82	1353.84	1353.88	1353.83	1353.84	1353.84	1353.84	1353.84	1353.84	1353.86	1353.83	1353.82



-38.18	-25.00	-5.00	-0.00	15.00	39.77	63.27	74.74
1353.57	1360.16	1360.56	1360.46	1360.16	1347.78	1347.78	1353.51

57+82

-80.00	-75.30	-73.16	-70.14	-63.93	-60.08	-54.55	-44.05	-25.48	-22.18	-9.63	4.62	6.90	20.27	30.93	39.30	44.05	51.08	53.68	66.23	70.01	73.37	89.54	92.02	108.61	115.68	119.49
1353.29	1353.29	1353.32	1353.55	1353.59	1353.58	1353.56	1353.58	1353.56	1353.56	1353.57	1353.54	1353.54	1353.49	1353.49	1353.49	1353.51	1353.49	1353.49	1353.50	1353.50	1353.51	1353.56	1353.56	1353.49	1353.47	1353.47



-38.19	-25.00	-5.00	-0.00	15.00	39.77	63.27	74.83
1353.80	1360.40	1360.80	1360.70	1360.40	1348.01	1348.01	1353.79

59+00

-80.00	-77.04	-72.49	-69.11	-65.24	-60.71	-49.03	-45.97	-42.73	-35.53	-31.86	-22.30	-16.78	-10.35	-4.79	-1.86	3.21	10.05	15.59	26.41	38.08	45.49	49.45	61.57	64.79	74.00	76.69	94.60	112.16	116.13	120.00
1353.75	1353.71	1353.72	1353.82	1353.84	1353.84	1353.84	1353.84	1353.83	1353.79	1353.80	1353.81	1353.79	1353.80	1353.78	1353.79	1353.82	1353.85	1353.86	1353.84	1353.81	1353.79	1353.80	1353.78	1353.76	1353.79	1353.80	1353.81	1353.82	1353.82	1353.80

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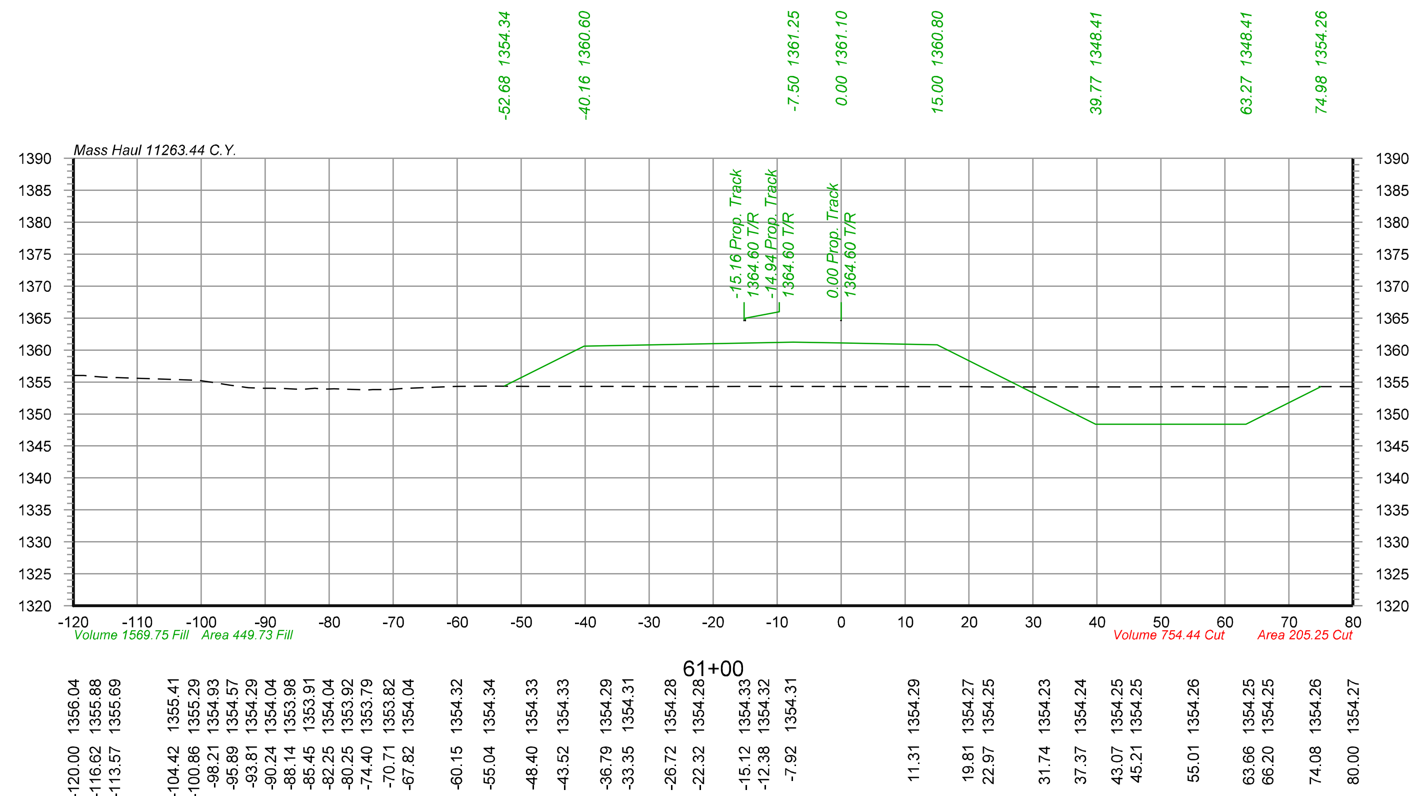
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DATE: 6/3/2022
SHEET NUMBER: X058 of 115

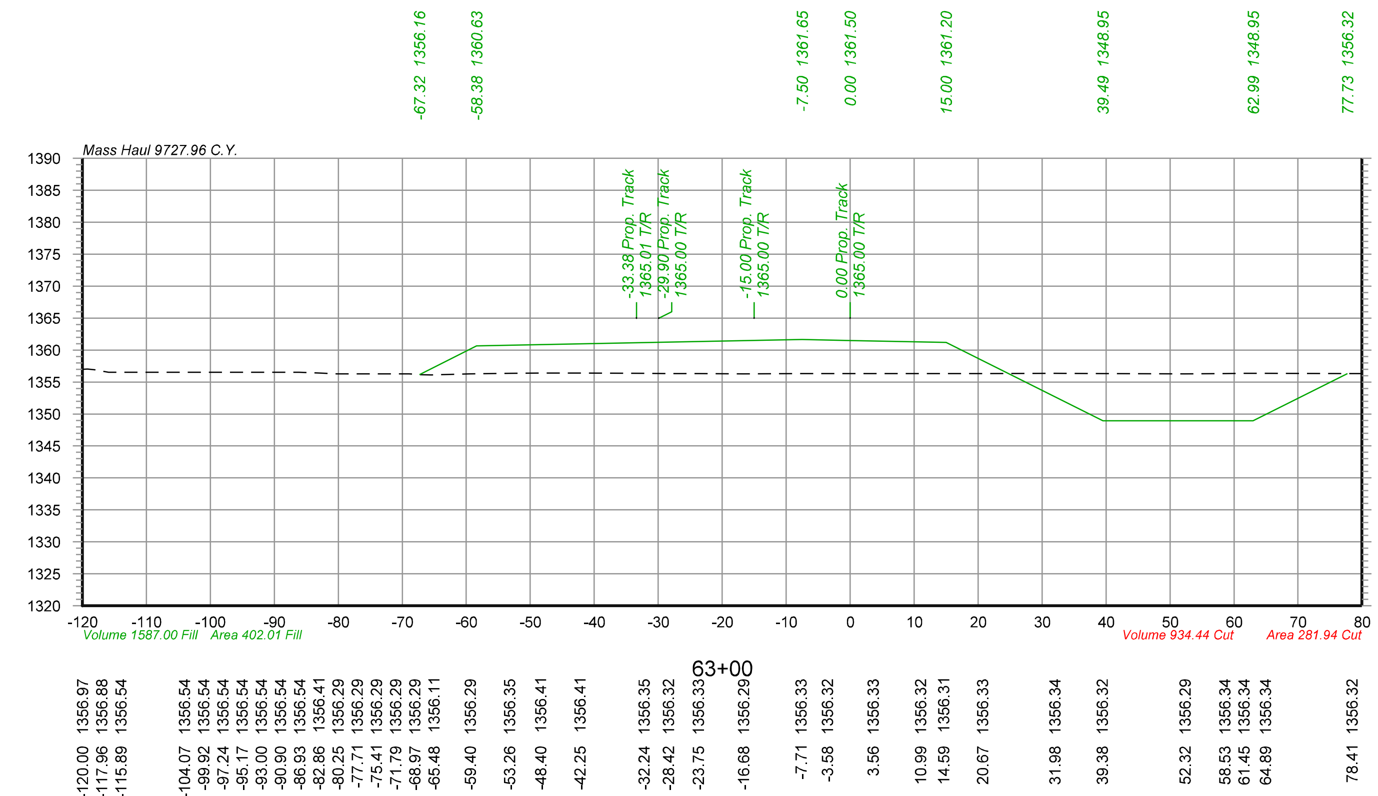
UNION PACIFIC RAILROAD

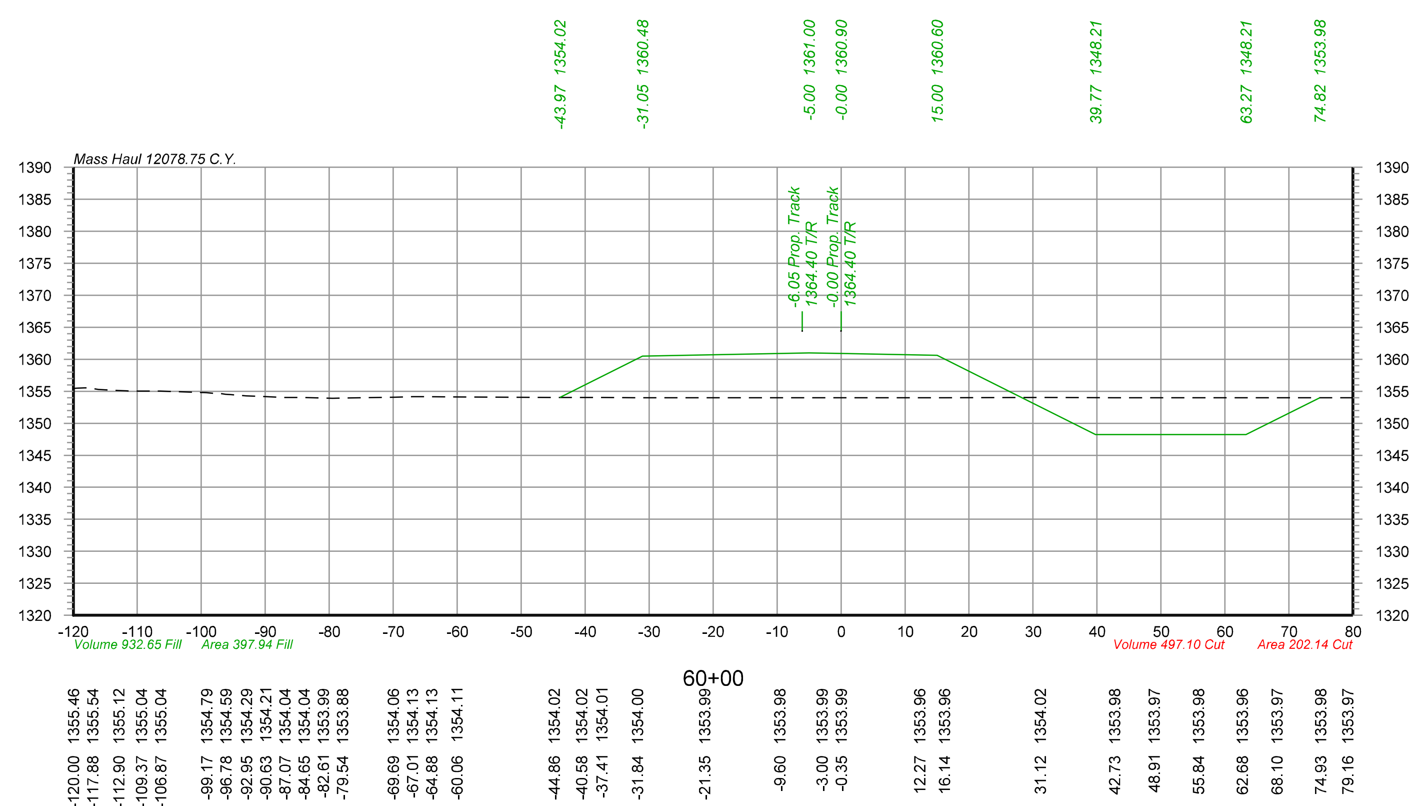
LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

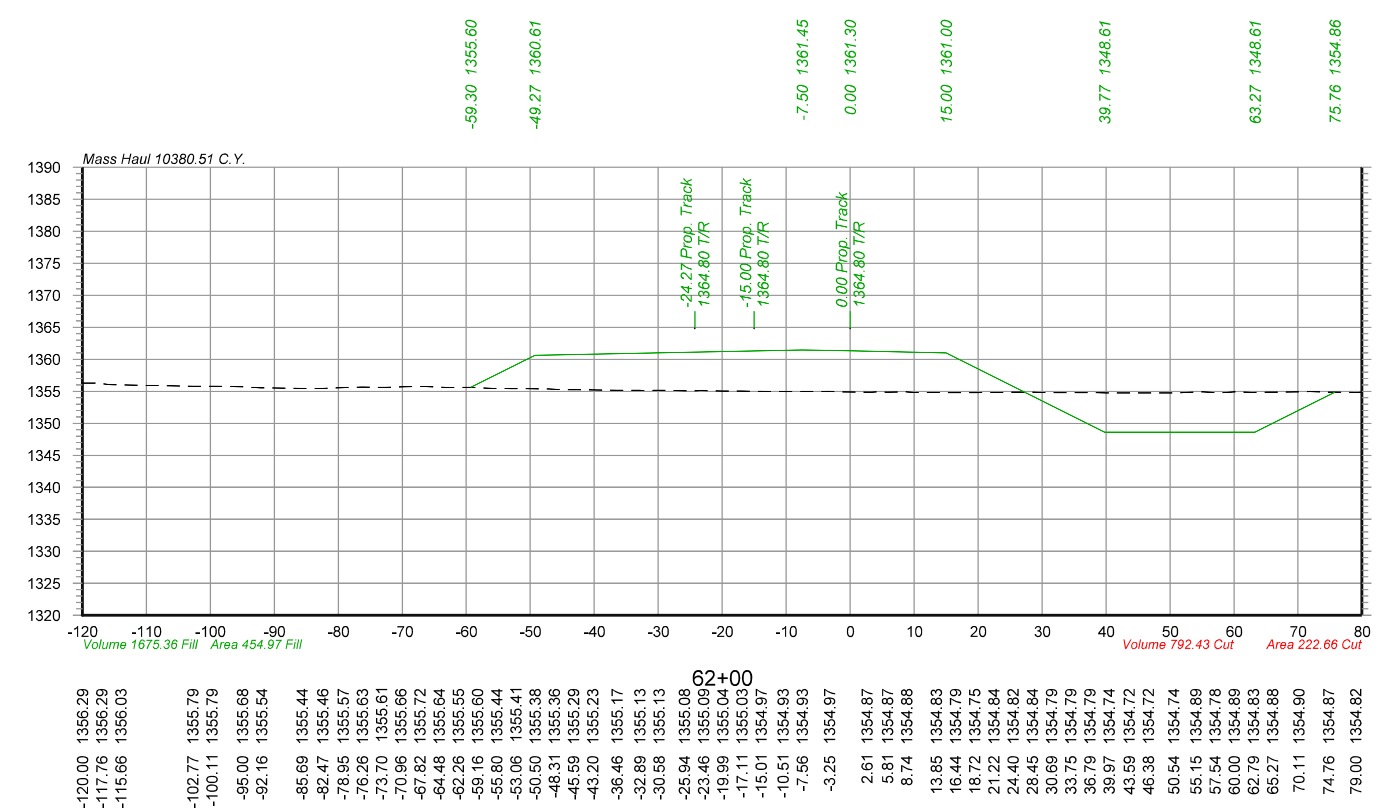
SHEET TITLE:
PIRATE LEAD TRACK CROSS SECTIONS STA.57+82 TO STA.59+34

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DRAWN BY:	JTD
CHECKED BY:	JRM
DATE:	6/3/2022
SHEET NUMBER	X059 of 115

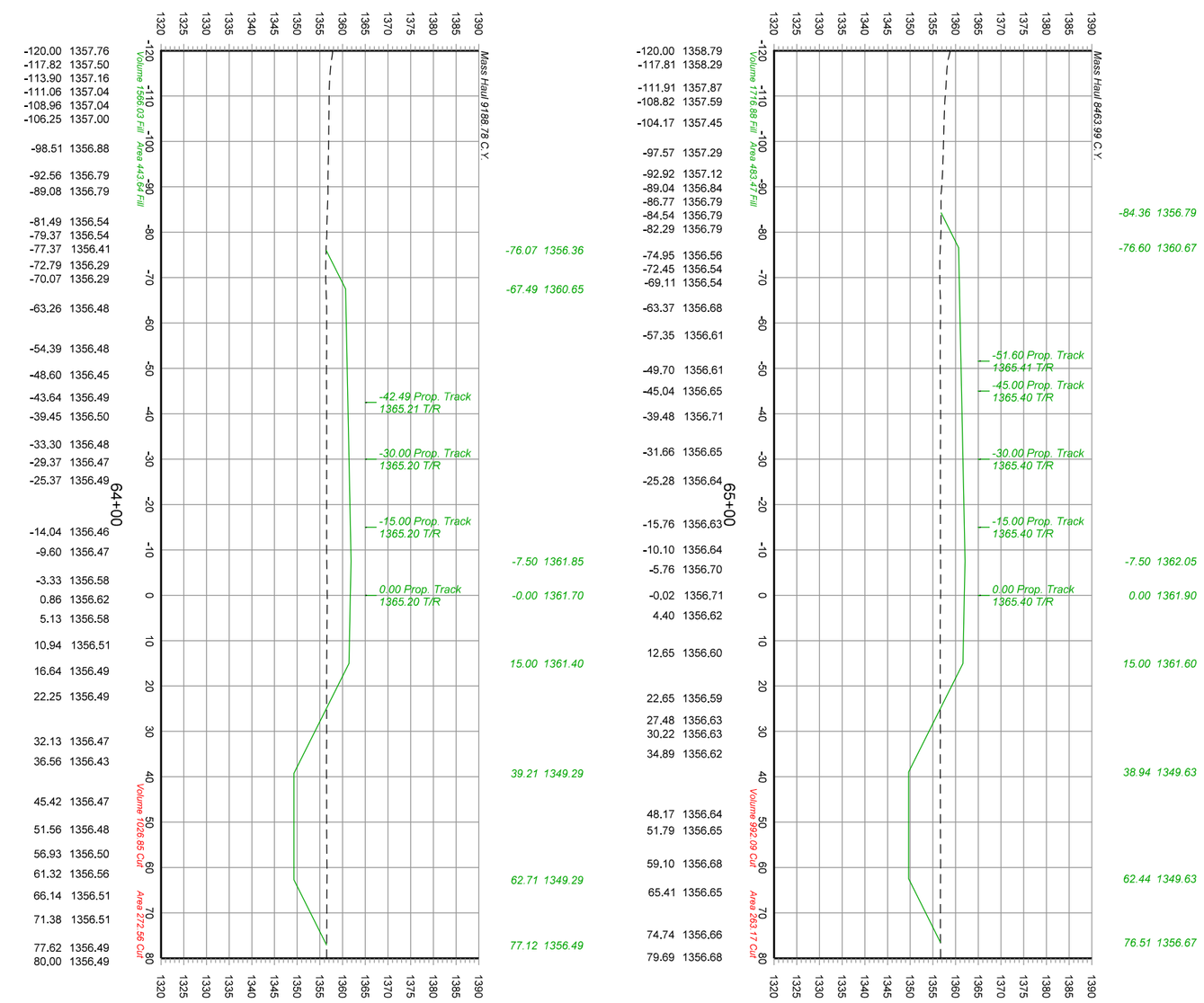
UNION PACIFIC RAILROAD

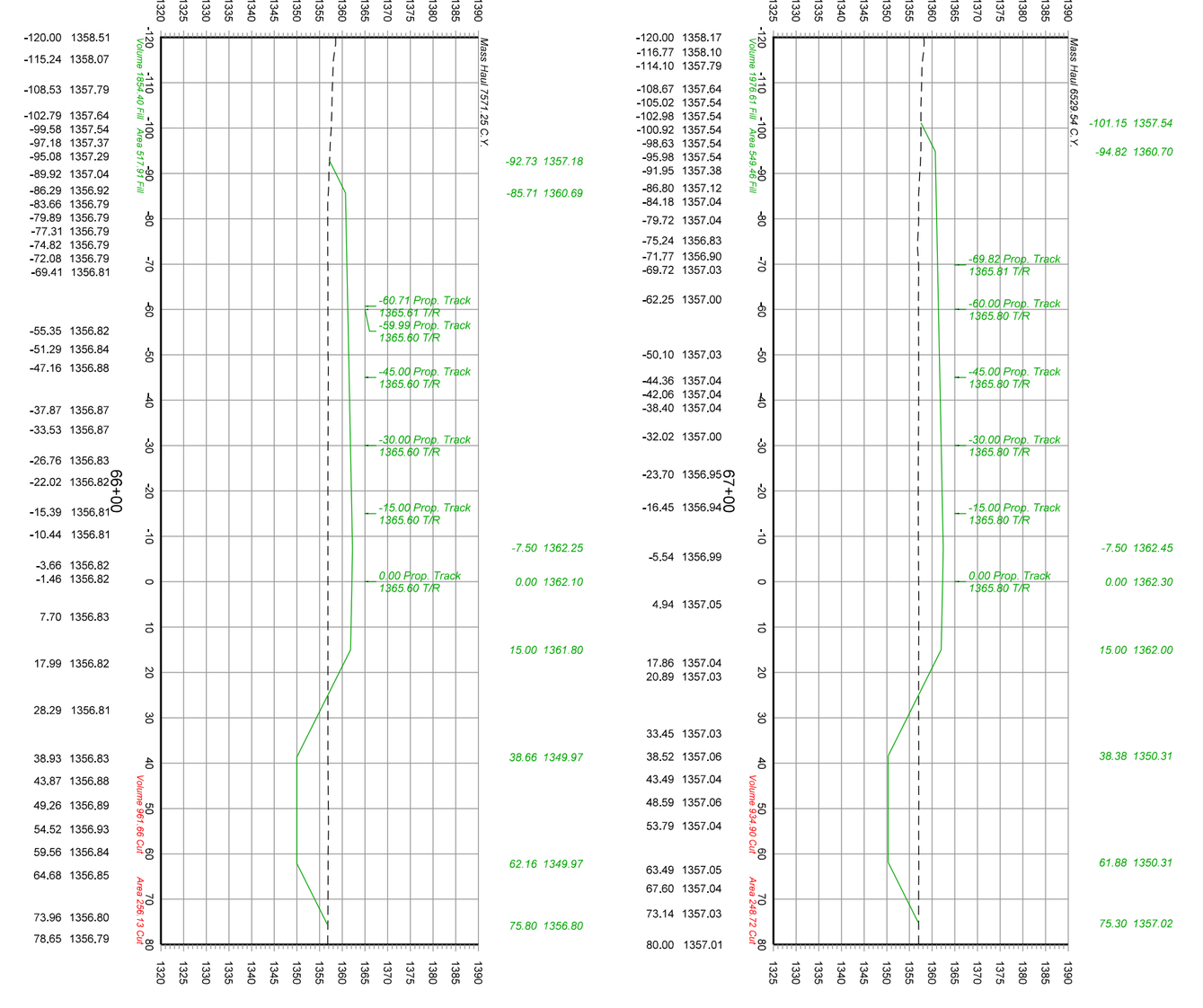
LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
PIRATE LEAD TRACK CROSS SECTIONS STA.60+00 TO STA.63+00

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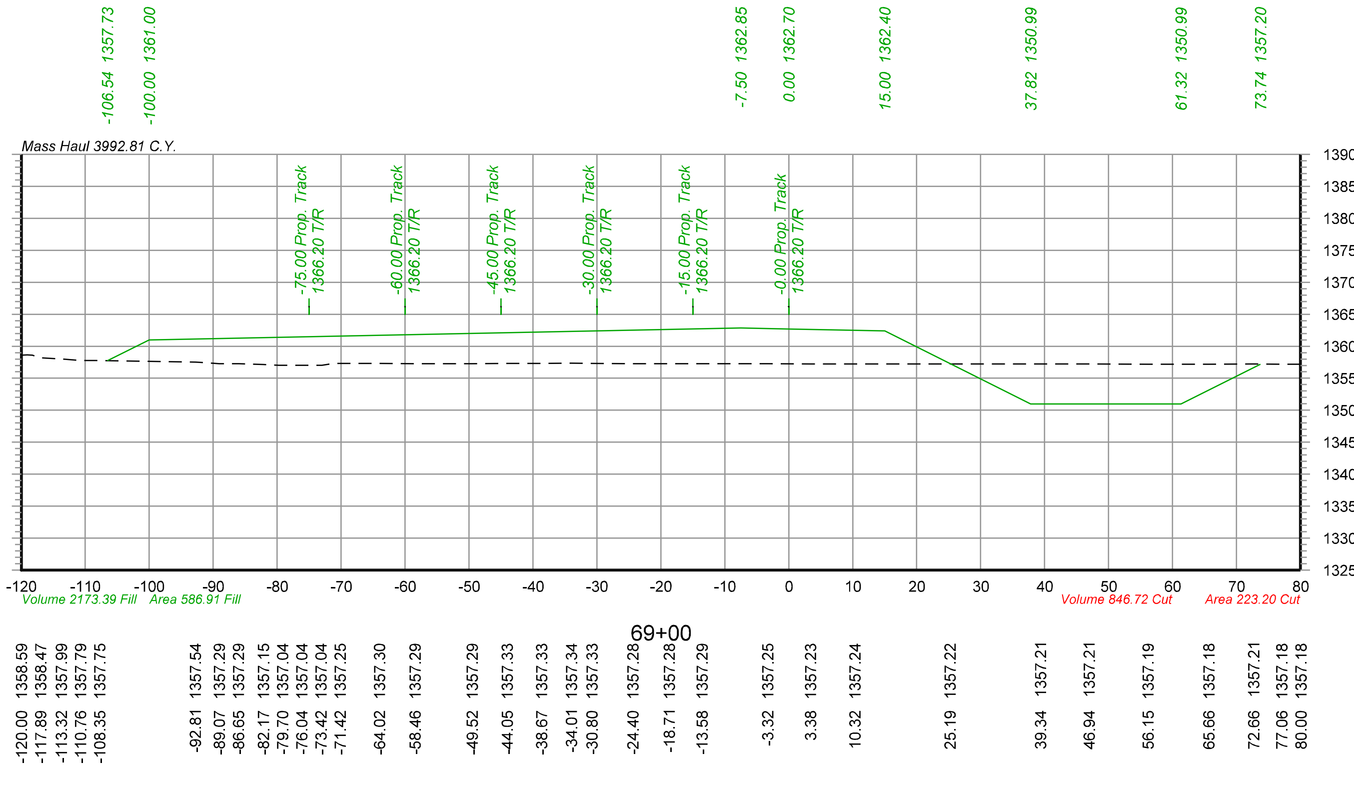
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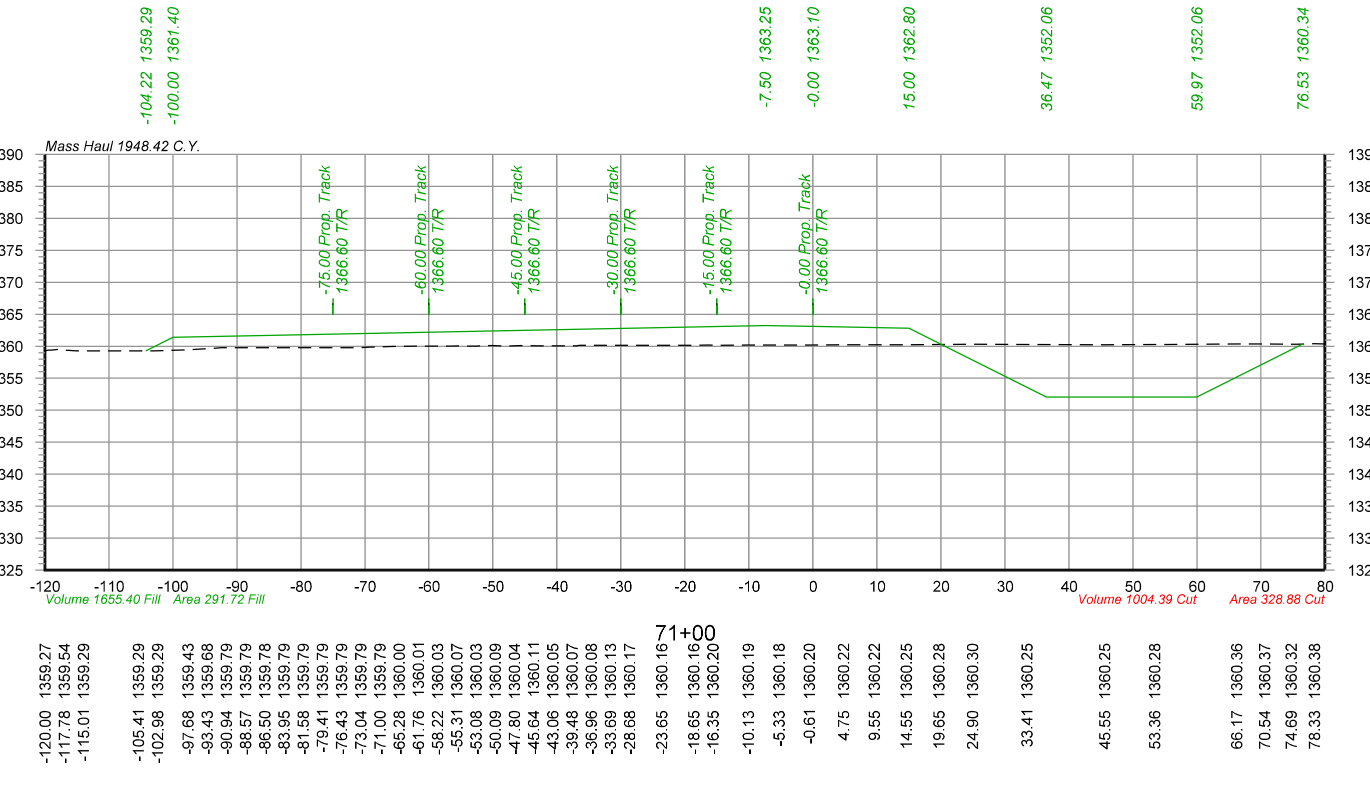
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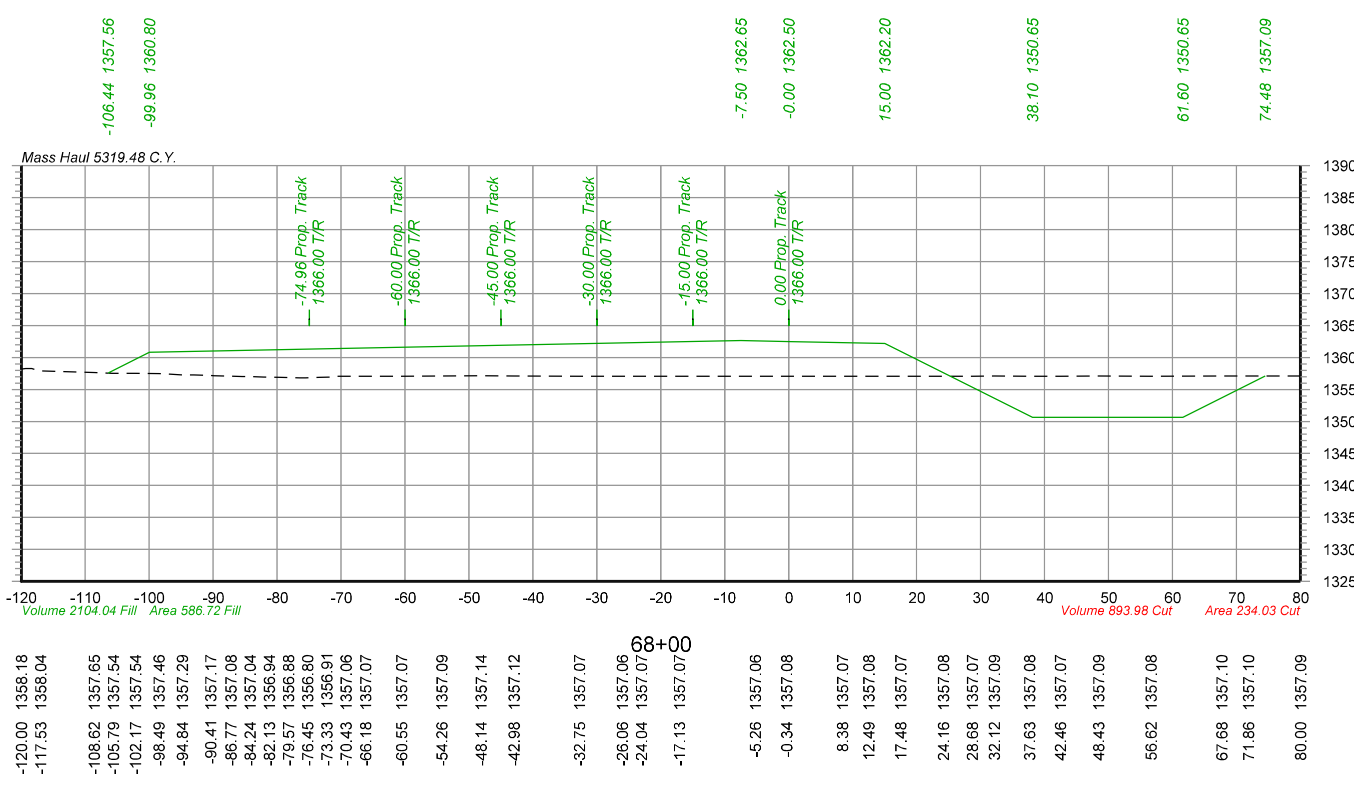
LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

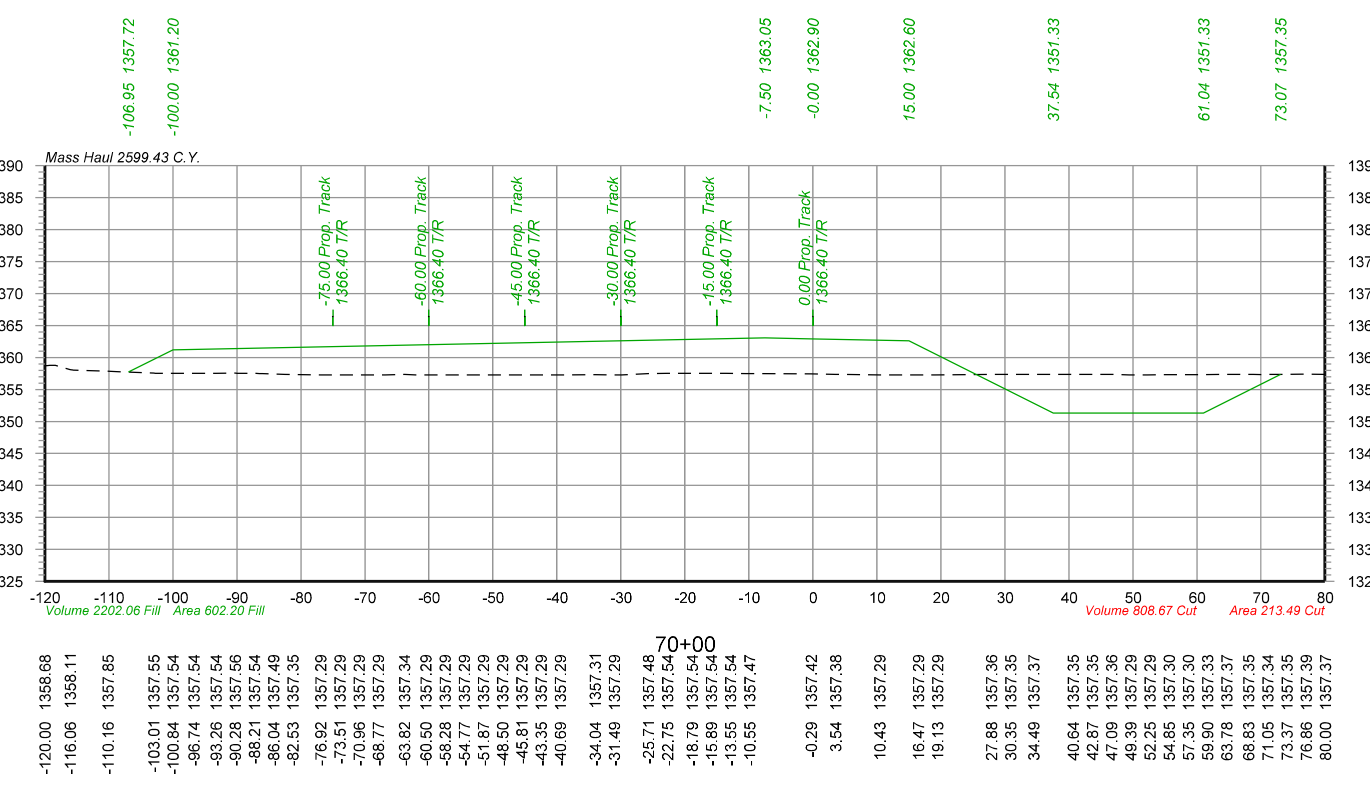
SHEET TITLE:
PIRATE LEAD TRACK CROSS SECTIONS STA.64+00 TO STA.67+00

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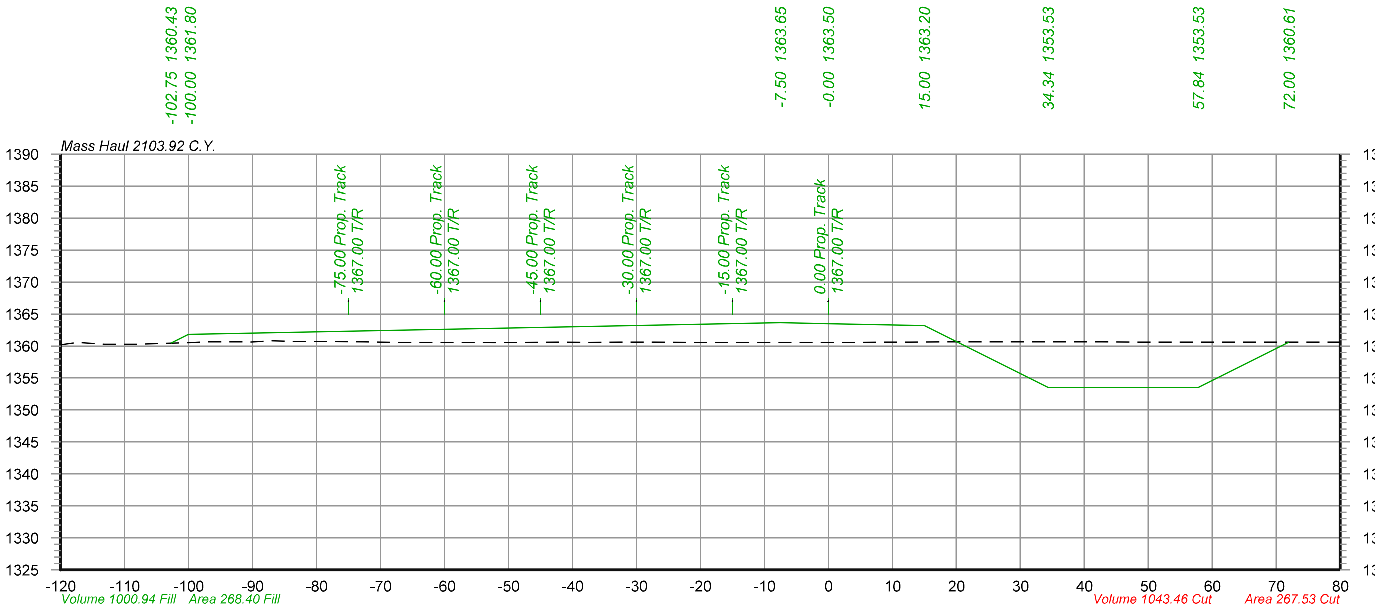
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DATE: 6/3/2022	
SHEET NUMBER X061 of 115	SHEET TITLE: PIRATE LEAD TRACK CROSS SECTIONS STA.68+00 TO STA.71+00

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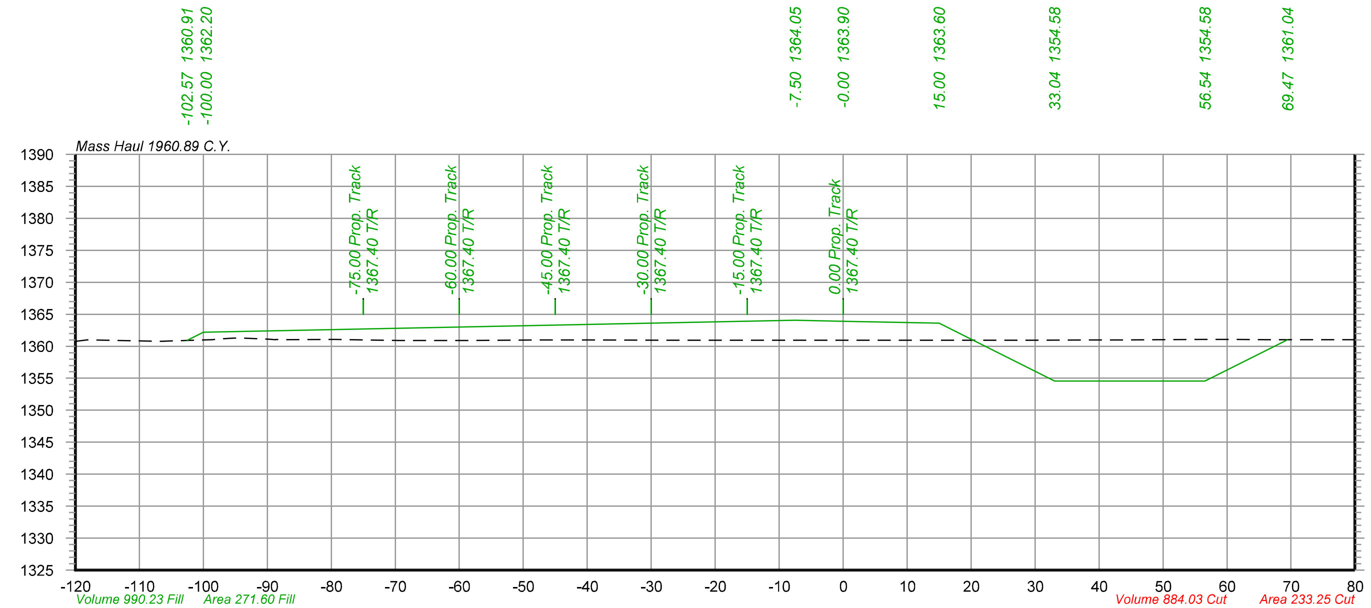
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73+00



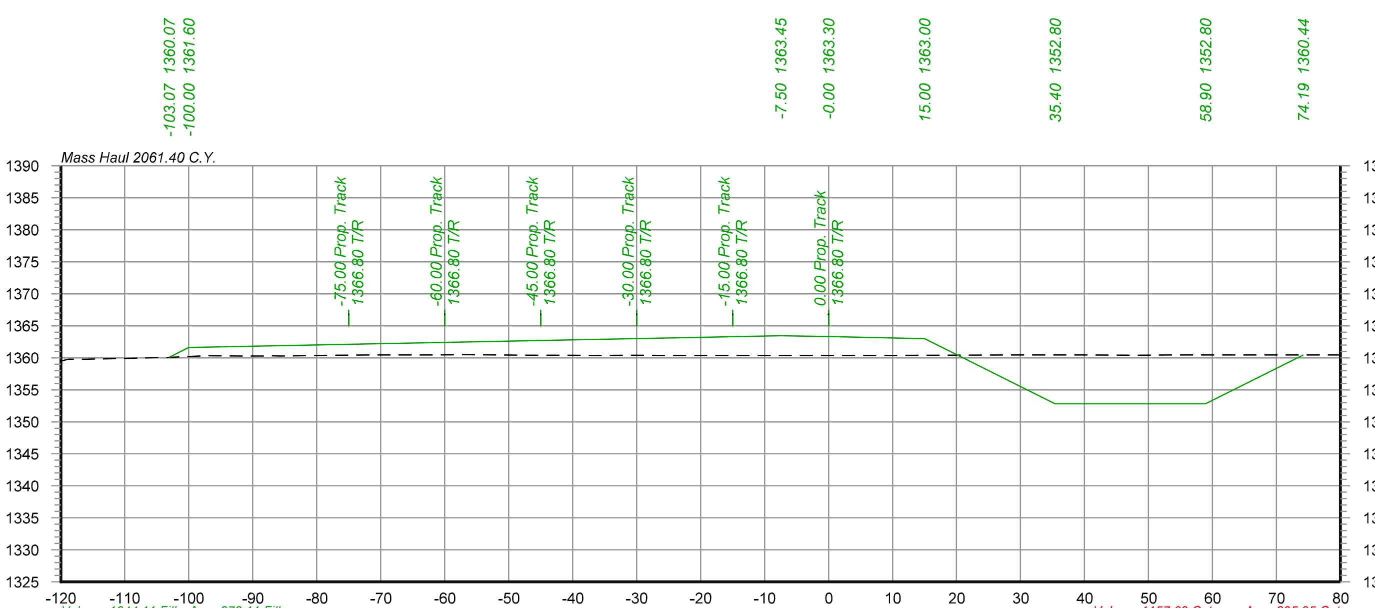
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4.74	1360.58
9.05	1360.62
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75+00



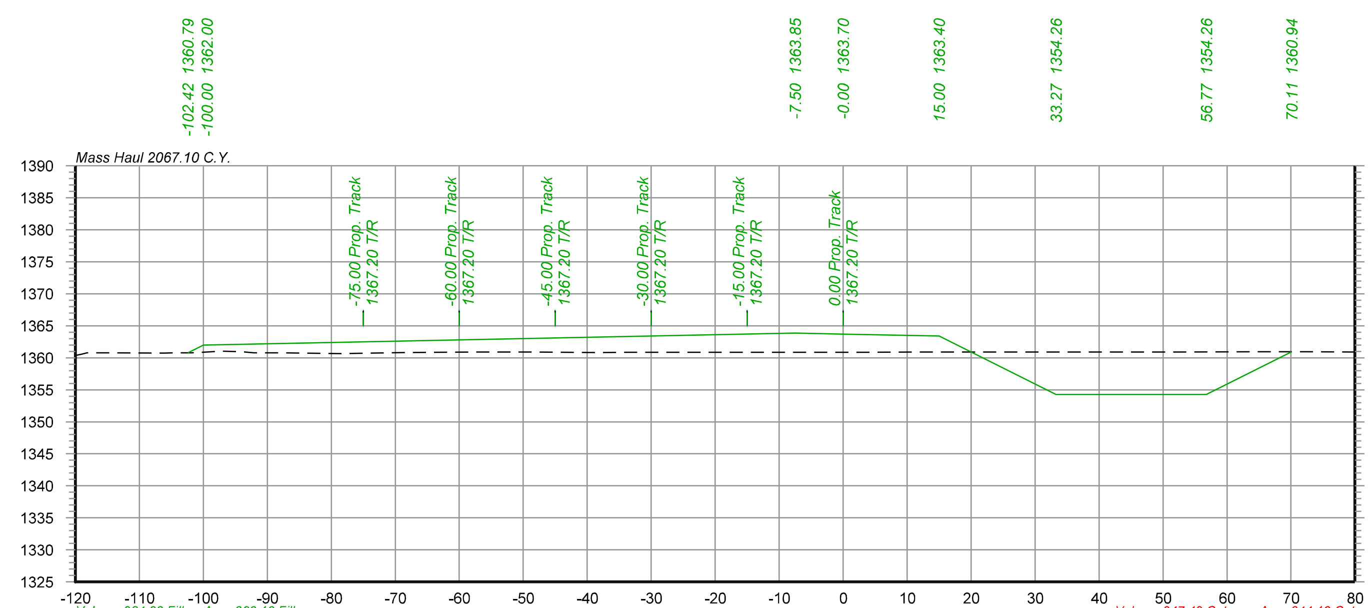
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2.22	1360.96
13.44	1360.95
18.51	1360.95
29.26	1360.93
38.96	1360.97
42.63	1360.99
49.35	1361.03
56.12	1361.06
58.13	1361.07
61.21	1361.06
66.35	1361.04
73.99	1361.04
80.00	1361.03

72+00



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-103.02	1360.07
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-85.80	1360.29
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-76.75	1360.38
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-41.36	1360.38
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4.20	1360.36
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17.42	1360.40
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60.42	1360.43
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80.00	1360.44

74+00



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24.78	1360.89
34.87	1360.89
46.97	1360.90
52.48	1360.90
64.45	1360.92
69.76	1360.94
72.75	1360.94
80.00	1360.91

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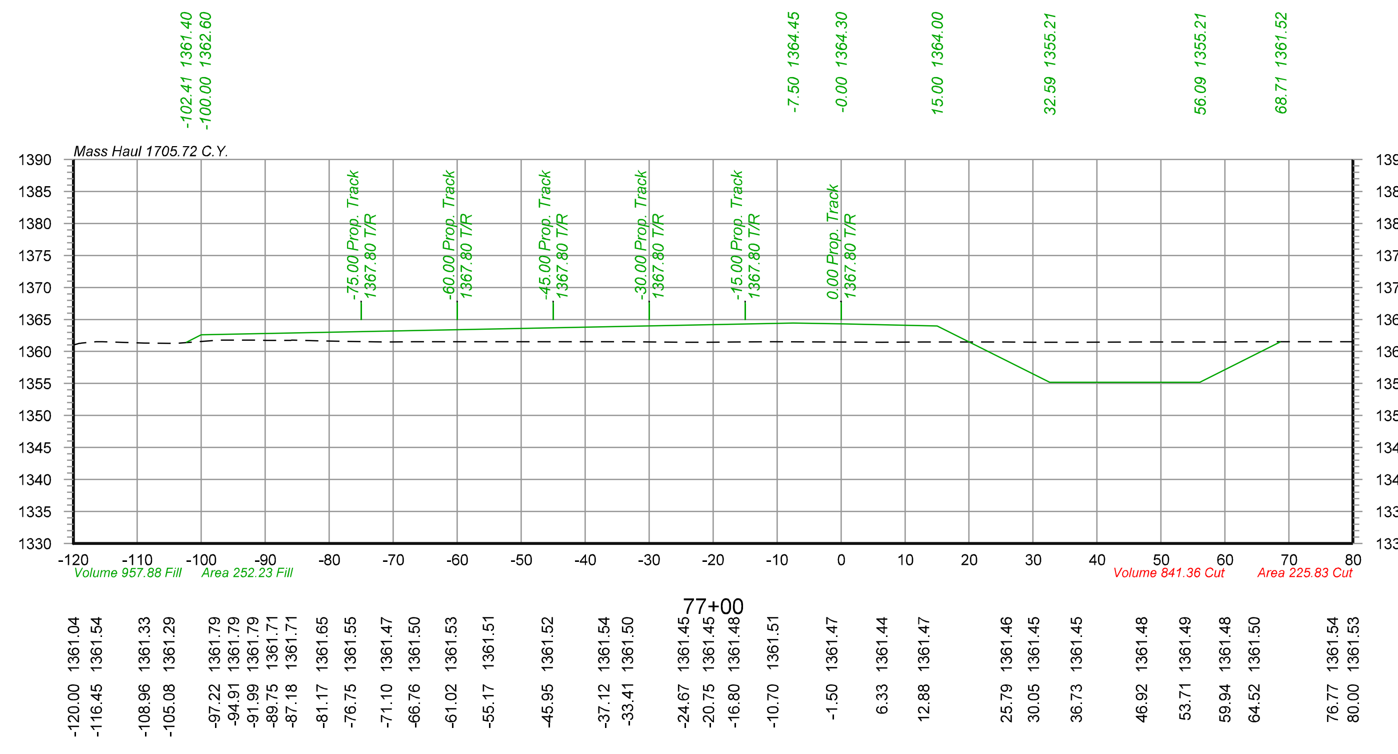
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DATE: 6/3/2022
SHEET NUMBER: X062 of 115

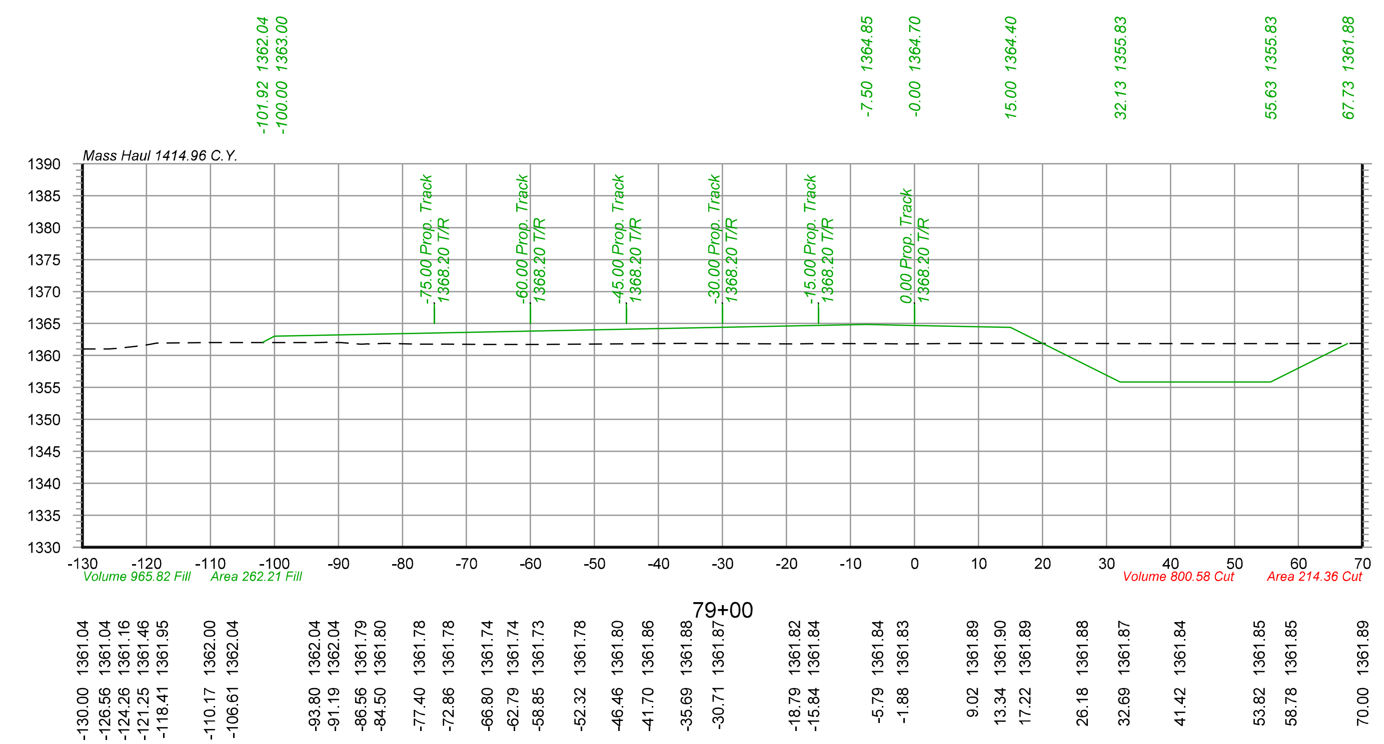
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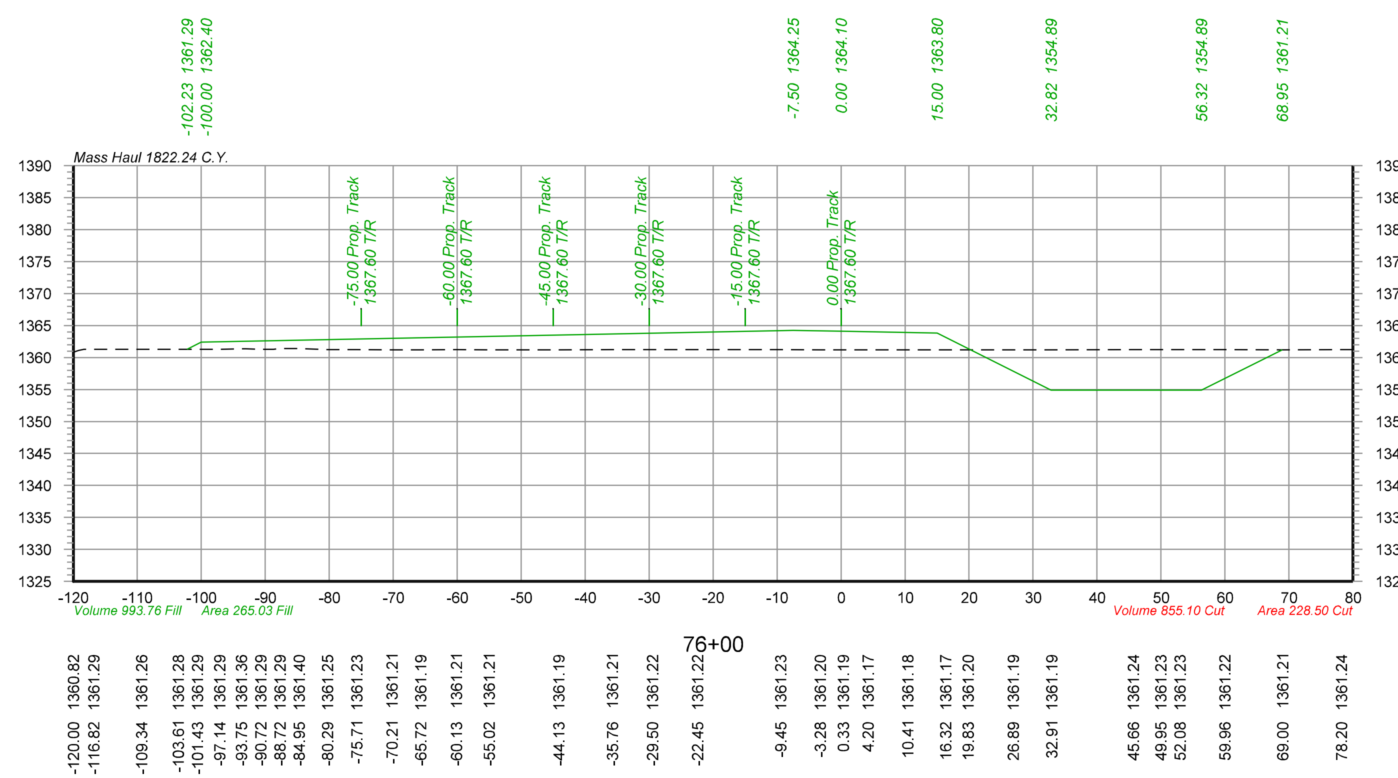
LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

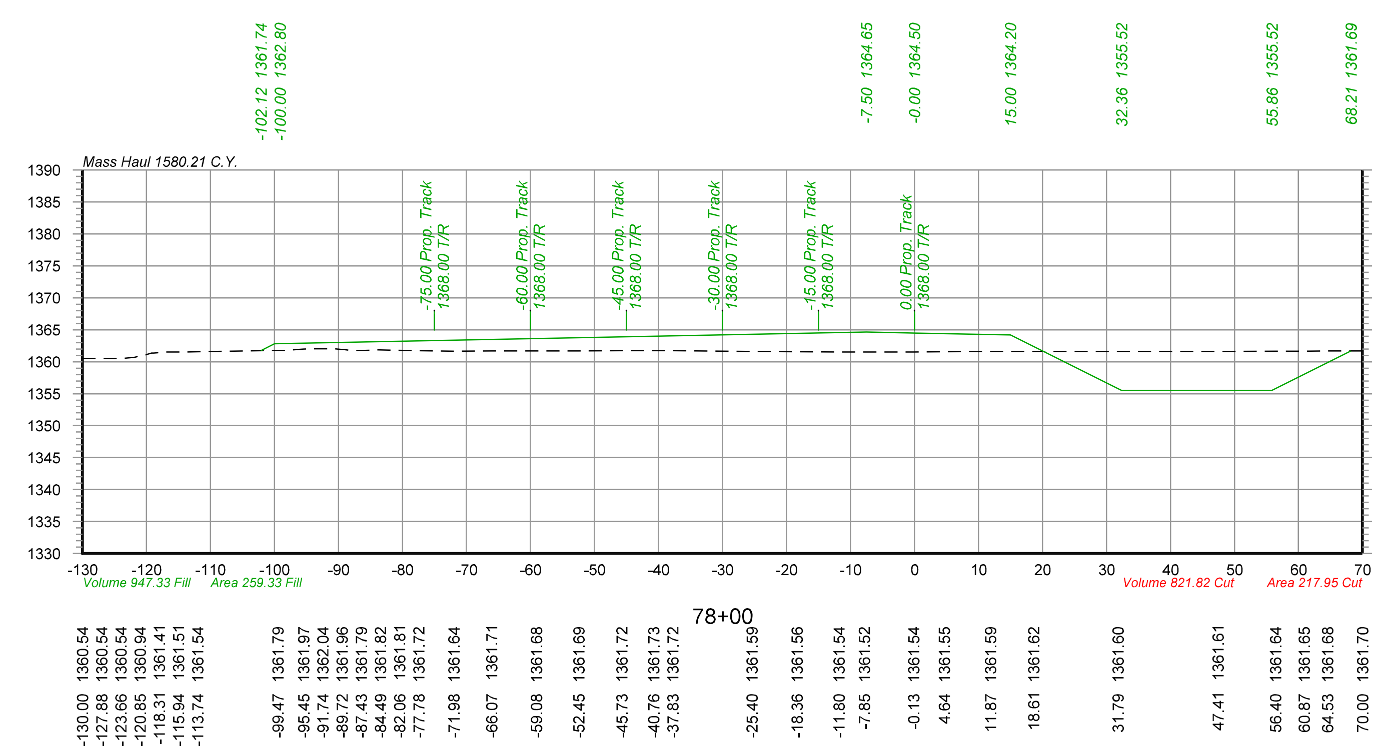
SHEET TITLE:
PIRATE LEAD TRACK CROSS SECTIONS STA.72+00 TO STA.75+00

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SHEET NUMBER	X063 of 115

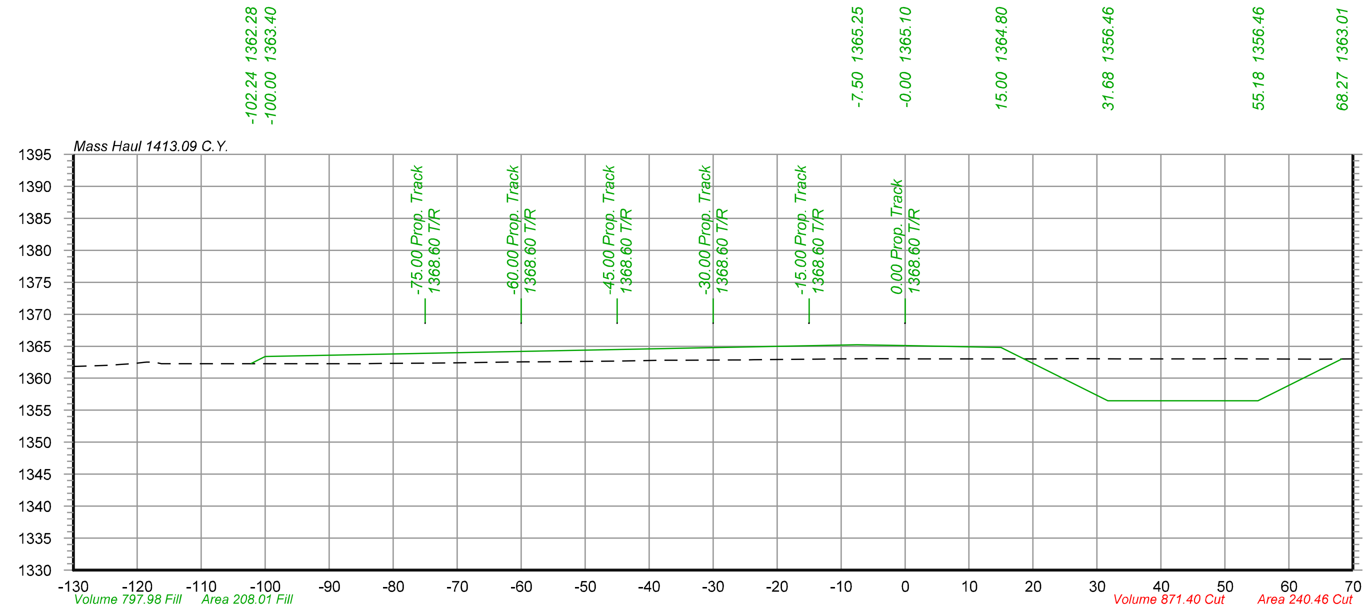
UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
PIRATE LEAD TRACK CROSS SECTIONS STA.76+00 TO STA.79+00

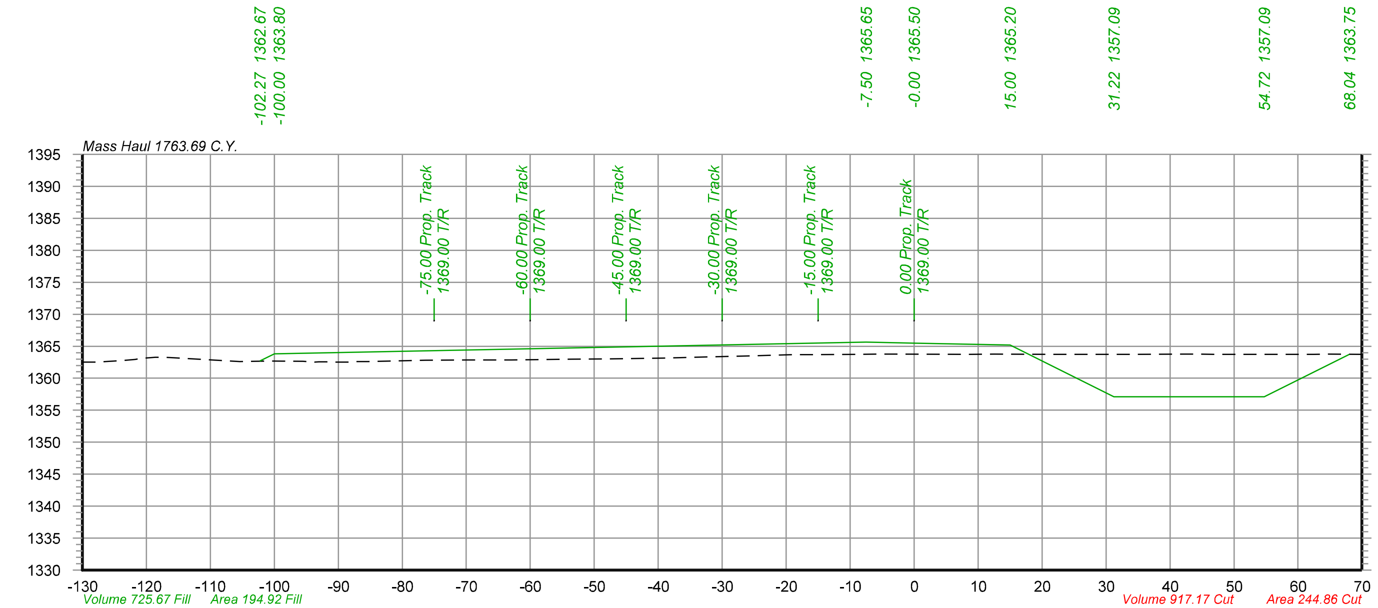
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81+00



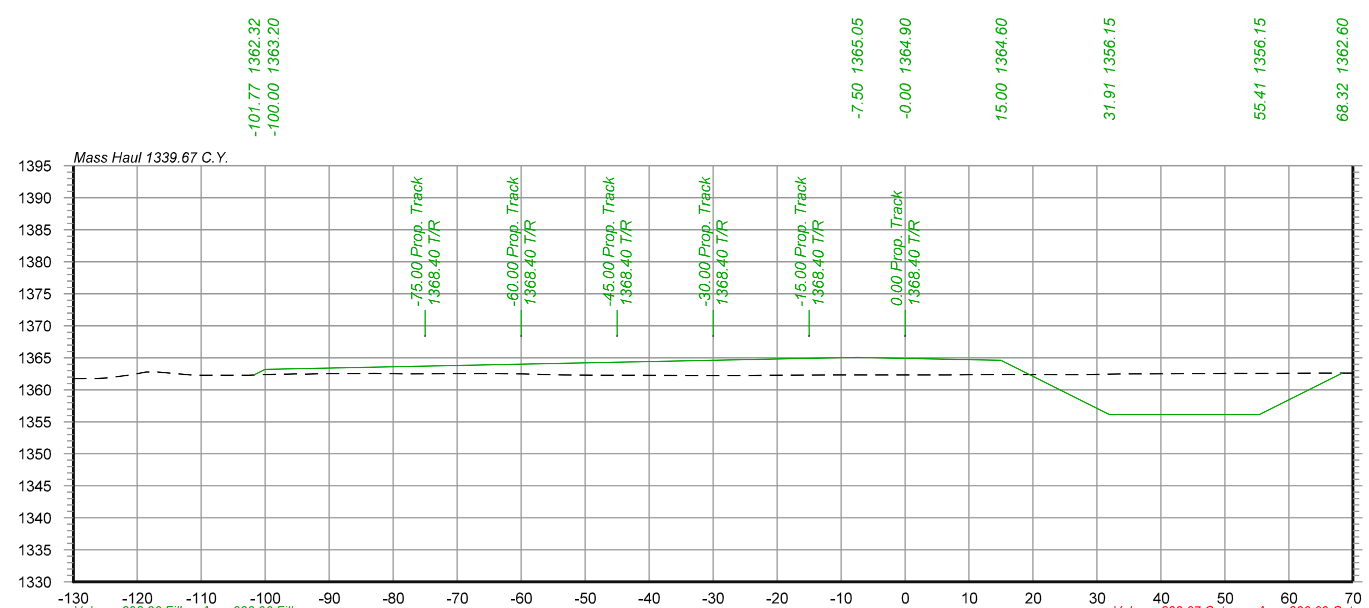
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-88.52	1362.29
-86.48	1362.29
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1.80	1363.03
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12.25	1363.01
20.33	1363.04
26.14	1363.05
33.42	1363.03
36.75	1363.02
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83+00



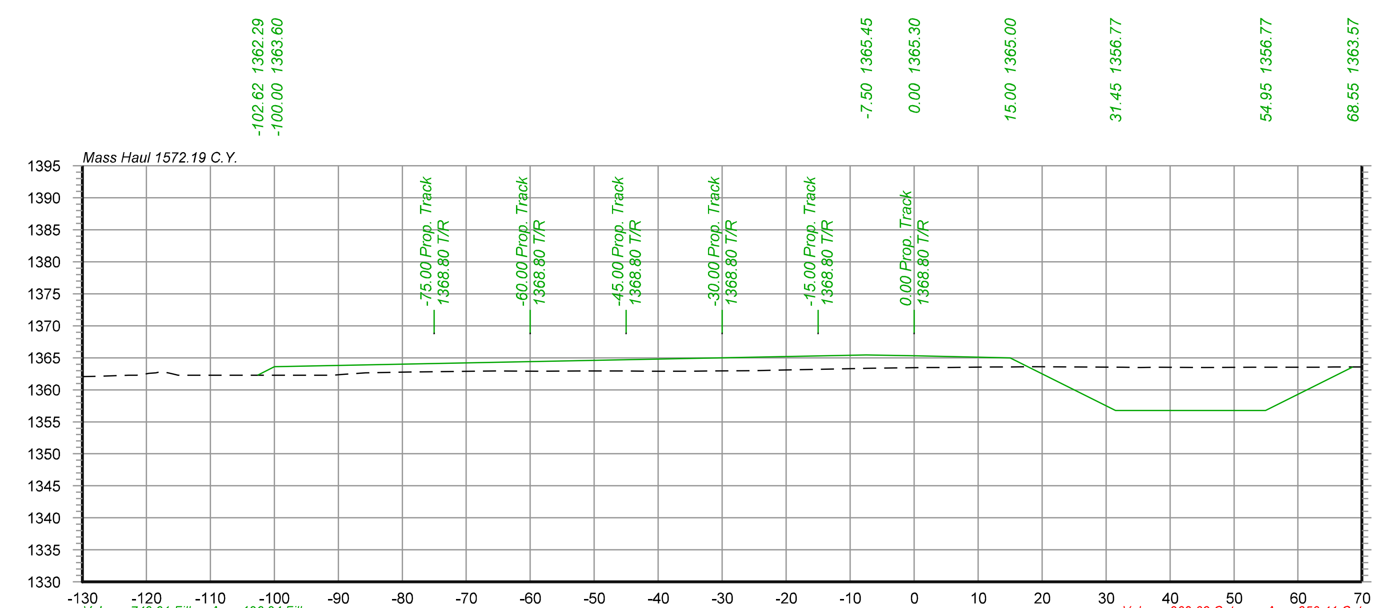
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8.62	1363.75
12.45	1363.75
21.45	1363.73
30.51	1363.74
34.45	1363.74
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54.60	1363.72
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64.68	1363.76
70.00	1363.74

80+00



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82+00



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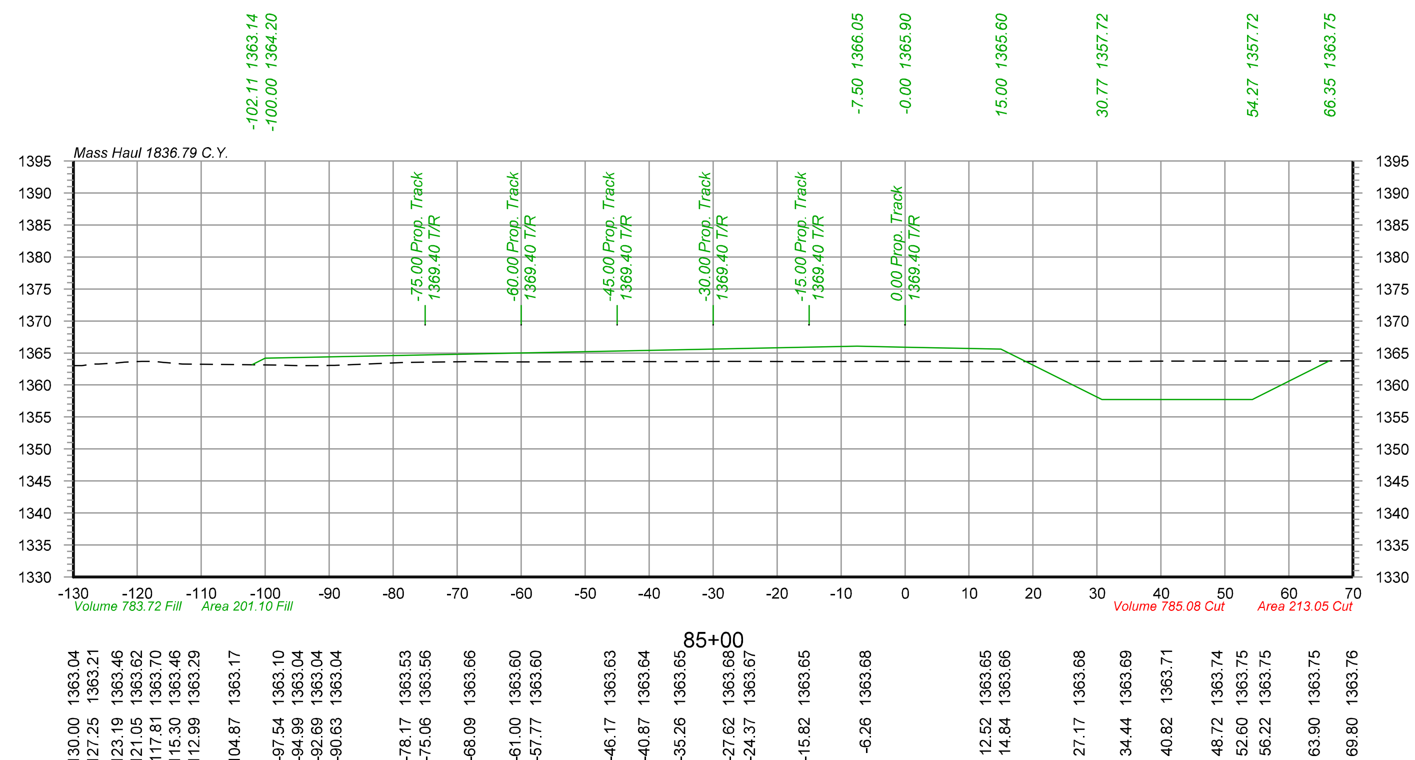
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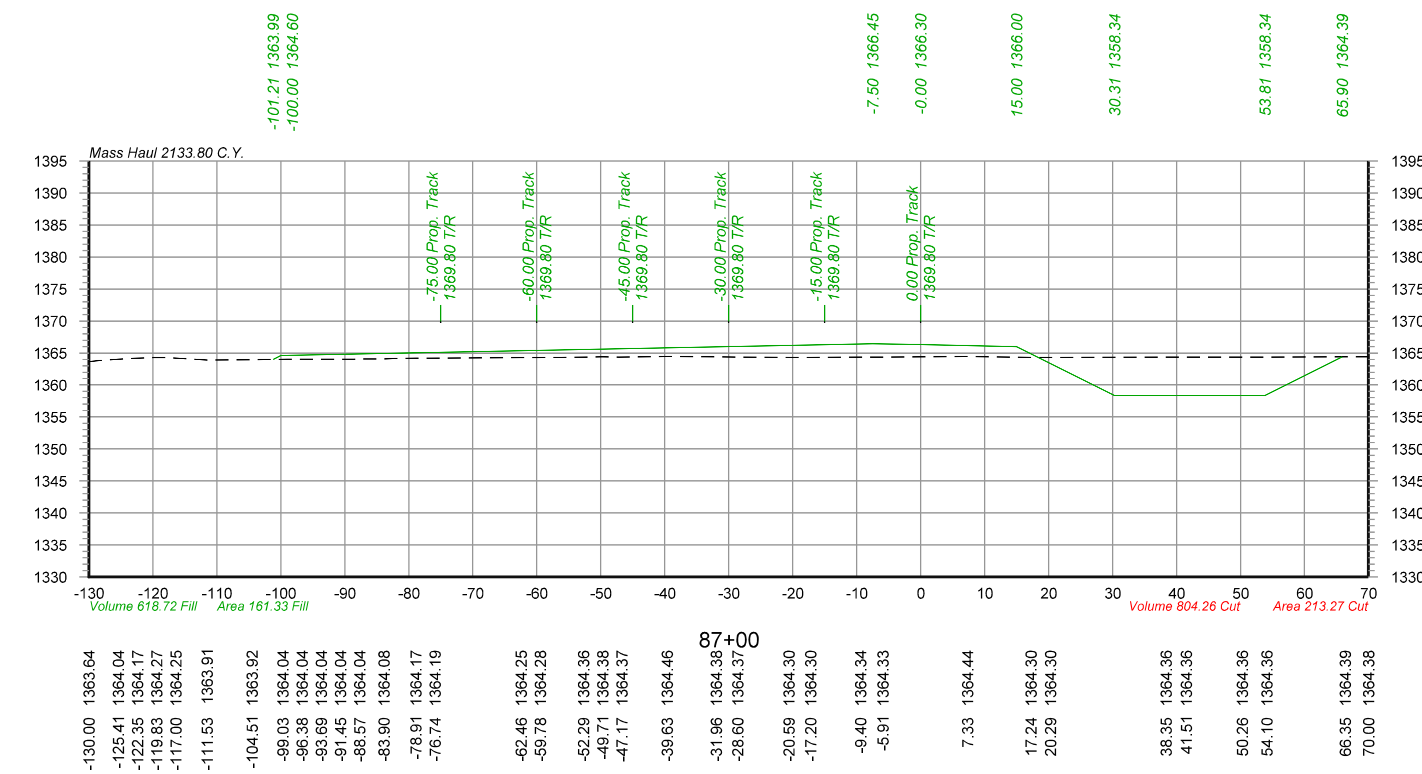
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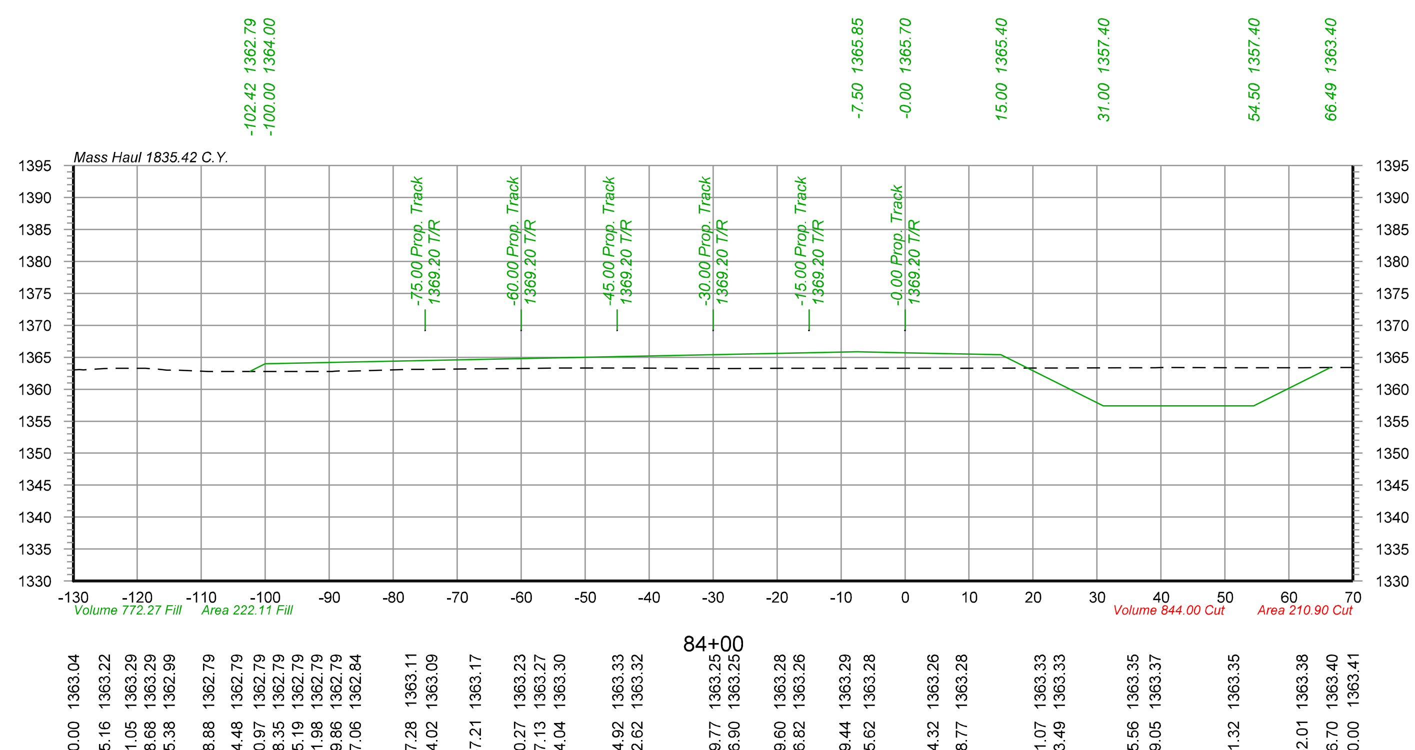
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Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

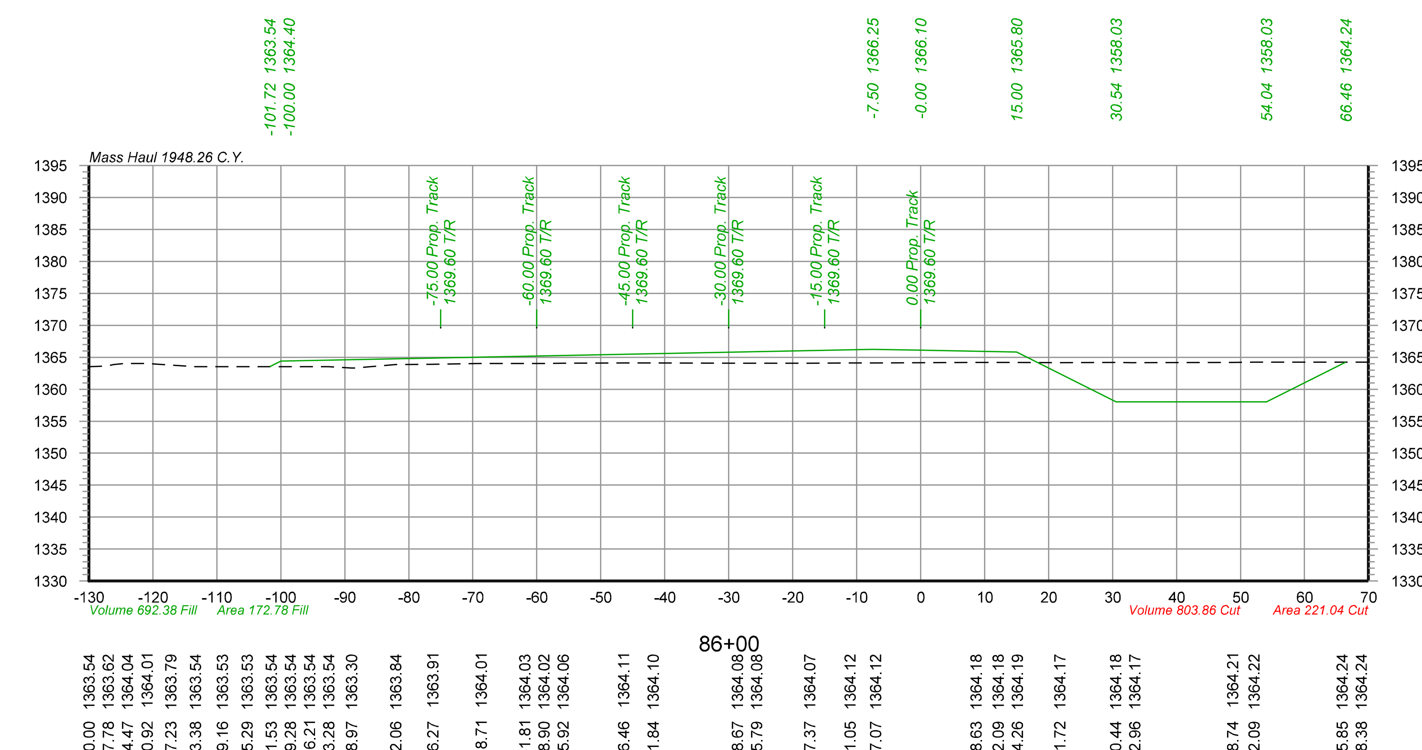
SHEET TITLE:
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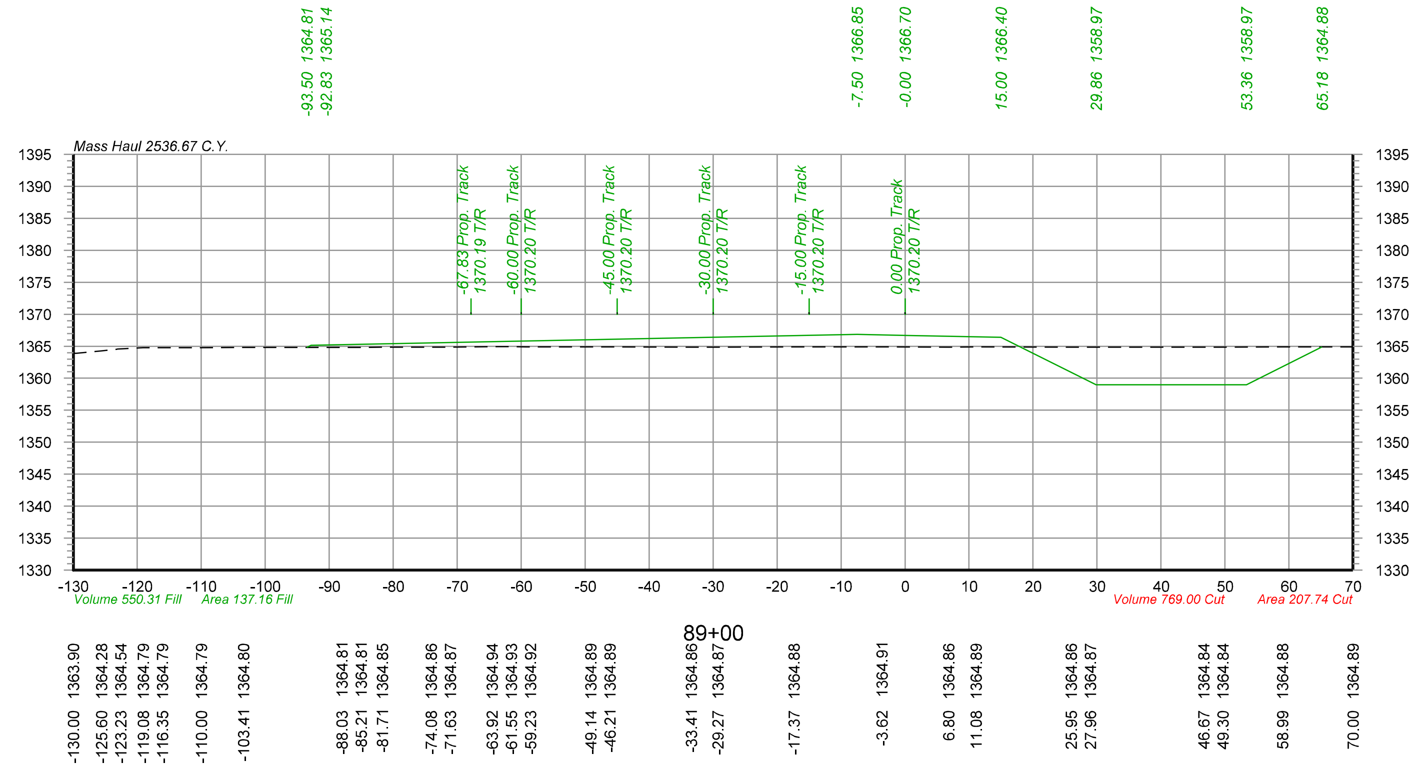
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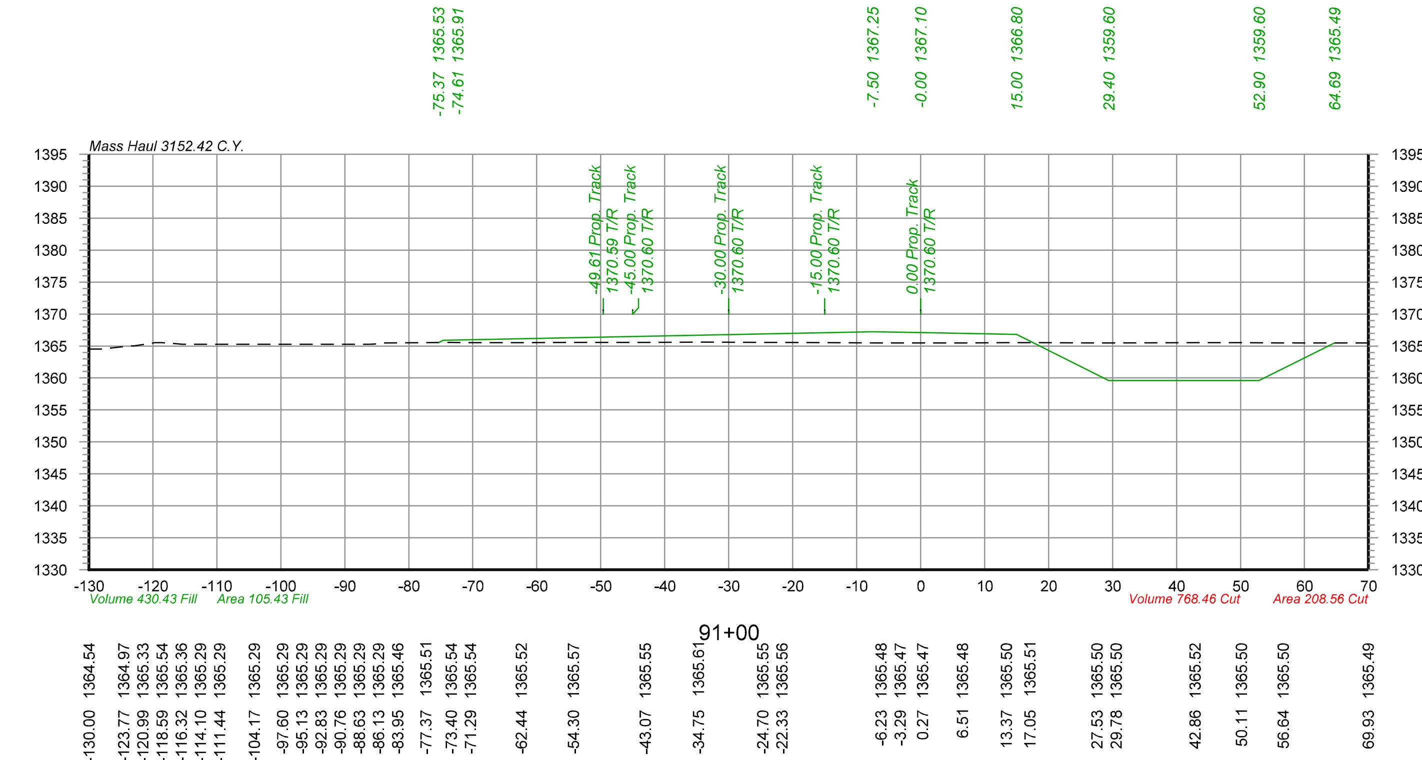
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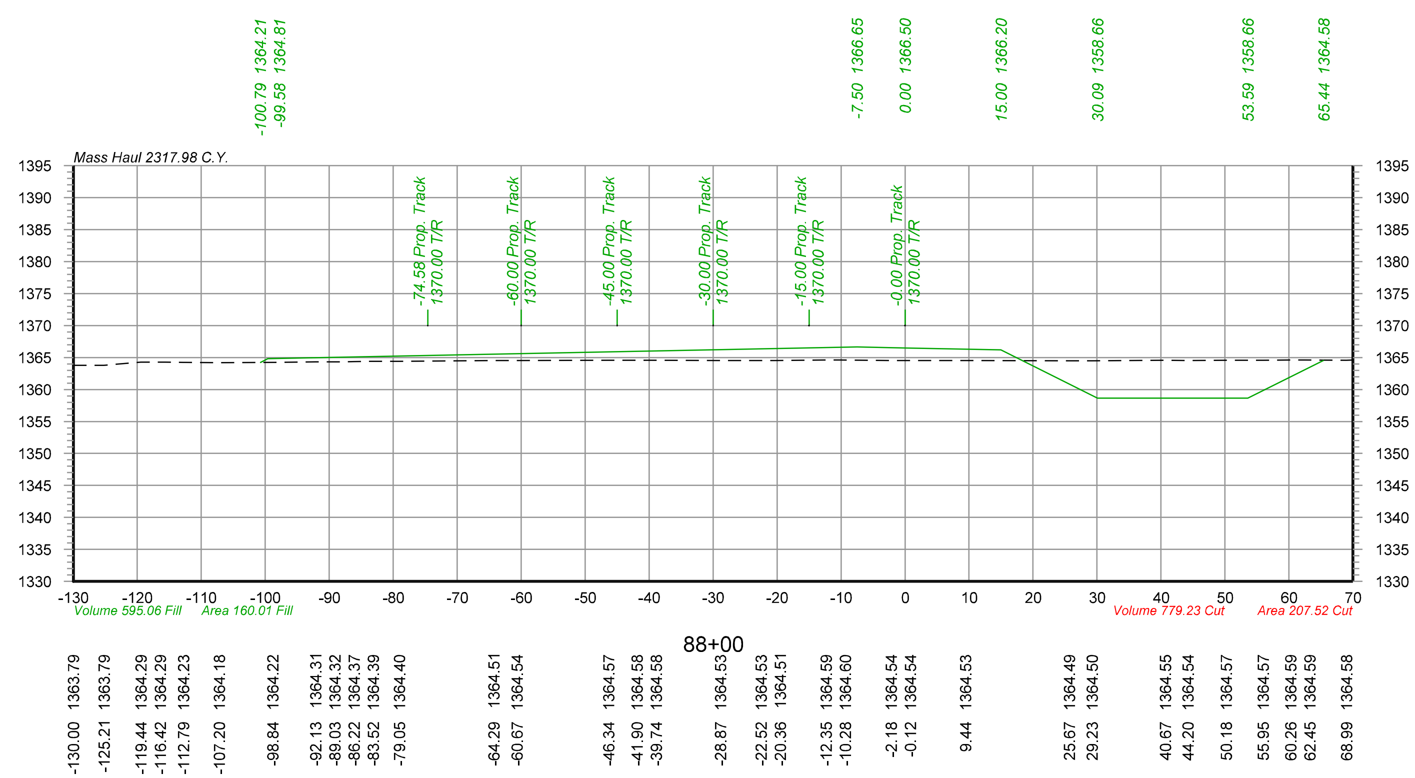
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CHECKED BY: JRM	LOCATION & DESCRIPTION: Mesa, Arizona - Maricopa County Phoenix Subdivision MP 934.79 to MP 937.83 Construct Industrial Lead Track
DATE: 6/3/2022	
SHEET NUMBER X065 of 115	SHEET TITLE: PIRATE LEAD TRACK CROSS SECTIONS STA.84+00 TO STA.87+00

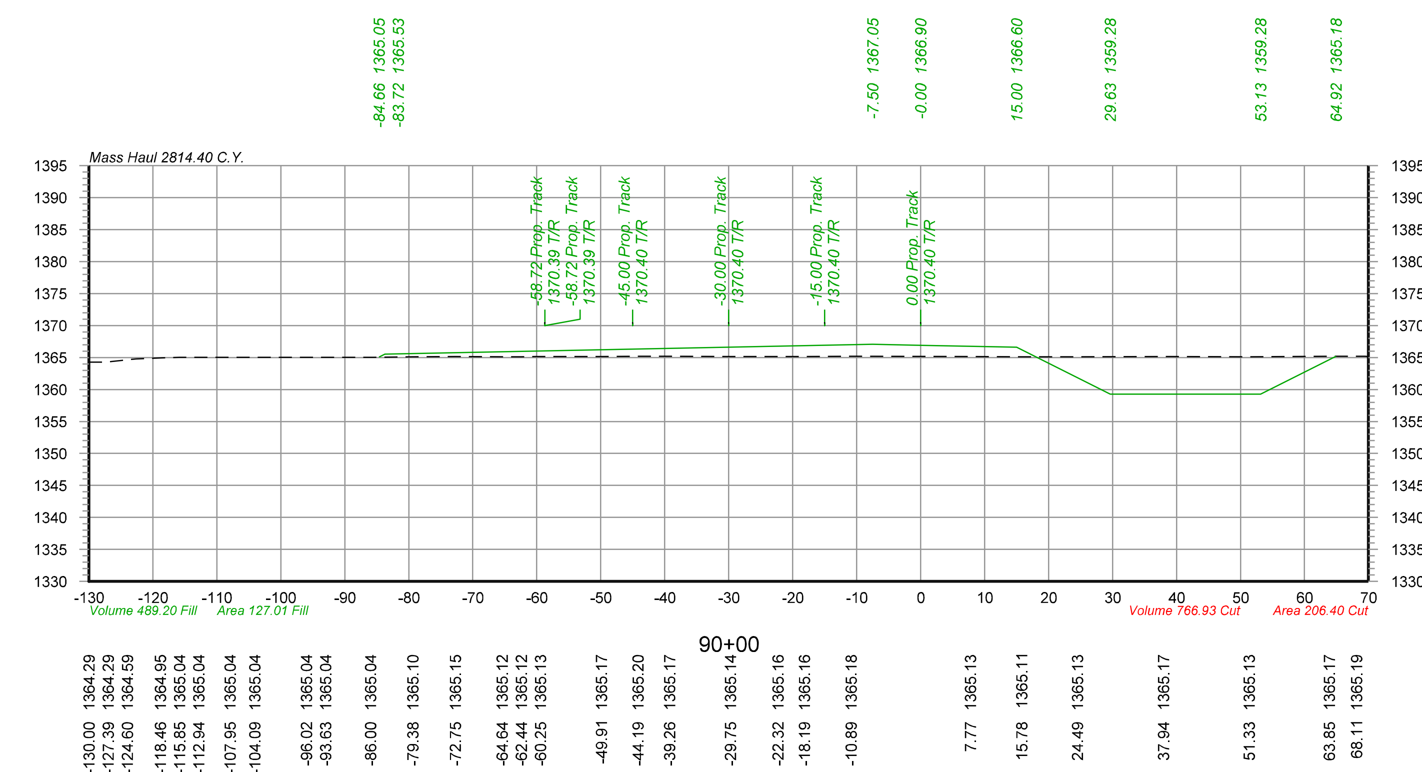
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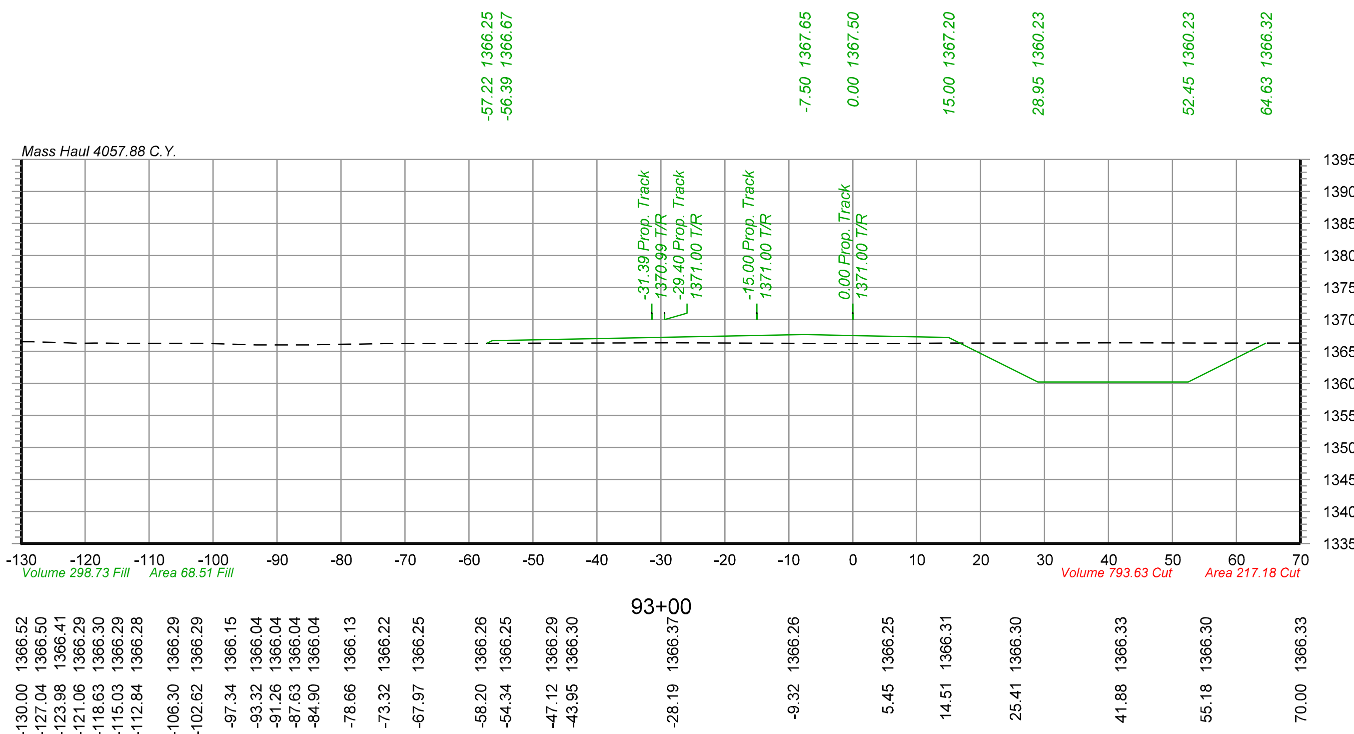
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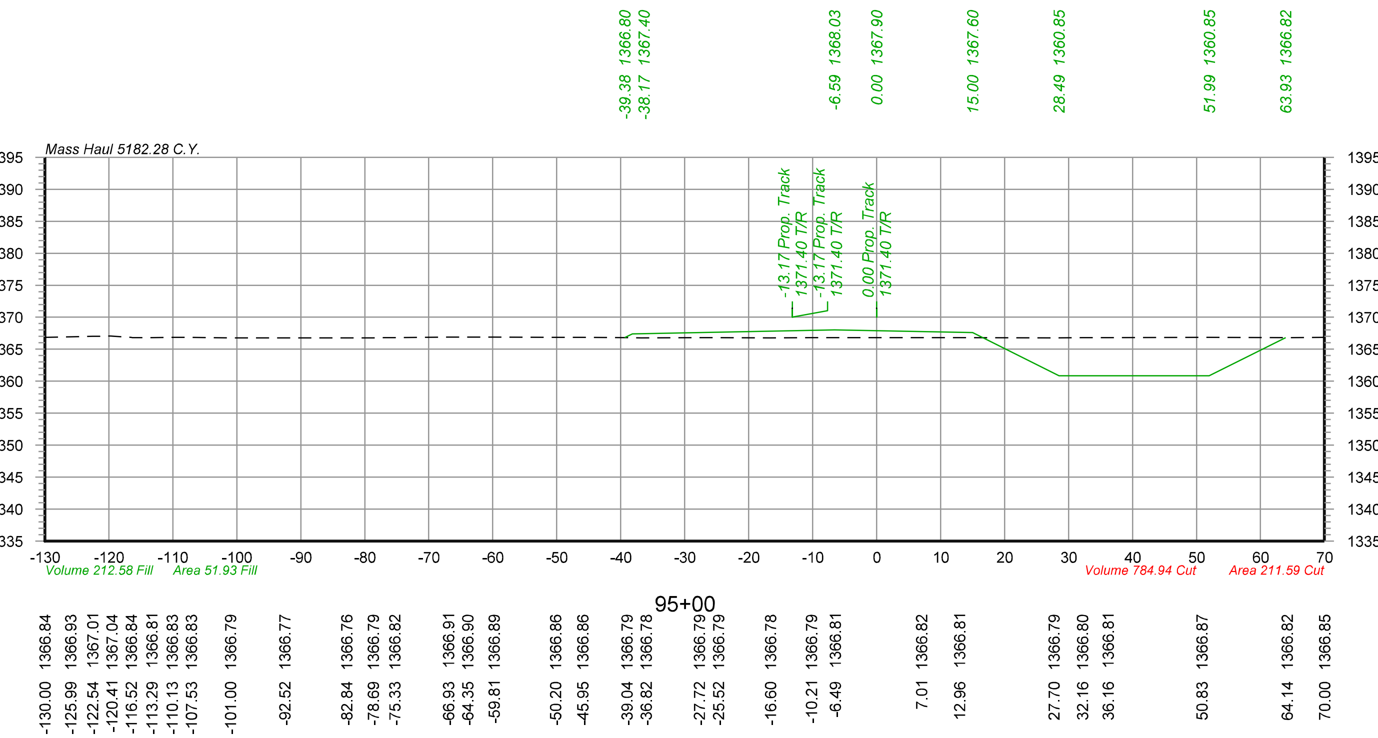
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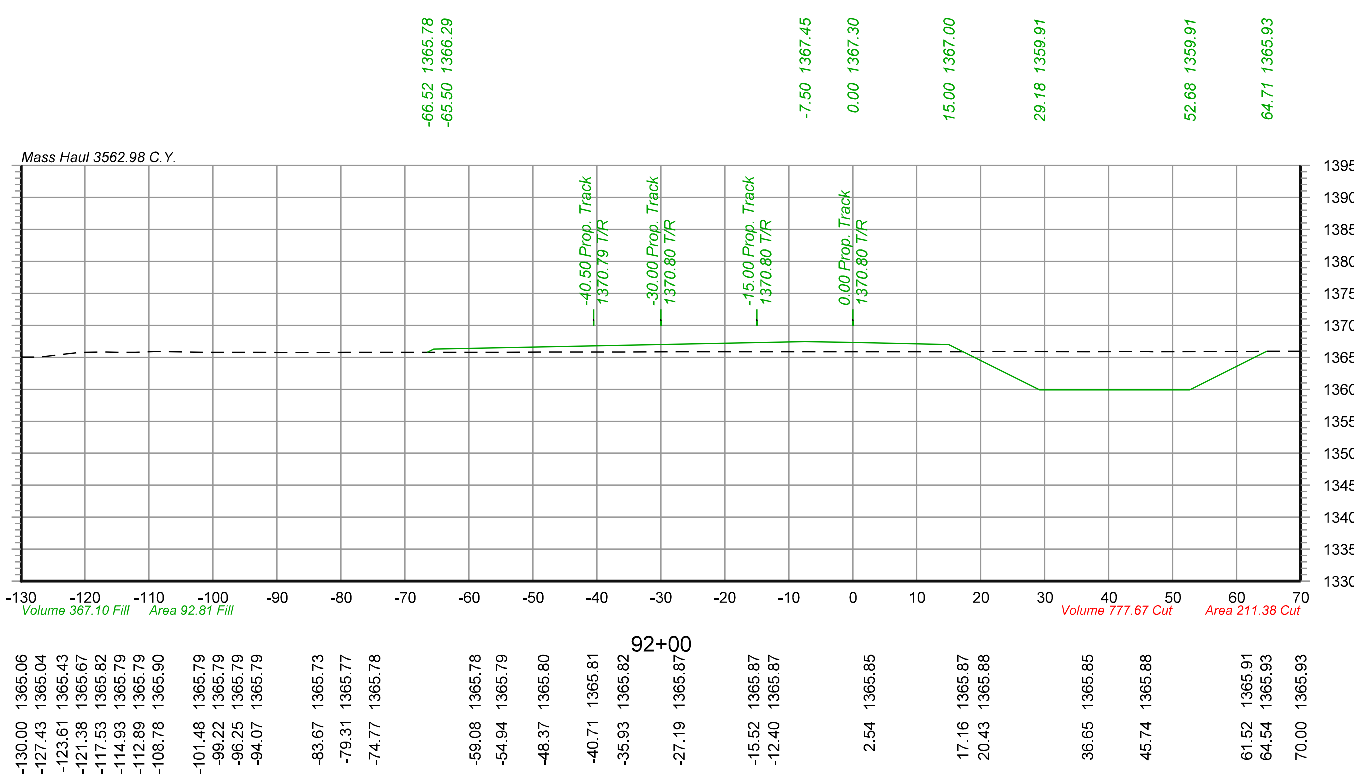
DRAWN BY: JTD	**UNION PACIFIC RAILROAD**
CHECKED BY: JRM	LOCATION & DESCRIPTION: Mesa, Arizona - Maricopa County Phoenix Subdivision MP 934.79 to MP 937.83 Construct Industrial Lead Track
DATE: 6/3/2022	
SHEET NUMBER X066 of 115	SHEET TITLE: PIRATE LEAD TRACK CROSS SECTIONS STA.88+00 TO STA.91+00

