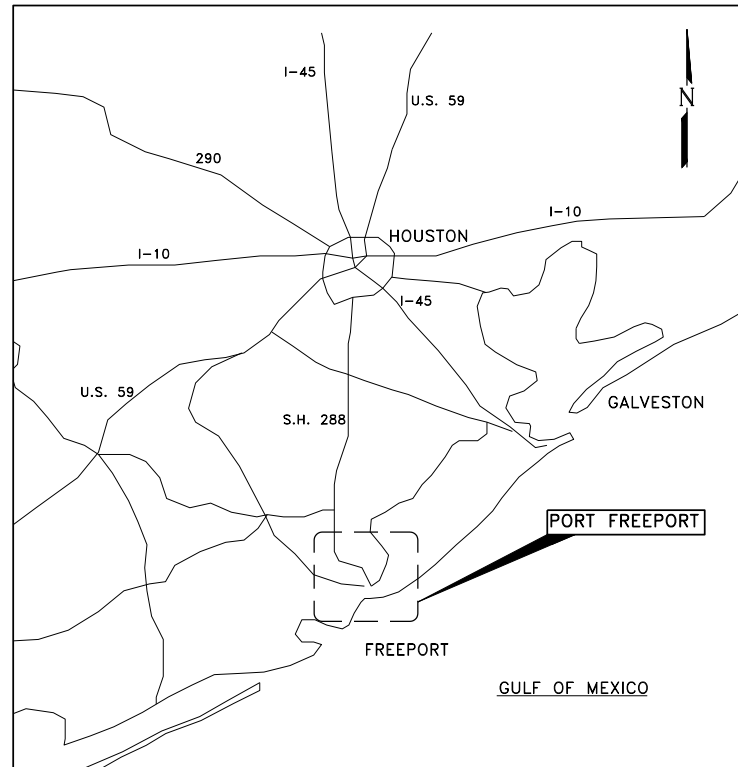


# PORT FREEPORT

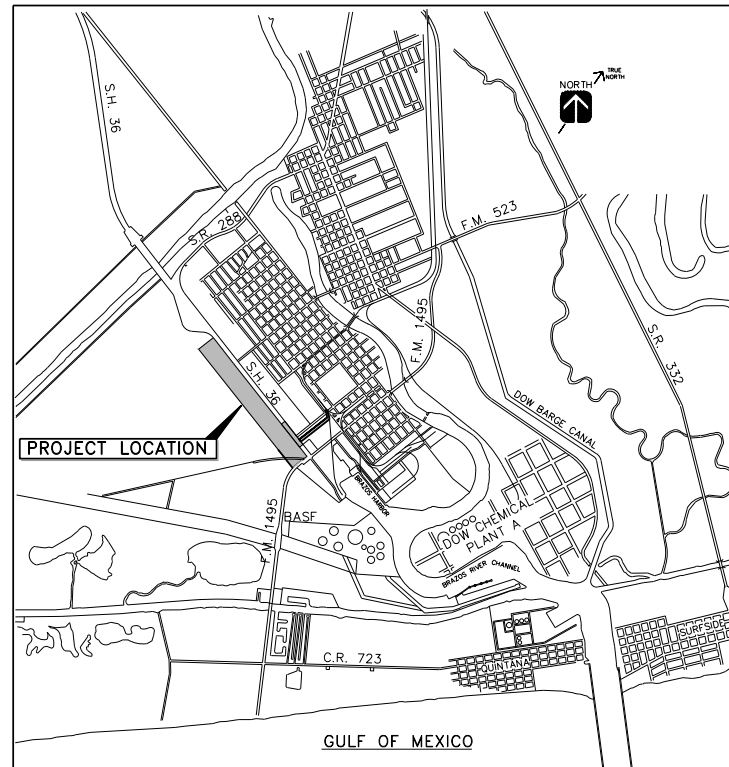
## DRAWINGS FOR

### PARCEL 14 RAIL EXPANSION

#### PROJECT NO. 22-03



VICINITY MAP



LOCATION MAP



FREEPORT, TEXAS

PORT FREEPORT

JULY 2022

PFT 22-290



9-26-2022

JOHN HOSS  
RUDY SANTOS  
DAN CROFT  
ROB GIESECKE  
RAVI K. SINGHANIA  
SHANE PIRTLE, PE  
PHYLLIS SAATHOFF, CPA

CHAIRMAN  
VICE-CHAIRMAN  
SECRETARY  
ASSISTANT SECRETARY  
COMMISSIONER  
COMMISSIONER  
EXECUTIVE DIRECTOR/CEO



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Pearland, Texas 77584  
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Fax - (832) 456-4701