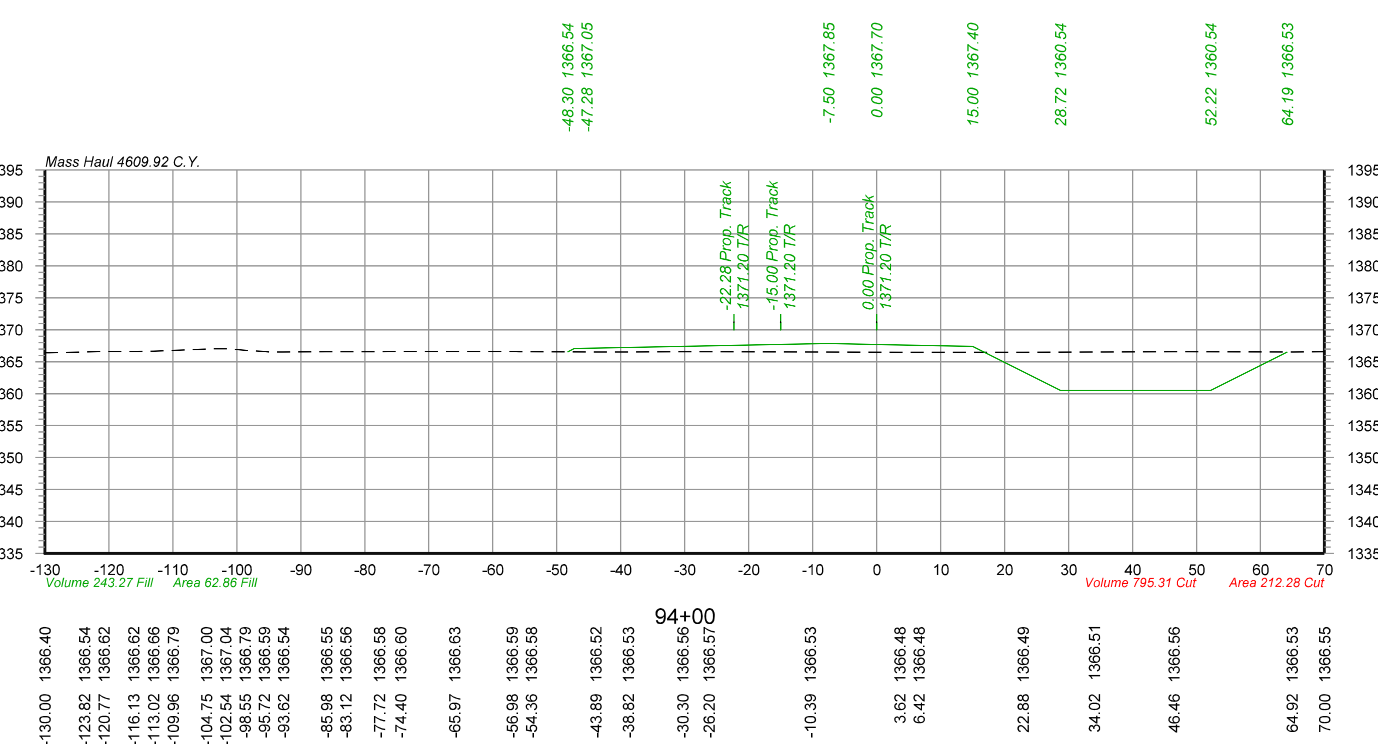
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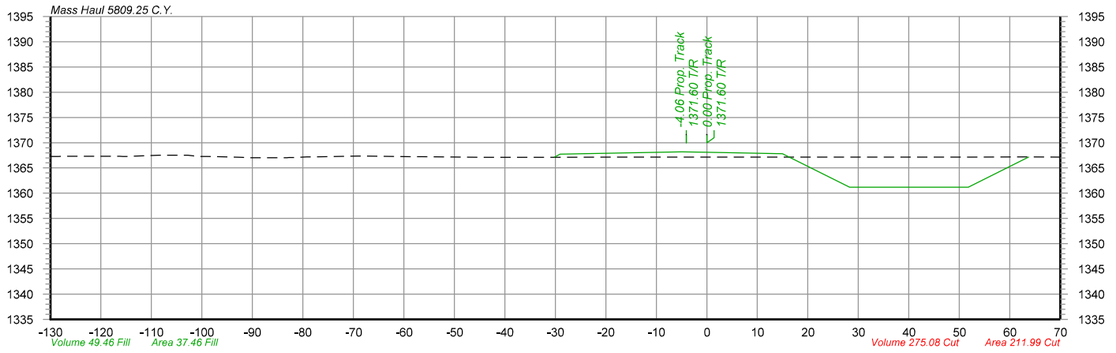
DRAWN BY: JTD
CHECKED BY: JRM
DATE: 6/3/2022
SHEET NUMBER X067 of 115

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
PIRATE LEAD TRACK CROSS SECTIONS STA.92+00 TO STA.95+00

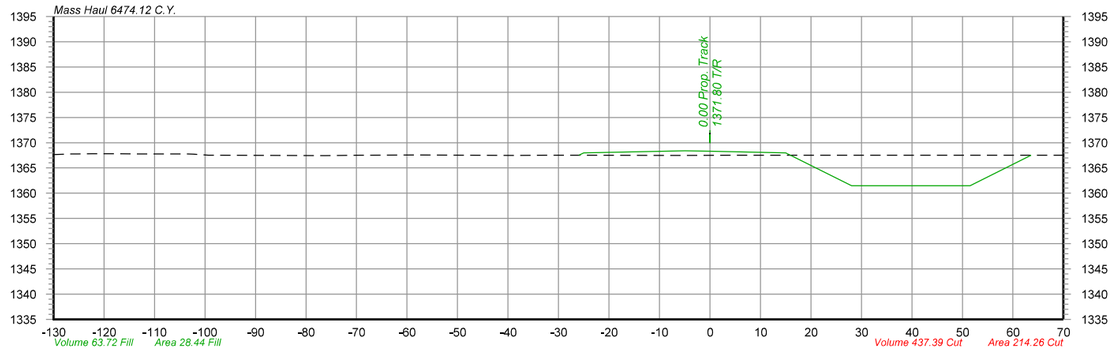
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96+00

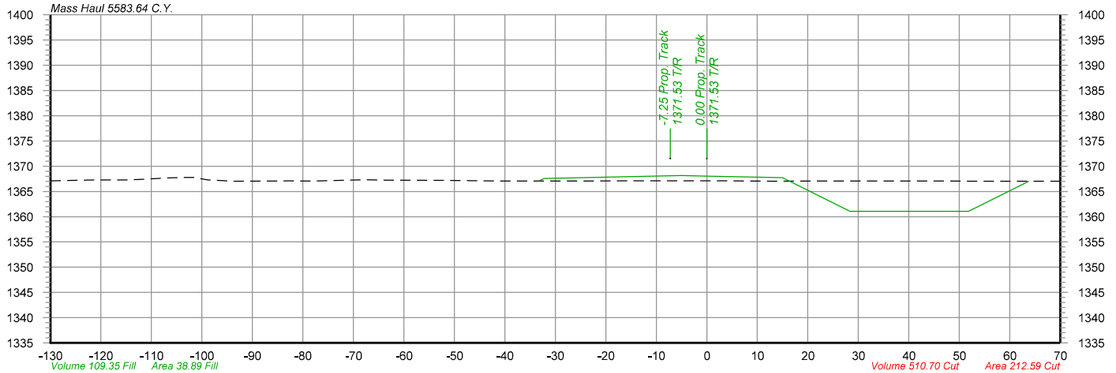
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-102.74	1367.54
-100.71	1367.29
-96.71	1367.22
-92.23	1367.09
-89.99	1367.04
-87.51	1367.04
-83.68	1367.04
-79.18	1367.19
-69.02	1367.34
-58.85	1367.24
-56.50	1367.23
-44.48	1367.10
-30.23	1367.12
-18.71	1367.14
-16.59	1367.14
4.71	1367.15
7.34	1367.16
22.65	1367.13
31.03	1367.13
40.53	1367.15
46.53	1367.15
51.50	1367.16
63.25	1367.18
70.00	1367.15



-25.96	1367.52
-25.00	1368.00
-5.00	1368.40
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97+00

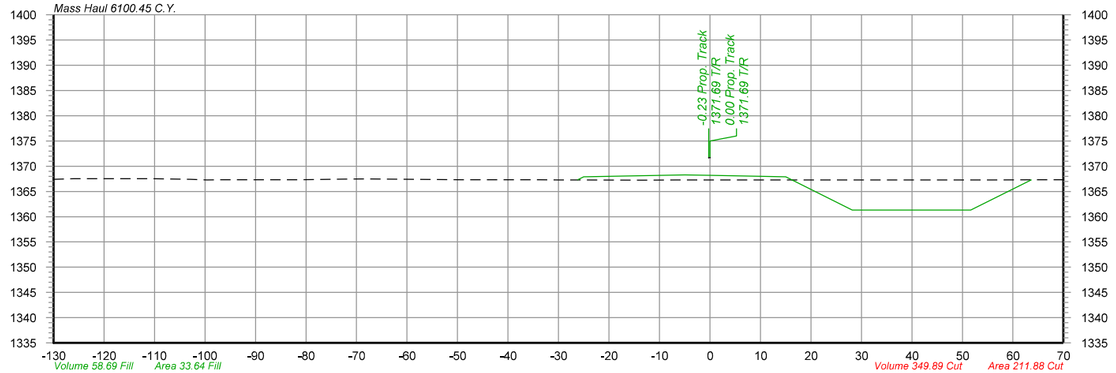
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-97.30	1367.54
-85.53	1367.49
-76.27	1367.45
-69.41	1367.52
-58.55	1367.57
-48.47	1367.51
-38.70	1367.50
-32.45	1367.52
-29.90	1367.52
-22.41	1367.52
-8.82	1367.49
-4.46	1367.48
4.20	1367.50
15.26	1367.51
30.81	1367.50
52.62	1367.51
70.00	1367.52



-33.27	1367.07
-32.25	1367.59
-5.00	1368.13
-0.00	1368.03
15.00	1367.73
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51.84	1361.06
63.80	1367.03

95+65

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-115.97	1367.29
-112.66	1367.38
-106.49	1367.67
-103.25	1367.79
-99.25	1367.36
-93.78	1367.04
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-15.54	1367.09
-11.53	1367.10
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3.12	1367.10
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21.81	1367.06
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60.67	1367.03
64.29	1367.03
70.00	1367.04



-26.23	1367.27
-25.00	1367.89
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15.00	1367.89
28.16	1361.31
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63.70	1367.33

96+45

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-1.15	1367.29
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38.26	1367.29
40.74	1367.29
53.89	1367.28
55.94	1367.29
65.29	1367.33
70.00	1367.32

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CHECKED BY:	JRM
DATE:	6/3/2022
SHEET NUMBER	X068 of 115

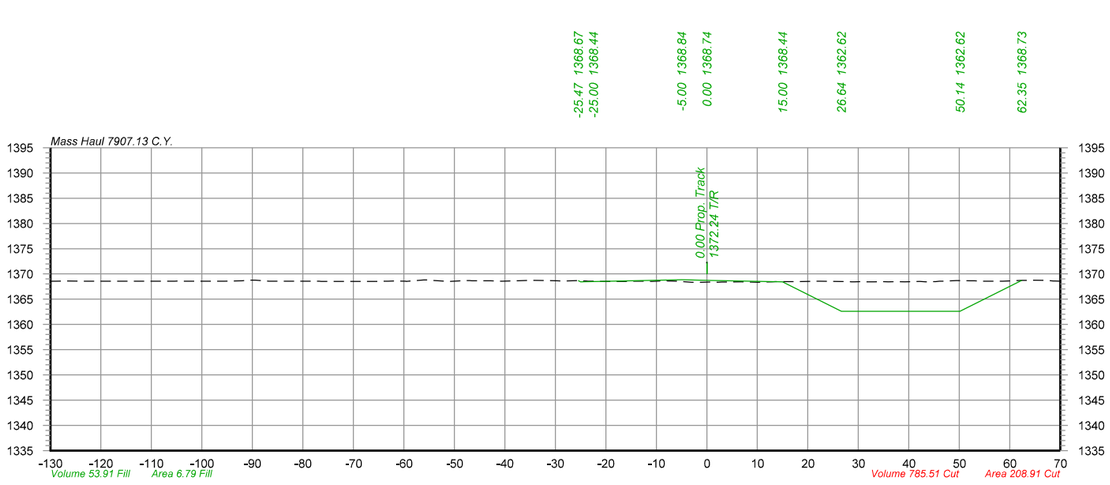
UNION PACIFIC RAILROAD

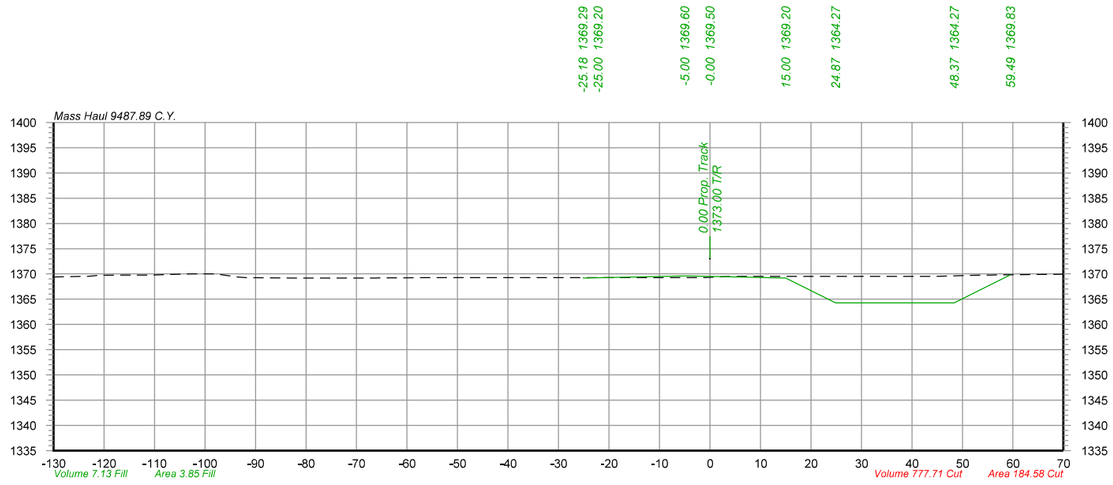
LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
PIRATE LEAD TRACK CROSS SECTIONS STA.95+65 TO STA.97+00

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6/3/2022

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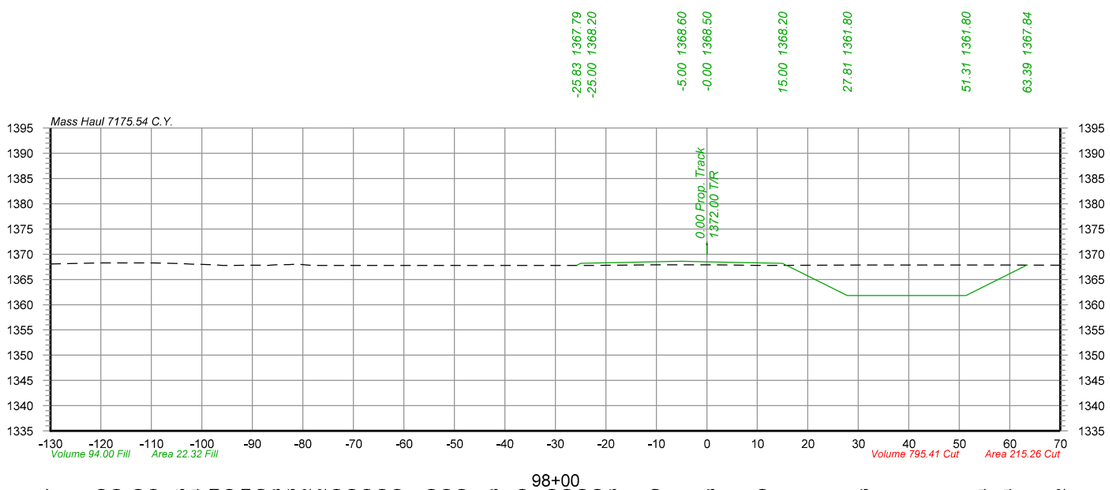


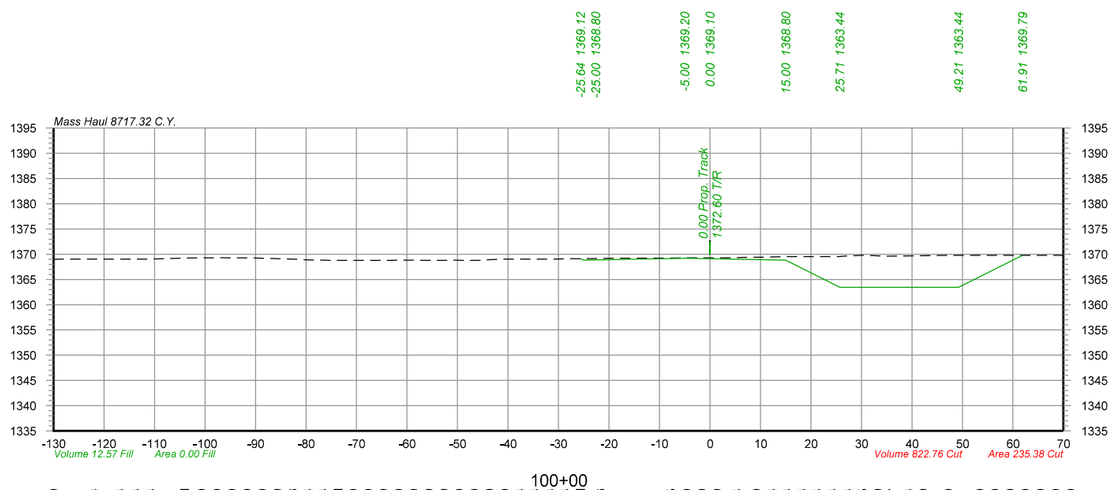
99+00

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-64.23	1368.54
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-52.48	1368.59
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12.96	1368.45
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28.15	1368.48
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33.20	1368.44
35.96	1368.44
39.21	1368.46
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101+00

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27.64	1369.54
30.40	1369.54
34.18	1369.54
38.30	1369.54
38.48	1369.54
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44.52	1369.54
53.80	1369.76
56.87	1369.80
69.30	1369.95





98+00

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100+00

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61.58	1369.79
64.38	1369.79
66.45	1369.79
68.75	1369.79

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DRAWN BY: JTD
CHECKED BY: JRM
DATE: 6/3/2022
SHEET NUMBER: X069 of 115

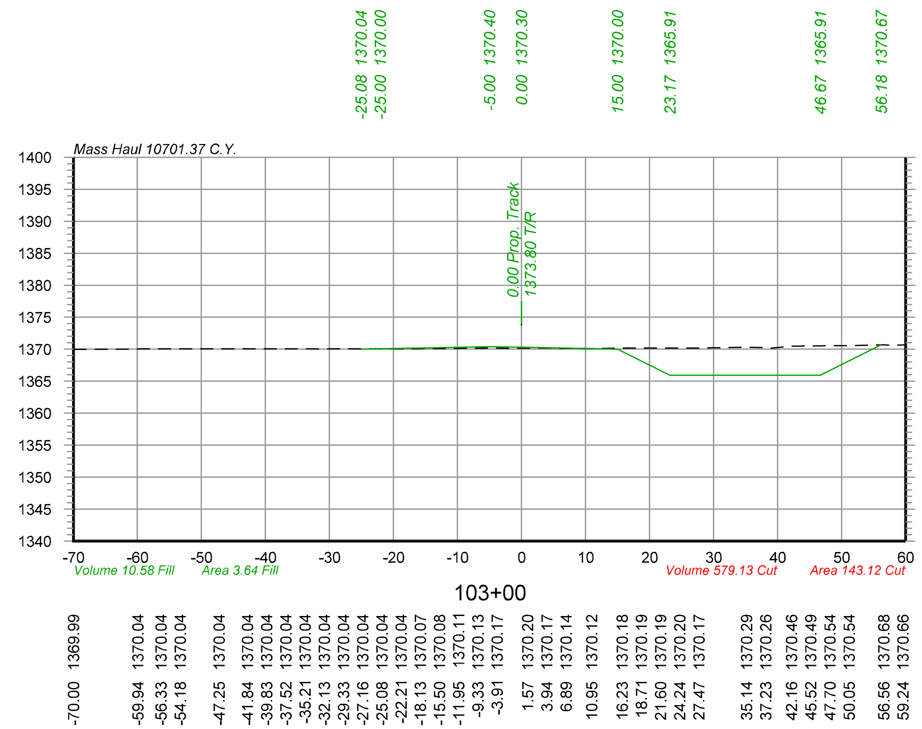
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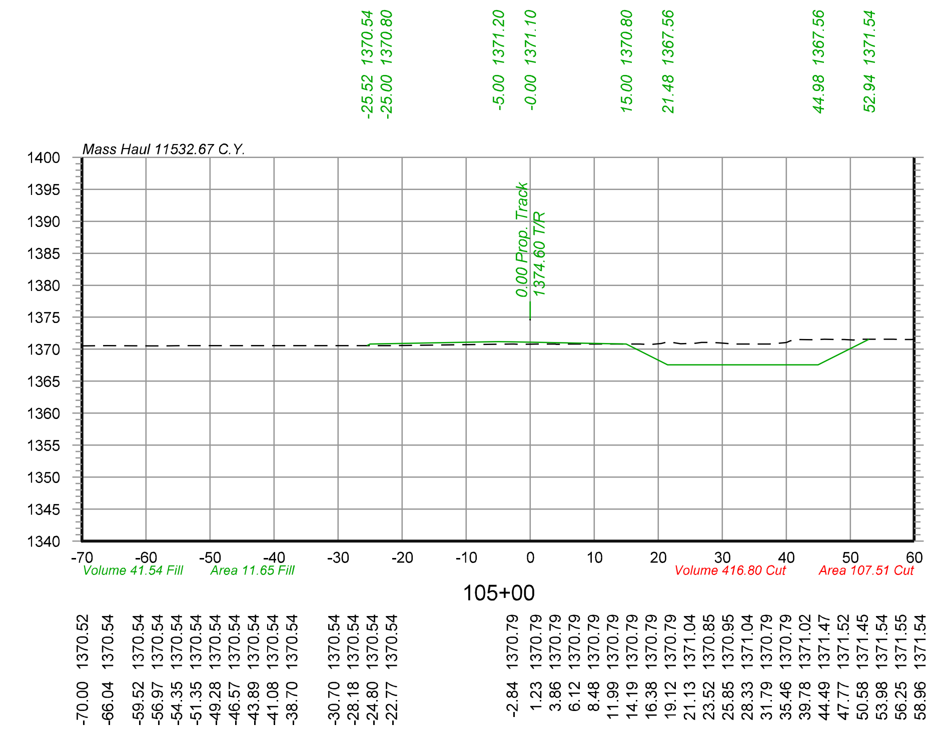
LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

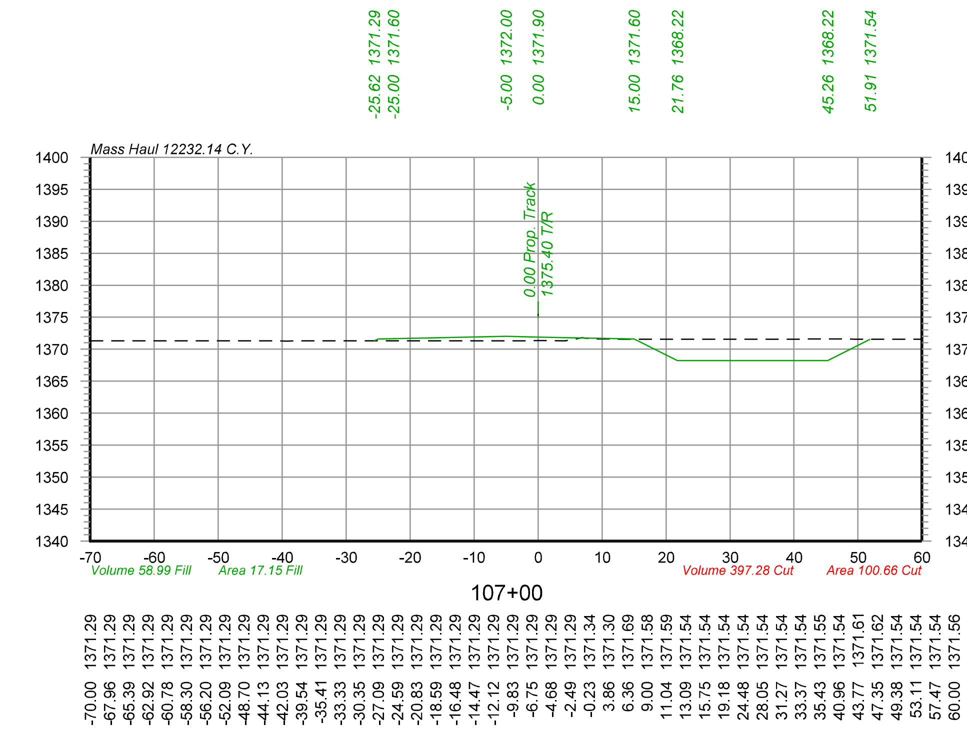
SHEET TITLE:
PIRATE LEAD TRACK CROSS SECTIONS STA.98+00 TO STA.101+00

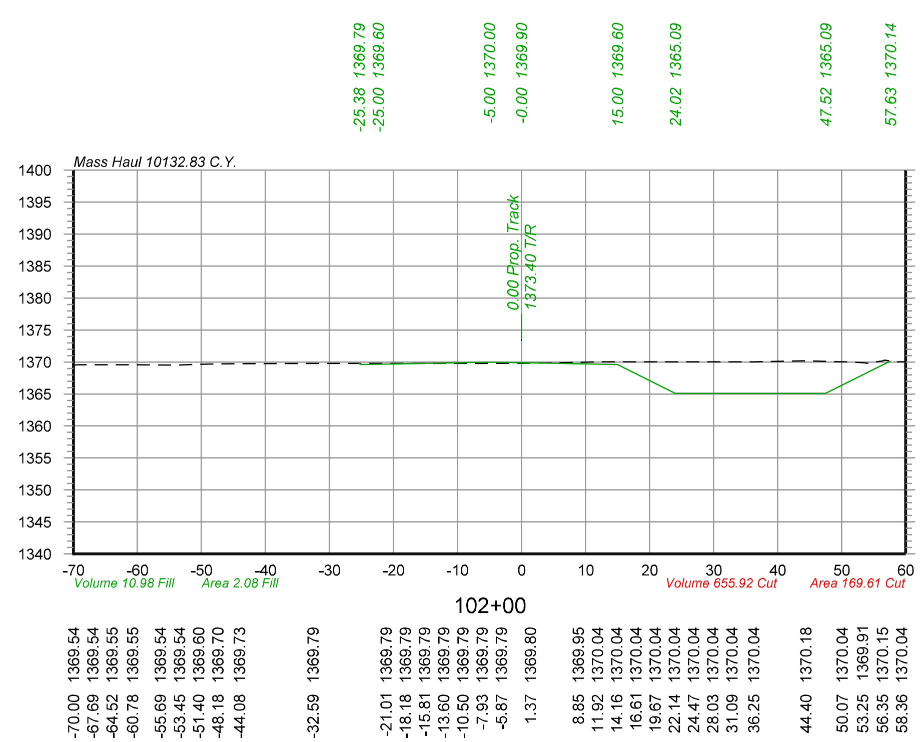
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6/3/2022

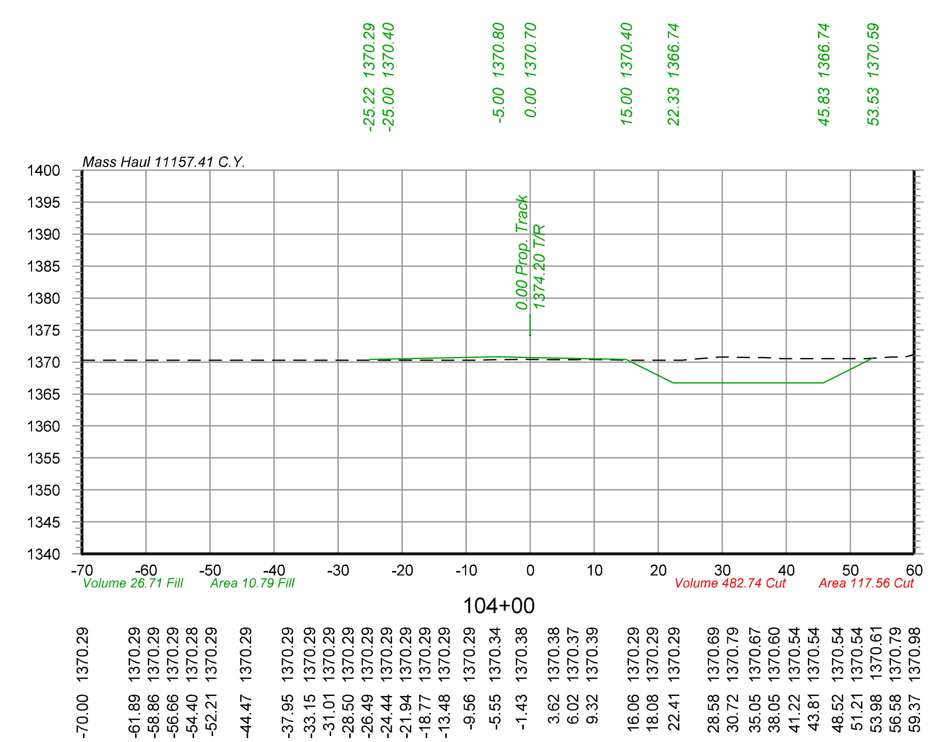
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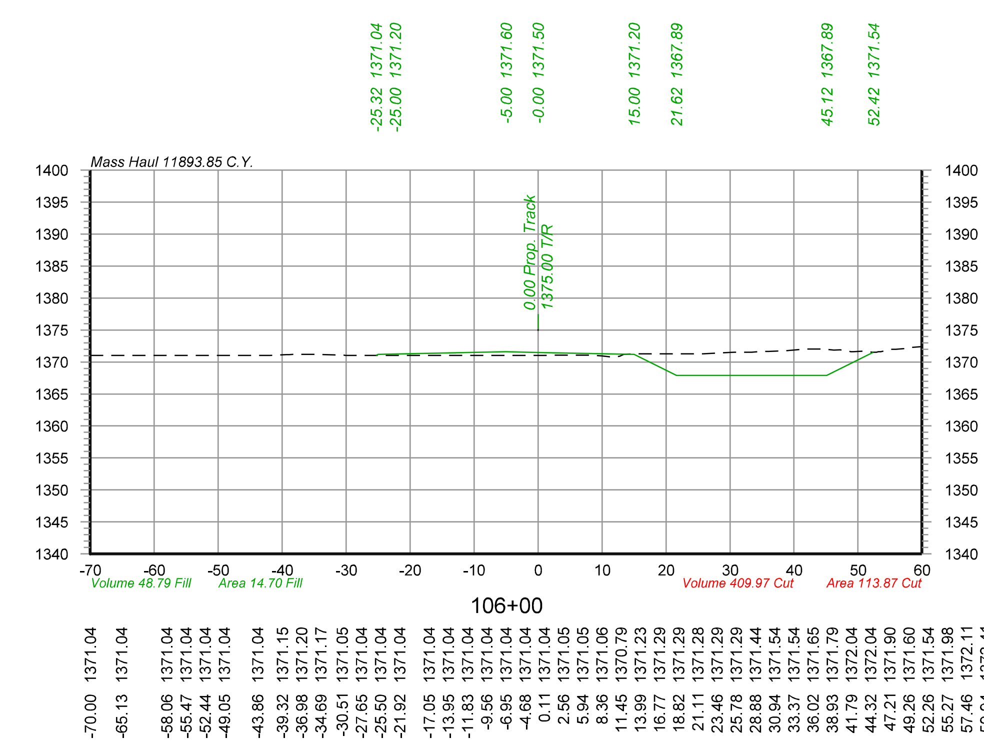










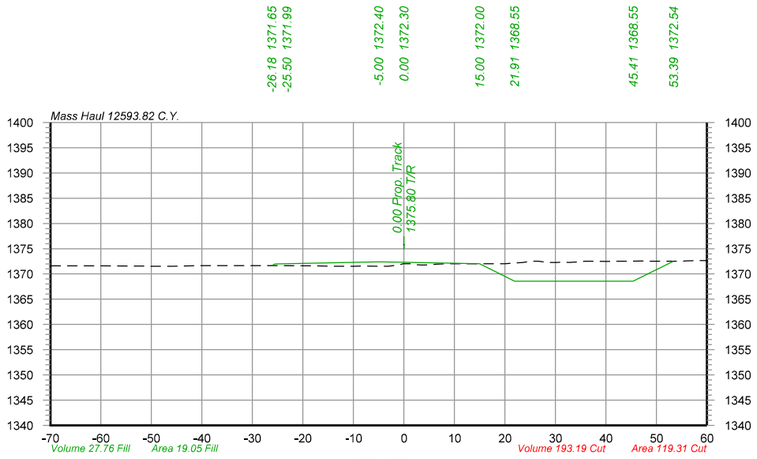


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DRAWN BY: JTD	**UNION PACIFIC RAILROAD**
CHECKED BY: JRM	LOCATION & DESCRIPTION: Mesa, Arizona - Maricopa County Phoenix Subdivision MP 934.79 to MP 937.83 Construct Industrial Lead Track
DATE: 6/3/2022	
SHEET NUMBER X070 of 115	SHEET TITLE: PIRATE LEAD TRACK CROSS SECTIONS STA.102+00 TO STA.107+00

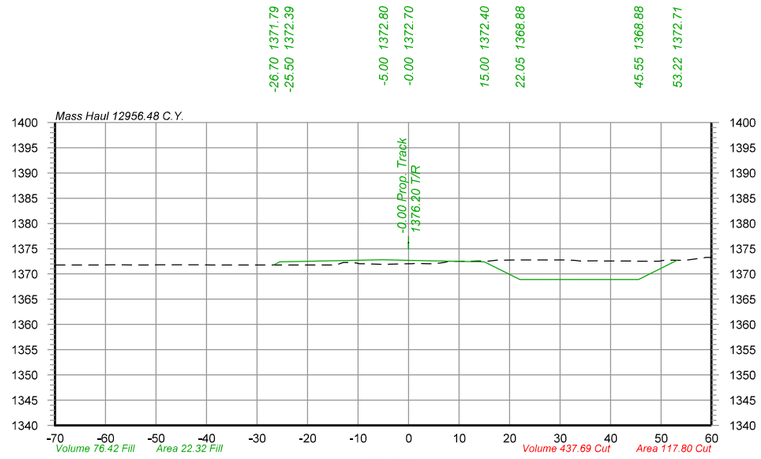
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15.00	1372.00
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108+00

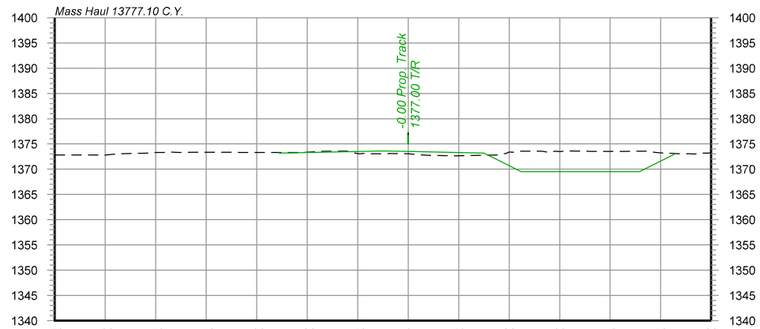
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-14.10	1371.54
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-26.70	1371.79
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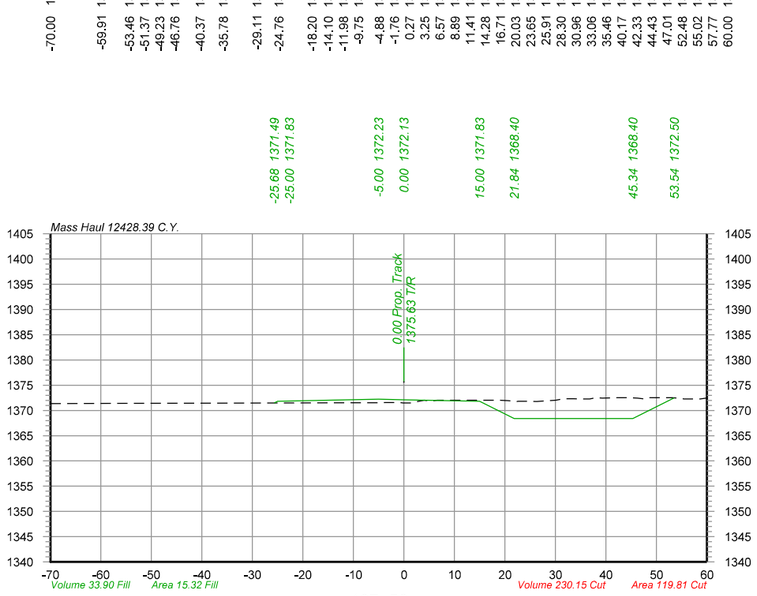
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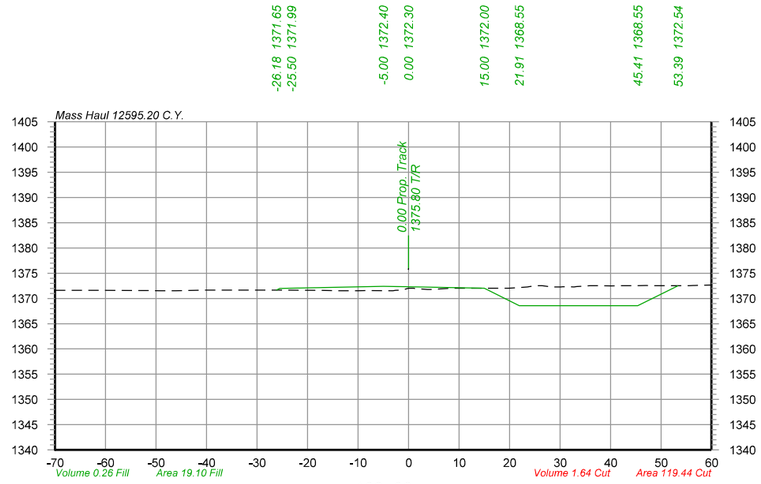
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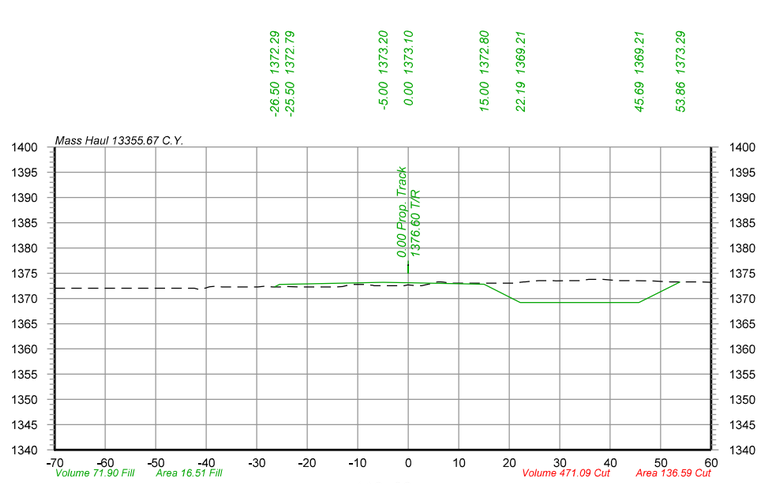
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110+00

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SHEET NUMBER: X071 of 115

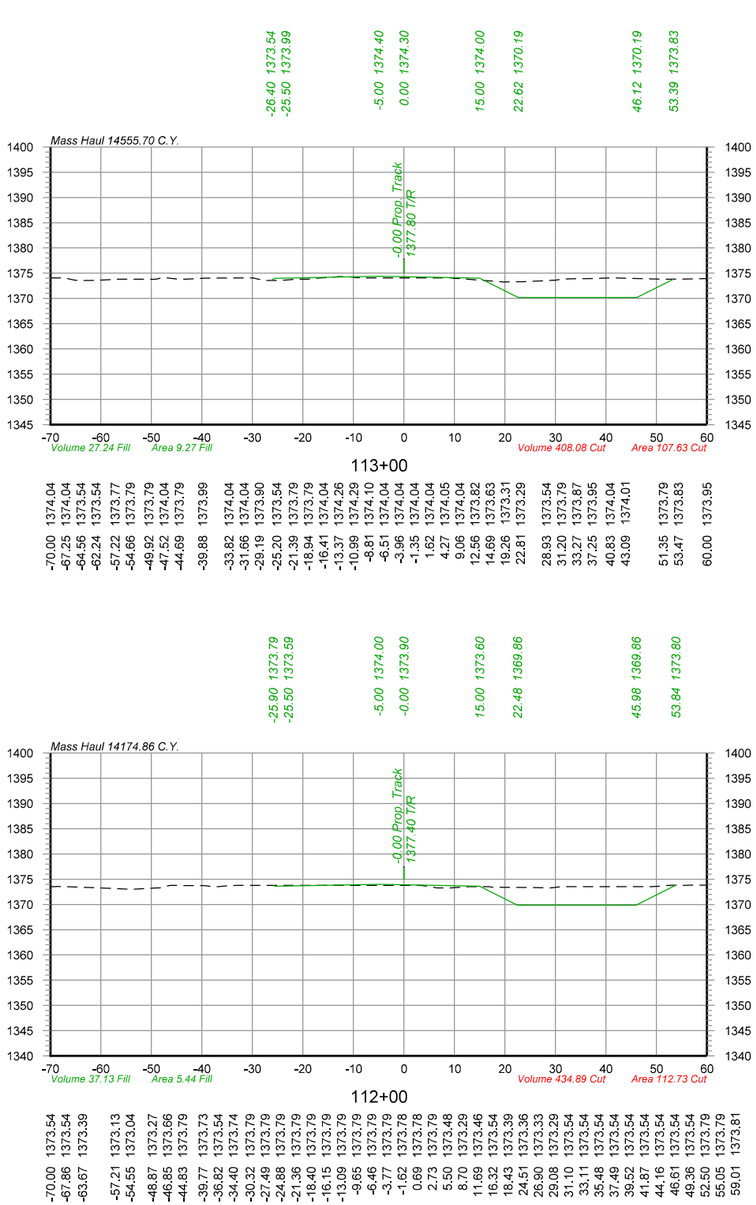
UNION PACIFIC RAILROAD

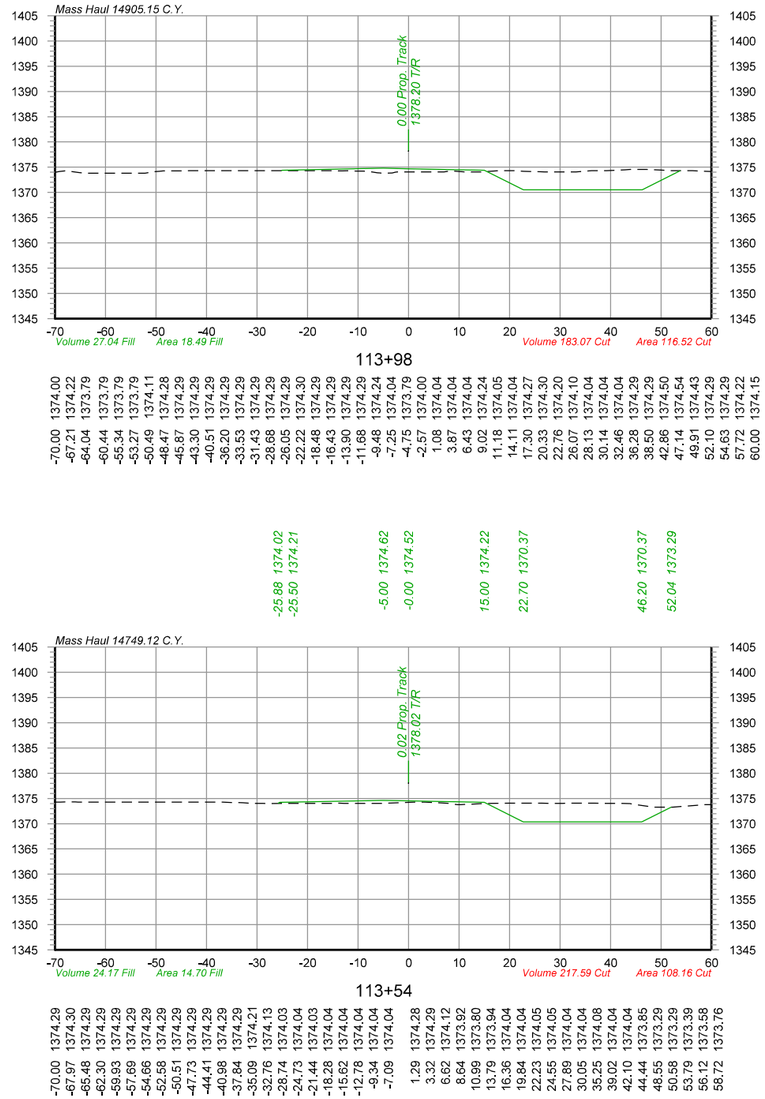
LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

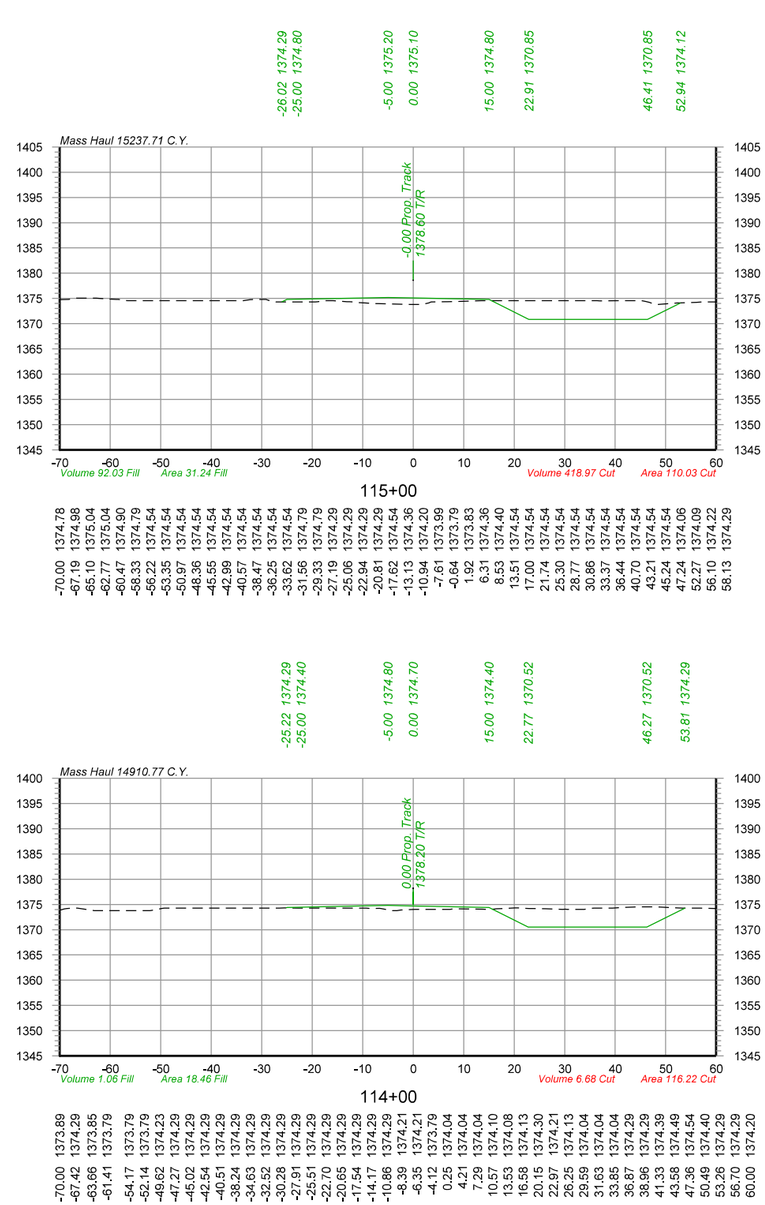
SHEET TITLE:
PIRATE LEAD TRACK CROSS SECTIONS STA.107+56 TO STA.111+00

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6/3/2022

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SHEET NUMBER	X072 of 115

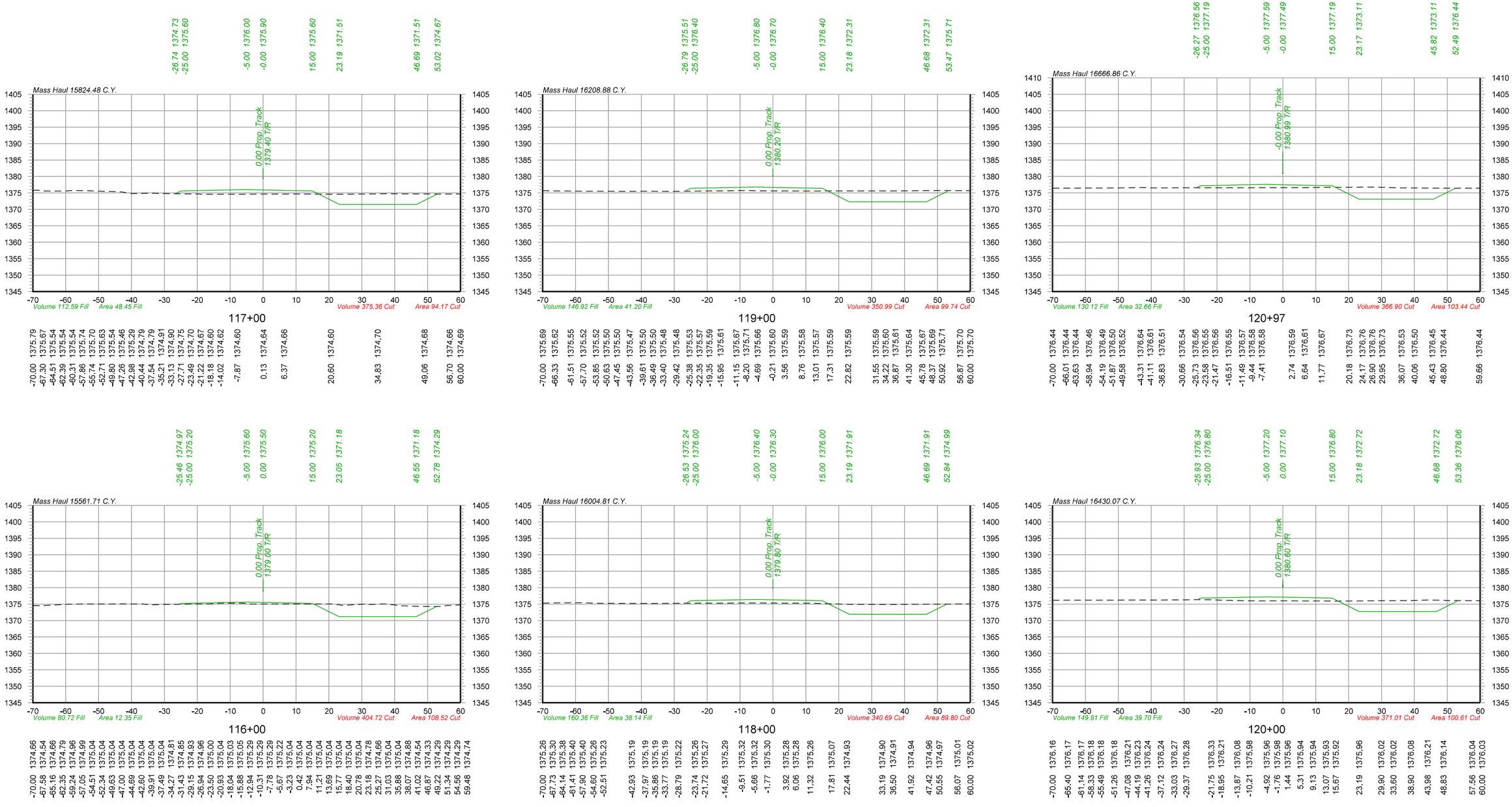
UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
PIRATE LEAD TRACK CROSS SECTIONS STA.112+00 TO STA.115+00

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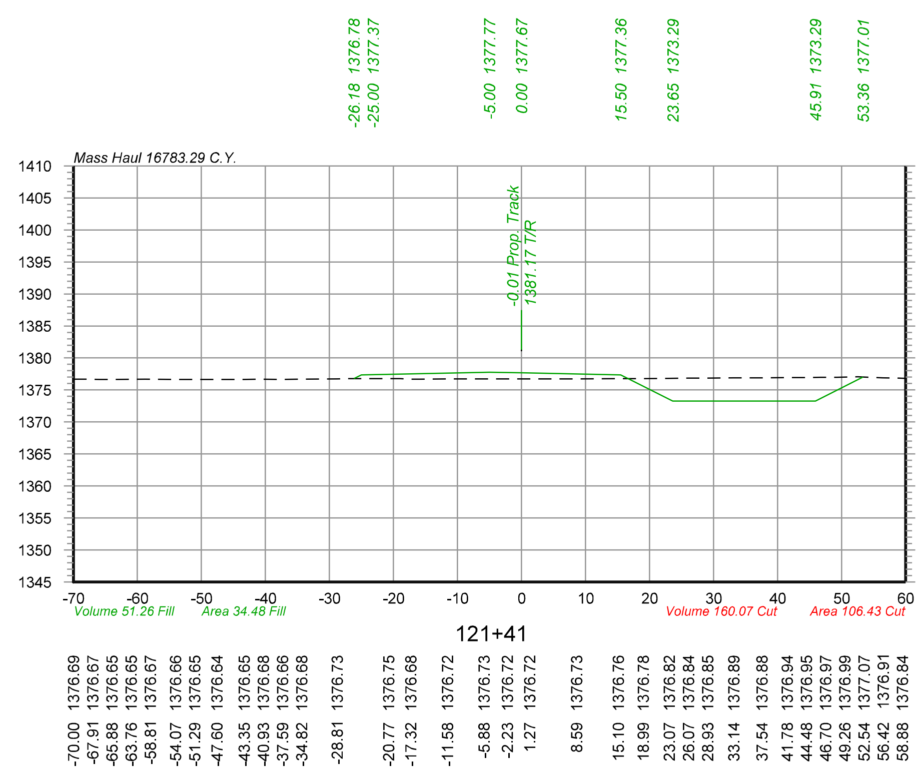
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DATE: 6/3/2022
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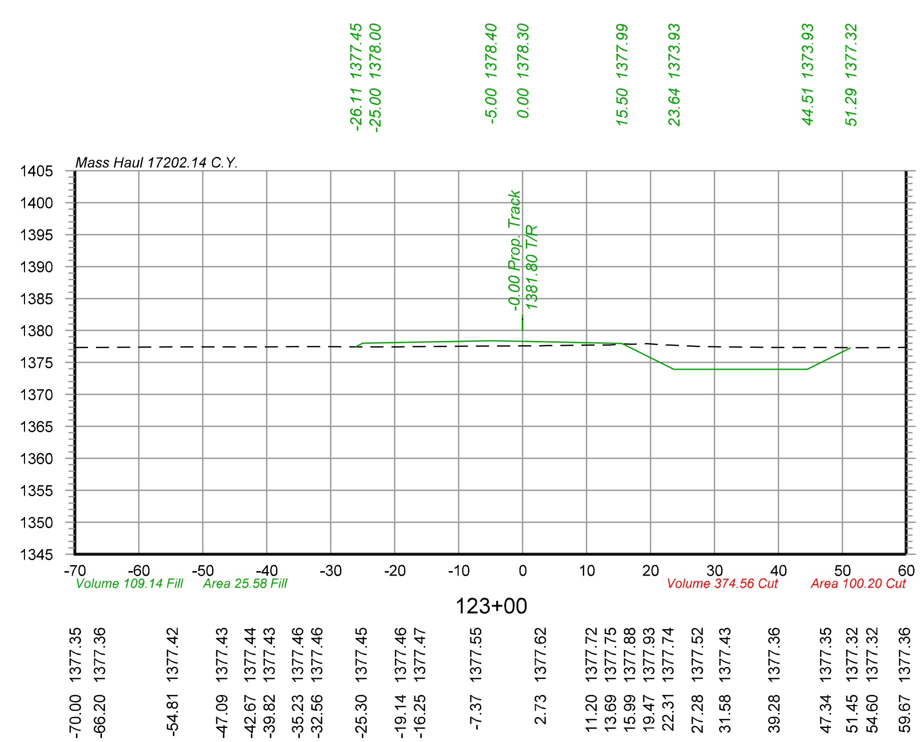
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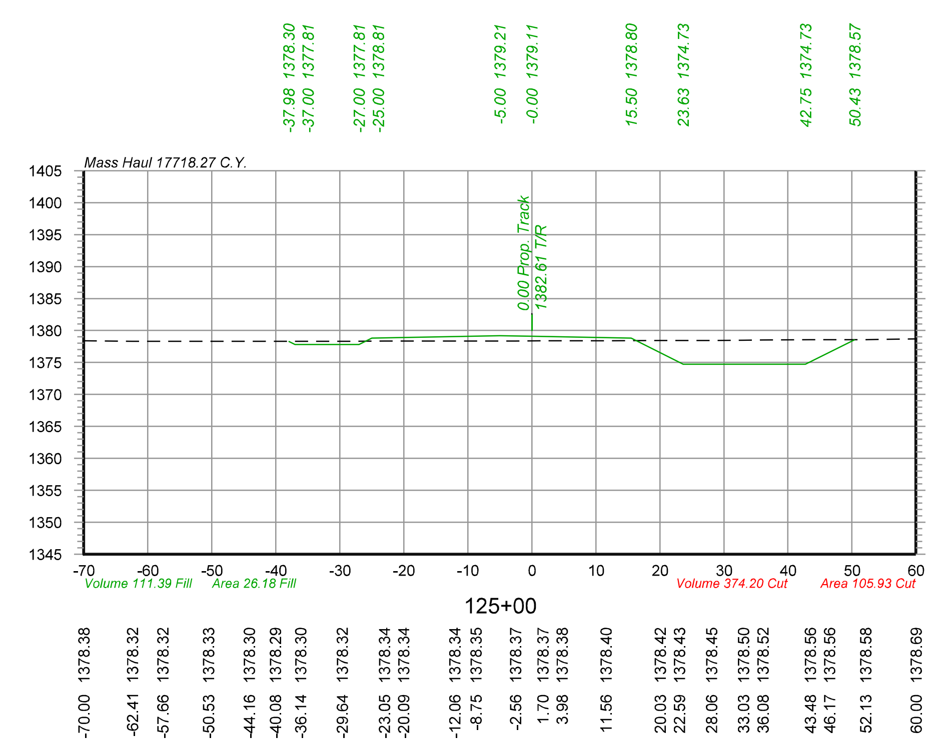
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Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

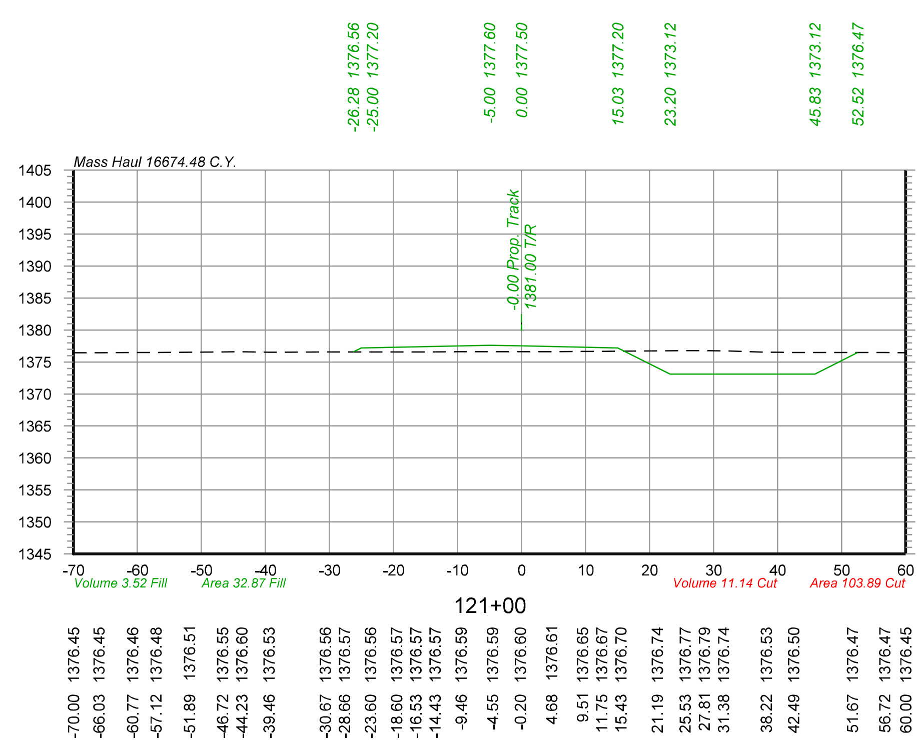
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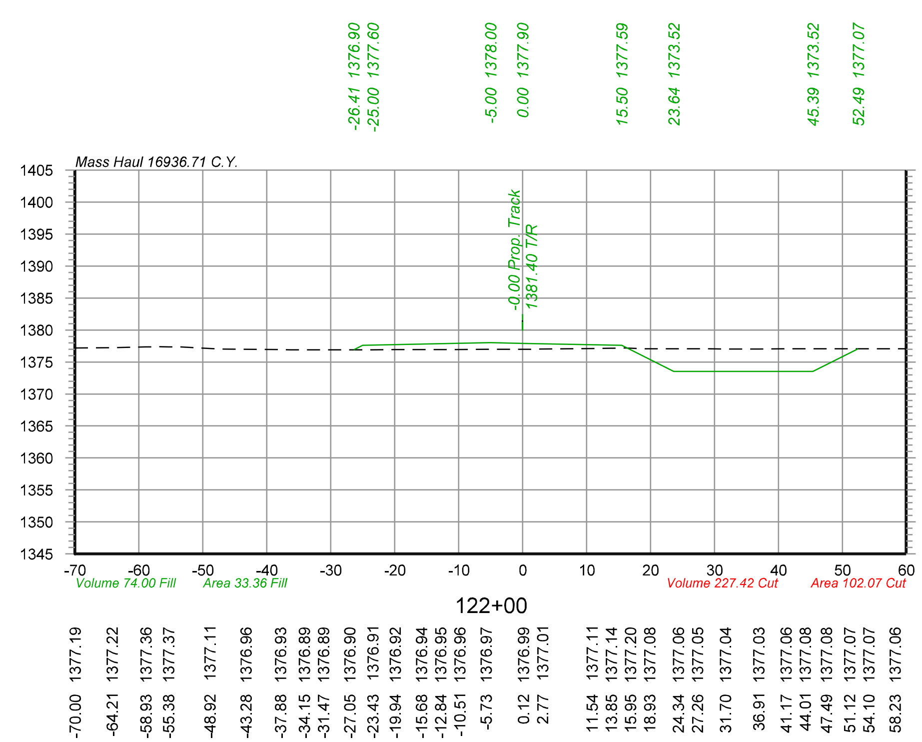
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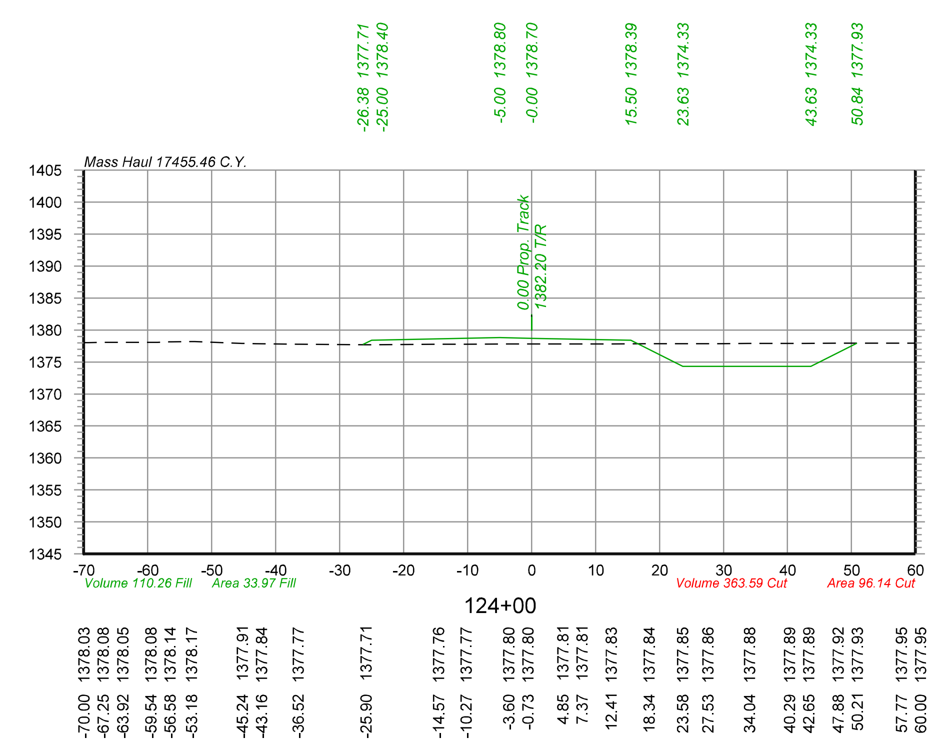










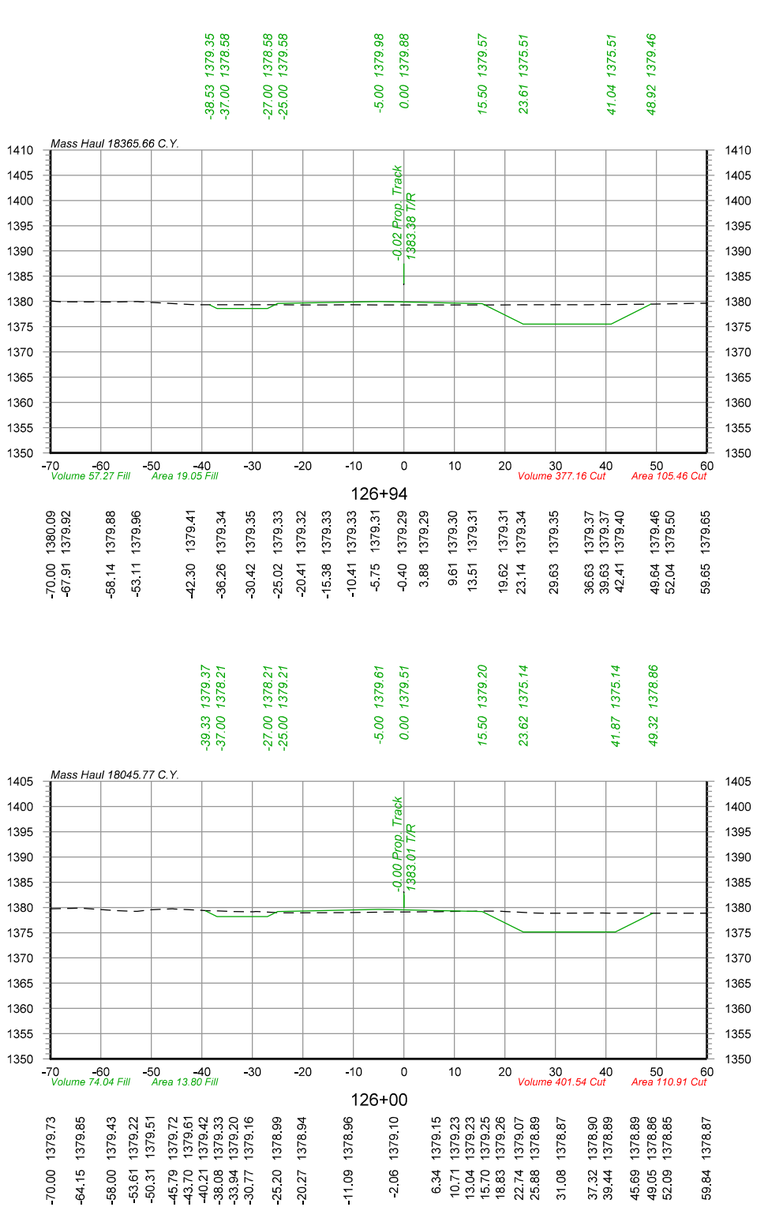


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CHECKED BY: JRM	LOCATION & DESCRIPTION: Mesa, Arizona - Maricopa County Phoenix Subdivision MP 934.79 to MP 937.83 Construct Industrial Lead Track
DATE: 6/3/2022	
SHEET NUMBER X074 of 115	SHEET TITLE: PIRATE LEAD TRACK CROSS SECTIONS STA.121+00 TO STA.125+00

$FILES$



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CHECKED BY: JRM
DATE: 6/3/2022
SHEET NUMBER: X075 of 115

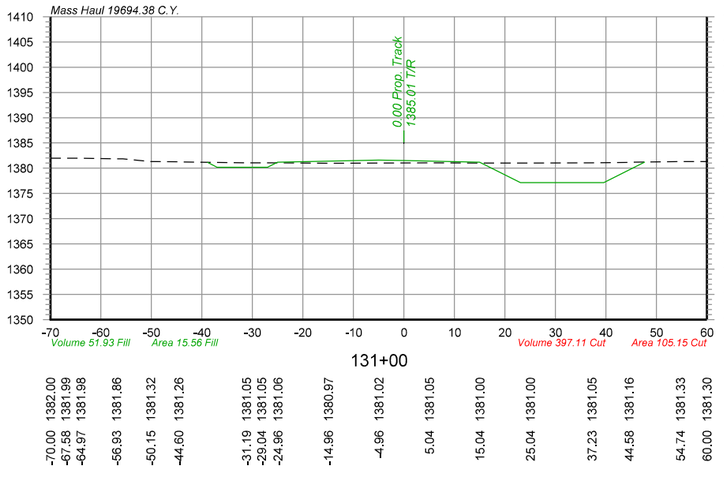
UNION PACIFIC RAILROAD

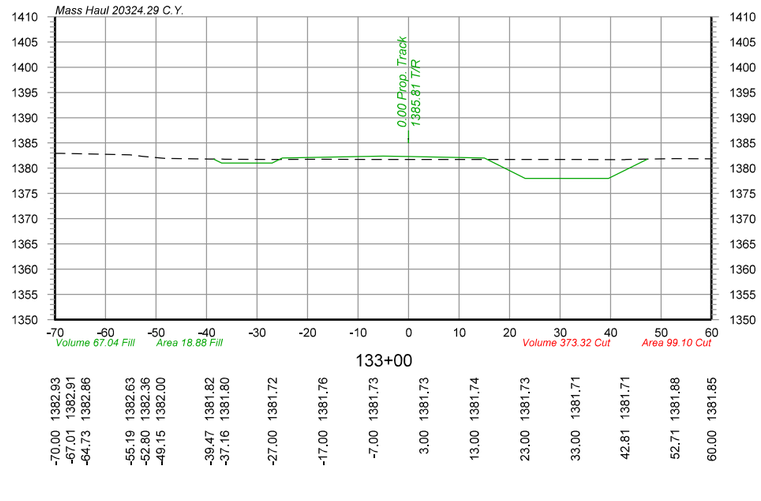
LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

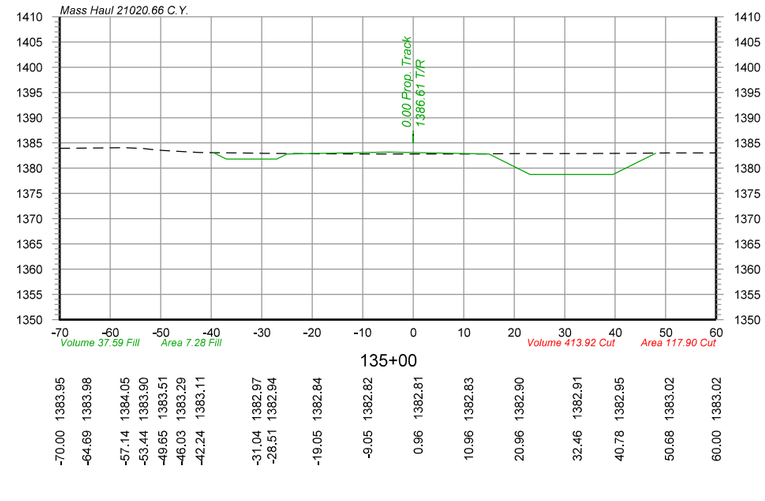
SHEET TITLE:
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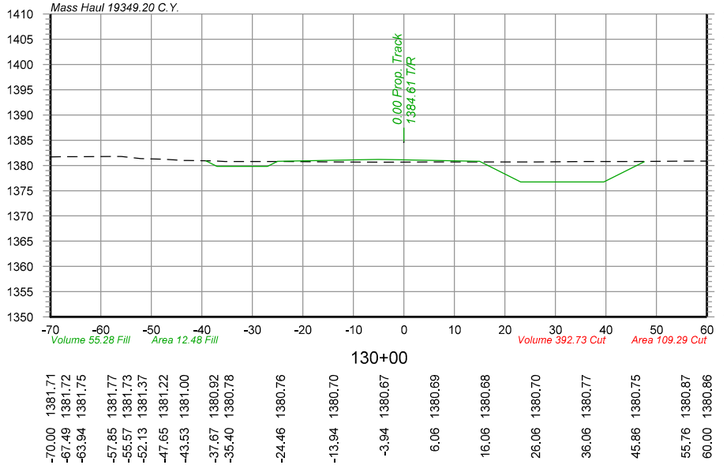
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6/3/2022

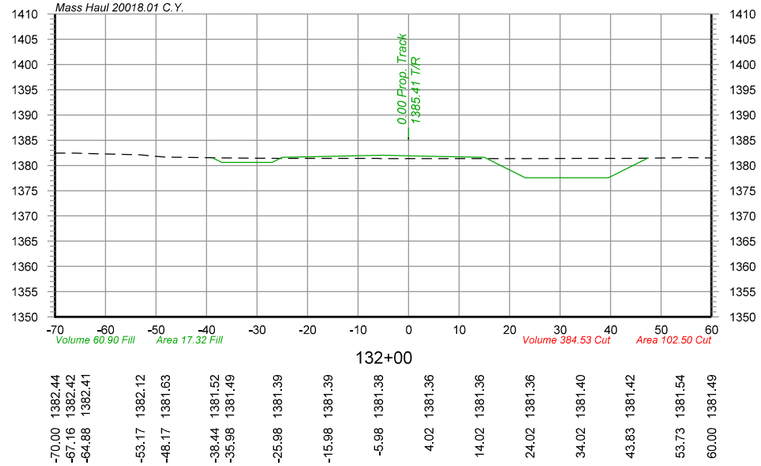
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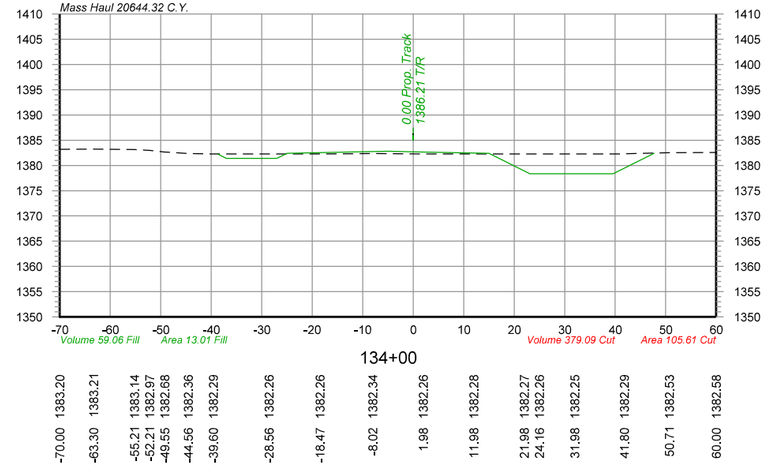












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DRAWN BY: JTD
CHECKED BY: JRM
DATE: 6/3/2022
SHEET NUMBER: X076 of 115

UNION PACIFIC RAILROAD

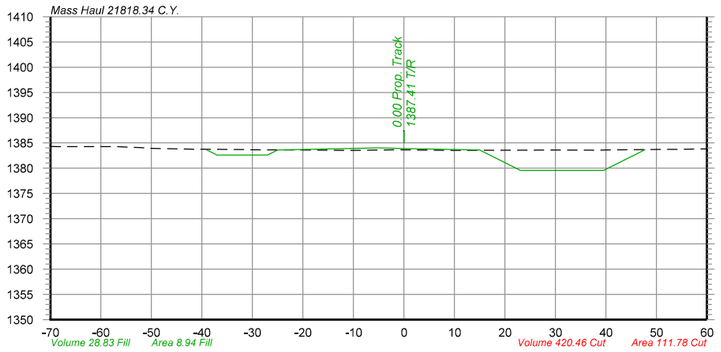
LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
PIRATE LEAD TRACK CROSS SECTIONS STA.130+00 TO STA.135+00

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6/3/2022

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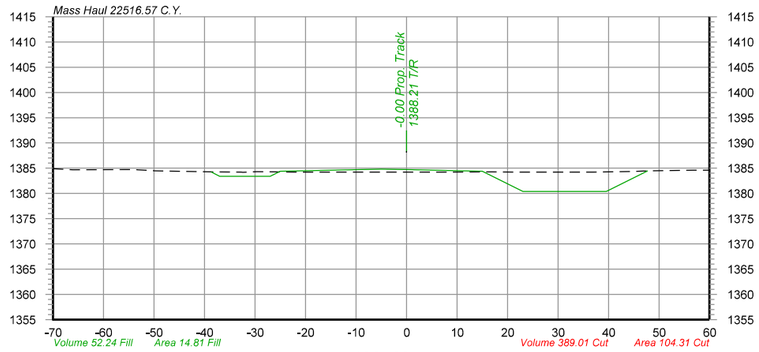
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-25.00 1383.61
-5.00 1384.01
0.00 1383.91
15.00 1383.61
23.07 1379.57
39.57 1379.57
47.81 1383.69



137+00

-70.00	1384.30
-60.10	1384.27
-57.60	1384.26
-54.09	1384.14
-51.89	1384.07
-42.10	1383.76
-31.45	1383.68
-21.09	1383.61
-11.09	1383.52
-1.09	1383.66
8.91	1383.54
18.91	1383.57
22.63	1383.58
28.92	1383.59
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54.37	1383.72
58.36	1383.80

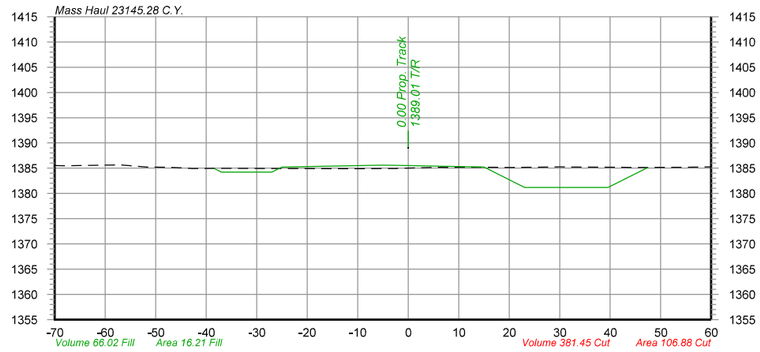
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15.00 1384.41
23.06 1380.38
39.56 1380.38
47.75 1384.47



139+00

-70.00	1384.88
-66.07	1384.68
-55.86	1384.72
-53.66	1384.73
-50.32	1384.52
-47.68	1384.43
-38.32	1384.27
-32.75	1384.21
-29.68	1384.32
-22.09	1384.23
-19.95	1384.21
-15.95	1384.23
-13.39	1384.24
-3.13	1384.24
6.87	1384.25
16.87	1384.25
21.61	1384.24
26.87	1384.23
36.72	1384.23
44.94	1384.35
48.16	1384.50
56.71	1384.61
60.00	1384.62

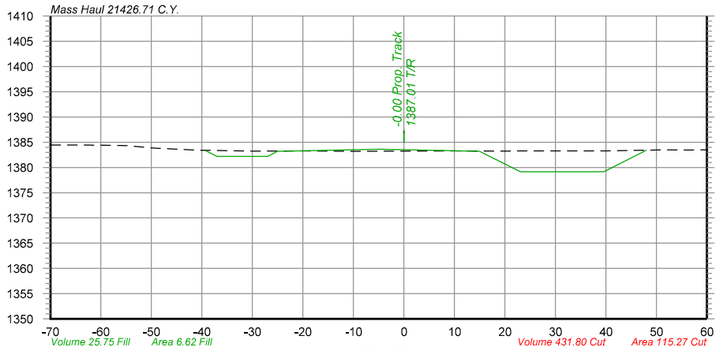
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15.00 1385.21
23.05 1381.18
39.55 1381.18
47.50 1385.16



141+00

-70.00	1385.55
-57.43	1385.63
-51.80	1385.24
-47.59	1385.19
-44.67	1385.07
-37.63	1384.97
-35.17	1384.98
-25.17	1384.93
-21.92	1384.92
-11.02	1384.90
-5.22	1384.92
-2.36	1384.95
3.44	1385.10
6.51	1385.17
10.13	1385.20
16.96	1385.18
20.18	1385.16
23.65	1385.18
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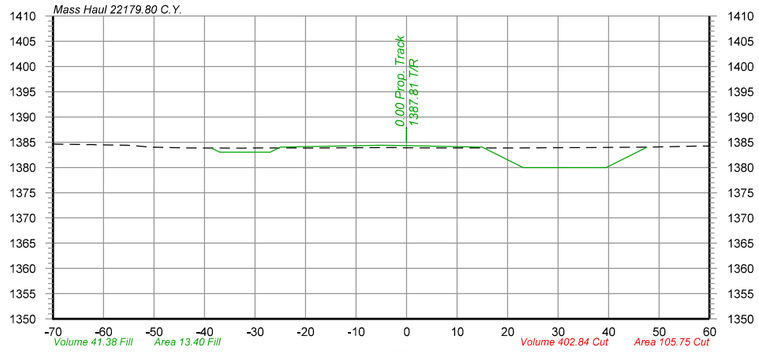
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-5.00 1383.61
0.00 1383.51
15.00 1383.21
23.08 1379.17
39.58 1379.17
48.10 1383.43



136+00

-70.00	1384.45
-62.30	1384.42
-59.58	1384.40
-57.03	1384.35
-54.56	1384.30
-49.25	1383.83
-42.12	1383.50
-40.07	1383.39
-30.07	1383.22
-20.07	1383.28
-15.68	1383.24
-9.77	1383.20
-2.53	1383.23
-0.07	1383.24
9.94	1383.28
19.94	1383.25
23.14	1383.26
29.94	1383.29
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51.44	1383.48
56.43	1383.45
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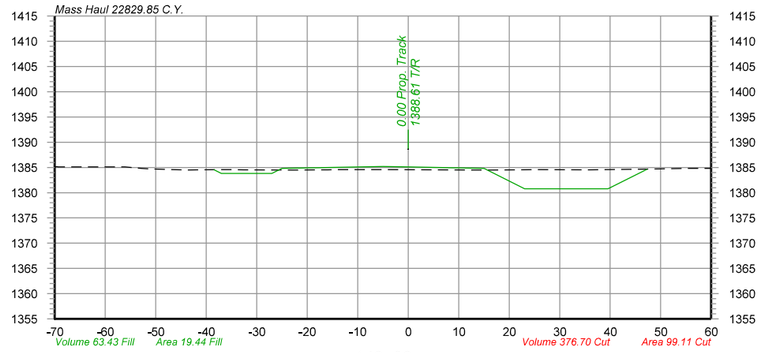
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-5.00 1384.41
-0.00 1384.31
15.00 1384.01
23.07 1379.97
39.57 1379.97
47.64 1384.01



138+00

-70.00	1384.63
-63.22	1384.52
-55.33	1384.40
-50.68	1384.02
-43.32	1383.88
-32.11	1383.83
-22.25	1383.84
-12.11	1383.88
-2.11	1383.92
7.89	1383.86
17.89	1383.84
22.12	1383.87
27.89	1383.90
36.83	1383.93
47.64	1384.01
57.64	1384.23
60.00	1384.22

-38.50 1384.56
-37.00 1383.81
-27.00 1383.81
-25.00 1384.81
-5.00 1385.21
0.00 1385.11
15.00 1384.81
23.06 1380.78
39.56 1380.78
47.31 1384.66



140+00

-70.00	1385.17
-65.70	1385.11
-63.19	1385.10
-56.09	1385.09
-52.89	1384.83
-46.66	1384.57
-44.15	1384.50
-41.93	1384.52
-36.97	1384.57
-32.59	1384.54
-22.88	1384.47
-17.89	1384.51
-14.30	1384.58
-5.06	1384.55
5.85	1384.51
15.85	1384.50
21.10	1384.53
25.85	1384.55
35.70	1384.54
45.60	1384.63
55.50	1384.81
60.00	1384.82

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DRAWN BY: JTD
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DATE: 6/3/2022
SHEET NUMBER: X077 of 115

UNION PACIFIC RAILROAD

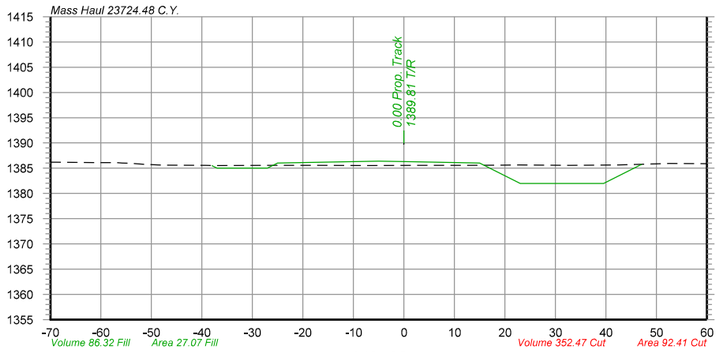
LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
PIRATE LEAD TRACK CROSS SECTIONS STA.136+00 TO STA.141+00

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6/3/2022

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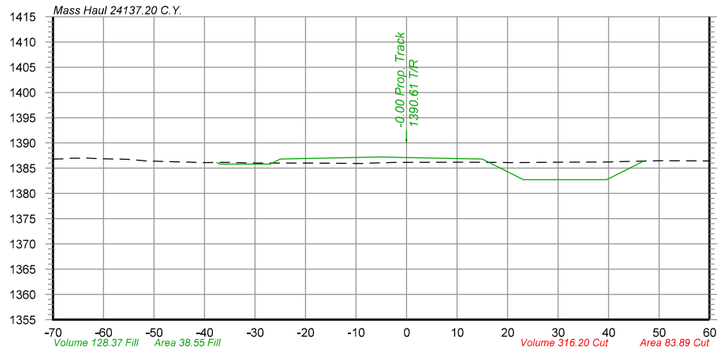
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0.00 1386.31
15.00 1386.01
23.04 1381.99
39.54 1381.99
47.12 1385.78



143+00

-70.00	1386.18	-60.83	1386.11	-56.85	1386.09	-54.24	1385.96	-51.48	1385.79	-48.77	1385.65	-38.27	1385.55	-37.21	1385.53	-27.21	1385.57	-17.21	1385.55	-7.21	1385.50
2.79	1385.55	12.79	1385.56	19.57	1385.62	22.79	1385.64	32.66	1385.57	42.64	1385.65	52.46	1385.94	60.00	1385.89						

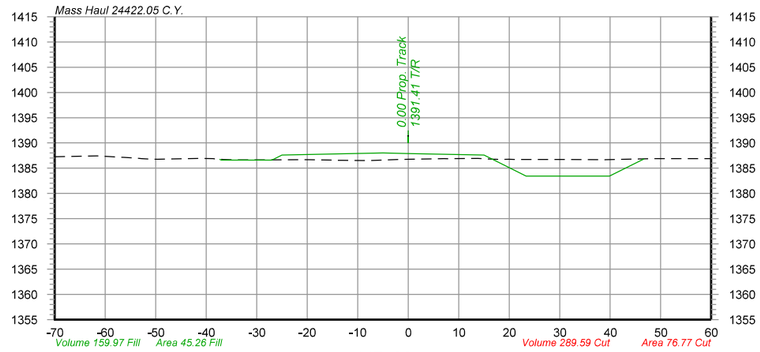
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-5.00 1387.21
0.00 1387.11
15.00 1386.81
23.14 1382.74
39.64 1382.74
46.94 1386.39



145+00

-70.00	1386.79	-67.83	1386.87	-64.09	1386.99	-61.28	1386.89	-55.51	1386.78	-52.43	1386.51	-45.92	1386.27	-42.52	1386.18	-36.78	1386.14	-29.61	1386.03	-23.27	1386.01
-20.71	1386.01	-9.25	1385.93	-2.44	1386.14	10.18	1386.19	18.55	1386.13	20.75	1386.12	30.63	1386.17	40.53	1386.25	50.43	1386.46	60.00	1386.45		

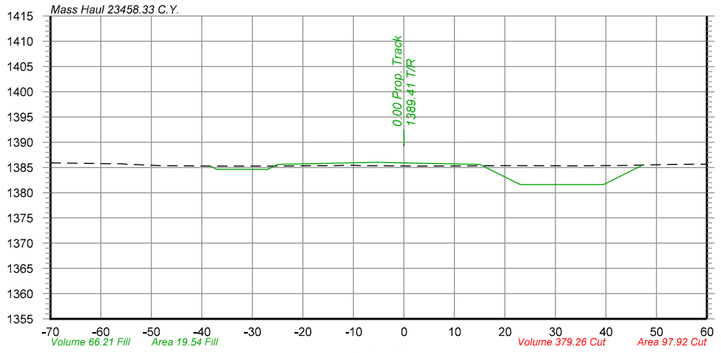
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15.00 1387.61
23.36 1383.43
39.86 1383.43
46.72 1386.86



147+00

-70.00	1387.27	-61.60	1387.43	-59.28	1387.30	-56.32	1387.16	-53.65	1386.97	-51.33	1386.81	-47.86	1386.80	-41.29	1386.94	-38.68	1386.89	-36.59	1386.73	-34.52	1386.63
-31.15	1386.64	-28.37	1386.63	-21.46	1386.70	-15.09	1386.61	-13.04	1386.54	-9.26	1386.52	-1.91	1386.72	0.13	1386.77	5.33	1386.86	8.29	1386.87	13.79	1386.94
16.11	1386.83	18.27	1386.74	21.16	1386.74	30.74	1386.73	38.33	1386.67	48.75	1386.91	58.08	1386.89								

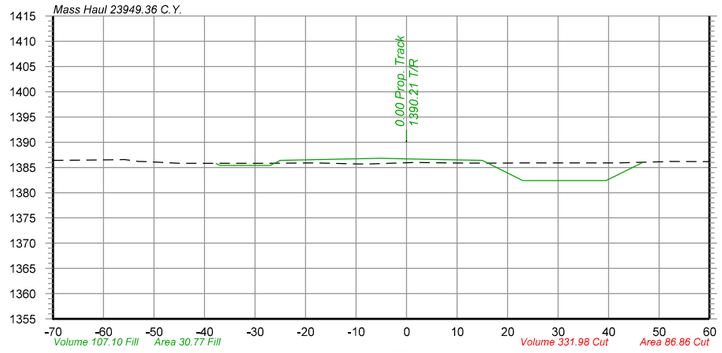
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15.00 1385.61
23.04 1381.59
39.54 1381.59
47.30 1385.47



142+00

-70.00	1385.91	-66.37	1385.84	-57.68	1385.73	-55.07	1385.65	-50.02	1385.43	-38.32	1385.29	-36.19	1385.27	-26.19	1385.27	-20.73	1385.30	-13.47	1385.36	-9.93	1385.42
2.62	1385.29	13.81	1385.32	20.08	1385.34	23.81	1385.34	33.67	1385.33	43.57	1385.38	53.47	1385.62	60.00	1385.63						

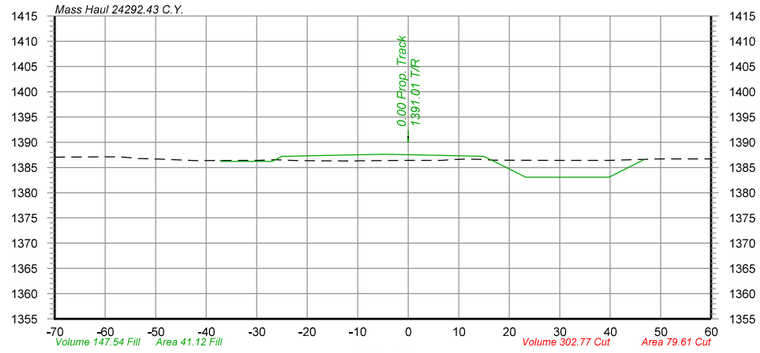
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0.00 1386.71
15.00 1386.41
23.03 1382.39
39.53 1382.39
46.83 1386.04



144+00

-70.00	1386.41	-64.77	1386.45	-57.31	1386.52	-54.65	1386.39	-51.41	1386.14	-44.90	1385.84	-39.16	1385.80	-28.23	1385.82	-18.23	1385.92	-9.70	1385.70	-7.42	1385.70
1.59	1385.97	11.77	1385.87	19.06	1385.88	21.77	1385.88	31.64	1385.88	41.54	1385.91	51.44	1386.16	60.00	1386.16						

-37.35 1386.38
-37.00 1386.21
-27.00 1386.21
-25.00 1387.21
-5.00 1387.61
0.00 1387.51
15.00 1387.21
23.25 1383.08
39.75 1383.08
46.75 1386.58



146+00

-70.00	1387.02	-67.70	1387.07	-65.42	1387.05	-57.37	1387.09	-54.67	1386.88	-49.11	1386.67	-43.10	1386.38	-30.94	1386.41	-26.55	1386.51	-24.44	1386.46	-21.88	1386.37
-10.56	1386.29	-0.27	1386.41	6.54	1386.39	9.06	1386.55	11.09	1386.66	15.44	1386.55	29.05	1386.40	39.51	1386.39	49.98	1386.67	57.88	1386.68	60.00	1386.67

Color table: K:\Bentley\Workspace\V8i\projects\Clients\UPRR_Track\UPRR_Track_V8i\color\UPRR.tbl
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6/3/2022

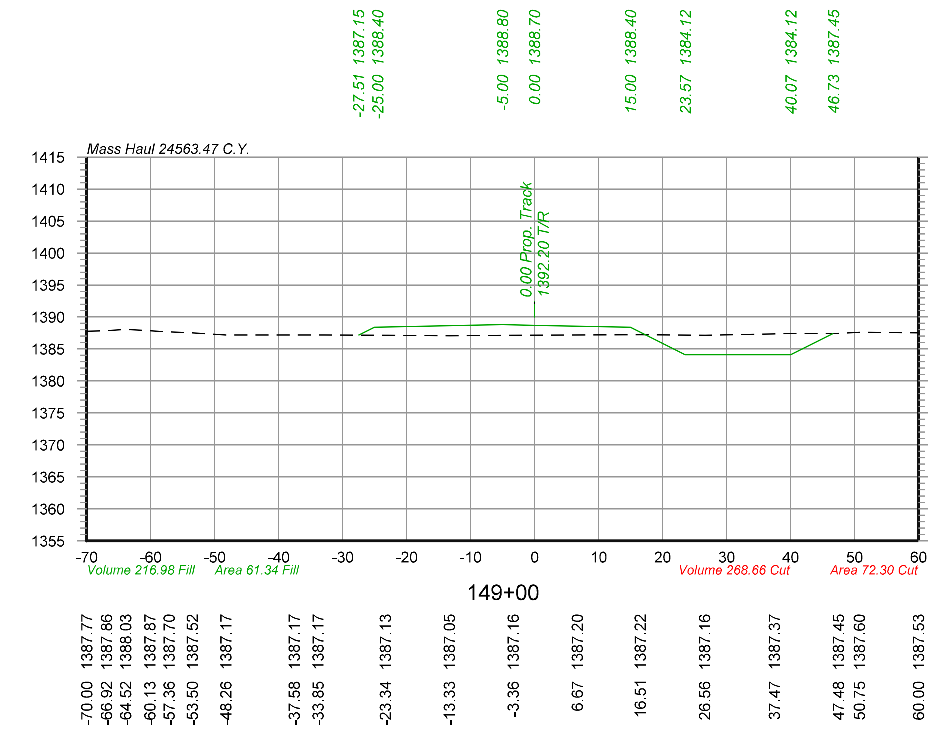
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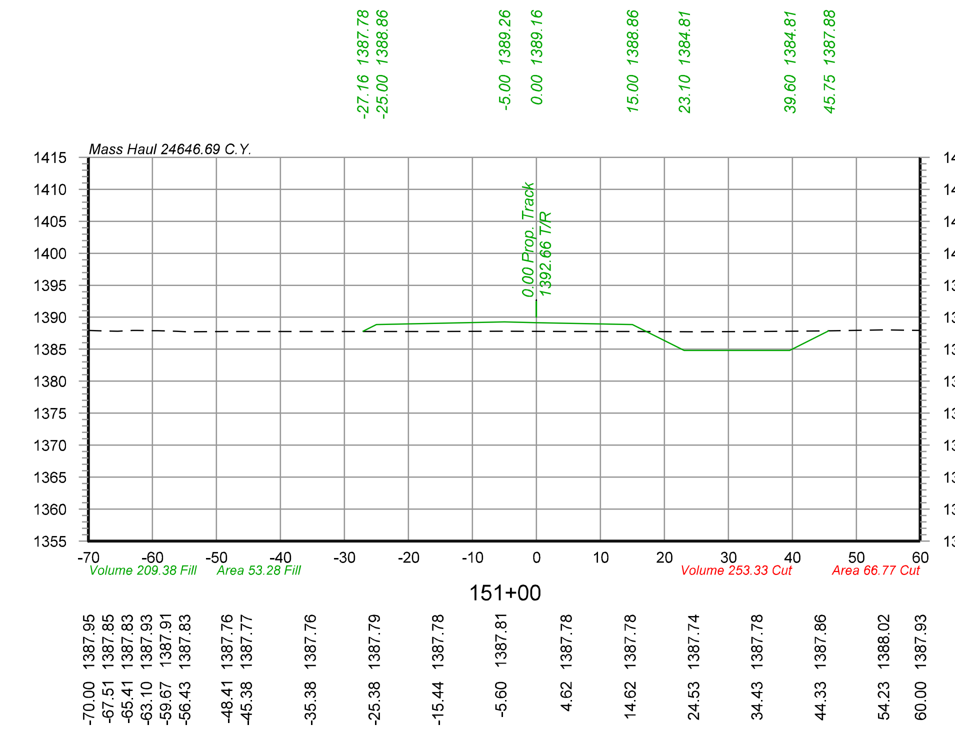
UNION PACIFIC

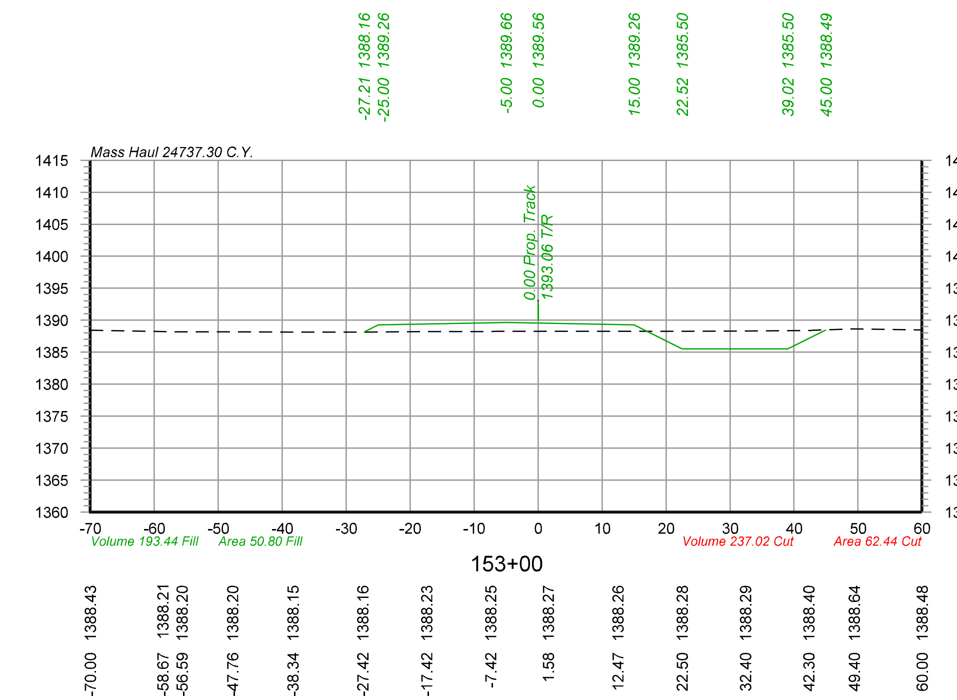
DRAWN BY: JTD
CHECKED BY: JRM
DATE: 6/3/2022
SHEET NUMBER: X078 of 115

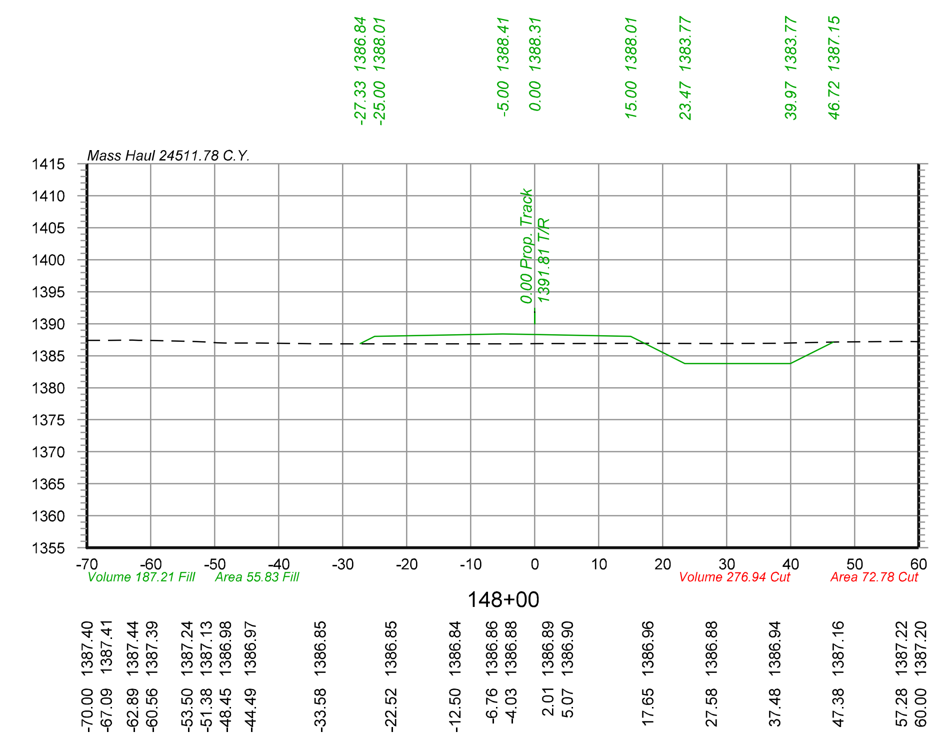
UNION PACIFIC RAILROAD
LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track
SHEET TITLE:
PIRATE LEAD TRACK CROSS SECTIONS STA.142+00 TO STA.147+00

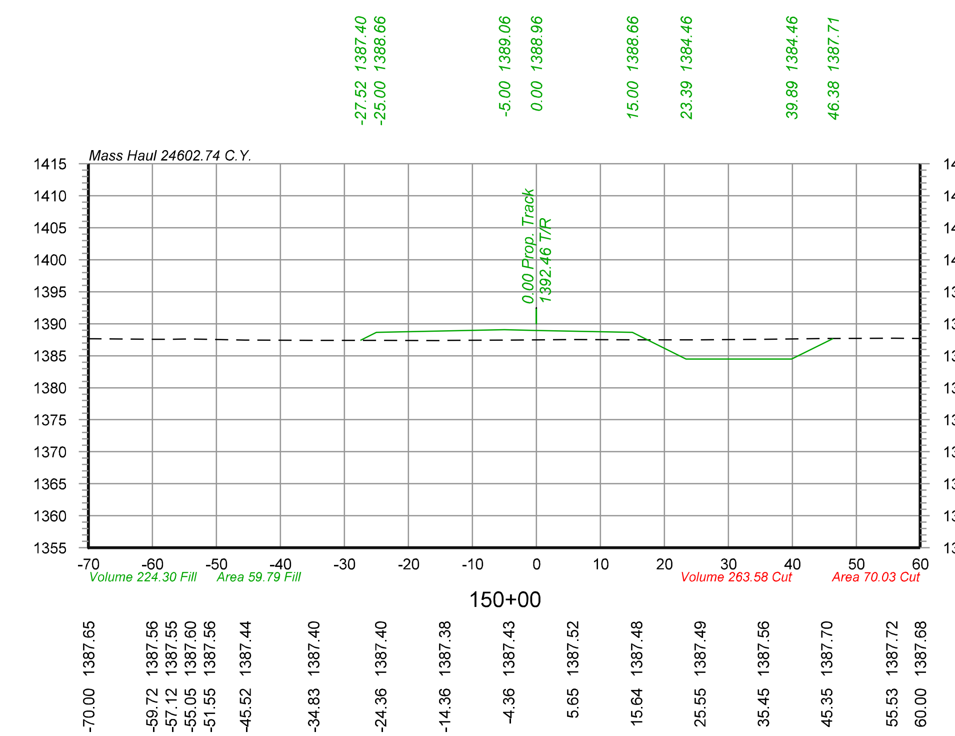
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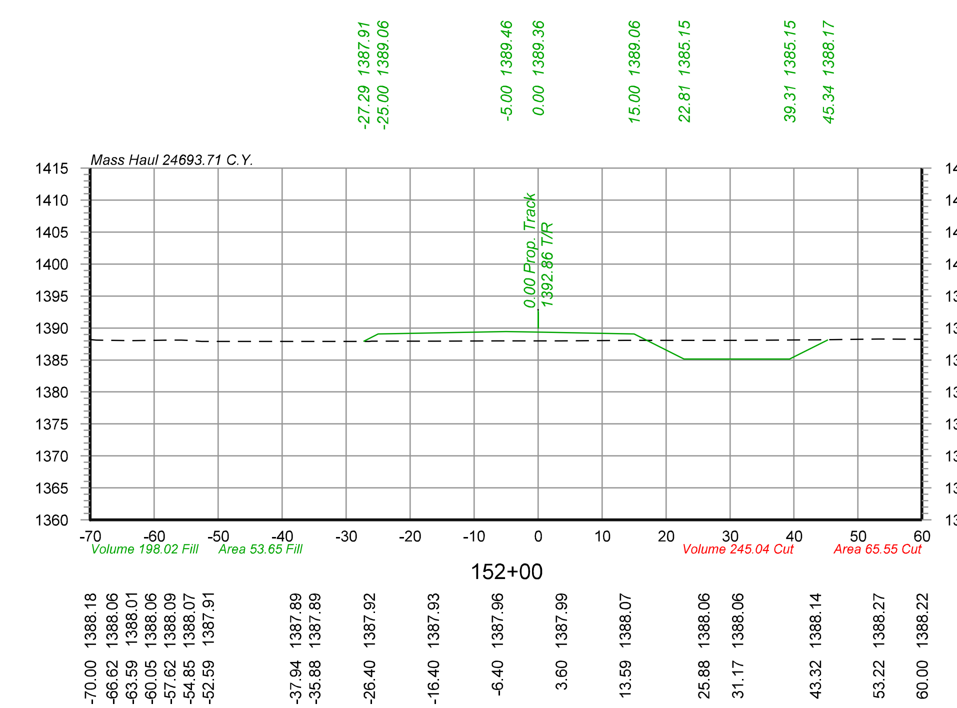












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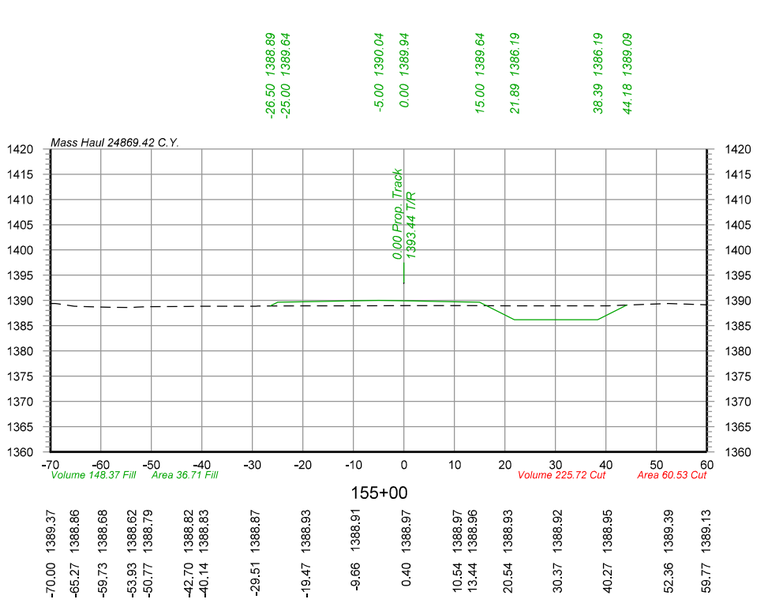
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CHECKED BY:	JRM
DATE:	6/3/2022
SHEET NUMBER	X079 of 115

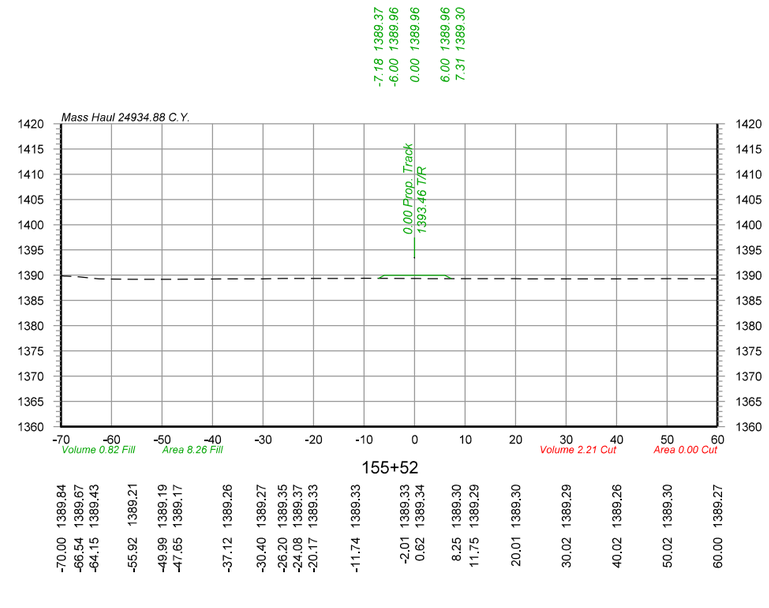
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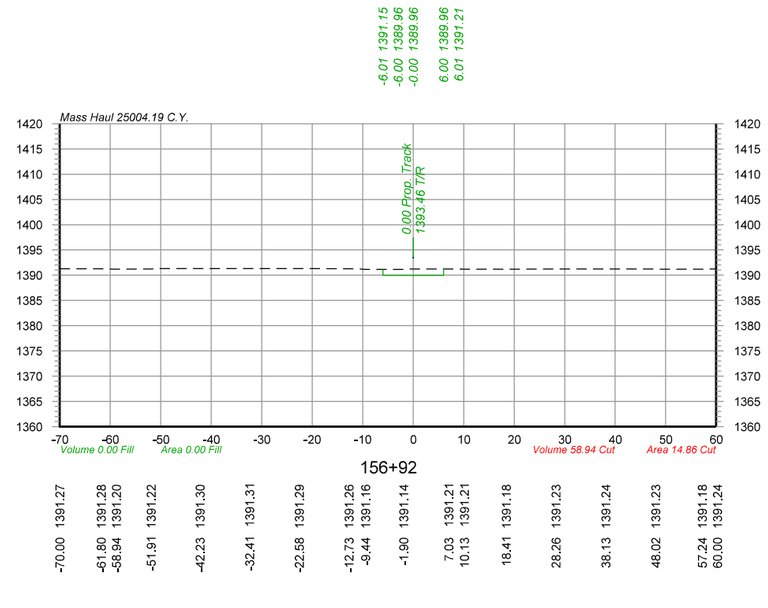
LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

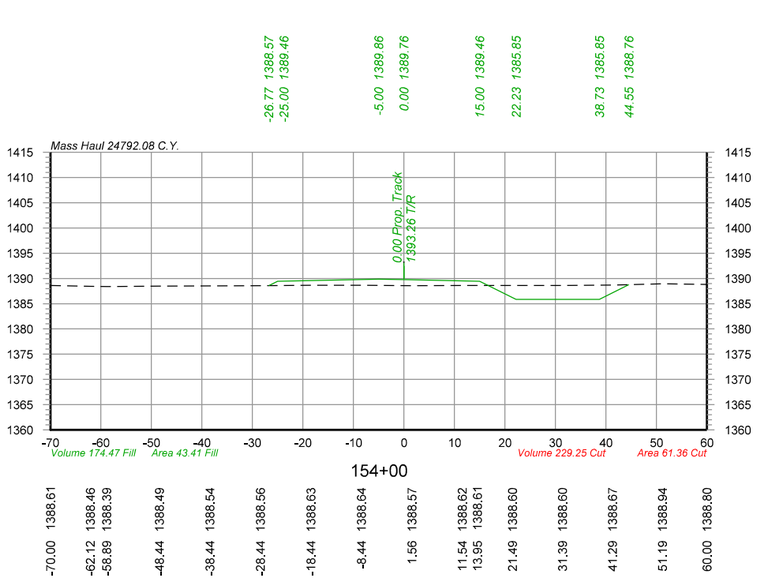
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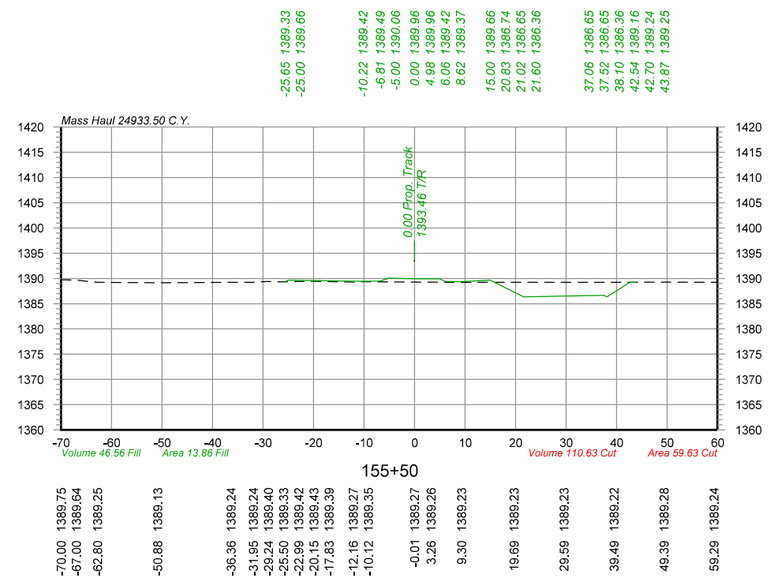
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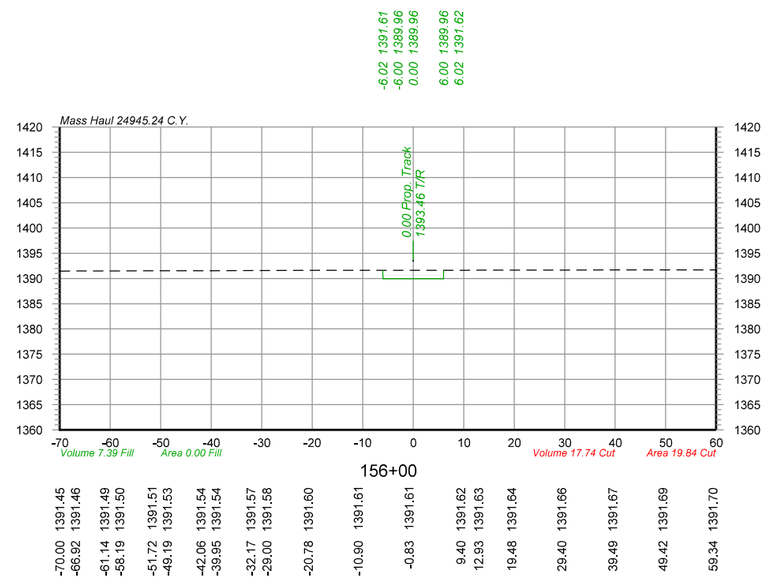












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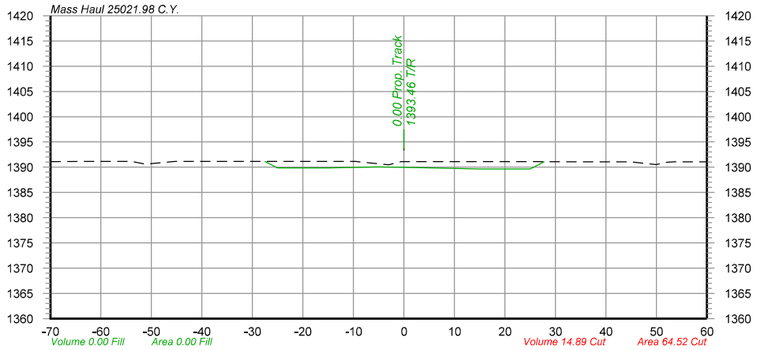
LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
PIRATE LEAD TRACK CROSS SECTIONS STA.154+00 TO STA.156+92

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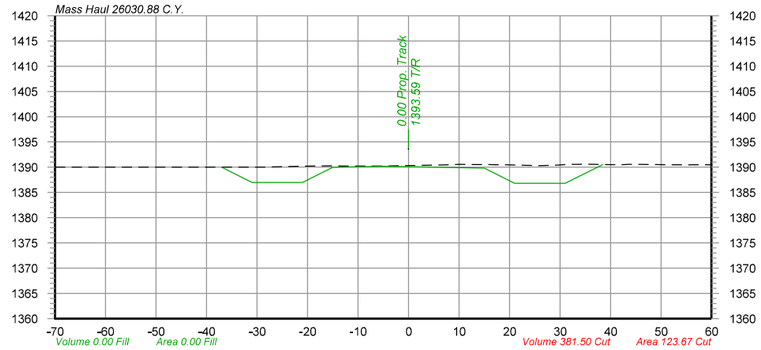
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-15.00 1389.86
-5.00 1390.06
-0.00 1389.96
15.00 1389.66
25.00 1389.66
27.85 1391.09



157+00

-70.00	1391.12	-63.24	1391.12	-54.31	1391.13	-51.21	1390.59	-45.29	1391.13	-36.35	1391.13	-27.33	1391.13	-18.36	1391.13	-9.41	1391.12	-3.01	1390.48	-0.56	1391.10	8.50	1391.11	17.31	1391.10	26.24	1391.09	35.19	1391.08	44.14	1391.07	49.92	1390.54	52.09	1390.97	60.00	1391.08

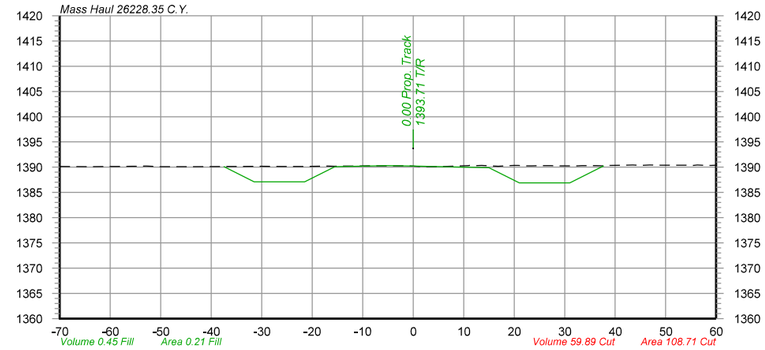
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-31.00 1386.99
-21.00 1386.99
-15.00 1389.99
-5.00 1390.19
-0.00 1390.09
15.00 1389.79
21.00 1386.79
31.00 1386.79
38.46 1390.52



158+52

-70.00	1390.03	-65.01	1390.01	-62.86	1390.01	-60.79	1390.01	-51.04	1390.01	-44.85	1390.01	-42.01	1390.02	-30.05	1390.02	-21.62	1390.18	-19.29	1390.23	-15.79	1390.28	-12.20	1390.23	-9.25	1390.24	-5.16	1390.24	-3.05	1390.26	-0.57	1390.31	6.48	1390.42	10.01	1390.56	13.25	1390.54	15.91	1390.53	19.12	1390.46	23.76	1390.34	26.09	1390.33	29.08	1390.41	32.08	1390.55	35.06	1390.62	38.70	1390.52	42.03	1390.49	45.30	1390.55	48.45	1390.50	50.77	1390.48	53.68	1390.48	56.06	1390.46	59.52	1390.47

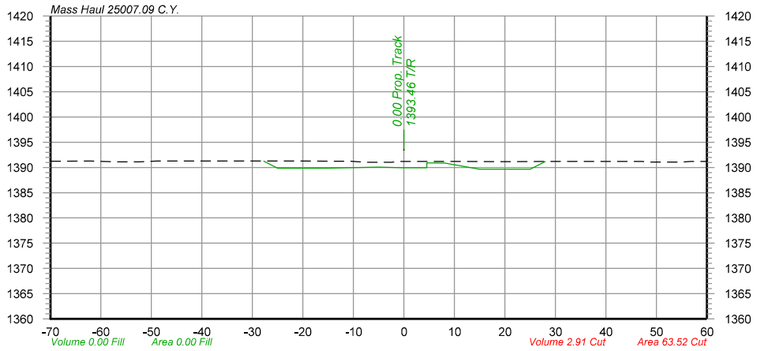
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-31.50 1387.10
-21.50 1387.10
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-5.00 1390.31
-0.00 1390.21
15.00 1389.91
21.00 1386.91
31.00 1386.91
37.74 1390.29



159+00

-70.00	1390.12	-64.49	1390.11	-60.04	1390.16	-55.65	1390.18	-53.18	1390.23	-50.03	1390.11	-44.87	1390.09	-36.30	1390.14	-29.92	1390.17	-26.13	1390.14	-22.53	1390.15	-16.91	1390.21	-13.97	1390.23	-11.69	1390.22	-8.89	1390.28	-1.39	1390.27	1.14	1390.14	4.74	1390.12	10.91	1390.33	13.54	1390.35	16.83	1390.19	18.94	1390.33	22.20	1390.26	25.11	1390.33	27.32	1390.32	32.51	1390.26	36.32	1390.33	38.91	1390.35	41.99	1390.38	45.07	1390.37	49.00	1390.41	54.67	1390.40	57.94	1390.37	60.00	1390.39

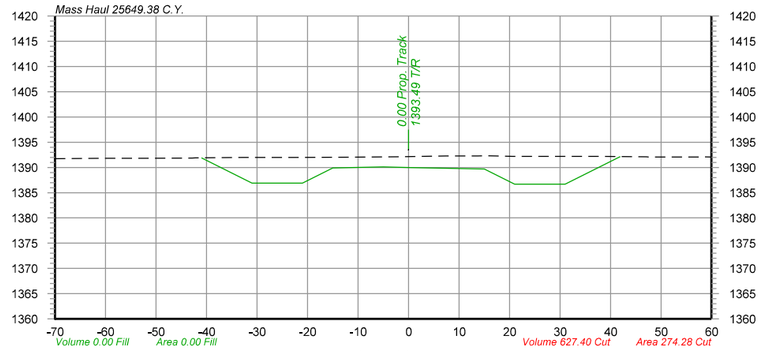
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0.00 1389.96
4.55 1389.96
4.56 1390.91
8.19 1390.84
15.00 1389.66
25.00 1389.66
28.07 1391.19



156+94

-70.00	1391.25	-67.83	1391.25	-62.13	1391.26	-56.95	1391.10	-52.35	1391.11	-48.82	1391.27	-42.96	1391.27	-39.30	1391.26	-33.35	1391.27	-29.76	1391.27	-23.73	1391.26	-20.20	1391.25	-14.09	1391.23	-10.63	1391.23	-7.45	1391.02	-2.44	1391.01	5.24	1391.19	8.57	1391.18	11.86	1391.18	18.19	1391.16	21.41	1391.16	27.83	1391.19	30.98	1391.19	37.48	1391.20	40.57	1391.20	47.15	1391.19	55.04	1391.05	59.63	1391.19

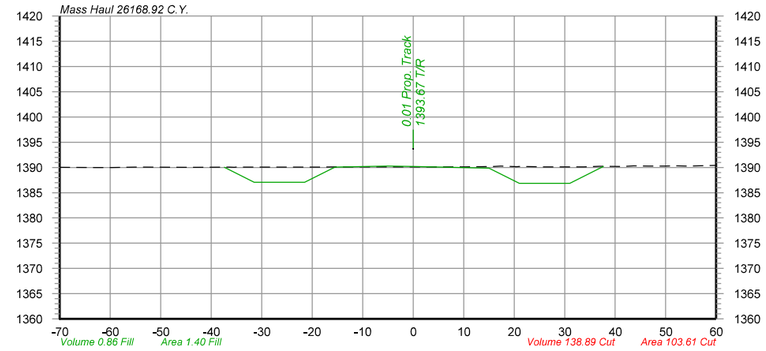
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0.00 1389.99
15.00 1389.69
21.00 1386.69
31.00 1386.69
41.92 1392.15



158+00

-70.00	1391.72	-60.51	1391.81	-53.39	1391.81	-42.83	1391.87	-32.91	1391.97	-22.88	1391.99	-12.66	1392.03	-2.57	1392.09	7.48	1392.26	13.71	1392.29	17.29	1392.28	20.64	1392.20	27.32	1392.19	34.88	1392.17	38.09	1392.19	47.12	1392.09	56.77	1392.05	60.00	1392.07

-37.46 1390.05
-31.50 1387.06
-21.50 1387.06
-15.50 1390.06
-5.00 1390.27
0.00 1390.17
15.00 1389.87
21.00 1386.87
31.00 1386.87
37.71 1390.23



158+85

-70.00	1390.04	-62.93	1389.97	-59.68	1390.00	-55.11	1390.06	-45.16	1390.01	-42.96	1390.04	-36.40	1390.05	-28.07	1390.06	-18.94	1390.07	-15.67	1390.10	-7.72	1390.11	-5.67	1390.11	-1.64	1390.11	3.22	1390.11	8.52	1390.11	12.25	1390.14	15.34	1390.17	17.37	1390.25	20.54	1390.16	24.26	1390.13	29.77	1390.09	32.13	1390.09	36.94	1390.24	41.21	1390.19	43.70	1390.33	46.58	1390.26	50.02	1390.28	52.34	1390.31	54.66	1390.29	59.56	1390.40

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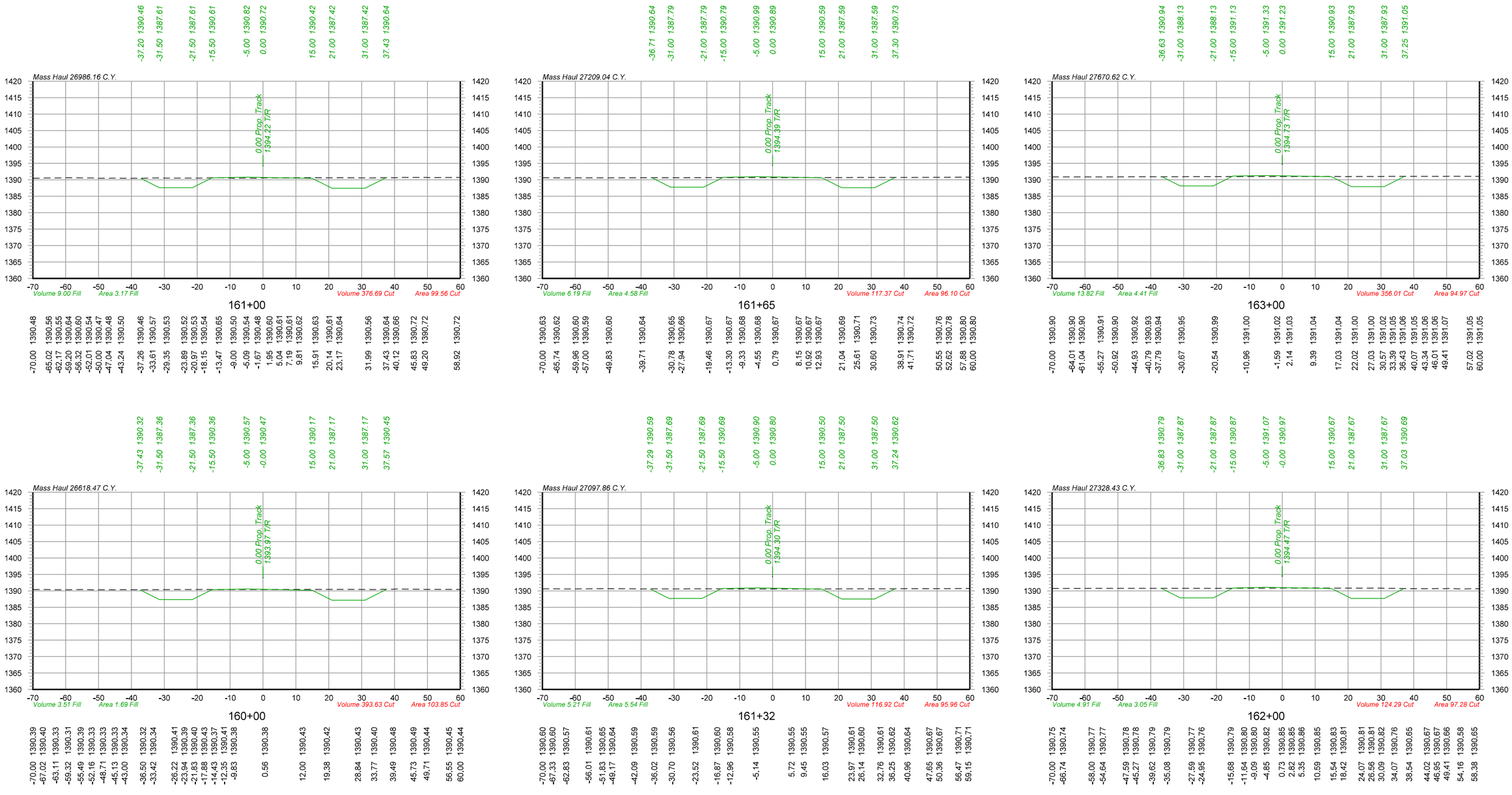
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SHEET NUMBER: X081 of 115

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LOCATION & DESCRIPTION:
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Construct Industrial Lead Track

SHEET TITLE:
PIRATE LEAD TRACK CROSS SECTIONS STA.156+94 TO STA.159+00

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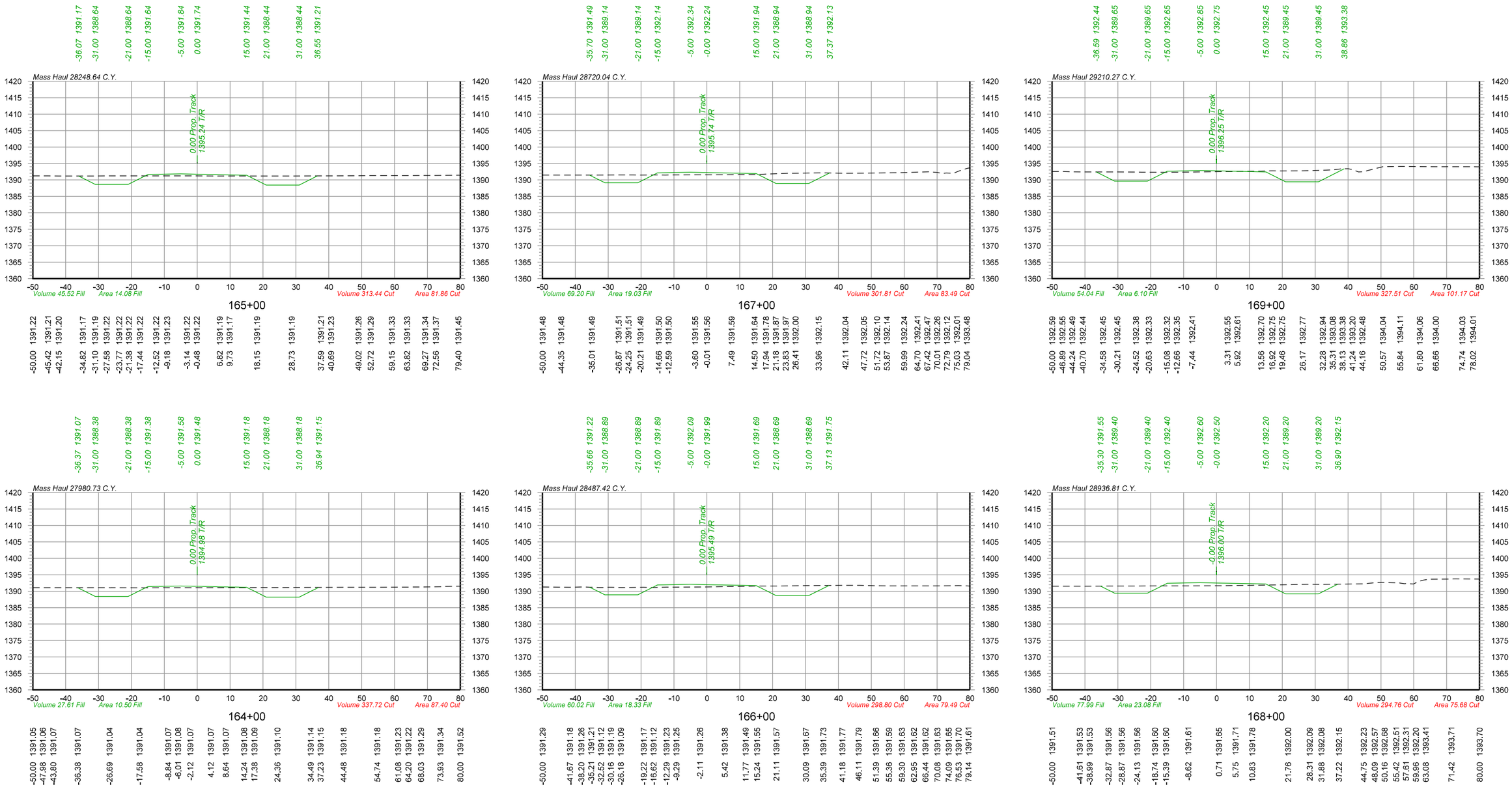
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DATE:	6/3/2022
SHEET NUMBER	X082 of 115

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
PIRATE LEAD TRACK CROSS SECTIONS STA.160+00 TO STA.163+00

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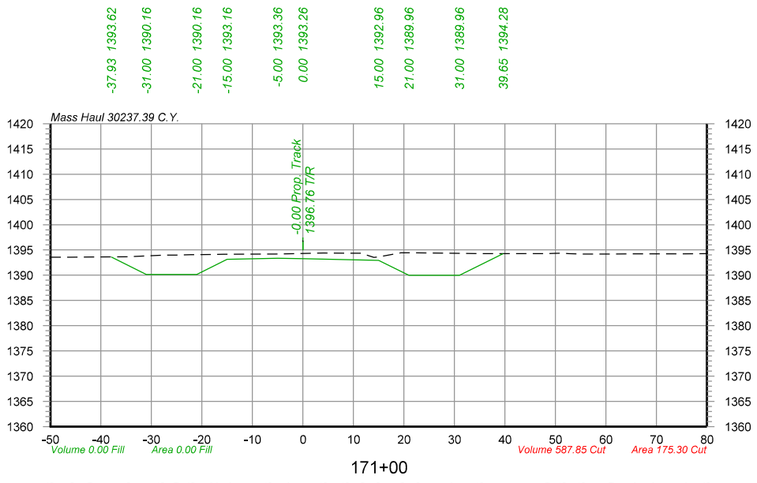
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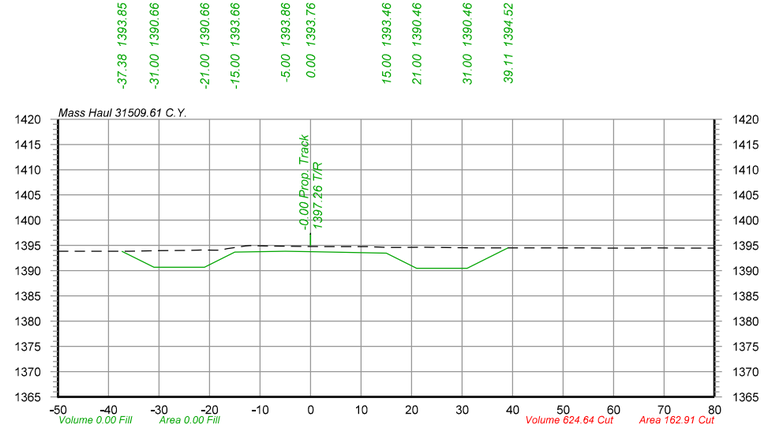
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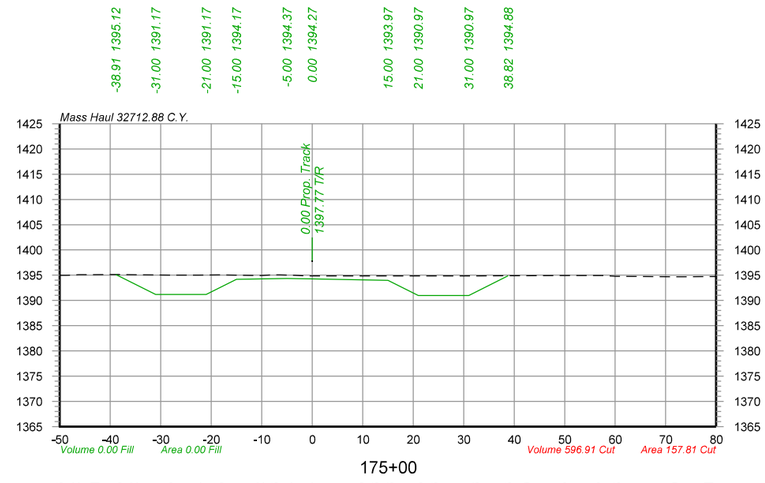
LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

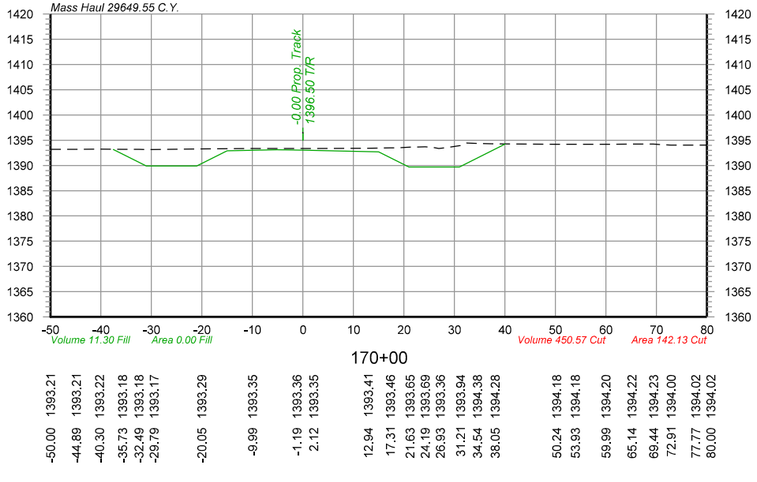
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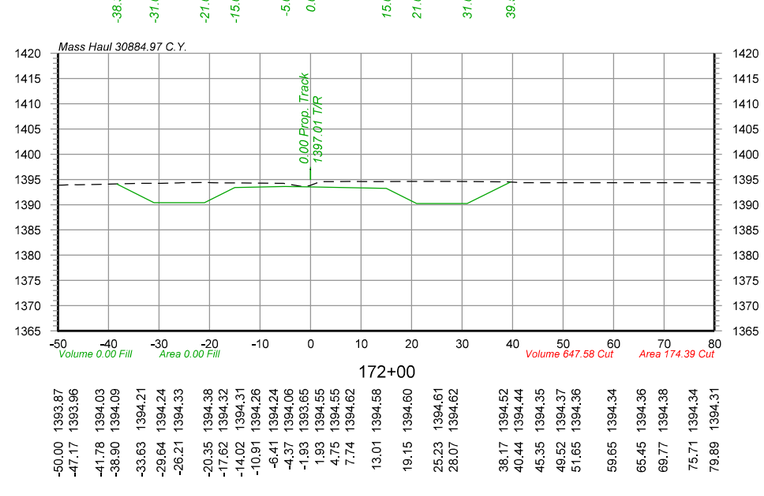
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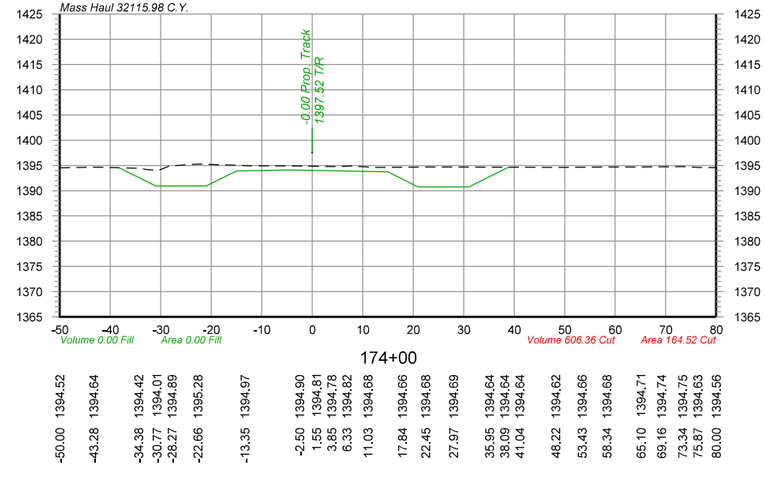












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SHEET NUMBER: X084 of 115

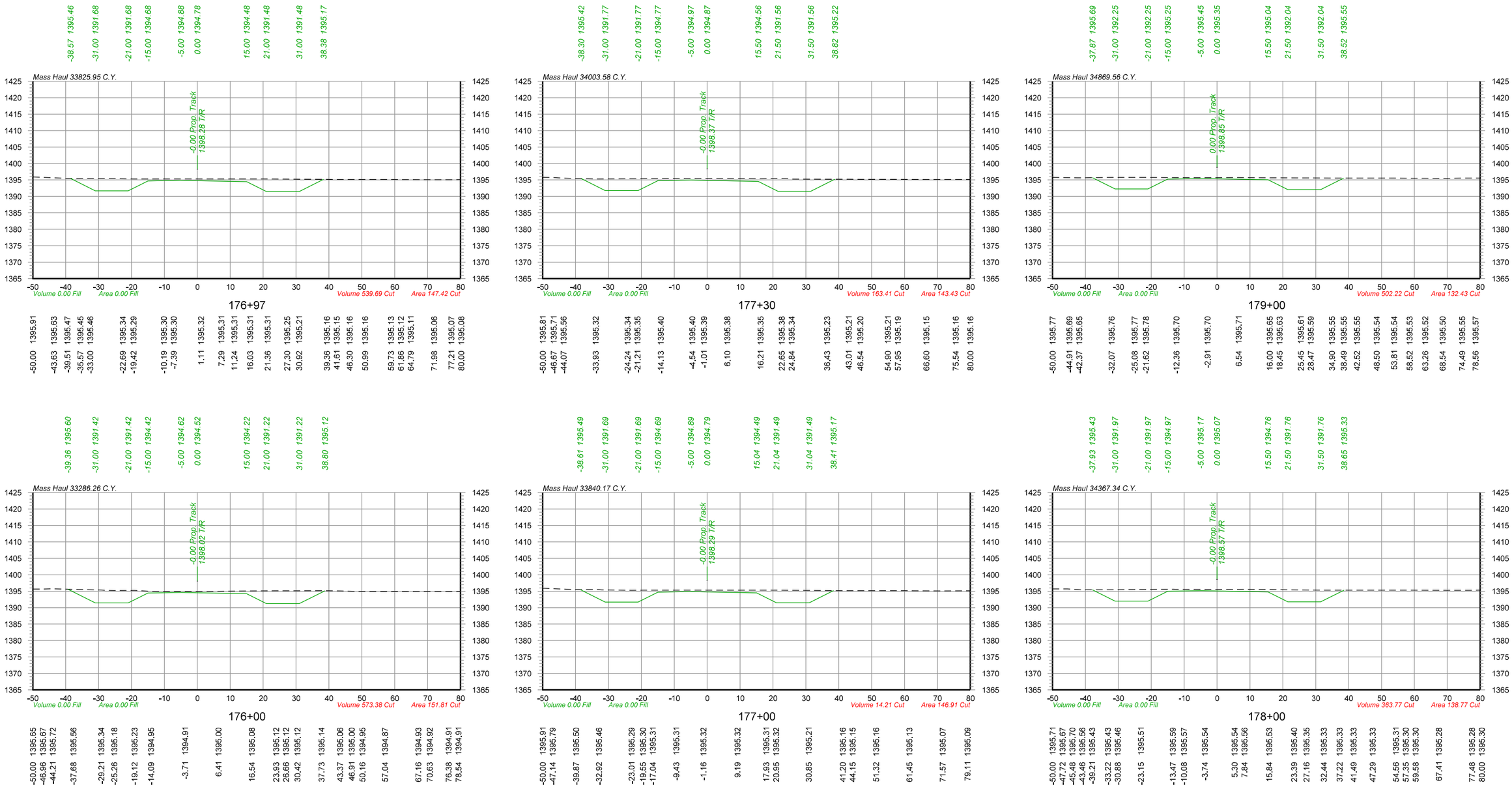
UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
PIRATE LEAD TRACK CROSS SECTIONS STA.170+00 TO STA.175+00

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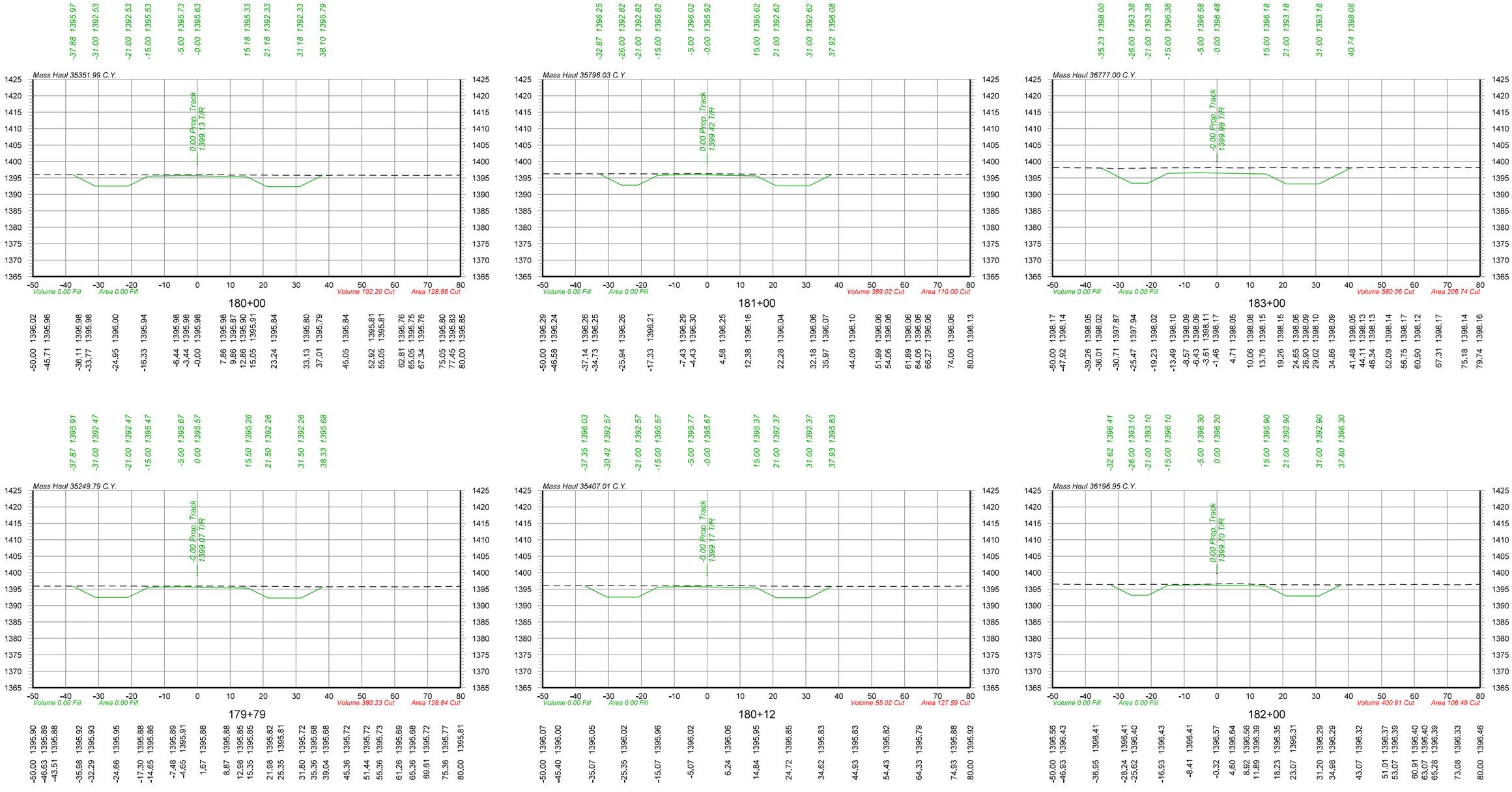
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SHEET NUMBER: X085 of 115

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
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Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
PIRATE LEAD TRACK CROSS SECTIONS STA.176+00 TO STA.179+00

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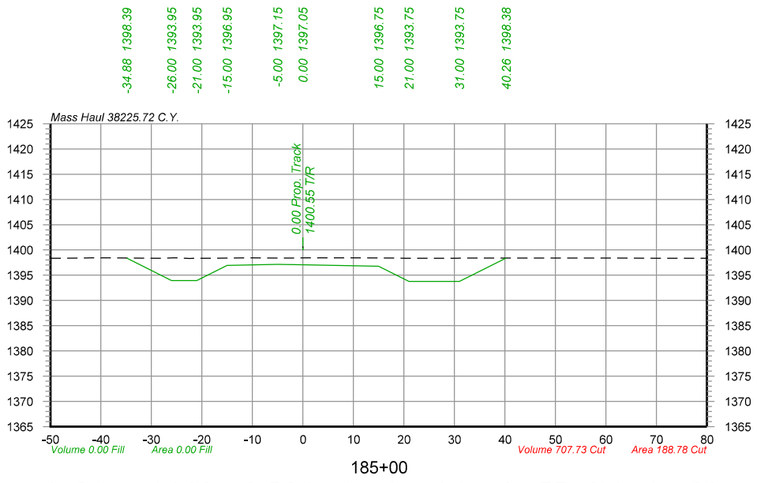
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DATE: 6/3/2022
SHEET NUMBER: X086 of 115

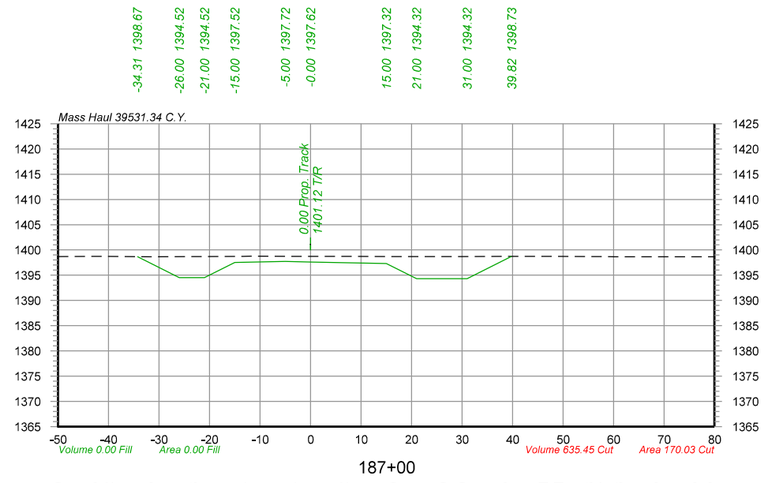
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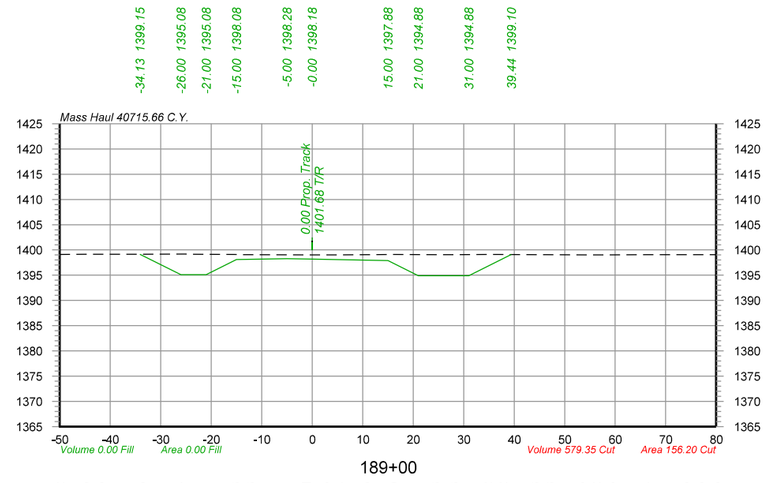
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Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

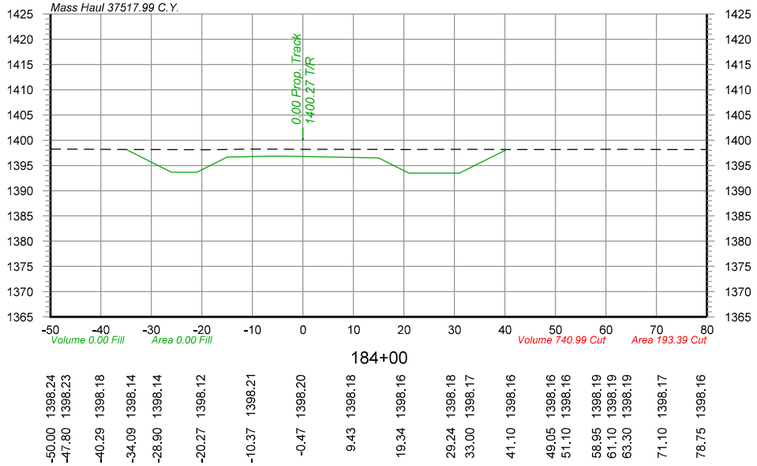
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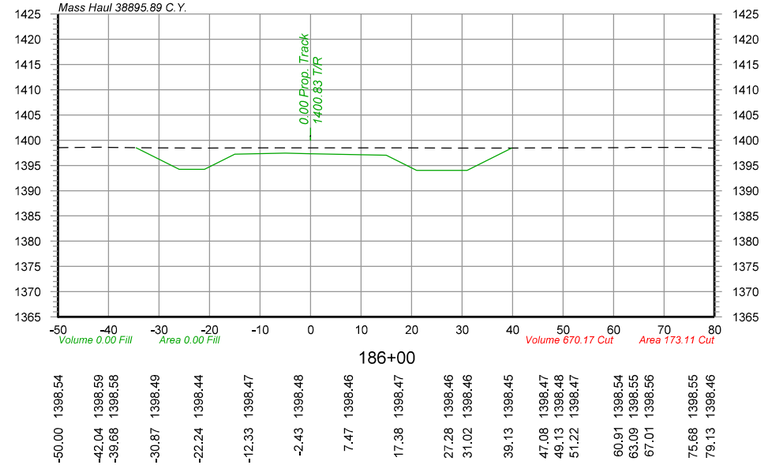
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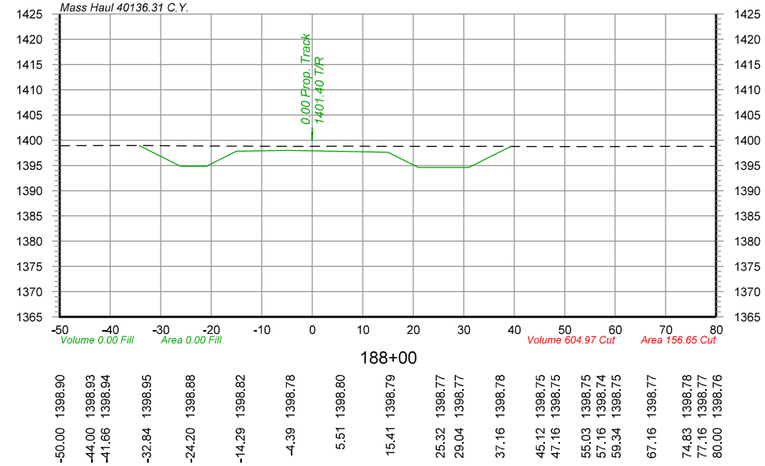












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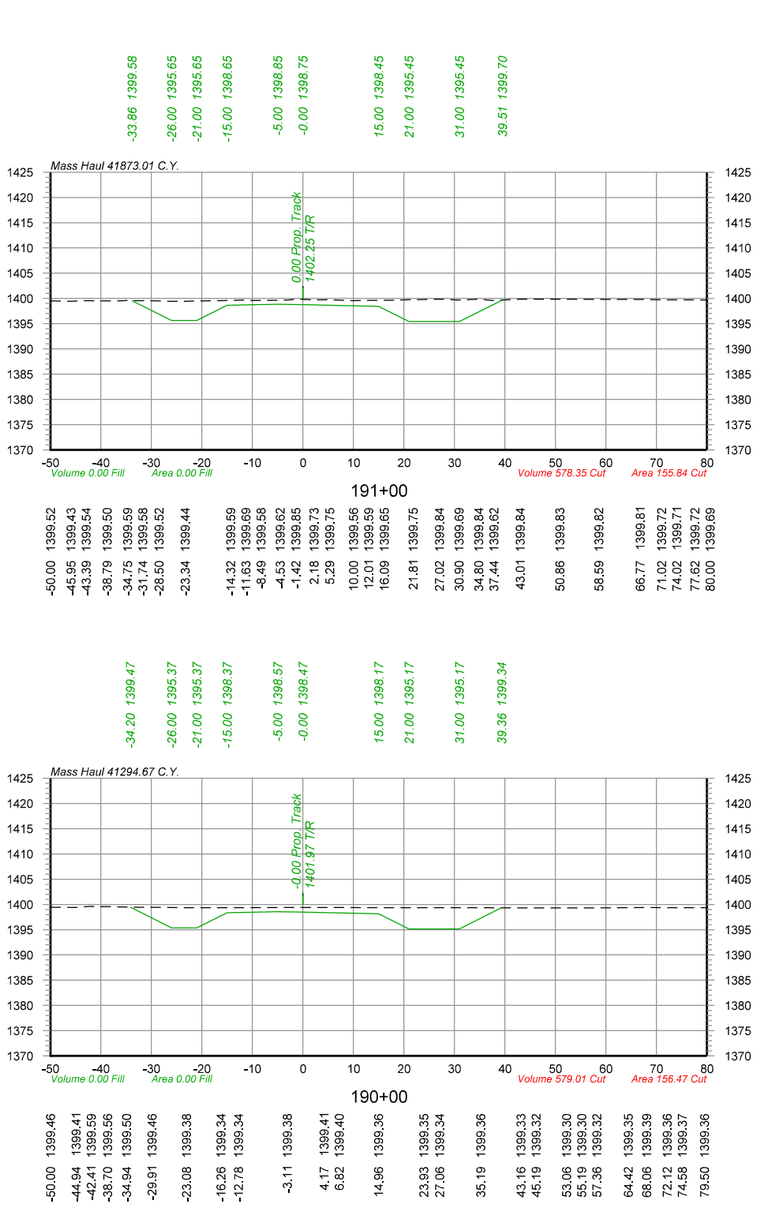
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DATE:	6/3/2022
SHEET NUMBER	X087 of 115

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LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
PIRATE LEAD TRACK CROSS SECTIONS STA.184+00 TO STA.189+00

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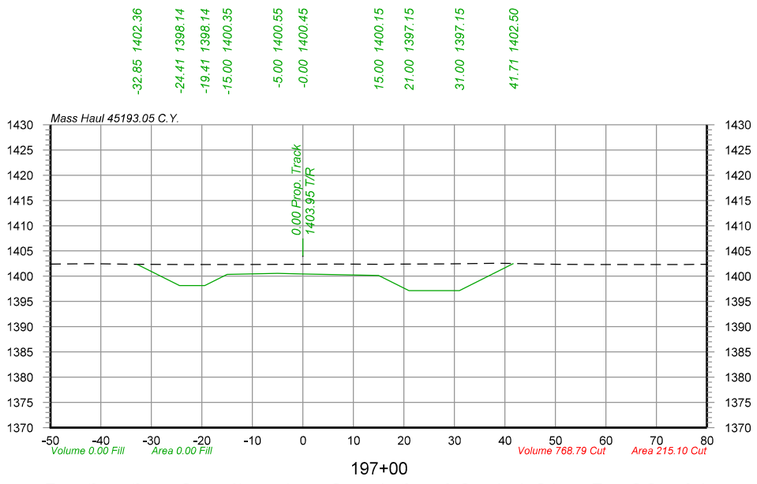
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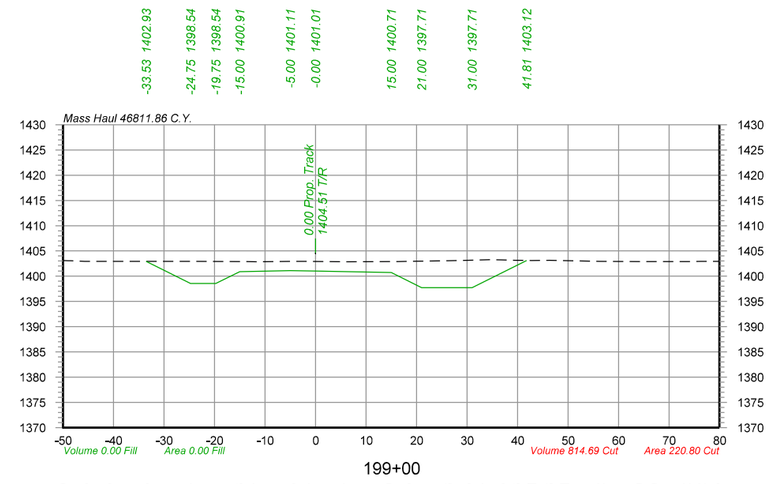
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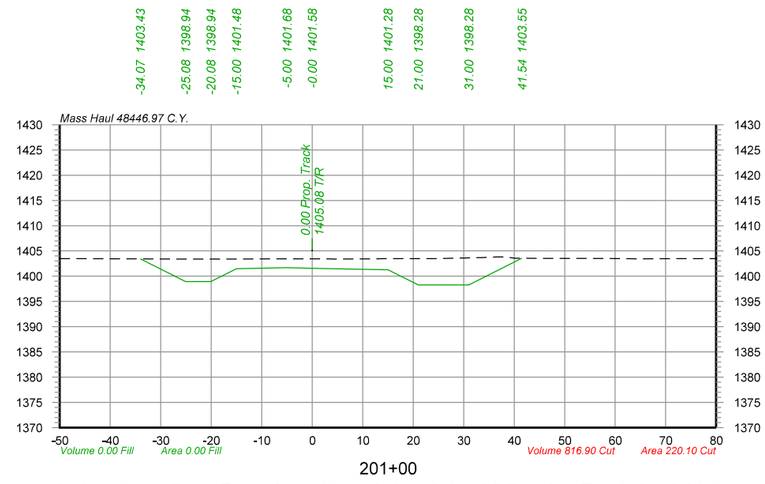
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Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

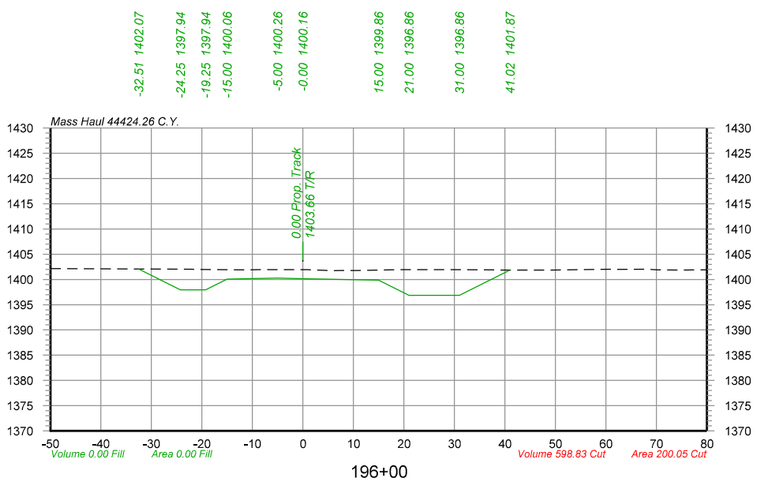
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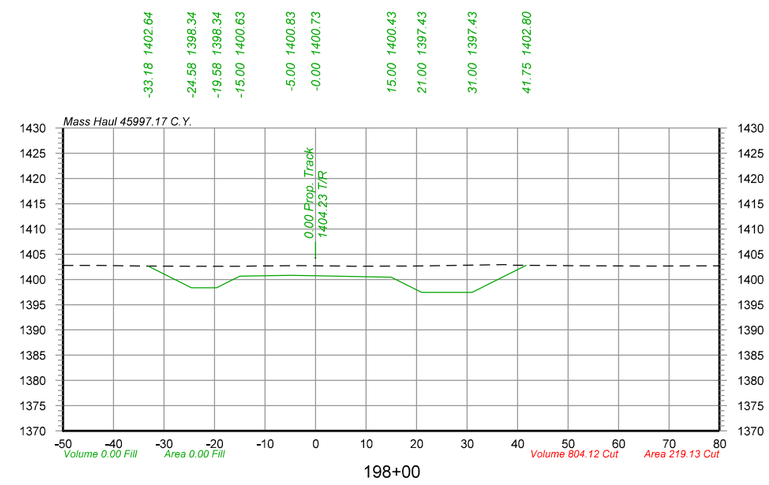
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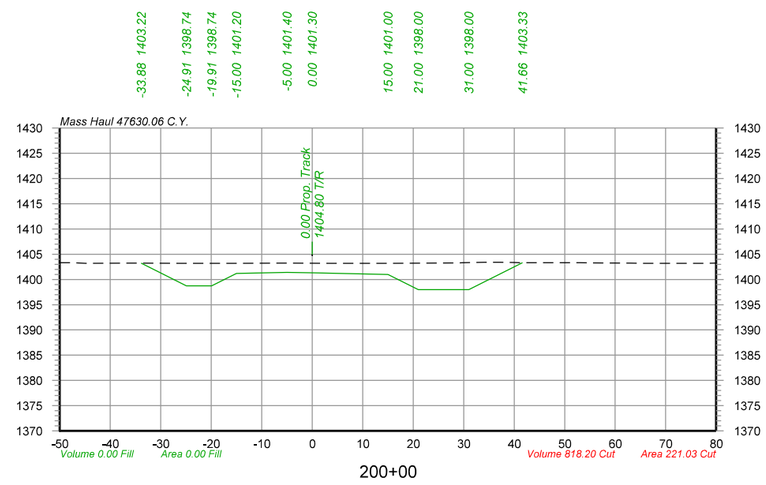












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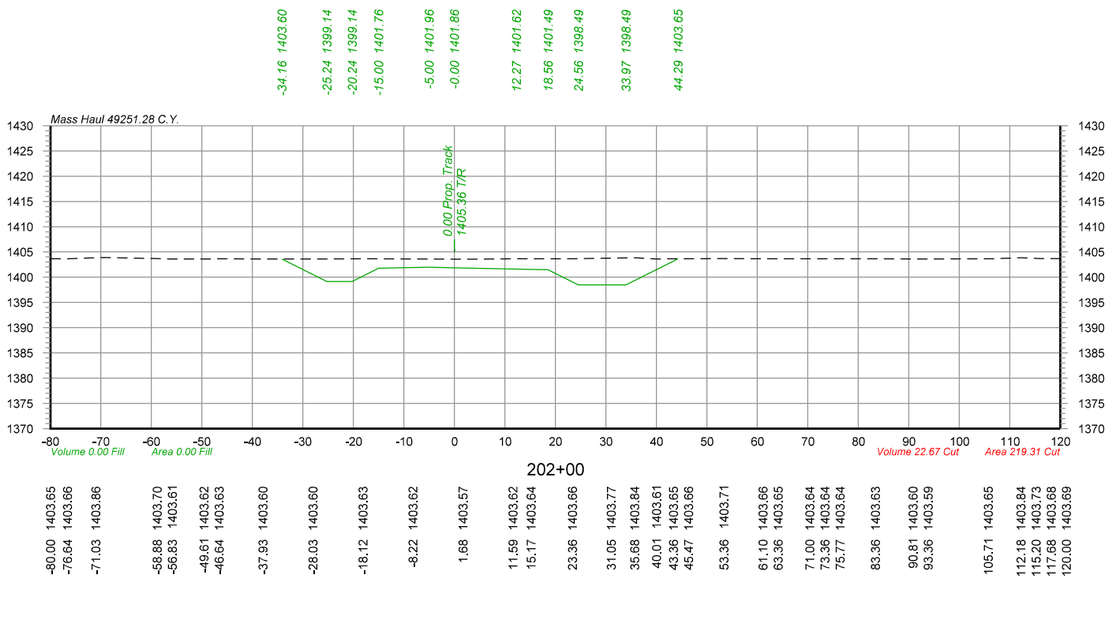
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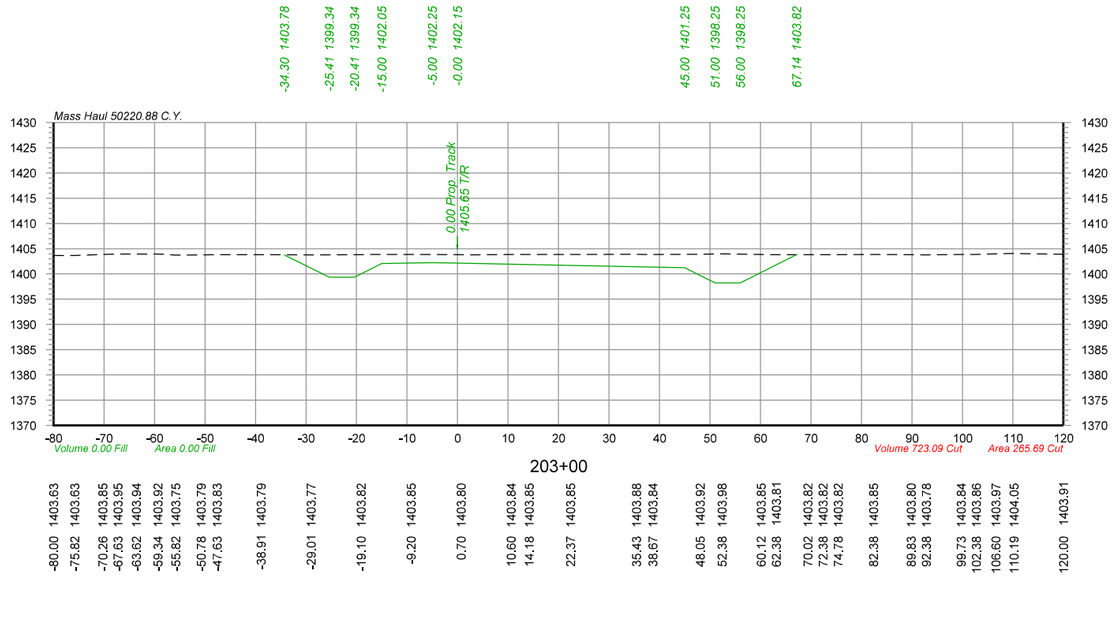
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Construct Industrial Lead Track

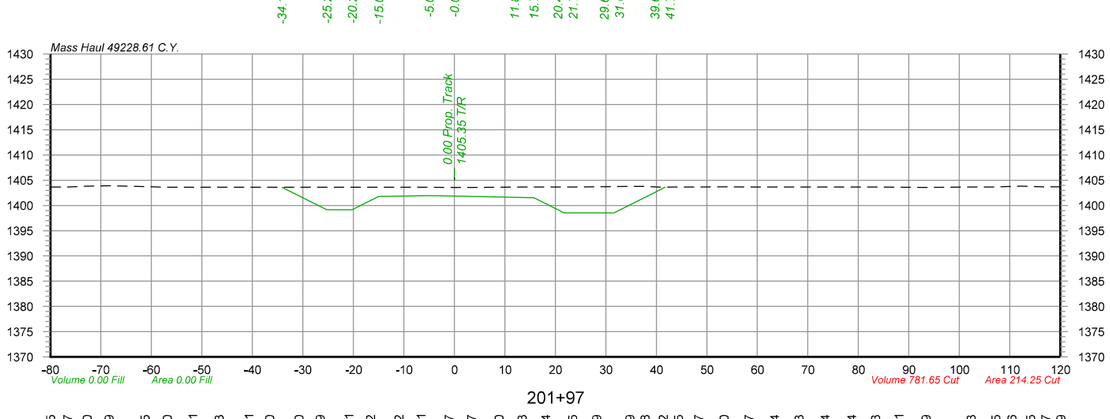
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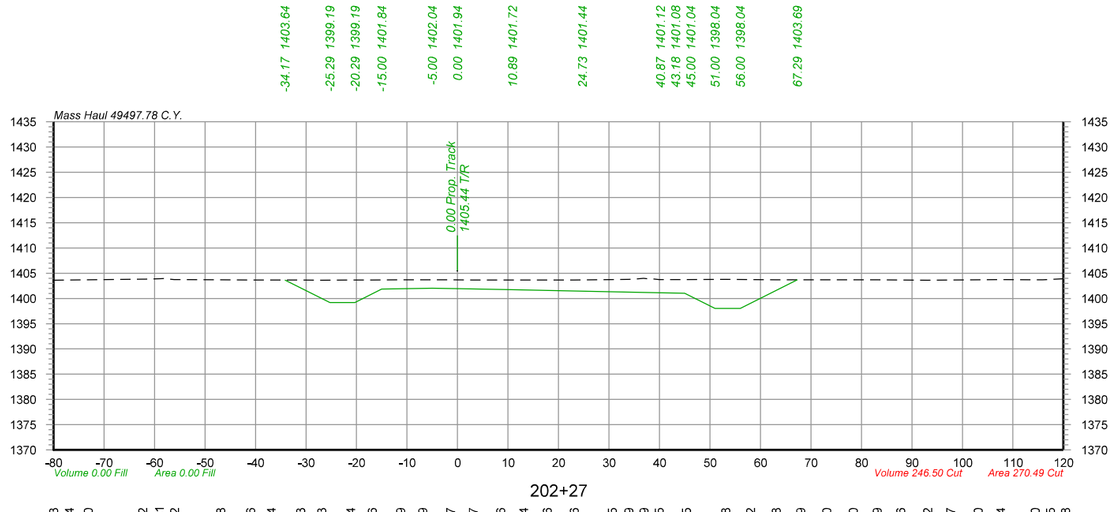
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SHEET NUMBER	X090 of 115

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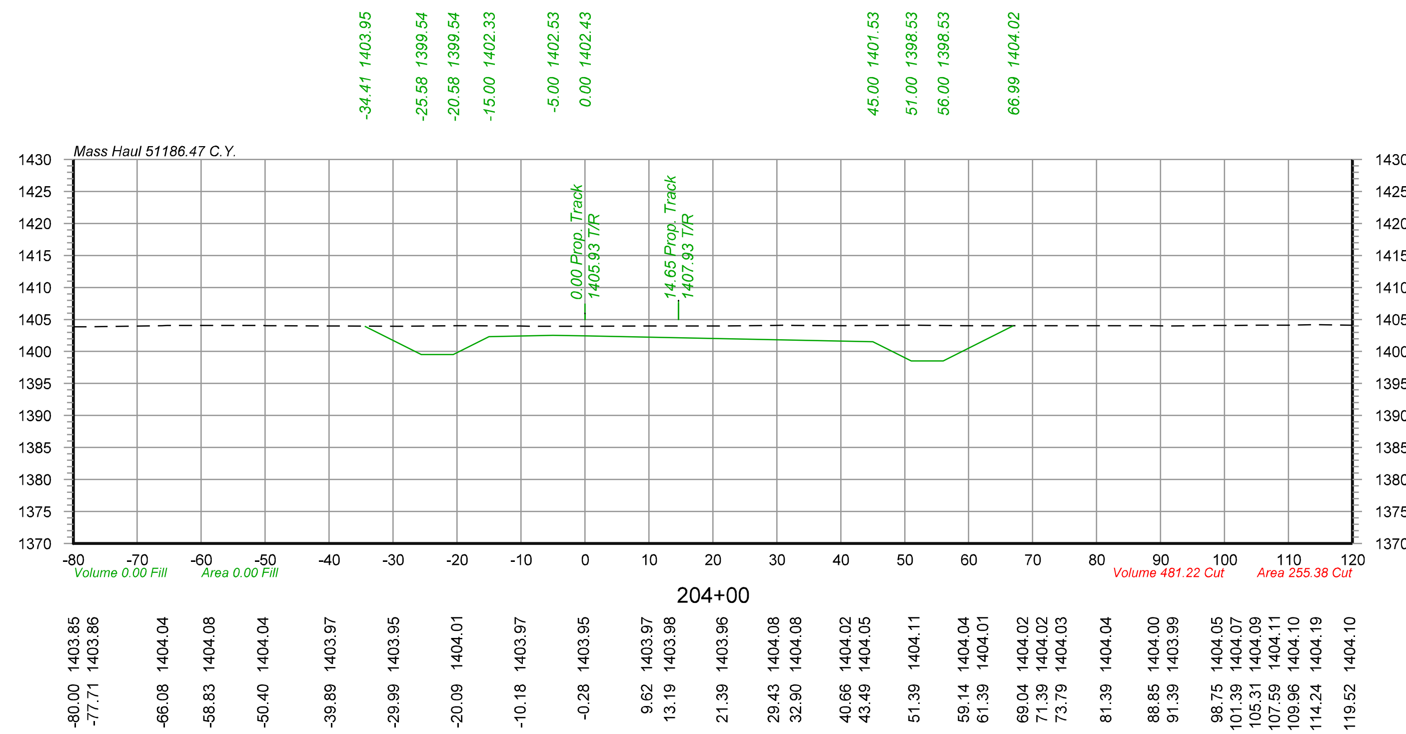
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Construct Industrial Lead Track

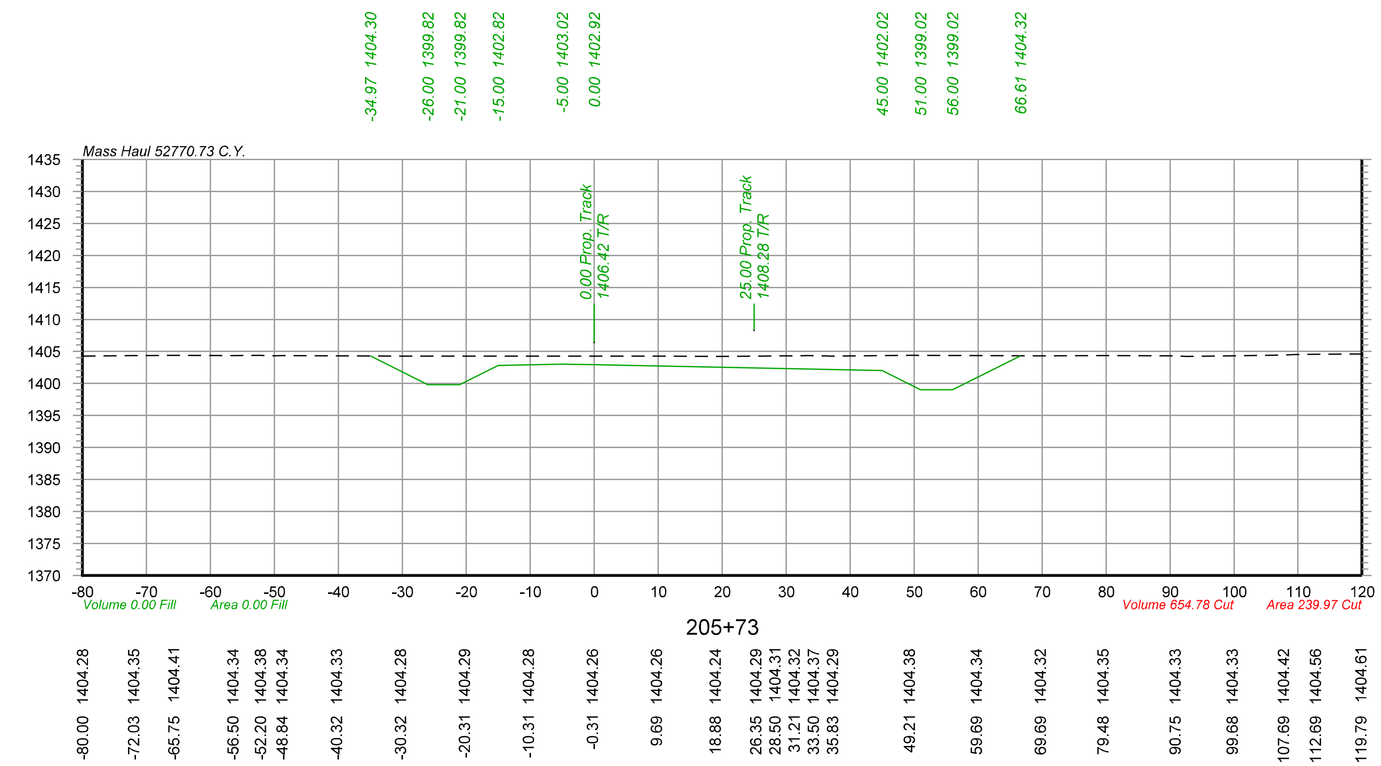
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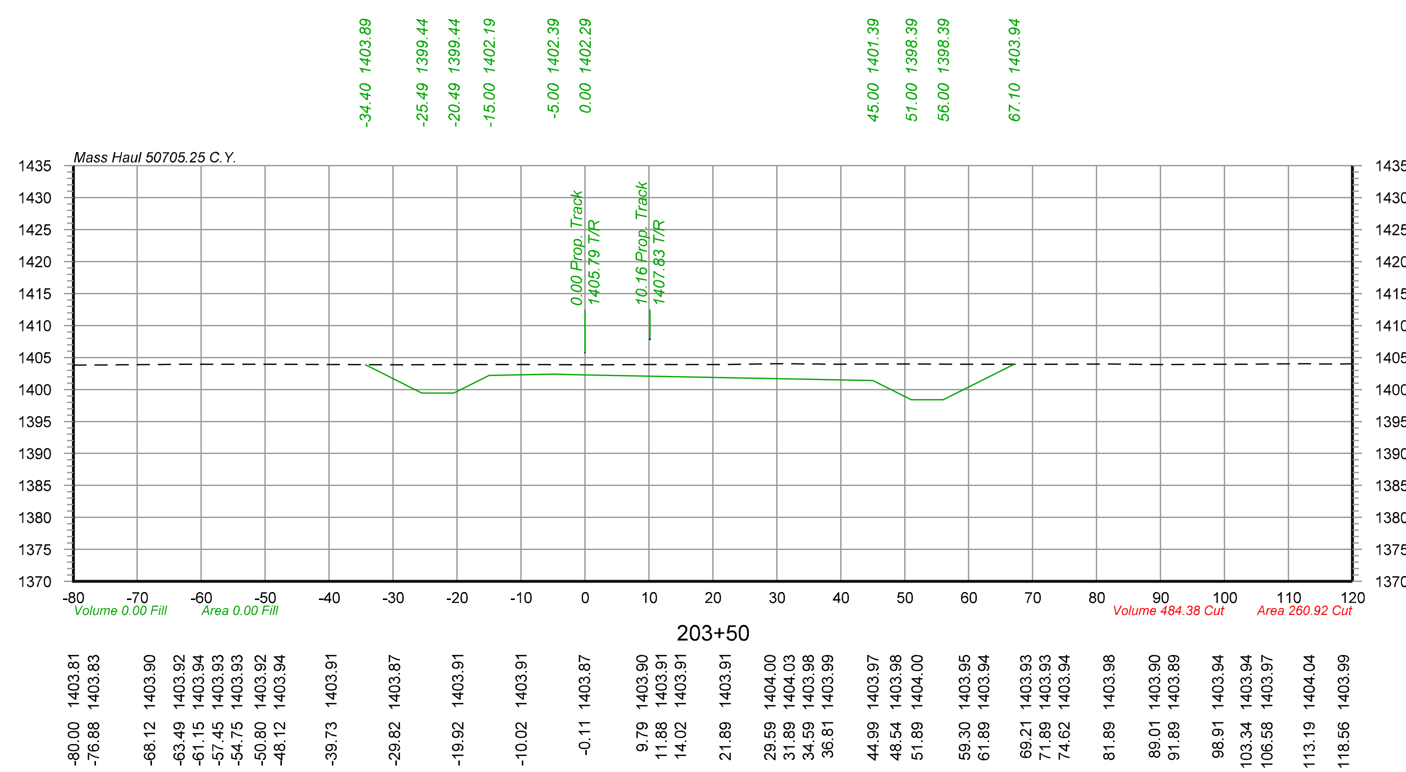
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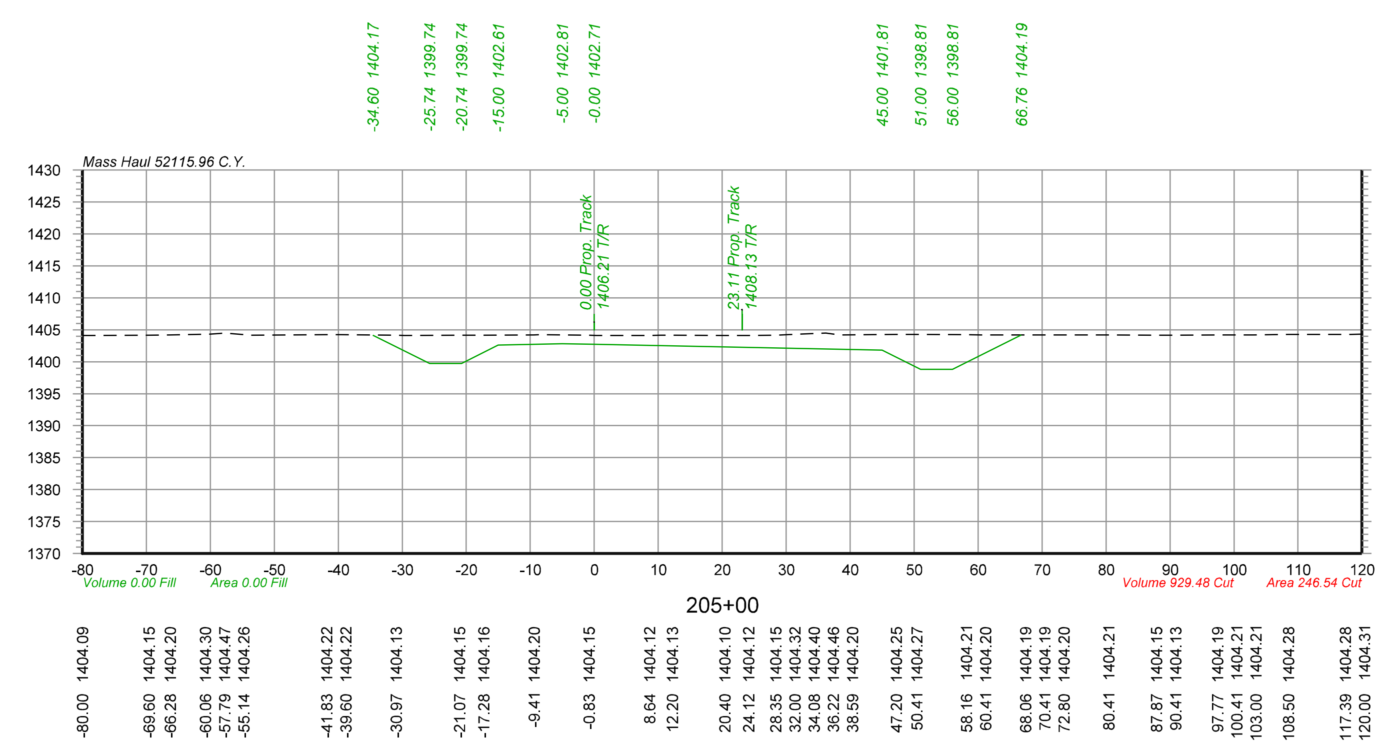
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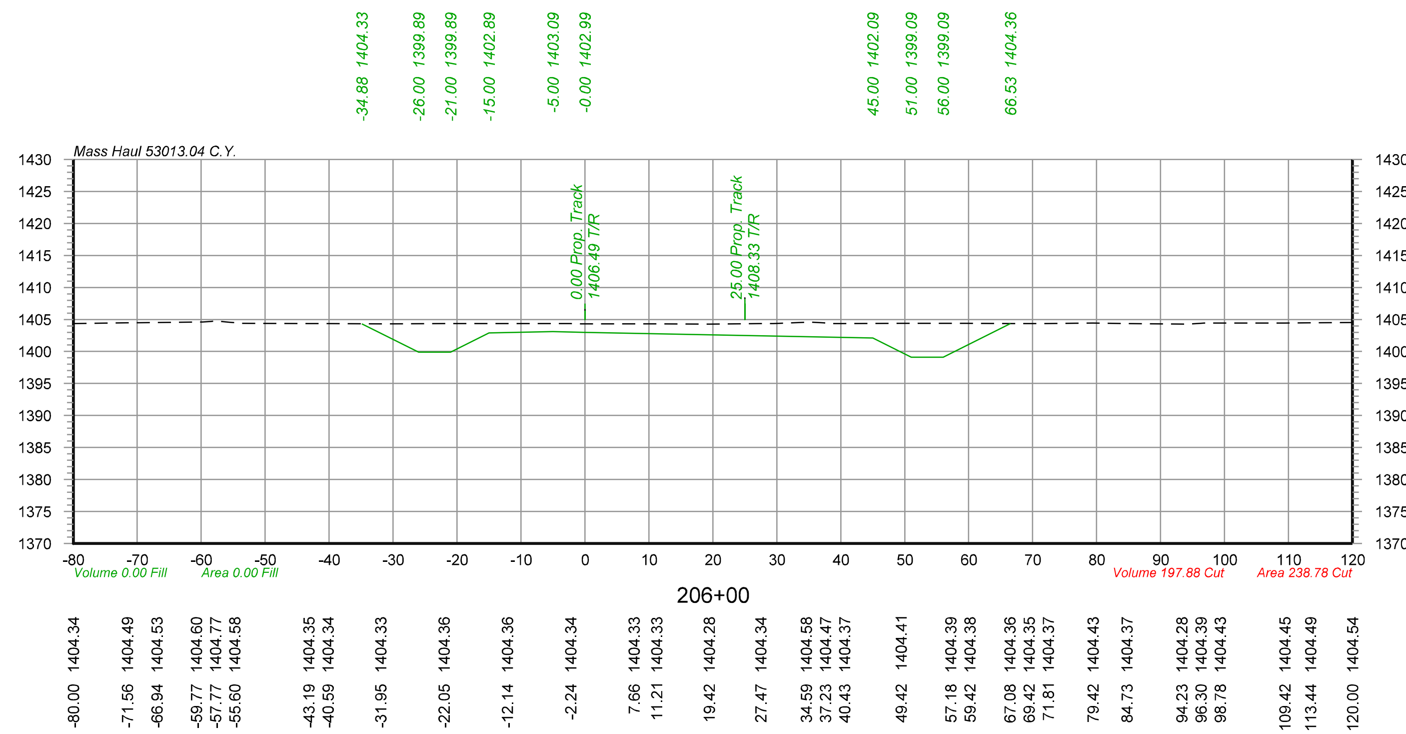
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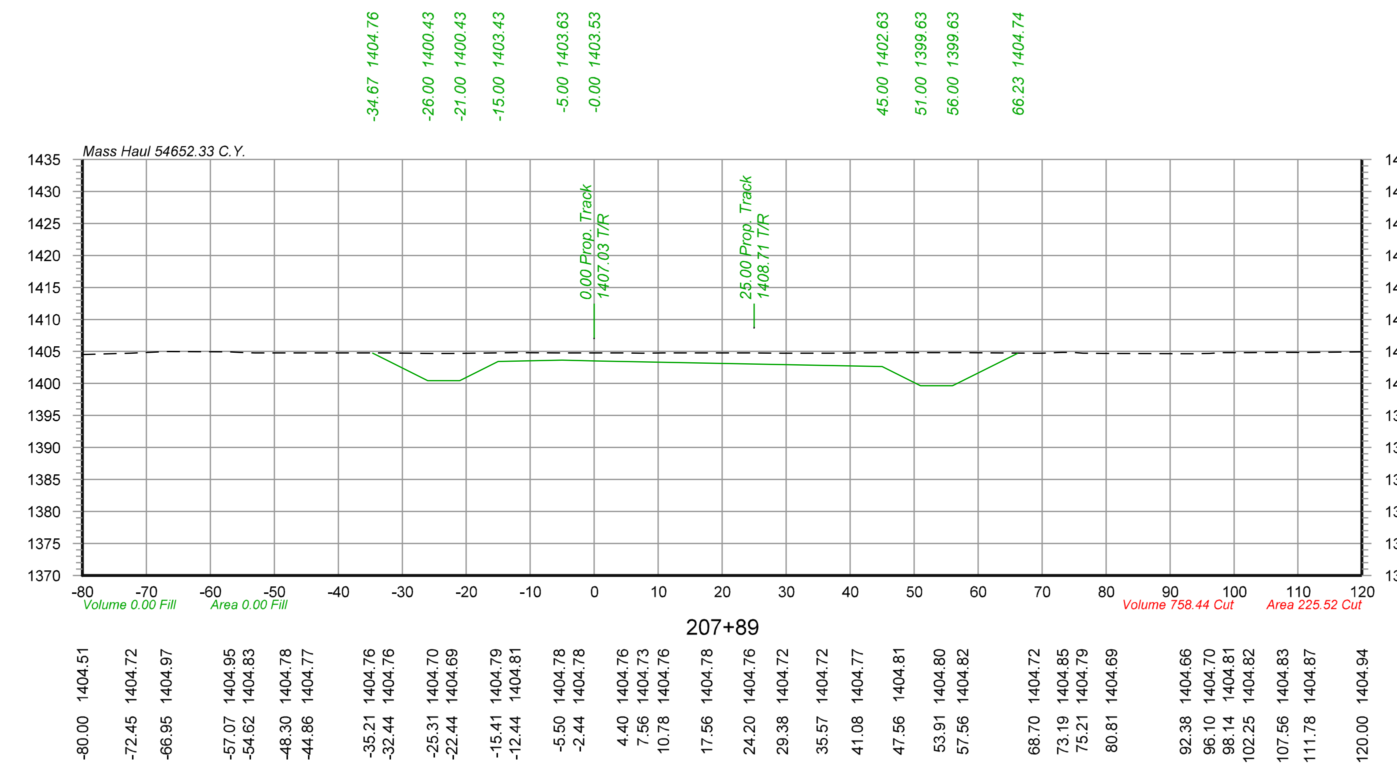
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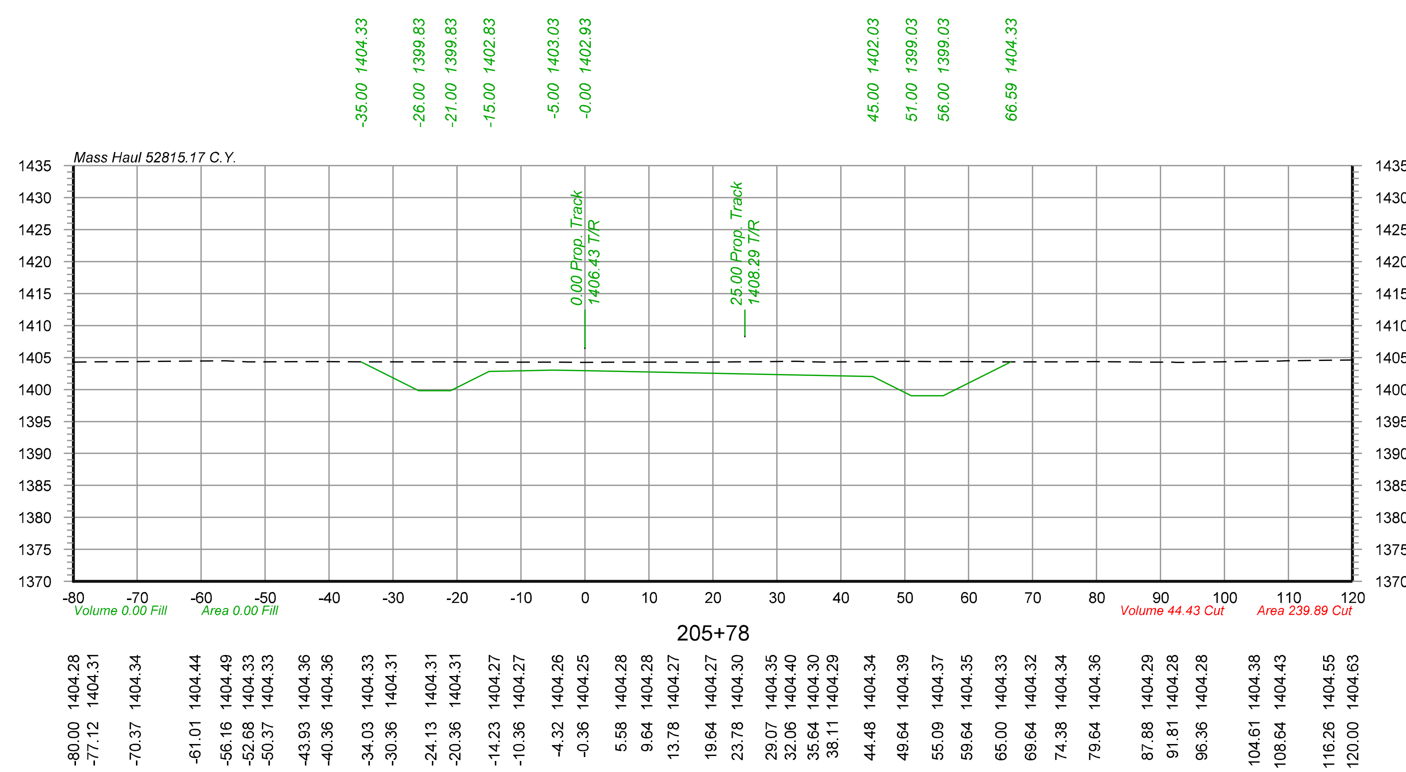
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Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

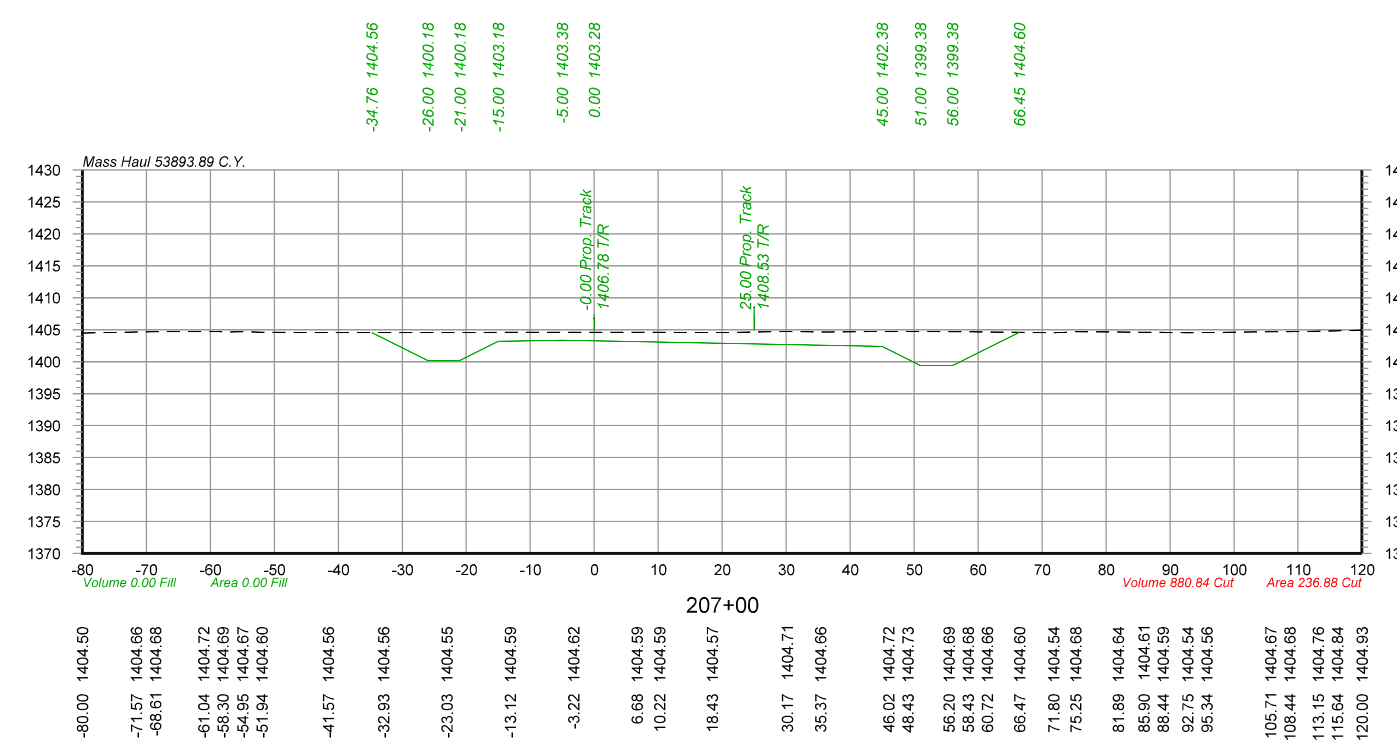
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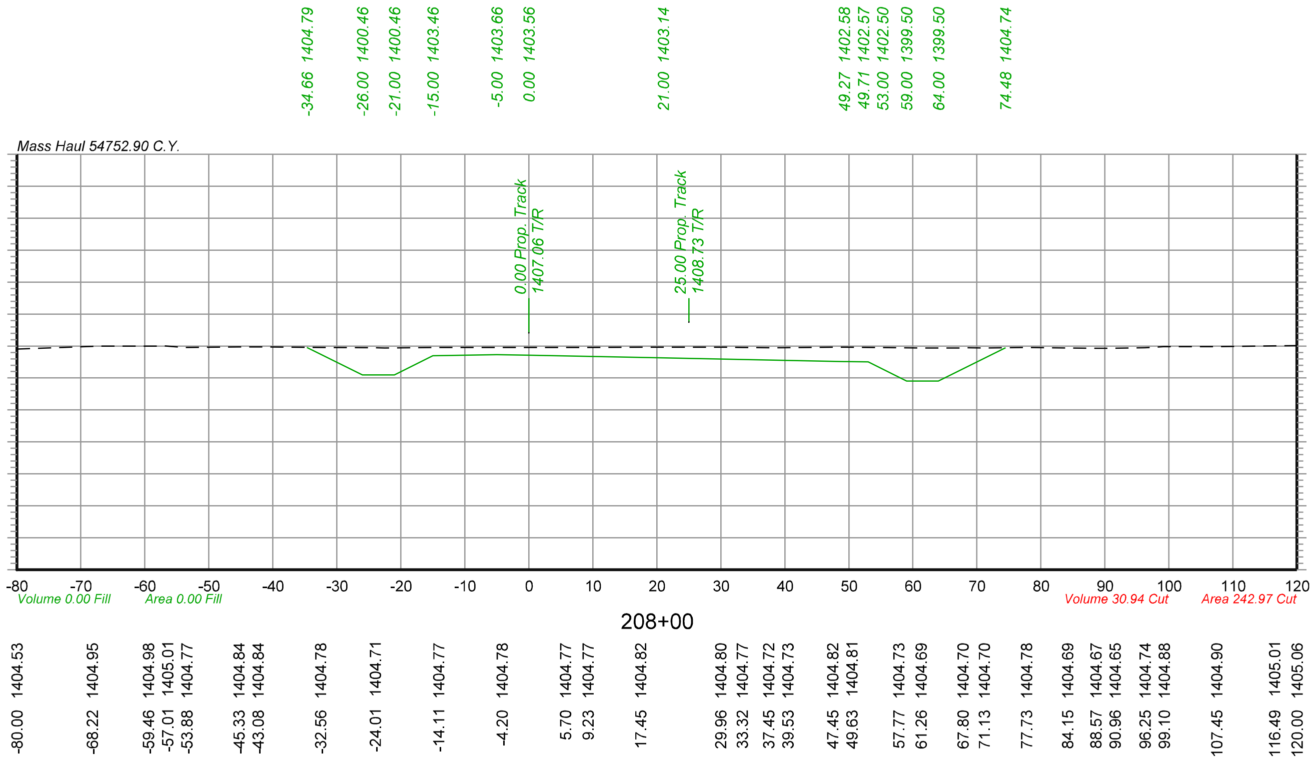