Freese and Nichols, Inc.  
Texas Registered Engineering Firm F-2144

DATE: 9/21/2022 SAVE BY: DKS

REV. #	BY	DATE	DESCRIPTION

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Ex. Ind. Track	No RR Operations	Point of Curve
Prop. Ind. Track	Other Ind. Track	Bridge
Remove Ind. Track	Right of Way	Signal



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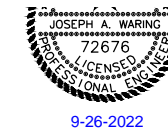


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DRAWN BY: DKS, EB	For use in Agreement with: <b>UNION PACIFIC RAILROAD</b> and <b>PORT FREEPORT</b>
CHECKED BY: BDB	LOCATION & DESCRIPTION: MILEPOST 1/4, FREEPORT IND LEAD FREEPORT, BRAZORA, TEXAS TRACKAGE TO SERVE: PORT FREEPORT
DATE: 9/21/22	
SHEET NUMBER: 1 OF 69	SHEET TITLE: COVER SHEET

DRAWING INDEX












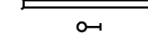


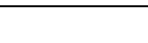





1	COVER SHEET
2	INDEX OF DRAWINGS
3	EXEMPTION TABLE
4-5	SCOPE OF WORK MATRIX
6-7	GENERAL NOTES
8	CONSTRUCTION ABBREVIATIONS AND LEGEND
9	PROJECT LOCATION MAP AND CONTROL POINTS
10	SW3P - TRACK 'A, B, C & D' STA. 23+50 TO STA. 35+50
11-12	SW3P - DETAILS
13	RAIL GEOMETRY LAYOUT (TRACK 'A, B, C & D') STA 0+00 TO STA 26+50
14	RAIL GEOMETRY LAYOUT (TRACK 'A, B, C & D') STA 26+50 TO STA 53+00
15	RAIL GEOMETRY LAYOUT (TRACK 'A, B, C & D') STA 53+50 TO STA 64+50
16	TYPICAL TRACK SECTIONS
17	TRACKS 'A, B, C & D' PLAN AND PROFILE STA. 0+00 TO STA. 11+75
18	TRACKS 'A, B, C & D' PLAN AND PROFILE STA. 11+75 TO STA. 23+50
19	TRACKS 'A, B, C & D' PLAN AND PROFILE STA. 23+50 TO STA. 35+50
20	TRACKS 'A, B, C & D' PLAN AND PROFILE STA. 35+50 TO STA. 47+50
21	TRACKS 'A, B, C & D' PLAN AND PROFILE STA. 47+50 TO STA. 59+50
22	TRACKS 'A, B, C & D' PLAN AND PROFILE STA 59+50 TO STA 64+34
23	FRENCH DRAIN DETAILS
24	SOUTH ACCESS ROAD TYPICAL SECTION
25-26	TXDOT STANDARD - CONTINUOUSLY REINFORCED CONCRETE PAVEMENT CRCP(1)-20
27	TXDOT STANDARD - CONCRETE PAVEMENT JUNCTURES
28-41	UNION PACIFIC RAILROAD ENGINEERING STANDARDS (13 SHEETS)
42-69	CROSS SECTIONS (27 SHEETS)

TOTAL NUMBER OF SHEETS: 69

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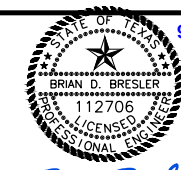
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DATE: 9/22/22	
SHEET NUMBER: 2 OF 69	SHEET TITLE: INDEX OF DRAWINGS

PORT FREEPORT INDUSTRIAL LEAD YARD EXPANSION - FES#47960

EXEMPTION TABLE

#	Drawing Type	Category	Standard Drawing #	Description of Exemption	Reason for Exemption	Sheet #	Track	STA
1	Dev Con	Other	None	None	None	None	None	None
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								

Notes:



9/23/2022

*Brian D. Bresler*

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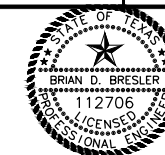