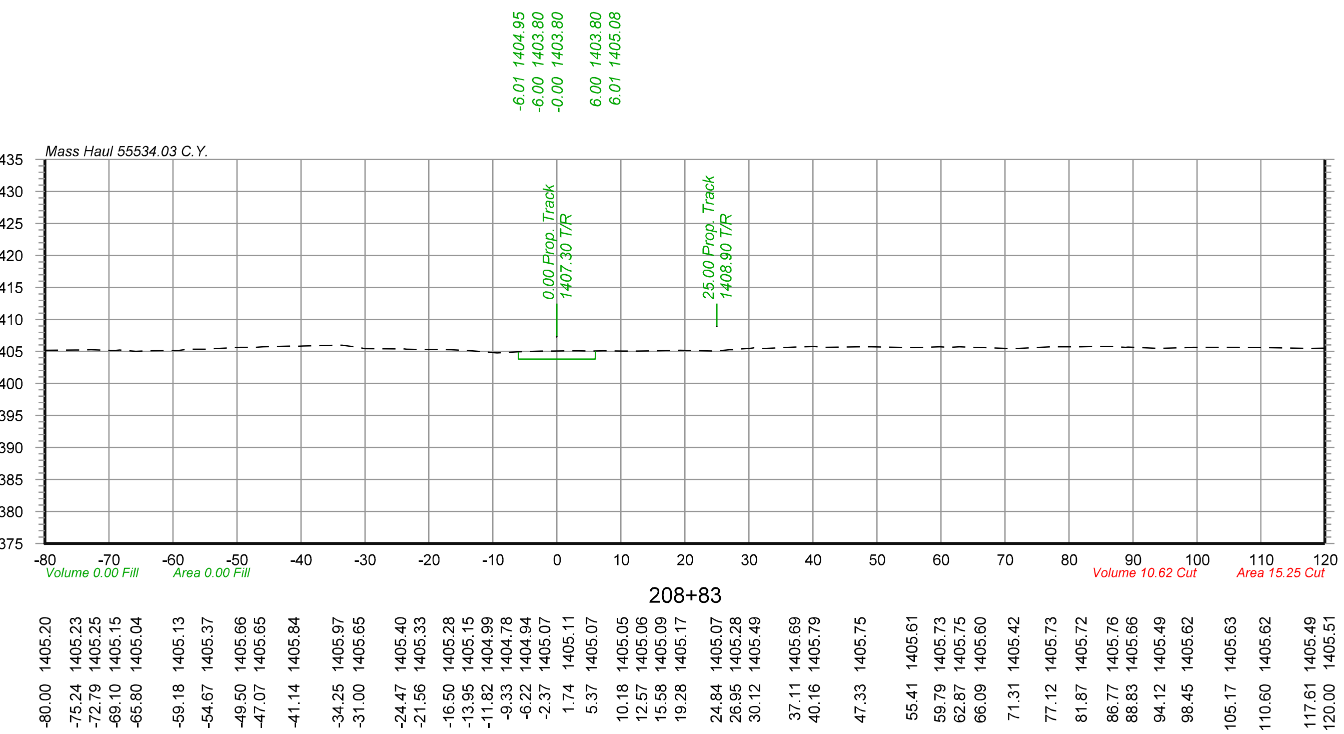


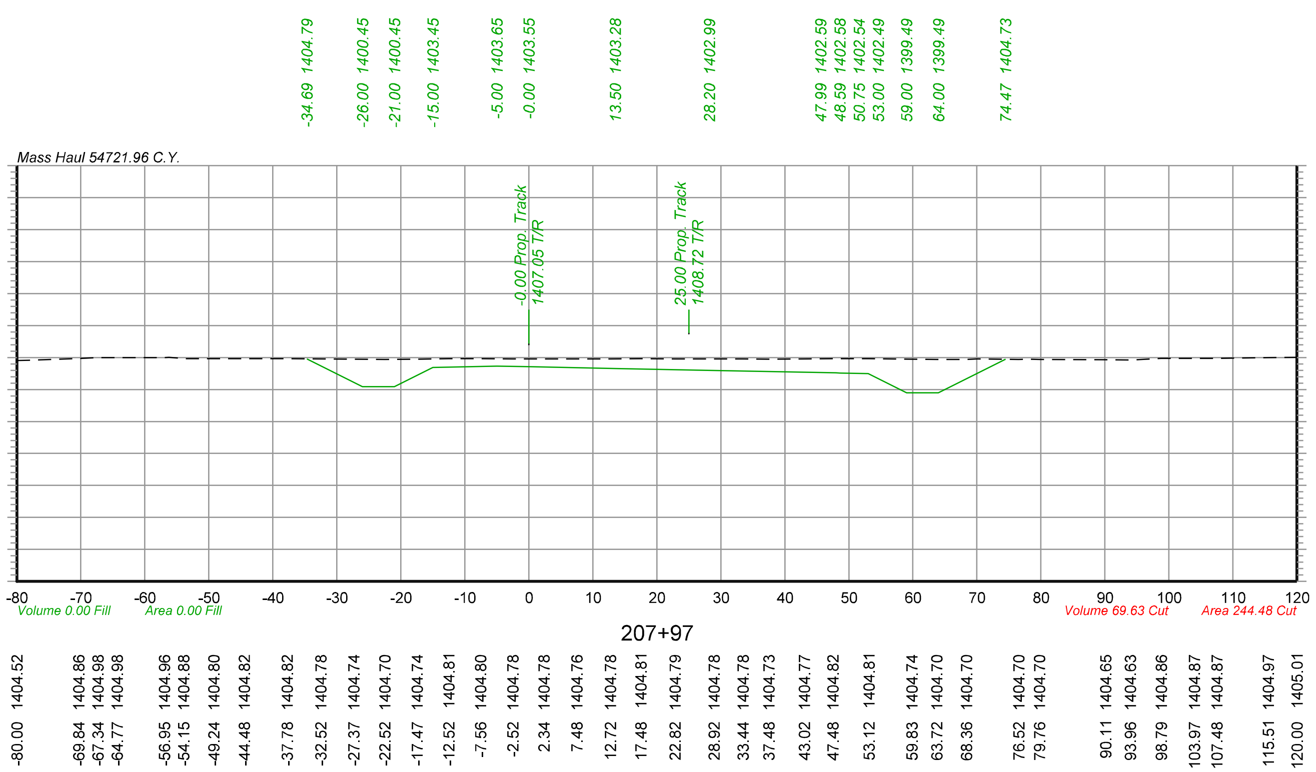
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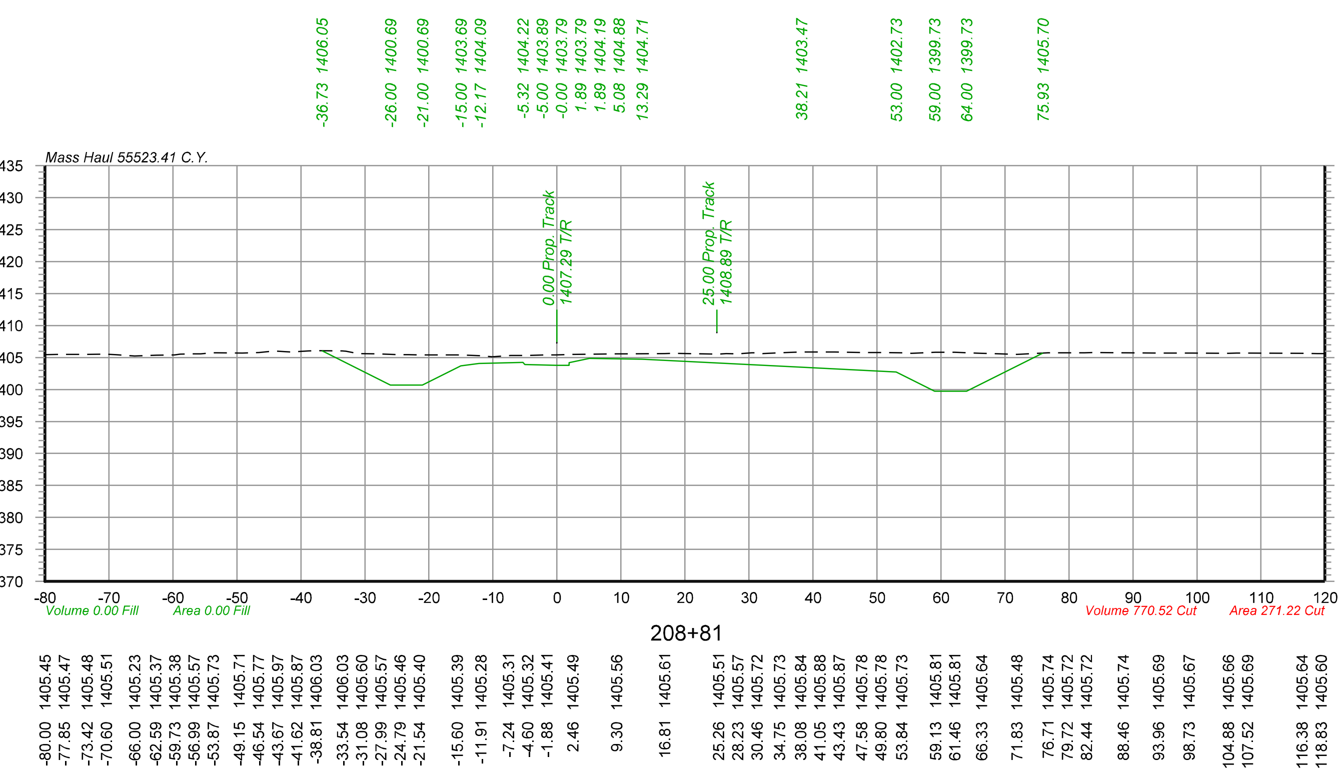
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SHEET NUMBER X092 of 115	SHEET TITLE: PIRATE LEAD TRACK CROSS SECTIONS STA.205+78 TO STA.207+89

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SHEET NUMBER X093 of 115

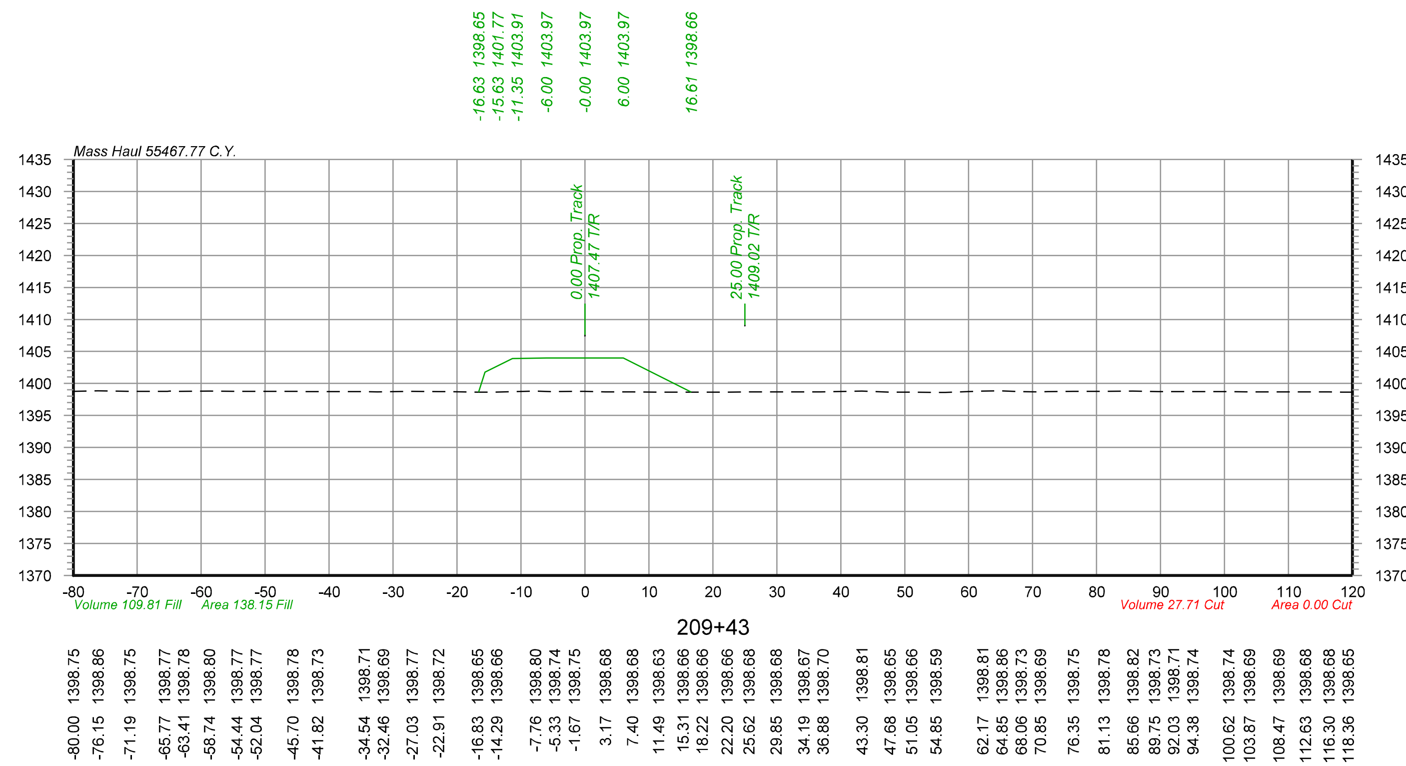
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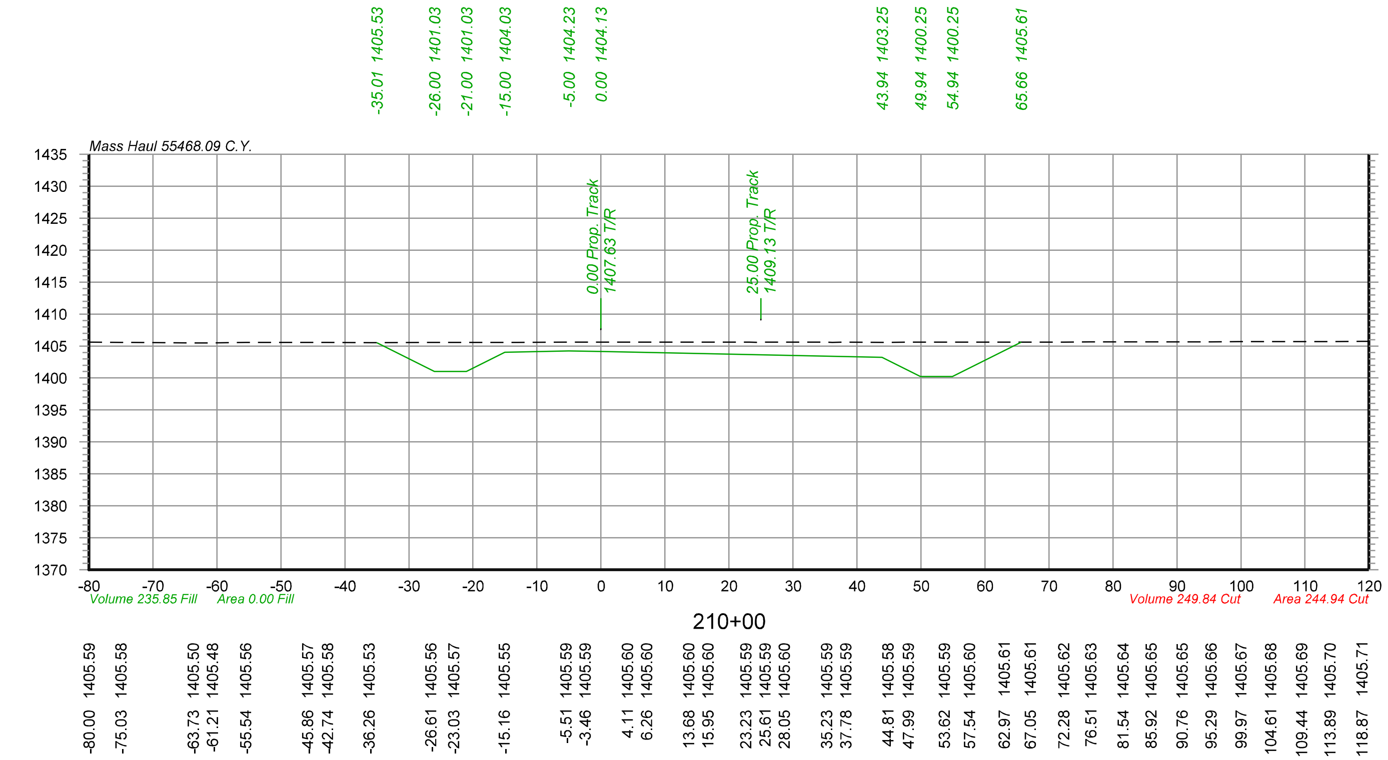
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Construct Industrial Lead Track

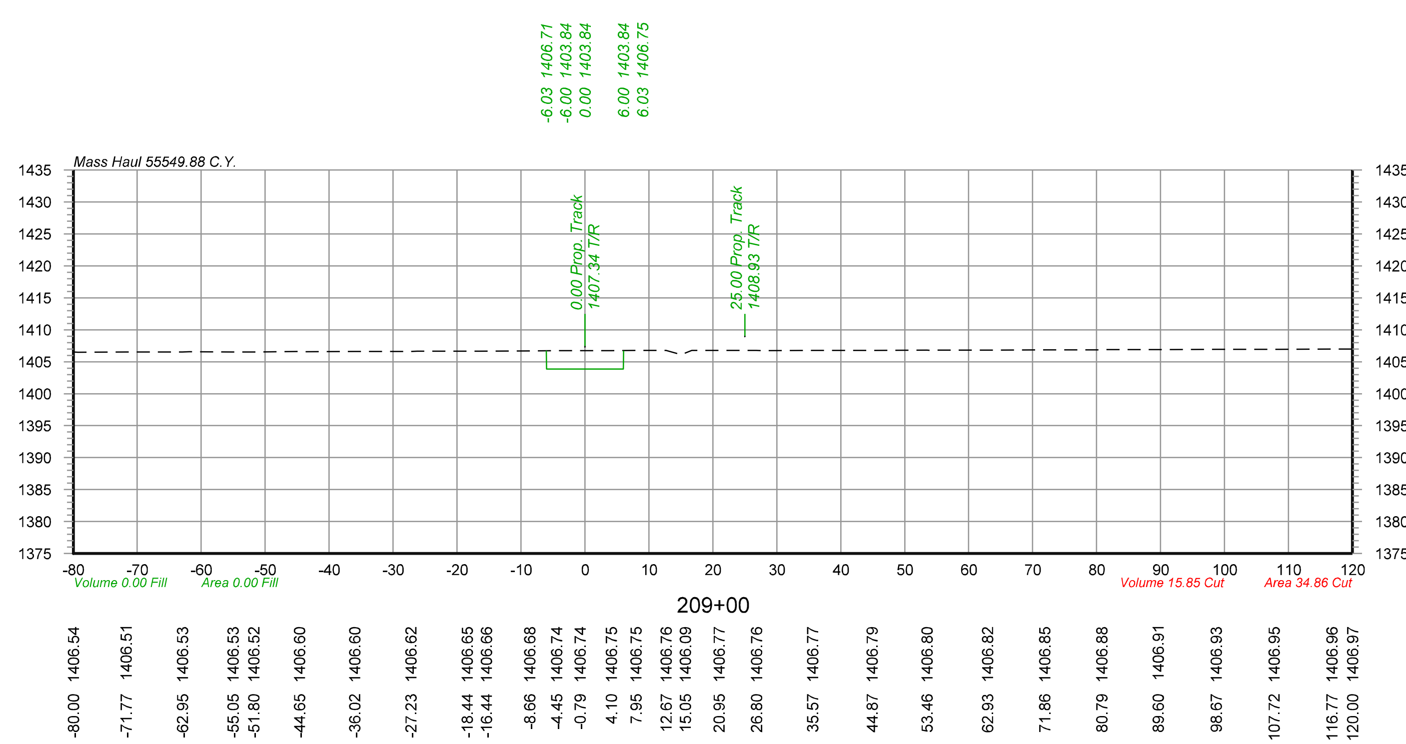
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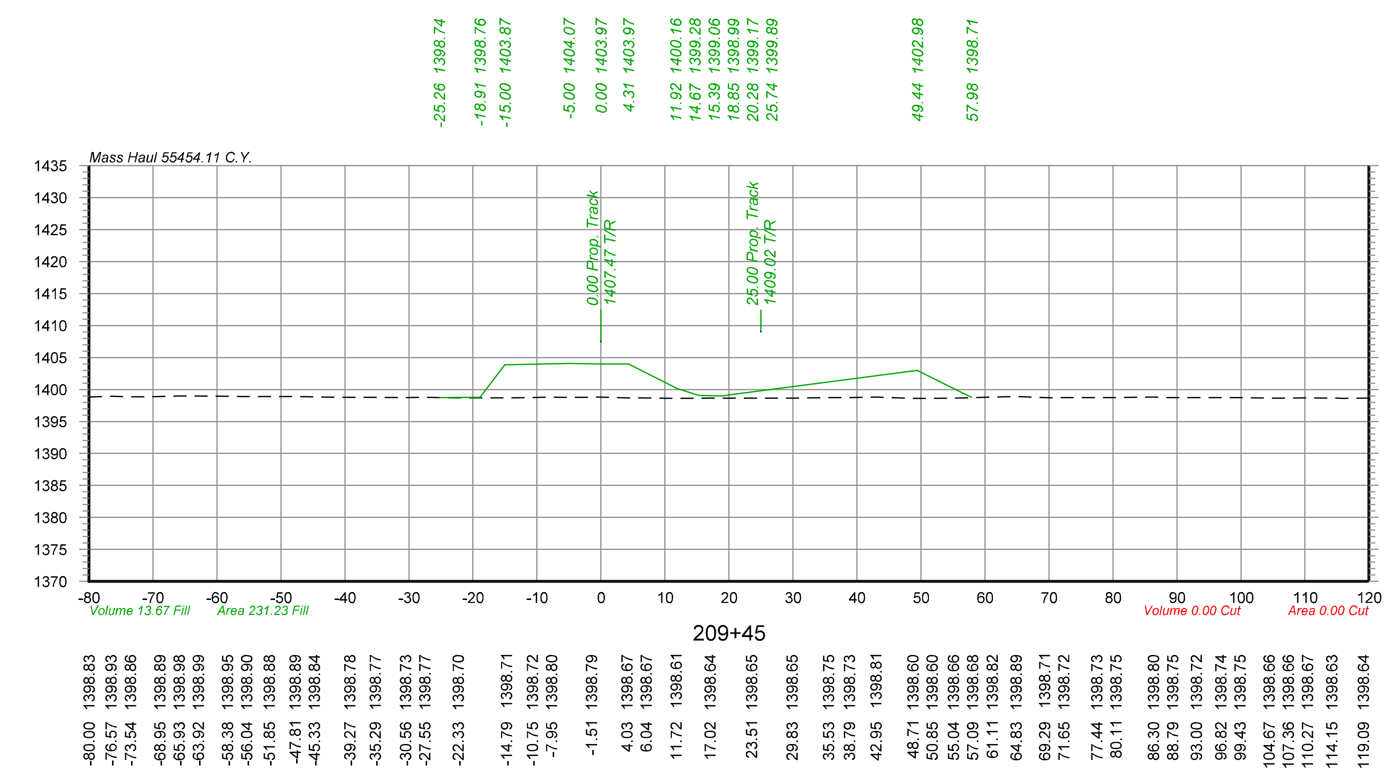
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SHEET NUMBER X094 of 115

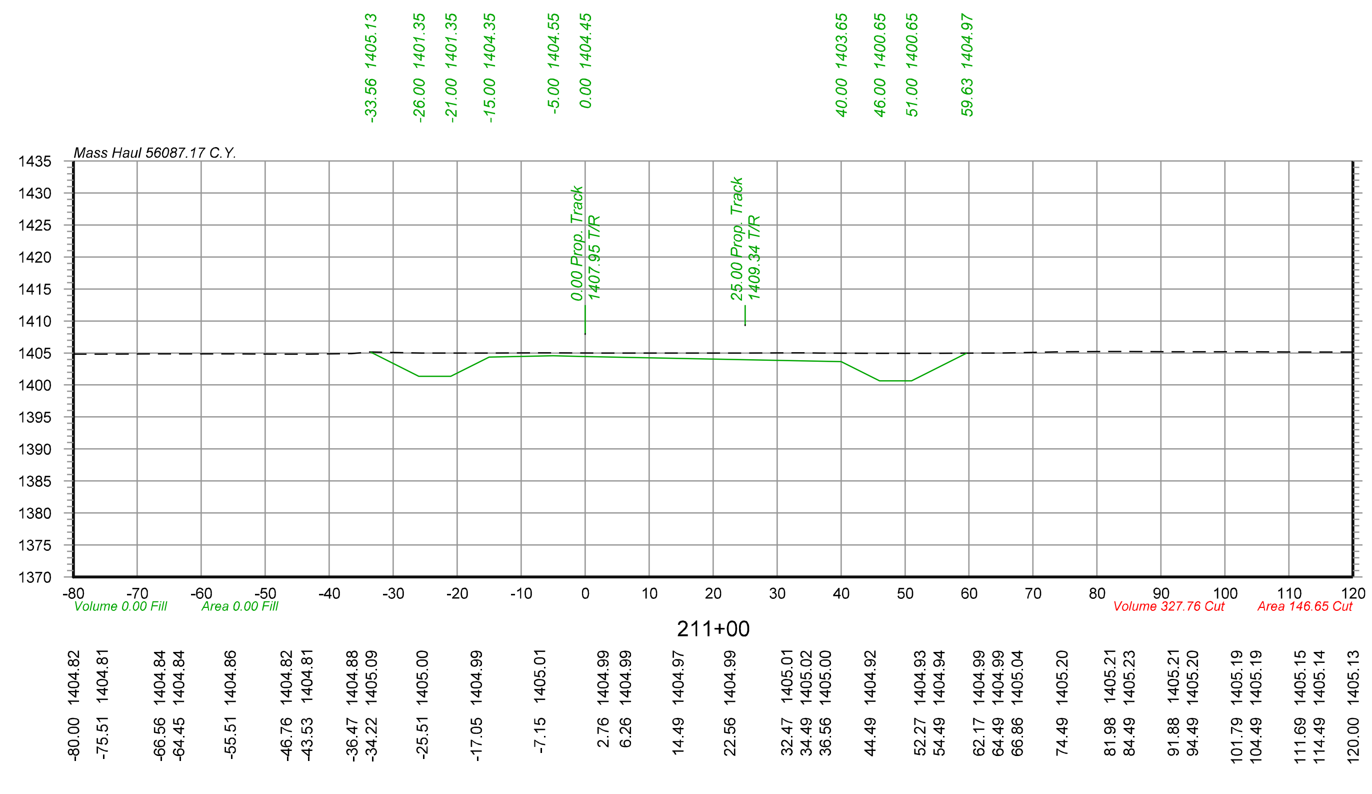
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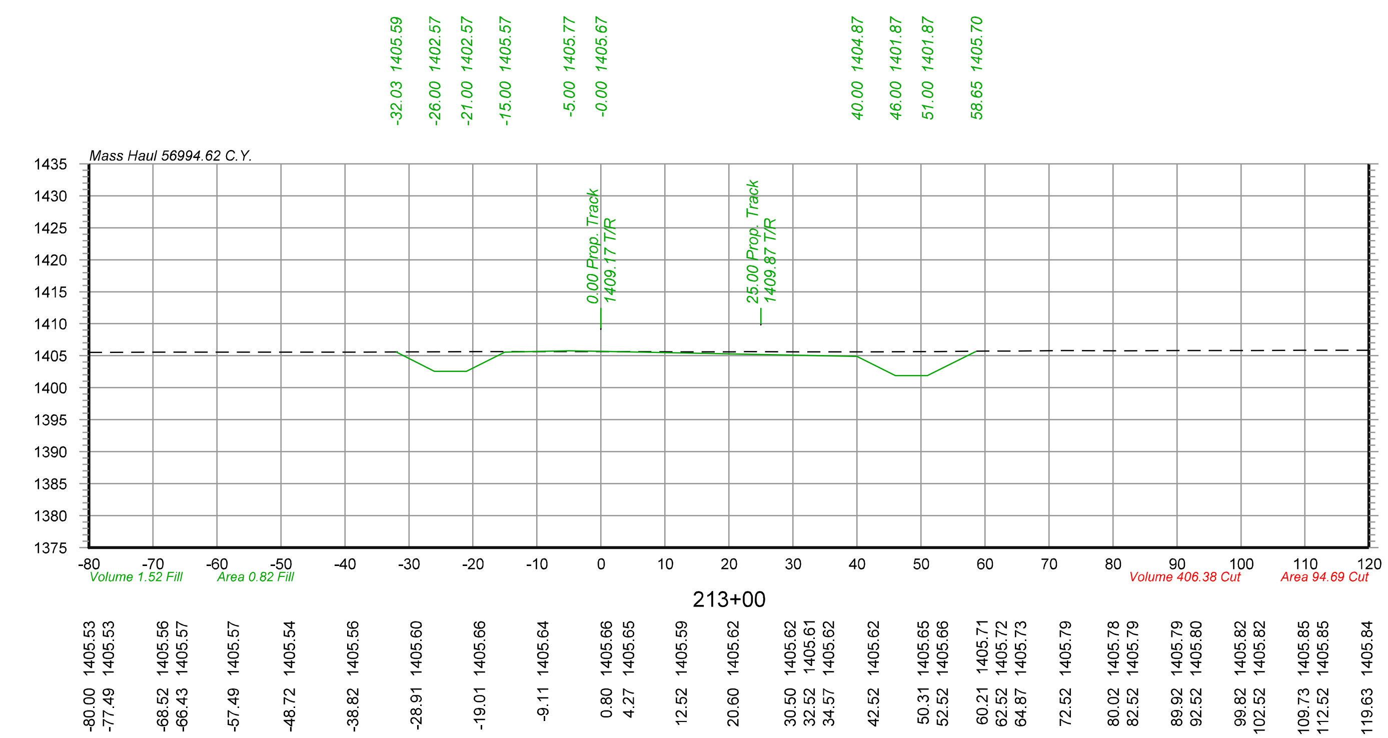
LOCATION & DESCRIPTION:
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Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

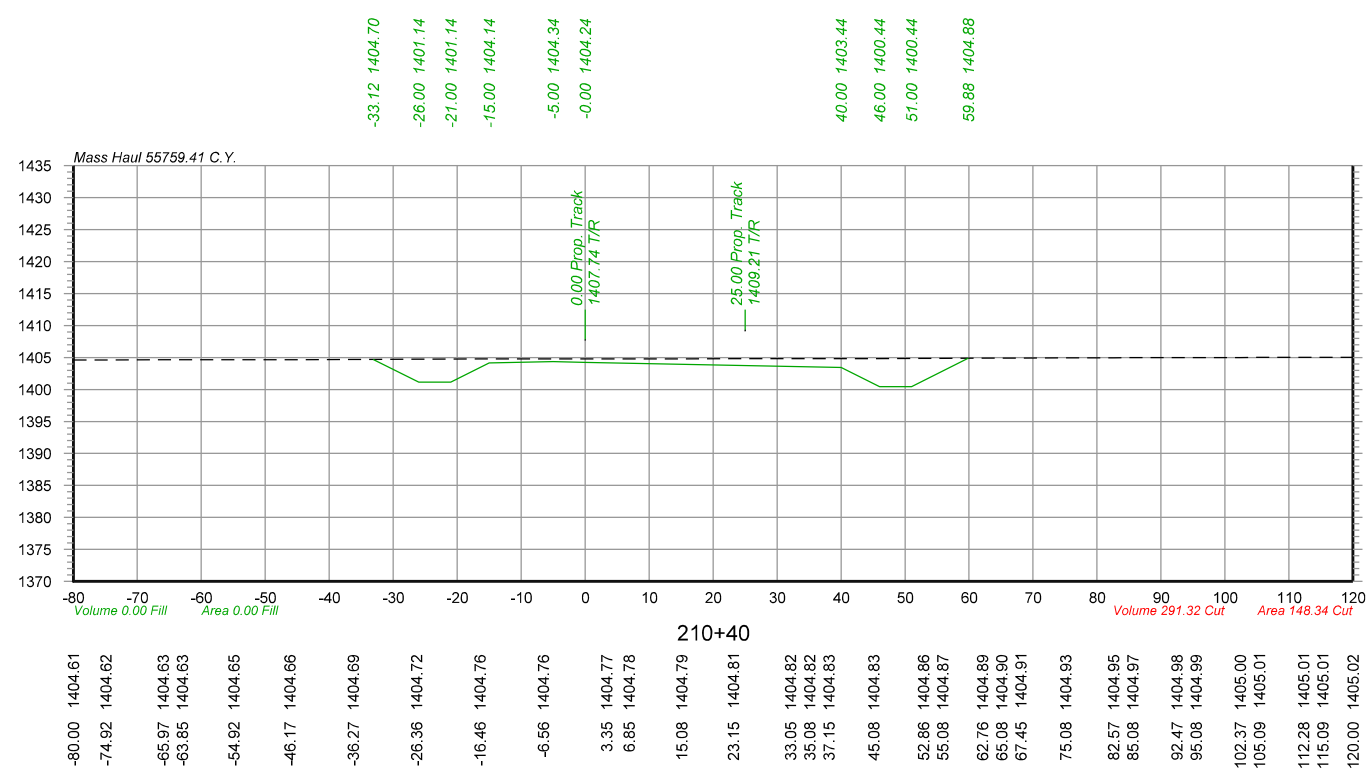
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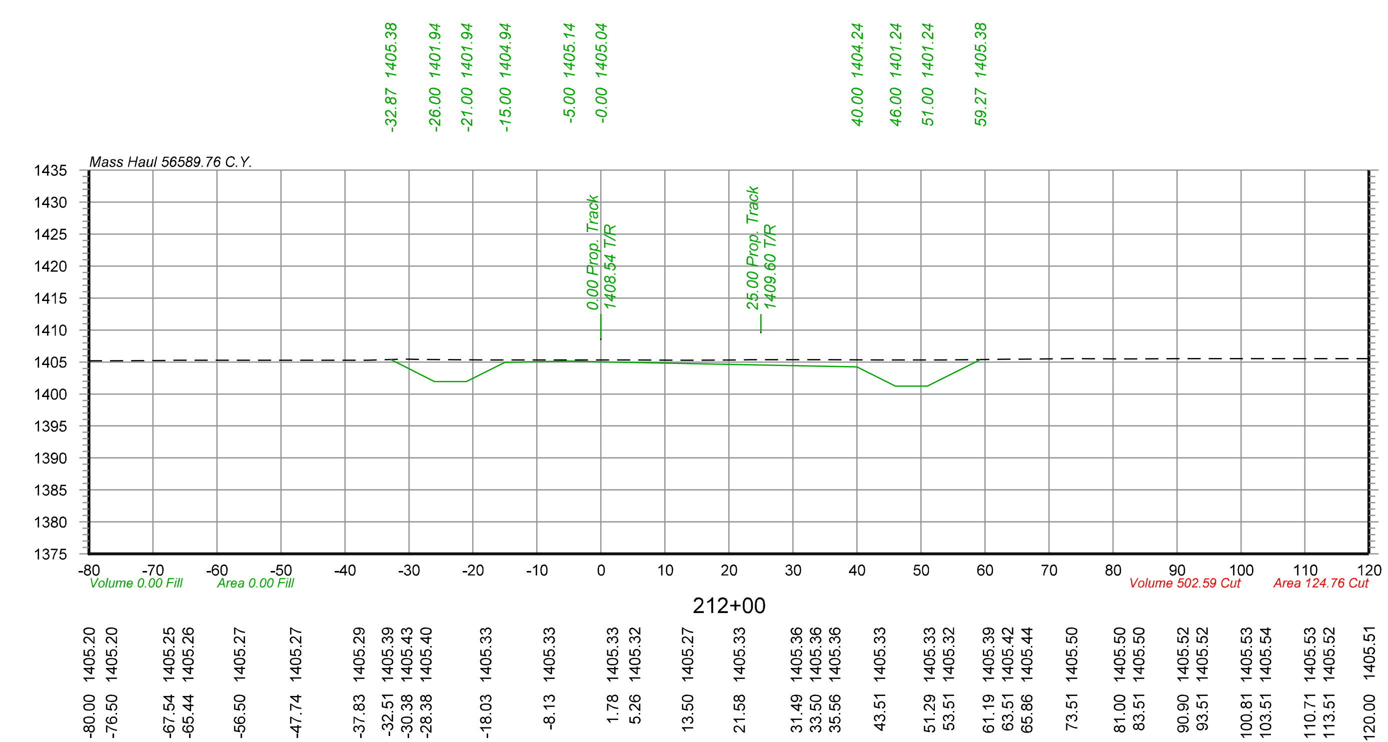
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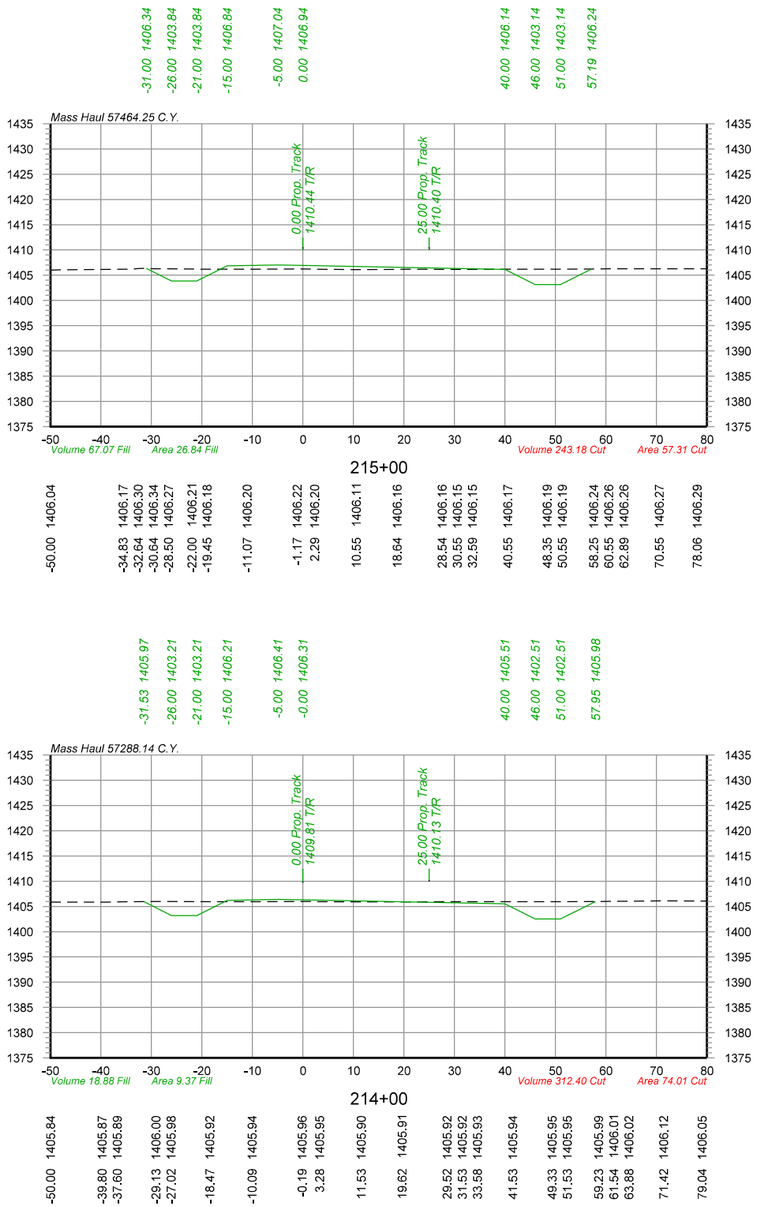
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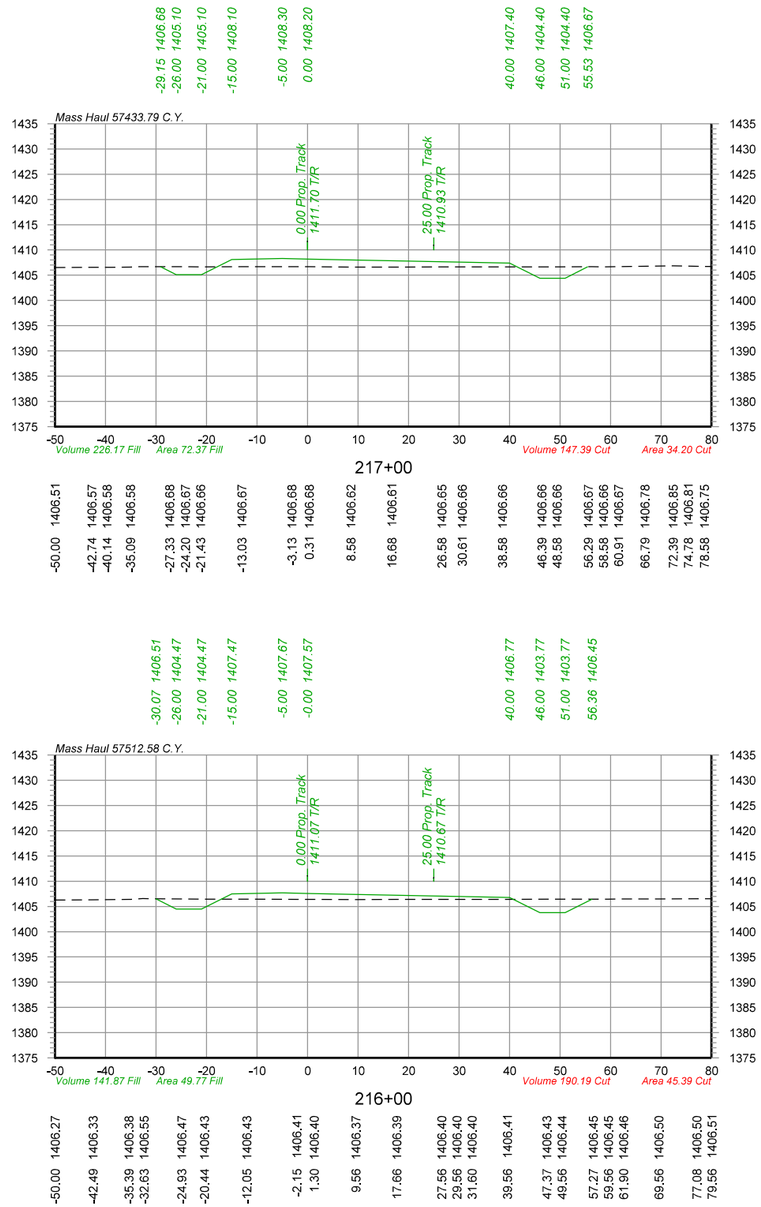
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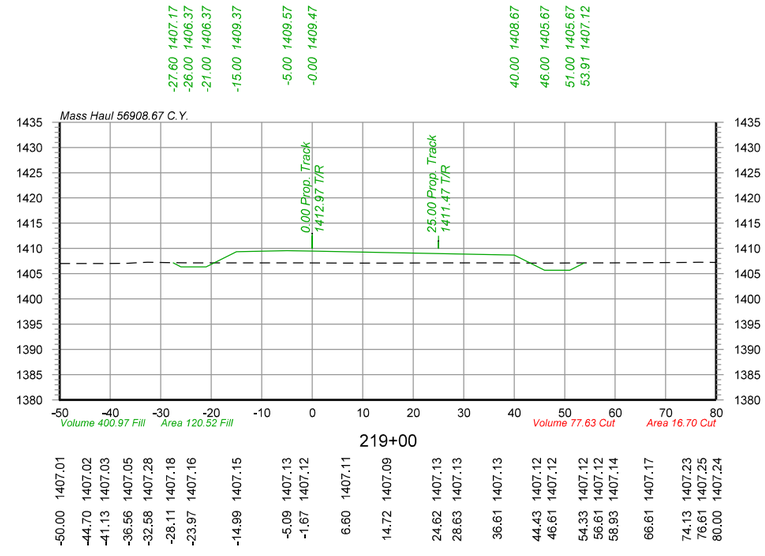
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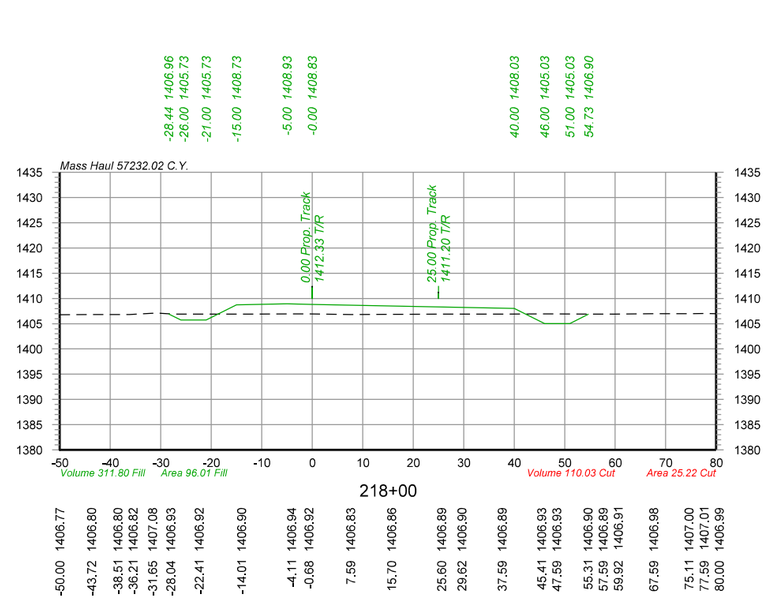
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DATE: 6/3/2022	
SHEET NUMBER X095 of 115	SHEET TITLE: PIRATE LEAD TRACK CROSS SECTIONS STA.210+40 TO STA.213+00

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SHEET NUMBER: X096 of 115

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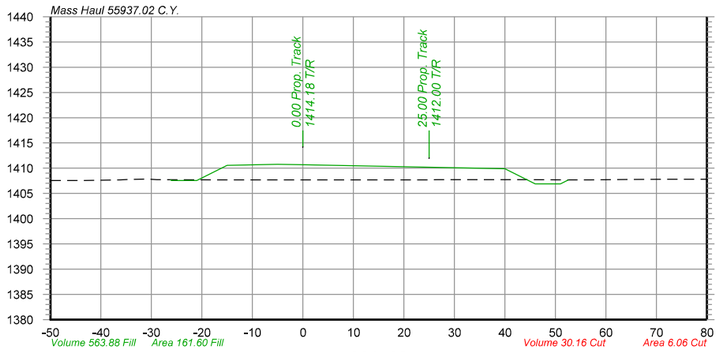
LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
PIRATE LEAD TRACK CROSS SECTIONS STA.214+00 TO STA.219+00

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6/3/2022

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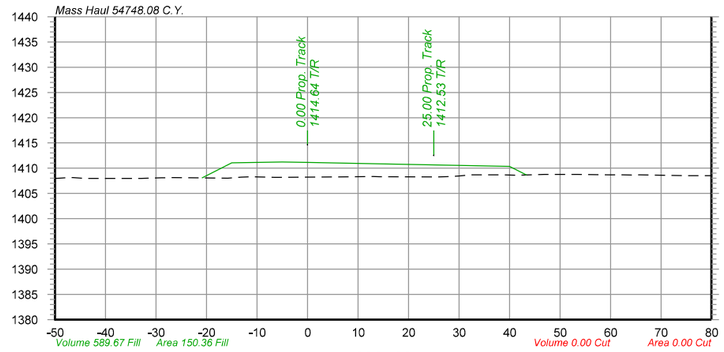
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-21.00 1407.58
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-5.00 1410.78
-0.00 1410.68
40.00 1409.88
46.00 1406.88
51.00 1406.88
52.60 1407.68



221+00

-50.00	1407.56	-46.66	1407.55	-43.53	1407.57	-36.16	1407.67	-30.73	1407.85	-28.56	1407.73	-16.95	1407.67	-7.05	1407.70	-3.65	1407.69	4.63	1407.68	12.75	1407.67	22.66	1407.69	26.65	1407.71	34.63	1407.72	42.46	1407.71	44.63	1407.71	52.37	1407.68	54.64	1407.67	56.95	1407.69	64.64	1407.75	72.17	1407.79	74.64	1407.81	80.00	1407.82

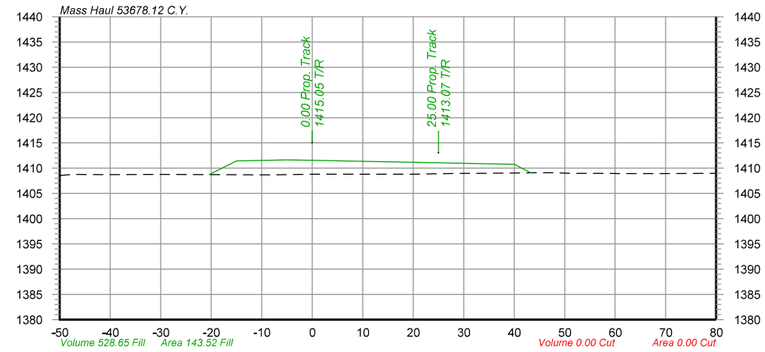
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-0.00 1411.14
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43.38 1408.65



223+00

-50.00	1407.99	-47.95	1408.09	-45.31	1408.06	-36.12	1407.97	-33.72	1407.96	-28.87	1408.10	-22.82	1408.09	-15.79	1408.03	-13.14	1408.21	-10.98	1408.32	-7.85	1408.23	-5.61	1408.20	4.95	1408.25	13.04	1408.33	25.81	1408.26	28.50	1408.35	32.30	1408.67	38.38	1408.70	41.48	1408.59	46.87	1408.77	52.96	1408.77	59.51	1408.70	62.44	1408.68	65.74	1408.68	72.67	1408.55	75.17	1408.51	80.00	1408.51

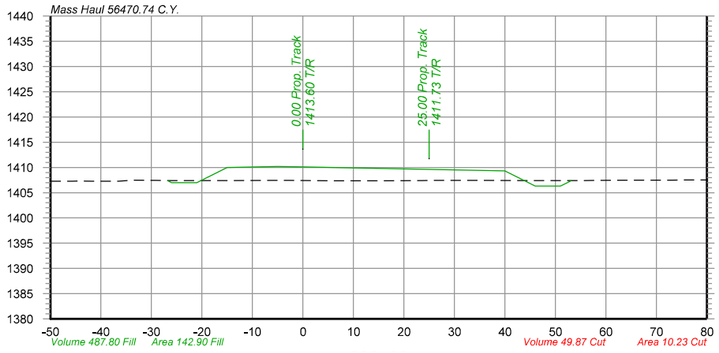
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43.34 1409.08



225+00

-50.00	1408.56	-47.94	1408.72	-42.07	1408.74	-39.31	1408.72	-30.78	1408.77	-20.88	1408.75	-10.97	1408.69	-7.61	1408.70	0.69	1408.80	8.83	1408.82	12.54	1408.82	20.43	1408.83	27.05	1408.94	30.69	1408.98	32.79	1408.98	42.26	1409.07	47.59	1409.10	51.26	1408.98	58.35	1408.98	60.69	1408.95	63.09	1408.94	71.20	1408.94	78.15	1408.96

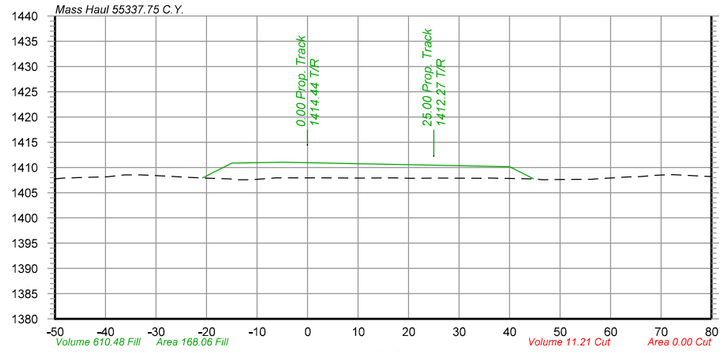
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-0.00 1410.10
40.00 1409.30
46.00 1406.30
51.00 1406.30
53.22 1407.41



220+00

-50.00	1407.29	-45.68	1407.29	-41.79	1407.29	-36.57	1407.29	-33.57	1407.49	-28.83	1407.44	-24.38	1407.40	-15.97	1407.39	-6.07	1407.43	-2.66	1407.42	5.62	1407.36	13.74	1407.36	23.64	1407.40	27.64	1407.43	35.62	1407.45	43.44	1407.40	45.62	1407.39	53.35	1407.41	55.62	1407.42	57.94	1407.43	65.62	1407.46	73.15	1407.50	75.62	1407.51	80.00	1407.51

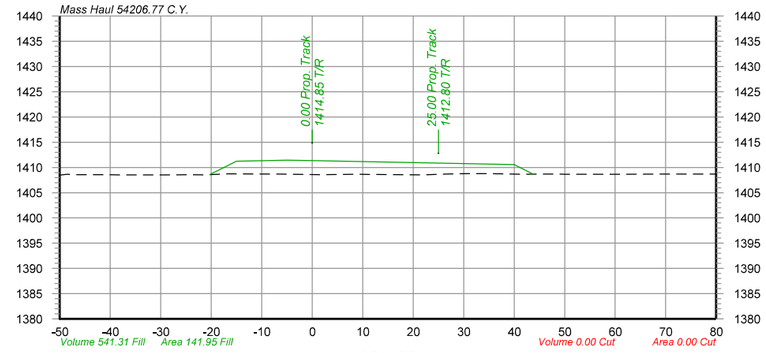
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-0.00 1410.94
40.00 1410.14
44.81 1407.73



222+00

-50.00	1407.73	-47.39	1407.91	-39.63	1408.14	-36.20	1408.53	-33.19	1408.53	-31.07	1408.45	-27.79	1408.25	-24.19	1408.08	-19.44	1407.85	-15.35	1407.71	-11.92	1407.57	-7.78	1407.82	3.65	1407.93	9.21	1407.90	17.19	1407.92	19.95	1407.88	26.19	1407.91	32.40	1407.88	35.99	1407.88	44.52	1407.73	46.86	1407.57	55.04	1407.63	57.16	1407.72	63.15	1408.11	65.91	1408.18	68.88	1408.44	71.50	1408.56	80.00	1408.21

-20.35 1408.57
-15.00 1411.25
-5.00 1411.45
-0.00 1411.35
40.00 1410.55
43.74 1408.68



224+00

-50.00	1408.50	-47.11	1408.58	-40.41	1408.56	-38.33	1408.53	-29.80	1408.53	-27.61	1408.54	-24.38	1408.54	-21.10	1408.53	-17.65	1408.70	-8.32	1408.69	1.68	1408.57	8.77	1408.65	11.37	1408.62	22.00	1408.54	26.50	1408.71	30.45	1408.78	34.87	1408.76	37.59	1408.74	41.68	1408.66	45.80	1408.69	48.72	1408.68	59.33	1408.64	61.68	1408.65	69.23	1408.68	71.68	1408.68	79.13	1408.69

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CHECKED BY: JRM
DATE: 6/3/2022
SHEET NUMBER: X097 of 115

UNION PACIFIC RAILROAD

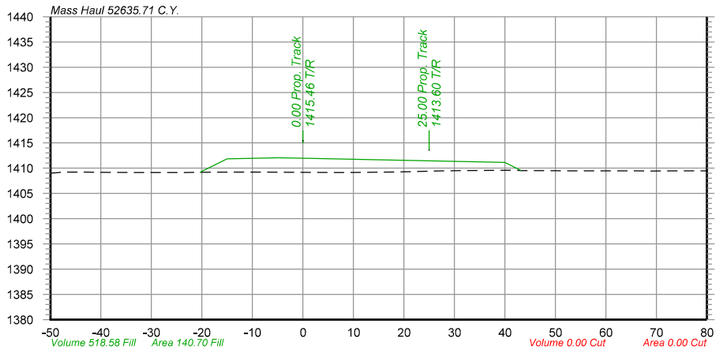
LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
PIRATE LEAD TRACK CROSS SECTIONS STA.220+00 TO STA.225+00

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6/3/2022

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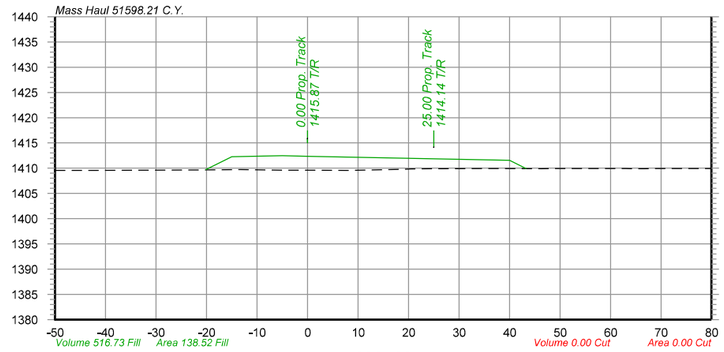
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-0.00 1411.96
40.00 1411.16
43.28 1409.52



227+00

-50.00	1409.03	-47.47	1409.22	-42.88	1409.21	-32.74	1409.13	-22.84	1409.16	-12.94	1409.22	-9.59	1409.22	-1.28	1409.18	6.87	1409.13	16.77	1409.23
19.67	1409.29	27.66	1409.47	30.81	1409.50	42.14	1409.59	46.51	1409.51	52.10	1409.49	57.66	1409.48	66.29	1409.47	68.72	1409.44	74.49	1409.46
80.00	1409.48																		

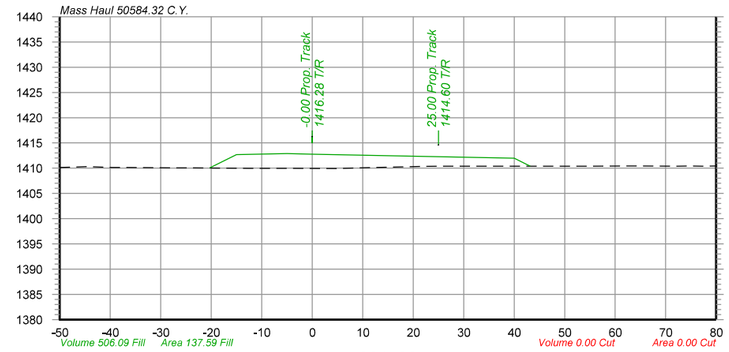
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229+00

-50.00	1409.55	-43.25	1409.56	-33.25	1409.59	-23.25	1409.66	-13.25	1409.72	-4.99	1409.59	1.35	1409.59	7.35	1409.56	18.48	1409.77	20.56	1409.87
24.25	1409.88	26.75	1409.90	34.62	1409.95	37.07	1409.94	46.34	1409.88	48.52	1409.92	50.87	1409.92	57.07	1409.94	63.07	1409.94	66.75	1409.91
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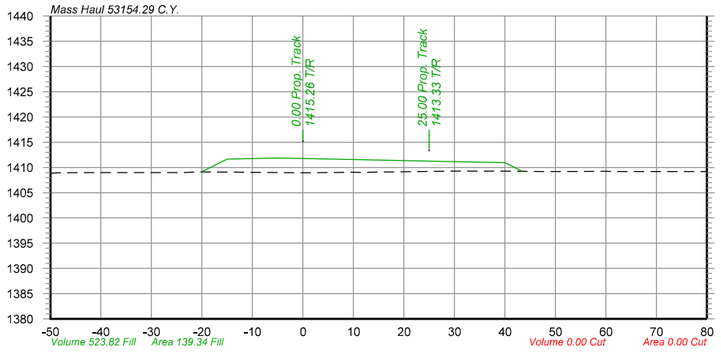
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231+00

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10.78	1410.10	19.99	1410.33	25.42	1410.38	31.64	1410.40	34.60	1410.41	41.87	1410.39	43.89	1410.38	54.78	1410.40	62.36	1410.44	64.78	1410.45
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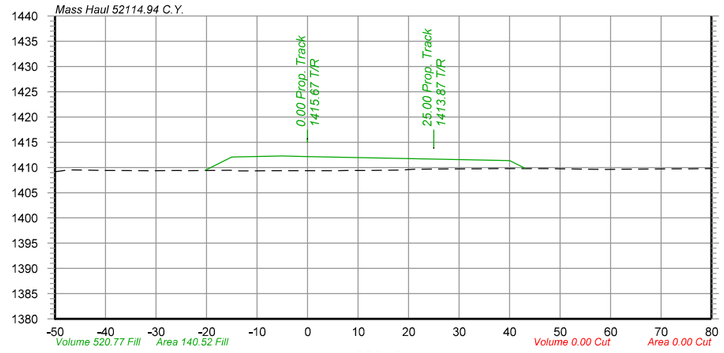
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-5.00 1411.86
-0.00 1411.76
40.00 1410.96
43.45 1409.23



226+00

-50.00	1408.84	-42.70	1408.98	-40.30	1409.00	-31.76	1408.99	-29.22	1408.98	-23.84	1408.97	-20.09	1409.11	-12.46	1409.07	-10.30	1409.01	-0.30	1408.95
7.85	1409.03	11.16	1409.04	23.35	1409.18	26.52	1409.23	29.71	1409.29	37.56	1409.27	39.71	1409.28	47.46	1409.18	49.71	1409.18	52.00	1409.17
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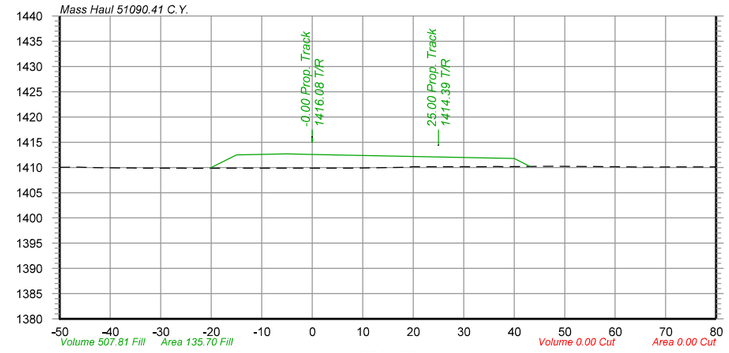
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43.23 1409.75



228+00

-50.00	1409.14	-47.54	1409.50	-44.75	1409.49	-39.84	1409.39	-32.12	1409.34	-30.11	1409.36	-25.71	1409.38	-15.68	1409.43	-13.42	1409.32	-7.04	1409.36
-2.27	1409.36	5.89	1409.37	11.83	1409.41	18.55	1409.47	21.14	1409.64	25.21	1409.68	34.05	1409.73	37.09	1409.76	39.92	1409.75	47.74	1409.75
50.02	1409.74	59.00	1409.61	62.07	1409.63	67.74	1409.70	73.60	1409.72	76.10	1409.73	78.65	1409.76						

-20.27 1409.84
-15.00 1412.48
-5.00 1412.68
-0.00 1412.58
40.00 1411.78
43.15 1410.20



230+00

-50.00	1410.02	-46.31	1410.06	-44.09	1409.97	-38.09	1409.90	-35.72	1409.88	-25.78	1409.84	-15.88	1409.86	-5.98	1409.88	-3.76	1409.87	5.76	1409.86
18.03	1410.01	20.06	1410.14	25.76	1410.16	33.64	1410.14	36.58	1410.18	46.85	1410.23	53.44	1410.17	55.76	1410.18	58.67	1410.14	66.10	1410.06
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Default
6/3/2022

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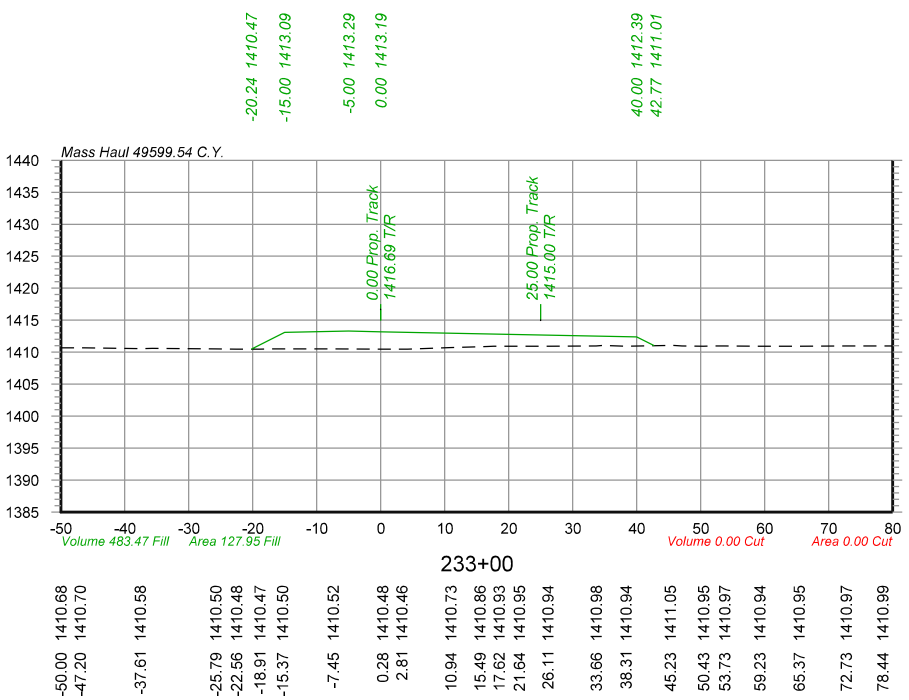
DRAWN BY: JTD
CHECKED BY: JRM
DATE: 6/3/2022
SHEET NUMBER: X098 of 115

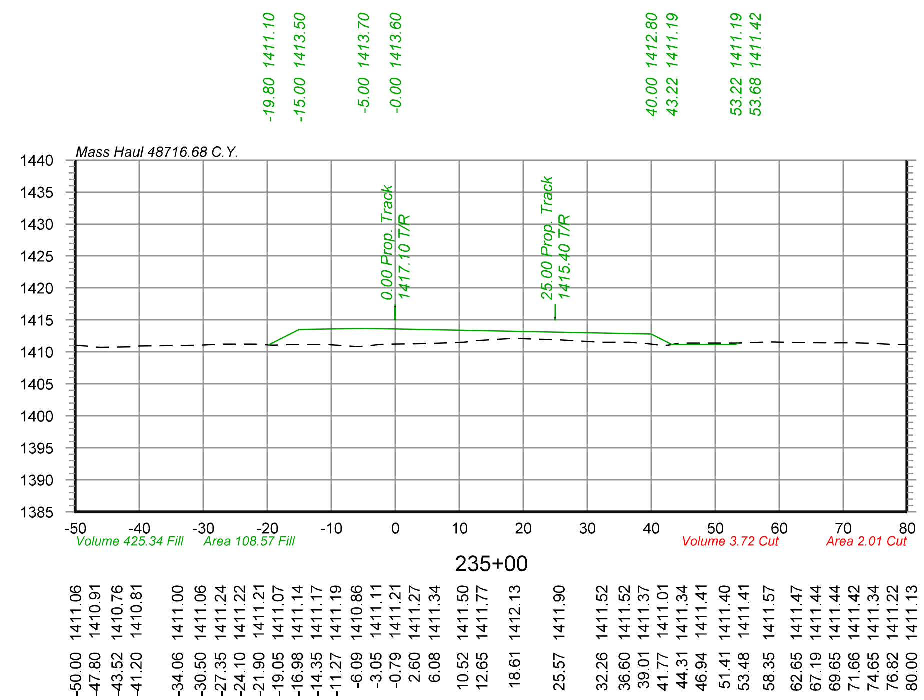
UNION PACIFIC RAILROAD

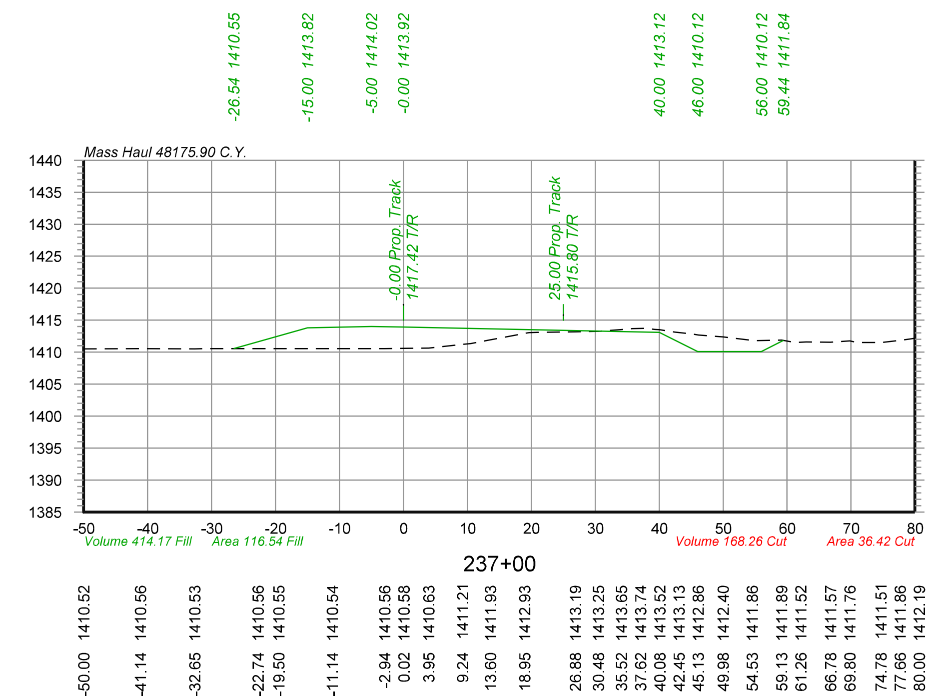
LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

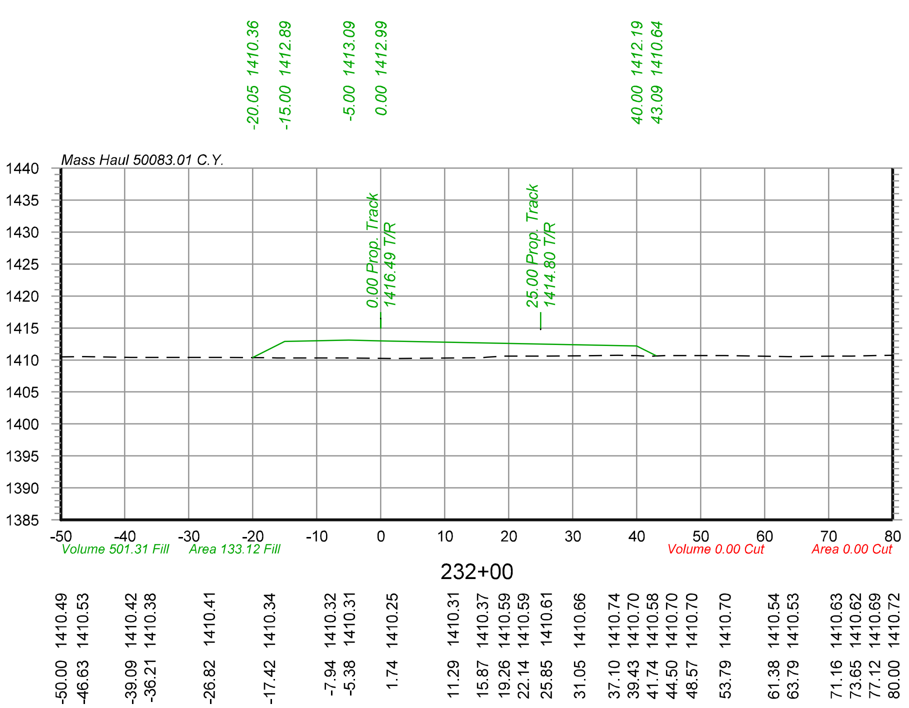
SHEET TITLE:
PIRATE LEAD TRACK CROSS SECTIONS STA.226+00 TO STA.231+00

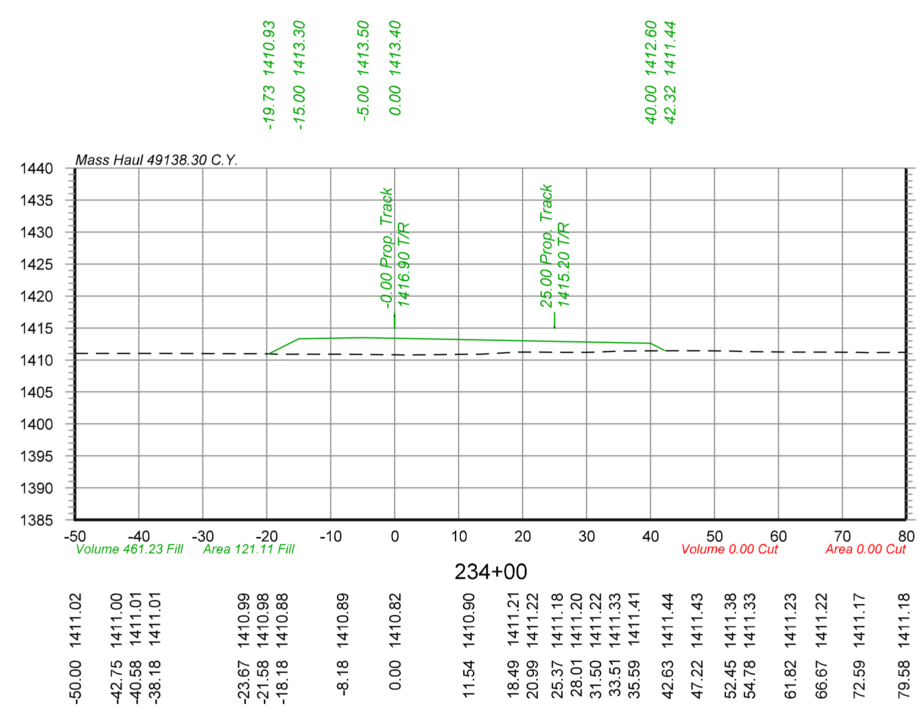
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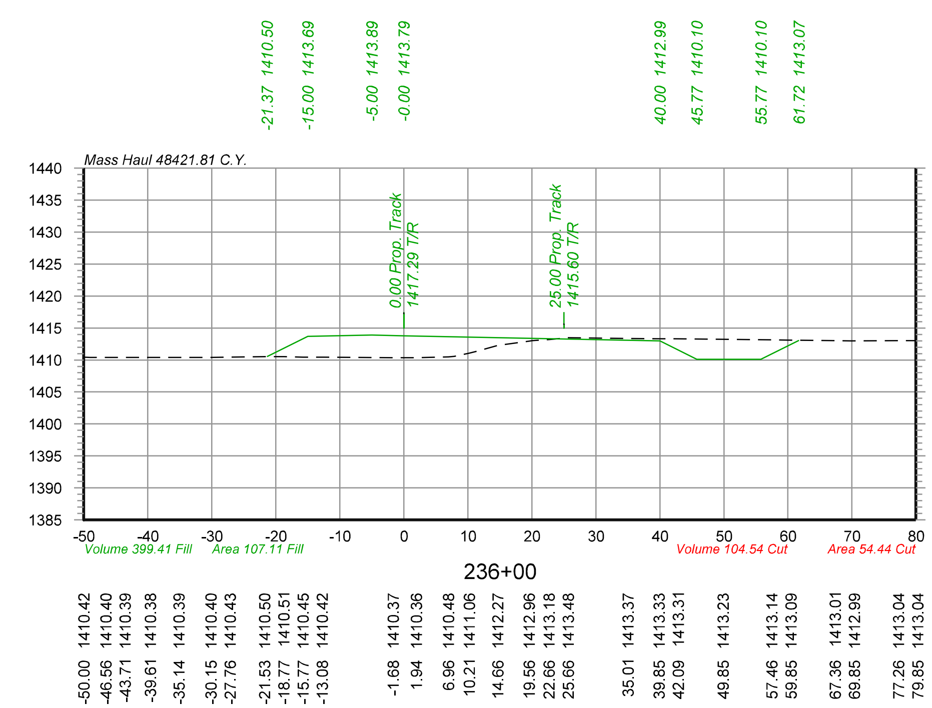










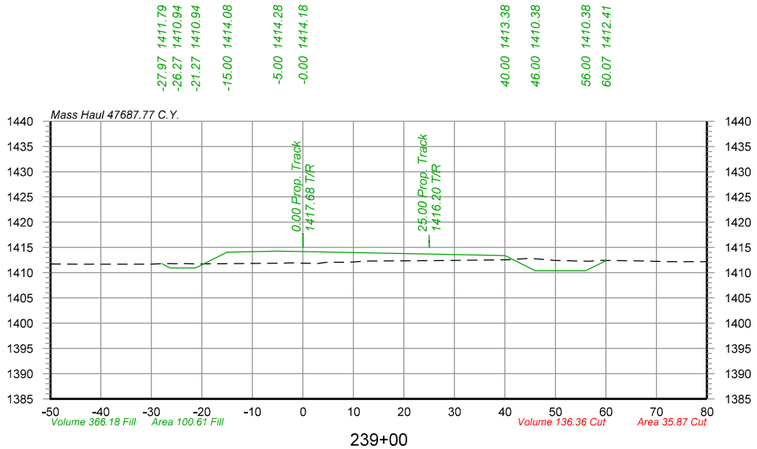


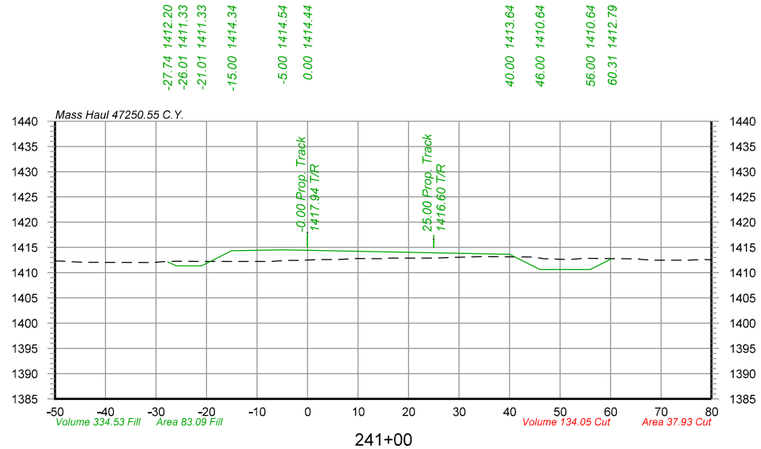
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6/3/2022

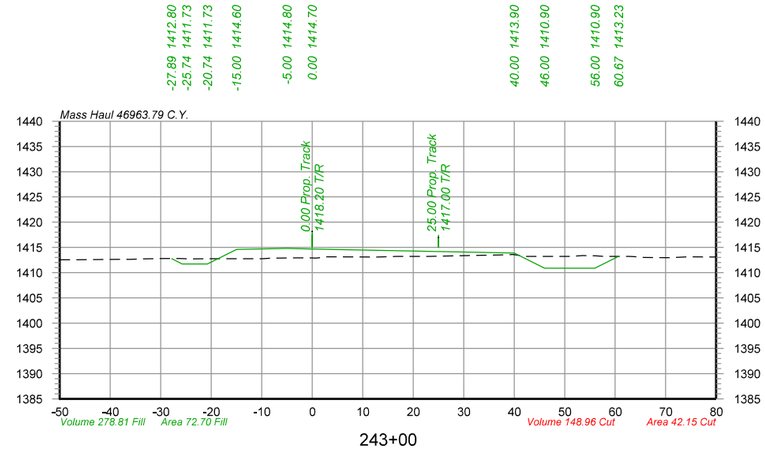
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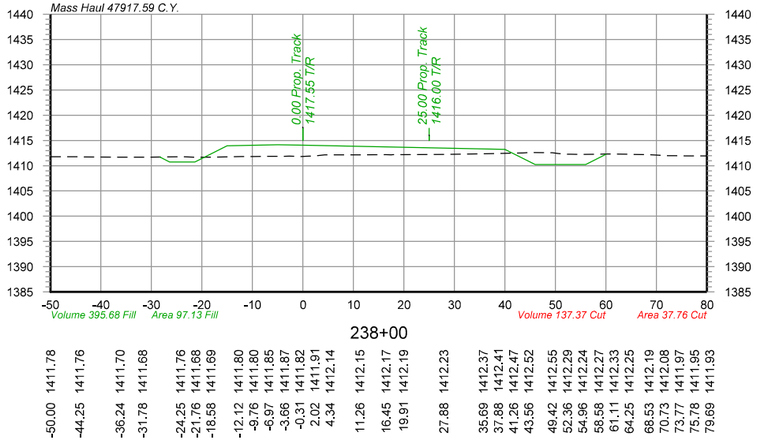
DRAWN BY: JTD	UNION PACIFIC RAILROAD
CHECKED BY: JRM	LOCATION & DESCRIPTION: Mesa, Arizona - Maricopa County; Phoenix Subdivision MP 934.79 to MP 937.83; Construct Industrial Lead Track
DATE: 6/3/2022	
SHEET NUMBER X099 of 115	SHEET TITLE: PIRATE LEAD TRACK CROSS SECTIONS STA.232+00 TO STA.237+00

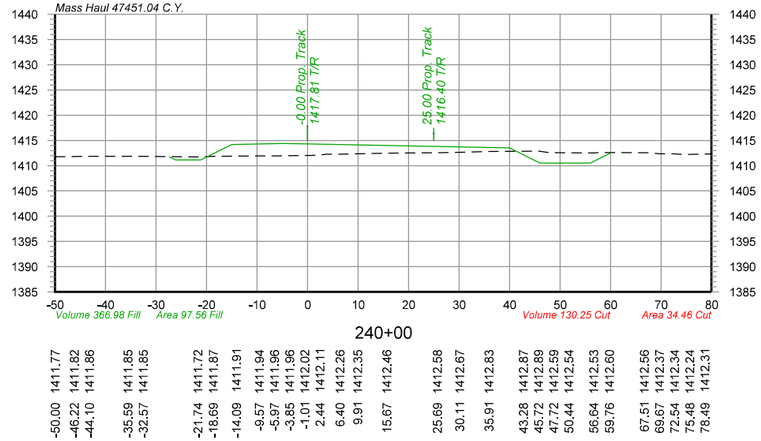
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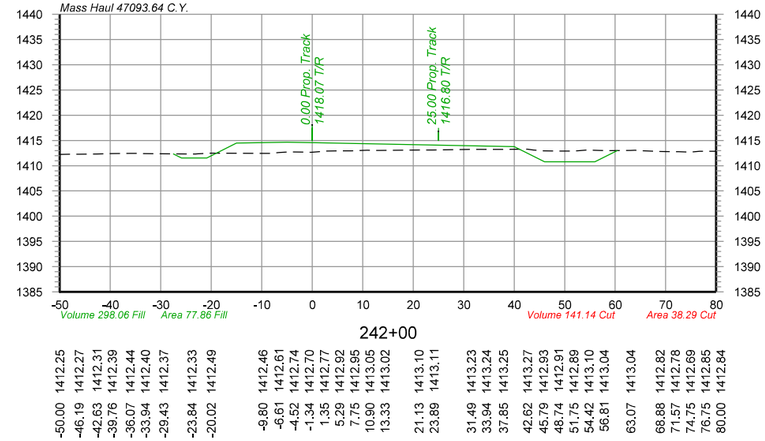












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DRAWN BY: JTD
CHECKED BY: JRM
DATE: 6/3/2022
SHEET NUMBER: X100 of 115

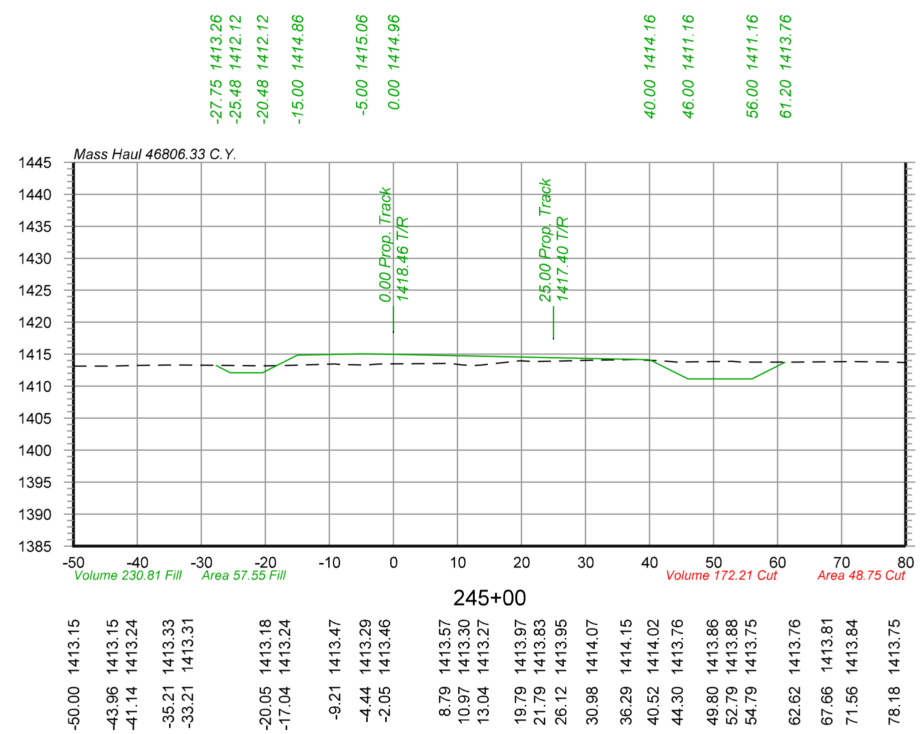
UNION PACIFIC RAILROAD

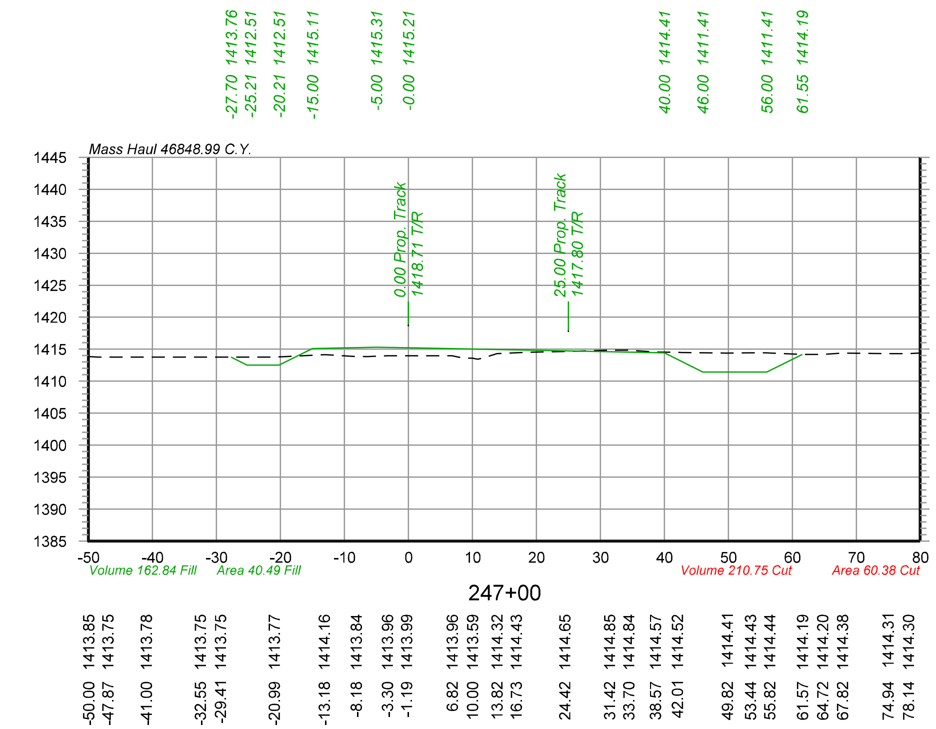
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Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

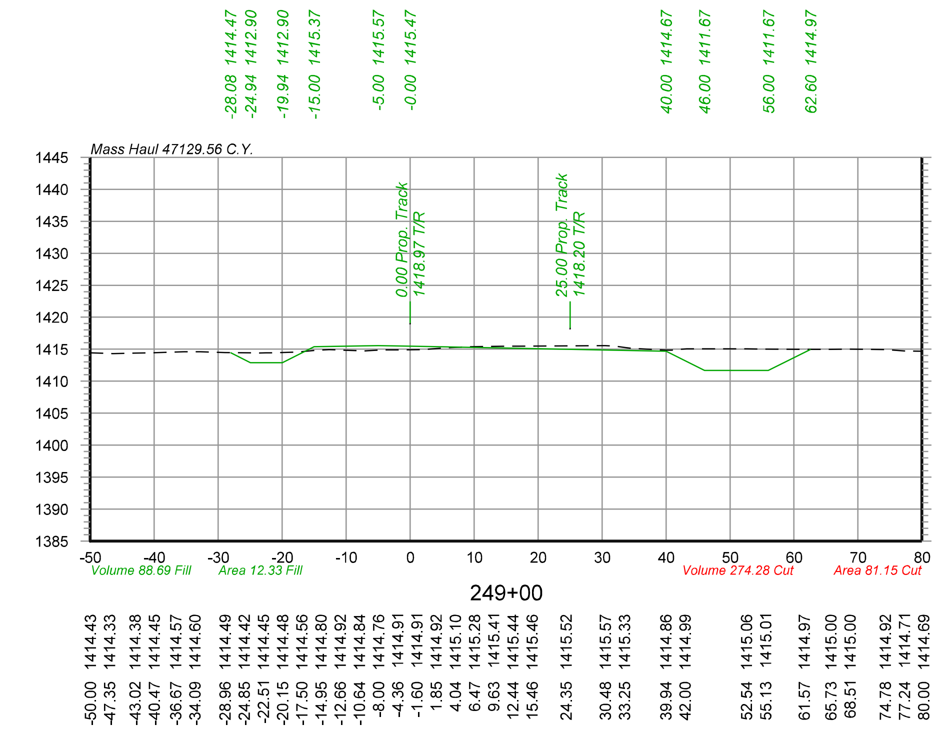
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PIRATE LEAD TRACK CROSS SECTIONS STA.238+00 TO STA.243+00

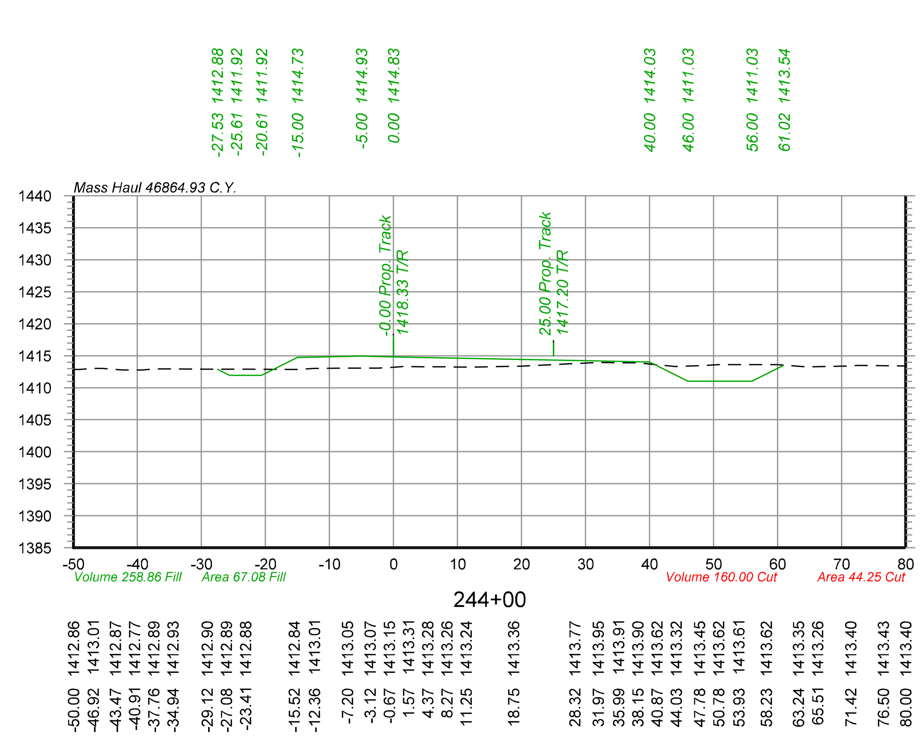
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6/3/2022

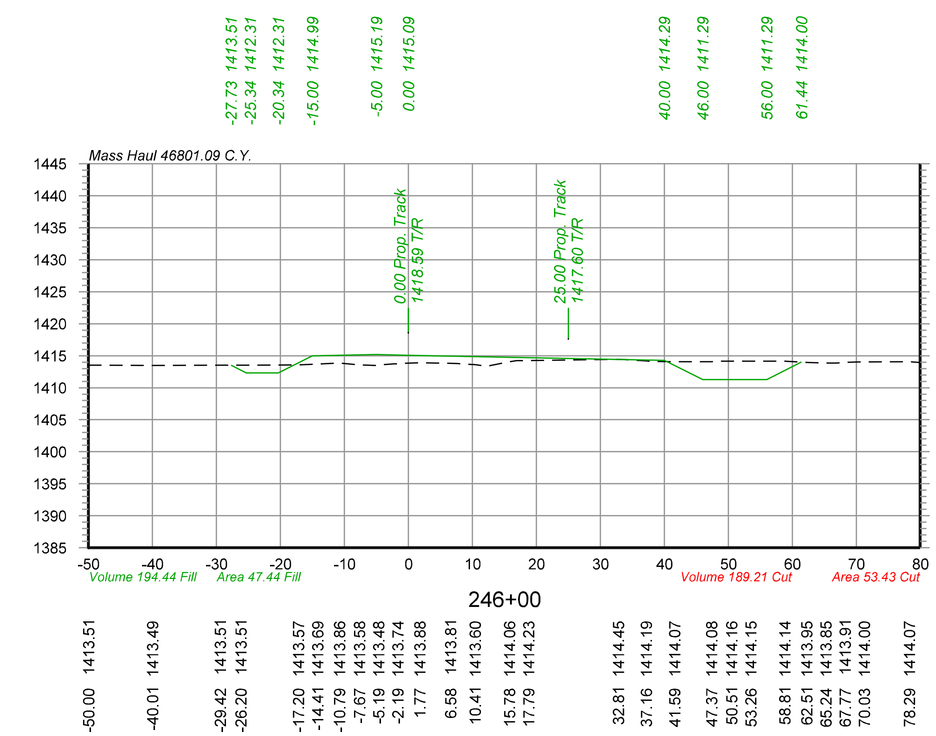
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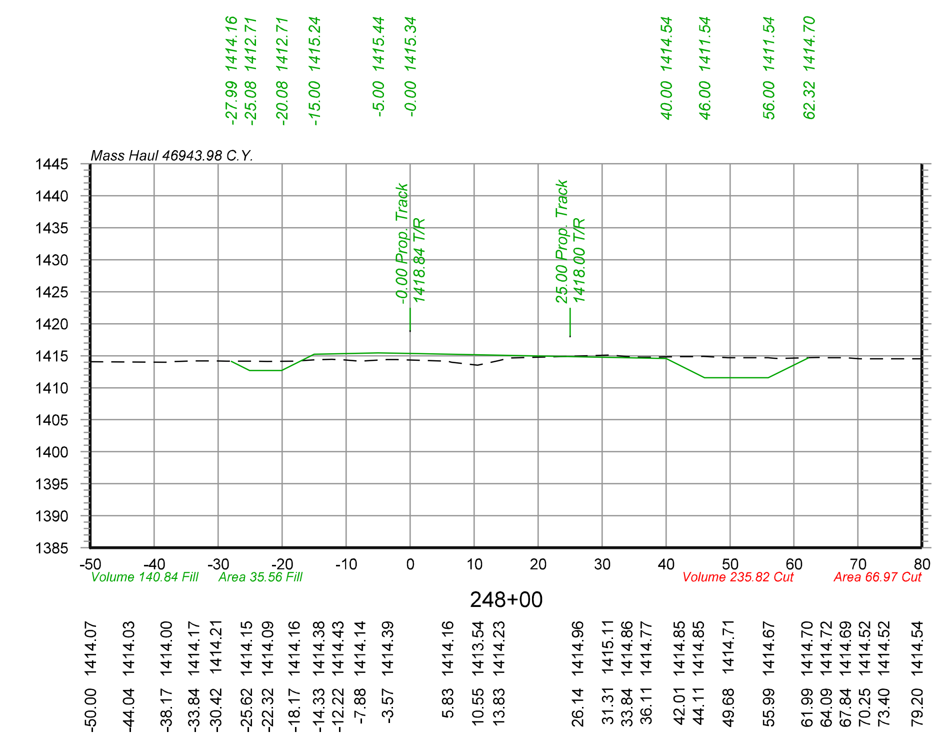










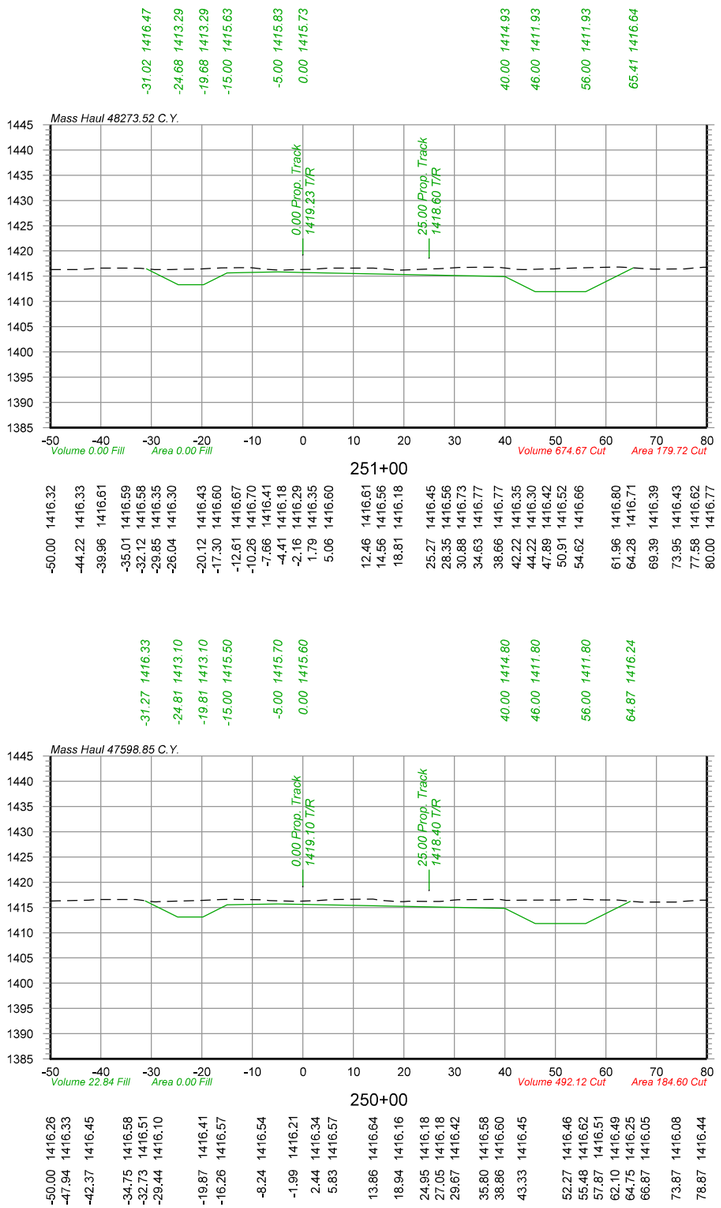


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CHECKED BY: JRM	LOCATION & DESCRIPTION: Mesa, Arizona - Maricopa County Phoenix Subdivision MP 934.79 to MP 937.83 Construct Industrial Lead Track
DATE: 6/3/2022	
SHEET NUMBER X101 of 115	SHEET TITLE: PIRATE LEAD TRACK CROSS SECTIONS STA.244+00 TO STA.249+00

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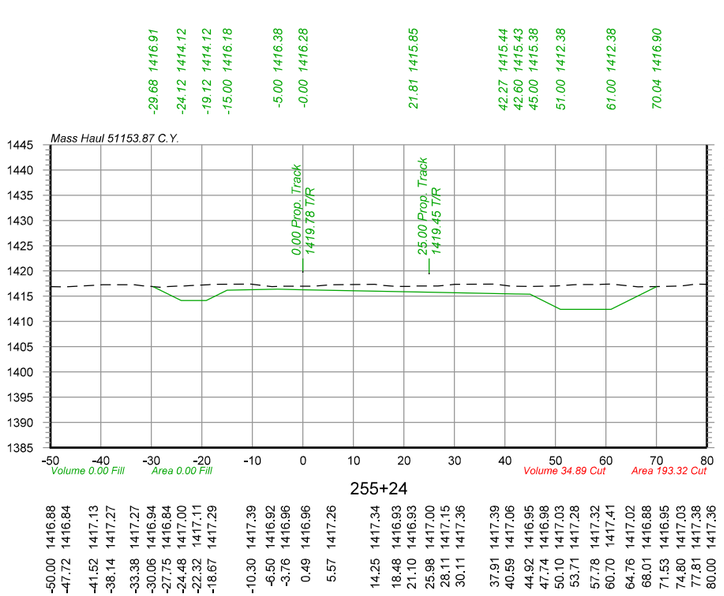
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CHECKED BY:	JRM
DATE:	6/3/2022
SHEET NUMBER	X102 of 115

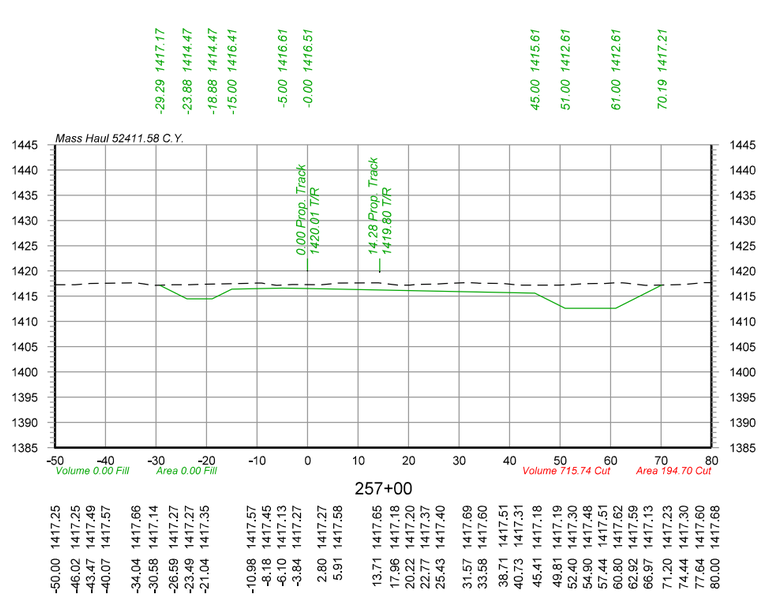
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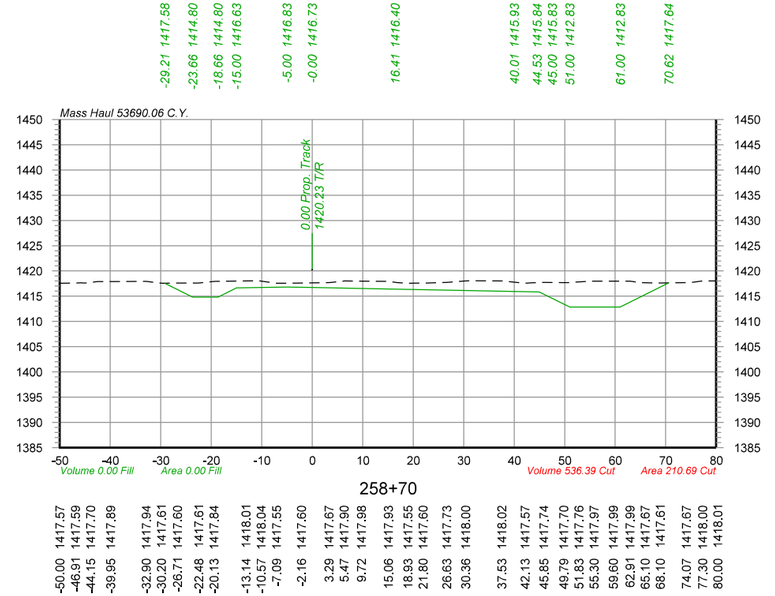
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Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

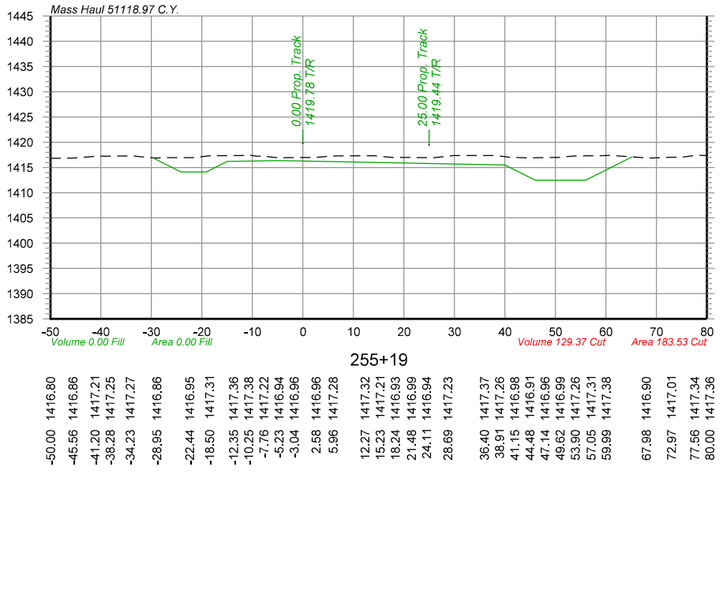
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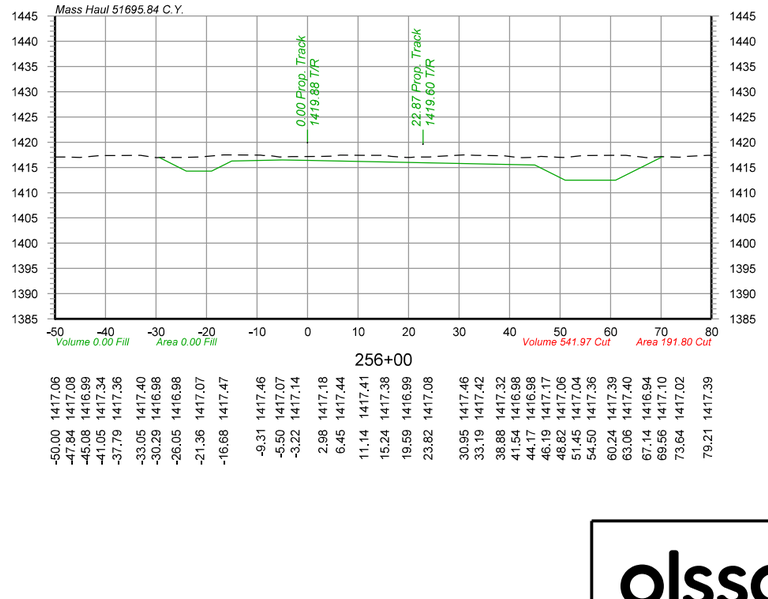
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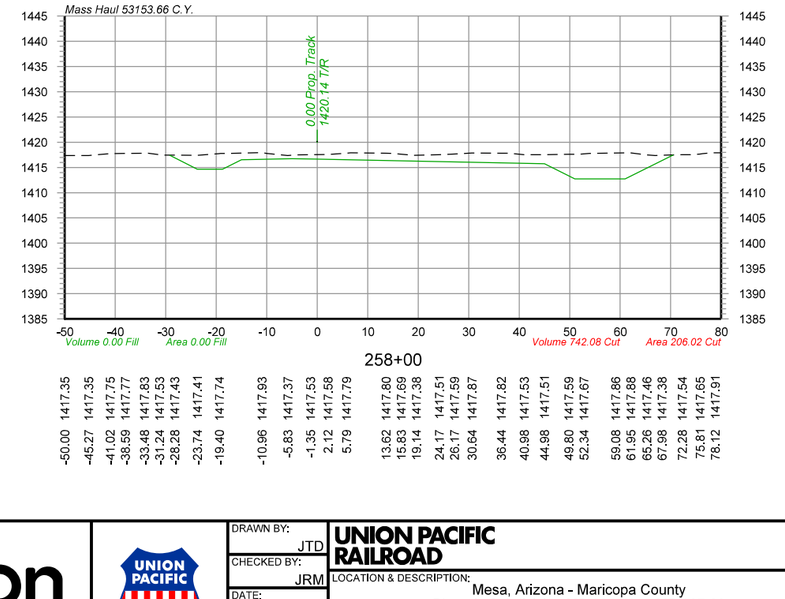












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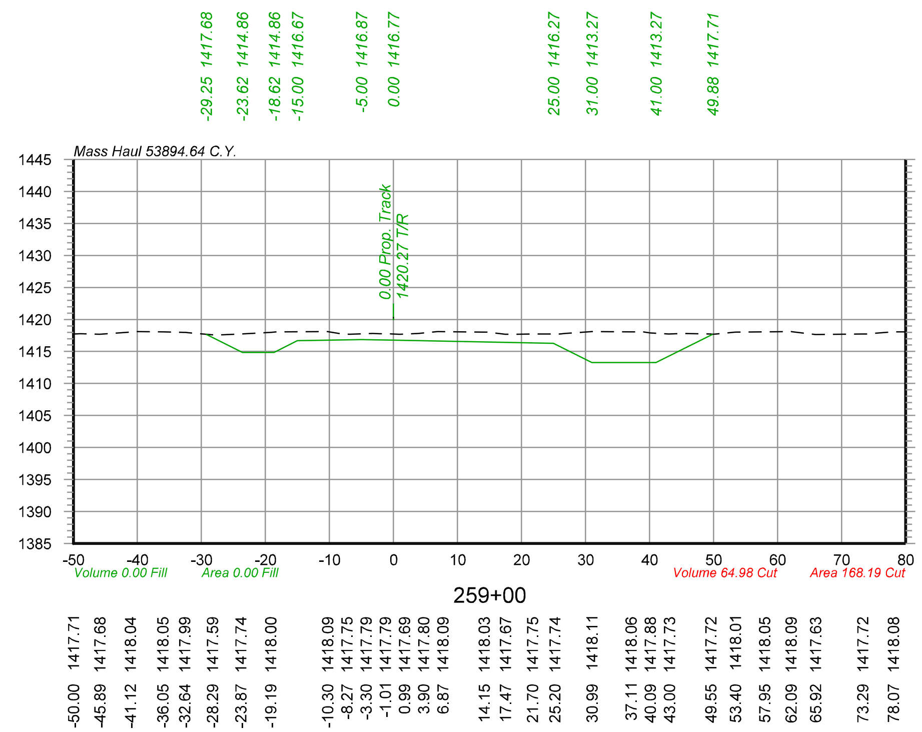
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CHECKED BY:	JRM
DATE:	6/3/2022
SHEET NUMBER	X103 of 115

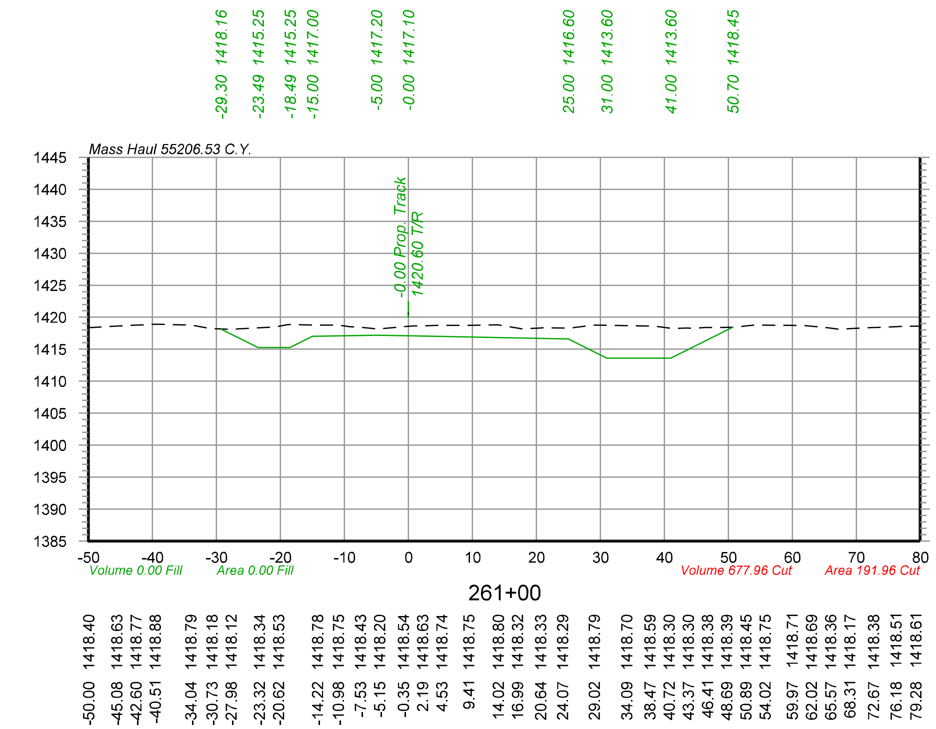
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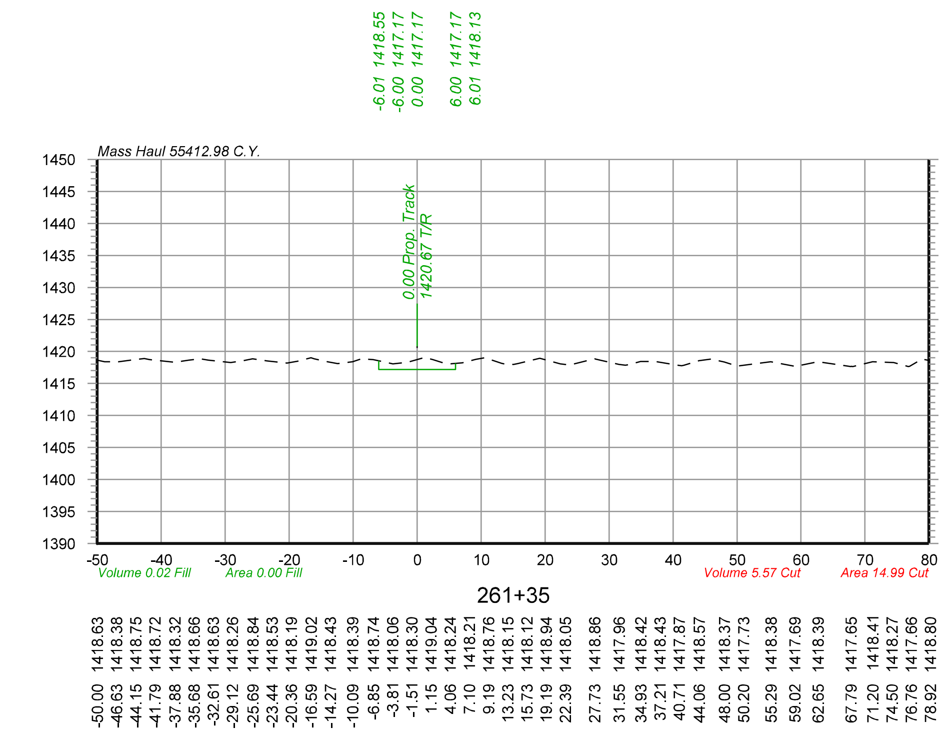
LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

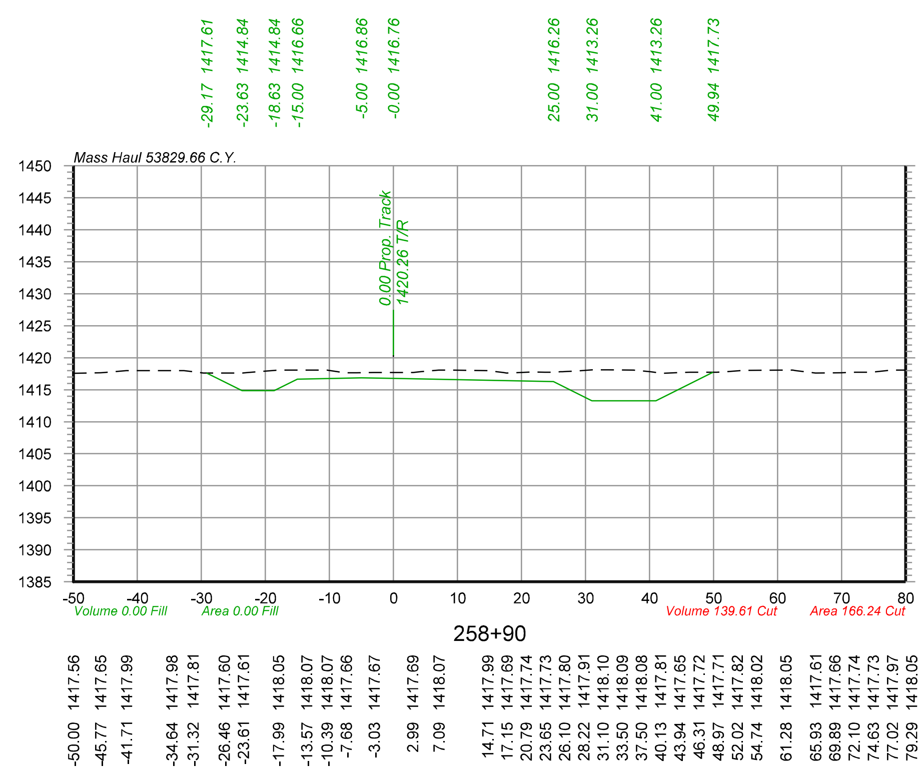
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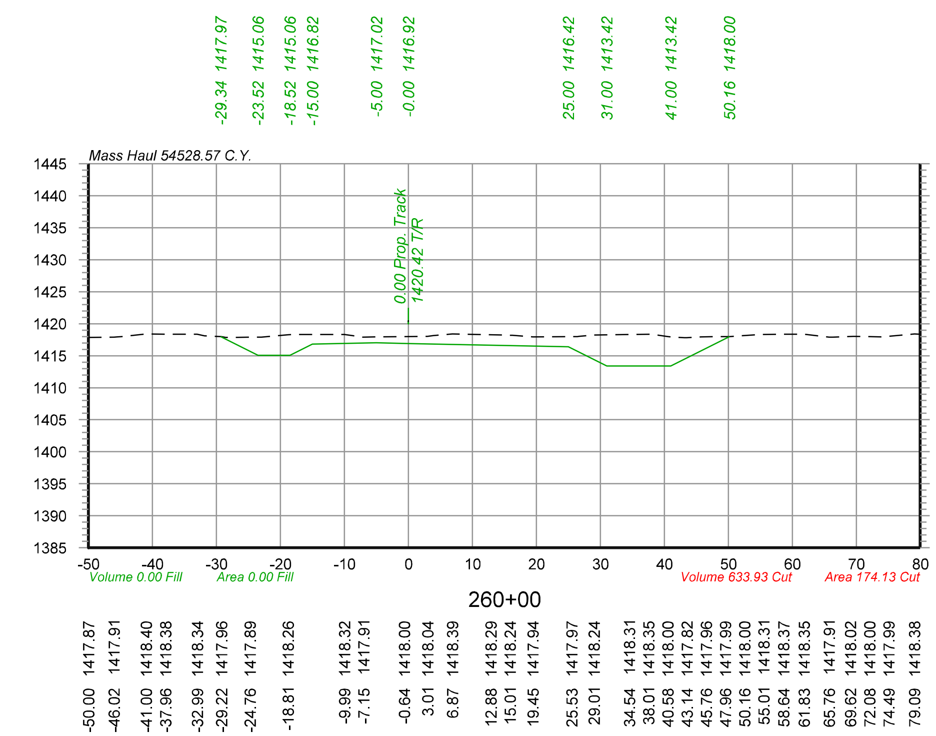
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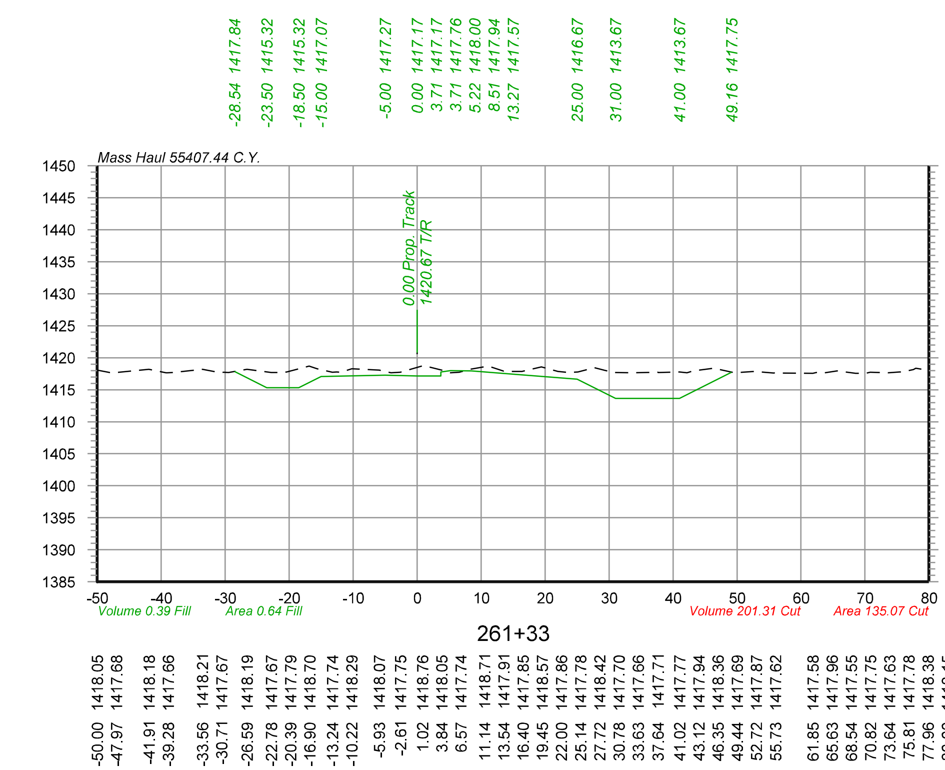












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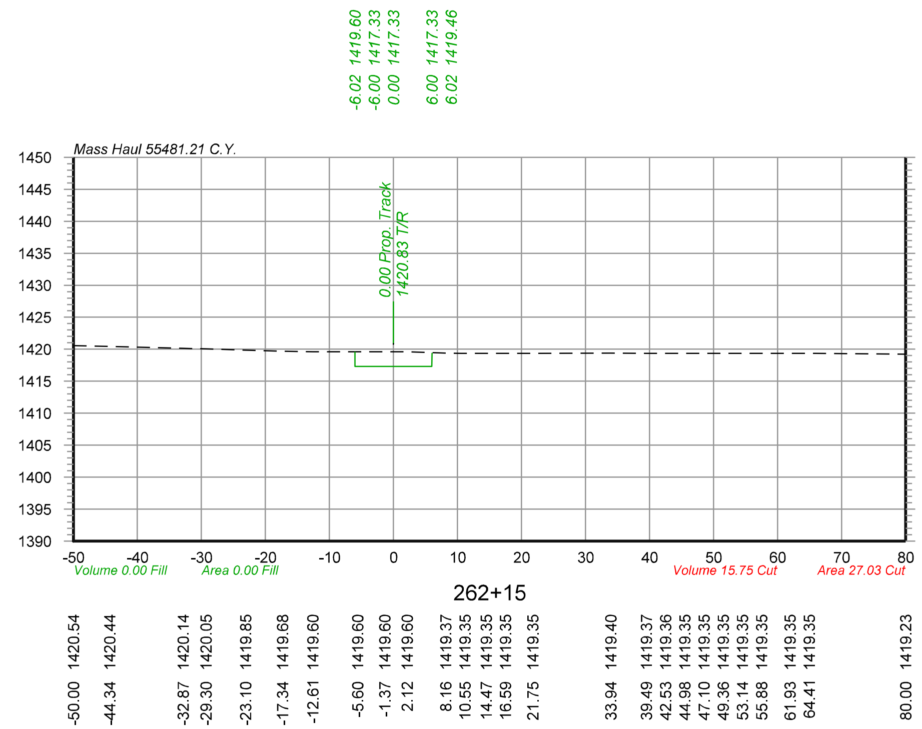
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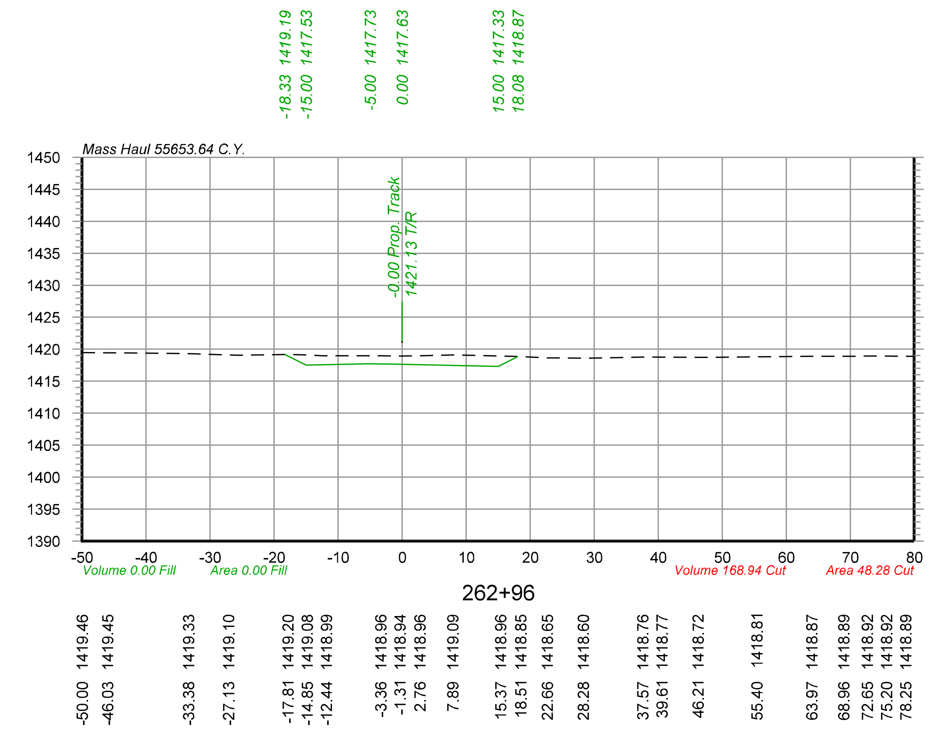
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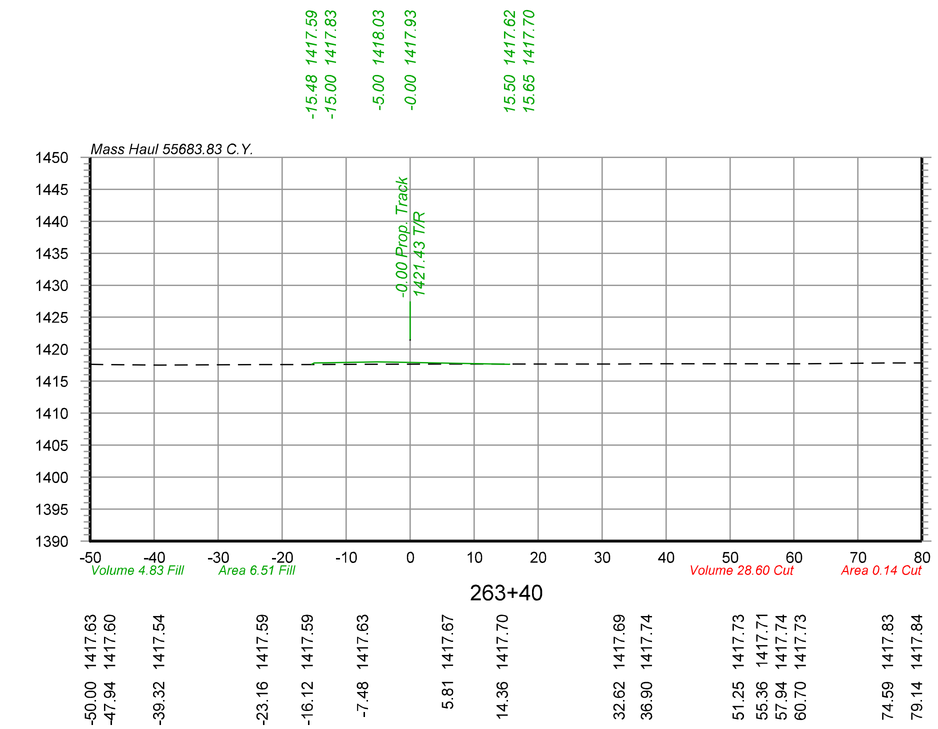
DRAWN BY: JTD	UNION PACIFIC RAILROAD
CHECKED BY: JRM	LOCATION & DESCRIPTION: Mesa, Arizona - Maricopa County Phoenix Subdivision MP 934.79 to MP 937.83 Construct Industrial Lead Track
DATE: 6/3/2022	
SHEET NUMBER X104 of 115	SHEET TITLE: PIRATE LEAD TRACK CROSS SECTIONS STA.258+90 TO STA.261+35

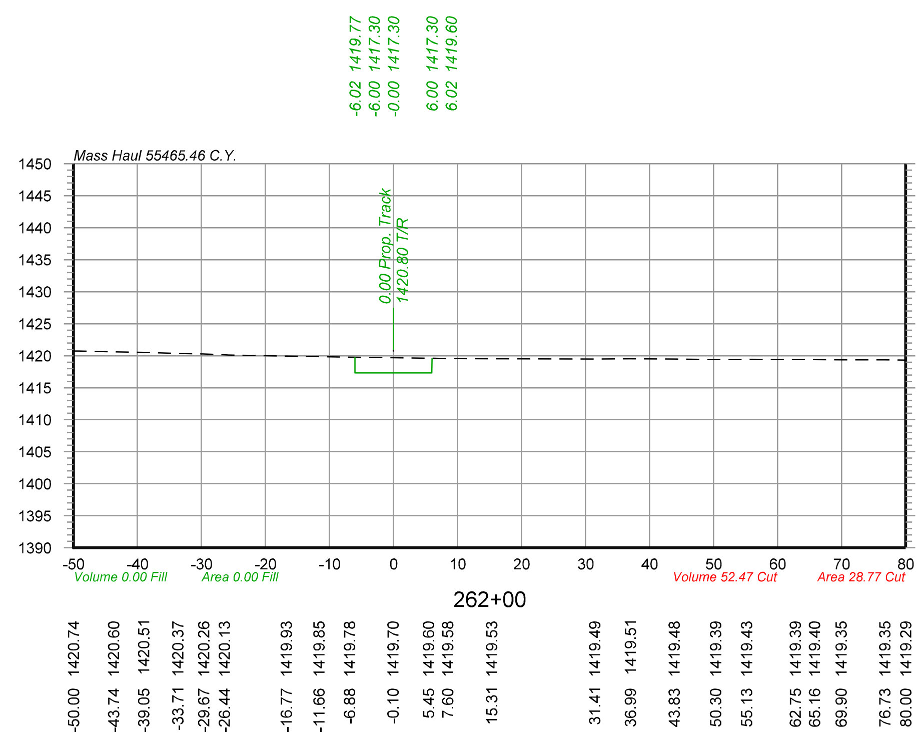
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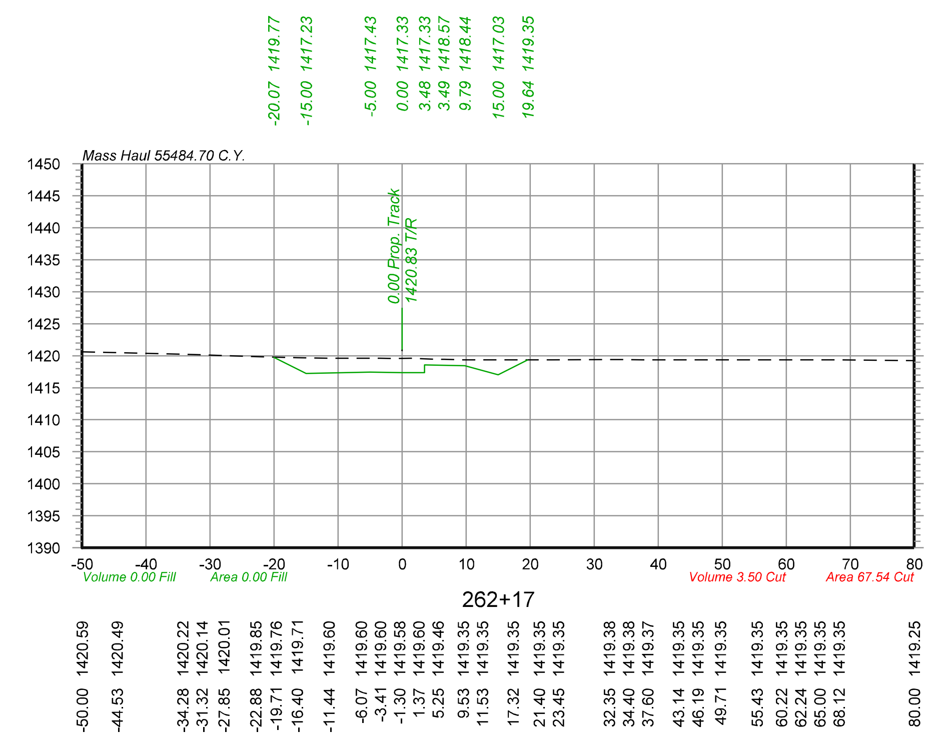
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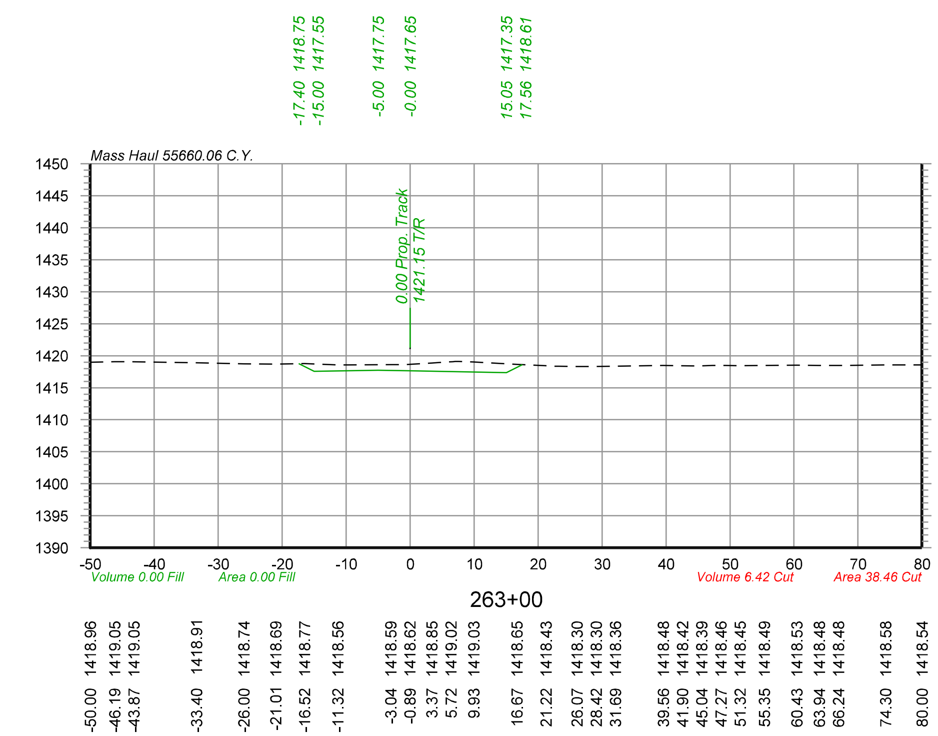












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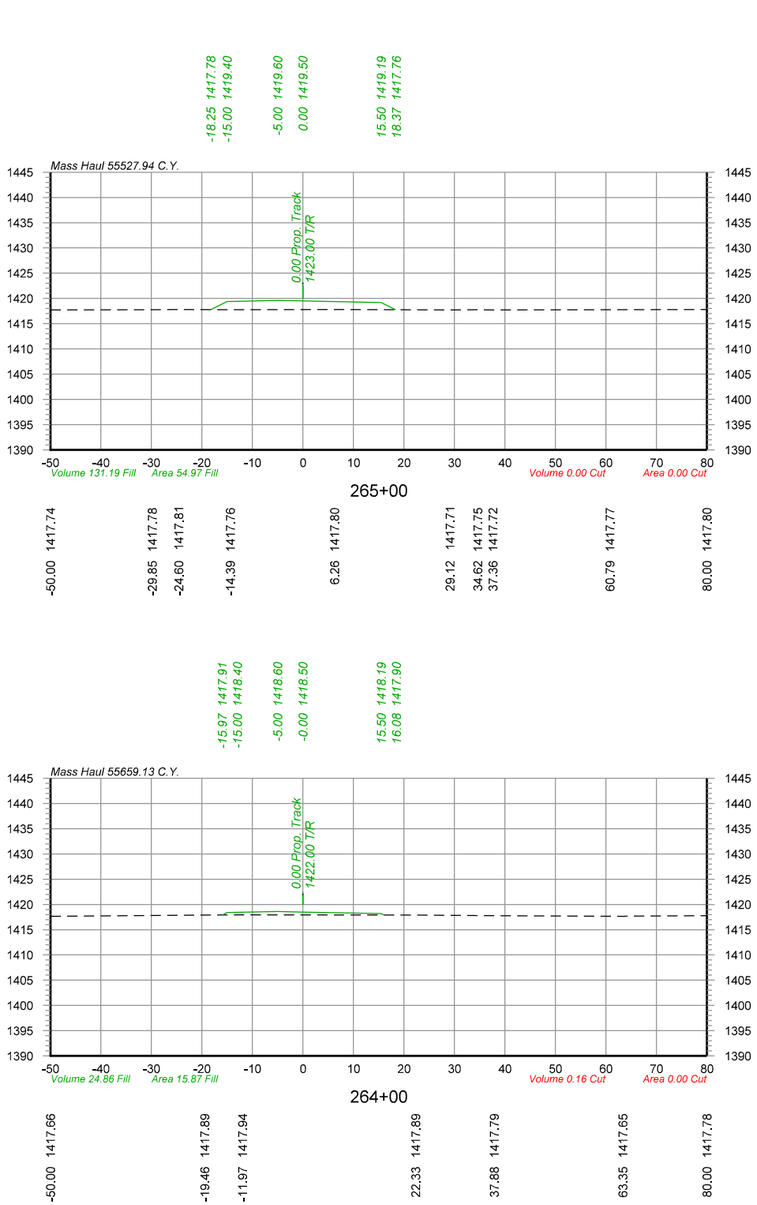
SHEET NUMBER X105 of 115

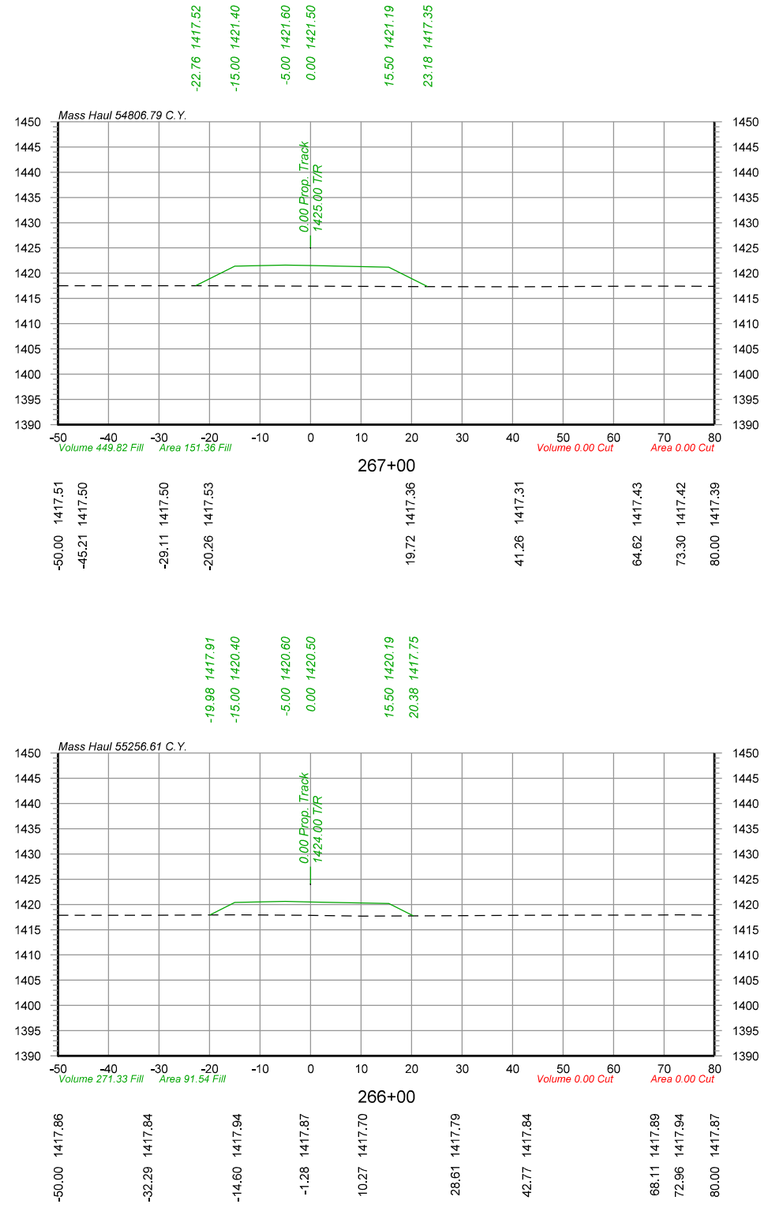
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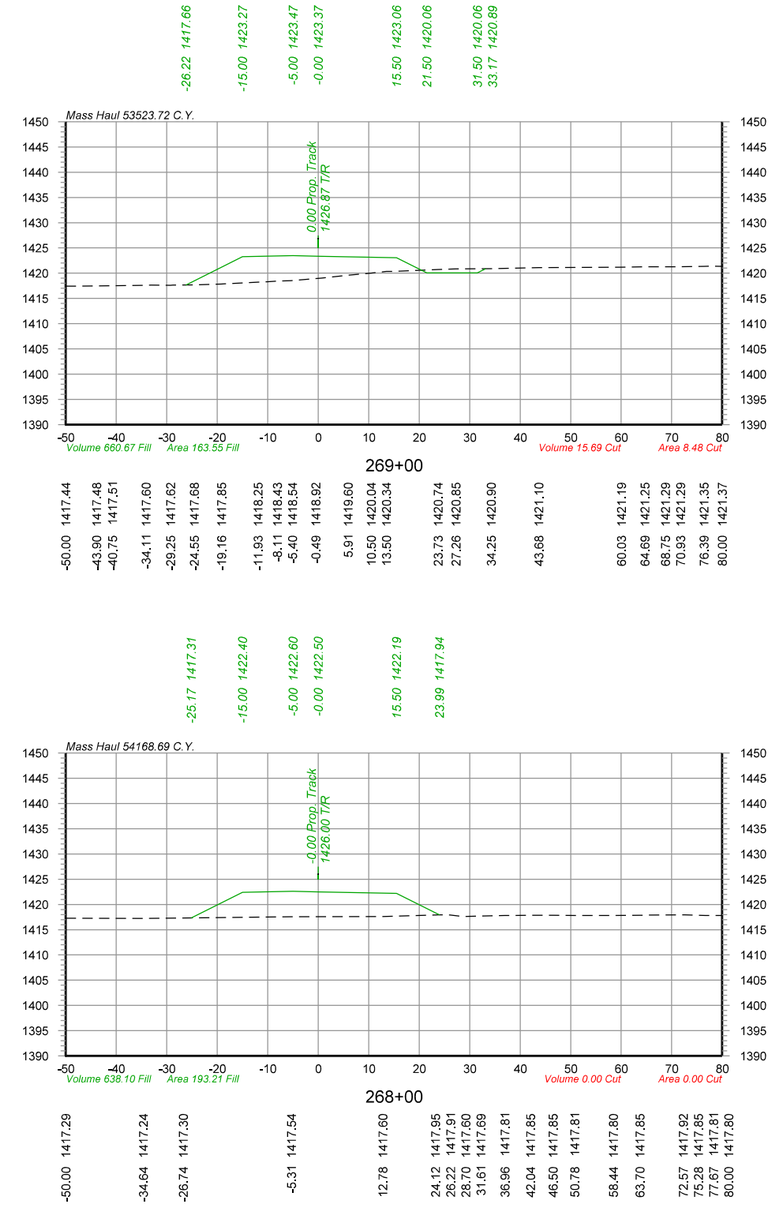
LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
PIRATE LEAD TRACK CROSS SECTIONS STA.262+00 TO STA.263+40

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SHEET NUMBER	X106 of 115

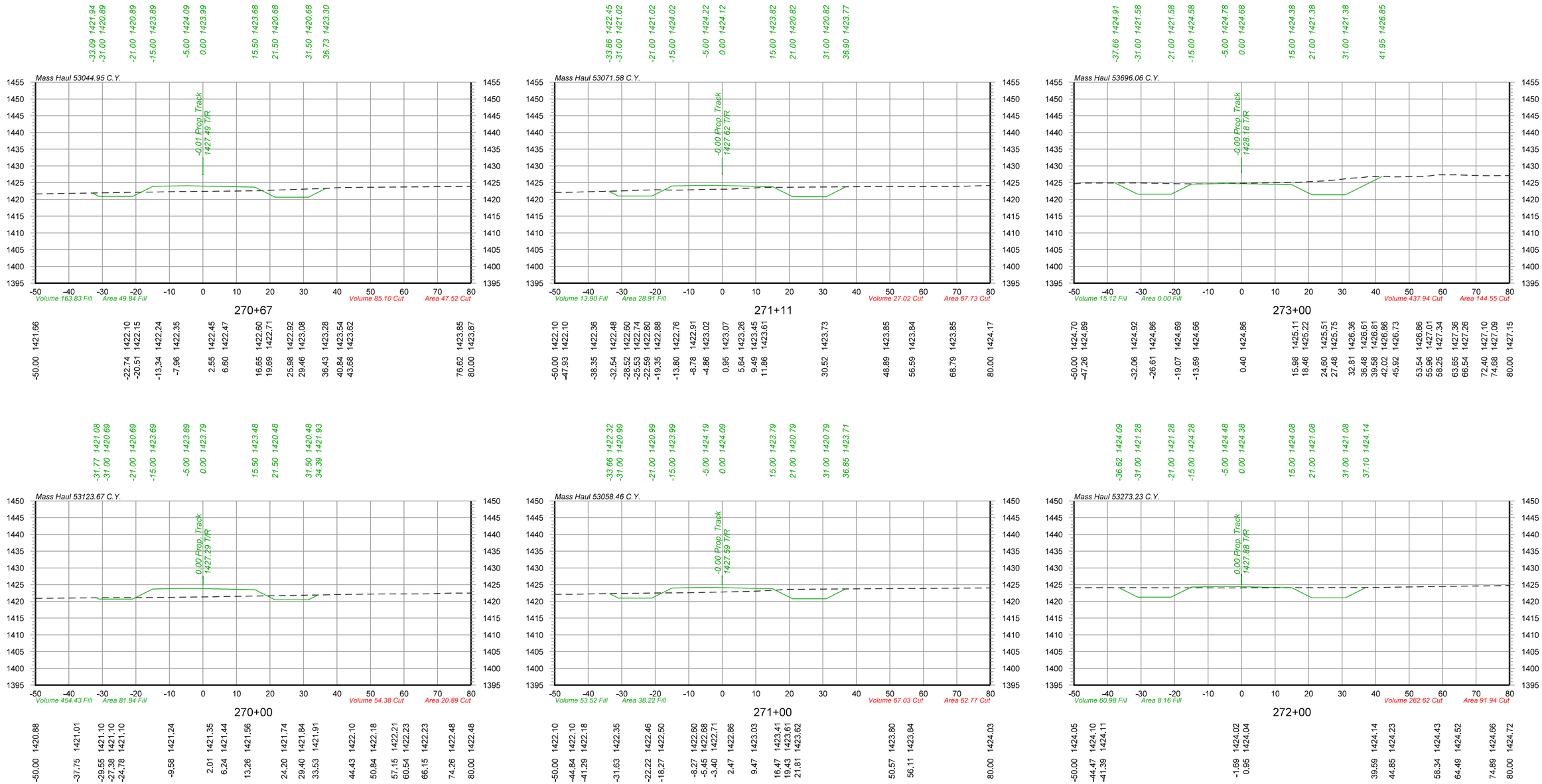
UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
PIRATE LEAD TRACK CROSS SECTIONS STA.264+00 TO STA.269+00

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6/3/2022

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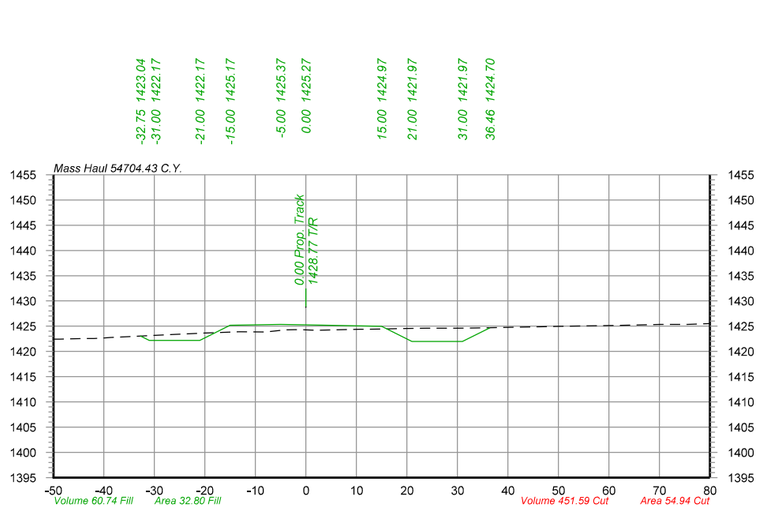
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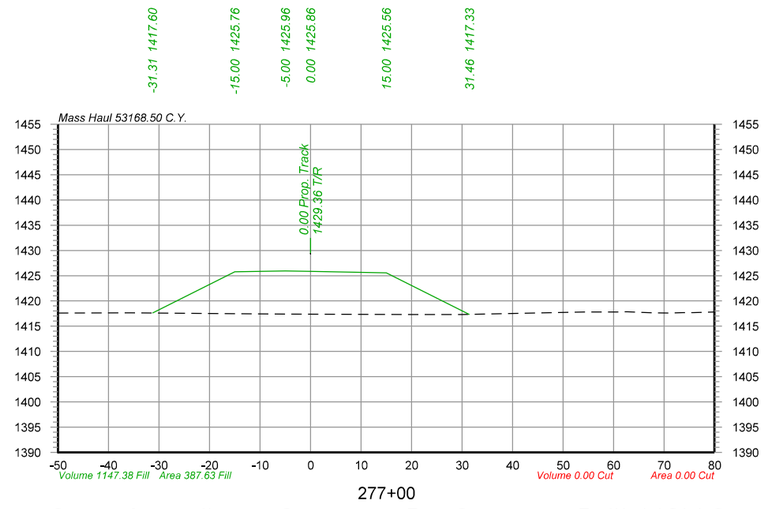
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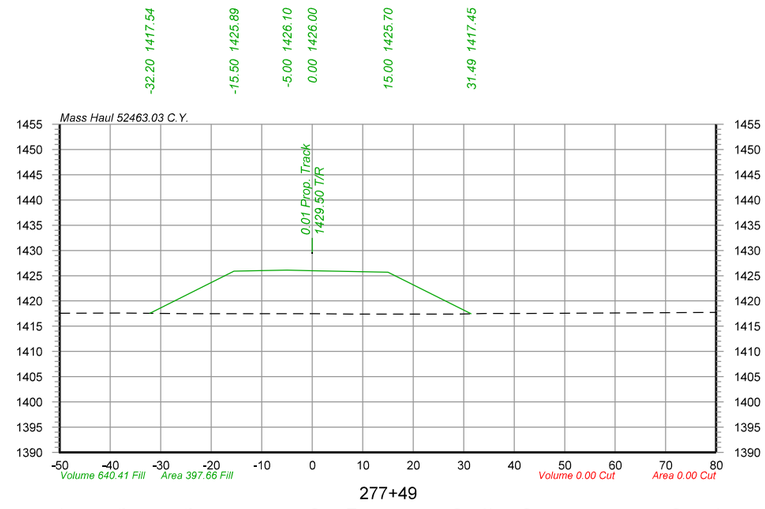
LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

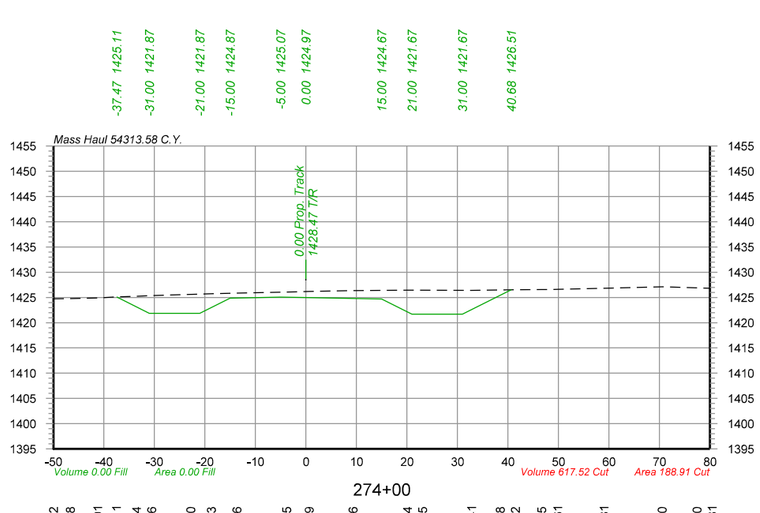
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PIRATE LEAD TRACK CROSS SECTIONS STA.270+00 TO STA.273+00

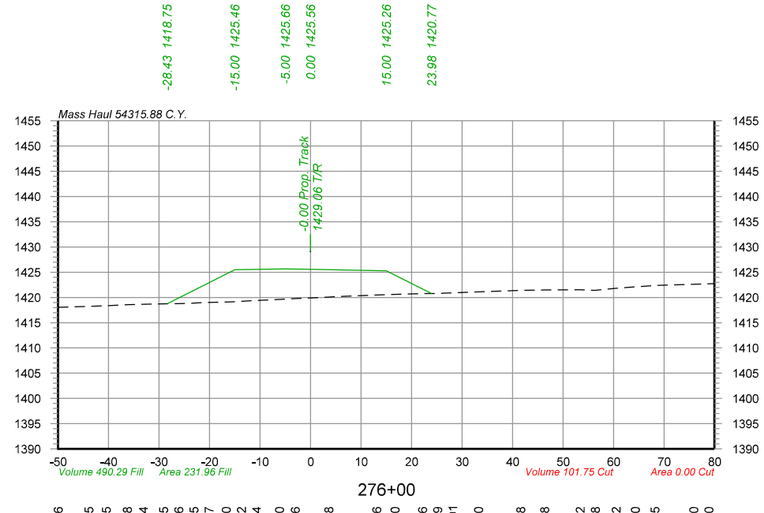
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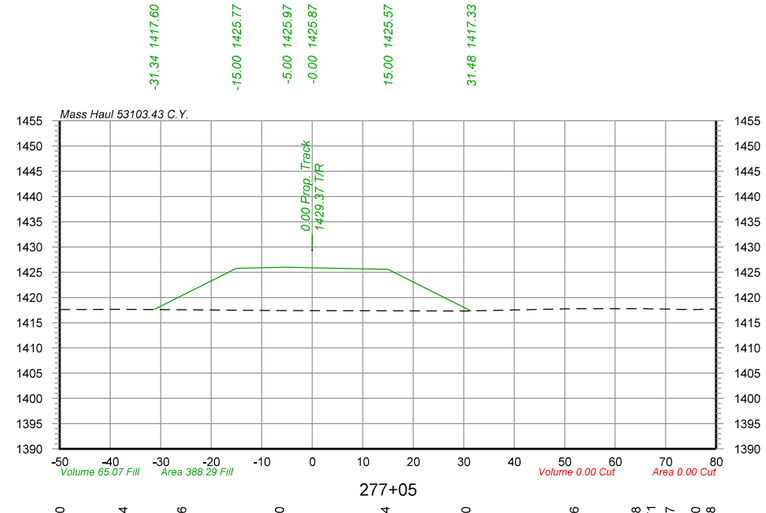












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DATE: 6/3/2022
SHEET NUMBER: X108 of 115

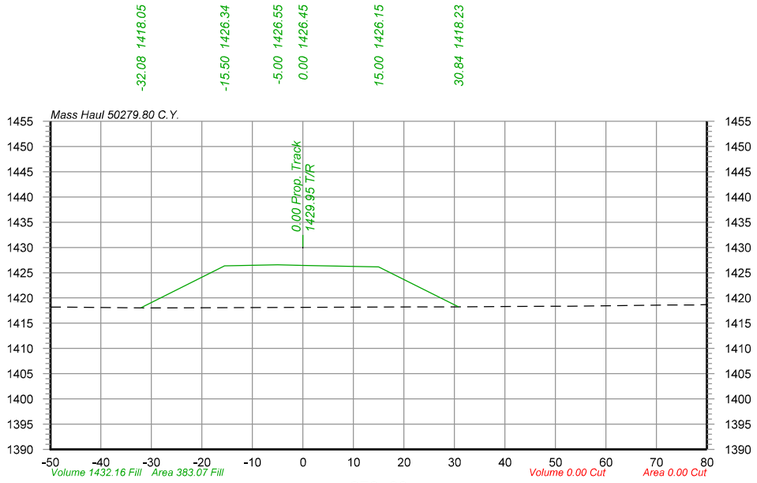
UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
PIRATE LEAD TRACK CROSS SECTIONS STA.274+00 TO STA.277+49

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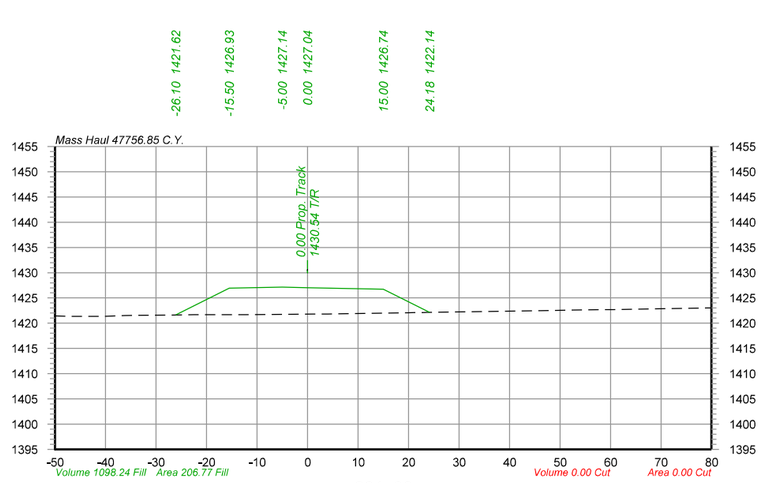
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279+00

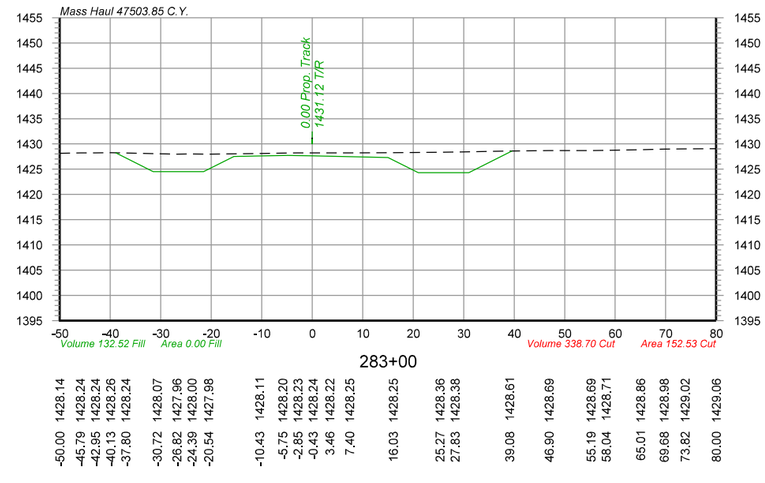
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-26.10	-15.50	-5.00	0.00	15.00	24.18
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281+00

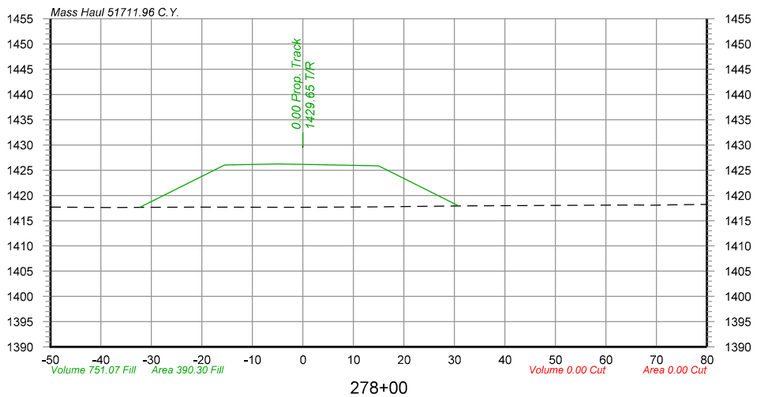
-50.00	-47.24	-42.12	-36.08	-33.60	-27.80	-22.46	-14.63	-12.35	-2.41	1.11	4.05	19.80	22.96	29.27	32.61	48.71	52.51	58.45	60.54	69.30	74.63	79.20
1421.44	1421.35	1421.35	1421.50	1421.57	1421.59	1421.70	1421.69	1421.69	1421.77	1421.81	1421.83	1422.05	1422.12	1422.24	1422.28	1422.53	1422.60	1422.68	1422.69	1422.85	1422.96	1423.02



-38.97	-31.50	-21.50	-15.50	-5.00	0.00	15.00	21.00	31.00	39.58
1428.25	1424.51	1424.51	1427.51	1427.72	1427.62	1427.32	1424.32	1424.32	1428.61

283+00

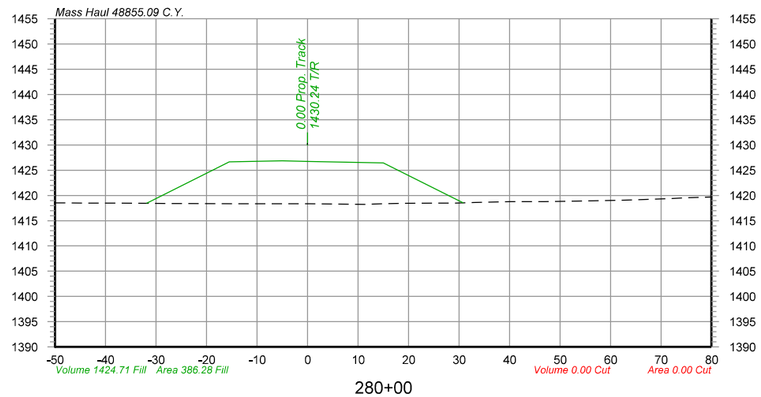
-50.00	-45.79	-42.95	-40.13	-37.80	-30.72	-26.82	-24.39	-20.54	-10.43	-5.75	-2.85	-0.43	3.46	7.40	16.03	25.27	27.83	39.08	46.90	55.19	58.04	65.01	69.68	73.82	80.00
1428.14	1428.24	1428.24	1428.26	1428.24	1428.07	1427.96	1428.00	1427.98	1428.11	1428.20	1428.23	1428.24	1428.22	1428.25	1428.25	1428.36	1428.38	1428.61	1428.69	1428.69	1428.71	1428.86	1428.98	1429.02	1429.06



-32.30	-15.50	-5.00	0.00	15.00	30.83
1417.64	1426.04	1426.25	1426.15	1425.85	1417.94

278+00

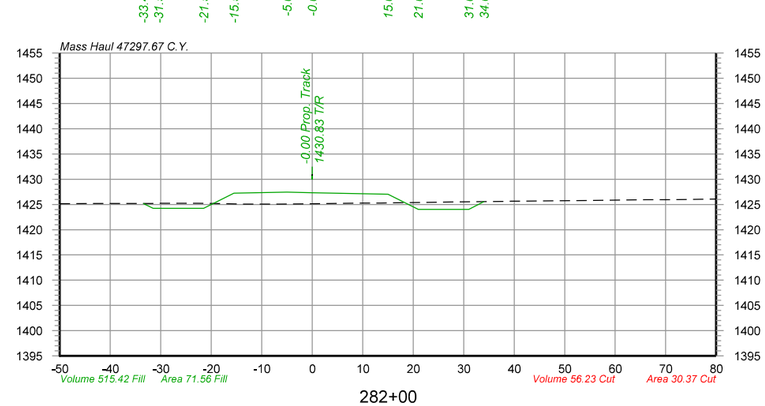
-50.00	-38.58	-21.06	-1.30	14.01	32.95	66.09	69.25	73.51	80.00
1417.69	1417.61	1417.70	1417.64	1417.74	1417.96	1418.10	1418.08	1418.14	1418.24



-31.90	-15.50	-5.00	0.00	15.00	30.83
1418.43	1426.63	1426.84	1426.74	1426.44	1418.52

280+00

-50.00	-47.86	-44.16	-41.13	-38.22	-31.46	-27.09	-23.77	-14.23	-8.57	0.26	11.31	14.94	18.90	26.11	29.31	33.08	40.14	46.87	51.91	56.62	62.72	67.63	71.24	74.58	80.00
1418.53	1418.53	1418.49	1418.48	1418.47	1418.43	1418.40	1418.40	1418.35	1418.35	1418.35	1418.25	1418.35	1418.44	1418.46	1418.47	1418.60	1418.76	1418.79	1418.85	1418.95	1419.07	1419.23	1419.35	1419.50	1419.70



-33.45	-31.50	-21.50	-15.50	-5.00	-0.00	15.00	21.00	31.00	34.03
1425.19	1424.22	1424.22	1427.22	1427.43	1427.33	1427.03	1424.03	1424.03	1425.55

282+00

-50.00	-42.68	-40.23	-34.50	-31.79	-25.48	-22.75	-19.33	-13.55	-6.56	-1.98	6.82	10.17	13.53	22.17	27.18	34.48	38.72	41.32	48.87	54.10	66.21	70.94	74.35	76.64	80.00
1425.16	1425.19	1425.21	1425.19	1425.19	1425.24	1425.22	1425.20	1425.06	1425.06	1425.11	1425.24	1425.26	1425.28	1425.41	1425.47	1425.55	1425.62	1425.65	1425.75	1425.76	1425.92	1425.95	1425.99	1426.01	1426.06

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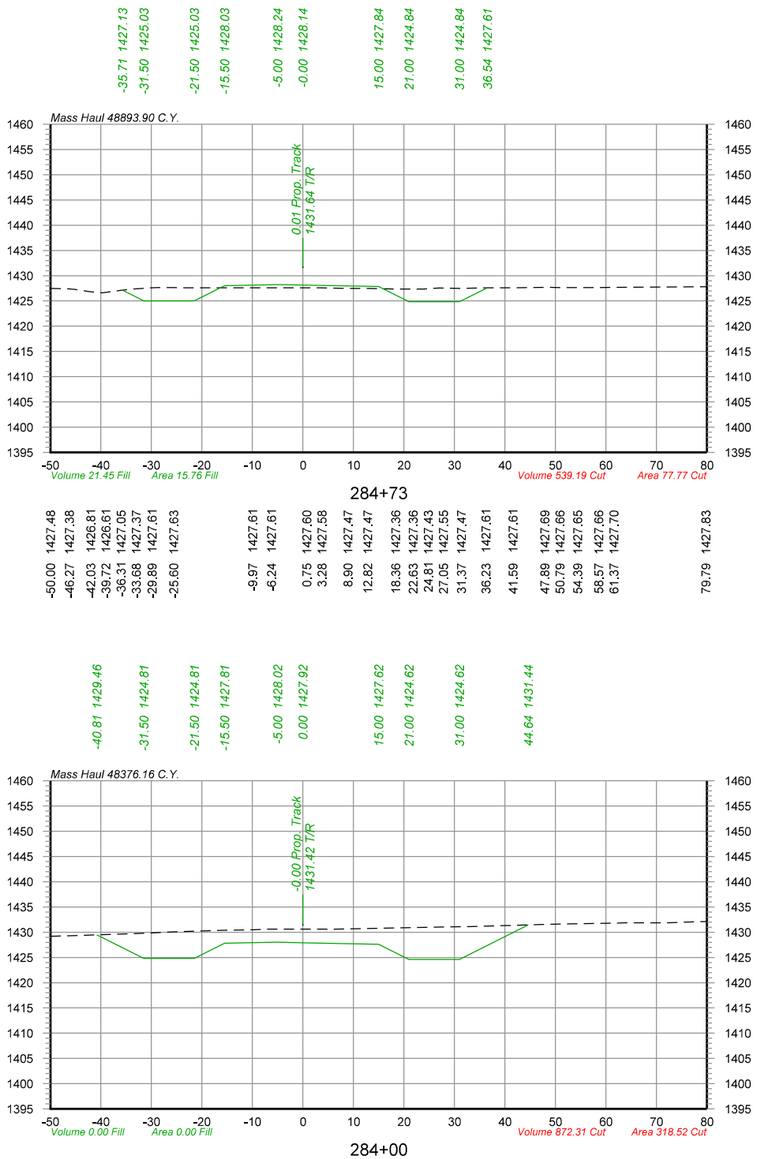
UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
PIRATE LEAD TRACK CROSS SECTIONS STA.278+00 TO STA.283+00

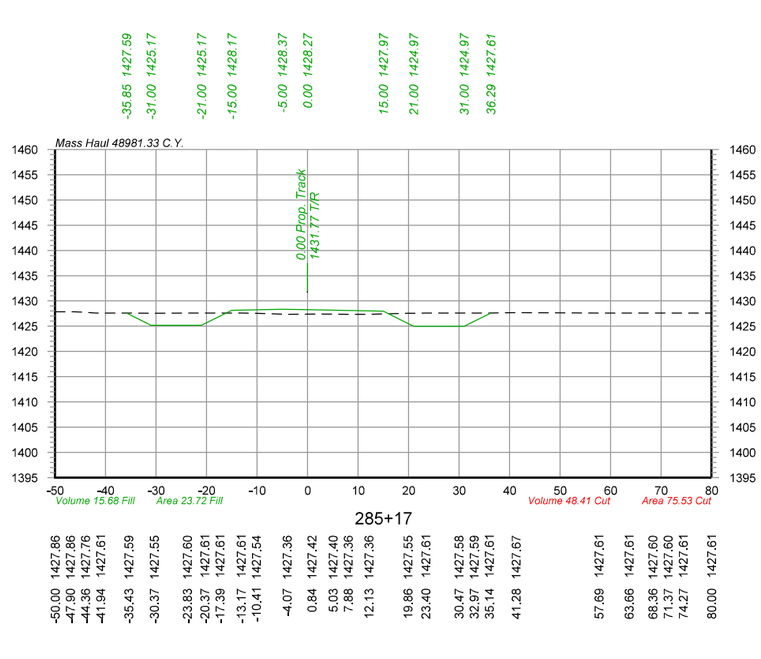
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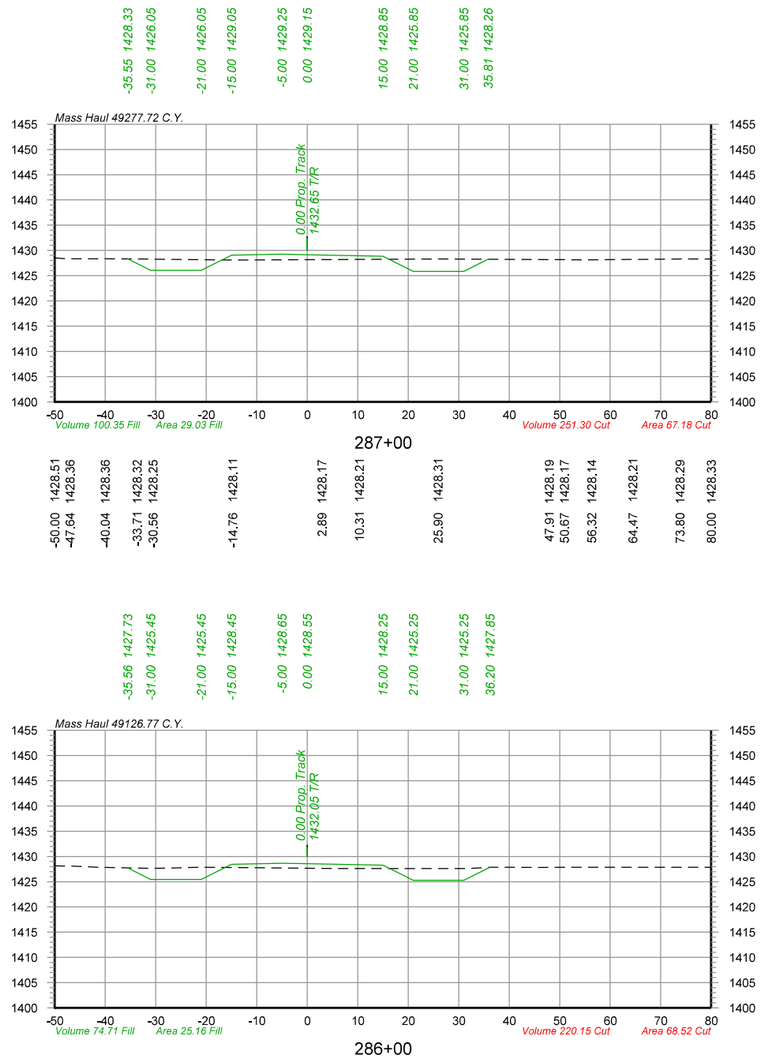
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-46.27	1427.38
-42.03	1426.81
-39.72	1426.61
-36.31	1427.05
-33.68	1427.37
-29.89	1427.61
-25.60	1427.63
-9.97	1427.61
-6.24	1427.61
0.75	1427.60
3.28	1427.58
8.90	1427.47
12.82	1427.47
18.36	1427.36
22.63	1427.36
24.81	1427.43
27.05	1427.55
31.37	1427.47
36.23	1427.61
41.59	1427.61
47.89	1427.69
50.79	1427.66
54.39	1427.65
58.57	1427.66
61.37	1427.70
79.79	1427.83

-50.00	1429.18
-43.93	1429.36
-36.58	1429.61
-34.09	1429.70
-29.71	1429.86
-24.70	1430.11
-16.45	1430.36
-13.97	1430.41
-9.65	1430.49
-6.89	1430.61
-4.79	1430.61
-2.08	1430.61
2.52	1430.61
4.94	1430.61
8.92	1430.66
19.00	1430.86
29.67	1431.05
33.17	1431.11
35.76	1431.19
41.91	1431.36
47.25	1431.52
50.65	1431.61
62.67	1431.83
66.46	1431.86
72.30	1431.86
77.95	1432.07
80.00	1432.10



-50.00	1427.86
-47.90	1427.86
-44.36	1427.76
-41.94	1427.61
-35.43	1427.59
-30.37	1427.55
-23.83	1427.60
-20.37	1427.61
-17.39	1427.61
-13.17	1427.61
-10.41	1427.54
-4.07	1427.36
0.84	1427.42
5.03	1427.40
7.88	1427.36
12.13	1427.36
19.86	1427.55
23.40	1427.61
30.47	1427.58
32.97	1427.59
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57.69	1427.61
63.66	1427.61
68.36	1427.60
71.37	1427.60
74.27	1427.61
80.00	1427.61

-50.00	1427.73
-45.39	1427.69
-40.94	1427.54
-37.91	1427.40
-31.02	1427.36
-27.92	1427.36
-25.77	1427.36
-23.23	1427.36
-20.28	1427.36
-13.81	1427.36
-5.37	1427.36
-1.37	1427.36
2.44	1427.36
9.39	1427.36
14.93	1427.36
20.29	1427.60
23.03	1427.61
26.28	1427.61
29.27	1427.60
33.32	1427.72
36.06	1427.79
45.20	1427.92
47.25	1428.11
49.51	1428.11
51.77	1427.86
54.52	1427.83
68.54	1427.71
72.06	1427.70
74.75	1427.68
80.00	1427.70



-50.00	1428.51
-47.64	1428.36
-40.04	1428.36
-33.71	1428.32
-30.56	1428.25
-14.76	1428.11
2.89	1428.17
10.31	1428.21
25.90	1428.31
47.91	1428.19
50.67	1428.17
56.32	1428.14
64.47	1428.21
73.80	1428.29
80.00	1428.33

-50.00	1428.13
-47.15	1428.11
-44.02	1427.98
-41.32	1427.86
-33.35	1427.69
-31.11	1427.65
-27.53	1427.67
-21.48	1427.86
-10.96	1427.77
5.97	1427.61
9.02	1427.60
15.98	1427.60
21.58	1427.60
24.22	1427.61
26.63	1427.61
30.52	1427.61
35.76	1427.82
37.82	1427.86
40.20	1427.85
45.42	1427.83
51.21	1427.84
54.15	1427.86
58.45	1427.86
64.06	1427.85
67.10	1427.86
69.61	1427.86
73.90	1427.86
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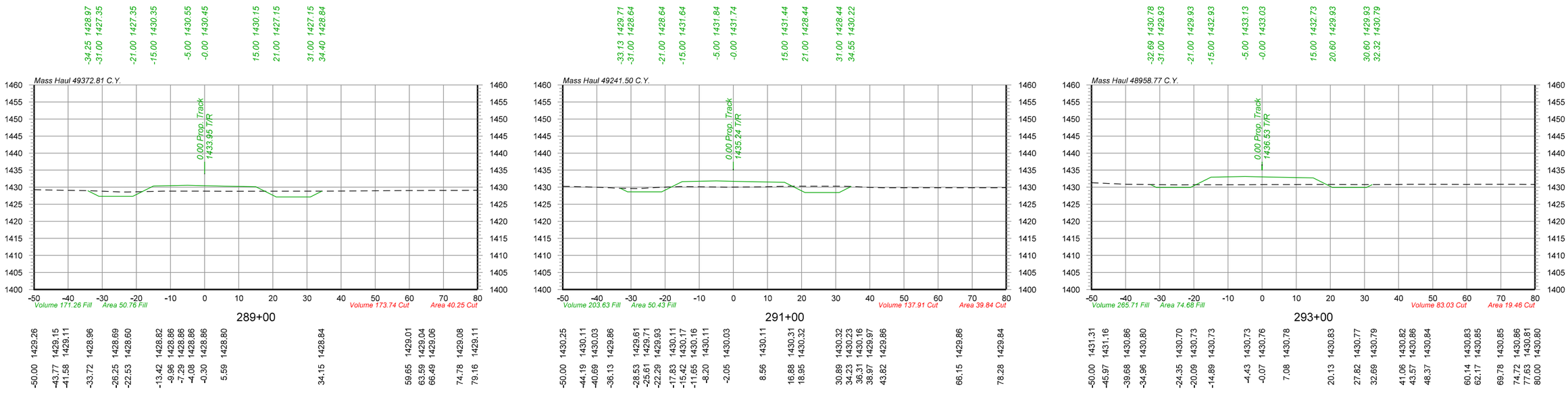
DRAWN BY: JTD
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DATE: 6/3/2022
SHEET NUMBER: X110 of 115

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
PIRATE LEAD TRACK CROSS SECTIONS STA.284+00 TO STA.287+00

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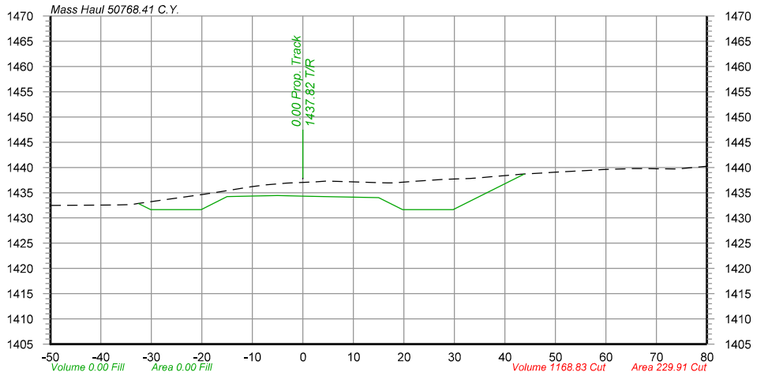
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DATE: 6/3/2022
SHEET NUMBER: X111 of 115

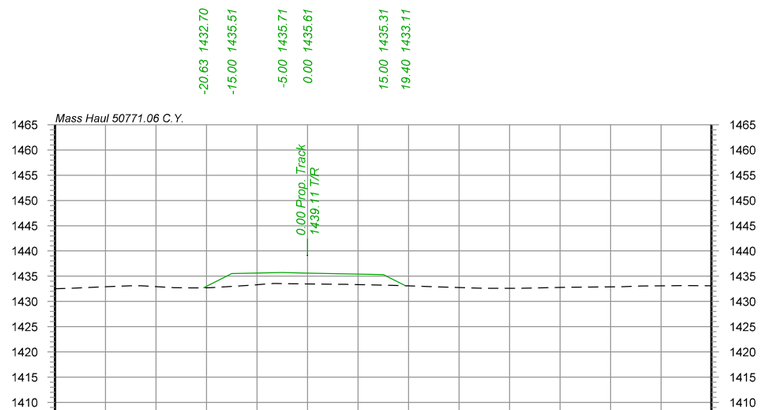
UNION PACIFIC RAILROAD

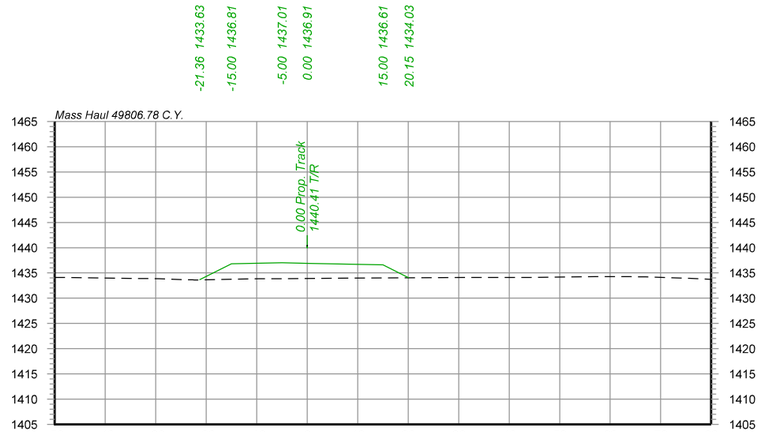
LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

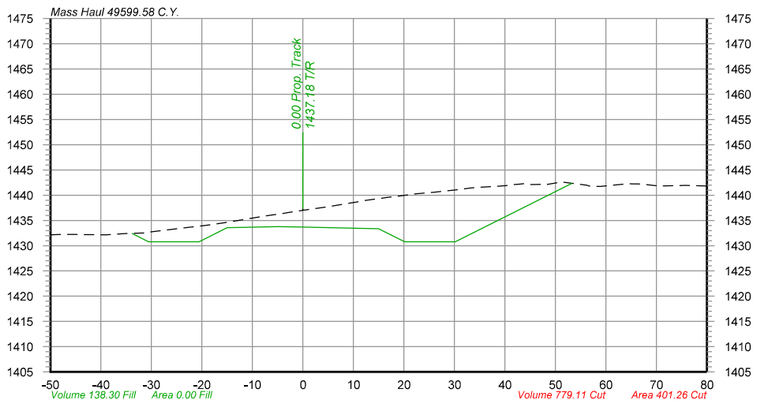
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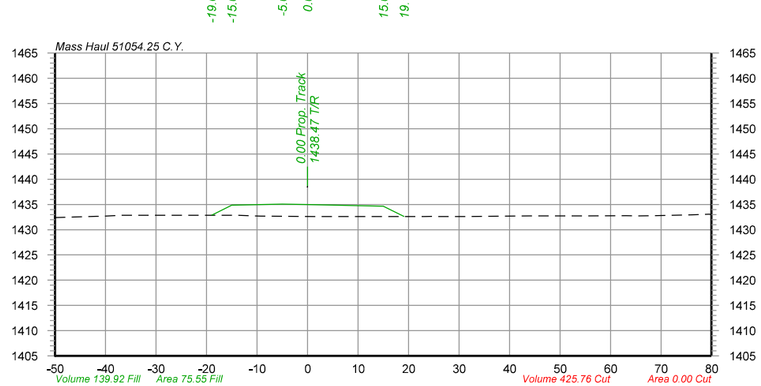
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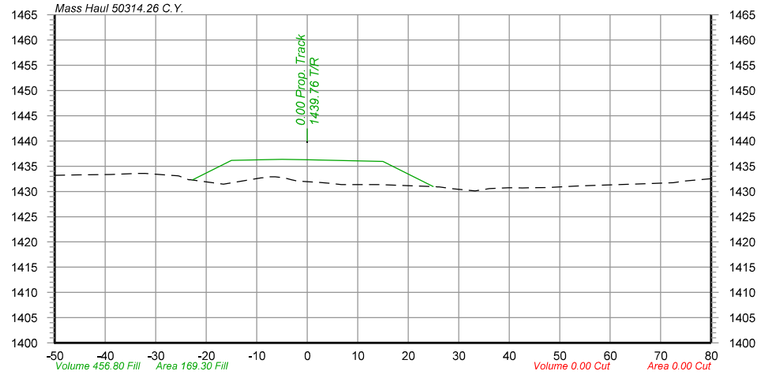












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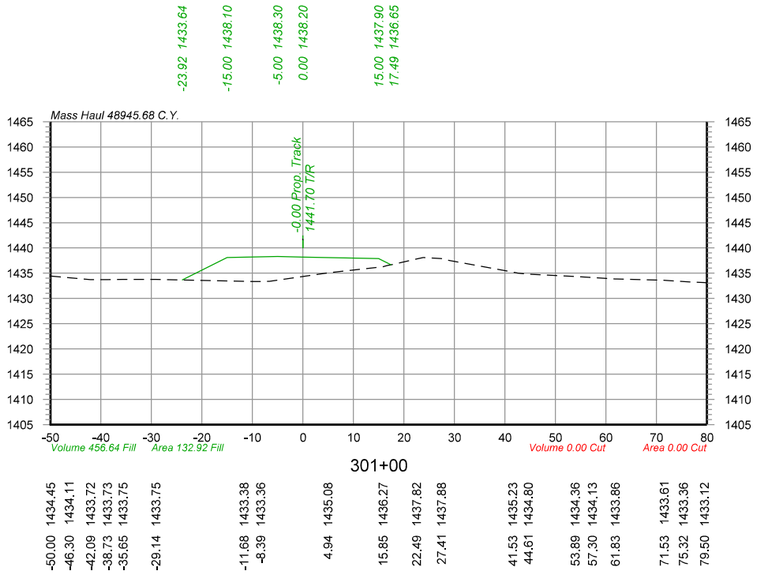
UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
PIRATE LEAD TRACK CROSS SECTIONS STA.294+00 TO STA.299+00

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Default
6/3/2022

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Grading Quantities

Proposed Subgrade
Station: -6+50.00 to 302+00.00
Cut: 143,324 C.Y.
Fill: 94,624 C.Y.
Net: 48,700 C.Y. (Cut)

Grading Quantities

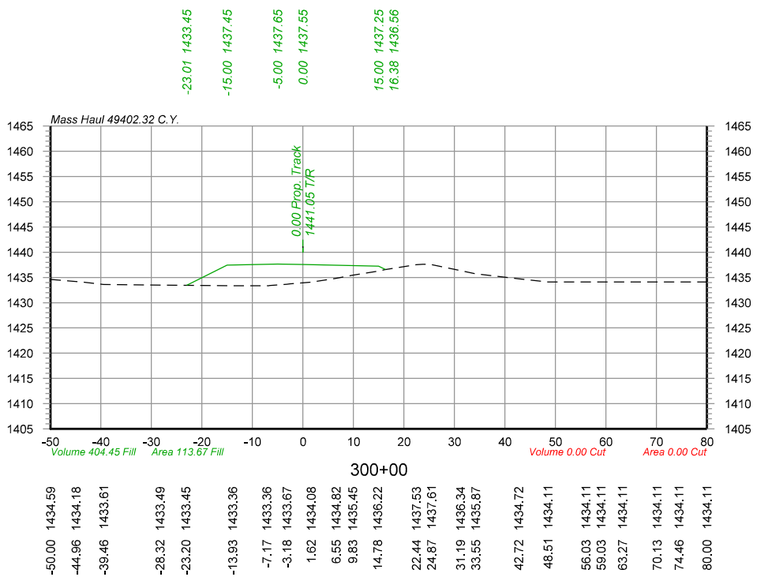
Pirate Industrial Lead Track
(Sta. -6+50.00 to Sta. 302+00.00)
Cut: 143,324 C.Y.
Fill: 94,624 C.Y.

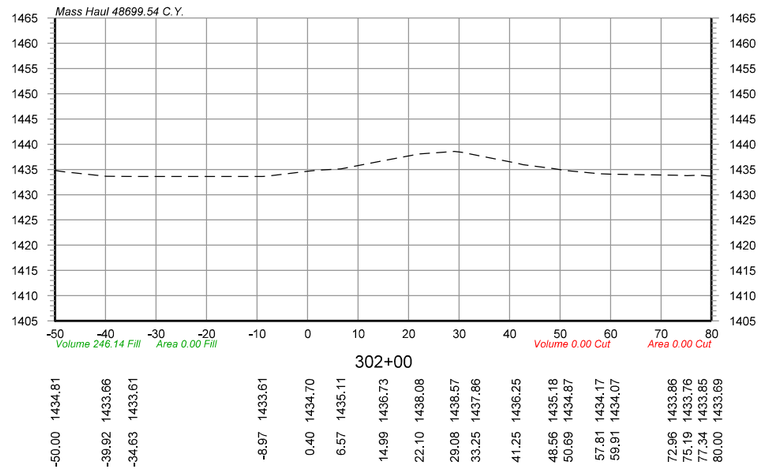
East Wye Track
(Sta. -1+23.00 to Sta. 20+00.00)
Cut: 3,413 C.Y.
Fill: 4,104 C.Y.

Siding Track & Working Track
(Sta. 1482+00.00 to Sta. 1594+00.00)
Cut: 19,223 C.Y.
Fill: 7,295 C.Y.

West Wye Detention Cell
Cut: 110,964 C.Y.
Fill: 0 C.Y.

Support Tracks Detention Cell
Cut: 59,867 C.Y.
Fill: 0 C.Y.





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DATE:	6/3/2022
SHEET NUMBER	X113 of 115

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
CROSS SECTIONS STA.300+00 TO STA.302+00

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6/3/2022

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End Area Volume Report

Alignment Name: Pirate Lead Trk - CRG Shift

Baseline Station	Station Quantities				Mass Ordinate
	Cut		Fill		
	Area	Volume	Area	Volume	
44.00	0.00	0.00	0.00	0.00	0.00
22.14	6.26	2.54	0.00	0.00	2.54
-6.00	45.17	26.80	0.00	0.00	29.34
91.64	49.34	5.88	0.00	0.00	35.21
-5.00	55.61	187.83	0.00	0.00	223.04
-4.00	41.07	179.04	0.00	0.00	402.08
-3.00	32.83	136.85	0.00	0.00	538.93
-2.00	27.21	111.17	0.00	0.00	650.10
21.74	25.02	74.72	0.00	0.00	724.82
-1.00	24.29	20.77	0.00	0.00	745.58
91.24	23.28	7.71	0.00	0.00	753.30
0+00.00	11.82	59.29	2.07	3.51	809.08
1+00.00	11.14	42.50	2.38	8.25	843.33
2+00.00	5.75	31.28	6.21	15.92	858.69
3+00.00	6.53	22.74	8.10	26.50	854.94
3+18.67	7.47	4.84	6.86	5.17	854.60
3+90.20	2.82	13.62	54.75	81.60	786.62
4+00.00	2.96	1.05	36.14	16.50	771.17
4+20.12	6.01	3.34	21.34	21.42	753.10
4+34.20	6.89	3.36	23.38	11.66	744.81
4+64.20	0.69	4.21	26.12	27.51	721.51
5+00.00	4.37	3.35	23.96	33.20	691.66
6+00.00	0.00	8.09	33.08	105.61	594.14
7+00.00	0.00	0.00	86.50	221.44	372.70
7+41.91					0.00
8+00.00	0.00	0.00	393.68	889.23	-516.53
8+40.00	0.00	0.00	303.71	516.58	-1033.11
9+00.00	1.41	1.56	38.06	379.74	-1411.29
10+00.00	8.40	18.17	0.00	70.48	-1463.61
11+00.00	1.34	18.04	4.36	8.07	-1453.64
12+00.00	0.00	2.48	25.42	55.15	-1506.30
13+00.00	0.00	0.00	24.30	92.08	-1598.39
13+46.91	0.00	0.00	42.04	57.63	-1656.02
13+90.91	0.00	0.00	48.64	73.89	-1729.91
14+00.00	0.00	0.00	51.01	16.78	-1746.70
15+00.00	0.00	0.00	62.30	209.84	-1956.54
16+00.00	0.00	0.00	86.12	274.86	-2231.40
16+44.43	0.00	0.00	96.71	150.41	-2381.81
16+54.43	0.00	0.00	99.06	36.25	-2418.06
16+60.04	0.00	0.00	98.69	20.57	-2438.64
17+00.00	0.00	0.00	155.89	188.37	-2627.01
18+00.00	0.00	0.00	187.02	635.02	-3262.03
18+22.20	0.00	0.00	193.93	156.61	-3418.64
18+49.53	0.00	0.00	191.56	195.13	-3613.77
18+84.00	0.00	0.00	193.24	245.60	-3859.37
18+85.00	0.00	0.00	193.29	7.16	-3866.53
19+00.00	238.88	66.36	192.74	107.23	-3907.40
19+46.68	231.56	406.66	197.59	337.42	-3838.16
19+88.69	363.72	463.13	197.02	307.02	-3682.04
20+00.00	369.88	153.63	194.02	81.89	-3610.31
20+35.19	345.32	466.09	186.07	247.70	-3391.92
20+53.69	317.54	227.09	135.61	110.21	-3275.03
21+00.00	287.33	518.72	120.61	219.73	-2976.05
22+00.00	259.70	1013.02	110.45	427.90	-2390.93
22+90.83	279.11	906.30	57.86	283.11	-1767.75
22+92.83	0.00	10.36	30.43	3.28	-1760.66
23+00.00	0.00	0.00	27.74	7.72	-1768.38

End Area Volume Report

Alignment Name: Pirate Lead Trk - CRG Shift

Baseline Station	Station Quantities				Mass Ordinate
	Cut		Fill		
	Area	Volume	Area	Volume	
23+77.39	0.00	0.00	13.98	59.79	-1828.18
24+00.00	0.00	0.00	16.68	12.84	-1841.01
24+16.08	0.00	0.00	19.35	10.73	-1851.74
24+18.08	252.15	9.32	27.17	1.72	-1844.14
25+00.00	248.03	758.80	24.98	79.12	-1164.46
26+00.00	255.24	931.98	18.46	80.45	-312.93
26+34.39					0.00
27+00.00	268.71	970.28	14.08	60.26	597.09
28+00.00	292.59	1039.46	2.56	30.81	1605.74
29+00.00	280.70	1061.66	6.31	16.43	2650.97
30+00.00	276.10	1031.12	14.10	37.80	3644.29
31+00.00	269.86	1011.04	16.60	56.85	4598.48
32+00.00	270.13	999.97	18.41	64.83	5533.62
33+00.00	260.67	982.96	18.32	68.01	6448.57
34+00.00	262.62	969.07	30.50	90.39	7327.25
35+00.00	250.93	951.03	33.24	118.03	8160.25
36+00.00	251.96	931.28	34.42	125.30	8966.23
37+00.00	259.42	947.00	33.86	126.44	9786.78
37+60.00	0.00	288.24	23.48	63.71	10011.32
37+79.12	0.00	0.00	18.53	14.87	9996.45
37+81.12	0.00	0.00	9.87	1.05	9995.40
38+00.00	0.00	0.00	4.86	5.15	9990.25
39+00.00	0.00	0.00	2.74	14.07	9976.17
39+49.06	0.51	0.47	1.60	3.95	9972.69
39+51.06	295.45	10.94	1.04	0.10	9983.53
40+00.00	290.63	531.17	15.64	15.11	10499.58
40+63.17	306.60	698.68	0.00	18.30	11179.97
41+00.00	329.06	433.51	32.18	21.95	11591.53
42+00.00	253.69	1079.15	49.60	151.44	12519.24
43+00.00	242.72	919.27	59.75	202.50	13236.01
43+97.95	253.47	900.02	67.04	229.98	13906.04
44+00.00	252.98	19.24	67.43	5.11	13920.17
44+41.95	246.81	388.25	70.92	107.47	14200.95
45+00.00	237.53	520.67	80.42	162.69	14558.93
46+00.00	220.01	847.30	104.82	343.03	15063.20
46+01.43	219.75	11.61	105.34	5.55	15069.27
46+45.43	213.34	352.89	120.28	183.84	15238.31
47+00.00	205.93	423.72	136.01	259.01	15403.03
48+00.00	200.03	751.79	165.45	558.25	15596.56
49+00.00	216.70	771.72	161.59	605.64	15762.65
50+00.00	214.05	797.68	190.53	652.08	15908.25
51+00.00	205.93	777.75	215.06	751.09	15934.91
52+00.00	203.30	757.84	244.69	851.40	15841.35
53+00.00	200.97	748.65	271.89	956.64	15633.36
54+00.00	200.21	742.92	291.98	1044.21	15332.07
55+00.00	199.43	740.06	317.64	1128.93	14943.20
56+00.00	199.70	739.12	342.10	1221.74	14460.58
57+00.00	201.42	742.82	360.36	1300.84	13902.56
57+38.31	200.46	285.12	363.94	513.86	13673.81
57+82.31	199.82	326.15	360.67	590.42	13409.55
58+00.00	198.30	130.41	363.51	237.22	13302.74
59+00.00	202.76	742.71	358.09	1336.29	12709.16
59+33.56	201.88	251.49	360.09	446.35	12514.30
60+00.00	202.14	497.10	397.94	932.65	12078.75
61+00.00	205.25	754.44	449.73	1569.75	11263.44
62+00.00	222.66	792.43	454.97	1675.36	10380.51
63+00.00	281.94	934.44	402.01	1587.00	9727.96

End Area Volume Report

Alignment Name: Pirate Lead Trk - CRG Shift

Baseline Station	Station Quantities				Mass Ordinate
	Cut		Fill		
	Area	Volume	Area	Volume	
64+00.00	272.56	1026.85	443.64	1566.03	9188.78
65+00.00	263.17	992.09	483.47	1716.88	8463.99
66+00.00	256.13	961.66	517.91	1854.40	7571.25
67+00.00	248.72	934.90	549.46	1976.61	6529.54
68+00.00	234.03	893.98	586.72	2104.04	5319.48
69+00.00	223.20	846.72	586.91	2173.39	3992.81
70+00.00	213.49	808.67	602.20	2202.06	2599.43
71+00.00	328.88	1004.39	291.72	1655.40	1948.42
72+00.00	295.95	1157.09	272.11	1044.11	2061.40
73+00.00	267.53	1043.46	268.40	1000.94	2103.92
74+00.00	244.12	947.49	263.13	984.32	2067.10
75+00.00	233.25	884.03	271.60	990.23	1960.89
76+00.00	228.50	855.10	265.03	993.76	1822.24
77+00.00	225.83	841.36	252.23	957.88	1705.72
78+00.00	217.95	821.82	259.33	947.33	1580.21
79+00.00	214.36	800.58	262.21	965.82	1414.96
80+00.00	230.09	823.07	222.90	898.36	1339.67
81+00.00	240.46	871.40	208.01	797.98	1413.09
82+00.00	250.41	909.02	196.94	749.91	1572.19
83+00.00	244.86	917.17	194.92	725.67	1763.69
84+00.00	210.90	844.00	222.11	772.27	1835.42
85+00.00	213.05	785.08	201.10	783.72	1836.79
86+00.00	221.04	803.86	172.78	692.38	1948.26
87+00.00	213.27	804.26	161.33	618.72	2133.80
88+00.00	207.52	779.23	160.01	595.06	2317.98
89+00.00	207.74	769.00	137.16	550.31	2536.67
90+00.00	206.40	766.93	127.01	489.20	2814.40
91+00.00	208.56	768.46	105.43	430.43	3152.42
92+00.00	211.38	777.67	92.81	367.10	3562.98
93+00.00	217.18	793.63	68.51	298.73	4057.88
94+00.00	212.28	795.31	62.86	243.27	4609.92
95+00.00	211.59	784.94	51.93	212.58	5182.28
95+65.02	212.59	510.70	38.89	109.35	5583.64
96+00.00	211.99	275.08	37.46	49.46	5809.25
96+44.57	211.88	349.89	33.64	58.69	6100.45
97+00.00	214.26	437.39	28.44	63.72	6474.12
98+00.00	215.26	795.41	22.32	94.00	7175.54
99+00.00	208.91	785.51	6.79	53.91	7907.13
100+00.00	235.38	822.76	0.00	12.57	8717.32
101+00.00	184.58	777.71	3.85	7.13	9487.89
102+00.00	169.61	655.92	2.08	10.98	10132.83
103+00.00	143.12	579.13	3.64	10.58	10701.37
104+00.00	117.56	482.74	10.79	26.71	11157.41
105+00.00	107.51	416.80	11.65	41.54	11532.67
106+00.00	113.87	409.97	14.70	48.79	11893.85
107+00.00	100.66	397.28	17.15	58.99	12232.14
107+56.37	119.81	230.15	15.32	33.90	12428.39
108+00.00	119.31	193.19	19.05	27.76	12593.82
108+00.37	119.44	1.64	19.10	0.26	12595.20
109+00.00	117.80	437.69	22.32	76.42	12956.48
110+00.00	136.59	471.09	16.51	71.90	13355.67
111+00.00	122.11	479.07	14.61	57.64	13777.10
112+00.00	112.73	434.89	5.44	37.13	14174.86
113+00.00	107.63	408.08	9.27	27.24	14555.70
113+54.45	108.16	217.59	14.70	24.17	14749.12
113+98.45	116.52	183.07	18.49	27.04	14905.15
114+00.00	116.22	6.68	18.46	1.06	14910.77

End Area Volume Report

Alignment Name: Pirate Lead Trk - CRG Shift

Baseline Station	Station Quantities				Mass Ordinate
	Cut		Fill		
	Area	Volume	Area	Volume	
115+00.00	110.03	418.97	31.24	92.03	15237.71
116+00.00	108.52	404.72	12.35	80.72	15561.71
117+00.00	94.17	375.36	48.45	112.59	15824.48
118+00.00	89.80	340.69	38.14	160.36	16004.81
119+00.00	99.74	350.99	41.20	146.92	16208.88
120+00.00	100.61	371.01	39.70	149.81	16430.07
120+97.10	103.44	366.90	32.66	130.12	16666.86
121+00.00	103.89	11.14	32.87	3.52	16674.48
121+41.10	106.43	160.07	34.48	51.26	16783.29
122+00.00	102.07	227.42	33.36	74.00	16936.71
123+00.00	100.20	374.56	25.58	109.14	17202.14
124+00.00	96.14	363.59	33.97	110.26	17455.46
125+00.00	105.93	374.20	26.18	111.39	17718.27
126+00.00	110.91	401.54	13.80	74.04	18045.77
126+94.13	105.46	377.16	19.05	57.27	18365.66
127+00.00	106.00	22.97	18.65	4.10	18384.54
127+38.13	105.19	149.14	17.73	25.69	18507.99
128+00.00	100.99	236.22	19.13	42.22	18701.98
129+00.00	102.79	377.36	17.37	67.59	19011.75
130+00.00	109.29	392.73	12.48	55.28	19349.20
131+00.00	105.15	397.11	15.56	51.93	19694.38
132+00.00	102.50	384.53	17.32	60.90	20018.01
133+00.00	99.10	373.32	18.88	67.04	20324.29
134+00.00	105.61	379.09	13.01	59.06	20644.32
135+00.00	117.90	413.92	7.28	37.59	21020.66
136+00.00	115.27	431.80	6.62	25.75	21426.71
137+00.00	111.78	420.46	8.94	28.83	21818.34
138+00.00	105.75	402.84	13.40	41.38	22179.80
139+00.00	104.31	389.01	14.81	52.24	22516.57
140+00.00	99.11	376.70	19.44	63.43	22829.85
141+00.00	106.88	381.45	16.21	66.02	23145.28
142+00.00	97.92	379.26	19.54	66.21	23458.33
143+00.00	92.41	352.47	27.07	86.32	23724.48
144+00.00	86.86	331.98	30.77	107.10	23949.36
145+00.00	83.89	316.20	38.55	128.37	24137.20
146+00.00	79.61	302.77	41.12	147.54	24292.43
147+00.00	76.77	289.59	45.26	159.97	24422.05
148+00.00	72.78	276.94	55.83	187.21	24511.78
149+00.00	72.30	268.66	61.34	216.98	24563.47
150+00.00	70.03	263.58	59.79	224.30	24602.74
151+00.00	66.77	253.33	53.28	209.38	24646.69
152+00.00	65.55	245.04	53.65	198.02	24693.71
153+00.00	62.44	237.02	50.80	193.44	24737.30
154+00.00	61.36	229.25	43.41	174.47	24792.08
155+00.00	60.53	225.72	36.71	148.37	24869.42
155+49.72	59.63	110.63	13.86	46.56	24933.50
155+51.72	0.00	2.21	8.26	0.82	24934.88
156+00.00	19.84	17.74	0.00	7.39	24945.24
156+91.72	14.86	58.94	0.00	0.00	25004.19
156+93.72	63.52	2.91	0.00	0.00	25007.09
157+00.00	64.52	14.89	0.00	0.00	25021.98
158+00.00	274.28	627.40	0.00	0.00	25649.38
158+51.77	123.67	381.50	0.00	0.00	26030.88
158+84.77	103.61	138.89	1.40	0.86	26168.92
159+00.00	108.71	59.89	0.21	0.45	26228.35
160+00.00	103.85	393.63	1.69	3.51	26618.47
161+00.00	99.56	376.69	3.17	9.00	26986.16

olsson
2111 South 67th Street, Suite 200
Omaha, NE 68106-2810
TEL 402.341.1116
FAX 402.341.5895
www.olsson.com

UNION PACIFIC

DRAWN BY: JTD
CHECKED BY: JRM
DATE: 6/3/2022
SHEET NUMBER: X114 of 115

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
PIRATE LEAD TRACK EARTHWORK SUMMARY

Color table: K:\Bentley\WorkspaceV8i\projects\Clients\UPRR_Track\UPRR_Track_V8i\color\UPRR.tbl
F:\2020\0501-1000\020-0927\40-Design\Microstation\020-0927_RLTK\Pentable\020-0927_RLTK.tbl
F:\2020\0501-1000\020-0927\40-Design\Microstation\020-0927_RLTK\DGN\Sheets\05_Cross Sections\T_XSC_200927.dgn
Default
6/3/2022

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End Area Volume Report

Alignment Name: Pirate Lead Trk - CRG Shift

Baseline Station	Station Quantities				Mass Ordinate
	Cut		Fill		
	Area	Volume	Area	Volume	
161+32.29	95.96	116.92	5.54	5.21	27097.86
161+65.29	96.10	117.37	4.58	6.19	27209.04
162+00.00	97.28	124.29	3.05	4.91	27328.43
163+00.00	94.97	356.01	4.41	13.82	27670.62
164+00.00	87.40	337.72	10.50	27.61	27980.73
165+00.00	81.86	313.44	14.08	45.52	28248.64
166+00.00	79.49	298.80	18.33	60.02	28487.42
167+00.00	83.49	301.81	19.03	69.20	28720.04
168+00.00	75.68	294.76	23.08	77.99	28936.81
169+00.00	101.17	327.51	6.10	54.04	29210.27
170+00.00	142.13	450.57	0.00	11.30	29649.55
171+00.00	175.30	587.85	0.00	0.00	30237.39
172+00.00	174.39	647.58	0.00	0.00	30884.97
173+00.00	162.91	624.64	0.00	0.00	31509.61
174+00.00	164.52	606.36	0.00	0.00	32115.98
175+00.00	157.81	596.91	0.00	0.00	32712.88
176+00.00	151.81	573.38	0.00	0.00	33286.26
176+97.39	147.42	539.69	0.00	0.00	33825.95
177+00.00	146.91	14.21	0.00	0.00	33840.17
177+30.39	143.43	163.41	0.00	0.00	34003.58
178+00.00	138.77	363.77	0.00	0.00	34367.34
179+00.00	132.43	502.22	0.00	0.00	34869.56
179+78.59	128.84	380.23	0.00	0.00	35249.79
180+00.00	128.86	102.20	0.00	0.00	35351.99
180+11.59	127.59	55.02	0.00	0.00	35407.01
181+00.00	110.00	389.02	0.00	0.00	35796.03
182+00.00	106.49	400.91	0.00	0.00	36196.95
183+00.00	206.74	580.06	0.00	0.00	36777.00
184+00.00	193.39	740.99	0.00	0.00	37517.99
185+00.00	188.78	707.73	0.00	0.00	38225.72
186+00.00	173.11	670.17	0.00	0.00	38895.89
187+00.00	170.03	635.45	0.00	0.00	39531.34
188+00.00	156.65	604.97	0.00	0.00	40136.31
189+00.00	156.20	579.35	0.00	0.00	40715.66
190+00.00	156.47	579.01	0.00	0.00	41294.67
191+00.00	155.84	578.35	0.00	0.00	41873.01
192+00.00	141.51	550.65	0.00	0.00	42423.66
193+00.00	129.53	501.93	0.00	0.00	42925.59
194+00.00	116.53	455.67	0.00	0.00	43381.27
195+00.00	123.32	444.16	0.00	0.00	43825.43
196+00.00	200.05	598.83	0.00	0.00	44424.26
197+00.00	215.10	768.79	0.00	0.00	45193.05
198+00.00	219.13	804.12	0.00	0.00	45997.17
199+00.00	220.80	814.69	0.00	0.00	46811.86
200+00.00	221.03	818.20	0.00	0.00	47630.06
201+00.00	220.10	816.90	0.00	0.00	48446.97
201+97.18	214.25	781.65	0.00	0.00	49228.61
202+00.00	219.31	22.67	0.00	0.00	49251.28
202+27.18	270.49	246.50	0.00	0.00	49497.78
203+00.00	265.69	723.09	0.00	0.00	50220.88
203+49.67	260.92	484.38	0.00	0.00	50705.25
204+00.00	255.38	481.22	0.00	0.00	51186.47
205+00.00	246.54	929.48	0.00	0.00	52115.96
205+72.68	239.97	654.78	0.00	0.00	52770.73
205+77.68	239.89	44.43	0.00	0.00	52815.17
206+00.00	238.78	197.88	0.00	0.00	53013.04
207+00.00	236.88	880.84	0.00	0.00	53893.89

End Area Volume Report

Alignment Name: Pirate Lead Trk - CRG Shift

Baseline Station	Station Quantities				Mass Ordinate
	Cut		Fill		
	Area	Volume	Area	Volume	
207+88.57	225.52	758.44	0.00	0.00	54652.33
207+96.57	244.48	69.63	0.00	0.00	54721.96
208+00.00	242.97	30.94	0.00	0.00	54752.90
208+80.92	271.22	770.52	0.00	0.00	55523.41
208+82.92	15.25	10.62	0.00	0.00	55534.03
209+00.00	34.86	15.85	0.00	0.00	55549.88
209+42.92	0.00	27.71	138.15	109.81	55467.77
209+44.92	0.00	0.00	231.23	13.67	55454.11
210+00.00	244.94	249.84	0.00	235.85	55468.09
210+40.00	148.34	291.32	0.00	0.00	55759.41
211+00.00	146.65	327.76	0.00	0.00	56087.17
212+00.00	124.76	502.59	0.00	0.00	56589.76
213+00.00	94.69	406.38	0.82	1.52	56994.62
214+00.00	74.01	312.40	9.37	18.88	57288.14
215+00.00	57.31	243.18	26.84	67.07	57464.25
216+00.00	45.39	190.19	49.77	141.87	57512.58
217+00.00	34.20	147.39	72.37	226.17	57433.79
218+00.00	25.22	110.03	96.01	311.80	57232.02
219+00.00	16.70	77.63	120.52	400.97	56908.67
220+00.00	10.23	49.87	142.90	487.80	56470.74
221+00.00	6.06	30.16	161.60	563.88	55937.02
222+00.00	0.00	11.21	168.06	610.48	55337.75
223+00.00	0.00	0.00	150.36	589.67	54748.08
224+00.00	0.00	0.00	141.95	541.31	54206.77
225+00.00	0.00	0.00	143.52	528.65	53678.12
226+00.00	0.00	0.00	139.34	523.82	53154.29
227+00.00	0.00	0.00	140.70	518.58	52635.71
228+00.00	0.00	0.00	140.52	520.77	52114.94
229+00.00	0.00	0.00	138.52	516.73	51598.21
230+00.00	0.00	0.00	135.70	507.81	51090.41
231+00.00	0.00	0.00	137.59	506.09	50584.32
232+00.00	0.00	0.00	133.12	501.31	50083.01
233+00.00	0.00	0.00	127.95	483.47	49599.54
234+00.00	0.00	0.00	121.11	461.23	49138.30
235+00.00	2.01	3.72	108.57	425.34	48716.68
236+00.00	54.44	104.54	107.11	399.41	48421.81
237+00.00	36.42	168.26	116.54	414.17	48175.90
238+00.00	37.76	137.37	97.13	395.68	47917.59
239+00.00	35.87	136.36	100.61	366.18	47687.77
240+00.00	34.46	130.25	97.56	366.98	47451.04
241+00.00	37.93	134.05	83.09	334.53	47250.55
242+00.00	38.29	141.14	77.86	298.06	47093.64
243+00.00	42.15	148.96	72.70	278.81	46963.79
244+00.00	44.25	160.00	67.08	258.86	46864.93
245+00.00	48.75	172.21	57.55	230.81	46806.33
246+00.00	53.43	189.21	47.44	194.44	46801.09
247+00.00	60.38	210.75	40.49	162.84	46848.99
248+00.00	66.97	235.82	35.56	140.84	46943.98
249+00.00	81.15	274.28	12.33	88.69	47129.56
250+00.00	184.60	492.12	0.00	22.84	47598.85
251+00.00	179.72	674.67	0.00	0.00	48273.52
252+00.00	187.28	679.63	0.00	0.00	48953.15
253+00.00	180.65	681.34	0.00	0.00	49634.49
254+00.00	183.56	674.45	0.00	0.00	50308.93
255+00.00	184.01	680.67	0.00	0.00	50989.60
255+19.01	183.53	129.37	0.00	0.00	51118.97
255+24.01	193.32	34.89	0.00	0.00	51153.87

End Area Volume Report

Alignment Name: Pirate Lead Trk - CRG Shift

Baseline Station	Station Quantities				Mass Ordinate
	Cut		Fill		
	Area	Volume	Area	Volume	
256+00.00	191.80	541.97	0.00	0.00	51695.84
257+00.00	194.70	715.74	0.00	0.00	52411.58
258+00.00	206.02	742.08	0.00	0.00	53153.66
258+69.51	210.69	536.39	0.00	0.00	53690.06
258+89.51	166.24	139.61	0.00	0.00	53829.66
259+00.00	168.19	64.98	0.00	0.00	53894.64
260+00.00	174.13	633.93	0.00	0.00	54528.57
261+00.00	191.96	677.96	0.00	0.00	55206.53
261+33.24	135.07	201.31	0.64	0.39	55407.44
261+35.24	14.99	5.57	0.00	0.02	55412.98
262+00.00	28.77	52.47	0.00	0.00	55465.46
262+15.24	27.03	15.75	0.00	0.00	55481.21
262+17.24	67.54	3.50	0.00	0.00	55484.70
262+96.01	48.28	168.94	0.00	0.00	55653.64
263+00.00	38.46	6.42	0.00	0.00	55660.06
263+40.01	0.14	28.60	6.51	4.83	55683.83
264+00.00	0.00	0.16	15.87	24.86	55659.13
265+00.00	0.00	0.00	54.97	131.19	55527.94
266+00.00	0.00	0.00	91.54	271.33	55256.61
267+00.00	0.00	0.00	151.36	449.82	54806.79
268+00.00	0.00	0.00	193.21	638.10	54168.69
269+00.00	8.48	15.69	163.55	660.67	53523.72
270+00.00	20.89	54.38	81.84	454.43	53123.67
270+67.18	47.52	85.10	49.84	163.83	53044.95
271+00.00	62.77	67.03	38.22	53.52	53058.46
271+11.18	67.73	27.02	28.91	13.90	53071.58
272+00.00	91.94	262.62	8.16	60.98	53273.23
273+00.00	144.55	437.94	0.00	15.12	53696.06
274+00.00	188.91	617.52	0.00	0.00	54313.58
275+00.00	54.94	451.59	32.80	60.74	54704.43
276+00.00	0.00	101.75	231.96	490.29	54315.88
277+00.00	0.00	0.00	387.63	1147.38	53168.50
277+04.53	0.00	0.00	388.29	65.07	53103.43
277+48.53	0.00	0.00	397.66	640.41	52463.03
278+00.00	0.00	0.00	390.30	751.07	51711.96
279+00.00	0.00	0.00	383.07	1432.16	50279.80
280+00.00	0.00	0.00	386.28	1424.71	48855.09
281+00.00	0.00	0.00	206.77	1098.24	47756.85
282+00.00	30.37	56.23	71.56	515.42	47297.67
283+00.00	152.53	338.70	0.00	132.52	47503.85
284+00.00	318.52	872.31	0.00	0.00	48376.16
284+73.47	77.77	539.19	15.76	21.45	48893.90
285+00.00	74.08	74.60	24.73	19.89	48948.60
285+17.47	75.53	48.41	23.72	15.68	48981.33
286+00.00	68.52	220.15	25.16	74.71	49126.77
287+00.00	67.18	251.30	29.03	100.35	49277.72
288+00.00	53.57	223.62	41.72	131.01	49370.33
289+00.00	40.25	173.74	50.76	171.26	49372.81
290+00.00	34.63	138.66	59.53	204.24	49307.23
291+00.00	39.84	137.91	50.43	203.63	49241.50
292+00.00	25.38	120.77	68.80	220.81	49141.46
293+00.00	19.46	83.03	74.68	265.71	48958.77
294+00.00	401.26	779.11	0.00	138.30	49599.58
295+00.00	229.91	1168.83	0.00	0.00	50768.41
296+00.00	0.00	425.76	75.55	139.92	51054.25
297+00.00	0.00	0.00	77.37	283.19	50771.06
298+00.00	0.00	0.00	169.30	456.80	50314.26

End Area Volume Report

Alignment Name: Pirate Lead Trk - CRG Shift

Baseline Station	Station Quantities				Mass Ordinate
	Cut		Fill		
	Area	Volume	Area	Volume	
299+00.00	0.00	0.00	104.74	507.48	49806.78
300+00.00	0.00	0.00	113.67	404.45	49402.32
301+00.00	0.00	0.00	132.92	456.64	48945.68
302+00.00	0.00	0.00	0.00	246.14	48699.54
Grand Total:		**143323.71**		**94624.17**	

Pirate Lead & Wye Track Grading Quantities

Proposed Subgrade
Cut: 146,737 C.Y.
Fill: 98,728 C.Y.
Net: 48,009 C.Y. (Cut)
Subballast: 51,049 C.Y.

Clearing & Grubbing: 82.26 Acres
Seeding: 40.86 Acres

Detention Cell Grading Quantities

West Wye Detention Cell
Cut: 110,964 C.Y.
Fill: 0 C.Y.

Support Tracks Detention Cell
Cut: 60,135 C.Y.
Fill: 0 C.Y.

Project Quantities

Proposed Subgrade
Cut: 276,924 C.Y.
Fill: 106,291 C.Y.
Net: 170,633 C.Y. (Cut)

Subballast: 61,518 C.Y.
Clearing & Grubbing: 93.32 Acres
Seeding: 44.92 Acres

olsson
2111 South 67th Street, Suite 200
Omaha, NE 68106-2810
TEL 402.341.1116
FAX 402.341.5895
www.olsson.com

DRAWN BY: JTD
CHECKED BY: JRM
DATE: 6/3/2022
SHEET NUMBER: X115 of 115

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona - Maricopa County
Phoenix Subdivision MP 934.79 to MP 937.83
Construct Industrial Lead Track

SHEET TITLE:
PIRATE LEAD TRACK EARTHWORK SUMMARY

Color table: K:\Bentley\WorkspaceV8i\projects\Clients\UPRR_Track\UPRR_Track_V8i\color\UPRR.tbl
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6/3/2022

$FILES$

ABBREVIATIONS

A	AMPERE	EA	EACH	K	KELVIN	R	RELAY
AC	ALTERNATING CURRENT	EC	EMPTY CONDUIT	KCMIL	THOUSAND CIRCULAR MILS	RE	RESET
ACB	AIR CIRCUIT BREAKER	EGC	EQUIPMENT GROUNDING CONDUCTOR	KI	KEY INTERLOCK	REC	RECESSED
ACSR	AL CABLE STEEL REIN.			KP	KEYPAD	RECP	RECEPTACLE
AFD	ADJ FREQUENCY DRIVE	EL	EMERGENCY LIGHT	KV	KILOVOLT	REF	REFERENCE
AFF	ABOVE FINISHED FLOOR	ELECT.	ELECTRICAL	KVA	KILOVOLT AMPERE	REFG	REFRIGERATOR
AFG	ABOVE FINISHED GRADE	EL	ELEVATION	KVAR	KILOVAR	REIN.	REINFORCE(D)
AFS	AIR FLOW SWITCH	ELEV	ELEVATION	KW	KILOWATT	REQ	REQUIRE(D)
ADJ	ADJUST/ADJUSTABLE	EMERG	EMERGENCY	KWH	KILOWATT HOUR	RES	RESISTOR
AL	ALUMINUM	EMF	ELECTROMOTIVE FORCE			RFI	RADIO FREQ INTERFERENCE
ALM	ALARM	EMH	ELECTRICAL MANHOLE	L	LOW	RS	RAPID START
AM	AMMETER	EP	ELECTRIC PNEUMATIC RELAY	LA	LIGHTING ARRESTER	RT	RAIN TIGHT
AMB	AMBER	EQUIP	EQUIPMENT	LB	POUNDS	RTM	RUNNING TIME METER
AMP	AMPERE	ES	EMERGENCY SWITCH	LC	LIGHTING CONTACTOR	RVNR	REDUCED VOLTAGE, NON-REVERSING, MAGNETIC MOTOR STARTER
ANN	ANNUNCIATOR	ES	END SWITCH	LD	LIGHTING DISTRIBUTION		
APPROX	APPROXIMATE	ETM	ELAPSED TIME METER	LLA	LOW LEVEL ALARM		
AQ	AQUASTAT	EWC	ELECTRIC WATER COOLER	LPA	LOW PRESSURE ALARM		
AR	ALARM RELAY	EWH	ELECTRIC WATER HEATER	LOR	LOCAL-OFF-REMOTE	S	SECONDARY
AS	AMP SWITCH	EX	EXISTING	LP	LIGHTING PANEL	S/N	SERIAL NUMBER
AS	AUXILIARY SWITCH	(E)	EXISTING	LS	LIMIT SWITCH	S/N	SOLID NEUTRAL
ATS	AUTO TRANSFER SWITCH			LT	LIGHT TOWER	SCH	SCHEDULE
AUTO	AUTOMATIC	FC	FOOT-CANDLE	LTG	LIGHTING	SECT.	SECTION
AUX	AUXILIARY	FD	FIRE DETECTOR	LTS	LOW TEMPERATURE SWITCH	SH	SHEET
AWG	AMERICAN WIRE GAGE	FIG	FIGURE	LV	LOW VOLTAGE	SP	SINGLE POLE
		FL	FLOOR	LWCO	LOW WATER CUT-OFF	SPD	SURGE PROTECTIVE DEVICE
BC	BATTERY CHARGER	FLA	FULL LOAD AMPERE	LLCO	LOW LEVEL CUT-OFF	SPDT	SINGLE POLE DOUBLE THROW
BLDG	BUILDING	FLEX	FLEXIBLE			SPST	SINGLE POLE SINGLE THROW
BFG	BELOW FINISHED GRADE	FLS	FLOW SWITCH	M	MOTOR	SS	SELECTOR SWITCH
BRK	BREAKER	FREQ	FREQUENCY	MAX	MAXIMUM	SSBJ	SUPPLY SIDE BONDING JUMPER
BSMT	BASEMENT	FS	FLOAT SWITCH	MCB	MAIN CIRCUIT BREAKER	ST	SINGLE THROW
BTU	BRITISH THERMAL UNIT			MCC	MOTOR CONTROL CENTER	STA	STATION
		FT	FEET	MCS	MOTOR CONTROL STAND	STD	STANDARD
C	CLOSE(D)	FU	FUSE	MDP	MAIN DISTRIBUTION PANEL	SW	SWITCH
C/C	CENTER TO CENTER	FVC	FULL VOLTAGE CONTACTOR (MAGNETIC)	MD	MOISTURE DETECTOR	SWGR	SWITCH GEAR
CAB.	CABINET			ME	METER	SYS	SYSTEM
CAP.	CAPACITOR	FVNR-2	MAGNETIC FULL VOLTAGE NON-REVERSING MOTOR STARTER (NUMBER DENOTES NEMA SIZE	MECH	MECHANICAL	SV	SOLENOID VALVE
CAT.	CATALOG			MFM	MAGNETIC FLOW METER		
CB	CIRCUIT BREAKER			MH	MANHOLE	TB	TERMINAL BLOCK
℄	CENTER LINE			MH	MOUNTING HEIGHT	TC	THERMOCOUPLE
CCT	DENOTES CIRCUIT(S)	FVR	MAGNETIC FULL VOLTAGE REVERSING STARTER	MIN	MINIMUM	TC	TIME CLOSED
CDT	CONDUIT			MISC	MISCELLANEOUS	TD	TIME DELAY RELAY
CDTR	CONDUCTOR	FVMS	MAGNETIC FULL VOLTAGE MULTI-SPEED STARTER	MLO	MAIN LUG ONLY	TEL	TELEPHONE
CKT	CIRCUIT			MOV	MOTOR OPERATED VALVE	TEMP	TEMPERATURE
CL	CLEARANCE			MS	MOTOR STARTER	TERM.	TERMINAL
CLC	COMBINATION LIGHTING CONTACTOR	G	GROUNDED	MSW	MAIN SWITCH	TH	THERMOSTAT
		GALV	GALVANIZED	MTD	MOUNTED	TMTR	TRANSMITTER
CLG	CEILING	GEC	GROUNDING ELECTRODE CONDUCTOR			TO	TIMED OPEN
COMB.	COMBINATION			N	NEUTRAL	TP	THREE POLE
COMM	COMMUNICATION	GEN	GENERATOR	(N)	NEW	TP	TWISTED PAIR
CONC	CONCRETE	GFCI	GROUND FAULT CIRCUIT INTERRUPTING	NC	NORMALLY CLOSED	TS	TIME SWITCH
COMP	COMPRESSOR			N.C.	NORMALLY CLOSED	TT	TELEPHONE TERMINAL
CP	CONTROL PANEL	GFI	GROUND FAULT INTERRUPTING	NEC	NATIONAL ELECTRICAL CODE	TTB	TELEPHONE TERMINAL BOX
CPT	CONTROL POWER TRANSFORMER			NESC	NATIONAL ELECTICAL SAFETY CODE	TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
		GND	GROUND				
CR	CONTROL RELAY			NEUT	NEUTRAL	TYP	TYPICAL
CRN	CRANE	HC	HOT CIRCUIT	NIC	NOT IN CONTRACT		
CS	CONTROL STATION	HH	HAND HOLE	N.O.	NORMALLY OPEN	UG	UNDERGROUND
CT	CURRENT TRANSFORMER	HI	HIGH	NO.	NUMBER	UNO	UNLESS NOTED OTHERWISE
CTP	CUSTOMER TERMINAL PANEL	HID	HIGH INTENSITY DISCHARGE	NTS	NOT TO SCALE	UPS	UNINTERUPTABLE POWER SUPPLY
CU	COPPER	HLA	HIGH LEVEL ALARM				
DET	DETAIL	HMT	HIGH MAST TOWER	O	OPEN		
DCU	DISTRIBUTED CONTROL UNIT	HOA	HAND-OFF-AUTOMATIC	OC	ON CENTER	V	VOLTS
DC	DIRECT CURRENT	HOR	HAND-OFF-REMOTE	OD	OUTSIDE DIAMETER	VA	VOLT AMPERE
	DOOR INTERLOCK	HP	HORSEPOWER	OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED	VAR	VARMETER
DIA	DIAMETER	HPS	HIGH PRESSURE SODIUM			VM	VOLTMETER
DIM.	DIMENSION	HPA	HIGH PRESSURE ALARM	OL	OVERLOAD	VS	VOLTMETER SWITCH
DISC.	DISCONNECT	HTR	HEATER	OPG	OPENING	VT	VAPOR TIGHT
DIV	DIVISION	HTS	HIGH TEMPERATURE SWITCH				
DM	DEMAND METER	HV	HIGH VOLTAGE	P	PRIMARY	W	WATTS
DN	DOWN	HZ	HERTZ	PA	PUBLIC ADDRESS	WM	WATT METER
DP	DISTRIBUTION PANEL	I/O	INPUT/OUTPUT	PB	PULL BOX	WHM	WATT HOUR METER
DPDT	DOUBLE POLE DOUBLE THROW	ID	INSIDE DIAMETER	PB	PUSH BUTTON	WH	WEATHERHEAD
		IN	INCHES	PC	PHOTO CELL	WP	WEATHER PROOF
DPST	DOUBLE POLE SINGLE THROW	INST	INSTANTANEOUS	PD	POWER DISTRIBUTION	WT	WATER TIGHT
		INSTR	INSTRUMENT	PE	PNEUMATIC ELECTRIC RELAY		
DS	DISCONNECT SWITCH			PEC	PHOTO ELECTRIC CELL	XFMR	TRANSFORMER
DT	DUST TIGHT	J	JOULE	P.E.R.	PHOTO ELECTRIC RELAY	XP	EXPLOSION PROOF
DWG	DRAWING	JB	JUNCTION BOX	PF	POWER FACTOR	XR	AUXILIARY RELAY
				PH	PHASE		
				PL	PILOT LIGHT	Y	YELLOW
				PRI	PRIMARY		
				PS	PRESSURE SWITCH		
				PSI	POUNDS PER SQUARE INCH		

SUBMITTAL REQUIREMENTS

NOT ALL SUBMITTAL REQUIREMENTS ARE SHOWN HERE. SEE SPECIFICATION SECTION 01 33 00 FOR ADDITIONAL INFORMATION.

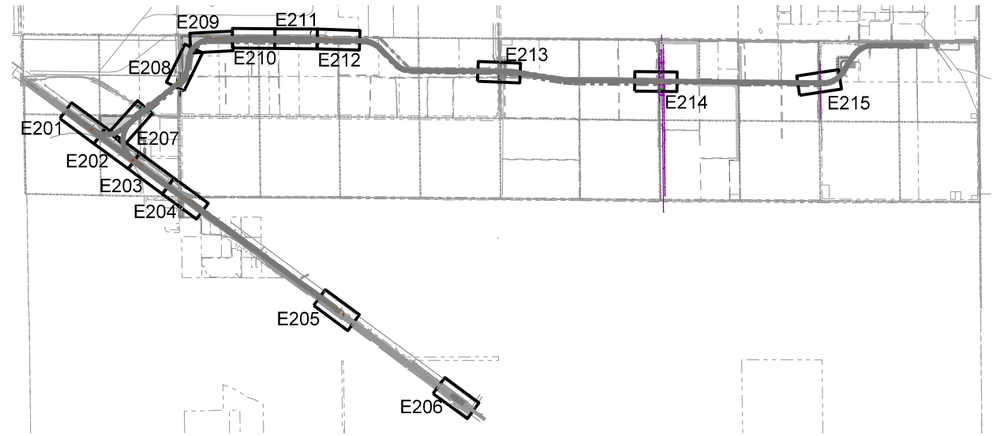
SECTION NUMBER	SECTION NAME	SHOP DRAWINGS	PRODUCT TECHNICAL DATA	O & M MANUAL	TEST REPORTS	FABRICATION AND/OR LAYOUT DRAWING
	SPECIAL CONDITIONS					
13 47 13	CATHODIC PROTECTION	X	X			
26 05 00	ELECTRICAL BASIC REQUIREMENTS	X	X	X		
26 05 09	MOTORS	X	X			
26 05 13	MEDIUM VOLTAGE CABLE	X	X			X
26 05 19	WIRE AND CABLE 600 VOLT & BELOW	X	X			
26 05 26	GROUNDING	X	X			
26 05 33	RACEWAYS AND BOXES	X	X			X
26 05 36	CABLE TRAYS	X	X			X
26 05 43	ELECTRICAL EXTERIOR UNDERGROUND	X	X			X
26 05 98	POWER DISTRIBUTION CENTER - GEAR HOUSES	X	X	X		X
26 08 13	ACCEPTANCE TESTING	X			X	
26 09 13	ELECTRICAL METERING DEVICES	X	X	X		
26 09 16	CONTROL EQUIPMENT ACCESSORIES	X	X	X		X
26 09 43	RADIO OPERATED LIGHTING CONTROL					X
26 10 00	MEDIUM VOLTAGE ELECTRICAL DISTRIBUTION	X	X	X	X	
26 12 13	POLE-MOUNTED DISTRIBUTION TRANSFORMERS	X	X	X	X	X
26 12 19	PAD-MOUNTED DISTRIBUTION TRANSFORMERS	X	X	X	X	X
26 13 13	MEDIUM VOLTAGE METAL-CLAD PARALLELING SWITCHGEAR	X	X	X	X	X
26 13 23	SECTIONALIZING EQUIPMENT		X		X	X
26 18 19	MEDIUM VOLTAGE LIGHTNING ARRESTERS	X	X			
26 22 13	DRY-TYPE TRANSFORMERS	X	X	X		X
26 24 13	SWITCHBOARDS	X	X	X		X
26 24 16	PANELBOARDS	X	X	X		X
26 24 19	MOTOR CONTROL EQUIPMENT	X	X	X		X
26 26 13	PACKAGE POWER SUPPLY	X	X	X		X
26 27 26	WIRING DEVICES	X	X			
26 28 00	OVERCURRENT AND SHORT CIRCUIT PROTECTIVE DEVICES	X	X	X	X	
26 28 16	SAFETY SWITCHES	X	X	X		
26 29 23	VARIABLE FREQUENCY DRIVES LOW VOLTAGE	X	X	X	X	X
26 32 13	ENGINE GENERATOR VAPOR OR LIQUID FUELED	X	X	X	X	X
26 32 14	ENGINE GENERATOR DIESEL	X	X	X	X	X
26 33 00	BATTERY AND BATTERY CHARGING SYSTEMS	X	X	X	X	X
26 36 13	MANUAL TRANSFER SWITCHES	X	X	X		X
26 36 23	AUTOMATIC TRANSFER SWITCHES	X	X	X		X
26 43 13	LOW VOLTAGE SURGE PROTECTION DEVICES	X	X	X	X	X
26 50 00	INTERIOR AND EXTERIOR LIGHTING	X		X	X	
26 51 00	HIGH MAST GENERAL AREA LIGHTING	X	X	X	X	X
26 99 00	POWER SYSTEM ANALYSIS				X	
27 11 13	COMMUNICATION ENTRANCE	X	X			
33 71 14	OVERHEAD ELECTRIC SERVICE	X	X	X		
40 63 43	PROGRAMMABLE LOGIC CONTROLLERS (PLC)	X	X			X

GENERAL ELECTRICAL AND TELECOM DESCRIPTION

THE GENERAL SCOPE OF THIS PROJECT INCLUDES PROVIDING UTILITY POWER AND TELECOM SERVICE CONNECTIONS WHERE REQUIRED FOR SIGNAL CABINS AND DEVICES, SWITCH-LEAD LIGHTING, AND CREW BUILDINGS.

ALL SERVICES INSTALLATIONS WILL COMPLY WITH SRP ELECTRICAL CONSTRUCTION GUIDELINES, UPRR DESIGN STANDARDS, AND MEET LOCAL CODES AND INSTALLATION REQUIREMENTS. LIGHTING WILL COMPLY WITH LOCAL DARK-SKY REQUIREMENTS. LIGHTING INSTALLATIONS NEAR REGIONAL AIRPORTS WILL COMPLY WITH FEDERAL AVIATION ASSOCIATION'S GUIDELINES FOR VERTICAL CLEARANCE.

CONFIRM NEW SERVICE LOCATIONS WITH UTILITY AND UPRR REPRESENTATIVE PRIOR TO START OF NEW WORK.



KEY MAP

olsson
2111 South 67th Street, Suite 200
Omaha, NE 68106-2810
TEL 402.341.1116
FAX 402.341.5895
www.olsson.com

UNION PACIFIC

DRAWN BY: RSP
CHECKED BY: DMS
DATE: 5/26/2022
SHEET NUMBER: E001of 003

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona
Phoenix Subdivision MP 934.89 to MP 937.90
Construct Industrial Lead Track

SHEET TITLE:
ELEC ABBREVIATIONS & SUBMITTAL REQUIREMENTS

Color tables:K:\Bentley\WorkspaceV8i\projects\Clients\UPRR_Track\UPRR_Track_V8i\color\UPRR.tbl
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Default
5/26/2022

ELECTRICAL GENERAL NOTES:

THESE NOTES APPLY TO ALL SUBSEQUENT SHEETS

A. ALL LOCATIONS TO BE FIELD VERIFIED BEFORE WORK IS STARTED.

B. REFER TO THE FOLLOWING DOCUMENTS FOR ADDITIONAL INFORMATION IF ITEMS LISTED BELOW ARE NOT INCLUDED ON THE DRAWINGS.
   1. PROJECT BID DOCUMENT INDEX FOR A LIST OF ALL CONTRACT DOCUMENTS.
   2. THE UPRR GENERAL CONDITIONS AND SPECIFICATIONS FOR CONSTRUCTION REQUIREMENTS.
   3. THE PROJECT SPECIAL CONDITIONS DOCUMENT FOR PROJECT SPECIFIC INFORMATION, POLE DETAIL SCHEDULE (PDS), LIGHTING AND EQUIPMENT SCHEDULE (LES), TRANSFORMER SCHEDULE (TS), AND UPRR STANDARD DETAILS.

C. REFER TO ELECTRICAL LEGEND SHEET FOR SYMBOLOGY AND THE GENERAL NOTES SHEET FOR SUBMITTAL TABLE.

D. CONTRACTOR SHALL RESTORE ALL DISTURBED GROUND TO ITS ORIGINAL CONTOURS AND CONDITION. IN ADDITION, THE CONTRACTOR SHALL PLACE A FOUR INCH LAYER OF ROAD BASE ON ANY DISTURBED AREAS OF THE ACCESS ROADS. DISTURBANCES OCCURRING ON LOCAL, STATE, OR FEDERAL GOVERNMENT LANDS SHALL BE SEEDED WITH AN APPROVED NATIVE SEED MIX.

E. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MATERIAL STORAGE AND FOR THE DISPOSAL OF ALL REMOVED MATERIALS IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL LAWS. ALL DEMOLISHED EQUIPMENT NOT SPECIFICALLY REQUESTED TO BE TURNED OVER TO UPRR SHALL BE LEGALLY DISPOSED OF OFF THE SITE. DISTRIBUTION TRANSFORMERS SHALL BE TURNED OVER TO THE OWNER'S REPRESENTATIVE FOR ON SITE STORAGE AS DIRECTED BY OWNER'S REPRESENTATIVE.

F. ALL POWER OUTAGES SHALL BE COORDINATED BETWEEN THE CONTRACTOR, THE UTILITY COMPANY AND UPRR PRIOR TO THE OUTAGE. PROVIDE A MIN. OF 48 HOURS OF NOTICE PRIOR TO OUTAGES TO UTILITY OR LOCAL SERVICE DROPS FROM UPRR'S PRIMARY DISTRIBUTION. ELECTRICAL SERVICE RACKS AND DISTRIBUTION PANELS UNDER CONSTRUCTION SHALL HAVE A "DO NOT OPERATE" TAG APPLIED WITH THE NAME OF THE CONTRACTOR'S ELECTRICIAN ON THE TAG. THE TAG SHALL BE REMOVED WHEN THE EQUIPMENT IS READY FOR SERVICE BY FOLLOWING THE PROCEDURES IN UPRR ELECTRICAL SAFETY RULES 3.3.2.D, RE-ENERGIZING EQUIPMENT. IF ANY PORTION OF THE CIRCUIT IS ENERGIZED BUT NOT COMPLETE, TESTED, AND READY FOR LOAD CONNECTION, THE ENERGIZED PANEL OR CIRCUIT BREAKER SHALL BE PADLOCKED IN THE OFF POSITION FOLLOWING UPRR LOCK OUT TAG OUT POLICY.

G. WHEN INSTALLING POLES, POLELINES AND/OR UNDERGROUND CONDUIT RUNS, THE CONTRACTOR SHALL FOLLOW THE ROUTE AS DETAILED ON THE DESIGN DRAWINGS. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE EXACT POLE LOCATIONS, PROPER POLE SPACING AND/OR CONDUIT DEPTH REQUIRED TO AVOID ALL UNDERGROUND UTILITIES AND/OR OBSTACLES. CONDUIT DEPTHS SHALL ONLY VARY TO A GREATER DEPTH THAN DEFINED ON THE STANDARDS OR DRAWINGS.

H. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL UNDERGROUND LOCATES (REFER TO DIG NUMBERS PROVIDED). IN ADDITION TO THE DIG NUMBERS PROVIDED, CONTACT THE LOCAL UNION PACIFIC SIGNAL DEPARTMENT, WATER SERVICES DEPARTMENT, AND ELECTRICIAN TO LOCATE UNDERGROUND UNION PACIFIC FACILITIES. UPRR SITE REPRESENTATIVES MAY PROVIDE INFORMATION REGARDING LOCAL UPRR UTILITIES, BUT THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING THESE UTILITIES, IF LOCAL INFORMATION IS NOT AVAILABLE.

I. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY AND ALL REQUIRED PERMITS AND INSPECTIONS REQUIRED ASSOCIATED WITH NEW AND UPDATED ELECTRICAL SERVICES.

J. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING PERMITS FOR ALL PUBLIC ROAD CROSSINGS. BORE UNDER CROSSINGS, WHERE APPLICABLE.

K. INSTALL NEW GROUNDS, IN ACCORDANCE WITH THE STANDARD DRAWINGS PROVIDED, ON ALL NEW PRIMARY POLES, NEW SECONDARY POLES WHERE NOTED, OR EXISTING PRIMARY POLES THAT HAVE WORK DONE ON THEM AND HAVE NO GROUND.

L. ALL NEW POLES, AND EXISTING POLES, INCLUDING SECONDARY POLES, WHICH HAVE WORK AS PART OF THIS PROJECT, SHALL BE BANDED AND NUMBERED ACCORDING TO THE SPECIFICATIONS FOR THIS PROJECT.

M. CONTRACTOR SHALL MARK ALL CHANGES TO THE DESIGN, WHEN NECESSARY, BY STAKING AND SHALL OBTAIN WRITTEN APPROVAL FROM UPRR BEFORE IMPLEMENTING THOSE CHANGES.

ELECTRICAL GENERAL NOTES (CONTINUED):

THESE NOTES APPLY TO ALL SUBSEQUENT SHEETS

N. THE CONTRACTOR SHALL BE RESPONSIBLE FOR STAKING THE PROPOSED CABLE ROUTE AND HAVING THE ROUTE APPROVED BY UPRR PRIOR TO DIGGING. THE CABLE SHALL BE A MINIMUM OF 5 FOOT INSIDE THE UPRR RIGHT-OF-WAY (R/W). THE CONTRACTOR IS NOT RESPONSIBLE FOR A FORMAL SURVEY. THE CONTRACTOR SHALL PROVIDE AN AS-BUILT RECORD OF CONSTRUCTION INCLUDING MEASUREMENTS OF THE CABLE TO TRACK CENTER LINE DISTANCE, INDICATING THE POINT OF INFLECTION WHERE THE DISTANCE TO TRACK CHANGES. CONTRACTOR SHALL PROVIDE GPS LOCATIONS OF ALL TRANSFORMERS, REACTORS, SWITCHES, UNDERGROUND SPLICES AND SPLICE OR GROUNDING BOXES. ANY CHANGES TO THE ELECTRICAL DRAWINGS SHALL BE PROVIDED ON A MARKED UP SET FOR AS-BUILT RECORDS.

O. CONTRACTOR SHALL PROVIDE A CONTINUOUS ORANGE MESH FENCE OR TRAFFIC CONES 25 FEET FROM THE CENTERLINE OF THE NEAREST TRACKS. FENCE OR CONES SHALL BE MOVED FORWARD WITH CONSTRUCTION. CONTRACTOR SHALL WORK ON FIELD SIDE OF THIS FENCE. AT LOCATIONS WHERE CONTRACTOR WILL NEED TO WORK CLOSER THAN THE 25 FOOT BARRIER, THE CONTRACTOR SHALL COORDINATE WITH THE UPRR REPRESENTATIVE.

P. CONTRACTOR SHALL COORDINATE CABLE ROUTING WITH EXISTING UTILITIES. CABLE ROUTE SHALL BE FIVE (5) FEET (MIN) CLOSER TO THE TRACK THAN THE CLOSEST UTILITY. CABLE ROUTE SHALL BE STAKED AT AN INTERVAL NO MORE THAN 200 FEET BETWEEN STAKES. A STAKE AHEAD AND A STAKE BEHIND MUST BE VISIBLE AT EVERY STAKE LOCATION.

Q. WHEN APPLICABLE ALTERNATE THE CONNECTION OF THE FIXTURES TO BALANCE THE PHASE TO PHASE LOADING.

R. CONDUCTORS CROSSING TRACKS SHALL HAVE AERIAL CABLE MARKERS INSTALLED ON THEM. CONDUCTORS RUNNING PARALLEL TO THE TRACKS, IN CERTAIN CONDITIONS, SHALL ALSO HAVE AERIAL CABLE MARKERS INSTALLED ON THEM. REFER TO THE SPECIFICATIONS AND STANDARDS FOR PRODUCT INFORMATION AND INSTALLATION INSTRUCTIONS.

S. ONE-LINE DIAGRAMS PROVIDED INDICATE SYSTEM VOLTAGES. CONTRACTOR SHALL REVIEW TRANSFORMER SCHEDULE FOR INDIVIDUAL TRANSFORMER VOLTAGE RATINGS AND NOTIFY UP PROJECT MANAGER OR ENGINEER OF ANY DISCREPANCIES PRIOR TO PLACING TRANSFORMER ORDERS.

T. UPRR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY STATE ISSUED NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) SECTION 402 STORMWATER PERMITS. THE CONTRACTOR IS RESPONSIBLE FOR CONFORMING TO AND COMPLYING WITH THE REQUIREMENTS OF THE STATE(S) STORMWATER MANAGEMENT RULES, REGULATIONS AND REQUIREMENTS.

U. CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH ALL FEDERAL, STATE AND LOCAL RULES, REGULATIONS, AND REQUIREMENTS PERTAINING TO DUST CONTROL. CONTRACTOR SHALL PROVIDE SUFFICIENT DUST CONTROLS TO AVOID OBSTRUCTING THE TRAIN CREW'S VIEW OF RAILROAD SIGNALS.

V. THE CONTRACTOR SHALL RAISE THE GRADE OF ANY PAD OR RACK MOUNTED EQUIPMENT IN WASH AREAS A MINIMUM OF ONE FOOT ABOVE THE HIGH WATER LEVEL. THE PRIMARY CABLES SHALL BE ROUTED AS REQUIRED TO PLACE PADS AT THE TOE OF THE RAILROAD EMBANKMENT OR AS DIRECTED BY UPRR PERSONNEL.

W. CONTRACTOR MUST BE AWARE OF ALL OVERHEAD SERVICE DROPS ALONG NEW CABLE ROUTE. CARE MUST BE TAKEN WHEN LIFTING SERVICE DROPS TO ACCOMMODATE CABLE INSTALLATION EQUIPMENT. ALL EXISTING SERVICES MUST BE RETURNED TO ORIGINAL STATE AFTER NEW INSTALLATION IS COMPLETE.

X. CONTRACTOR SHALL SUPPLY ALL ELECTRICAL MATERIAL TO COMPLETE THE PROJECT. ELECTRICAL MATERIAL INCLUDING BOX FOUNDATIONS FOR ANY PADMOUNT EQUIPMENT AND TRANSFORMER CONNECTORS SHALL BE FURNISHED BY THE CONTRACTOR.

ELECTRICAL GENERAL NOTES (CONTINUED):

THESE NOTES APPLY TO ALL SUBSEQUENT SHEETS

Y. UNDERGROUND LOW VOLTAGE (<600V) CONDUCTORS SHALL BE INSTALL IN RIGID GALVANIZED STEEL (RGS) CONDUIT AT DEPTHS LESS THAN 42" OR IN RIGID PVC AT DEPTHS GREATER THAN 42".

Z. CAMPING IS NOT ALLOWED ON THE UNION PACIFIC RIGHT OF WAY.

AA. ALL EQUIPMENT EXPOSED TO ACCESS ROAD TRAFFIC SHALL BE PROTECTED WITH STEEL POST BOLLARD(S) OR WITH BOULDERS OF ADEQUATE SIZE TO DETER VEHICLE IMPACT. SEE PLANS FOR MINIMUM BOLLARD SIZE AND NUMBER OF BOLLARDS REQUIRED FOR EACH LOCATION.

BB. DRILL FLUIDS SHALL BE WATER BASED AND MANAGED USING AN EXCAVATED PERCOLATION SUMP OR EQUIVALENT IN THE IMMEDIATE VICINITY OF THE BORING LOCATION IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL WATER QUALITY LAWS. DRILL FLUIDS COLLECTED IN TANKS OR A TRUCK CANNOT BE DISCHARGED ON UPRR PROPERTY AND MUST BE DISPOSED OFF-SITE IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS. CLEAN BORE CUTTINGS SHALL BE RE-USED IN AN UPLAND LOCATION OR BLENDED PLACEMENT OF ALL BORE CUTTINGS MUST OCCUR ON UPRR PROPERTY. BORE CUTTINGS MAY NOT BE PLACED IN AREAS HAVING POTENTIAL OFF-SITE SEDIMENT OR CUTTINGS TRANSPORT BY OVERLAND STORMWATER FLOW. BEST MANAGEMENT PRACTICES (BMPS) ACCEPTABLE TO UPRR AND MEETING STORMWATER PERMIT REQUIREMENTS SHALL BE IMPLEMENTED AROUND PERCOLATION SUMPS, BORING LOCATIONS, CUTTING PLACEMENT AREAS AND ALL OTHER DISTURBED AREAS HAVING STORMWATER RUNOFF POTENTIAL UNTIL PERMANENT SITE STABILIZATION IS ACHIEVED.EE. FOR PRIMARY CABLE RUNS IN UNPAVED AREAS, PROVIDE AND INSTALL A FIBERGLASS CABLE MARKING POST NEXT TO EACH BELOW GROUND SPLICE/GROUNDING PULL BOX. FOR 600V OR LESS MC SECONDARY CABLE RUNS OVER 660 FEET, PROVIDE AND INSTALL A FIBERGLASS CABLE MARKING POST BETWEEN EACH ABOVE GROUND SPLICE JUNCTION BOX. THE POST SHALL BE RHINO 3 RAIL MARKER WITH UPRR MARKING AND SUN COAT OPTION. PROVIDE ADDITIONAL MARKERS AT THE MID-POINT BETWEEN SPLICES WITH A MAXIMUM 660 FEET CABLE MARKER SPACING. PROVIDE ADDITIONAL MARKERS AT EACH SIDE OF ALL UNDERTRACK CROSSINGS.

CC. ALL SPLICES IN 600V OR LESS SECONDARY CABLE SHALL BE MADE IN ABOVE GROUND JUNCTION BOXES MOUNTED ON AN EQUIPMENT RACK.

DD. THE CONTRACTOR SHALL PROVIDE A LEVEL GRADED WORKING SURFACE ON THE OPERATING SIDE OF ALL OUTDOOR ELECTRICAL EQUIPMENT. THE WORKING SURFACE, AS A MINIMUM SHALL CONSIST OF 3/4" MINUS WELL TAMPED GRAVEL ADEQUATE TO PROVIDE SAFE FOOTING IN ALL WEATHER CONDITIONS AND SHALL EXTEND 4 FEET IN FRONT OF 600V OR LESS EQUIPMENT AND 10 FEET IN FRONT OF 15 KV CLASS PADMOUNT EQUIPMENT.

EE. ALL CAR BODY BRIDGES SHALL HAVE A MAXIMUM SPEED LIMIT OF 10 MPH AND WEIGHT RESTRICTION OF 60,000 POUNDS MAX WEIGHT ON THE BRIDGE.

ELECTRICAL GENERAL NOTES (CONTINUED):

THESE NOTES APPLY TO ALL SUBSEQUENT SHEETS

FF. UPON COMPLETION OF THE INSTALLATION, ALL INSULATED CONDUCTORS SHALL TEST ENTIRELY FREE OF GROUNDS AND SHORT CIRCUITS. ALL INSULATION TESTING SHALL BE PERFORMED WITH A 500-VOLT "MEGGER" OR EQUIVALENT TESTING DEVICE, WHICH SHALL GIVE RESISTANCE READINGS BETWEEN CONDUCTORS AND FROM CONDUCTORS TO GROUND. THE TEST READINGS SHALL SHOW THAT THE INSULATION IS SOUND. SEE THE SPECIFICATION SECTION 26 08 13 FOR REQUIREMENTS.

GG. AT RACK LOCATIONS WHERE THE RIGID GALVANIZED CONDUIT GOES BELOW GRADE BEFORE TRANSITIONING TO PVC DUCT, THE GALVANIZED CONDUIT SHALL BE WRAPPED WITH 3M SCOTCHRAP ALL-WEATHER 10 MIL CORROSION PROTECTION TAPE TO PROTECT AGAINST CORROSION IN ALKALI SOIL. THIS WRAP WILL NOT BE REQUIRED WHERE RIGID CONDUIT IS USED TO PROTECT SHALLOW CABLE IN ROCKY GROUND.

HH. NOTIFY UPRR ELECTRICAL DESIGN GROUP WHEN NEW SERVICES ARE ACTIVATED OR REMOVED SERVICES ARE DEACTIVATED. PROVIDE THE ACTIVATION DATE(S) AND METER NUMBER(S) FOR SERVICE ACTIVATION. PROVIDE THE DEACTIVATION DATE(S) AND REMOVED METER NUMBER(S) FOR SERVICE DEACTIVATION.

JJ. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THE MAXIMUM AVAILABLE FAULT CURRENT AT EACH SERVICE FROM THE UTILITY, MARKING THE SERVICE IN ACCORDANCE WITH NEC 110.24, AND PROVIDING SERVICE ENTRANCE DISCONNECT SWITCHES OR CIRCUIT BREAKERS WITH ADEQUATE INTERRUPTING CAPABILITY, A MINIMUM OF 10 KAIC. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR OBTAINING THE UTILITY FUSE TYPE AND RATING FOR SERVICE TRANSFORMER PRIMARY PROTECTION FOR INCLUSION IN THE POWER SYSTEM STUDY.

KK. CONDUIT AND LONG SWEEP 90 DEGREE ELBOWS ABOVE GRADE TO 42" BELOW GRADE SHALL BE RIGID GALVANIZED STEEL (RGS). CONDUIT 42" BELOW MAY BE SCHEDULE 80 PVC OR HDPE OF EQUIVALENT WALL THICKNESS. RGS LONG SWEEP 90 DEGREE ELBOWS SHALL BE USED FOR ALL UNDERGROUND BENDS AND TRANSITIONS FROM BELOW GRADE CONDUIT TO ABOVE GRADE CONDUIT. REFER TO SPECIFICATION 26 05 43 FOR MORE INFORMATION.

LL. INSULATION TYPE THWN AND THWN-2 IS PERMITTED FOR USE FOR NO. 10 AND NO. 12 AWG FOR EXTERIOR APPLICATIONS OTHERWISE INSULATION TYPE SHALL BE XHHW-2. REFER TO SPECIFICATION 26 05 19 3.01 FOR MORE INFORMATION.

WORK PRACTICES:

ELECTRICAL UTILITY LINE AND TELECOMMUNICATIONS ACTIVITIES -

UPRR PROJECT MANAGER WITH THE UPRR ENVIRONMENTAL GROUP SHALL DETERMINE IF ENVIRONMENTAL REQUIREMENTS AND/OR PERMITS ARE REQUIRED FOR THE PROJECT. IF REQUIRED, UPRR IS RESPONSIBLE FOR OBTAINING THE AUTHORIZATIONS FOR ENVIRONMENTAL PERMITS. WITH OR WITHOUT ADDITIONAL ENVIRONMENTAL REQUIREMENTS AND/OR PERMITS, THE CONTRACTOR SHALL USE, AT A MINIMUM, THE FOLLOWING WORK PRACTICES:

1. KEEP ALL WORK WITHIN UPRR RIGHT OF WAY (ROW).
2. WORK IN PERIODS OF LOW AND NO FLOW WHEN POSSIBLE.
3. DOCUMENT ALL WATERWAY WORK AREAS WITH BEFORE AND AFTER PHOTOS.
4. MINIMIZE DISTURBANCE TO LESS THAN 0.10 ACRES AT EACH OF THE WASHES AND AVOID WETLAND-LIKE AREAS WHEN POSSIBLE.
5. DO NOT PLACE ANY FILL INTO OR REMOVE MATERIAL FROM THE WATERWAYS.
6. STOP WORK IF WATER BECOMES CLOUDY UNTIL IT CLEARS OR UNTIL ADDITIONAL BEST MANAGEMENT PRACTICES (BMPs) ARE EMPLOYED.
7. MINIMIZE ACCELERATING, SLOWING, OR OTHERWISE CHANGING WATER FLOW.
8. RESTORE/GRADE ALL DISTURBED AREAS TO ORIGINAL CONDITIONS.
9. EMPLOY BMPS (SUCH AS STRAW WATTLES) AS NEEDED TO PREVENT OFF-SITE TRANSPORT OF SEDIMENT OR COAL FINES FROM LEAVING THE PROJECT EXTENTS OR FROM ENTERING ANY POTENTIAL WATERWAYS. CONTRACTOR SHALL COMPLY WITH GENERAL STORMWATER PERMIT AND ALL LOCAL, STATE, AND FEDERAL REGULATIONS.
10. AVOID IMPACTING ANY KNOWN HISTORICAL AREAS (FEATURES MORE THAN 50 YEARS OLD). INFORM THE UPRR CONSTRUCTION MANAGER AND THE GENERAL DIRECTOR M/W - ENVIRONMENTAL IMMEDIATELY IF ANY HUMAN BONES OR OTHER ARTIFACTS ARE ENCOUNTERED.
11. AVOID DISTURBING ANY SPECIES OF CONCERN IF ENCOUNTERED. DIRECT ANY QUESTIONS TO UPRR ENVIRONMENTAL THROUGH THE UPRR CONSTRUCTION MANAGER.
12. WHERE REQUIRED BY ENVIRONMENTAL PERMITTING AND LOCAL OR SITE REQUIREMENTS, ALL EARTH AND VEGETATION DISTURBANCE ACTIVITIES SHALL BE DOCUMENTED BY AN ENVIRONMENTAL MONITOR. EXCAVATION SHALL BE MONITORED BY A CULTURAL RESOURCE SPECIALIST AND TRIBAL MONITOR IN AREAS LIKELY TO CONTAIN PRE-HISTORIC FEATURES. WORK ACTIVITIES AND SCHEDULES SHALL BE COORDINATED WITH UPRR'S ENGINEER AND THEIR ENVIRONMENTAL MONITOR. TWO-WEEK LOOK-AHEAD SCHEDULES SHALL BE PROVIDED FOR PLANNING PURPOSES.

olsson
2111 South 67th Street, Suite 200
Omaha, NE 68106-2810
TEL 402.341.1116
FAX 402.341.5895
www.olsson.com

UNION PACIFIC

DRAWN BY:	DMS
CHECKED BY:	DMS
DATE:	5/26/2022
SHEET NUMBER	E002 of 003

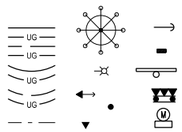
UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona
Phoenix Subdivision MP 934.89 to MP 937.90
Construct Industrial Lead Track

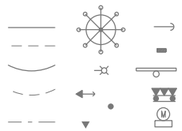
SHEET TITLE:
ELECTRICAL GENERAL NOTES

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5/26/2022

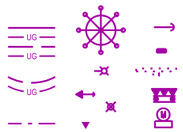
EXISTING LINES AND OBJECTS (EXAMPLES)



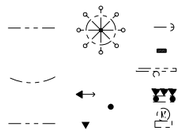
OR



ITEMS TO BE DEMOLISHED (EXAMPLES)



FUTURE ITEMS (EXAMPLES)



MISCELLANOUS

TREE

WINDSOCK, POLE MOUNTED

LINE DESIGNATION

PRIMARY CONDUCTOR (3 PHASE OVERHEAD)

PRIMARY CONDUCTOR (3 PHASE UNDERGROUND)

PRIMARY CONDUCTOR (2 PHASE OVERHEAD)

PRIMARY CONDUCTOR (2 PHASE UNDERGROUND)

PRIMARY CONDUCTOR (1 PHASE OVERHEAD)

PRIMARY CONDUCTOR (1 PHASE UNDERGROUND)

SECONDARY CONDUCTOR (3 PHASE OVERHEAD)

SECONDARY CONDUCTOR (3 PHASE UNDERGROUND)

SECONDARY CONDUCTOR (1 PHASE OVERHEAD)

SECONDARY CONDUCTOR (1 PHASE UNDERGROUND)

COMMUNICATIONS (OVERHEAD)

COMMUNICATIONS (UNDERGROUND)

SIGNAL (OVERHEAD)

SIGNAL (UNDERGROUND)

CONDUIT (ABOVE GROUND)

CONDUIT (BELOW GROUND)

HOMERUN (WITH CONDUCTOR INDICATION)

SITE PLAN SYMBOLOGY

LIGHTING

HIGH MAST TOWER (RING TYPE)

HIGH MAST TOWER (SINGLE BASKET TYPE) (N) = NO. FIXTURES

HIGH MAST TOWER (DUAL BASKET TYPE) (N) = NO. FIXTURES

HIGH MAST TOWER (LATTICE TYPE) (N) = NO. FIXTURES

LUMINAIRE
= PHASING (WHEN REQ'D)

FLOODLIGHT

ELECTRICAL EQUIPMENT NAMING CONVENTIONS

T## — TRANSFORMER(S): SEE SITE PLANS FOR LOCATIONS.

SECT## / S### — SECTIONALIZER (SECT) & PAD-MOUNTED SWITCH (S): SEE SITE PLANS FOR LOCATIONS.

SG## — FREE STANDING SWITCHGEAR.

PP## — PANELBOARD

G## — GENERATOR (STAND-BY).

M1007 / P1007 / C1007 — DUCT BANK TAG, SEE SCHEDULE FOR CONDUCTORS CONTAINED WITHIN.

GENERAL

AERIAL CABLE MARKER

BILLBOARD1

BILLBOARD2

BILLBOARD3

CUTOUT, FUSED
XX = SIZE (T TYPE UNLESS NOTED OTHERWISE)

DOWN GUY

DOWN GUY (2 ANCHORS)

G-XX
GENERATOR

LIGHTNING ARRESTER

METER (PAD MOUNTED)

METER (PEDESTAL MOUNTED)

METER (MOUNTED ON BUILDING)

PANEL: POWER OR COMBINATION LIGHTING CONTACTOR

POLE, RADIO TOWER

POLE, METAL OR OTHER MATERIAL NOT WOOD, UPRR OWNED

POLE, TRANSMISSION, UTILITY

POLE, WOOD, UPRR OWNED

POLE, WOOD, UTILITY (NOT UPRR)

PULLBOX, MEDIUM-VOLTAGE >1000V

PULLBOX, POWER <600V

PULLBOX, COMMUNICATIONS

REACTOR, PAD MOUNTED

RECLOSER

REGULATOR, VOLTAGE, POLE-MOUNTED

SWITCH, GANG OPERATED, POLE MOUNTED

SPLICE PEDESTAL, PRIMARY, PAD MOUNTED

SWITCHGEAR, PRIMARY, PAD MOUNTED

TOWER, TRANSMISSION, UTILITY

TRANSFORMER (H-STRUCTURE)

TRANSFORMER, PAD MOUNTED, SINGLE PHASE

TRANSFORMER, PAD MOUNTED, THREE PHASE - SITE PLANS

TRANSFORMER, PAD MOUNTED, THREE PHASE - ENLARGED DETAILS

TRANSFORMER, POLE MOUNTED

BOX, JUNCTION

BOX, JUNCTION; WALL MOUNTED

CLOCK, ELAPSED TIME

CLOCK, ELAPSED TIME WITH IT

CLOCK, PENDANT MOUNT

CLOCK, PENDANT MOUNT (C)

CLOCK, WALL MOUNT

CLOCK, WALL MOUNT (C)

DETECTOR, FLAME

DETECTOR, GAS

DETECTOR, SMOKE

LIGHT, EMERGENCY BATTERY POWERED (1)

LIGHT, EMERGENCY BATTERY POWERED (2)

LIGHT, EMERGENCY BATTERY POWERED (3)

LIGHT, EMERGENCY QUADRANT FILL

LIGHT, EXIT ARROW

LIGHT, EXIT, CEILING MOUNTED

LIGHT, EXIT, WALL MOUNTED

LIGHT, FLUORESCENT BARE TUBE

LIGHT, FLUORESCENT BARE TUBE (WALL MTD)

LIGHT, FLUORESCENT INDUSTRIAL

LIGHT, FLUORESCENT (2x2)

LIGHT, FLUORESCENT (2x4)

LIGHT, FLUORESCENT (1x4)

LIGHT, FLUORESCENT SURFACE MOUNT

LIGHT, FLUORESCENT WALL MOUNTED

LIGHT, DOWNLIGHT, RECESSED

LIGHT, DOWNLIGHT, SURFACE MOUNTED

LIGHT, WALL MOUNTED

LIGHT, INCANDESCENT EXPLOSION PROOF

LIGHT, WALL MOUNTED NIGHT/UNSWITCHED

FACILITIES SYMBOLOGY

PANEL, LIGHTING

PANEL, POWER

PANEL, FIRE ALARM CONTROL

PANEL, FIRE ALARM ANNUNC ATOR

SWITCH, SAFETY (FUSED)

SWITCH, SAFETY (NON-FUSED)

SWITCH, COMBINATION MOTOR CONTROLLER

SWITCH, COMBINATION MOTOR CONT. (FUSED)

SWITCH, COMBINATION MAGNETIC STARTER

SWITCH, MAGNETIC STARTER

METER, ELECTRIC

TRANSFORMER, DRY-TYPE

MOTOR

OUTLET, BOX BLANK COVER

OUTLET, FAN HANGER

OUTLET, TELEPHONE

OUTLET, DATA

OUTLET, TELEPHONE & DATA

OUTLET, FLOOR, TELEPHONE

OUTLET, FLOOR, DATA

OUTLET, FLOOR, TELEPHONE & DATA

OUTLET, TELEVISION ANTENNA

RECEPTACLE, SINGLE CLOCK HANGER

RECEPTACLE, DUPLEX

RECEPTACLE, DUPLEX SPECIAL MOUNT

RECEPTACLE, DUPLEX SPLIT WIRE

RECEPTACLE, FLOOR, DUPLEX

RECEPTACLE, FLOOR, SINGLE

RECEPTACLE, FLOOR, QUADRUPLEX

RECEPTACLE, FLOOR SPECIAL PURPOSE

RECEPTACLE, DUPLEX, GFCI

RECEPTACLE, QUADRUPLEX

RECEPTACLE, QUADRUPLEX, GFCI

RECEPTACLE, RANGE

RECEPTACLE, SINGLE

RECEPTACLE, SPECIAL PURPOSE (120)

RECEPTACLE, SPECIAL PURPOSE (240)

RECEPTACLE, SINGLE EXPLOSION PROOF (120)

RECEPTACLE, TRIPLE

RECEPTACLE, TRIPLE SPLIT WIRE

RECEPTACLE, DUPLEX TV POWER

LOAD POINT

LIGHT, INDICATOR

SENSOR, OCCUPANCY CEILING

SENSOR, OCCUPANCY CONTROL PACK

SENSOR, OCCUPANCY WALL SWITCH

SENSOR, OCCUPANCY WIDE VIEW

SPEAKER

SPEAKER, HORN

SPEAKER HORN, WITH INDICATOR

SPRINKLER HEAD

HOLDER, DOOR

INTERCOM

SECURITY CAMERA

PHOTO CELL

PULL STATION, FIRE ALARM

AIR TERMINAL

SWITCH, AUTOMATIC DOOR

SWITCH, CIRCUIT BREAKER

SWITCH, DUPLEX RECEPTACLE

SWITCH, FUSED

SWITCH, INTENSITY DIMMER

SWITCH, INTERVAL TIMER

SWITCH, KEY OPERATED

SWITCH, LOW VOLTAGE

SWITCH, LOW VOLTAGE MASTER

SWITCH, MOMENTARY CONTACT

SWITCH, MANUAL JOG

SWITCH, PUSH BUTTON

SWITCH, PUSH BUTTON (1)

SWITCH, PUSH BUTTON (2)

SWITCH, PILOT LAMP

SWITCH, REMOTE CONTROL

SWITCH, SINGLE RECEPTACLE

SWITCH, WEATHERPROOF

SWITCH, WEATHER-PROOF FUSED

SWITCH, SINGLE POLE

SWITCH, DOUBLE POLE

SWITCH, 3 WAY

SWITCH, 4 WAY

TELEPHONE, PUBLIC

TELEPHONE SWITCHBOARD

TELEPHONE, WALL MOUNTED

THERMOSTAT

THERMOSTAT, WALL MOUNTED

GROUND ROD

FLOW SWITCH

TAMPER SWITCH

SECTIONALIZER

PAD-MOUNTED SWITCH

FUSED PAD-MOUNTED SWITCH

CALLOUT SYMBOLS

CIRCLE NOTE INDICATOR

HEXAGON NOTE INDICATOR

OVAL NOTE INDICATOR

SQUARE NOTE INDICATOR

REVISION NOTE INDICATOR

ONE-LINE DIAGRAMS

CIRCUIT BREAKER

LIGHTNING ARRESTER

CONNECTION POINT
WH = WEATHERHEAD

TRANSFORMER

TRANSFER SWITCH (AUTOMATIC OR MANUAL)

CABLE TERMINATOR

FUSED CUTOUT SWITCH

SWITCH, FUSED

FUSE

GROUNDING POINT

SWITCH, NON-FUSED

REACTOR

TRANSFORMER, CURRENT

TRANSFORMER, POTENTIAL

OR FAULT INDICATOR

FEEDTHRU BUSHING INSERT

DISCONNECTING DEVICE/ LOADBREAK ELBOW

JUNCTION BOX

GENERATOR

KIRK KEY

PANELBOARD
MCB OR MLO

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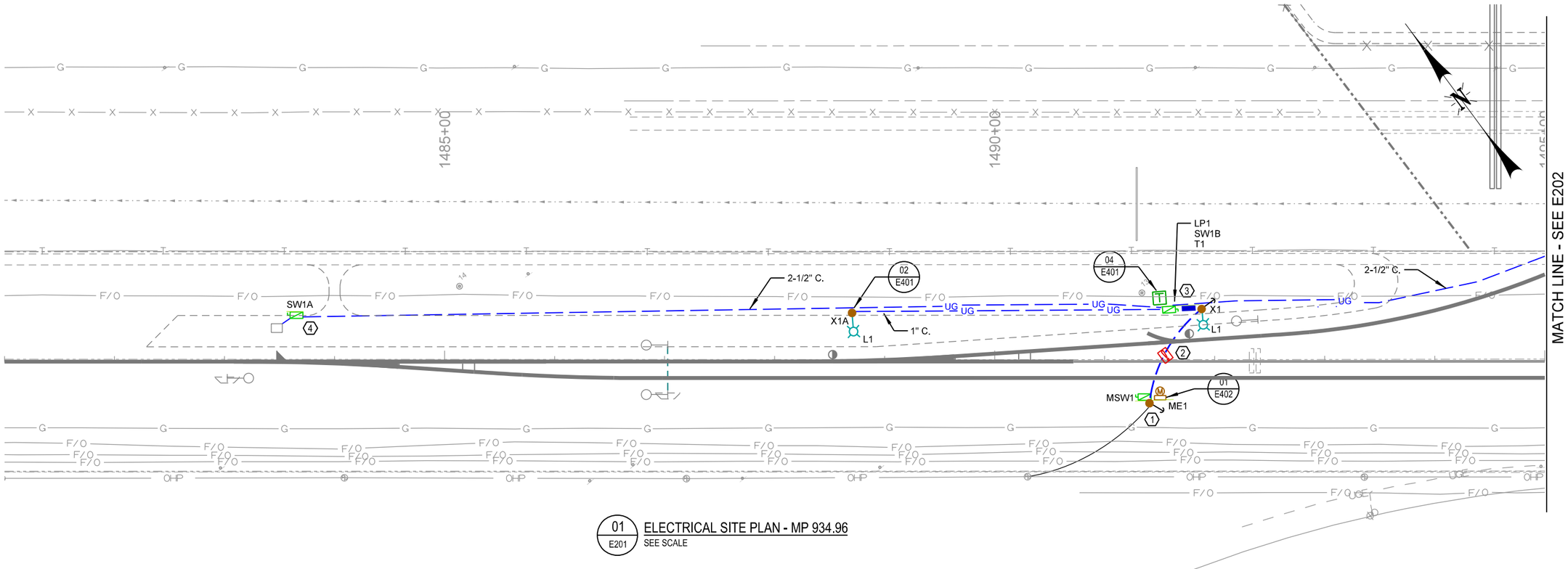
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DATE: 5/26/2022
SHEET NUMBER: E003 of 003

UNION PACIFIC RAILROAD

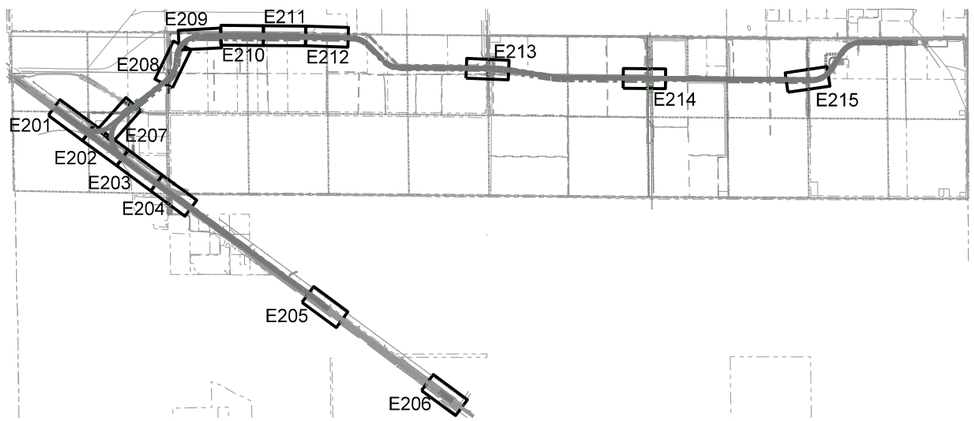
LOCATION & DESCRIPTION:
Mesa, Arizona
Phoenix Subdivision MP 934.89 to MP 937.90
Construct Industrial Lead Track

SHEET TITLE:
ELECTRICAL LEGEND

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5/26/2022



01 E201 ELECTRICAL SITE PLAN - MP 934.96
SEE SCALE



100 0 100 200
SCALE IN FEET

GENERAL ELECTRICAL NOTES:

SEE SHEET E002 FOR GENERAL ELECTRICAL NOTES.

KEYED NOTES: ⟨#⟩

1. PROVIDE 45' CLASS 3 WOOD POLE FOR SERVICE DROP FROM UTILITY. CONSTRUCT EQUIPMENT RACK FOR METER SOCKET AND SERVICE DISCONNECT. PROVIDE SIDEWALK GUY. COORDINATE INSTALLATION WITH LOCAL POWER UTILITY REPRESENTATIVE FOR FINAL POLE LOCATION, INSPECTION, AND SERVICE CONNECTION.
2. PROVIDE AERIAL CABLE MARKER. ENSURE NO PART OF INSTALLATION IS LESS THAN 27' ABOVE TOP OF RAIL. SEE DETAIL OR MORE INFORMATION.
3. PROVIDE 45' CLASS 3 WOOD POLE WITH GUY AND EQUIPMENT RACK ADJACENT TO POLE. ENSURE ALL EQUIPMENT IS A MINIMUM OF 15' FROM CENTERLINE OF TRACK.
4. FURNISH AND INSTALL EQUIPMENT RACK AND DISCONNECT FOR CABIN POWER. PROVIDE 2" CONDUIT TO CABIN.

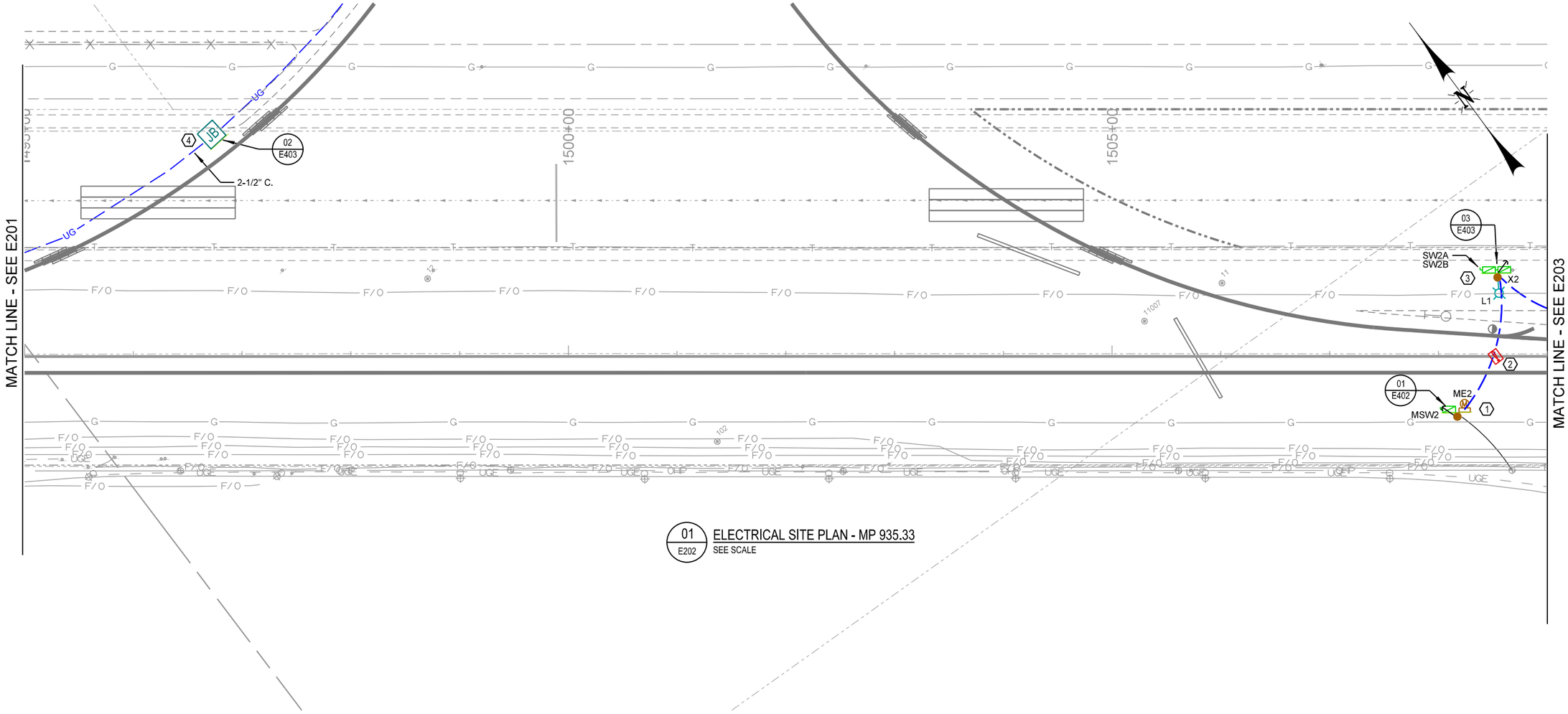
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UNION PACIFIC

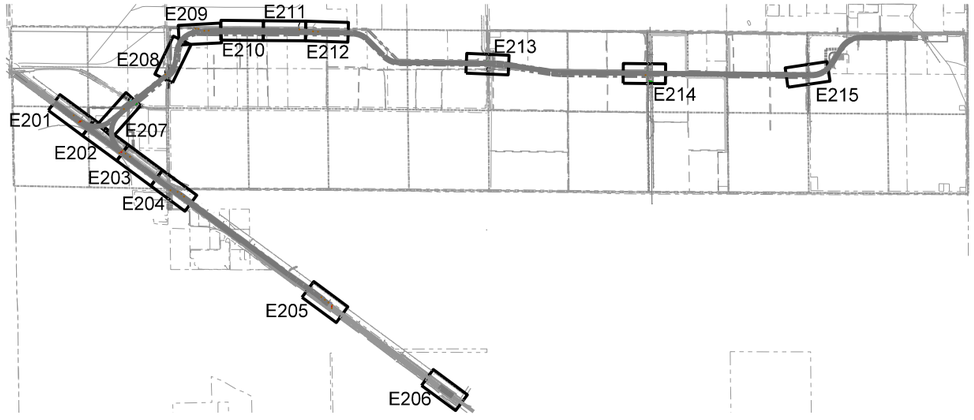
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CHECKED BY: DMS
DATE: 5/26/2022
SHEET NUMBER: E201 of 215

UNION PACIFIC RAILROAD
LOCATION & DESCRIPTION:
Mesa, Arizona
Phoenix Subdivision MP 934.89 to MP 937.90
Construct Industrial Lead Track
SHEET TITLE:
ELECTRICAL SITE PLAN

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5/26/2022



01 E202 ELECTRICAL SITE PLAN - MP 935.33
SEE SCALE



100 0 100 200
SCALE IN FEET

GENERAL ELECTRICAL NOTES:

SEE SHEET E002 FOR GENERAL ELECTRICAL NOTES.

KEYED NOTES: ⟨#⟩

1. PROVIDE 45' CLASS 3 WOOD POLE FOR SERVICE DROP FROM UTILITY. CONSTRUCT EQUIPMENT RACK FOR METER SOCKET AND SERVICE DISCONNECT. PROVIDE SIDEWALK GUY. COORDINATE INSTALLATION WITH LOCAL POWER UTILITY REPRESENTATIVE FOR FINAL POLE LOCATION, INSPECTION, AND SERVICE CONNECTION.
2. PROVIDE AERIAL CABLE MARKER. ENSURE NO PART OF INSTALLATION IS LESS THAN 27' ABOVE TOP OF RAIL. SEE DETAIL FOR MORE INFORMATION.
3. PROVIDE 45' CLASS 3 WOOD POLE WITH GUYING AND EQUIPMENT RACK ADJACENT TO POLE. FURNISH AND INSTALL EQUIPMENT SHOWN. ENSURE ALL EQUIPMENT IS A MINIMUM OF 15' FROM CENTERLINE OF TRACK.
4. UNDERGROUND SPLICES OF CONDUCTORS IS NOT PERMITTED. ANY NECESSARY SPLICES SHALL BE MADE IN A RACK-MOUNTED JUNCTION BOX.

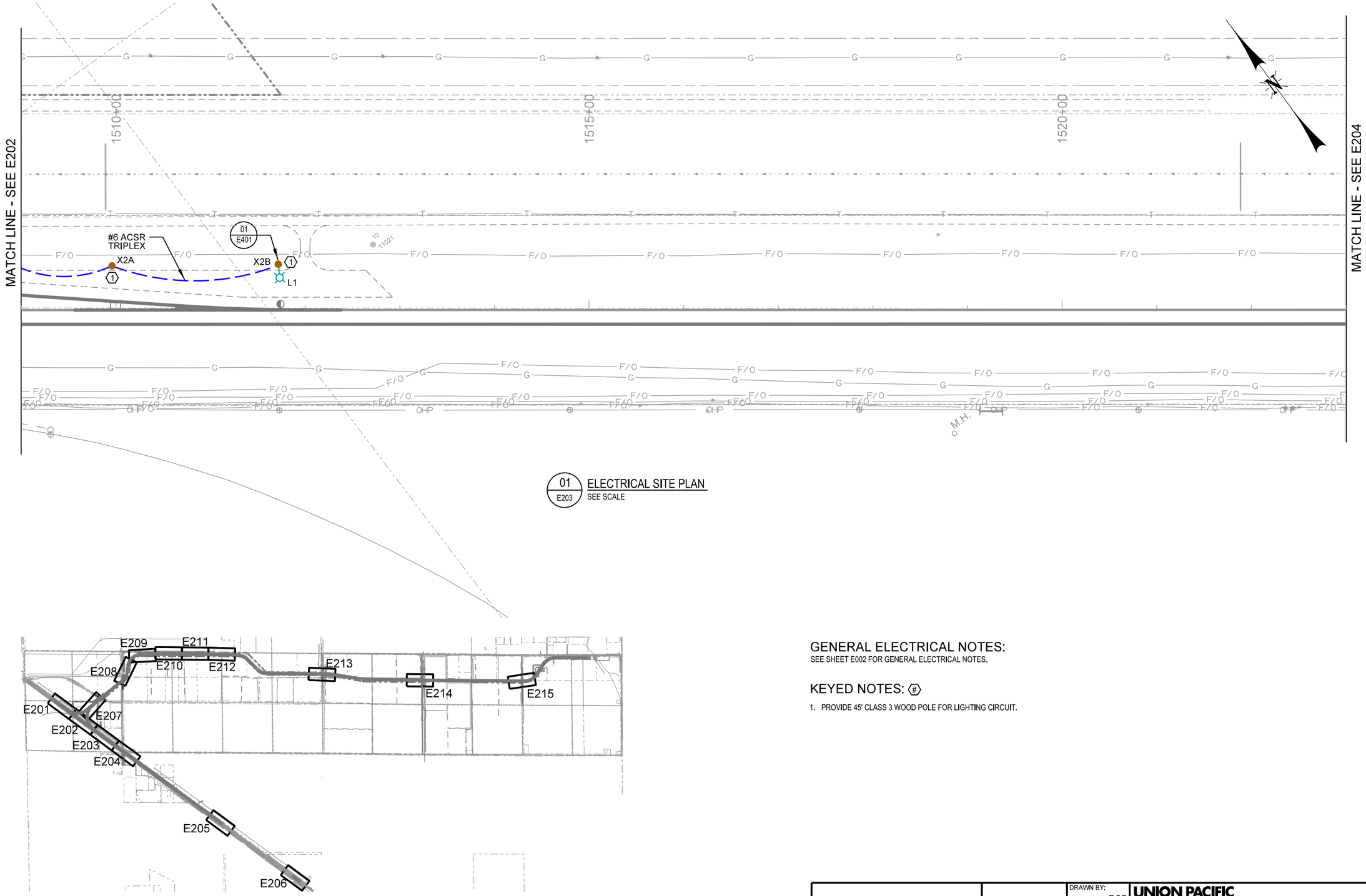
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DRAWN BY: RSP
CHECKED BY: DMS
DATE: 5/26/2022
SHEET NUMBER: E202 of 215

UNION PACIFIC RAILROAD
LOCATION & DESCRIPTION:
Mesa, Arizona
Phoenix Subdivision MP 934.89 to MP 937.90
Construct Industrial Lead Track
SHEET TITLE:
ELECTRICAL SITE PLAN

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5/26/2022



01 E203 ELECTRICAL SITE PLAN
SEE SCALE

100 0 100 200
SCALE IN FEET

GENERAL ELECTRICAL NOTES:

SEE SHEET E002 FOR GENERAL ELECTRICAL NOTES.

KEYED NOTES: (#)

1. PROVIDE 45' CLASS 3 WOOD POLE FOR LIGHTING CIRCUIT.

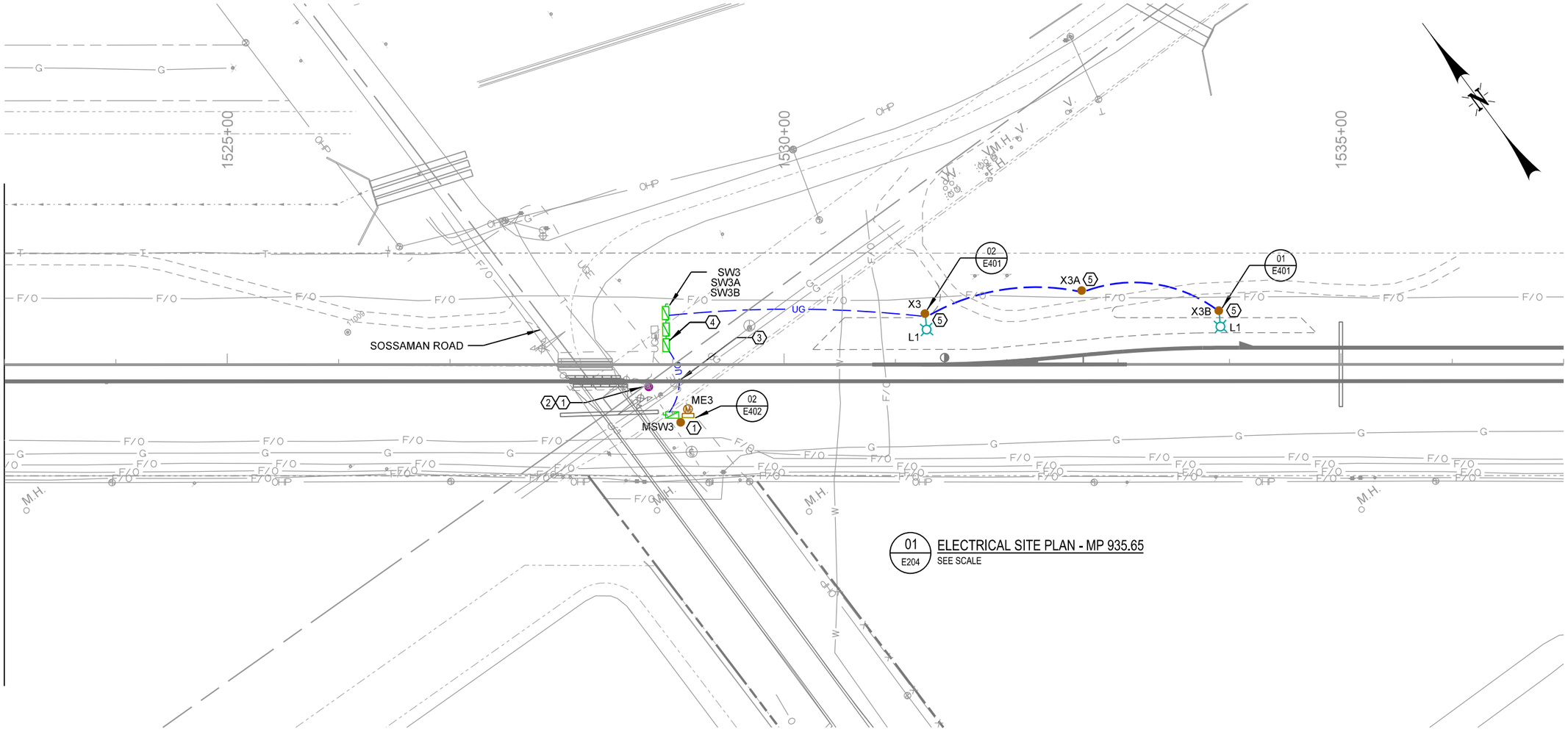
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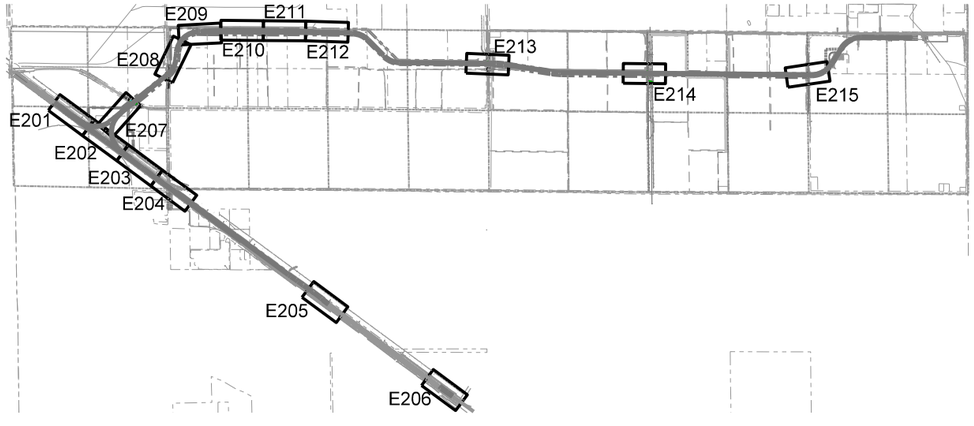
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CHECKED BY: DMS
DATE: 5/26/2022
SHEET NUMBER: E203 of 215

UNION PACIFIC RAILROAD
LOCATION & DESCRIPTION:
Mesa, Arizona
Phoenix Subdivision MP 934.89 to MP 937.90
Construct Industrial Lead Track
SHEET TITLE:
ELECTRICAL SITE PLAN

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5/26/2022



01 E204 ELECTRICAL SITE PLAN - MP 935.65
SEE SCALE



100 0 100 200
SCALE IN FEET

GENERAL ELECTRICAL NOTES:

SEE SHEET E002 FOR GENERAL ELECTRICAL NOTES.

KEYED NOTES: (#)

1. COORDINATE RELOCATION OF METER WITH UTILITY REPRESENTATIVE. PROVIDE 45' WOOD POLE, EQUIPMENT RACK WITH NEW METER SOCKET AND DISCONNECT.
2. AFTER SERVICE HAS BEEN RELOCATED AND SIGNAL EQUIPMENT RE-ENERGIZED, REMOVE WOOD POLE, METER SOCKET, DISCONNECT AND CONDUIT TO A MIN. OF 2' BELOW GRADE.
3. BORE NEW 2" CONDUIT A MINIMUM OF 12' BELOW BOTTOM OF RAIL FROM NEW SERVICE LOCATION TO ELECTRICAL EQUIPMENT RACK.
4. PROVIDE EQUIPMENT RACK AND DISCONNECTS FOR SIGNAL CABIN AND LIGHTING.
5. PROVIDE 45' CLASS 3 WOOD POLE FOR LIGHTING CIRCUIT.

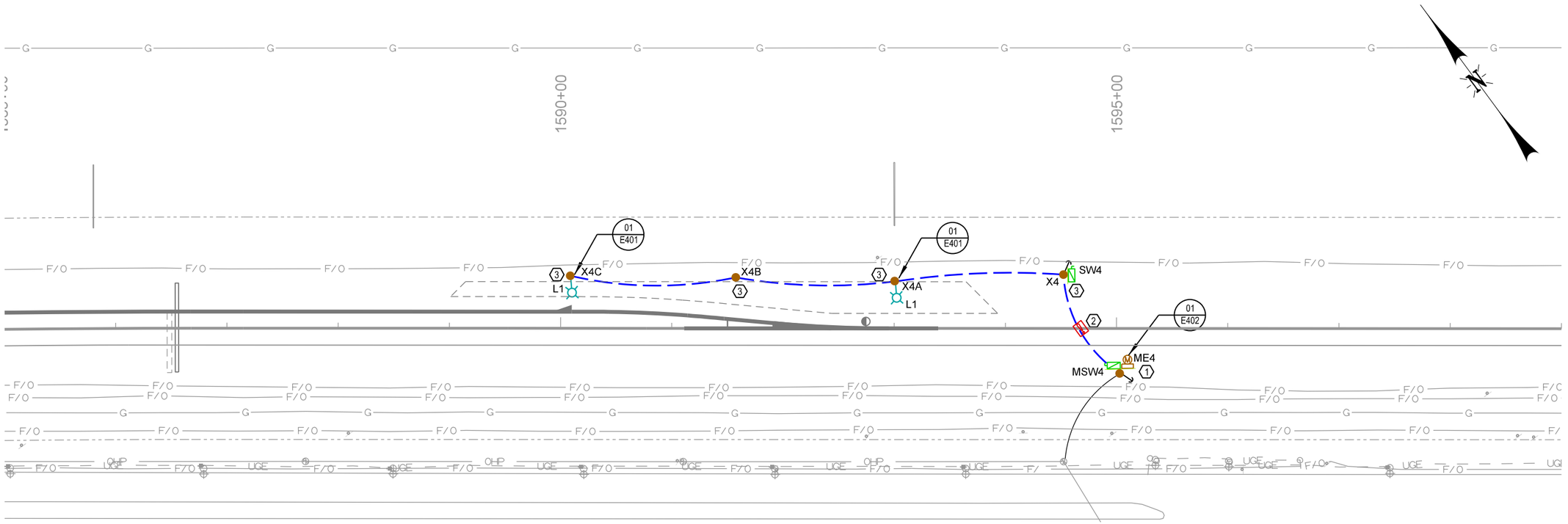
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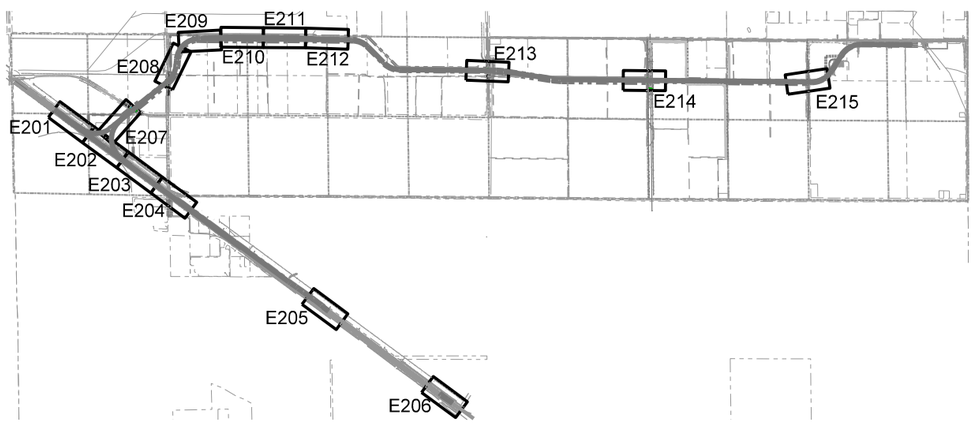
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DATE: 5/26/2022
SHEET NUMBER: E204 of 215

UNION PACIFIC RAILROAD
LOCATION & DESCRIPTION:
Mesa, Arizona
Phoenix Subdivision MP 934.89 to MP 937.90
Construct Industrial Lead Track
SHEET TITLE:
ELECTRICAL SITE PLAN

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5/26/2022



01 E205 ELECTRICAL SITE PLAN - MP 936.86
SEE SCALE



100 0 100 200
SCALE IN FEET

GENERAL ELECTRICAL NOTES:

SEE SHEET E002 FOR GENERAL ELECTRICAL NOTES.

KEYED NOTES: (#)

1. PROVIDE 45' CLASS 3 WOOD POLE FOR SERVICE DROP FROM UTILITY. CONSTRUCT EQUIPMENT RACK FOR METER SOCKET AND SERVICE DISCONNECT. PROVIDE SIDEWALK GUY. COORDINATE INSTALLATION WITH LOCAL POWER UTILITY REPRESENTATIVE FOR FINAL POLE LOCATION, INSPECTION, AND SERVICE CONNECTION.
2. PROVIDE AERIAL CABLE MARKER. ENSURE NO PART OF INSTALLATION IS LESS THAN 27' ABOVE TOP OF RAIL. SEE DETAIL FOR MORE INFORMATION.
3. PROVIDE 45' CLASS 3 WOOD POLE FOR LIGHTING CIRCUIT.

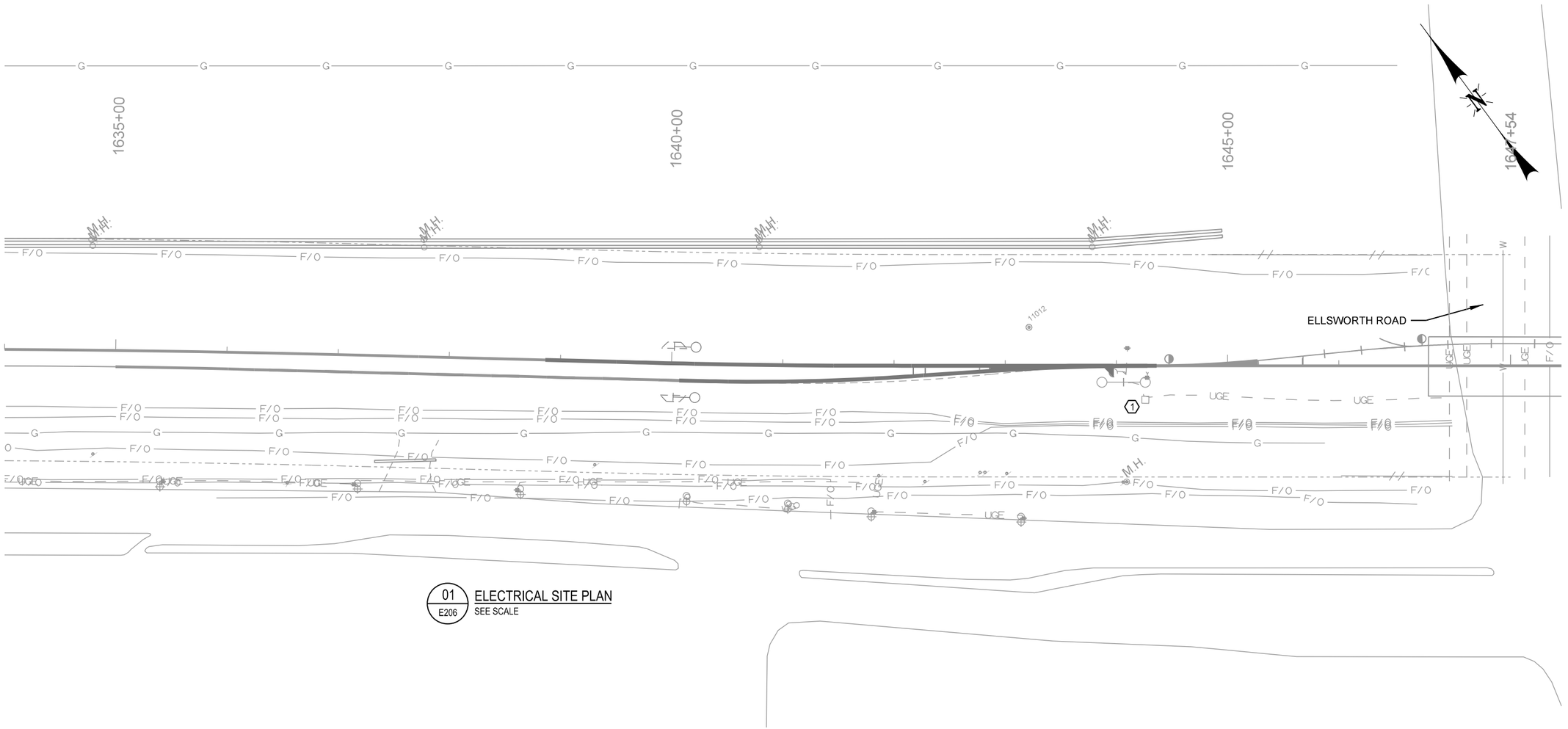
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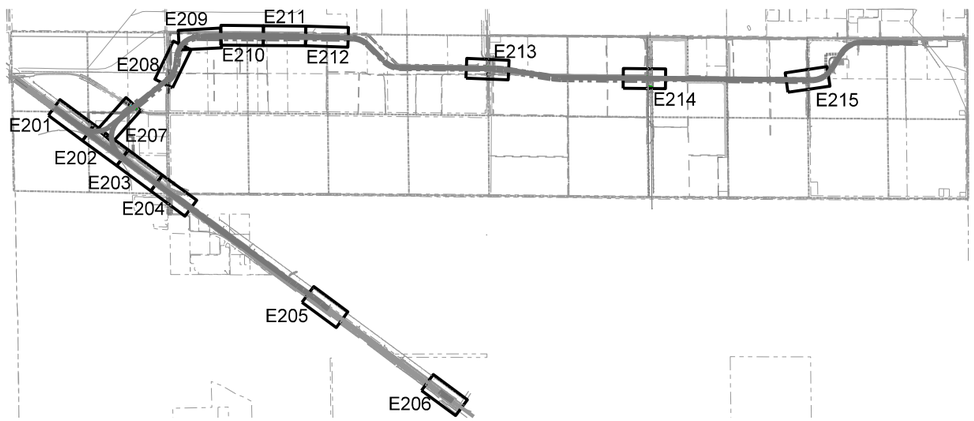
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CHECKED BY: DMS
DATE: 5/26/2022
SHEET NUMBER: E205 of 215

UNION PACIFIC RAILROAD
LOCATION & DESCRIPTION:
Mesa, Arizona
Phoenix Subdivision MP 934.89 to MP 937.90
Construct Industrial Lead Track
SHEET TITLE:
ELECTRICAL SITE PLAN

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5/26/2022



01 E206 ELECTRICAL SITE PLAN
SEE SCALE



100 0 100 200
SCALE IN FEET

GENERAL ELECTRICAL NOTES:

SEE SHEET E002 FOR GENERAL ELECTRICAL NOTES.

KEYED NOTES: (#)

1. UPRR SIGNAL TEAM TO EXTEND EXISTING POWER TO NEW SIGNAL EQUIPMENT LOCATIONS. NO ELECTRICAL CONTRACTOR SCOPE AT THIS LOCATION.

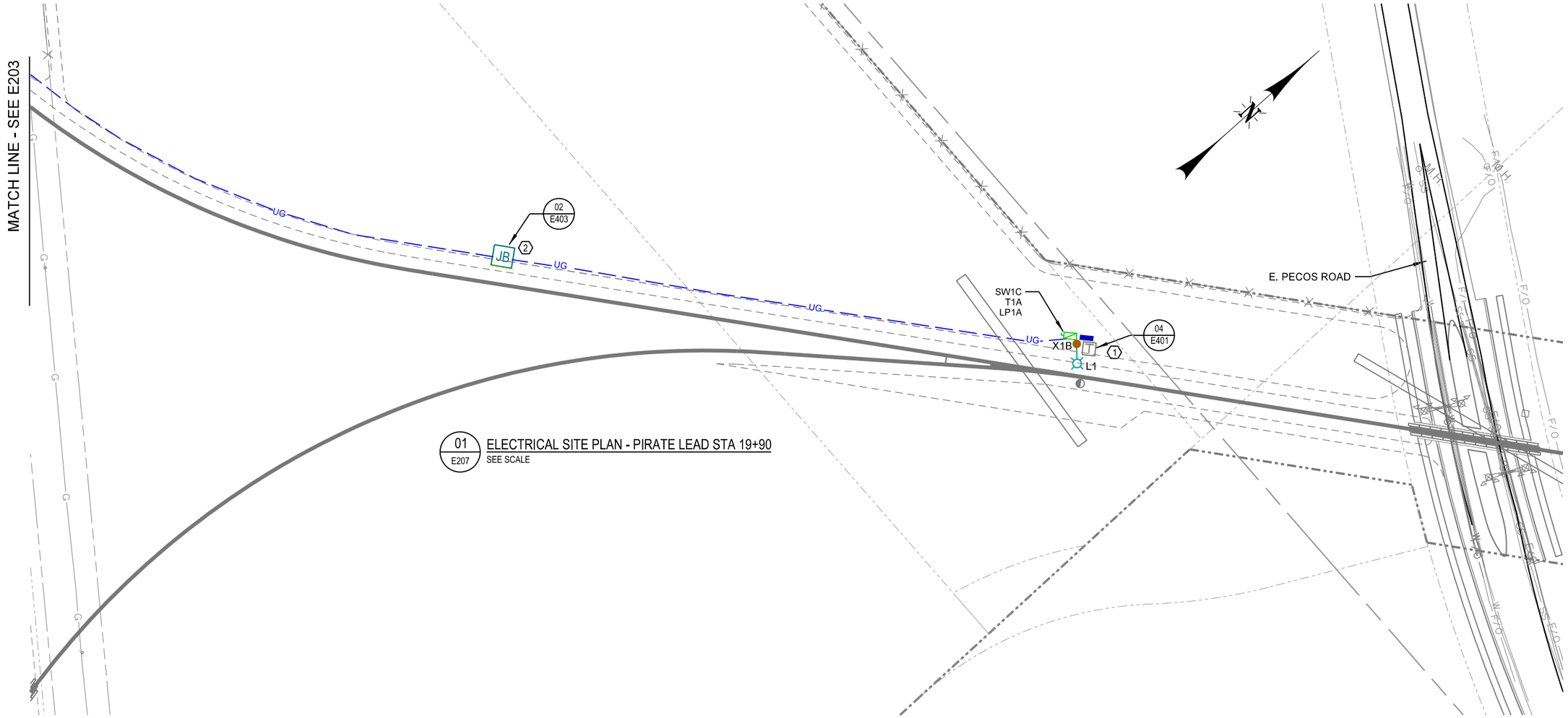
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DATE: 5/26/2022
SHEET NUMBER: E206 of 215

UNION PACIFIC RAILROAD
LOCATION & DESCRIPTION:
Mesa, Arizona
Phoenix Subdivision MP 934.89 to MP 937.90
Construct Industrial Lead Track
SHEET TITLE:
ELECTRICAL SITE PLAN

Color table:K:\Bentley\WorkspaceV8i\projects\Clients\UPRR_Track\UPRR_Track_V8i\color\UPRR.tbl
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5/26/2022



01 E207 ELECTRICAL SITE PLAN - PIRATE LEAD STA 19+90
SEE SCALE

100 0 100 200
SCALE IN FEET

GENERAL ELECTRICAL NOTES:

SEE SHEET E002 FOR GENERAL ELECTRICAL NOTES.

KEYED NOTES: (#)

1. PROVIDE 45' CLASS 3 WOOD POLE WITH LIGHT AND EQUIPMENT RACK ADJACENT TO POLE. FURNISH AND INSTALL EQUIPMENT SHOWN. ENSURE ALL EQUIPMENT IS A MINIMUM OF 15' FROM CENTERLINE OF TRACK.
2. UNDERGROUND SPLICES OF CONDUCTORS IS NOT PERMITTED. ANY NECESSARY SPLICES SHALL BE MADE IN A RACK-MOUNTED JUNCTION BOX.

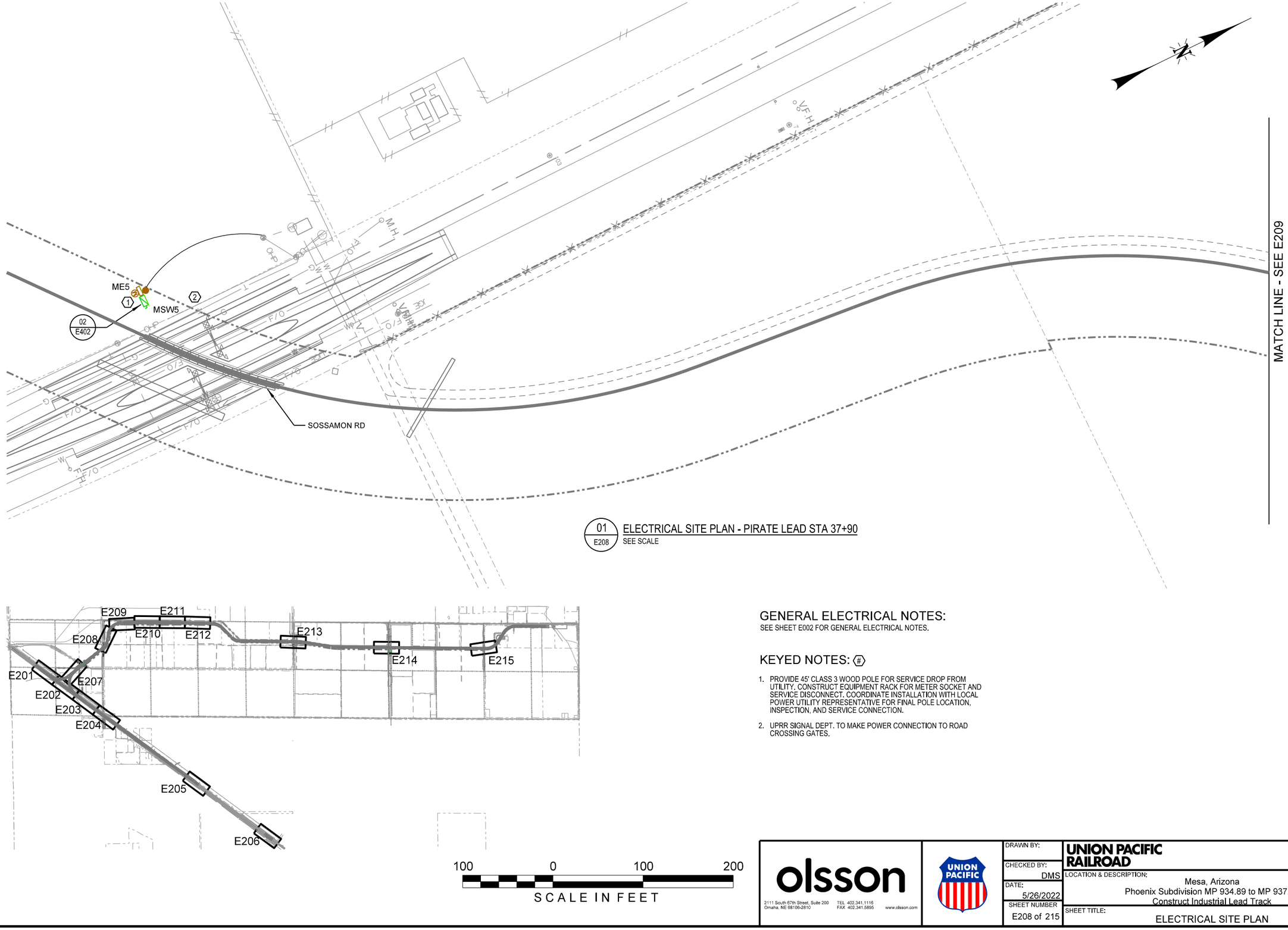
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UNION PACIFIC

DRAWN BY: RSP
CHECKED BY: DMS
DATE: 5/26/2022
SHEET NUMBER: E207 of 215

UNION PACIFIC RAILROAD
LOCATION & DESCRIPTION:
Mesa, Arizona
Phoenix Subdivision MP 934.89 to MP 937.90
Construct Industrial Lead Track
SHEET TITLE:
ELECTRICAL SITE PLAN

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5/26/2022



01 / E208 ELECTRICAL SITE PLAN - PIRATE LEAD STA 37+90
SEE SCALE

100 0 100 200
SCALE IN FEET

GENERAL ELECTRICAL NOTES:

SEE SHEET E002 FOR GENERAL ELECTRICAL NOTES.

KEYED NOTES: ⟨#⟩

1. PROVIDE 45' CLASS 3 WOOD POLE FOR SERVICE DROP FROM UTILITY. CONSTRUCT EQUIPMENT RACK FOR METER SOCKET AND SERVICE DISCONNECT. COORDINATE INSTALLATION WITH LOCAL POWER UTILITY REPRESENTATIVE FOR FINAL POLE LOCATION, INSPECTION, AND SERVICE CONNECTION.
2. UPRR SIGNAL DEPT. TO MAKE POWER CONNECTION TO ROAD CROSSING GATES.

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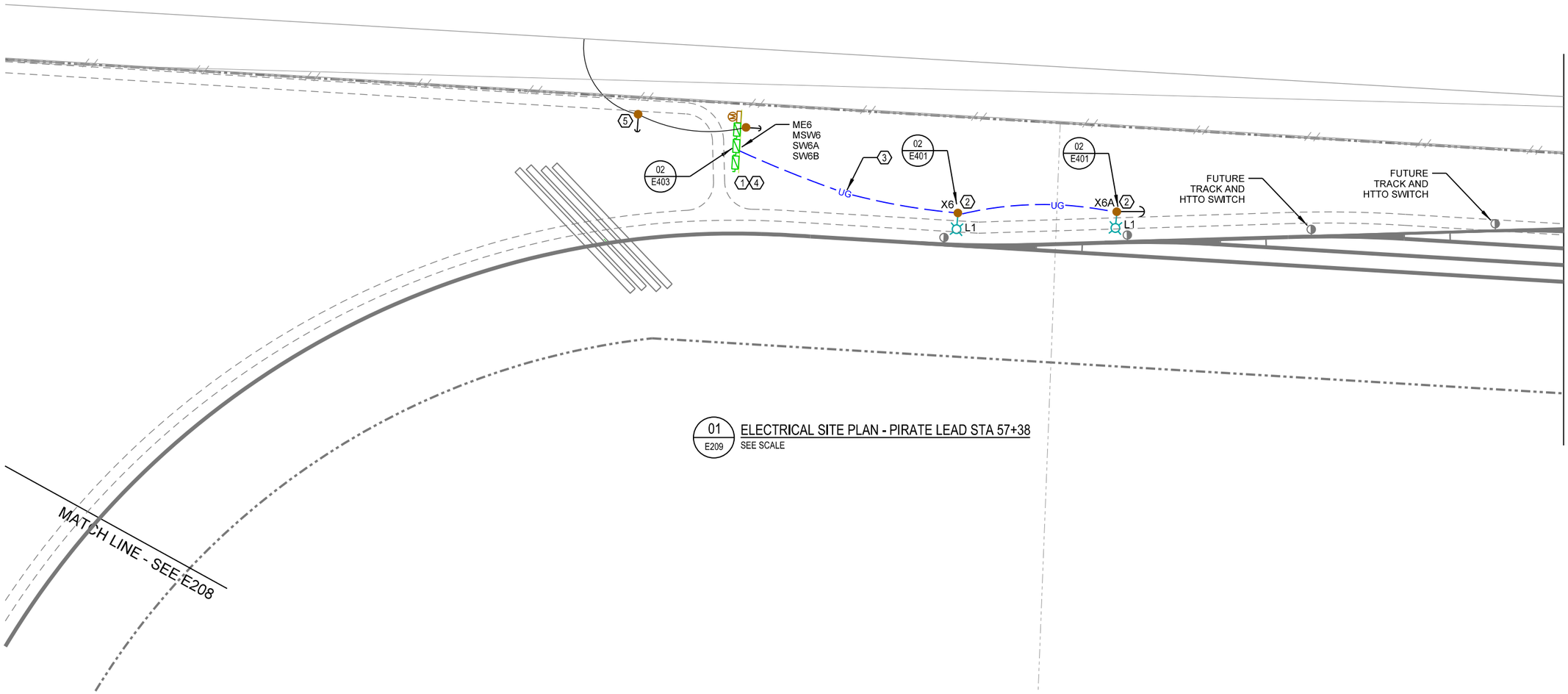
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SHEET NUMBER	E208 of 215

UNION PACIFIC RAILROAD

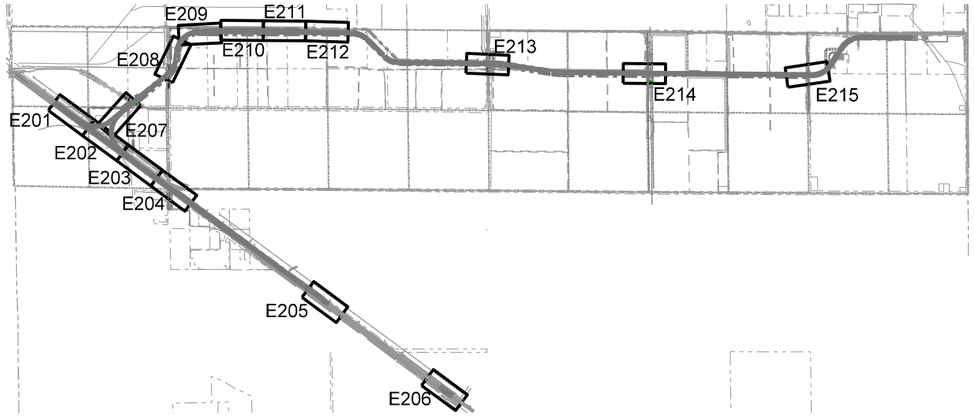
LOCATION & DESCRIPTION:
Mesa, Arizona
Phoenix Subdivision MP 934.89 to MP 937.90
Construct Industrial Lead Track

SHEET TITLE:
ELECTRICAL SITE PLAN

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5/26/2022



01 E209 **ELECTRICAL SITE PLAN - PIRATE LEAD STA 57+38**
SEE SCALE



100 0 100 200
SCALE IN FEET

GENERAL ELECTRICAL NOTES:

SEE SHEET E002 FOR GENERAL ELECTRICAL NOTES.

KEYED NOTES: (#)

1. PROVIDE 45' CLASS 3 WOOD POLE FOR SERVICE DROP FROM UTILITY. CONSTRUCT EQUIPMENT RACK FOR METER SOCKET AND SERVICE DISCONNECT. PROVIDE SIDEWALK GUY. COORDINATE INSTALLATION WITH LOCAL POWER UTILITY REPRESENTATIVE FOR FINAL POLE LOCATION, INSPECTION, AND SERVICE CONNECTION.
2. PROVIDE 45' CLASS 3 WOOD POLE FOR OVERHEAD LIGHTING CIRCUIT.
3. PROVIDE UNDERGROUND CIRCUIT IN MINIMUM 1" CONDUIT TO FIRST LIGHT POLE. X6. CONDUIT ROUTE SHALL CIRCUMVENT FOUNDATION OF MODULAR OFFICE.
4. PROVIDE UNDERGROUND CIRCUIT TO DISCONNECT FOR MODULAR BUILDING (LOCATION TO BE DETERMINED).
5. ADDITIONAL WOOD POLES REQUIRED TO SUPPORT SERVICE CONNECTIONS SHALL BE PROVIDED BY THE UTILITY.

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DRAWN BY: RSP
CHECKED BY: DMS
DATE: 5/26/2022
SHEET NUMBER: E209 of 215

UNION PACIFIC RAILROAD
LOCATION & DESCRIPTION:
Mesa, Arizona
Phoenix Subdivision MP 934.89 to MP 937.90
Construct Industrial Lead Track
SHEET TITLE:
ELECTRICAL SITE PLAN

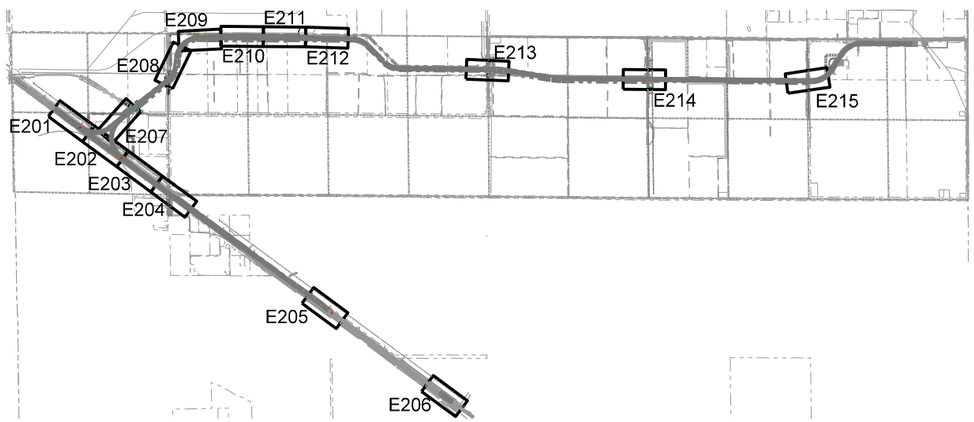
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5/26/2022

MATCH LINE - SEE E209

MATCH LINE - SEE E211

OHP

01 E210 ELECTRICAL SITE PLAN - PIRATE LEAD ①
SEE SCALE



100 0 100 200
SCALE IN FEET

GENERAL ELECTRICAL NOTES:

SEE SHEET E002 FOR GENERAL ELECTRICAL NOTES.

KEYED NOTES: (#)

1. LIGHTING FOR NORTH END SWITCHES OF PIRATE LEAD SET-OUT IS ANTICIPATED TO BE FED FROM A SEPARATE SERVICE. REFER TO SHEET E211. NO ELECTRICAL WORK ON THIS SHEET.

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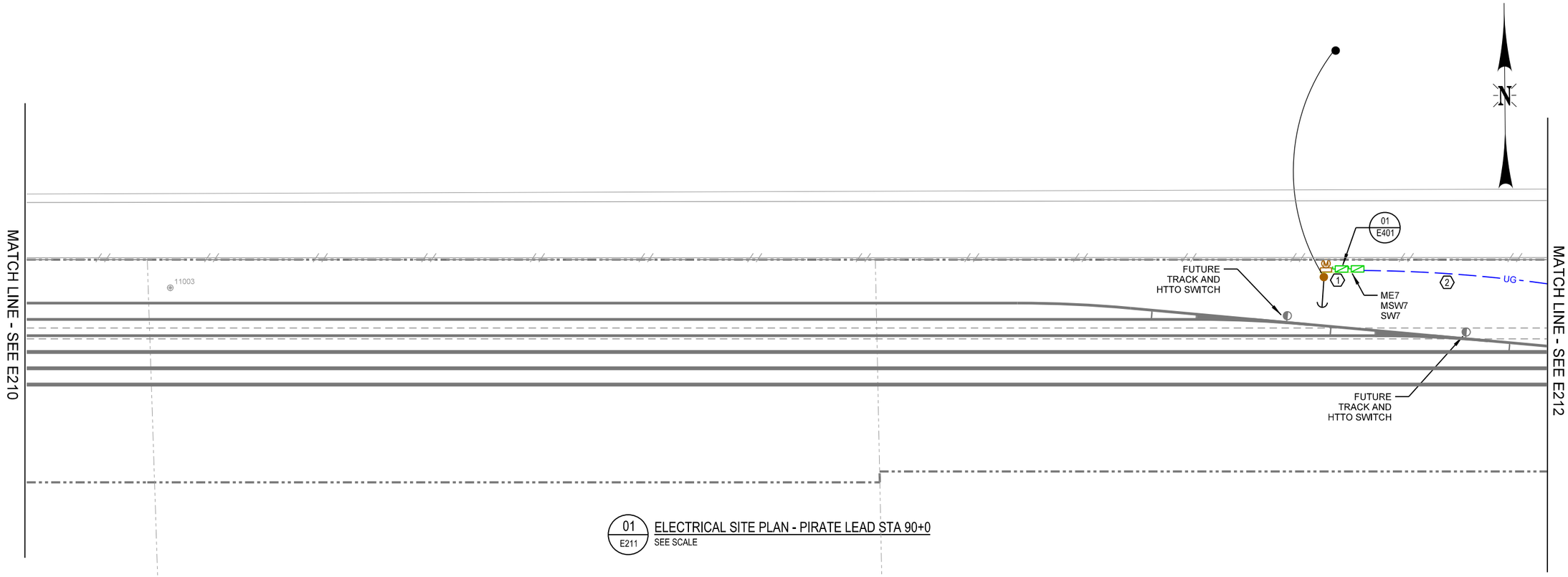
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DATE: 5/26/2022
SHEET NUMBER: E210 of 215

UNION PACIFIC RAILROAD

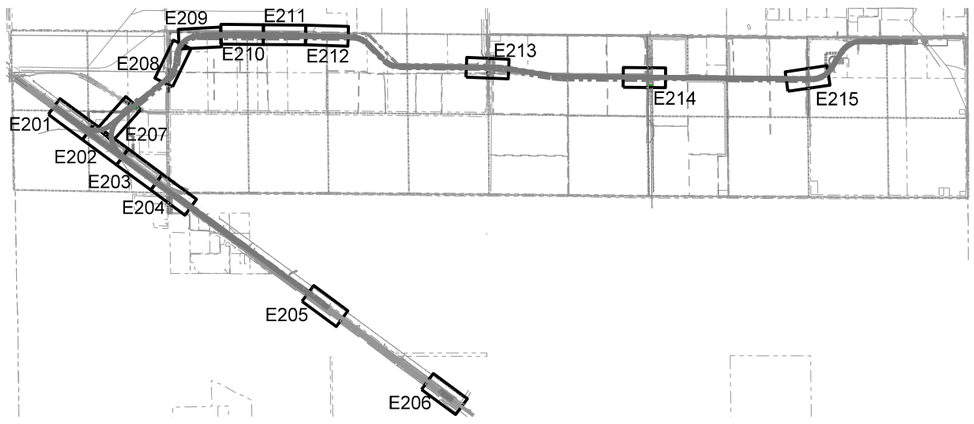
LOCATION & DESCRIPTION:
Mesa, Arizona
Phoenix Subdivision MP 934.89 to MP 937.90
Construct Industrial Lead Track

SHEET TITLE:
ELECTRICAL SITE PLAN

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5/26/2022



01 E211 ELECTRICAL SITE PLAN - PIRATE LEAD STA 90+0
SEE SCALE



100 0 100 200
SCALE IN FEET

GENERAL ELECTRICAL NOTES:

SEE SHEET E002 FOR GENERAL ELECTRICAL NOTES.

KEYED NOTES: (#)

1. PROVIDE 45' CLASS 3 WOOD POLE FOR SERVICE DROP FROM UTILITY. CONSTRUCT EQUIPMENT RACK FOR METER SOCKET AND SERVICE DISCONNECT. PROVIDE GUY. COORDINATE INSTALLATION WITH LOCAL POWER UTILITY REPRESENTATIVE FOR FINAL POLE LOCATION, INSPECTION, AND SERVICE CONNECTION.
2. PROVIDE UNDERGROUND CIRCUIT IN MINIMUM 1" CONDUIT TO FIRST LIGHT POLE, X7. REFER TO SHEET E212.

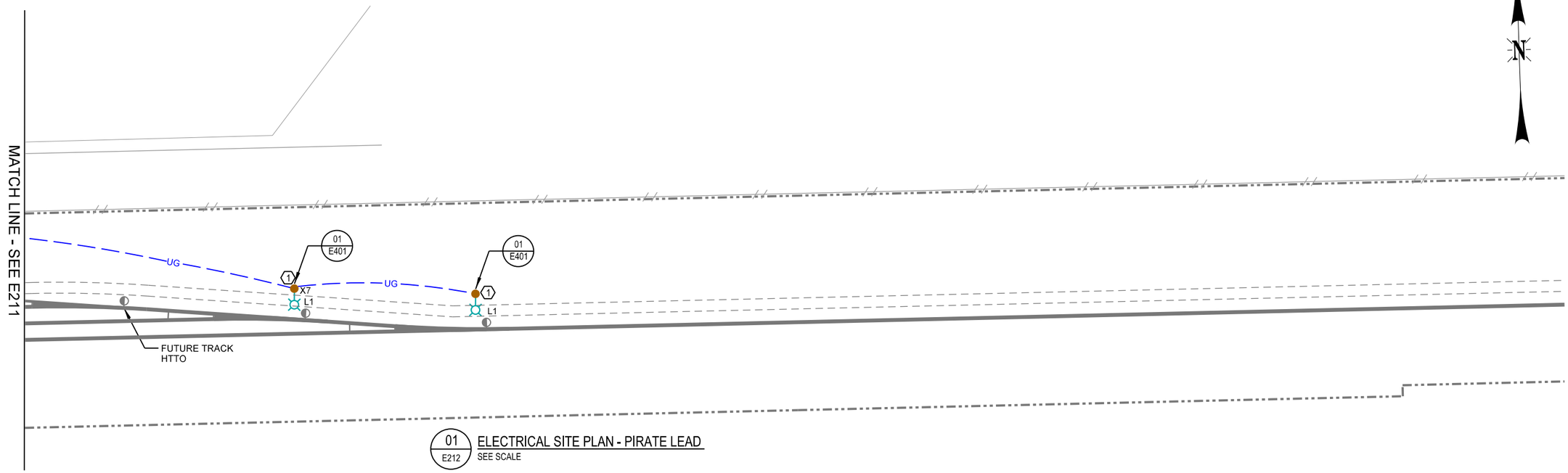
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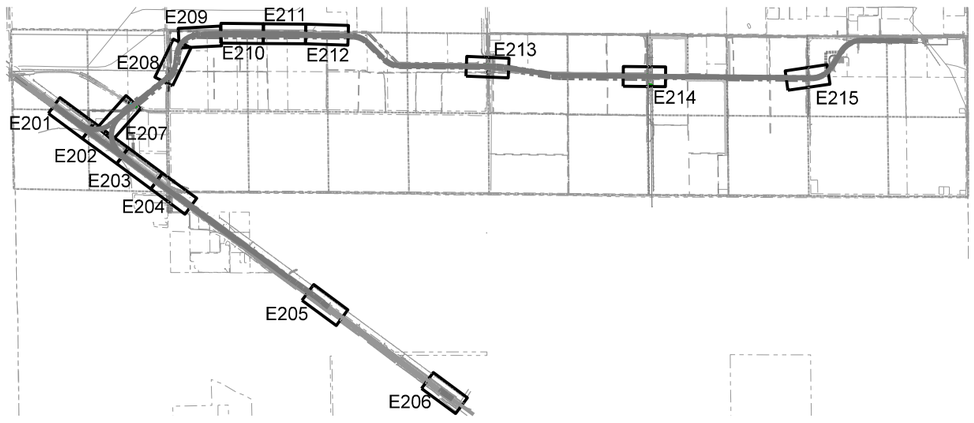
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DATE: 5/26/2022
SHEET NUMBER: E211 of 215

UNION PACIFIC RAILROAD
LOCATION & DESCRIPTION:
Mesa, Arizona
Phoenix Subdivision MP 934.89 to MP 937.90
Construct Industrial Lead Track
SHEET TITLE:
ELECTRICAL SITE PLAN

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5/26/2022



01 / E212 ELECTRICAL SITE PLAN - PIRATE LEAD
SEE SCALE



100 0 100 200
SCALE IN FEET

GENERAL ELECTRICAL NOTES:

SEE SHEET E002 FOR GENERAL ELECTRICAL NOTES.

KEYED NOTES: (#)

1. PROVIDE 45' CLASS 3 WOOD POLE FOR LIGHTING CIRCUIT.

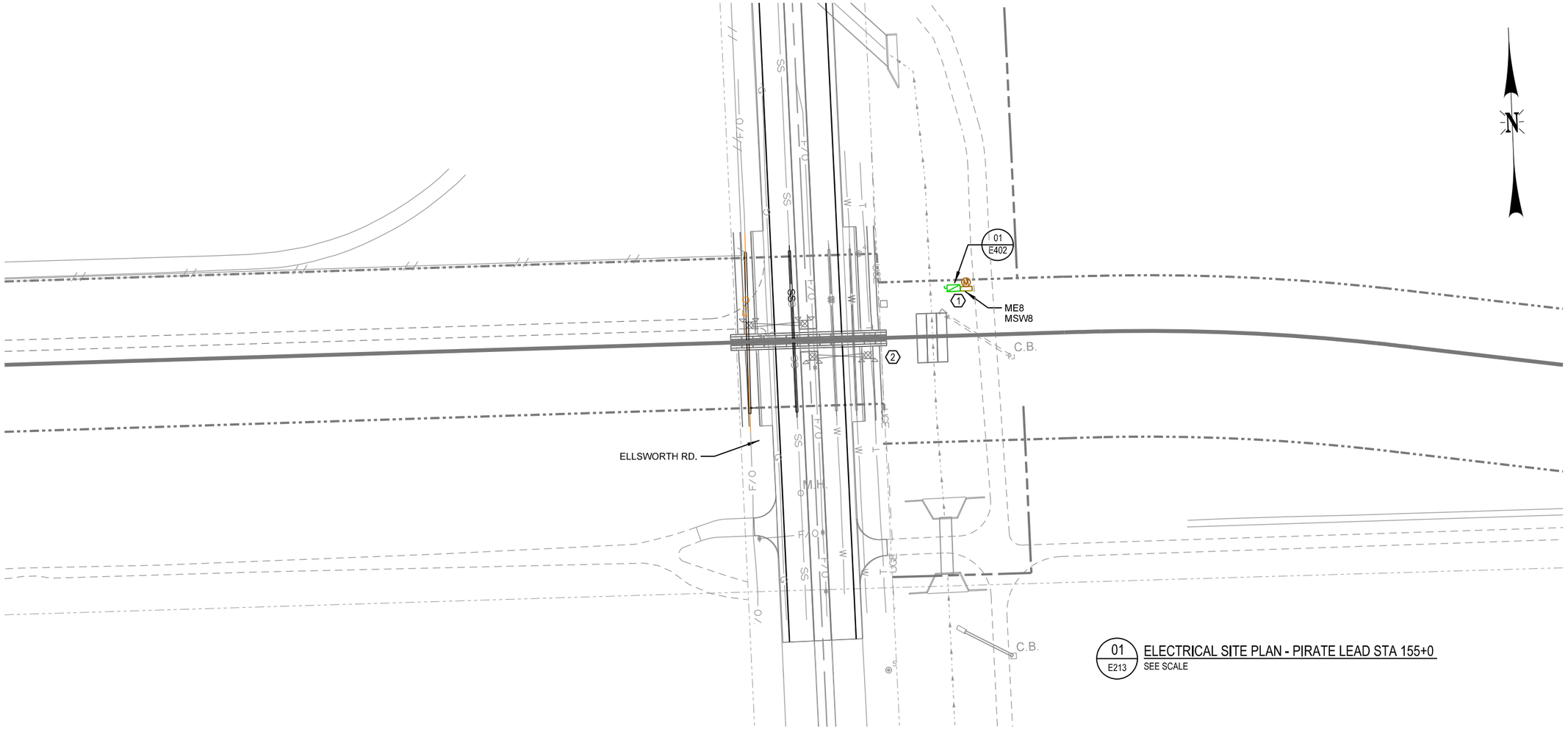
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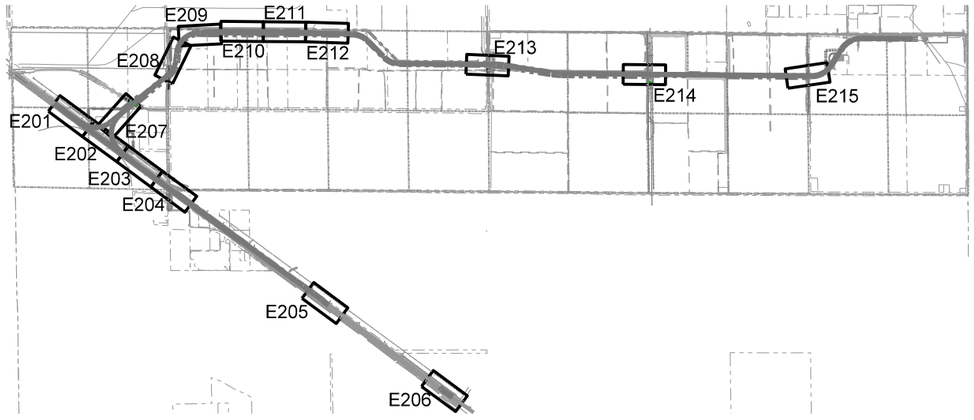
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DATE: 5/26/2022
SHEET NUMBER: E212 of 215

UNION PACIFIC RAILROAD
LOCATION & DESCRIPTION:
Mesa, Arizona
Phoenix Subdivision MP 934.89 to MP 937.90
Construct Industrial Lead Track
SHEET TITLE:
ELECTRICAL SITE PLAN

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5/26/2022



01 E213 ELECTRICAL SITE PLAN - PIRATE LEAD STA 155+0
SEE SCALE



GENERAL ELECTRICAL NOTES:

SEE SHEET E002 FOR GENERAL ELECTRICAL NOTES.

KEYED NOTES: ⟨#⟩

1. CONSTRUCT EQUIPMENT RACK FOR METER SOCKET AND SERVICE DISCONNECT. COORDINATE INSTALLATION WITH LOCAL POWER UTILITY REPRESENTATIVE FOR FINAL SERVICE LOCATION, INSPECTION, AND SERVICE CONNECTION.
2. UPRR SIGNAL DEPT. TO MAKE CONNECTION TO CROSSING GATE ASSEMBLY.

100 0 100 200
SCALE IN FEET

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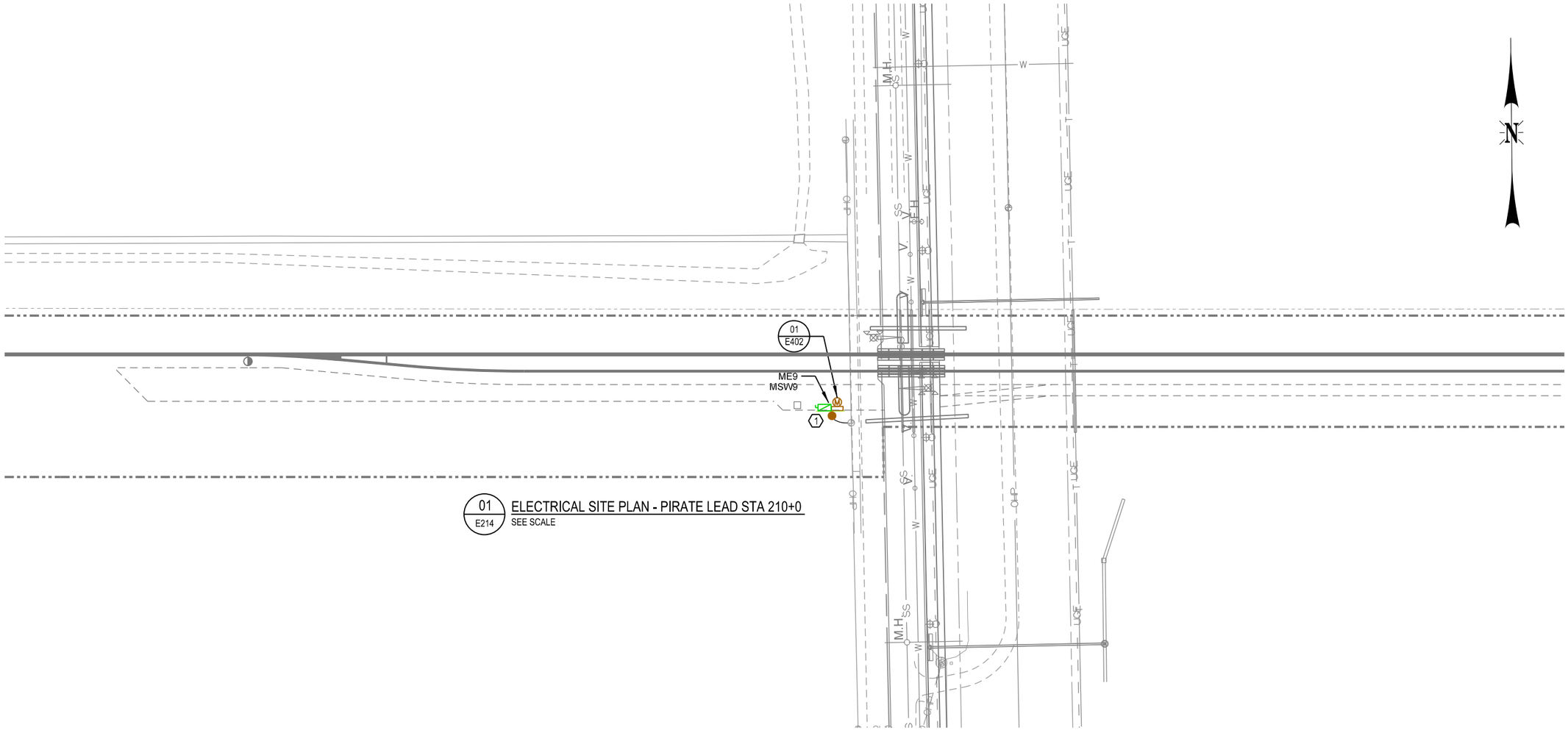
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DATE:	5/26/2022
SHEET NUMBER	E213 of 215

UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
Mesa, Arizona
Phoenix Subdivision MP 934.89 to MP 937.90
Construct Industrial Lead Track

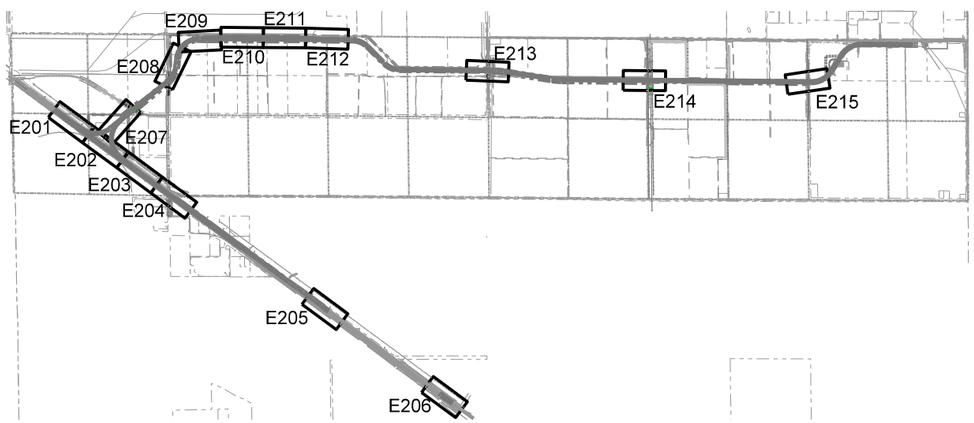
SHEET TITLE:
ELECTRICAL SITE PLAN

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5/26/2022



01 / E214 ELECTRICAL SITE PLAN - PIRATE LEAD STA 210+0

SEE SCALE



100 0 100 200

SCALE IN FEET

GENERAL ELECTRICAL NOTES:

SEE SHEET E002 FOR GENERAL ELECTRICAL NOTES.

KEYED NOTES: ⟨#⟩

1. PROVIDE 45' CLASS 3 WOOD POLE FOR SERVICE DROP FROM UTILITY. CONSTRUCT EQUIPMENT RACK FOR METER SOCKET AND SERVICE DISCONNECT. PROVIDE SIDEWALK GUY. COORDINATE INSTALLATION WITH LOCAL POWER UTILITY REPRESENTATIVE FOR FINAL POLE LOCATION, INSPECTION, AND SERVICE CONNECTION.
2. UPRR SIGNAL DEPT. TO MAKE POWER CONNECTION TO ROAD CROSSING GATE.

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CHECKED BY: DMS
DATE: 5/26/2022
SHEET NUMBER: E214 of 215

UNION PACIFIC RAILROAD

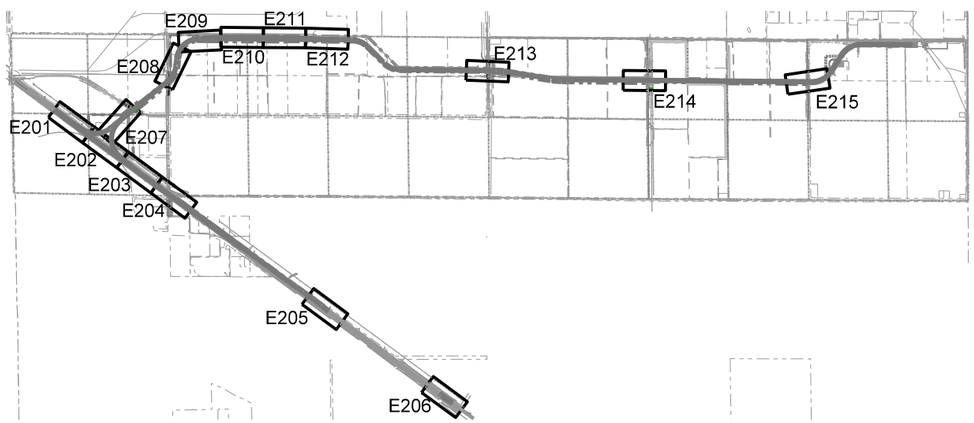
LOCATION & DESCRIPTION:
Mesa, Arizona
Phoenix Subdivision MP 934.89 to MP 937.90
Construct Industrial Lead Track

SHEET TITLE:
ELECTRICAL SITE PLAN

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5/26/2022



01 / E214 ELECTRICAL SITE PLAN - PIRATE LEAD STA 262+0
SEE SCALE



100 0 100 200
SCALE IN FEET

GENERAL ELECTRICAL NOTES:

SEE SHEET E002 FOR GENERAL ELECTRICAL NOTES.

KEYED NOTES:⟨#⟩

1. CONSTRUCT EQUIPMENT RACK FOR METER SOCKET AND SERVICE DISCONNECT. COORDINATE INSTALLATION WITH LOCAL POWER UTILITY REPRESENTATIVE FOR FINAL EQUIPMENT LOCATION, INSPECTION, AND SERVICE CONNECTION.
2. UPRR SIGNAL DEPT. TO MAKE POWER CONNECTION TO SIGNAL GATE.

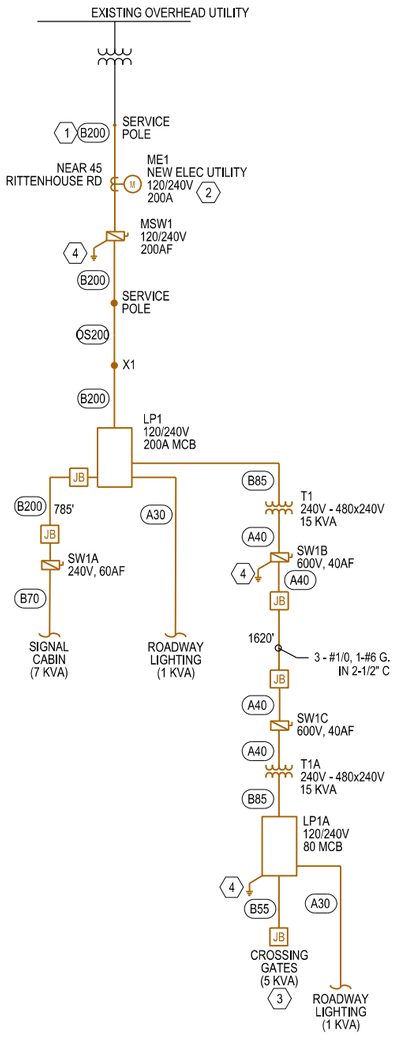
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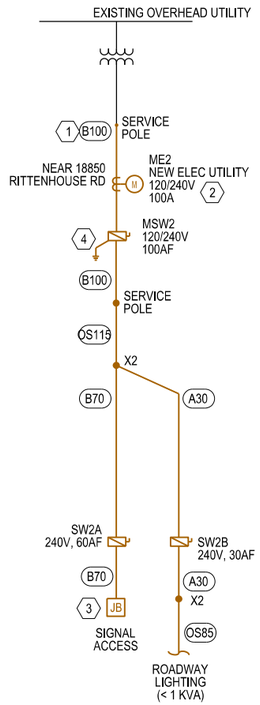
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CHECKED BY: DMS
DATE: 5/26/2022
SHEET NUMBER: E215 of 215

UNION PACIFIC RAILROAD
LOCATION & DESCRIPTION:
Mesa, Arizona
Phoenix Subdivision MP 934.89 to MP 937.90
Construct Industrial Lead Track
SHEET TITLE:
ELECTRICAL SITE PLAN

Color table: K:\Bentley\Workspace\V8i\projects\Clients\UPRR_Track\UPRR_Track_V8i\color\UPRR.tbl
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5/26/2022



01 E301 ELECTRICAL ONE-LINE - MP 934.96
NO SCALE



02 E301 ELECTRICAL ONE-LINE - MP 935.33
NO SCALE

KEYED NOTES: (#)

1. FOR CONDUIT AND CONDUCTORS AHEAD OF METER, SIZES SHOWN ARE A MINIMUM ALLOWABLE SIZE. UTILITY MINIMUM REQUIREMENTS TAKE PRECEDENCE.
2. REFER TO UTILITY SERVICE CONSTRUCTION REQUIREMENTS FOR OVERHEAD AND UNDERGROUND SERVICE INSTALLATIONS. COORDINATE WITH UTILITY REPRESENTATIVE FOR INSPECTION. PROVIDE UPRR PROJECT REPRESENTATIVE WITH METER NUMBER AND ACTIVATION DATE WHEN SERVICE IS ACTIVATED.
3. CONTRACTOR TO PROVIDE WIRE TO JUNCTION BOX AND TERMINATE ON WATERPROOF TERMINAL BLOCK. FINAL CONNECTION TO SIGNAL EQUIPMENT TO BE COMPLETED BY UPRR SIGNAL DEPARTMENT.
4. PROVIDE GROUNDING PER NEC AND LOCAL CODE REQUIREMENTS.

CABLE/CONDUIT SCHEDULE < 600V

MARK	CONDUCTORS	CONDUIT	COMMENTS
A30	2-#10 CU & 1-#10 CU EGC	3/4"	
A40	2-#8 CU & 1-#10 CU EGC	3/4"	
A55	2-#6 CU & 1-#10 CU EGC	3/4"	
B30	2-#10 CU, 1-#10 CU N, & 1-#10 CU EGC	3/4"	
B40	2-#8 CU, 1-#8 CU N, & 1-#10 CU EGC	1"	
B55	2-#6 CU, 1-#6 CU N, & 1-#10 CU EGC	1-1/4"	
B70	2-#4 CU, 1-#4 CU N, & 1-#8 CU EGC	1-1/4"	
B85	2-#3 CU, 1-#3 CU N, & 1-#8 CU EGC	1-1/4"	
B100	2-#1 CU, 1-#1 CU N, & 1-#6 CU EGC	2"	
B200	2-#3/0 CU, 1-#3/0 CU N, & 1-#6 CU EGC	2"	
OS85	#6 TRIPLEX XLP (VOLUTA)		
OS115	#4 TRIPLEX XLP (PERIWINKLE)		
OS200	#4 TRIPLEX XLP (PERIWINKLE)		

NOTES:
1. CONDUCTORS ARE TO BE XHHW-2.
2. CONDUITS ARE RIGID GALVANIZED STEEL UNLESS OTHERWISE NOTED OR PERMITTED BY UPRR GENERAL SPECIFICATIONS.

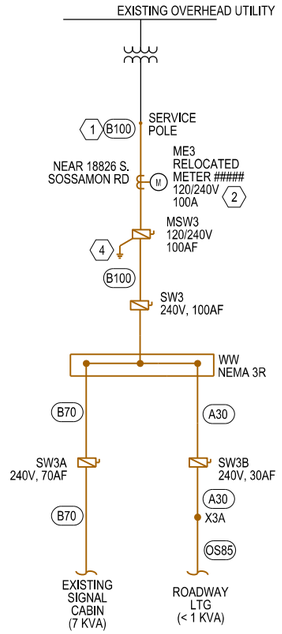
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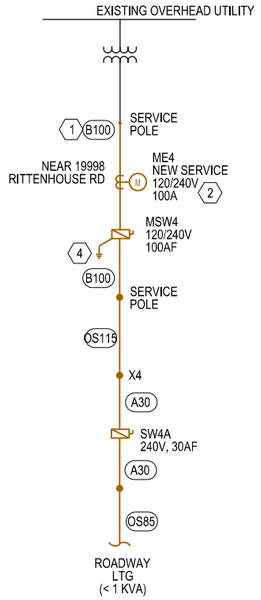
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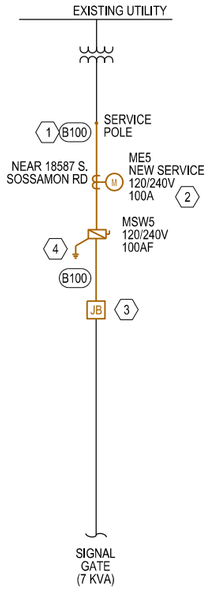
DRAWN BY: drn
CHECKED BY: chk
DATE: 5/26/2022
SHEET NUMBER: E301 of 304

UNION PACIFIC RAILROAD
LOCATION & DESCRIPTION:
Mesa, Arizona
Phoenix Subdivision MP 934.89 to MP 937.90
Construct Industrial Lead Track
SHEET TITLE:
ELECTRICAL ONE-LINES

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5/26/2022







01 E302 ELECTRICAL ONE-LINE - MP 935.65
NO SCALE

02 E302 ELECTRICAL ONE-LINE - MP 935.86
NO SCALE

03 E302 ELECTRICAL ONE-LINE - PIRATE LEAD STA 37+90
NO SCALE

KEYED NOTES: (#)

1. FOR CONDUIT AND CONDUCTORS AHEAD OF METER, SIZES SHOWN ARE A MINIMUM ALLOWABLE SIZE. UTILITY MINIMUM REQUIREMENTS TAKE PRECEDENCE.
2. REFER TO UTILITY SERVICE CONSTRUCTION REQUIREMENTS FOR OVERHEAD AND UNDERGROUND SERVICE INSTALLATIONS. COORDINATE WITH UTILITY REPRESENTATIVE FOR INSPECTION. PROVIDE UPRR PROJECT REPRESENTATIVE WITH METER NUMBER AND ACTIVATION DATE WHEN SERVICE IS ACTIVATED.
3. CONTRACTOR TO PROVIDE WIRE TO JUNCTION BOX AND TERMINATE ON WATERPROOF TERMINAL BLOCK. FINAL CONNECTION TO SIGNAL EQUIPMENT TO BE COMPLETED BY UPRR SIGNAL DEPARTMENT.
4. PROVIDE GROUNDING PER NEC AND LOCAL CODE REQUIREMENTS.

CABLE/CONDUIT SCHEDULE < 600V

MARK	CONDUCTORS	CONDUIT	COMMENTS
A30	2-#10 CU & 1-#10 CU EGC	3/4"	
A40	2-#8 CU & 1-#10 CU EGC	3/4"	
A55	2-#6 CU & 1-#10 CU EGC	3/4"	
B30	2-#10 CU, 1-#10 CU N, & 1-#10 CU EGC	3/4"	
B40	2-#8 CU, 1-#8 CU N, & 1-#10 CU EGC	1"	
B55	2-#6 CU, 1-#6 CU N, & 1-#10 CU EGC	1-1/4"	
B70	2-#4 CU, 1-#4 CU N, & 1-#8 CU EGC	1-1/4"	
B85	2-#3 CU, 1-#3 CU N, & 1-#8 CU EGC	1-1/4"	
B100	2-#1 CU, 1-#1 CU N, & 1-#6 CU EGC	2"	
B200	2-#3/0 CU, 1-#3/0 CU N, & 1-#6 CU EGC	2"	
OS85	#6 TRIPLEX XLP (VOLUTA)		
OS115	#4 TRIPLEX XLP (PERIWINKLE)		
OS200	#4 TRIPLEX XLP (PERIWINKLE)		

NOTES:
1. CONDUCTORS ARE TO BE XHHW-2.
2. CONDUITS ARE RIGID GALVANIZED STEEL UNLESS OTHERWISE NOTED OR PERMITTED BY UPRR GENERAL SPECIFICATIONS.

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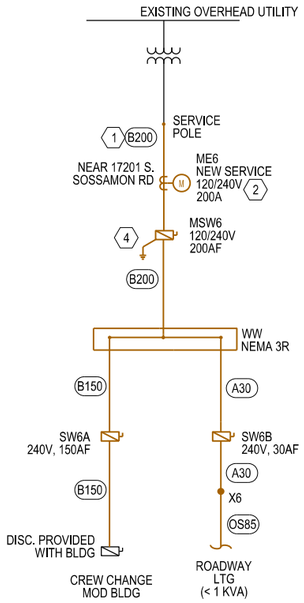
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SHEET NUMBER: E302 of 304

UNION PACIFIC RAILROAD

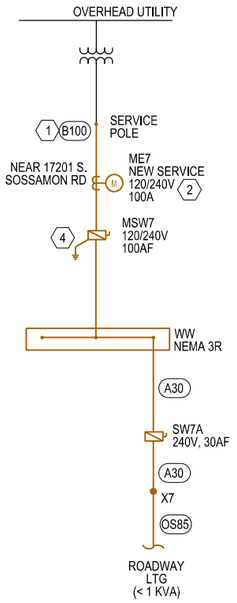
LOCATION & DESCRIPTION:
Mesa, Arizona
Phoenix Subdivision MP 934.89 to MP 937.90
Construct Industrial Lead Track

SHEET TITLE:
ELECTRICAL ONE-LINES

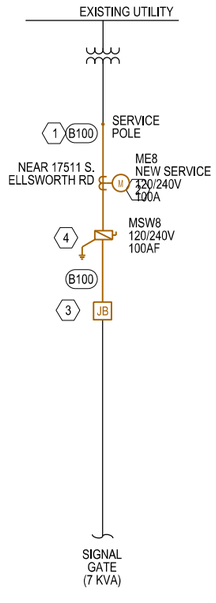
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5/26/2022



01 E303 ELECTRICAL ONE-LINE - PIRATE LEAD STA 57+38
NO SCALE



02 E303 ELECTRICAL ONE-LINE - PIRATE LEAD STA 90+0
NO SCALE



03 E303 ELECTRICAL ONE-LINE - PIRATE LEAD STA 155+0
NO SCALE

KEYED NOTES: (#)

1. FOR CONDUIT AND CONDUCTORS AHEAD OF METER, SIZES SHOWN ARE A MINIMUM ALLOWABLE SIZE. UTILITY MINIMUM REQUIREMENTS TAKE PRECEDENCE.
2. REFER TO UTILITY SERVICE CONSTRUCTION REQUIREMENTS FOR OVERHEAD AND UNDERGROUND SERVICE INSTALLATIONS. COORDINATE WITH UTILITY REPRESENTATIVE FOR INSPECTION. PROVIDE UPRR PROJECT REPRESENTATIVE WITH METER NUMBER AND ACTIVATION DATE WHEN SERVICE IS ACTIVATED.
3. CONTRACTOR TO PROVIDE WIRE TO JUNCTION BOX AND TERMINATE ON WATERPROOF TERMINAL BLOCK. FINAL CONNECTION TO SIGNAL EQUIPMENT TO BE COMPLETED BY UPRR SIGNAL DEPARTMENT.
4. PROVIDE GROUNDING PER NEC AND LOCAL CODE REQUIREMENTS.

CABLE/CONDUIT SCHEDULE < 600V

MARK	CONDUCTORS	CONDUIT	COMMENTS
A30	2-#10 CU & 1-#10 CU EGC	3/4"	
A40	2-#8 CU & 1-#10 CU EGC	3/4"	
A55	2-#6 CU & 1-#10 CU EGC	3/4"	
B30	2-#10 CU, 1-#10 CU N, & 1-#10 CU EGC	3/4"	
B40	2-#8 CU, 1-#8 CU N, & 1-#10 CU EGC	1"	
B55	2-#6 CU, 1-#6 CU N, & 1-#10 CU EGC	1-1/4"	
B70	2-#4 CU, 1-#4 CU N, & 1-#8 CU EGC	1-1/4"	
B85	2-#3 CU, 1-#3 CU N, & 1-#8 CU EGC	1-1/4"	
B100	2-#1 CU, 1-#1 CU N, & 1-#6 CU EGC	2"	
B200	2-#3/0 CU, 1-#3/0 CU N, & 1-#6 CU EGC	2"	
OS85	#6 TRIPLEX XLP (VOLUTA)		
OS115	#4 TRIPLEX XLP (PERIWINKLE)		
OS200	#4 TRIPLEX XLP (PERIWINKLE)		

NOTES:
1. CONDUCTORS ARE TO BE XHHW-2.
2. CONDUITS ARE RIGID GALVANIZED STEEL UNLESS OTHERWISE NOTED OR PERMITTED BY UPRR GENERAL SPECIFICATIONS.

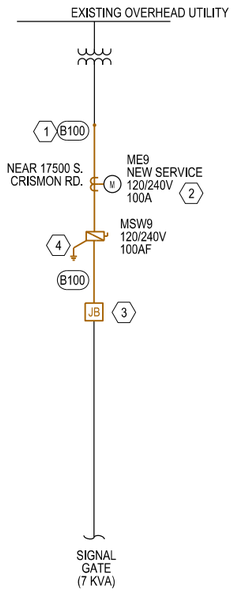
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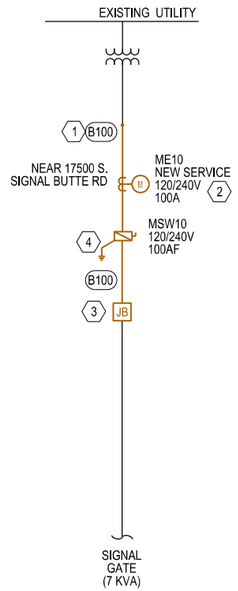
DRAWN BY: drn
CHECKED BY: chk
DATE: 5/26/2022
SHEET NUMBER: E303 of 304

UNION PACIFIC RAILROAD
LOCATION & DESCRIPTION:
Mesa, Arizona
Phoenix Subdivision MP 934.89 to MP 937.90
Construct Industrial Lead Track
SHEET TITLE:
ELECTRICAL ONE-LINE

Color table:K:\Bentley\WorkspaceV8i\projects\Clients\UPRR_Track\UPRR_Track_V8i\color\UPRR.tbl
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5/26/2022



01 E304 ELECTRICAL ONE-LINE - PIRATE LEAD STA 210+00
NO SCALE



02 E304 ELECTRICAL ONE-LINE - PIRATE LEAD 262+00
NO SCALE

KEYED NOTES: (#)

1. FOR CONDUIT AND CONDUCTORS AHEAD OF METER, SIZES SHOWN ARE A MINIMUM ALLOWABLE SIZE. UTILITY MINIMUM REQUIREMENTS TAKE PRECEDENCE.
2. REFER TO UTILITY SERVICE CONSTRUCTION REQUIREMENTS FOR OVERHEAD AND UNDERGROUND SERVICE INSTALLATIONS. COORDINATE WITH UTILITY REPRESENTATIVE FOR INSPECTION. PROVIDE UPRR PROJECT REPRESENTATIVE WITH METER NUMBER AND ACTIVATION DATE WHEN SERVICE IS ACTIVATED.
3. CONTRACTOR TO PROVIDE WIRE TO JUNCTION BOX AND TERMINATE ON WATERPROOF TERMINAL BLOCK. FINAL CONNECTION TO SIGNAL EQUIPMENT TO BE COMPLETED BY UPRR SIGNAL DEPARTMENT.
4. PROVIDE GROUNDING PER NEC AND LOCAL CODE REQUIREMENTS.

CABLE/CONDUIT SCHEDULE < 600V

MARK	CONDUCTORS	CONDUIT	COMMENTS
A30	2-#10 CU & 1-#10 CU EGC	3/4"	
A40	2-#8 CU & 1-#10 CU EGC	3/4"	
A55	2-#6 CU & 1-#10 CU EGC	3/4"	
B30	2-#10 CU, 1-#10 CU N, & 1-#10 CU EGC	3/4"	
B40	2-#8 CU, 1-#8 CU N, & 1-#10 CU EGC	1"	
B55	2-#6 CU, 1-#6 CU N, & 1-#10 CU EGC	1-1/4"	
B70	2-#4 CU, 1-#4 CU N, & 1-#8 CU EGC	1-1/4"	
B85	2-#3 CU, 1-#3 CU N, & 1-#8 CU EGC	1-1/4"	
B100	2-#1 CU, 1-#1 CU N, & 1-#6 CU EGC	2"	
B200	2-#3/0 CU, 1-#3/0 CU N, & 1-#6 CU EGC	2"	
OS85	#6 TRIPLEX XLP (VOLUTA)		
OS115	#4 TRIPLEX XLP (PERIWINKLE)		
OS200	#4 TRIPLEX XLP (PERIWINKLE)		

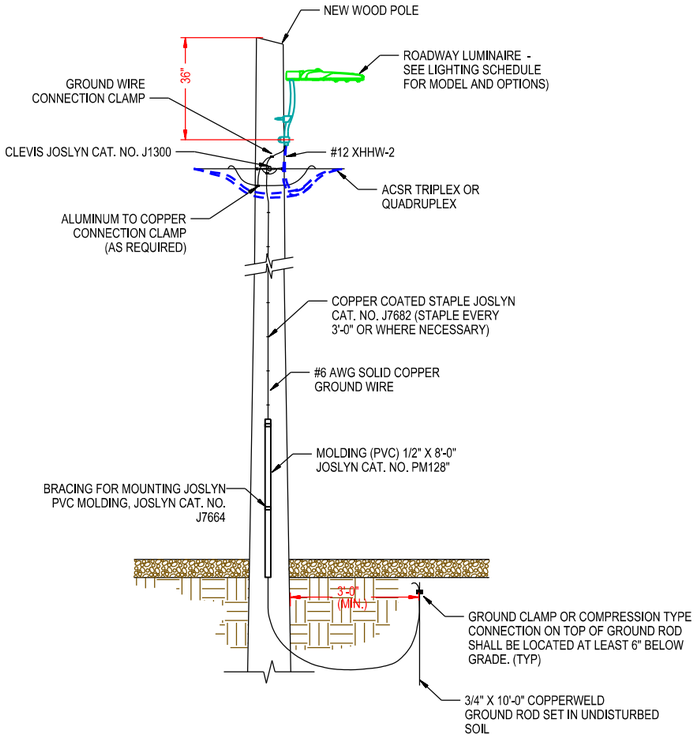
NOTES:
1. CONDUCTORS ARE TO BE XHHW-2.
2. CONDUITS ARE RIGID GALVANIZED STEEL UNLESS OTHERWISE NOTED OR PERMITTED BY UPRR GENERAL SPECIFICATIONS.

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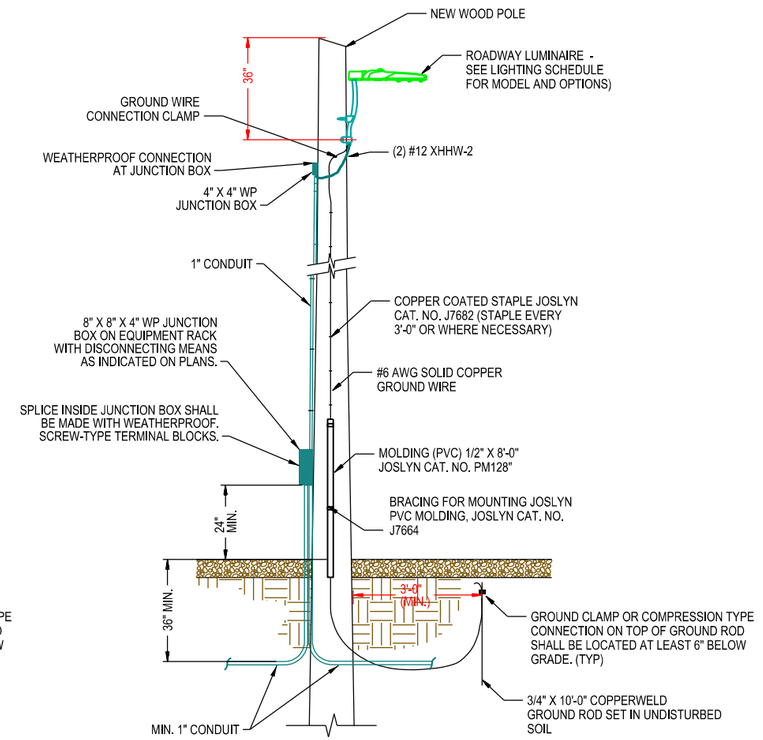
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SHEET NUMBER: E304 of 304

UNION PACIFIC RAILROAD
LOCATION & DESCRIPTION:
Mesa, Arizona
Phoenix Subdivision MP 934.89 to MP 937.90
Construct Industrial Lead Track
SHEET TITLE:
ELECTRICAL ONE-LINE

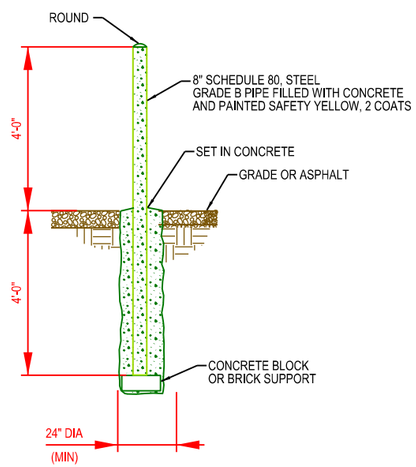
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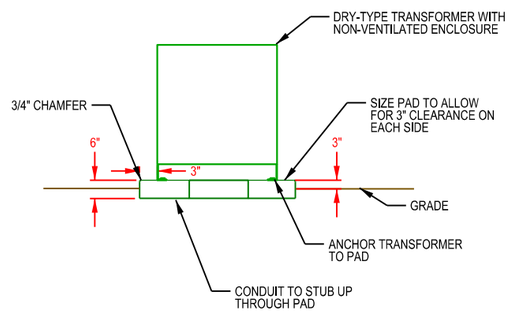
1 E401 **TYP. ROADWAY LIGHT POLE - OVERHEAD CONNECTION DETAIL**
SCALE: NTS



2 E401 **TYP. ROADWAY LIGHT POLE - UNDERGROUND CONNECTION DETAIL**
SCALE: NTS



03 E401 **TYP 8" BOLLARD DETAIL**
SCALE: NTS



04 E401 **DRY-TYPE TRANSFORMER DETAIL**
SCALE: NTS

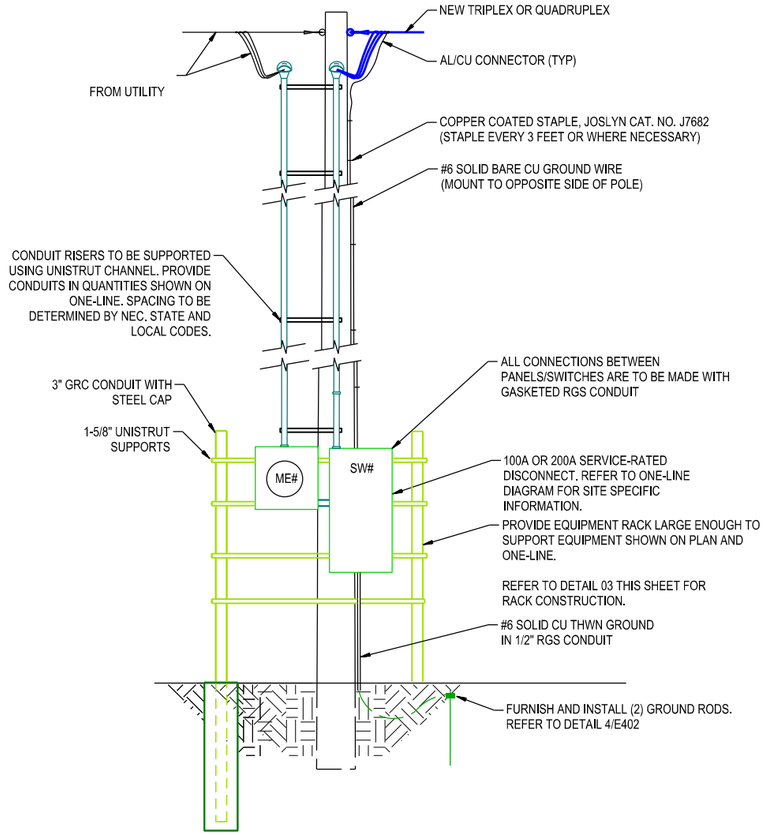
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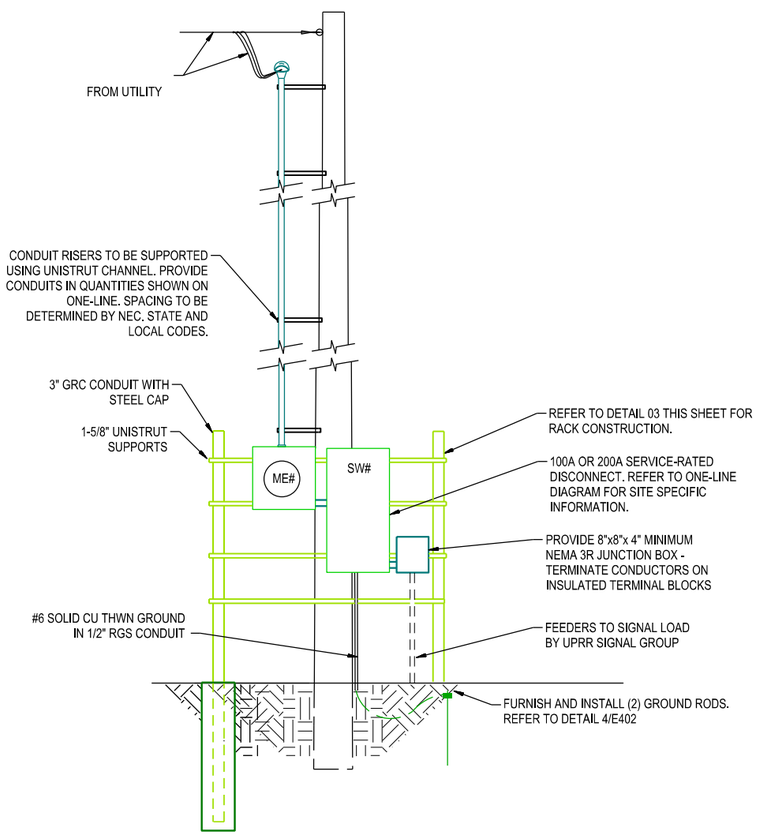
UNION PACIFIC RAILROAD
LOCATION & DESCRIPTION:
Mesa, Arizona
Phoenix Subdivision MP 934.89 to MP 937.90
Construct Industrial Lead Track
SHEET TITLE:
ELECTRICAL DETAILS

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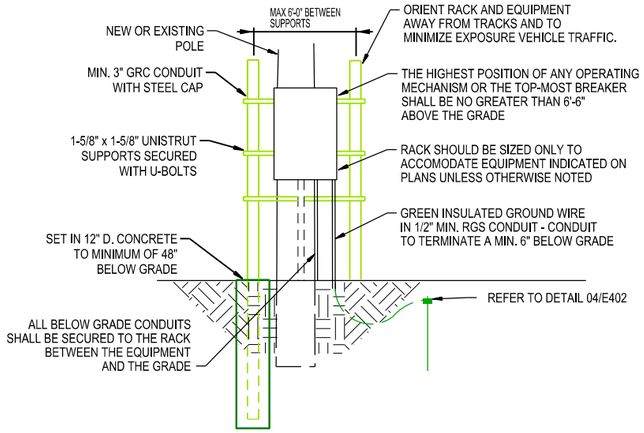
***NOTE:
ALL SIZES AND CIRCUITRY CONFIGURATIONS SUBJECT TO NEC. STATE AND LOCAL CODES.***

01 E402 TYP. SERVICE DROP/OVERHEAD DETAIL
SCALE: NTS

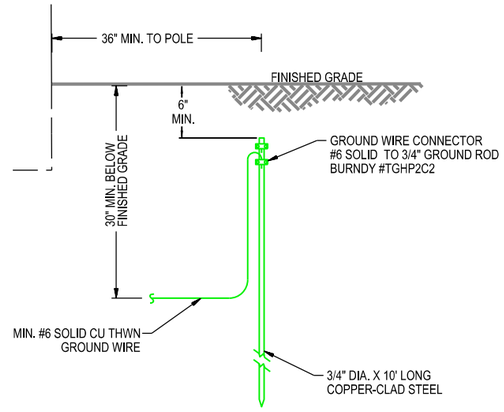


***NOTE:
ALL SIZES AND CIRCUITRY CONFIGURATIONS SUBJECT TO NEC. STATE AND LOCAL CODES.***

02 E402 TYP. SERVICE DROP/UNDERGROUND DETAIL
SCALE: NTS



03 E402 TYP EQUIPMENT RACK CONSTRUCTION
SCALE: NTS



04 E402 TYP GROUND ROD INSTALLATION
SCALE: NTS

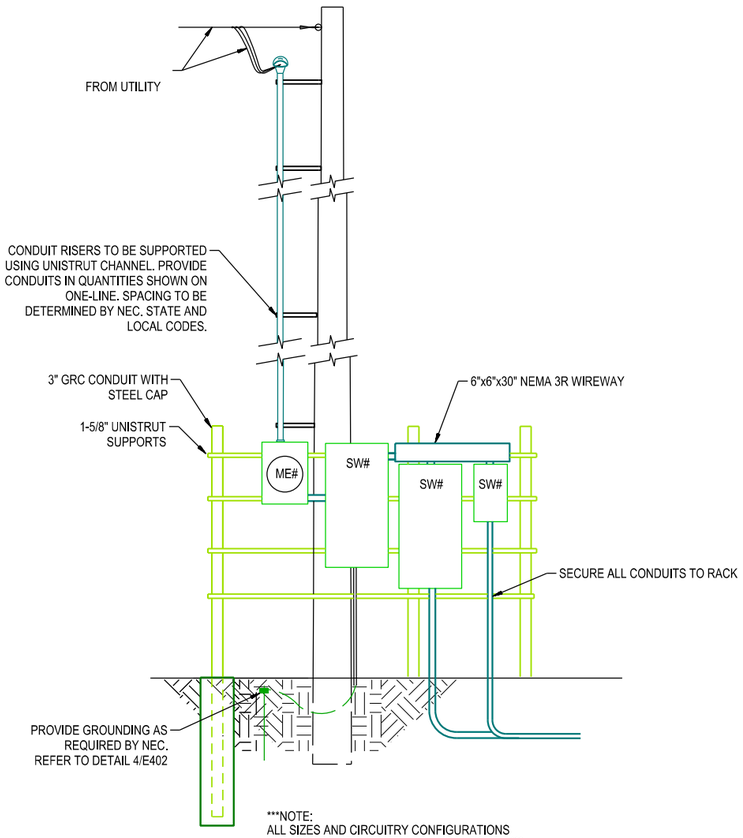
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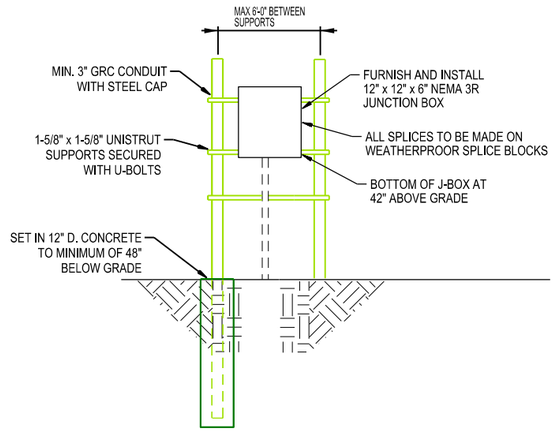
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UNION PACIFIC RAILROAD
LOCATION & DESCRIPTION:
Mesa, Arizona
Phoenix Subdivision MP 934.89 to MP 937.90
Construct Industrial Lead Track
SHEET TITLE:
ELECTRICAL DETAILS

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01 E403 SERVICE DROP - DETAIL
SCALE: NTS



02 E403 TYP JUNCTION BOX - SPLICE BOX
SCALE: NTS

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UNION PACIFIC RAILROAD
LOCATION & DESCRIPTION:
Mesa, Arizona
Phoenix Subdivision MP 934.89 to MP 937.90
Construct Industrial Lead Track
SHEET TITLE:
ELECTRICAL DETAILS

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MESA PIRATE LEAD LIGHTING AND EQUIPMENT SCHEDULE (LES) 5/2022

MARK	DESCRIPTION, STANDARD DETAILS
ME1, ME6	Meter socket, 120/240V, 200A min. SUSE and NEMA 3R rated. Refer to Utility for additional requirements
ME2, ME3, ME4, ME5, ME7, ME8, ME9, ME10	Meter socket, 120/240V, 100A min., SUSE and NEMA 3R rated. Refer to Utility for additional requirements
MSW1 MSW6	Square D, heavy duty disconnect switch, 240V, 200A, single throw, 3 wire, SUSE rated. Provide with NEMA 3R enclosure, class R fuse kit, fuses in sizes shown on one-line, grounding kit, and provision for locking into the 'on' position.
MSW2, MSW3, MSW4, MSW5, MSW7, MSW8, MSW9, MSW10	Square D, heavy duty disconnect switch, 240V, 100A, single throw, 3 wire, SUSE rated. Provide with NEMA 3R enclosure, class R fuse kit, fuses in sizes shown on one-line, grounding kit, and provision for locking into the 'on' position.
SW1A, SW2A	Square D, heavy-duty disconnect switch, 240V, 60A, single throw, 3 wire. Provide with NEMA 3R enclosure, class R fuse kit, fuses in sizes shown on one-line, and provision for locking into the 'on' position.
SW1B	Square D, heavy duty disconnect switch, 600V, 60A, single throw, 3 wire. Provide with NEMA 3R enclosure, class R fuse kit, fuses in sizes shown on one-line, and provision for locking into the 'on' position.
SW1B	Square D, heavy duty disconnect switch, 600V, 60A, single throw, 3 wire. Provide with NEMA 3R enclosure, class R fuse kit, fuses in sizes shown on one-line, grounding kit, and provision for locking into the 'on' position.
SW2B, SW3B, SW4A, SW6B, SW7A	Square D, heavy duty disconnect switch, 240V, 30A, single throw, 3 wire. Provide with NEMA 3R enclosure, class R fuse kit, fuses in sizes shown on one-line, and provision for locking into the 'on' position.
SW3A,	Square D, heavy duty disconnect switch, 240V, 100A, single throw, 3 wire. Provide with NEMA 3R enclosure, class R fuse kit, fuses in sizes shown on one-line, and provision for locking into the 'on' position.
SW6A,	Square D, heavy duty disconnect switch, 240V, 200A, single throw, 3 wire. Provide with NEMA 3R enclosure, class R fuse kit, fuses in sizes shown on one-line, and provision for locking into the 'on' position.
LP1	Square D, NQ-type panelboard, 120/240V, 225A rated, 200 MCB, 30 space. Provide with NEMA 3R enclosure, neutral bus. Provide (1) 80A/2P, (1) 60A/2P, (1) 30A/2P , (2) 20A/1P Spares
LP1A	Square D, NQ-type panelboard, 120/240V, 100A rated, 80 MCB, 18 space. Provide with NEMA 3R enclosure, grounding kit. Provide (1) 60A/2P, (2) 30A/2P, (2) 20A/1P spares
T1, T1A	Square D, dry-type, non-ventilated transformers, 240x480-120/240
L1	Holophane, Mongoose - Medium, LED roadway light with uplight skirt & photocell. Part no. MGLEDM-P4-30K-MVOLT-FT-VH-GRSD-PCLL-US. Provide with wood-pole bracket

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UNION PACIFIC RAILROAD

LOCATION & DESCRIPTION:
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Construct Industrial Lead Track

SHEET TITLE:
ELECTRICAL SCHEDULES

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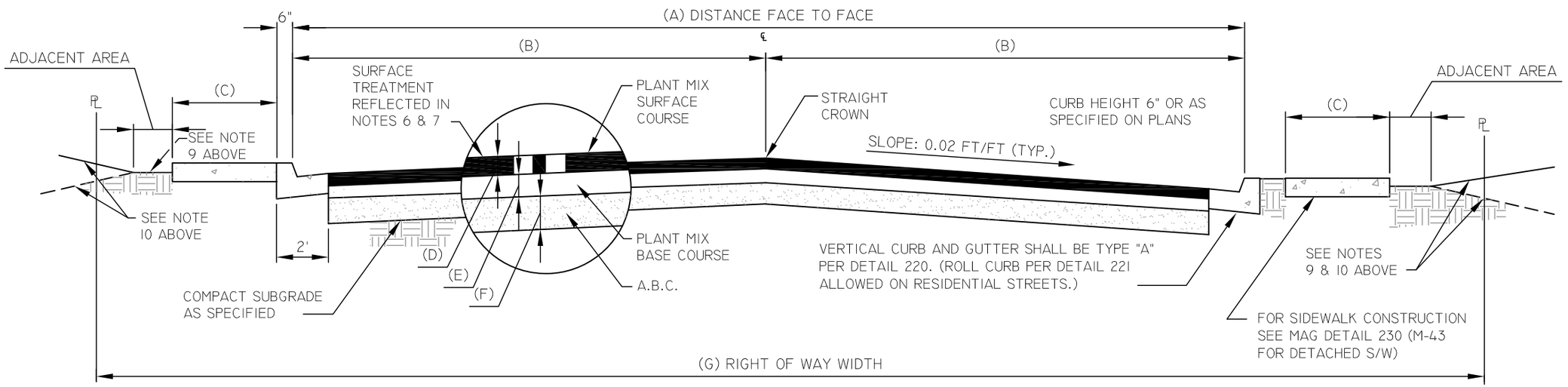
1. ALL STREETS TO BE CONSTRUCTED WITH A STRAIGHT CROWN AT A 2% CROSS SLOPE.
2. WHERE 10" A.B.C. IS REQUIRED, IT IS TO BE INSTALLED IN (2) TWO EQUAL LAYERS.
3. A.B.C. FILL TO CONFORM TO SECTION 702 (AGGREGATE BASE).
4. ASPHALT CONCRETE SHALL CONFORM TO THE CURRENT EAST VALLEY ASPHALT COMMITTEE HOT ASPHALT MIX CRITERIA, 2020 EDITION, AND BE APPROVED BY THE EAST VALLEY ASPHALT COMMITTEE (EVAC).
5. ALL NEW AND REHAB ARTERIAL STREET ASPHALT SHALL BE POLYMER MODIFIED TERMINAL BLEND RUBBER (PG76-22PMTR) PER EVAC CRITERIA FOR BOTH THE SURFACE AND BASE COURSE AS DIRECTED IN THE ADJACENT TABLE.
6. ALL NEW AND REHAB RESIDENTIAL, COLLECTOR AND INDUSTRIAL STREET ASPHALT SHALL BE AS NOTED IN THE ADJACENT TABLE AND MIXES USED PER THE EVAC CRITERIA. NO SURFACE TREATMENT IS REQUIRED AFTER PLACEMENT OF SURFACE COURSE, UNLESS THE NEW ASPHALT EXHIBITS SEGREGATION AND LOSS OF AGGREGATE AS DETERMINED BY THE CITY OF MESA REPRESENTATIVE. AT SUCH TIME A SURFACE TREATMENT MAYBE BE APPLIED PER MANUFACTURER'S SPECIFICATIONS SUCH AS THE FOLLOWING: GUARDTOP ULTRA, GUARDTOP LSTR, POLYMER MODIFIED MASTERSEAL, ONYX MASTIC SEAL, OR HIGH DENSITY MINERAL BOND.
7. UTILITY ADJUSTMENTS SHALL BE COMPLETED PRIOR TO APPLICATION OF SURFACE TREATMENT IF SURFACE TREATMENT IS REQUIRED.
8. FINISH ELEVATION OF THE ADJACENT PARKWAY SHALL BE 1" BELOW THE TOP OF SIDEWALK FOR A MINIMUM DISTANCE OF 1-FOOT. BEYOND THE 1-FOOT, THE SLOPE SHALL NOT EXCEED 6:1.
9. MAX. 6:1 SLOPE ALLOWED EXCEPT WHERE AREA IMMEDIATELY ADJACENT TO R.O.W. OR SIDEWALK HAS 4' MIN. AREA AT SLOPE OF 6:1 OR LESS. THEN SLOPE BEYOND SAID 4' AREA CAN BE INCREASED TO A MAX OF 4:1. SIDEWALK WIDTHS SHOWN ON THIS DETAIL SHALL TAKE PRECEDENT OVER MAG DETAIL 230.

	ROADWAY (WIDTH)		SIDEWALK (WIDTH)	SURFACE COURSE (DEPTH) (TYPE)	BASE COURSE (DEPTH) (TYPE)	A.B.C. FILL (DEPTH)	RIGHT OF WAY (WIDTH)
	FACE TO FACE	CL TO FACE					
	(A)	(B)	(C)	(D)	(E)	(F)	(G)
LOCAL STREET RESIDENTIAL LAND USE	34'	17'	5'	3.0" 1/2" PG70-16TR	N/A	6"	50'+8 PUFE
LOCAL STREET RESIDENTIAL LAND USE, OPTIONAL	34'	17'	5'**	3.0" 1/2" PG70-16TR	N/A	6"	50'+10' PUFE
LOCAL STREET INDUSTRIAL	40'	20'	5'	2.0" 1/2" PG70-16TR	3.0" 3/4" PG70-16TR	8"	60'+20' PUFE
LOCAL STREET COMMERCIAL	46'	23'	5'	2.0" 1/2" PG70-16TR	3.0" 3/4" PG70-16TR	8"	80'+8 PUFE
COLLECTOR STREET *	34'/40'/46'	17'/20'/23'	6'	3.5" 3/4" PG76-22PMTR OR 3/4" PG76-22PMTR W/ 15% Max RAP	N/A	6"	80'/80'/80'+8 PUFE
MAJOR COLLECTOR STREET *	68'	34'	6'	2.0" 1/2" PG76-22PMTR OR 1/2" PG76-22PMTR W/ 15% MAX RAP	3.5" 3/4" PG76-22PMTR OR 3/4" PG76-22PMTR W/ 15% Max RAP	10"	110'+8 PUFE
ARTERIAL STREET *	68'/72'/88'/94' ***	34'/36'/44'/47' ***	6'	2.0" A-1/2" 1/2" PG76-22PMTR OR 1/2" PG76-22PMTR W/ 15% MAX RAP	3.5" 3/4" PG76-22PMTR OR 3/4" PG76-22PMTR W/ 15% Max RAP	10"	130'+8 PUFE ***

* DETACHED, LINEAR SIDEWALKS ARE REQUIRED. SEE DETAIL M-43.

** USE 5' DETACHMENT

*** MAY BE WIDER AT INTERSECTIONS AND TURN LANES - SEE M-46.01 THROUGH M-46.05.



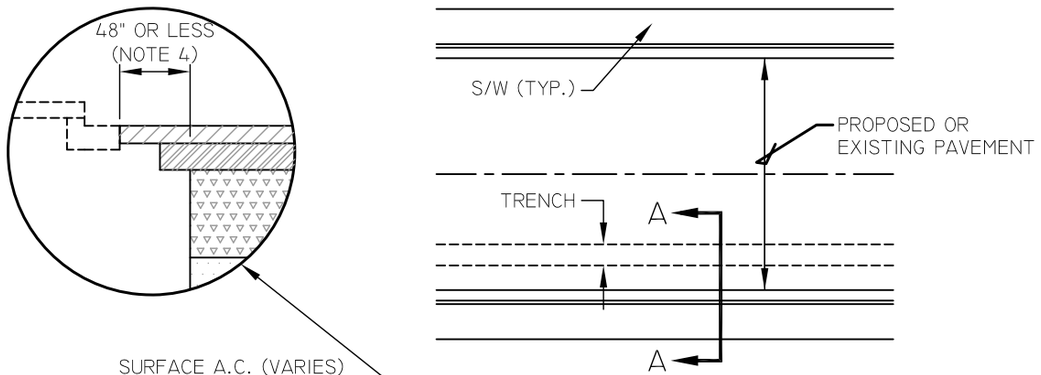
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TYPICAL STREET SECTION

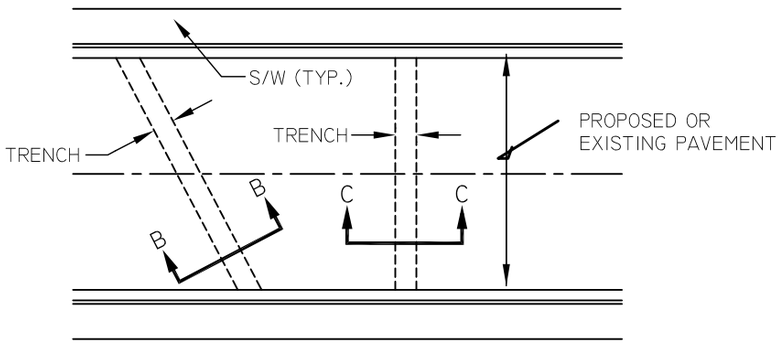
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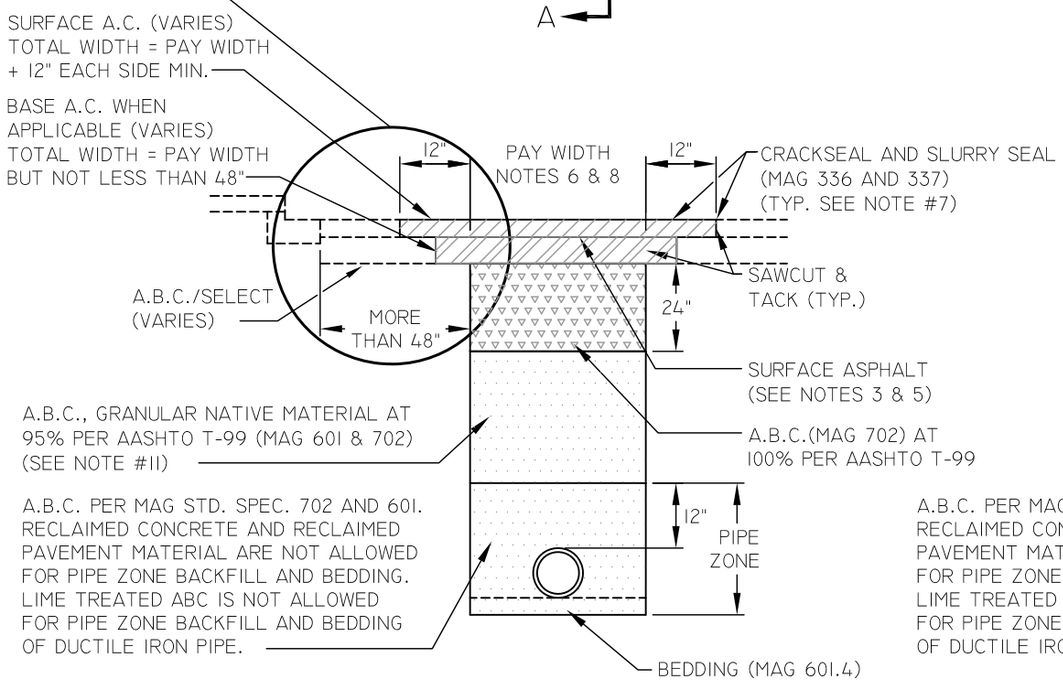
REV. 03/09/2021

LONGITUDINAL TRENCHES
(PARALLEL TO CL OF STREET)

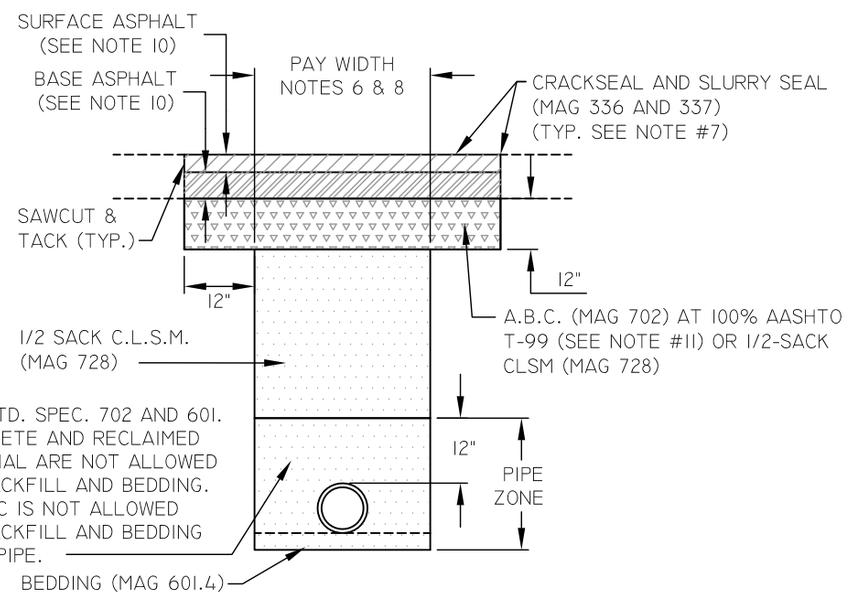


TRANSVERSE TRENCHES
(NON PARALLEL TO CL OF STREET, SEE NOTE 9)





LONGITUDINAL TYP. BACKFILL SEC. A-A
(TYPE "A")



TRANSVERSE TYP. BACKFILL SEC. B-B & C-C
(TYPE "B")

NOTE: FOR CONCRETE PIPE, NATIVE BACKFILL WITH NO MATERIAL GREATER THAN 1 1/2" MAY BE USED WITH CITY APPROVAL.

SEE M-19.04.2
FOR NOTES

NOT TO SCALE

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STANDARD TRENCH BACKFILL DETAIL
ARTERIAL, COLLECTOR & LOCAL

DETAIL NO.
M-19.04.1

REV. 07/17/2018

NOTES

1. SEE LATEST POLICY STATEMENT FOR STREET TRENCH BACKFILLING AND REPLACEMENT.

2. BASE ASPHALT SHALL BE INSTALLED TO SURFACE OF EXISTING PAVEMENT. THE THICKNESS OF THE ASPHALT SHALL BE EQUAL TO THE ADJACENT EXISTING ASPHALT HOWEVER, NOT LESS THAN THE SUM OF BOTH BASE & SURFACE COURSE ASPHALTS AS NOTED IN COM DETAIL M-19.01. THE TYPE OF ASPHALT CONCRETE MIX SHALL BE PER COM DETAILS M-19.01 OR M-19.03 EXCEPT WHEN AN A-3/4" ASPHALT MIX IS REQUIRED FOR A SURFACE COURSE, A 1/2" ASPHALT MIX WILL BE INSTALLED. IF THE DEPTH OF THE ASPHALT IS MORE THAN 4-INCHES, PLACEMENT SHALL BE IN TWO LIFTS.

3. AFTER THE BASE ASPHALT PATCH HAS BEEN SUBJECTED TO TRAFFIC FOR AT LEAST TWO (2) WEEKS BUT NOT MORE THAN TWO (2) MONTHS, MILL 1 1/2 INCHES AND REPLACE WITH SURFACE ASPHALT CONCRETE MIX. MINIMUM MILL WIDTH SHALL BE EQUAL TO THE WIDTH OF THE BASE ASPHALT PATCH PLUS 12-INCHES EACH SIDE (12" INTO EXISTING A.C.) EXCEPT FOR TYPE A-1 (ONE SIDE). SURFACE ASPHALT CONCRETE MIX SHALL BE R-1/2" OR A-1/2" AS NOTED IN COM DETAIL M-19.01 UNLESS OTHERWISE STATED IN THE PLANS AND/OR SPECIAL PROVISIONS. WHEN LONGITUDINAL PATCHES ARE 6' OR WIDER, THE ASPHALT SHALL BE PLACED BY A SELF PROPELLED MECHANICAL SPREADING AND FINISHING EQUIPMENT IN ACCORDANCE WITH MAG 321.5.2(A)

4. WHEN THIS DIMENSION IS 48-INCHES OR LESS, REMOVE AND REPLACE ALL ASPHALT CONCRETE, BOTH BASE COURSE AND SURFACE COURSE, BETWEEN THE TRENCH AND THE LIP OF GUTTER.

5. AFTER SURFACE ASPHALT CONCRETE HAS BEEN PLACED, ALL MANHOLES, VALVES, STRUCTURES, ETC, SHALL BE ADJUSTED TO GRADE. WHERE REQUIRED BY ITS, TRAFFIC SIGNAL DETECTOR LOOPS SHALL BE INSTALLED BEFORE SURFACE A.C. IS PLACED.

6. MEASUREMENT FOR PAYMENT SHALL BE PER MAG SECTION 336.4 EXCEPT FOR THE PAY WIDTH. ALL PAY WIDTHS SHALL BE COMPUTED PER MAG SECTION 336.4 (A) AND AS SHOWN ON THIS DETAIL, UNLESS OTHERWISE NOTED ON THE PLANS OR SPECIAL PROVISIONS. FOR ALL STREET TYPES THICKER THAN 3" (OR MORE THAN ONE LIFT), THE MINIMUM PAY WIDTH FOR PAVEMENT REPLACEMENT SHALL BE 42" FOR TYPE "A"; FOR TYPE "B", THE MINIMUM PAY WIDTH SHALL BE 18" TO ACHIEVE A MINIMUM REPLACEMENT WIDTH OF 42". NOTE: NO PAYMENT WILL BE MADE FOR ADDITIONAL PAVEMENT REPLACEMENT AS A RESULT OF A WIDER TRENCH EXCAVATION.

7. SLURRY SEAL SHALL BE REQUIRED FOR STREET CUTS GREATER THAN 300 LF. PLACEMENT AND/OR IN LIEU PAYMENT SHALL BE MADE IN ACCORDANCE WITH MAG SECTION 336.2.4.1 (F) AS DETERMINED BY THE INSPECTOR.

8. THE COST OF THE TOP 12-INCHES OF A.B.C. OR CONTROLLED LOW STRENGTH MATERIAL FOR TYPE "B" AND THE TOP 24-INCHES OF A.B.C. FOR TYPE "A" AND "A-1" SHALL BE INCLUDED IN THE PAVEMENT REPLACEMENT COST. ALSO, NO ADDITIONAL PAYMENT WILL BE MADE FOR PAVEMENT REMOVAL, MILLING AND INSTALLATION OF BOTH BASE COURSE AND SURFACE COURSE PAVEMENT BEYOND THE PAY WIDTH SHOWN IN THIS DETAIL.

9. SEE MAG DETAIL 211 FOR REQUIREMENTS REGARDING THE USE OF PLATING OF TRANSVERSE TRENCHES.

10. THE TOTAL THICKNESS OF THE ASPHALT SHALL BE EQUAL TO THE ADJACENT EXISTING ASPHALT HOWEVER, NOT LESS THAN THAT SPECIFIED IN COM DETAILS M-19.01 OR M-19.03. THE THICKNESS OF THE SURFACE ASPHALT SHALL BE AS SHOWN ON COM DETAILS M-19.01 OR M-19.03. THE THICKNESS OF THE BASE ASPHALT SHALL BE THE TOTAL ASPHALT THICKNESS MINUS THE THICKNESS OF THE SURFACE ASPHALT. THE TYPE OF ASPHALT MIXES SHALL BE PER COM DETAILS M-19.01 OR M-19.03, EXCEPT WHEN AN A-3/4" ASPHALT MIX IS REQUIRED FOR A SURFACE COURSE, A 1/2" ASPHALT MIX WILL BE INSTALLED.

11. WHEN MECHANICALLY COMPACTING BACKFILL MATERIAL, THE BACKFILL MATERIAL SHALL BE WITHIN TWO (2) PERCENTAGE POINTS OF OPTIMUM AS DETERMINED BY AASHTO T-99 (STANDARD PROCTOR) AT THE TIME OF COMPACTION.

12. CLUSTERED TRENCH PATCHES, WITH FOUR FEET OF SEPARATION OR LESS, MUST BE COMBINED TO FORM ONE UNIFORM PATCH AND MEET COM DETAIL M-19.04.1.

13. PAVEMENT PATCHES MUST NOT BE AN IRREGULAR SHAPE.

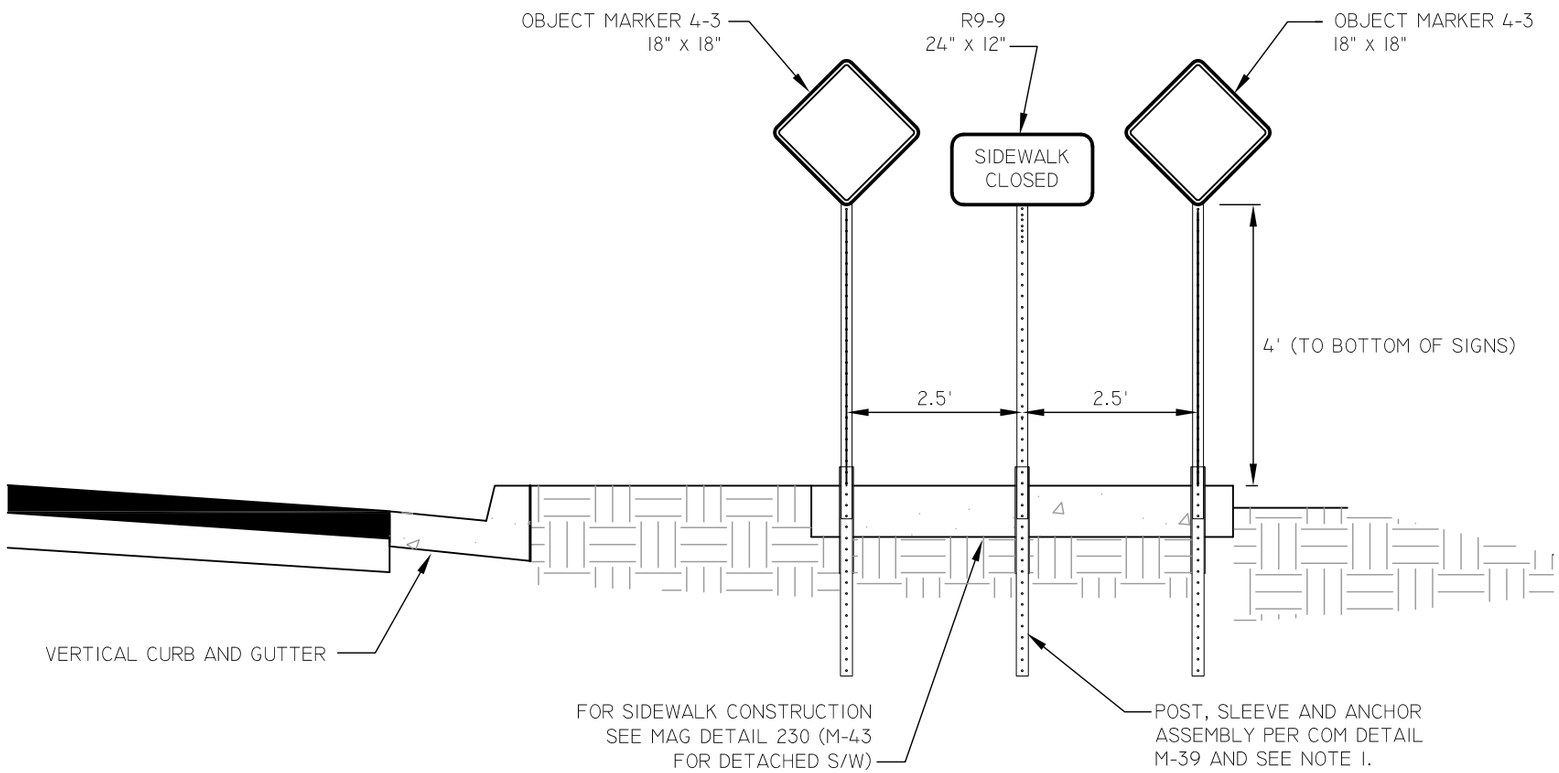
14. DAMAGED PAVEMENT CAUSED BY CONTRACTOR'S EQUIPMENT MUST ALSO BE INCLUDED AS PART OF THE REPAIR.

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STANDARD TRENCH BACKFILL DETAIL - NOTES

DETAIL NO.
M-19.04.2

REV. 02/01/2016



NOTES

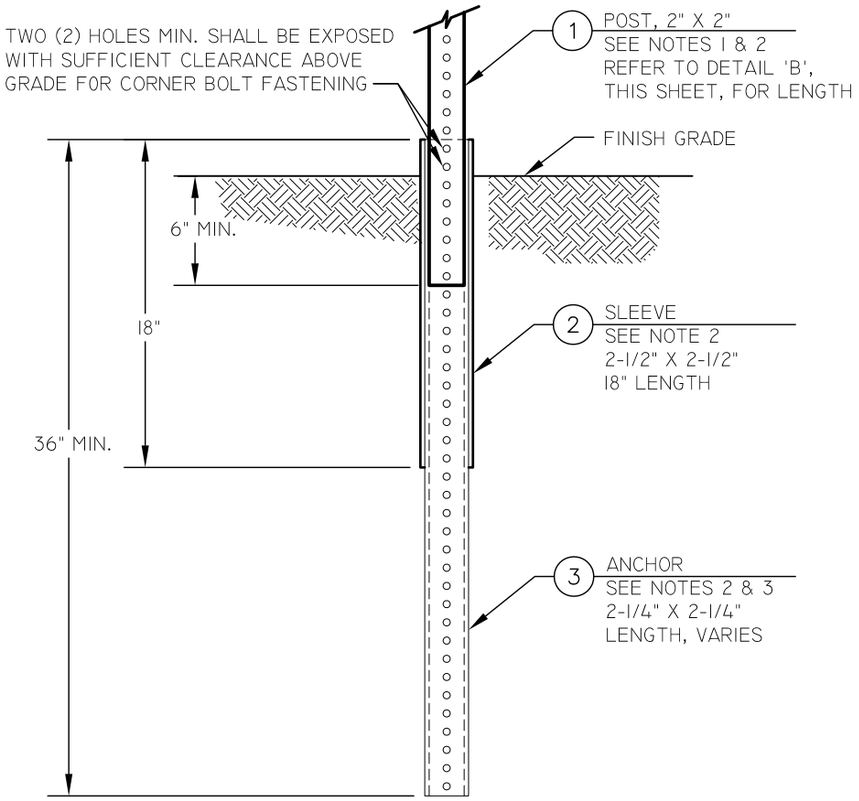
1. POSTS SHALL BE INSTALLED PER COM DETAIL M-39. SOME SOIL CONDITIONS MAY DICTATE PLACING THE POST DEEPER OR REQUIRE A CONCRETE BASE, AS DETERMINED BY THE CITY.
2. SIGNS BLANKS 16 SQUARE FEET OR LESS SHALL BE 0.080 THICK 5052-H38 ALLOY TREATED ALUMINUM WITH ALODINE 1200 CONVERSION COATING.

NOT TO SCALE

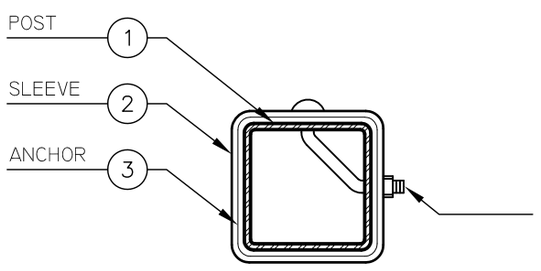
SIGNING FOR END OF SIDEWALK CONDITIONS

DETAIL NO. M-23.04

REV. 2/22/2021



ELEVATION A - ANCHOR, SLEEVE & POST

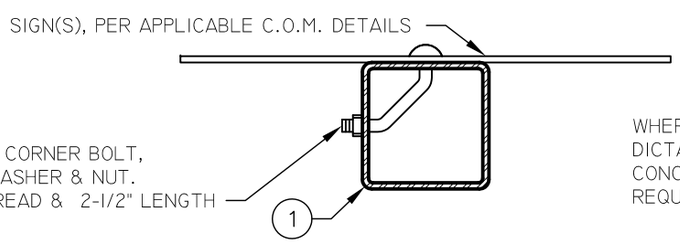


SECTION A - ANCHOR, SLEEVE & POST

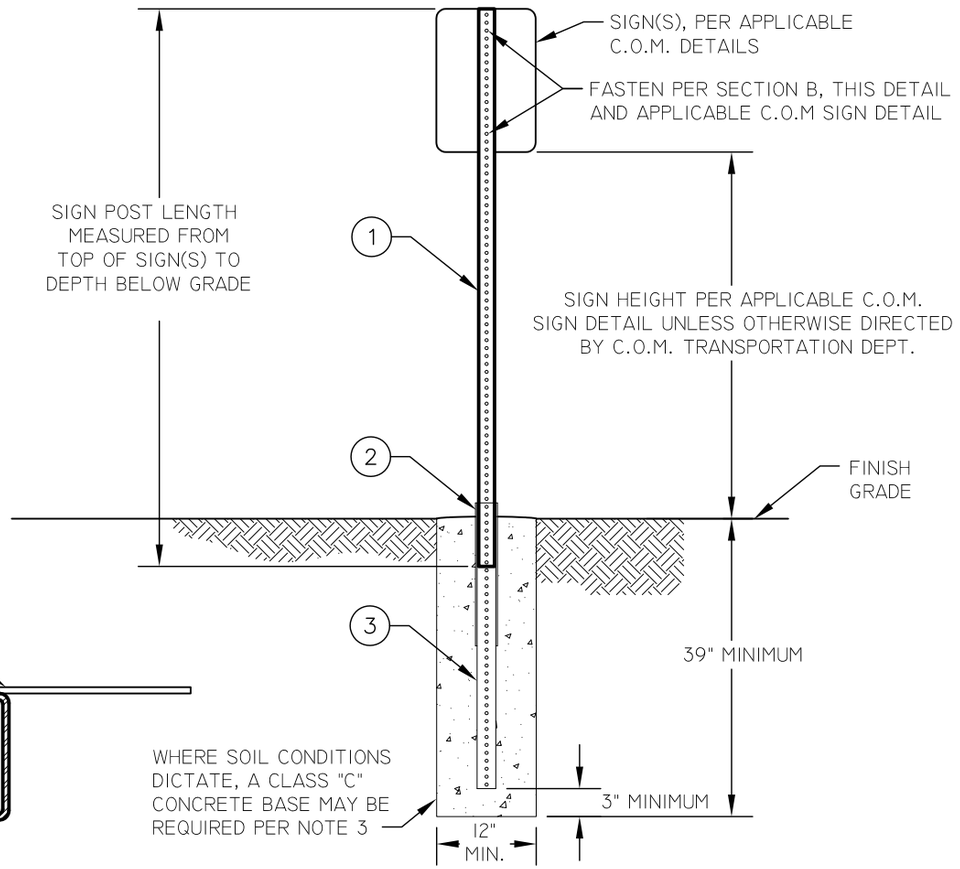
DETAIL A - ANCHOR, SLEEVE & POST ASSEMBLY

NOTES

1. WHEN TOTAL AREA OF SIGNAGE EXCEEDS 2,000 SQ. IN., AN ADDITIONAL POST IS REQUIRED.
2. ANCHOR, SLEEVE AND POST SHALL BE 12 GAUGE GALVANIZED STEEL SQUARE TUBING.
3. SOIL CONDITIONS DICTATE MINIMUM ANCHOR DEPTH AND STABILIZATION:
   - WHERE SOIL CONDITIONS ALLOW, AS DETERMINED BY THE CITY, THE POST ANCHOR SHALL BE INSTALLED IN UNDISTURBED COMPACTED NATIVE SOIL TO A MINIMUM DEPTH OF 34" USING A MECHANICAL DRIVER. THE MECHANICAL DRIVER SHALL INCLUDE A DRIVING HEAD TO PREVENT DEFORMATION AND HOLD THE POST, SLEEVE AND ANCHOR ASSEMBLY IN ALIGNMENT.
   - WHERE SOIL CONDITIONS DICTATE, AS DETERMINED BY THE CITY, THE POST, SLEEVE AND ANCHOR ASSEMBLY SHALL BE EMBEDDED IN CLASS "C" CONCRETE PER MAG SECTION 725 AND AS SHOWN. TAPE OVER ANCHOR BOTTOM AND HOLES PRIOR TO CONCRETE PLACEMENT.
4. LATERAL CLEARANCES FROM POST(S) PER APPLICABLE SIGN DETAIL AND AS DETERMINED BY THE CITY.



SECTION B - SIGN FASTENING



ELEVATION B - SIGN ASSEMBLY

DETAIL B - POST & SIGN ASSEMBLY

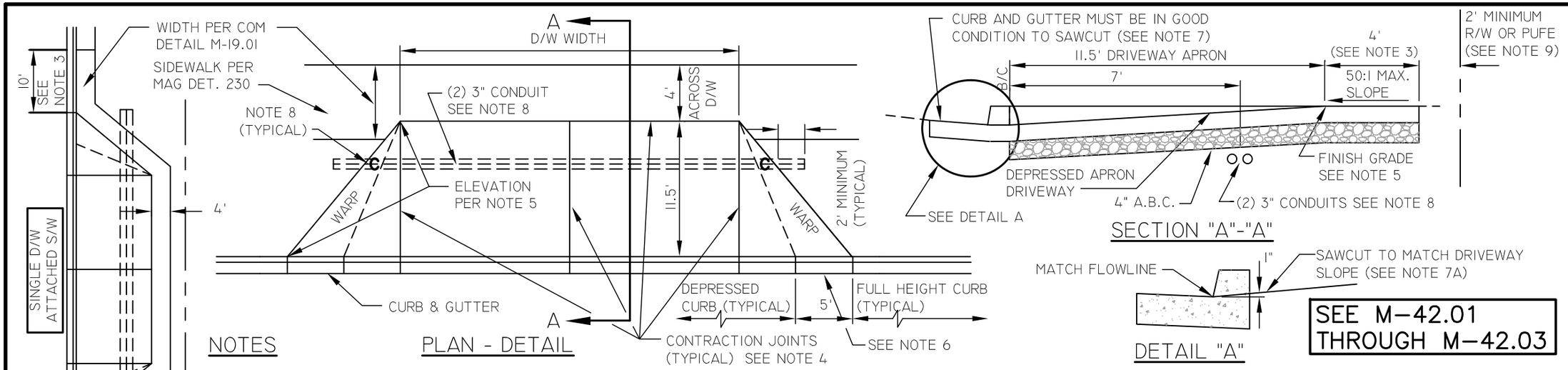
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SIGN POST INSTALLATION (SQUARE TUBING)

DETAIL NO. M-39

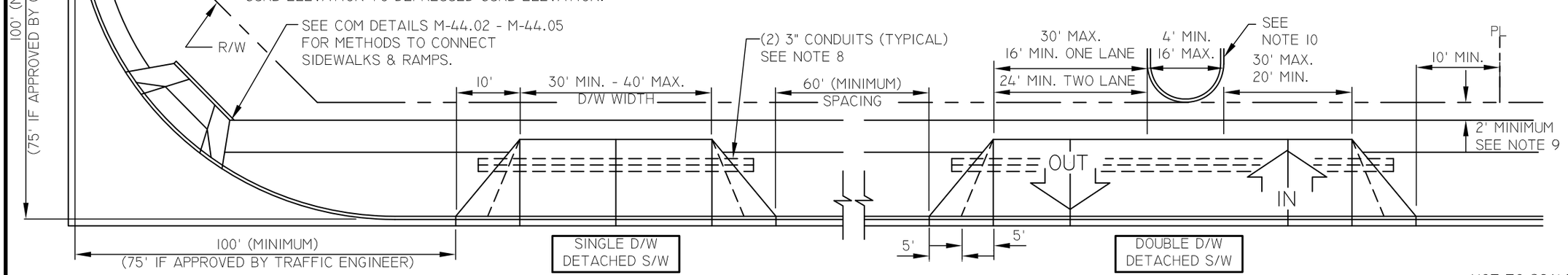
REV. 02/04/13



SEE M-42.01 THROUGH M-42.03

NOTES

1. EXPANSION JOINTS SHALL BE CONSTRUCTED AT EACH SIDE OF DRIVEWAY DEPRESSION AT POINTS OF CURVATURE AND AT ALL RIGID STRUCTURES.
2. ALL CONCRETE SHALL BE CLASS "A" AS PER SECTION 725.
3. ALL COMMERCIAL DRIVEWAYS, ALLEY ENTRANCES, AND SIDEWALKS BEHIND DRIVEWAYS SHALL BE 6" THICK ON 4" A.B.C. OR 8" THICK ON COMPACTED NATIVE SOIL. SIDEWALK WIDTH AT BACK OF DRIVEWAY SHALL BE 4 FEET. SIDEWALK THICKNESS AND SECTION SHALL MATCH DRIVEWAY SECTION FOR 10' EACH SIDE OF DRIVEWAY.
4. ALL COMMERCIAL DRIVEWAYS HAVE CONTRACTION JOINTS AT THE DRIVEWAY CENTER LINE, AT BREAK BETWEEN SIDEWALK AND DRIVEWAY WINGS, AND FROM BACK CORNER OF APRON TO LIP OF GUTTER. THE CONTRACTION JOINTS MAY BE EITHER SCORED OR SAWCUT 1-INCH DEEP.
5. FINISH GRADE ELEVATION AT THE APRON CORNER/SIDEWALK SHALL EQUAL THE TOP OF CURB ELEVATION UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER.
6. FINISH CURB ELEVATION SHALL TRANSITION UNIFORMLY FROM FULL HEIGHT CURB ELEVATION TO DEPRESSED CURB ELEVATION.
7. WHEN INSTALLING A DRIVEWAY IN EXISTING SIDEWALK AND/OR CURB, THE FOLLOWING NOTES APPLY:
   A. REMOVE CURB PORTION ONLY WHEN CONSTRUCTING NEW DEPRESSION IN EXISTING CURB & GUTTER. EXISTING CURB SHALL BE REMOVED BY SAWCUTTING CURB HORIZONTALLY AS SHOWN IN DETAIL A. DAMAGED GUTTER SHALL BE REMOVED AND REPLACED WHERE DIRECTED BY ENGINEER.
   B. SIDEWALK SHALL BE SAWCUT TO FULL DEPTH OR REMOVED TO NEXT EXPANSION JOINT.
8. INSTALL (2) 3" SCHEDULE 40 P.V.C. CONDUITS AT 7' BACK OF CURB, MINIMUM 24" BELOW FINAL GRADE, AND EXTEND 2' MINIMUM BEYOND EDGE OF DRIVEWAY FOR POSSIBLE FUTURE LANDSCAPING OR STREET LIGHT INSTALLATION. INSTALL PLUGS IN BOTH ENDS OF CONDUITS. STAMP 3" LETTER "C" IN CONCRETE FOR CONDUIT MARKER.
9. THE BACK OF R/W OR PUFE SHALL EXTEND 2' MINIMUM BEYOND THE BACK OF SIDEWALK ALONG THE BACK OF THE DRIVEWAY, UNLESS OTHERWISE APPROVED BY THE CITY.
10. A DOUBLE DRIVEWAY WITH A RAISED MEDIAN ISLAND IS REQUIRED AT DRIVEWAYS OVER 40 FEET IN WIDTH.
11. FOR ACCEPTABLE DRIVEWAY GRADE BREAKS USE ADOT DRAWING C-06.10.

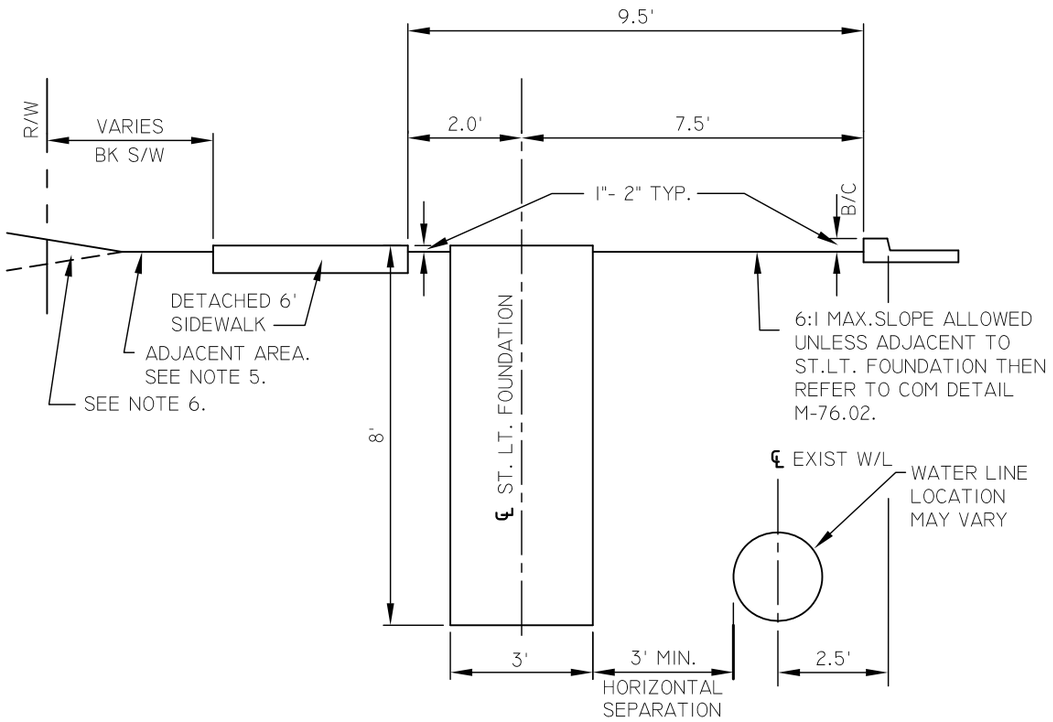


NOT TO SCALE

COMMERCIAL, INDUSTRIAL AND APARTMENT DRIVEWAY DETAIL

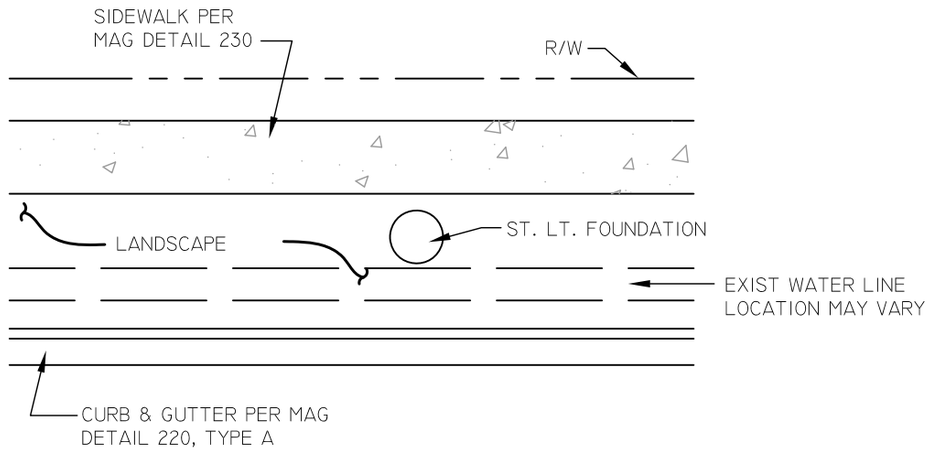
DETAIL NO. M-42

REV. 06/04/2018



TYPICAL SECTION

MAY NOT APPLY WITHIN 600 FEET OF AN INTERSECTION. SEE COM DETAILS M-46.01 THROUGH M-46.05.



TYPICAL PLAN VIEW

NOTES

1. SIDEWALKS SHALL BE PER MAG DETAIL 230 WITH A MINIMUM 6-FOOT WIDTH UNLESS OTHERWISE APPROVED BY THE CITY. SIDEWALKS AT BRIDGE STRUCTURES SHALL HAVE A MINIMUM WIDTH OF 8-FEET UNLESS OTHERWISE APPROVED BY THE CITY.
2. ATTACHED SIDEWALK OR REDUCED SIDEWALK SETBACK MAY BE ALLOWED IN CASES WHERE RIGHT OF WAY OR EASEMENTS ARE LIMITED.
3. IN LOCATIONS WHERE THIS DETAIL CANNOT BE APPLIED BECAUSE OF EXISTING CONDITIONS, REFER TO MAG DETAIL 230 FOR MINIMUM SIDEWALK SETBACK.
4. THIS DETAIL IS A GUIDE FOR INSTALLATION OF DETACHED SIDEWALKS. EACH PROJECT SITE SHALL BE REVIEWED FOR FINAL APPROVAL BY THE CITY OF MESA.
5. THE BACK OF R/W OR PUFE SHALL EXTEND 2' MINIMUM BEYOND THE BACK OF SIDEWALK ALONG THE BACK OF THE DRIVEWAY, UNLESS OTHERWISE APPROVED BY THE CITY.
6. MAX. 6:1 SLOPE ALLOWED EXCEPT WHERE AREA ADJACENT TO R/W OR SIDEWALK HAS 4' MIN. AREA AT SLOPE OF 6:1 OR LESS. THEN SLOPE BEYOND SAID 4' AREA CAN BE INCREASED TO A MAX. OF 4:1.

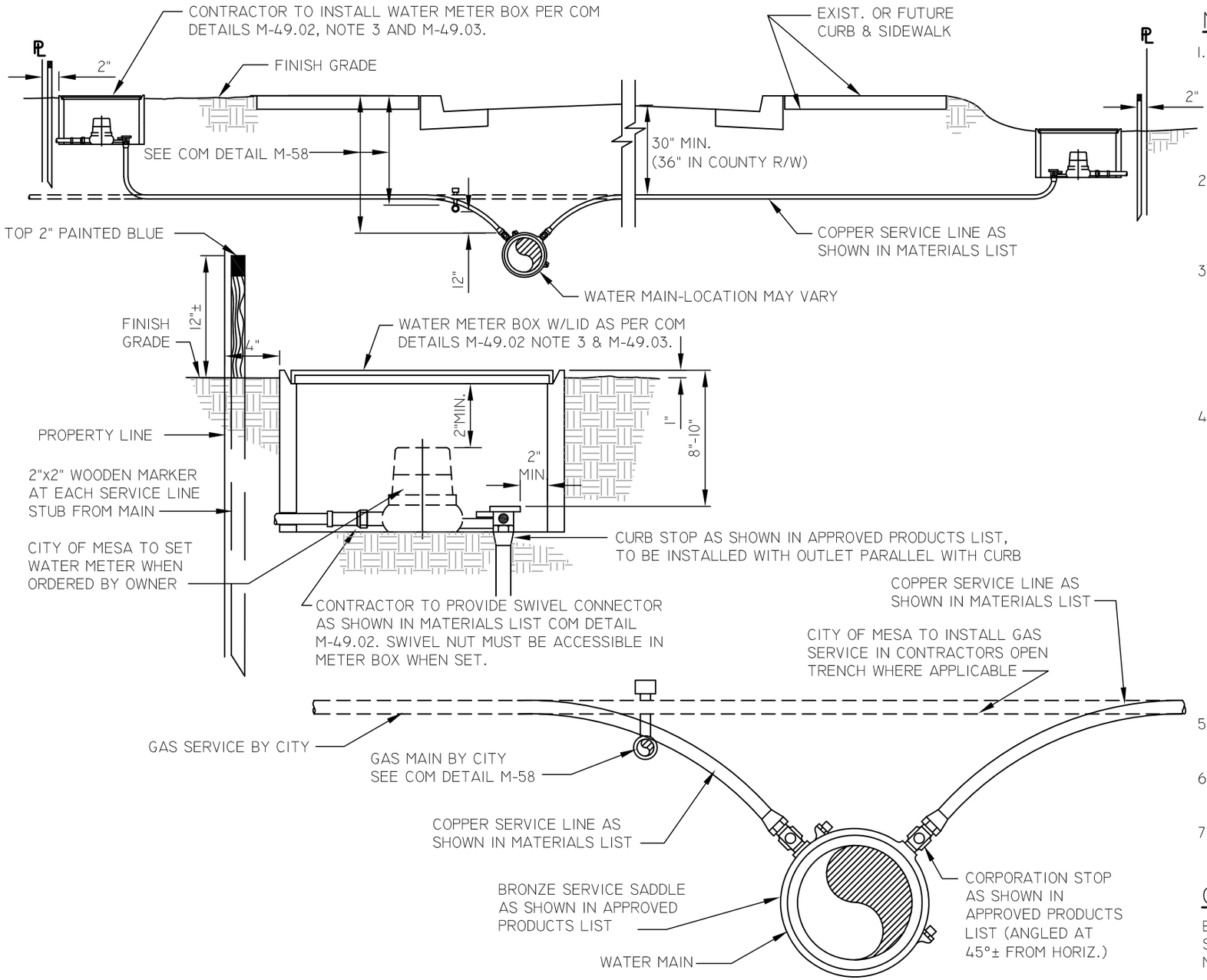
NOT TO SCALE

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DETACHED SIDEWALK ON ARTERIAL AND COLLECTOR STREETS

DETAIL NO. M-43

REV. 03/02/2017



NOTES

1. ENGINEER TO SET "BLUE TOPS" FOR ALL WATER METER BOXES TO MATCH BACK OF SIDEWALK GRADE OR TOP OF CURB GRADE IF CURB ONLY. INSTALL TOP OF SERVICE CURB STOP 8" MIN. TO 10" MAX. BELOW "BLUE TOP", EXCEPT FOR SPECIAL CONDITIONS (IRRIG., LARGE METER, ETC.).
2. MECHANICAL COUPLINGS FOR SERVICE EXTENSIONS MAY BE ALLOWED ON A PER INSTALLATION BASIS WITH PRIOR WRITTEN APPROVAL FROM THE WATER RESOURCES DEPARTMENT.
3. NORMAL INSTALLATION OF WATER METERS AND BOXES SHALL BE PERPENDICULAR TO THE CENTER LINE OF THE STREET WHERE POSSIBLE. HOWEVER, WHEN A SINGLE METER IS INSTALLED IN A SUBDIVISION WITH PARALLEL PLACED METERS AND BOXES, THE NEW METER AND BOX MAY BE INSTALLED THE SAME AS THE REST OF THE SUBDIVISION (PARALLEL).
4. WATER METER SIZES 1", 1 1/2" AND 2" MAY BE REDUCED ONE SIZE FOR AN EXISTING WATER SERVICE AND VALVE IF ADEQUATE TO SUPPLY THE FIXTURE COUNT DEMAND UPON APPROVAL OF DEVELOPMENT SERVICE'S BUILDING INSPECTION. THE PARTY REQUESTING THE REDUCTION SHALL BE RESPONSIBLE FOR THE COST OF INSTALLING AN APPROVED ADAPTER BETWEEN THE EXISTING SERVICE VALVE AND THE INLET OF THE WATER METER AND A MINIMUM OF 48" OF METER SIZE APPROVED PIPING DOWNSTREAM OF THE WATER METER. WHERE BACKFLOW PREVENTION IS REQUIRED THE BACKFLOW DEVICE SIZE MUST BE EQUAL TO OR GREATER THAN THE REQUESTED WATER METER SIZE. THE LENGTH OF THE BACKFLOW PREVENTER AND ITS METER SIZE PIPING SHALL BE COUNTED AS PART OF THE REQUIRED 48" PIPING REDUCTION.
5. METER AND ALL FITTINGS TO BE CENTERED IN BOX AND ACCESSIBLE.
6. WATER METER BOX SHALL BE INSTALLED WITH A MINIMUM CLEARANCE OF 6-FEET FROM TREES.
7. FOR NEW CONSTRUCTION WATER RESOURCES WILL NOT SET A METER IF THE METER BOX IS FOUND TO BE MISSING OR DAMAGED.

CAUTION!

BEFORE SERVICES ARE INSTALLED, THE DRIVEWAY LOCATIONS SHOULD BE VERIFIED AND THE SERVICE CONSTRUCTED TO MISS THEM.

NOT TO SCALE

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WATER SERVICE INSTALLATION

DETAIL NO. M-49.01

REV. 03/04/2021

MATERIALS LIST	SERVICE LINE SIZES			
	3/4"	1"	1 1/2"	2"
SERVICE SADDLE (1) (WITH I.P. THREADS)	SEE APPROVED PRODUCTS LIST		SEE APPROVED PRODUCTS LIST	
CORPORATION STOP (BALL STYLE) (WITH I.P. THREADS)	SEE APPROVED PRODUCTS LIST		SEE APPROVED PRODUCTS LIST	
CURB STOP WITH LOCKING WINGS (BALL STYLE)	SEE APPROVED PRODUCTS LIST			
OUTLET METER COUPLING	SEE APPROVED PRODUCTS LIST	SEE APPROVED PRODUCTS LIST	SEE APPROVED PRODUCTS LIST	SEE APPROVED PRODUCTS LIST
SERVICE LINE	COPPER (2) (TYPE K-SOFT)	COPPER (2) (TYPE K-SOFT)	COPPER (2) (TYPE K-HARD)	COPPER (2) (TYPE K-HARD)
METER LAY LENGTH	7.5 INCHES	10.75 INCHES	13 INCHES	17 INCHES

(1) SINGLE-STRAP SERVICE SADDLES ARE PERMITTED ON WATER MAINS 8" AND SMALLER. DOUBLE-STRAP SERVICE SADDLES ARE REQUIRED ON WATER MAINS LARGER THAN 8". SERVICE SADDLES SHALL BE ALL-BRASS AND HAVE I.P. THREADS. SERVICE SADDLES PER APPROVED PRODUCTS LIST.

(2) ALL COPPER PIPE JOINTS SHALL BE SOLDERED. THE SOLDER ALLOY SHALL COMPLY WITH ASTM B 32 HAVING A SILVER CONTENT OF NOT LESS THAN 3.4% INTENDED FOR JOINING COPPER PIPES FOR POTABLE WATER SYSTEMS (GRADES SN 94, SN 95, OR SN 96). THE FLUX SHALL BE TYPE OA FOR GENERAL SOLDERING ON COPPER.

(3) BOLTS, WASHERS AND NUTS USED TO CONNECT 1.5" AND 2" WATER METER FLANGES SHALL BE 316 GRADE STAINLESS STEEL WITH THREADS COATED WITH FOOD GRADE ANTI-SEIZE COMPOUND.

NOTES:

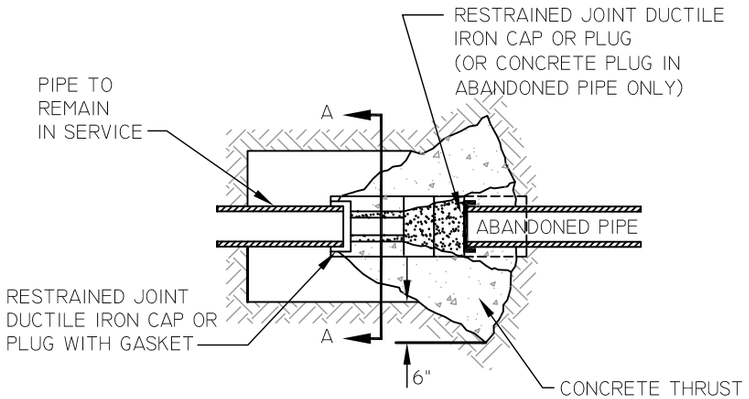
1. CITY OF MESA DOES NOT ALLOW FLARED-TYPE CONNECTIONS ON THE CITY SIDE OF THE METER.
2. NO TAPPED COUPLINGS WILL BE ALLOWED.
3. SEE APPROVED PRODUCTS LIST FOR WATER METER BOX AND LID.
4. SEE COM DETAIL M-29 FOR 1-1/2" AND 2" WATER METERS.
5. BRANCHES BEFORE THE METER ARE NOT ALLOWED; I.E. ONLY ONE METER PER SERVICE TAP EXCEPT FOR LANDSCAPE METERS AS SHOWN IN COM DETAIL M-49.03.
6. FOR 3/4" AND 1" SERVICES, A MINIMUM OF 1-1/2 FEET COPPER "PIGTAIL" ON CUSTOMER'S SIDE OF METER BEFORE CHANGING TO OTHER MATERIAL. FOR 1-1/2" & 2" SERVICES, A MINIMUM OF 4 FEET COPPER "PIGTAIL" ON CUSTOMER'S SIDE BEFORE CHANGING TO OTHER MATERIAL.
7. WATER SERVICE LINES REDUCING DOWN ONE SIZE (2" TO 1-1/2", 1-1/2" TO 1", 1" TO 3/4") SHALL REDUCE DOWN A MINIMUM OF 48" PRIOR TO THE FACE OF THE WATER BOX.
8. FOR WATER METER RELOCATIONS OR REPLACEMENTS WHERE EXISTING WATER SERVICE LINE ON THE CUSTOMER'S SIDE OF METER WILL REMAIN-IN-PLACE. THE PIPE MATERIAL BETWEEN THE COPPER "PIGTAIL" REQUIRED IN NOTE 6 AND THE POINT OF RECONNECTION TO THE CUSTOMER'S SERVICE LINE SHALL CONFORM TO THE FOLLOWING REQUIREMENTS: IF CUSTOMER'S EXISTING SERVICE LINE IS COPPER, COPPER PIPE OR TUBING PER THE CURRENT VERSION OF IPC AS ADOPTED BY CITY OF MESA SHALL BE USED. FOR ALL OTHER EXISTING MATERIAL TYPES, ONLY COPPER OR PVC COMPLYING WITH IPC MAY BE USED.
9. FITTINGS AND VALVES IN CONTACT WITH POTABLE WATER SHALL BE NO/LOW LEAD, COMPLIANT WITH EPA SAFE DRINKING WATER ACT REQUIREMENTS.

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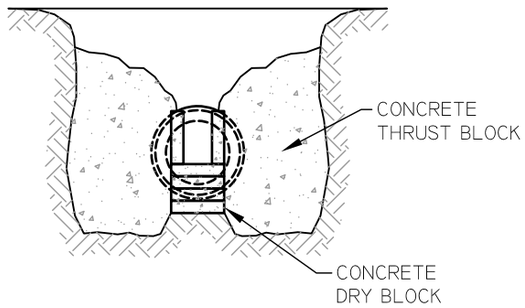
WATER SERVICE INSTALLATION MATERIALS LIST

DETAIL NO. M-49.02

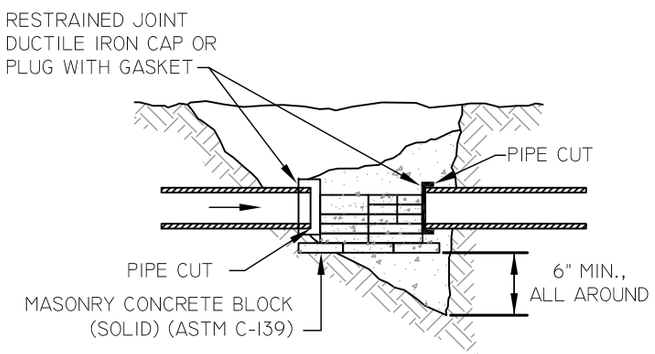
REV. 02/24/2021



PLAN VIEW



VIEW A-A



PROFILE VIEW

WATER LINE CUT AND PLUG NOTES:

1. CAP AND PLUGS MUST BE ADEQUATELY "DRY BLOCKED".
2. DRY BLOCKS SHALL BE STANDARD SIZE SOLID MASONRY CONCRETE BLOCKS. (ASTM C-139)
3. THE QUANTITY AND ARRANGEMENT OF THE BLOCKING MUST WITHSTAND LINE PRESSURE BY HOLDING THE CAP OR PLUG IN POSITION.
4. DRY BLOCKING SHALL BE PROPERLY SHIMMED TIGHT AND SECURE AGAINST THE CAP BEFORE LINE PRESSURE IS RESTORED.
5. CONCRETE THRUST BLOCKS SHALL NOT BE POURED UNTIL LINE PRESSURE IS RESTORED AND THE CAP OR PLUG IS INSPECTED FOR LEAKAGE.
6. CONCRETE SHALL NOT BE POURED OVER ANY PORTION OF THE ABANDONED PIPE.
7. MINIMUM THRUST BLOCK AREA PER M.A.G. DETAIL 380.
8. WHERE A 4" OR LARGER LINE IS SPECIFIED TO BE ABANDONED, THE CUT AND PLUG SHOULD OCCUR AT THE SUPPLY MAIN TO AVOID CREATING AN UNUSED DEADEND LINE.

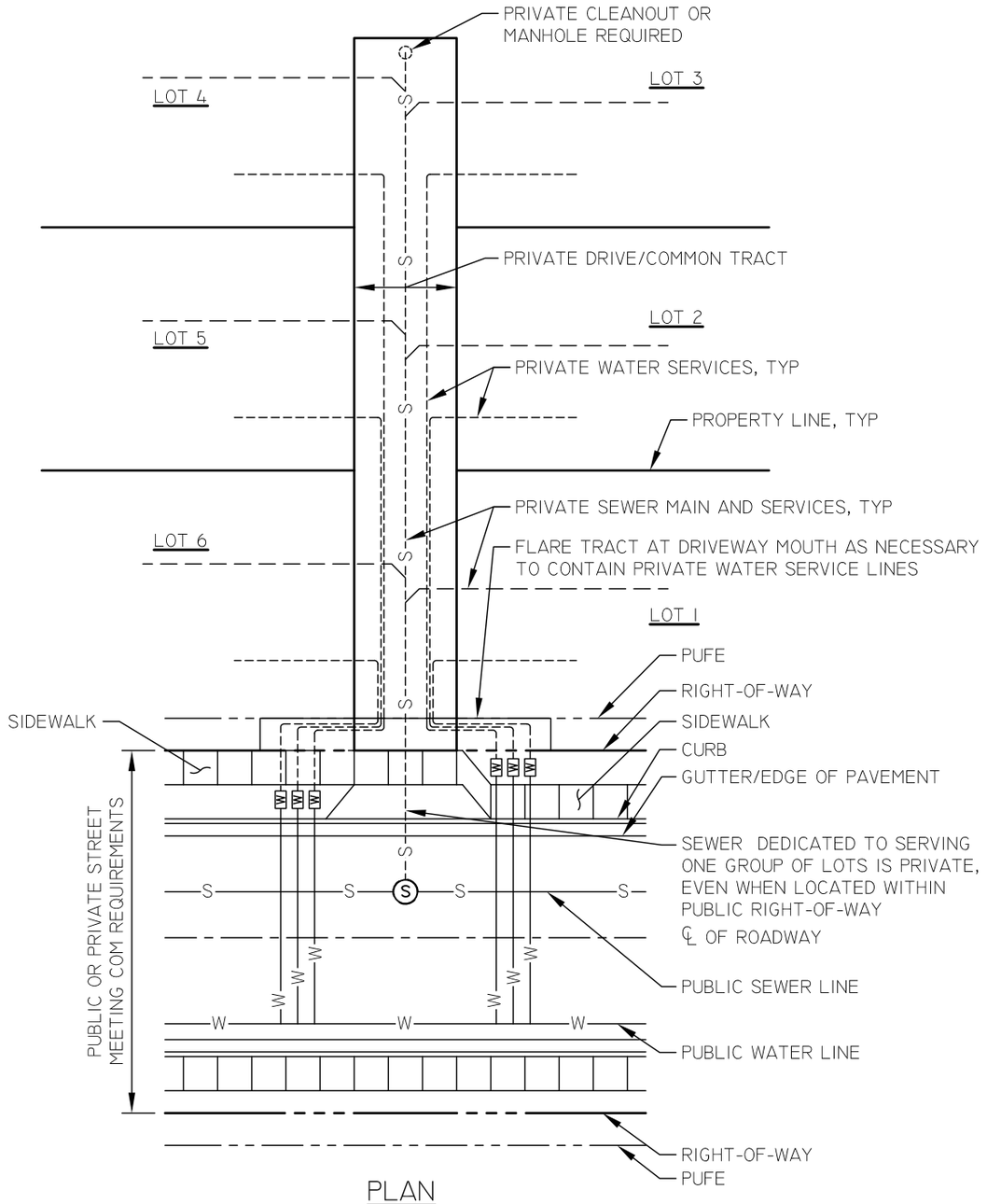
NOT TO SCALE

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WATER LINE CUT AND PLUG FOR 12" DIAMETER MAIN AND SMALLER

DETAIL NO. M-50

REV. 02/24/2015



PLAN

NOTES

1. THIS DETAIL IS APPLICABLE TO "RESIDENTIAL SMALL LOT/MULTI-LOT PRIVATE DRIVEWAY" DEVELOPMENTS, WHICH (BY DEFINITION) INCORPORATE A DEVELOPMENT PATTERN WITH SINGLE FAMILY DETACHED HOME LOTS FOCUSED AROUND A SHARED OR COMMON ACCESS DRIVE BETWEEN THE LOTS. THESE LOTS TYPICALLY SHARE ONE POINT OF ACCESS TO THE FRONTING STREET.
2. WHILE THIS DETAIL SHOWS SIX LOTS IN ONE GROUPING AROUND A COMMON DRIVE, OTHER DESIGN GROUPINGS AND NUMBERS OF LOTS WITHIN ONE GROUPING ARE POSSIBLE.
3. THE WATER MAIN, WATER SERVICES BETWEEN THE MAIN AND THE METER, AND THE WATER METERS SHALL BE LOCATED IN PUBLIC RIGHT-OF-WAY OR WITHIN THE PRIVATE STREET FRONTING THE GROUPING. THE METER AND SERVICE LINES BETWEEN THE PUBLIC MAIN AND THE METER SHALL BE PUBLIC. THE SERVICE LINES ON THE HOUSE SIDE OF THE METER SHALL BE PRIVATE.
4. THE PRIVATE WATER SERVICE LINES SHALL BE LOCATED IN COMMON TRACTS DEEDED TO THE HOMEOWNER'S ASSOCIATION (HOA) FOR COMMON PURPOSES FROM THE METER UNTIL SUCH POINT AS THE SERVICE ENTERS AN INDIVIDUAL LOT.
5. WATER SERVICE LINES SHALL HAVE A MINIMUM HORIZONTAL SEPARATION OF 3 FEET AT THE CONNECTION TO THE MAIN AND 6 INCHES AT ALL OTHER LOCATIONS. WATER SERVICE LINES SHALL BE INSTALLED INSURING THAT THEY DO NOT CROSS EACH OTHER.
6. WATER SERVICE LINES IN COMMON TRACTS SHALL HAVE AN IDENTIFIER INDICATING WHICH LOT IT SERVES. THE IDENTIFIER SHALL BE AN UNDERGROUND WARNING TAPE BURIED 6-INCHES ABOVE THE SERVICE. THE TAPE SHALL BE IMPRINTED WITH CONTRASTING TEXT THAT IDENTIFIES THE LOT BEING SERVED AT A MAXIMUM SPACING OF SIX FEET ALONG THE SERVICE ALIGNMENT.
7. TO MINIMIZE CONGESTION, EQUAL NUMBERS OF WATER METERS SHOULD BE PLACED ON EACH SIDE OF A SHARED DRIVEWAY. REFER TO M-49.01 & M-49.02 FOR WATER SERVICE INSTALLATION.
8. THE SEWER FACILITIES DEDICATED TO SERVING ONE GROUP OF LOTS (INCLUDING MAINS & SERVICES OR PORTIONS THEREOF LOCATED IN THE STREET FRONTING THE CLUSTER) SHALL BE PRIVATE.
9. THE PRIVATE SEWER MAIN AND PRIVATE SEWER SERVICES LOCATED OUTSIDE OF RIGHT-OF-WAY SHALL BE LOCATED IN COMMON TRACTS DEEDED TO THE HOA FOR COMMON PURPOSES UNTIL SUCH POINT AS THE SERVICE ENTERS AN INDIVIDUAL LOT. SEWER LINES SHALL NOT BE PERMITTED TO CROSS ADJACENT LOTS EVEN IF A PUBLIC UTILITY EASEMENT EXISTS ON THAT LOT.
10. THE CC&R'S SHALL REQUIRE THE HOMEOWNER'S ASSOCIATION TO BE RESPONSIBLE FOR THE MAINTENANCE AND REPAIR OF PRIVATE WATER SERVICE LINES, PRIVATE SEWER MAINS AND PRIVATE SEWER SERVICES, EXCEPTING ONLY THE SEGMENTS THEREOF LOCATED ON PRIVATE LOTS.
11. FOR DETACHED SIDEWALK LOCATIONS, PLACE WATER METERS BETWEEN THE BACK OF CURB AND SIDEWALK. FOR ATTACHED SIDEWALK LOCATIONS, PLACE WATER METERS BETWEEN THE BACK OF SIDEWALK AND THE RIGHT-OF-WAY LINE. CENTER-TO-CENTER SPACING BETWEEN THE METER BOXES SHALL BE 3-FEET MINIMUM. ALSO, MAINTAIN A MINIMUM OF 6-INCHES CLEARANCE BETWEEN THE NEAREST EDGE OF THE METER BOX AND THE BACK OF CURB, EDGE OF SIDEWALK AND PROPERTY LINE.
12. ALL OTHER REQUIREMENTS FOR PRIVATE WATER AND SEWER SERVICE SHALL ADHERE TO THE LATEST ADOPTED UNIFORM PLUMBING CODE AS AMENDED BY THE CITY.

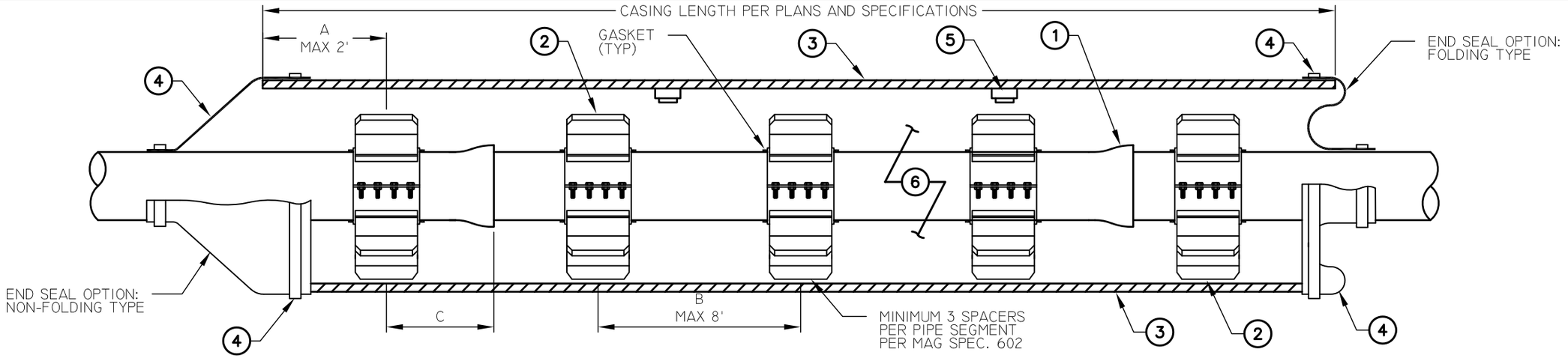
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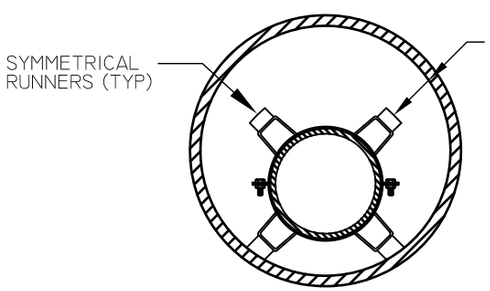
WATER & SEWER SERVICE STANDARDS FOR RESIDENTIAL SMALL LOT / MULTI-LOT PRIVATE DRIVE DEVELOPMENTS

DETAIL NO. M-53

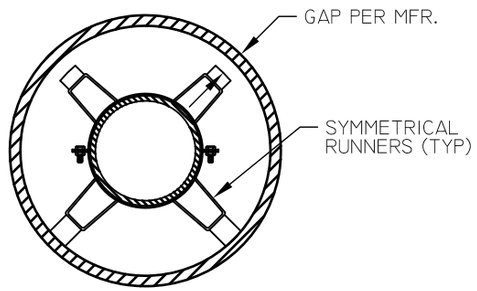
REV. 06/04/18



CASING INSTALLATION PROFILE VIEW



SECTION VIEW
STANDARD POSITION



SECTION VIEW
CENTERED POSITION

INSTALLATION NOTES:

1. RESTRAINED JOINT CARRIER PIPE PER CITY OF MESA APPROVED PRODUCTS LIST.
2. STAINLESS STEEL CASING SPACERS PER CITY OF MESA APPROVED PRODUCTS LIST. INSTALL THREE PER PIPE MINIMUM.
3. STEEL CASING LENGTH, DIAMETER, MATERIAL, AND FABRICATION SHALL BE PER MAG SPECIFICATION SECTION 602 AND APPROVED PROJECT PLANS AND SPECIFICATIONS.
4. CASING END SEAL WITH STAINLESS STEEL RETAINING BANDS PER CITY OF MESA APPROVED PRODUCTS LIST.
5. STEEL CASING 37" I.D. OR LARGER SHALL BE INSTALLED WITH GROUT CONNECTIONS. GROUT CONNECTIONS AND GROUTING SHALL BE PER MAG SPECIFICATION 602.
6. ANNULAR SPACE BETWEEN CASING AND CARRIER PIPE SHALL BE LEFT EMPTY PER MAG SPEC. 602, UNLESS OTHERWISE INDICATED IN PROJECT PLANS AND SPECIFICATIONS.

DIMENSION NOTES:

A. CASING END TO SPACER DISTANCE SHALL BE PER MANUFACTURER RECOMMENDATION, MAXIMUM 2'.
B. SPACER SEPARATION DISTANCE SHALL BE PER MANUFACTURER RECOMMENDATION. THE MAXIMUM SEPARATION DISTANCE SHALL BE 8', AND A MINIMUM NUMBER OF THREE SPACERS SHALL BE INSTALLED PER PIPE SEGMENT PER MAG SPECIFICATION SECTION 602.
C. JOINT TO SPACER DISTANCE PER MANUFACTURER RECOMMENDATION.

GENERAL NOTES:

- THE INTENT OF THIS DETAIL IS TO PROVIDE GUIDANCE FOR GENERAL CASING INSTALLATION FOR DUCTILE IRON PIPE WATER MAINS AND IS NOT INTENDED TO COVER CONCRETE CYLINDER PIPE OR INSTALLATIONS WITH SPECIAL REQUIREMENTS SUCH AS GAS MAINS, LIGHT RAIL, ETC.
- CATHODIC PROTECTION REQUIREMENTS SHALL BE PER APPROVED PROJECT PLANS AND SPECIFICATIONS.
- CASING THICKNESS AND DESIGN SHALL BE PER MAG SPECIFICATION SECTION 602, MANUFACTURERS RECOMMENDATION, AND PROJECT PLANS AND SPECIFICATIONS.
- RESTRAINED LENGTH IN CASINGS SHALL NOT BE CONSIDERED AS PART OF THE RESTRAINT LENGTH FOR THRUST CALCULATION PURPOSES.
- ACCEPTABLE CARRIER PIPE INSTALLATION POSITIONS ARE STANDARD AND CENTERED, AS SHOWN ABOVE..
- CARE MUST BE EXERCISED TO AVOID METAL TO METAL CONTACT BETWEEN THE CARRIER AND CASING PIPE.
- INSTALLATION SHALL CONFORM TO AWWA M41.

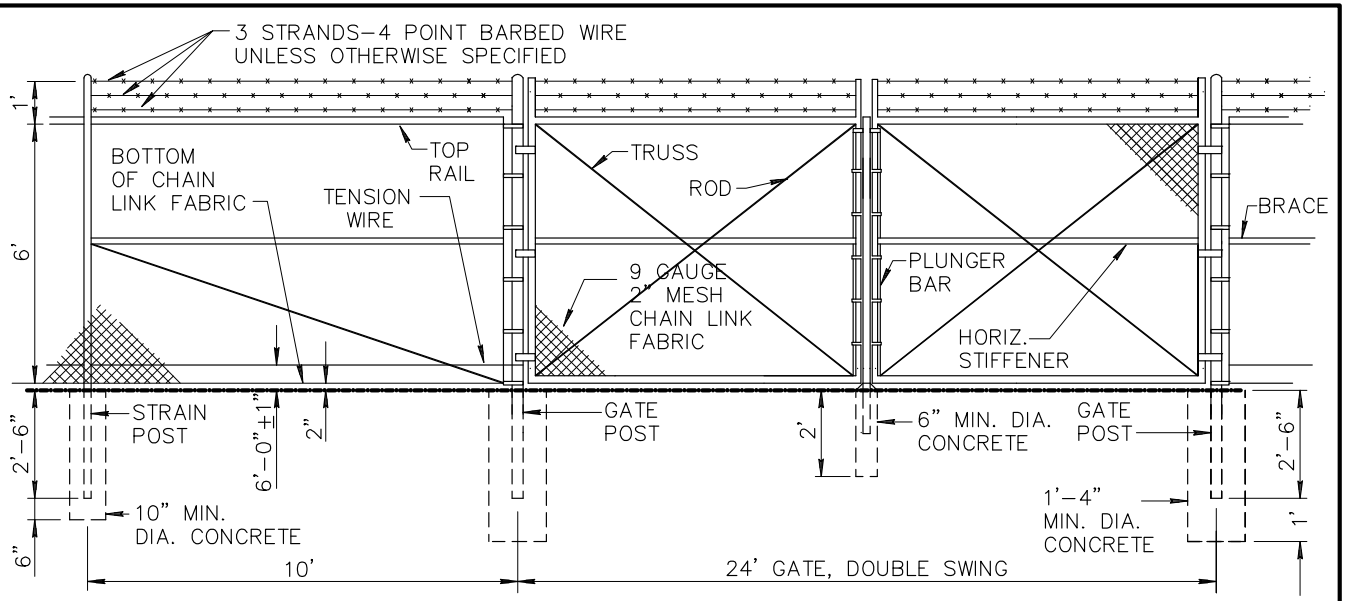
NOT TO SCALE

mesa·az

STEEL CASING PIPE INSTALLATION DETAIL FOR WATER MAINS

DETAIL NO. M-55

REV. 02/11/2015

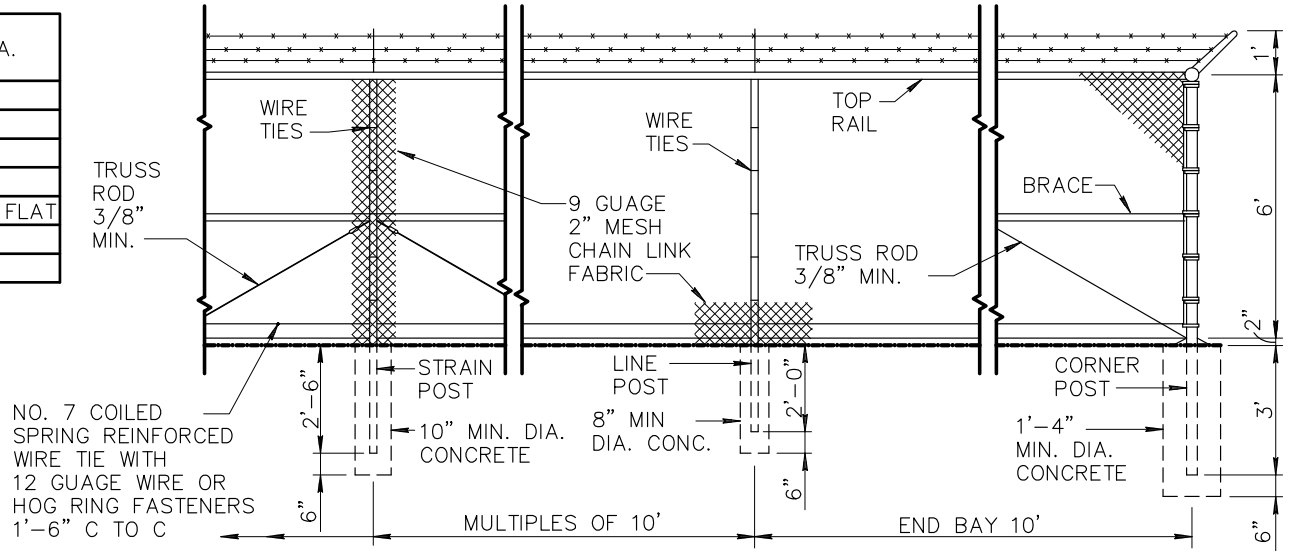


NOTES

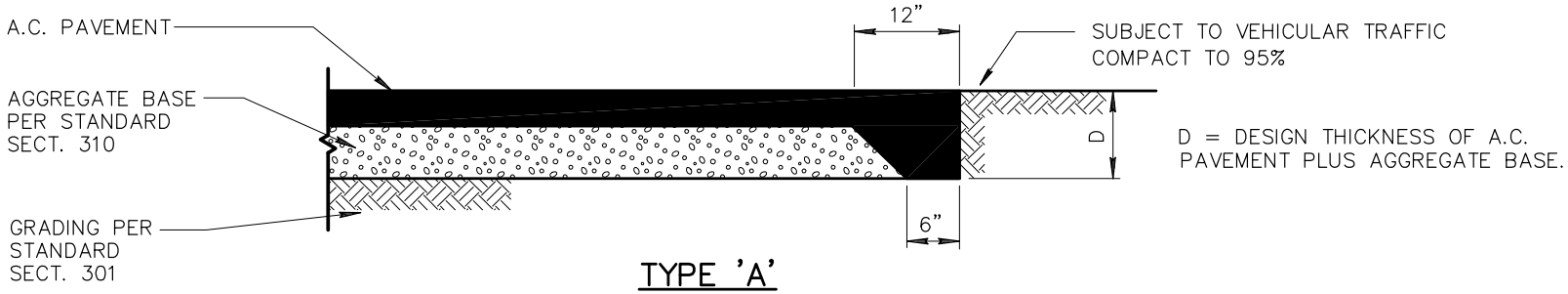
1. ALL CONCRETE SHALL BE CLASS 'C' PER SECT. 725.
2. FITTINGS NOT SPECIFICALLY DETAILED SHALL BE HEAVY DUTY DESIGN.
3. STRAIN POSTS SHALL BE SPACED AT 500' MAXIMUM SPACING.
4. BOTH CORNER AND STRAIN POSTS SHALL HAVE STRAIN PANELS.
5. ALL POSTS SHALL BE CAPPED.
6. MEMBER SIZES SHALL BE THE FOLLOWING:

MEMBER	AISC SIZE	OUTSIDE DIA.
CORNER POST	2–1/2"	2.875"
LINE POST	1–1/2"	1.900"
STRAIN POST	1–1/2"	1.900"
BRACE	1–1/4"	1.666"
STRETCH BAR	3/16"x3/4" FLAT	3/16"x3/4" FLAT
GATE POST	3–1/2"	4.000"
TOP RAIL	1–1/4"	1.666"

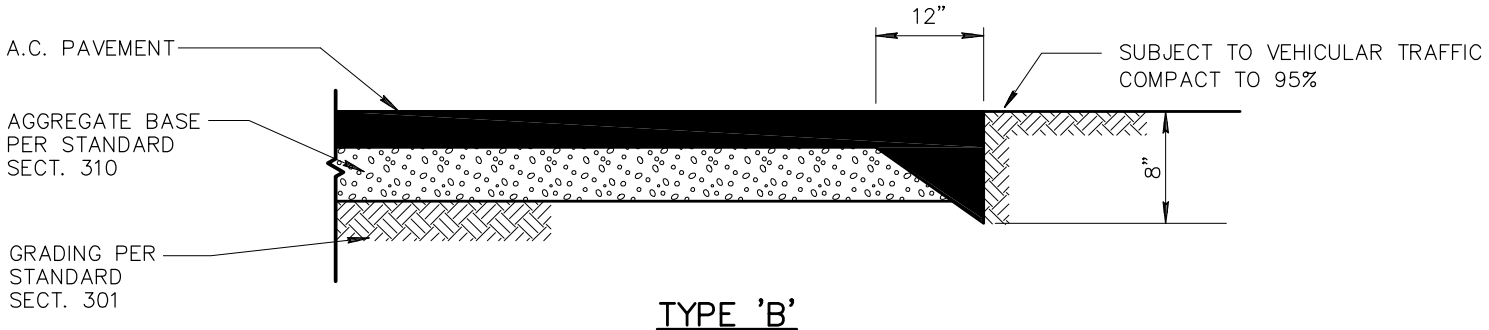
7. CONSTRUCTION AND MATERIALS SHALL CONFORM TO SECT. 420 AND 772, RESPECTIVELY. SEE TABLE 772–1 FOR WEIGHTS OF MEMBERS.



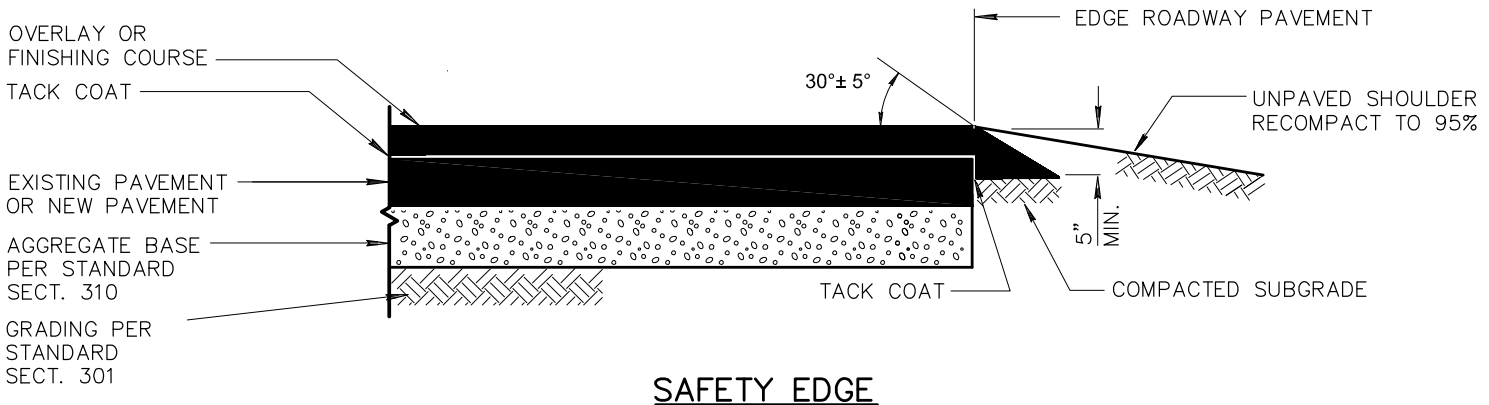
DETAIL NO.			REVISED	DETAIL NO.
160	MARICOPA ASSOCIATION of GOVERNMENTS STANDARD DETAIL ENGLISH	6' CHAIN LINK FENCE AND GATE	01–01–2013	160



TYPE 'A'

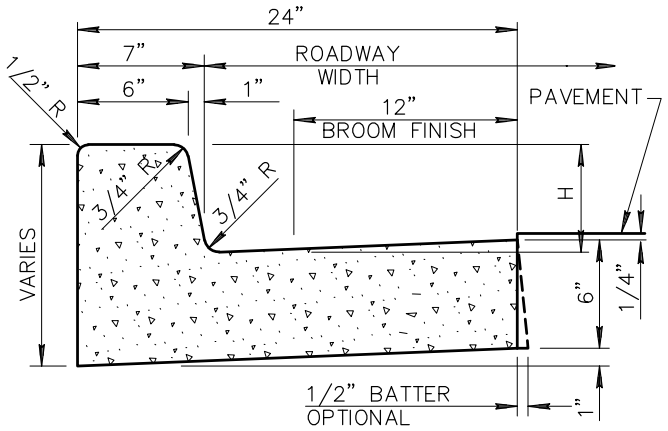


TYPE 'B'



SAFETY EDGE

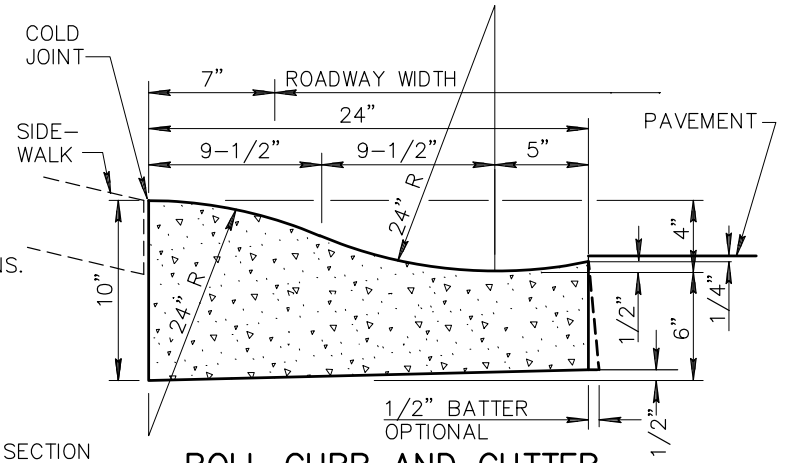
DETAIL NO.				DATE	DETAIL NO.
201	MARICOPA ASSOCIATION of GOVERNMENTS	STANDARD DETAIL ENGLISH	ASPHALT PAVEMENT EDGE DETAILS	01–01–2014	201



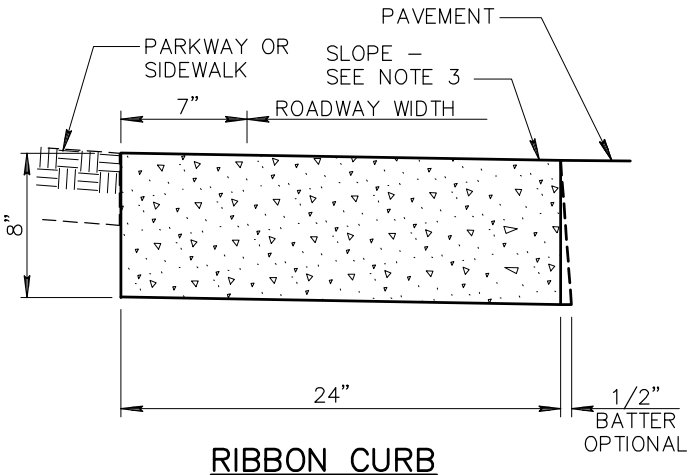
VERTICAL CURB AND GUTTER (TYPE A)

NOTES: (TYPE A)

1. ALL EXPOSED SURFACES TO BE TROWEL FINISHED EXCEPT AS SHOWN. SEE SECT. 340.
2. H=6" OR AS SPECIFIED ON PLANS.
3. CONTRACTION JOINT SPACING 10' MAXIMUM.
4. EXPANSION JOINTS AS PER SECT. 340.
5. CLASS 'B' CONCRETE PER 725.
6. WHEN THE ADJACENT PAVEMENT SECTION SLOPES AWAY FROM THE GUTTER, THE SLOPE OF THE GUTTER PAN SHALL MATCH PAVEMENT CROSS SLOPE.



ROLL CURB AND GUTTER (TYPE C)

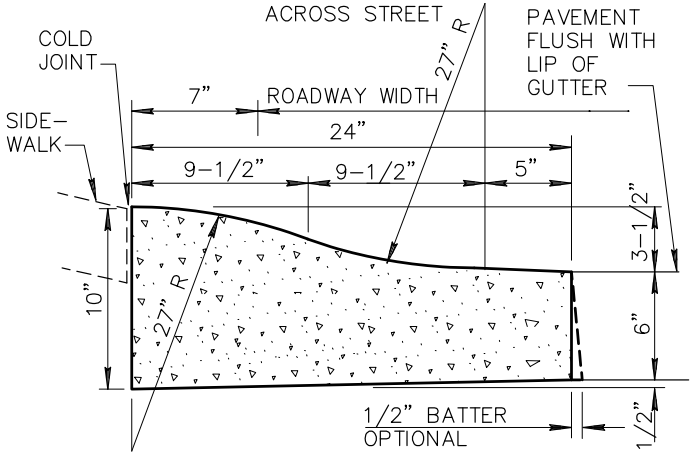


RIBBON CURB (TYPE B)

NOTES: (TYPE B)

1. CONSTRUCT CURB AND INSTALL 1/2" MASTIC EXPANSION JOINTS, A.S.T.M. D-1751. SECT. 340.
2. BROOM FINISH ALL SURFACES.
3. RIBBON CURB MAY SLOPE TOWARDS PAVEMENT OR PARKWAY AS INDICATED ON PLANS.
4. CONTRACTION JOINT SPACING 10' MAXIMUM.
5. CONCRETE SHALL BE CLASS 'B' PER SECT. 725 AND INSTALLED PER SECT. 505.

SPECIAL SECT. USE FOR HIGH SIDE CURB WITH SHEET DRAINAGE ACROSS STREET

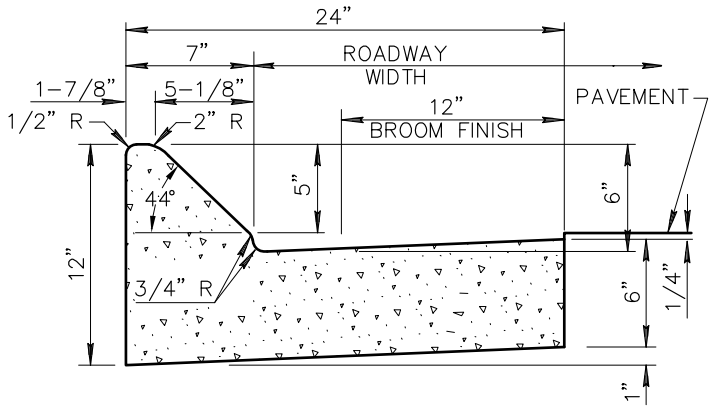


(TYPE D)

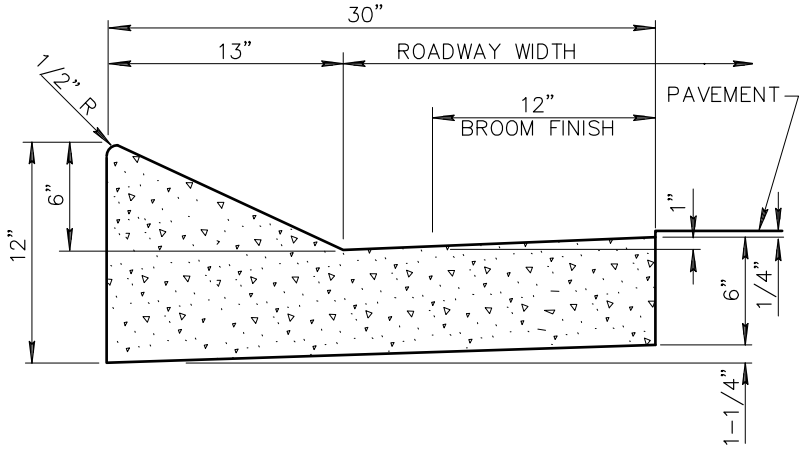
NOTES: (C & D)

1. ALL WORK AND MATERIALS SHALL CONFORM TO SECT. 340, 505 AND 725. BROOM FINISH TO EXPOSED SURFACE.
2. CONTRACTION JOINT SPACING 10' MAXIMUM.
3. EXPANSION JOINTS AS PER SECT. 340.
4. CLASS 'B' CONCRETE PER 725.

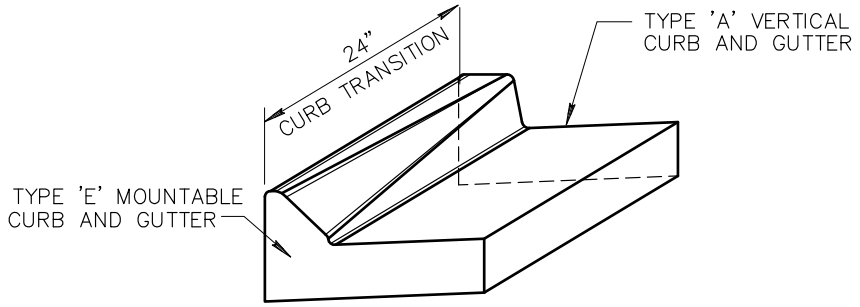
DETAIL NO.			REVISED	DETAIL NO.
220-1	MARICOPA ASSOCIATION of GOVERNMENTS — STANDARD DETAIL ENGLISH	CURB AND GUTTER TYPES A, B, C AND D	01-01-2021	220-1



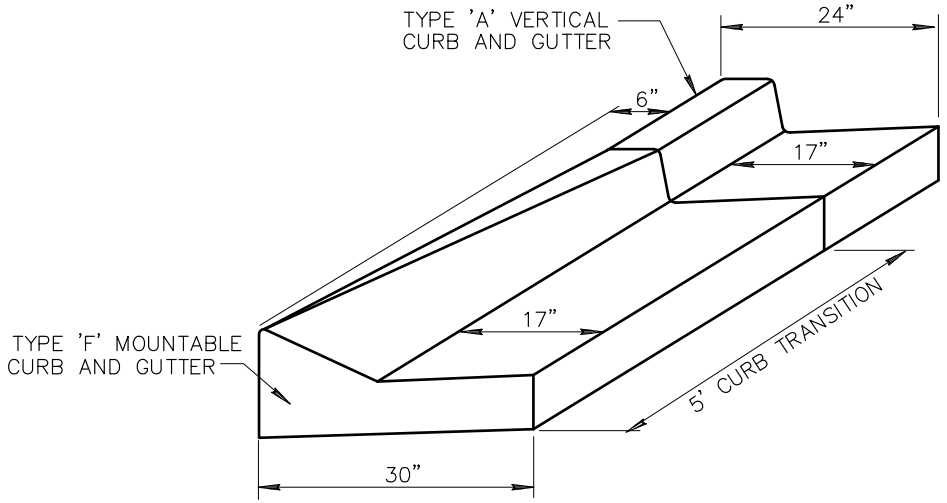
MOUNTABLE CURB AND GUTTER (TYPE E)



MOUNTABLE CURB AND GUTTER (TYPE F)



CURB TRANSITION TYPE 'E' TO TYPE 'A'

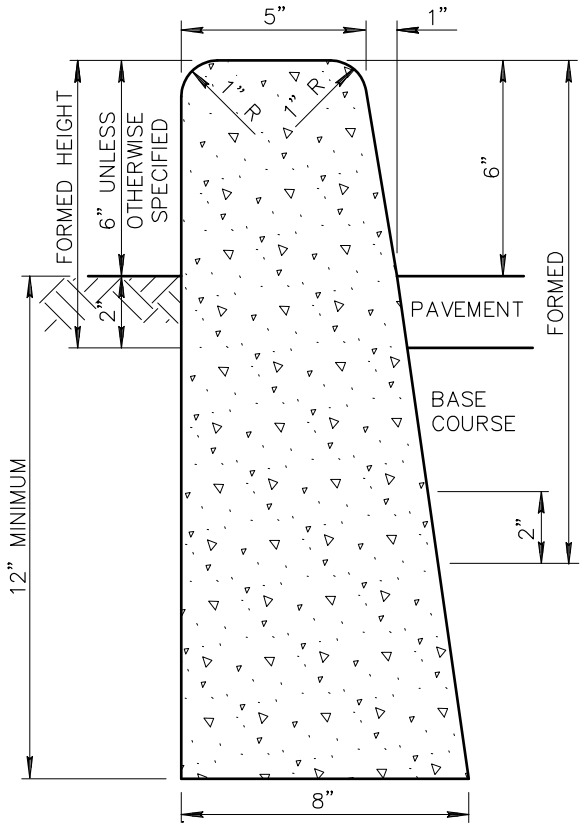


CURB TRANSITION TYPE 'F' TO TYPE 'A'

NOTES: (E & F)

1. ALL EXPOSED SURFACES TO BE TROWEL FINISHED EXCEPT AS SHOWN. SEE SECT. 340.
2. CONTRACTION JOINT SPACING 10' MAXIMUM.
3. EXPANSION JOINTS PER SECT. 340.
4. CLASS 'B' CONCRETE PER SECT. 725.
5. WHEN THE ADJACENT PAVEMENT SECTION SLOPES AWAY FROM THE GUTTER, THE SLOPE OF THE GUTTER PAN SHALL MATCH THE PAVEMENT CROSS SLOPE.

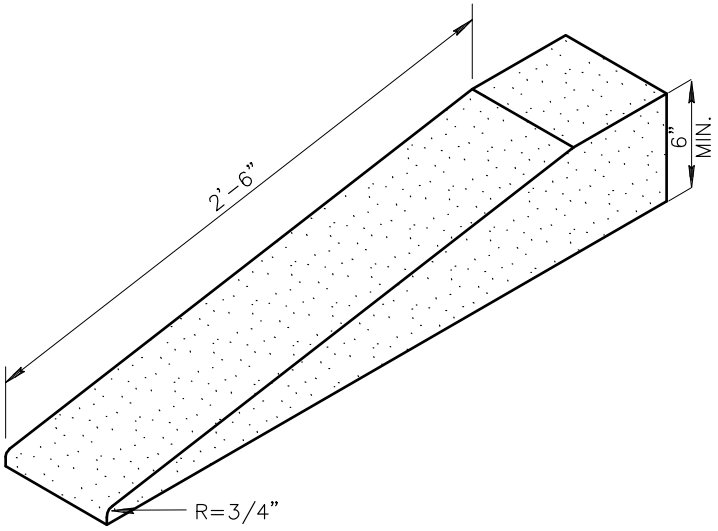
DETAIL NO.				REVISED	DETAIL NO.
220-2	MARICOPA ASSOCIATION of GOVERNMENTS STANDARD DETAIL ENGLISH	CURB AND GUTTER TYPES E AND F		01-01-2007	220-2



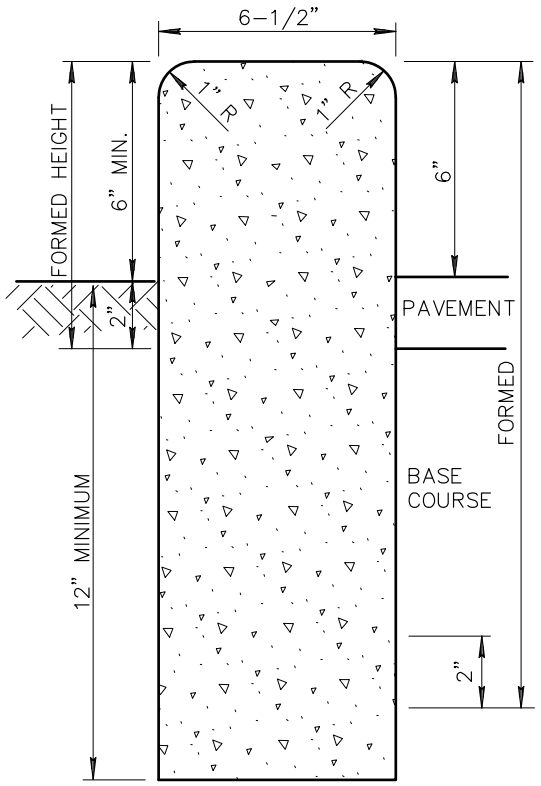
TYPE 'A'

NOTES:

1. ALL VERTICAL SURFACES TO BE FORMED.
2. VERTICAL SURFACES DOWN FROM 2" BELOW UNDISTURBED SOIL MAY BE PLACED AGAINST NEAT CUT IF APPROVED BY THE ENGINEER AND CONCRETE WILL NOT EXTEND MORE THAN 1" BEYOND THEORETICAL FACE.
3. ALL EXPOSED SURFACES TO BE STRIPPED GREEN AND TROWEL FINISHED.
4. CONCRETE CURBS CONFORM TO SECT. 340.
5. MAXIMUM SPACING OF CONTRACTION JOINTS IS 10'
6. CONCRETE TO BE CLASS 'B' PER SECT. 725.
7. WHEN PAVEMENT AND BASE COURSE EQUALS OR EXCEEDS 10" IN DEPTH, THE ENTIRE ROADWAY SIDE OF THE CURB SHALL BE FORMED. THE TOTAL CURB HEIGHT REMAINS 18" UNLESS NOTED OTHERWISE.

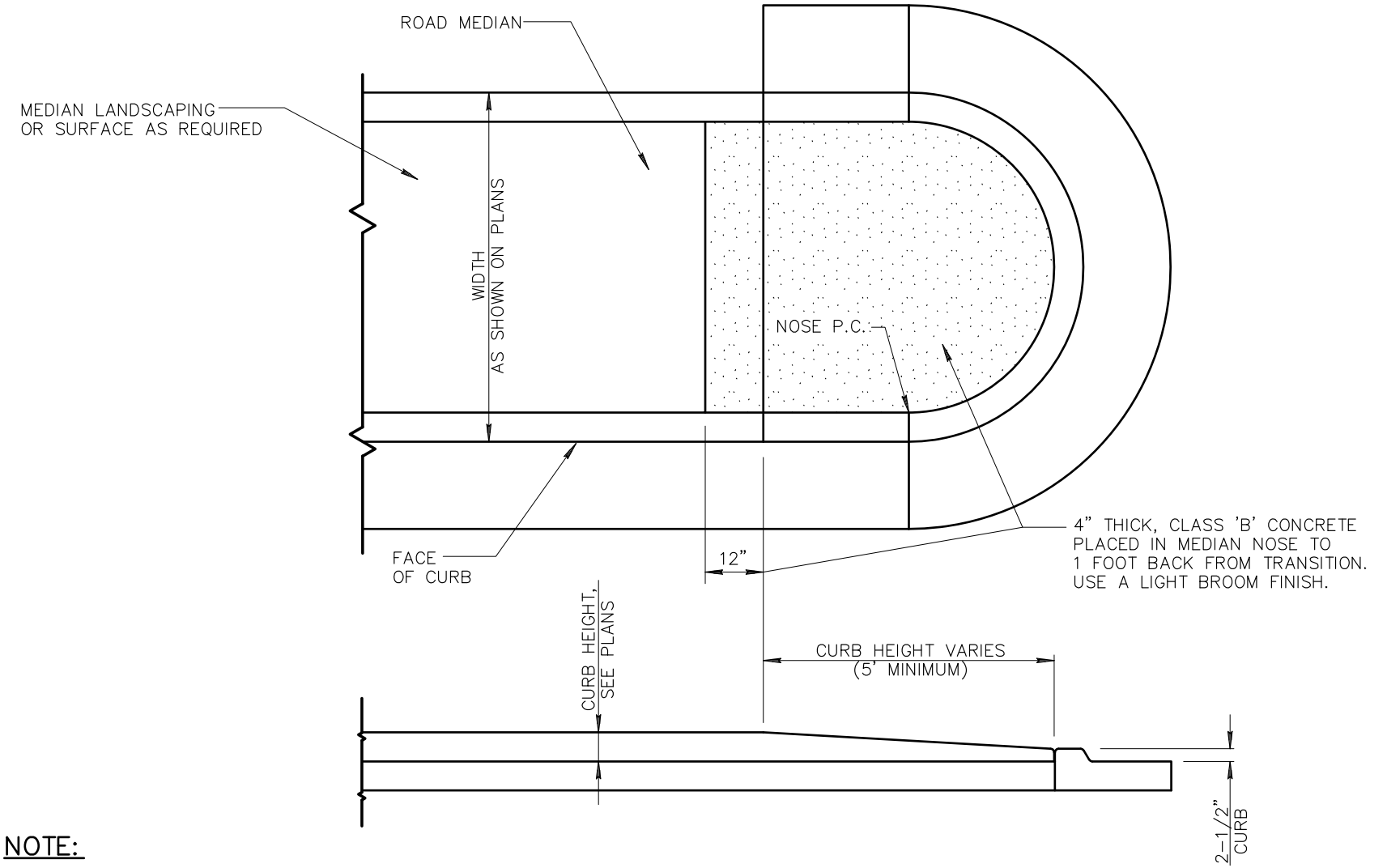


TYPICAL CURB TERMINATION



TYPE 'B'

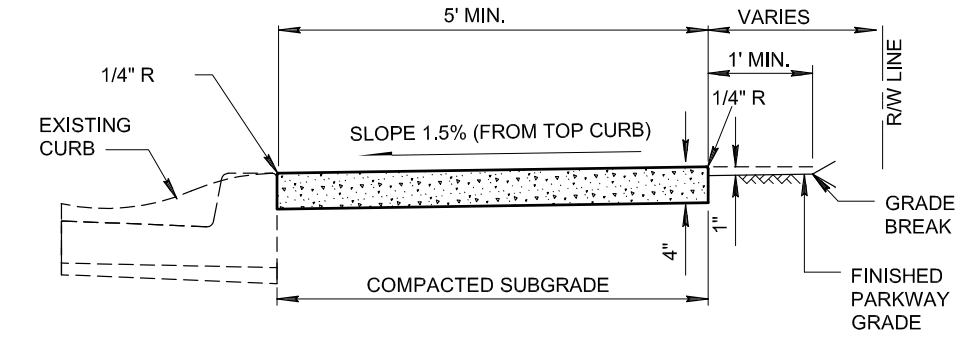
DETAIL NO.			REVISED	DETAIL NO.
222	MARICOPA ASSOCIATION of GOVERNMENTS — STANDARD DETAIL ENGLISH	SINGLE CURB – TYPES A, B AND TERMINATION	01-01-2008	222

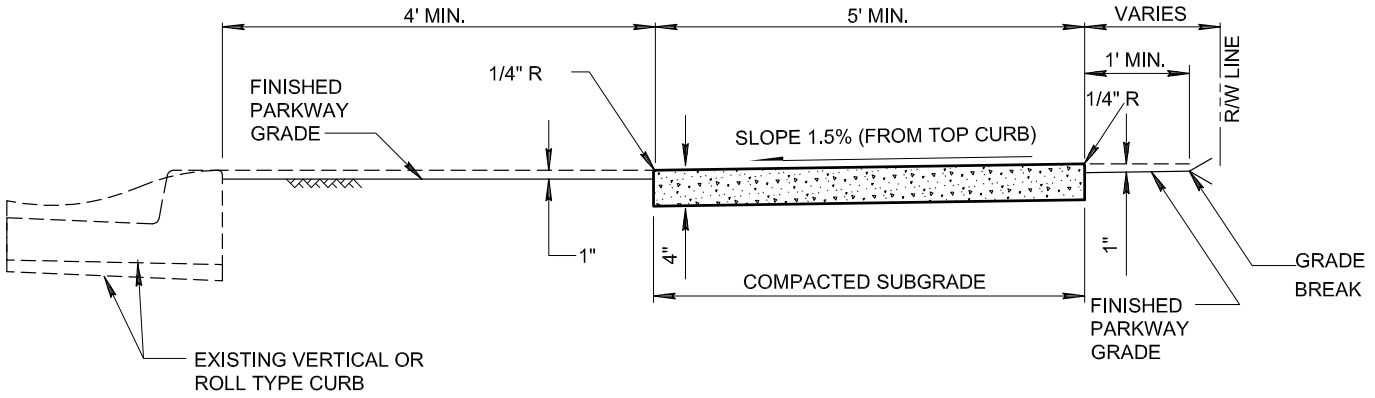


NOTE:

LENGTH OF TRANSITION SHALL BE EQUAL TO RADIUS OF MEDIAN NOSE, (5' MINIMUM). FOR LOCATION SEE PLANS.

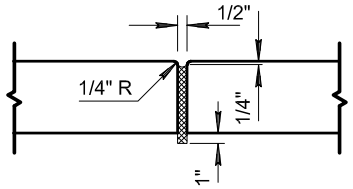
DETAIL NO.				REVISED	DETAIL NO.
223	MARICOPA ASSOCIATION of GOVERNMENTS STANDARD DETAIL ENGLISH	MEDIAN NOSE TRANSITION		01-01-1998	223



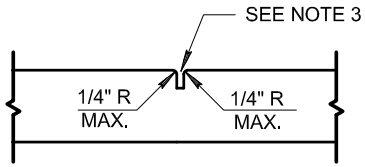


NOTES:

1. SIDEWALK CONSTRUCTION SHALL CONFORM TO SECTION 340.
2. EXPANSION JOINTS SHALL BE 1/2" BITUMINOUS TYPE PREFORMED EXPANSION JOINT FILLER, PER SECTION 729.
3. LARGE AGGREGATE, IN CONTRACTION JOINT SHALL BE SEPARATED TO A DEPTH OF 1", FINISH DEPTH SHALL BE A MINIMUM OF 3/4".
4. EXPANSION JOINTS SHALL CONFORM TO SECTION 340, BE INSTALLED PRIOR TO CONCRETE PLACEMENT, AND AT A MAXIMUM SPACING OF 50'.
5. CONCRETE SHALL BE CLASS 'B' PER SECTION 725.
6. WHEN SIDEWALK AND ADJACENT CURB ARE CONSTRUCTED MONOLITHICALLY, ALL EXPANSION AND CONTRACTION JOINTS SHALL EXTEND ACROSS THE CURB.

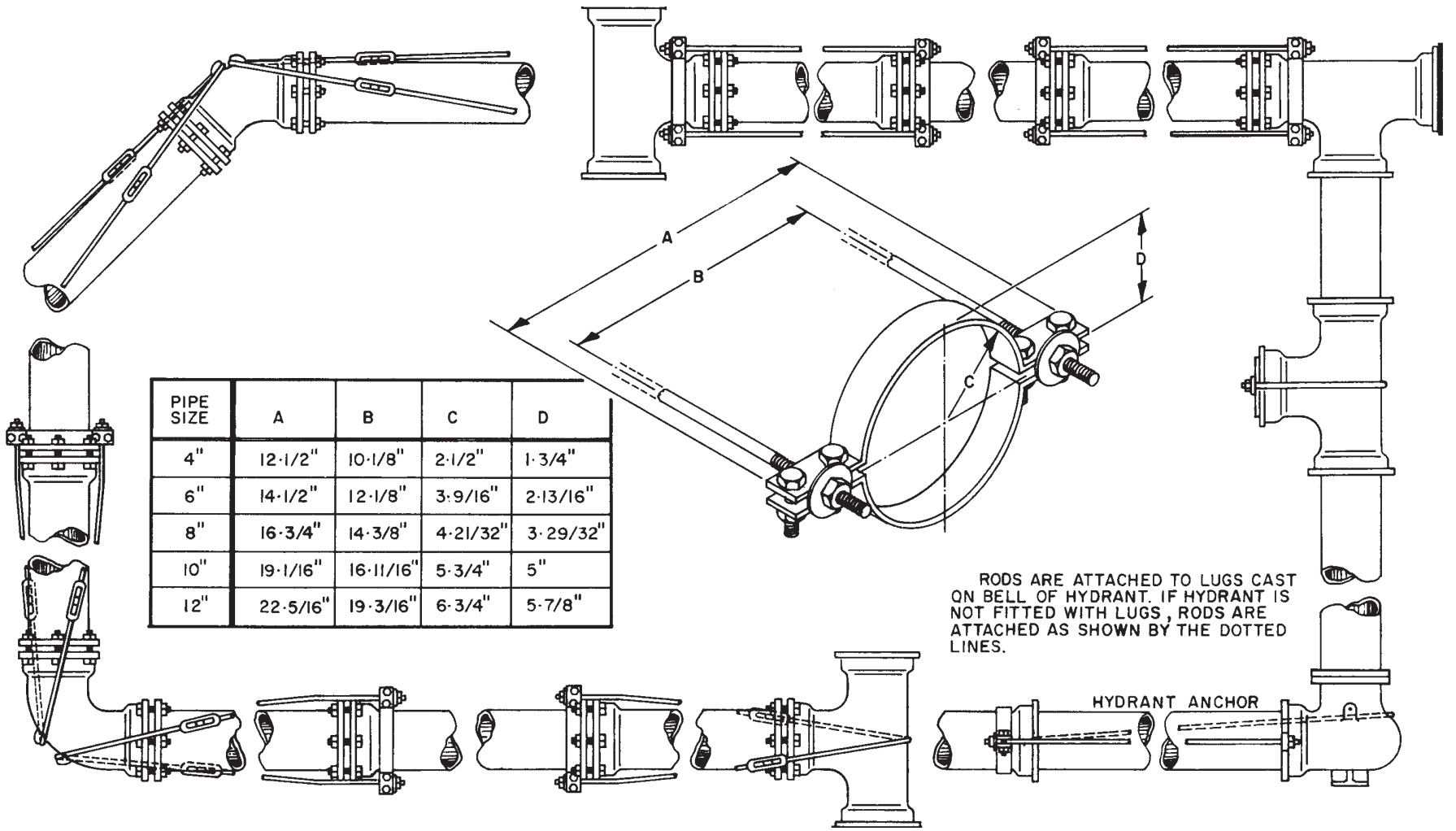


EXPANSION JOINT



CONTRACTION JOINT

DETAIL NO.			REVISED	DETAIL NO.
230	MARICOPA ASSOCIATION of GOVERNMENTS STANDARD DETAIL ENGLISH	SIDEWALKS	01-01-2014	230



PIPE SIZE	A	B	C	D
4"	12-1/2"	10-1/8"	2-1/2"	1-3/4"
6"	14-1/2"	12-1/8"	3-9/16"	2-13/16"
8"	16-3/4"	14-3/8"	4-21/32"	3-29/32"
10"	19-1/16"	16-11/16"	5-3/4"	5"
12"	22-5/16"	19-3/16"	6-3/4"	5-7/8"

RODS ARE ATTACHED TO LUGS CAST ON BELL OF HYDRANT. IF HYDRANT IS NOT FITTED WITH LUGS, RODS ARE ATTACHED AS SHOWN BY THE DOTTED LINES.

HYDRANT ANCHOR

DETAIL NO.			REVISED	DETAIL NO.
302-1	MARICOPA ASSOCIATION of GOVERNMENTS STANDARD DETAIL ENGLISH	JOINT RESTRAINT WITH TIE RODS	01-01-1998	302-1

THIS DETAIL IS FOR USE ONLY ON UNDERGROUND INSTALLATIONS WHERE THE USE OF CONCRETE THRUST BLOCKING PER DETAIL 380 CANNOT BE USED BECAUSE OF OBSTRUCTIONS, OR REQUIREMENTS OF THE SPECIFICATIONS...

* CLAMPS SHALL BE 1/2 BY 2 INCHES FOR PIPE 4 AND 6 INCHES IN DIAMETER; 5/8 BY 2–1/2 INCHES FOR PIPE 8 AND 10 INCHES; 5/8 BY 3 INCHES FOR PIPE 12 INCHES. BOLT HOLES SHALL BE 1/16 INCH IN DIAMETER LARGER THAN BOLTS.
* RODS SHALL BE 3/4 INCHES IN DIAMETER FOR PIPES 4,6 AND 8 INCHES IN DIAMETER; 7/8 INCHES FOR PIPE 10 INCHES AND 1 INCH IN DIAMETER FOR PIPE 12 INCHES.
* BOLTS SHALL BE 5/8 INCHES IN DIAMTER FOR PIPE 4, 6 AND 8 INCHES IN DIAMETER; 3/4 INCHES FOR PIPE 10 INCHES AND 7/8 INCHES IN DIAMETER FOR PIPE 12 INCHES
* WASHERS MAY BE CAST IRON OR STEEL, ROUND OR SQUARE, DIMENSIONS FOR CAST IRON WASHERS ARE 5/8 BY 3 INCHES FOR PIPE 4, 6, 8 AND 10 INCHES IN DIAMETER AND 3/4 BY 3–1/2 INCHES FOR PIPE 12 INCHES. DIMENSIONS FOR STEEL WASHERS ARE 1/2 BY 3 INCHES FOR PIPE 4, 6, 8 AND 10 INCHES IN DIAMETER AND 1/2 BY 3–1/2 INCHES FOR PIPE 12 INCHES IN DIAMTER. HOLES SHALL BE 1/8 INCH LARGER THAN THE RODS.

FOR PIPE LARGER THAN 12 INCHES IN DIAMETER, RESTRAINT DETAILS SHALL BE SUBMITTED FOR APPROVAL PRIOR TO INSTALLATION.

1. ALL TIE RODS, ROD COUPLINGS, TURNBUCKLES, BOLTS AND NUTS FOR THESE JOINTS SHALL BE OF CARBON STEEL EQUIVALENT TO A.S.T.M. A–307, GRADE B, WITH CADMIUM PLATING IN ACCORDANCE WITH A.S.T.M. A–165. EXCEPT THAT THE MIN. THICKNESS OF THE PLATING SHALL BE .0002 OF AN INCH. CADMIUM PLATED BOLTS SHALL HAVE CLASS 2A THREADS AND THE NUTS, ROD COUPLINGS AND TURNBUCKLES SHALL HAVE 2B THREADS.

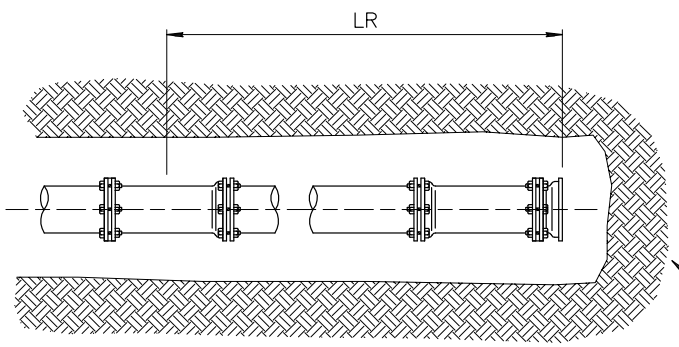
2. HIGH STRENGTH, HEAT TREATED CAST IRON TEE–HEAD BOLTS WITH HEXAGON NUTS, ALL IN ACCORDANCE WITH THE STRENGTH REQUIREMENTS OF A.W.W.A. C–111, MAY BE USED IN LIEU OF THE CADMIUM PLATED BOLTS AND NUTS.

3. THE SKETCHES IN THIS SERIES OF FIGURES SHOW ACCEPTABLE METHODS OF PROVIDING ANCHORAGE. THERE IS NO PARTICULAR SIGNIFICANCE TO BE ATTACHED TO WHETHER THE SKETCH SHOWS A BELL AND SPIGOT JOINT OR A STANDARD MECHANICAL JOINT. THE ANCHORING PROCEDURE ILLUSTRATED APPLIES IN MOST CASES TO EITHER TYPE OF JOINT. IN SOME CASES, DIMENSIONS OF THE PARTICULAR PIPE OR HUB AND SPACE AVAILABLE FOR WORKING AROUND THE PARTICULAR JOINT WILL INFLUENCE THE CHOICE OF METHODS USED.

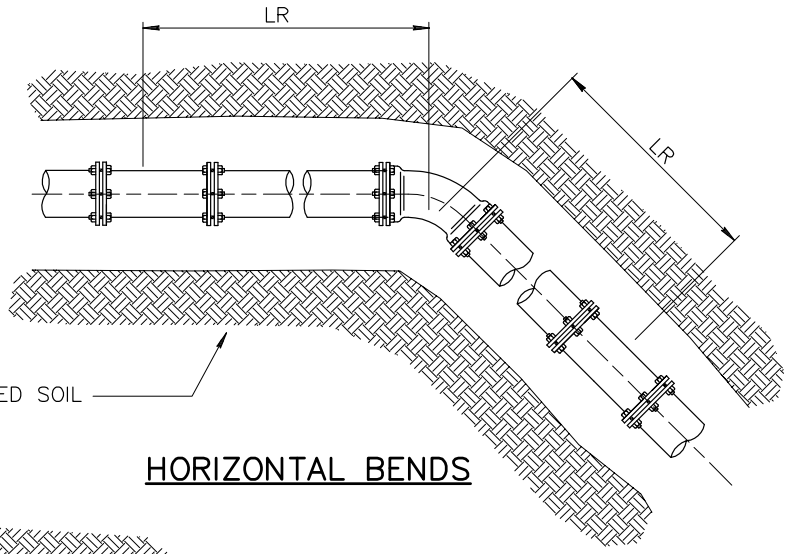
4. IN CERTAIN ASSEMBLIES OF RODS AND CLAMPS SHOWN, RODS RUN FROM A LUG ON THE FITTING (OR A CLAMP BEHIND THE HUB OF A BELL) TO A CLAMP AGAINST A FACE OF A BELL. NOTE THAT THIS ARRANGEMENT ANCHORS ONLY ONE JOINT. THE STABILITY OF THE JOINT WHERE THE CLAMP IS AGAINST THE FACE OF THE BELL DEPENDS ON HAVING SOIL ABOVE A RELATIVELY LONG PIECE OF PIPE ON BOTH SIDES OF THE JOINT. CONSEQUENTLY, IF THE DISTANCE BETWEEN THE FIRST AND SECOND JOINTS IS LESS THAN 12 FEET, THE SECOND JOINT SHOWN SHALL BE ANCHORED BY A CLAMP BEHIND THE HUB OF THE BELL AND RODS TO A CLAMP AT THE FACE OF THE NEXT BELL.

5. COATING TYPE: A.H.D. ASPHALTIC PRIMER 719(A). – ALL EXPOSED METAL.

DETAIL NO.			REVISED	DETAIL NO.
302-2	MARICOPA ASSOCIATION of GOVERNMENTS STANDARD DETAIL ENGLISH	JOINT RESTRAINT WITH TIE RODS	01–01–1998	302-2



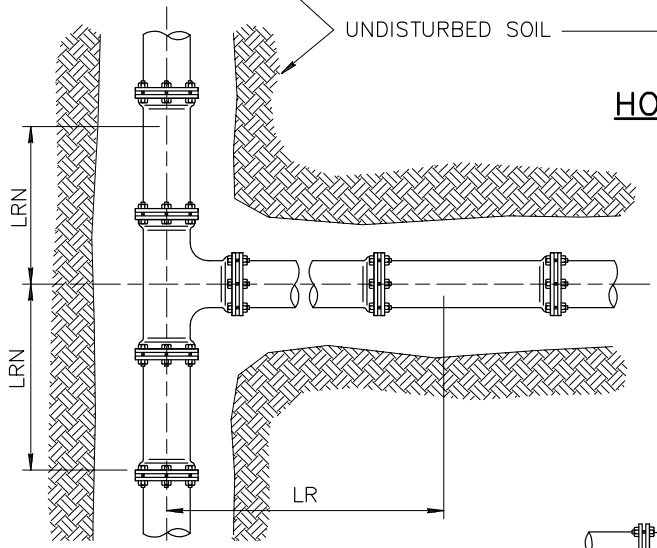
DEAD ENDS



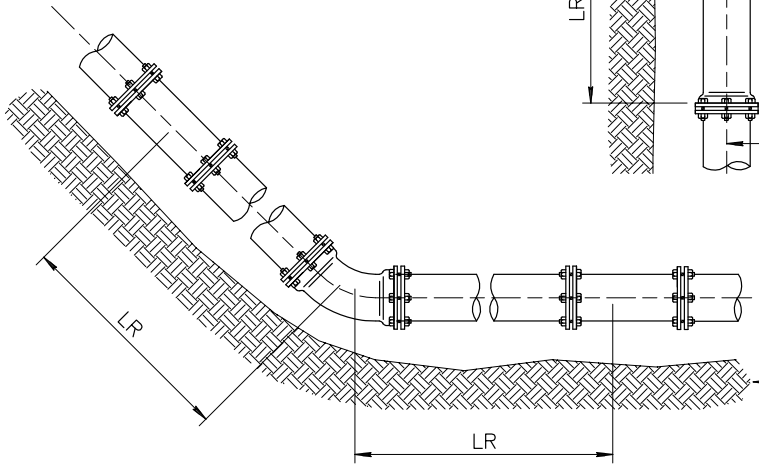
HORIZONTAL BENDS

UNDISTURBED SOIL

LRN = SHORTEST LENGTH OF PIPE RESTRAINED TO THE RUN OF THE TEE FITTING (BOTH SIDES OF TEE).

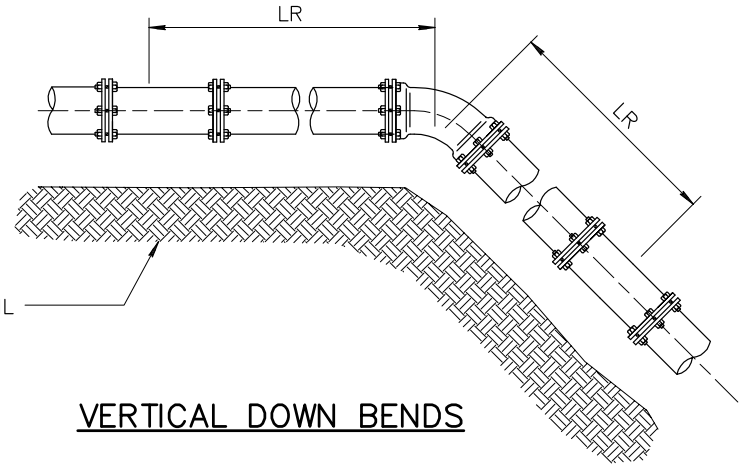


TEES



VERTICAL UP BEND

UNDISTURBED SOIL



VERTICAL DOWN BENDS

DETAIL NO.				REVISED	DETAIL NO.
303–1	MARICOPA ASSOCIATION of GOVERNMENTS	STANDARD DETAIL ENGLISH	JOINT RESTRAINT FOR DUCTILE IRON, POLYETHYLENE WRAPPED DUCTILE IRON AND PVC WATER PIPES	01–01–2019	303–1

RESTRAINED LENGTHS, LR, FOR DUCTILE IRON PIPE

NOMINAL PIPE SIZE INCHES	HORIZONTAL BENDS			TEES		VERTICAL OFFSETS						DEAD ENDS
						90° BEND FITTINGS		45° BEND FITTINGS		22-1/2° BEND FITTINGS		
	90°	45°	22-1/2°	LRN=0'	LRN=10'	DOWN BEND	UP BEND	DOWN BEND	UP BEND	DOWN BEND	UP BEND	
4	18	7	4	30	8	31	18	13	7	6	3	31
6	25	10	5	43	20	44	25	18	10	9	5	44
8	32	13	6	56	34	58	32	24	13	11	6	58
10	38	16	8	68	45	69	38	29	16	14	8	69
12	45	19	9	80	57	81	45	34	19	16	9	81
14	51	21	10	91	68	92	51	38	21	18	10	92
16	57	24	11	103	79	104	57	43	24	21	11	104
18	62	26	12	113	90	115	62	48	26	23	12	115
20	68	28	14	125	100	126	68	52	28	25	14	126
24	79	33	16	145	121	147	79	61	33	29	16	147

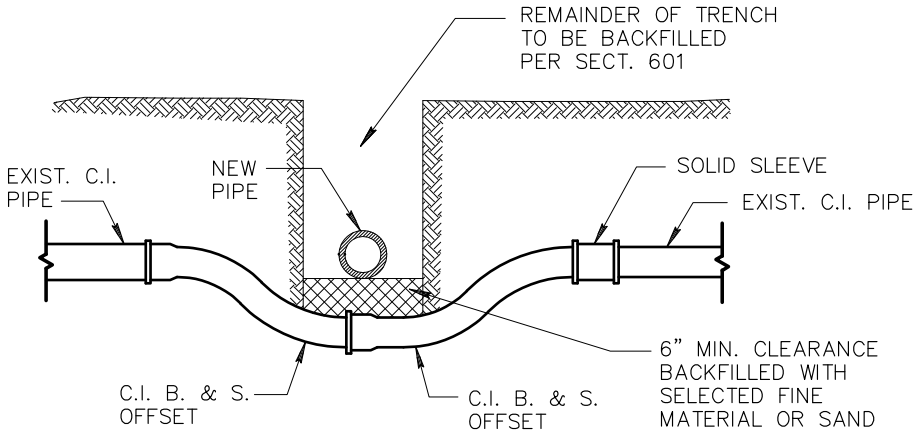
RESTRAINED LENGTHS, LR, FOR DUCTILE IRON WITH POLYETHYLENE WRAP AND PVC PIPE

NOMINAL PIPE SIZE INCHES	HORIZONTAL BENDS			TEES		VERTICAL OFFSETS						DEAD ENDS
						90° BEND FITTINGS		45° BEND FITTINGS		22-1/2° BEND FITTINGS		
	90°	45°	22-1/2°	LRN=0'	LRN=10'	DOWN BEND	UP BEND	DOWN BEND	UP BEND	DOWN BEND	UP BEND	
4	26	11	5	69	18	72	26	30	11	14	5	72
6	36	15	7	99	47	102	36	42	15	20	7	102
8	47	19	9	130	78	133	47	55	19	26	9	133
10	56	23	11	157	103	159	56	66	23	32	11	159
12	65	27	13	185	131	187	65	77	27	37	13	187
14	74	31	15	211	156	214	74	89	31	42	15	214
16	82	34	16	238	183	241	82	100	34	48	16	241
18	90	37	18	263	207	266	90	110	38	53	18	266
20	98	41	20	289	233	292	98	121	41	58	20	292
24	113	47	22	337	280	340	113	141	47	68	22	340

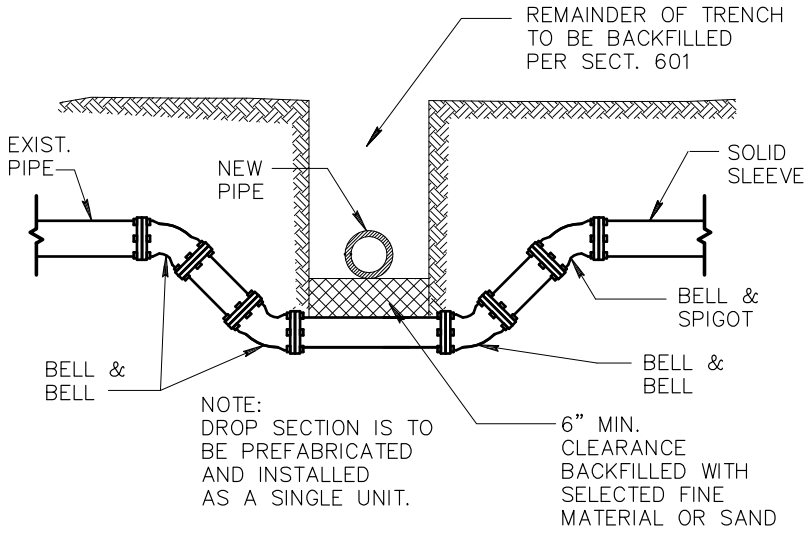
NOTES:

1. ALL JOINTS WITHIN THE SPECIFIED LENGTH LR MUST BE RESTRAINED. ALL LENGTHS ARE GIVEN IN FEET.
2. THE MAXIMUM TEST PRESSURE SHALL NOT EXCEED 200 PSI
3. THE MINIMUM DEPTH OF BURY SHALL BE 3' TO TOP OF PIPE.
4. RESTRAINED LENGTHS MAY BE REDUCED WHEN SUPPORTED BY ENGINEERING CALCULATIONS.

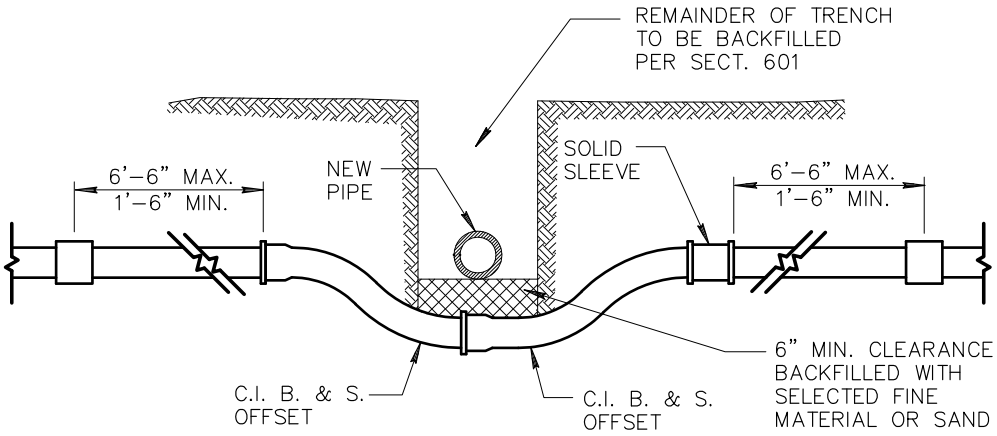
DETAIL NO.		STANDARD DETAIL		REVISED	DETAIL NO.
303-2	MARICOPA ASSOCIATION of GOVERNMENTS	ENGLISH	JOINT RESTRAINT FOR DUCTILE IRON, POLYETHYLENE WRAPPED DUCTILE IRON AND PVC WATER PIPES	01-01-2019	303-2



CAST IRON



CAST IRON MECHANICAL JOINT



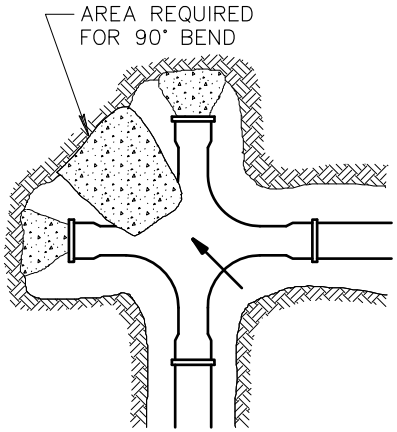
ASBESTOS CEMENT

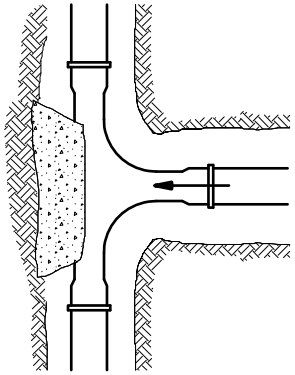
NOTES:

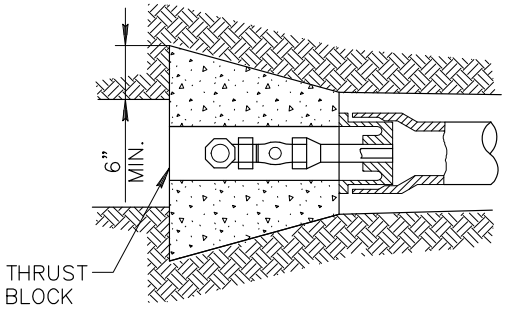
1. THIS DETAIL COVERS MOVING OF WATER MAINS 2" TO 12" ONLY.
2. THRUST BLOCKING AS PER DET. 380 & 381.
3. IF OFFSET IS TO GO OVER OBSTRUCTION, JOINT RESTRAINTS MUST BE USED.
4. PIPE IS TO BE CAST IRON OR DUCTILE IRON.

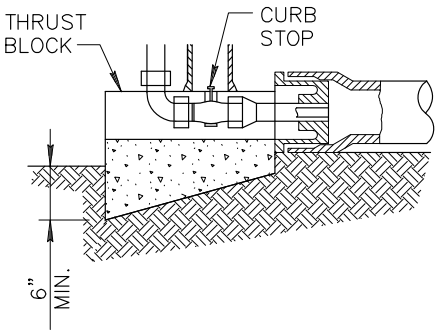
DETAIL NO.			REVISED	DETAIL NO.
370	MARICOPA ASSOCIATION of GOVERNMENTS — STANDARD DETAIL ENGLISH	VERTICAL REALIGNMENT OF WATER MAINS	01-01-1998	370

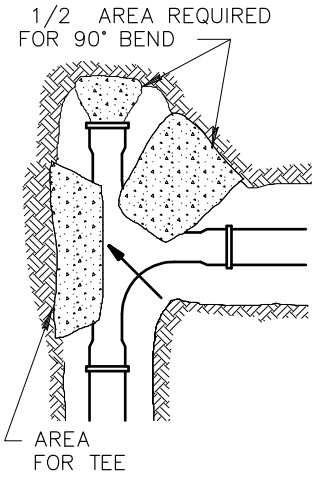
TYPICAL LOCATIONS OF THRUST BLOCKS

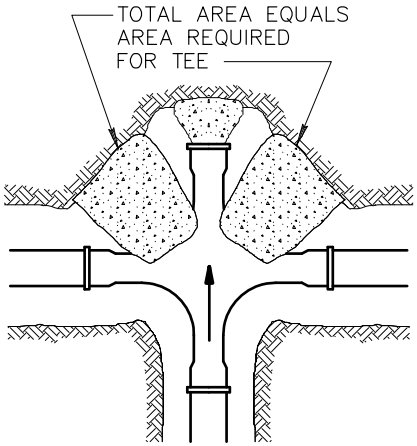


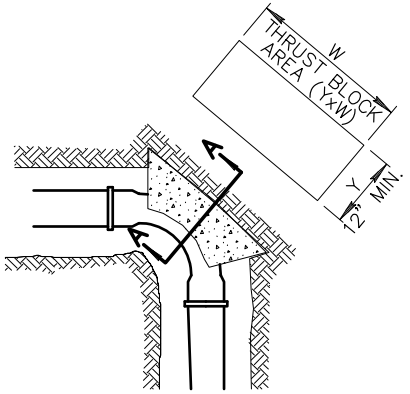


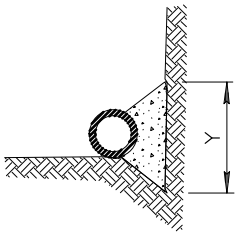












SECTION A–A

NOTES:

1. TABLE IS BASED ON 200 P.S.I. TEST PRESSURE AND 3,000 LBS/SQ FT. SOIL. IF CONDITIONS ARE FOUND TO INDICATE SOIL BEARING IS LESS, THE AREAS SHALL BE INCREASED ACCORDINGLY.
2. AREAS FOR PIPES LARGER THAN 16" SHALL BE CALCULATED FOR EACH PROJECT.
3. FORM ALL NON–BEARING VERTICAL SURFACES.
4. THRUST BLOCKS ARE TO EXTEND TO UNDISTURBED GROUND. CONCRETE TO BE CLASS 'C', SECT. 725.

MINIMUM THRUST BLOCK AREA REQUIRED (YxW) (SQ. FT.)

PIPE SIZE	WATER PIPE	
	TEE, DEAD END, 90° BEND	45° & 22 1/2° BENDS
4" OR LESS	3	3
6"	4	3
8"	6	3
10"	10	5
12"	14	7
16"	24	12

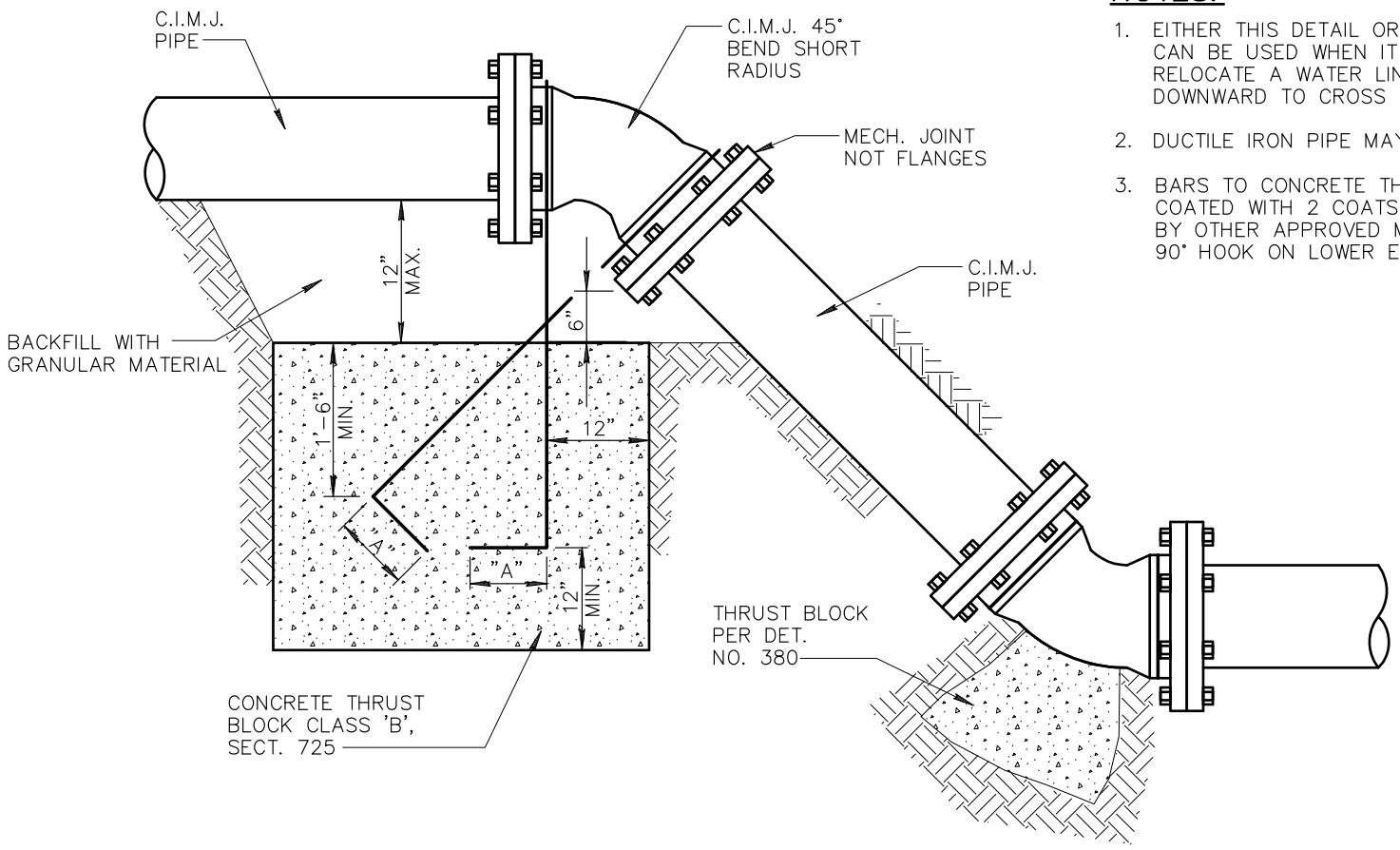
DETAIL NO.			REVISED	DETAIL NO.
380	MARICOPA ASSOCIATION of GOVERNMENTS STANDARD DETAIL ENGLISH	THRUST BLOCKS FOR WATER LINES	01–01–1998	380

PIPE SIZE	MIN BAR SIZE	"A"–DIMENSION HOOK	MIN. * BLOCK DIM.
6"	#6	6"	3' x 3' x 3'
8"	#6	9"	4' x 4' x 2.5'
12"	#8	9"	4' x 4' x 5'

* FOR 125 P.S.I. WORKING PRESSURE.

NOTES:

1. EITHER THIS DETAIL OR RESTRAINT RODS CAN BE USED WHEN IT IS ALLOWED TO RELOCATE A WATER LINE UPWARD OR DOWNWARD TO CROSS A CONFLICT.
2. DUCTILE IRON PIPE MAY BE USED.
3. BARS TO CONCRETE THRUST BLOCK TO BE COATED WITH 2 COATS COAL TAR, EPOXY OR BY OTHER APPROVED METHOD. BARS TO HAVE 90° HOOK ON LOWER END, AS PER TABLE.



DETAIL NO.			REVISED	DETAIL NO.
381	MARICOPA ASSOCIATION of GOVERNMENTS STANDARD DETAIL ENGLISH	ANCHOR BLOCKS FOR VERTICAL BENDS	01-01-1998	381