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SHEET NUMBER: 3 OF 69	SHEET TITLE: EXEMPTION TABLE

PARCEL 14 RAIL EXPANSION - FES# 47960

SCOPE OF WORK MATRIX

#	Item/Task	Detailed Description/Comments	Industry			Union Pacific Railroad			QTY EST	U/M	MFG	Drawing #	Track	Station(s)
			Supplied	Assemble	Install	Supply	Assemble	Install						
1	Track Removal	WEST END TRACK 805 REMOVAL FOR (4) TURNOUTS	X	X	X				718	TF		14 of 35	805	2+94 - 10+12
2	Ballast	TRACK 805 + TURNOUT #1	X	X	X				70	CY		14 of 35	805	2+94 - 4+84
3	Turnout - No. 09 LH HTTO	TURNOUT #1	X	X	X				1	EA		14 of 35	805	2+94 - 3+99
4	Rail & Ties	TRACK 805 - 115# on Metal Ties, Premium Fasteners	X	X	X				75	TF		14 of 35	805	2+94 - 4+84
5	Ballast	TRACK 805 + TURNOUT #2	X	X	X				70	CY		14 of 35	805	4+84 - 6+74
6	Turnout - No. 09 RH HTTO	TURNOUT #2	X	X	X				1	EA		14 of 35	805	4+84 - 5+89
7	Rail & Ties	TRACK 805 - 115# on Metal Ties, Premium Fasteners	X	X	X				75	TF		14 of 35	805	4+84 - 6+74
8	Ballast	TRACK 805 + TURNOUT #3	X	X	X				70	CY		14 of 35	805	6+74 - 8+64
9	Turnout - No. 09 RH HTTO	TURNOUT #3	X	X	X				1	EA		14 of 35	805	6+74 - 7+79
10	Rail & Ties	TRACK 805 - 115# on Metal Ties, Premium Fasteners	X	X	X				75	TF		14 of 35	805	6+74 - 8+64
11	Ballast	TRACK 805 + TURNOUT #4	X	X	X				70	CY		14 of 35	805	8+64 - 10+12
12	Turnout - No. 09 RH HTTO	TURNOUT #4	X	X	X				1	EA		14 of 35	805	8+64 - 8+69
13	Rail & Ties	TRACK 805 - 115# on Metal Ties, Premium Fasteners	X	X	X				75	TF		14 of 35	805	8+64 - 10+12
14	Track Removal	EAST END TRACK 805 REMOVAL FOR (3) TURNOUTS	X	X	X				528	TF		18 of 35	805	54+90 - 60+18
15	Ballast	TRACK 805 + TURNOUT #13	X	X	X				67	CY		18 of 35	805	54+90 - 56+38
16	Turnout - No. 09 LH HTTO	TURNOUT #13	X	X	X				1	EA		18 of 35	805	56+38 - 57+43
17	Rail & Ties	TRACK 805 - 115# on Metal Ties, Premium Fasteners	X	X	X				75	TF		18 of 35	805	56+38 - 58+28
18	Ballast	TRACK 805 + TURNOUT #14	X	X	X				67	CY		18 of 35	805	58+28 - 60+18
19	Turnout - No. 09 LH HTTO	TURNOUT #14	X	X	X				1	EA		18 of 35	805	58+28 - 59+33
20	Rail & Ties	TRACK 805 - 115# on Metal Ties, Premium Fasteners	X	X	X				75	TF		18 of 35	805	58+28 - 60+18
21	Ballast	TURNOUT #16	X	X	X				67	CY		19 of 35	805	60+18 - 61+23
22	Turnout - No. 09 RH HTTO	TURNOUT #16	X	X	X				1	EA		19 of 35	805	60+18 - 61+23
23	Rail & Ties	TRACK 'D' - 115# on Metal Ties, Premium Fasteners	X	X	X				3456	TF		14 of 35	D	0+00 - 34+56
24	Ballast	TRACK D + TURNOUT #12	X	X	X				1317	CY		17 of 35	D	0+00 - 34+56
25	Turnout - No. 09 LH HTTO	TURNOUT #12	X	X	X				1	EA		17 of 35	D	34+56 - 35+61
26	Rail & Ties	TRACK 'D' - 115# on Metal Ties, Premium Fasteners	X	X	X				2048	TF		17 of 35	D	34+56 - 55+04
27	Ballast	TRACK D + TURNOUT #15	X	X	X				196	CY		18 of 35	D	55+04 - 60+18
28	Turnout - No. 09 LH HTTO	TURNOUT #15	X	X	X				1	EA		18 of 35	D	55+04 - 56+09
29	Rail & Ties	TRACK D + TURNOUT #15 - 115# on Metal Ties, Premium Fasteners	X	X	X				514	TF		18 of 35	D	55+04 - 60+18
30	Rail & Ties	TRACK 'C' - 115# on Metal Ties, Premium Fasteners	X	X	X				2718	TF		14 of 35	C	0+00 - 27+18
31	Ballast	TRACK 'C' + TURNOUT #8	X	X	X				1036	CY		16 of 35	C	00+00 - 27+18
32	Turnout - No. 09 RH HTTO	TURNOUT #8	X	X	X				1	EA		16 of 35	C	27+18 - 28+23
33	Rail & Ties	TRACK 'C' - 115# on Metal Ties, Premium Fasteners	X	X	X				293	TF		16 of 35	C	27+18 - 30+11
34	Ballast	TRACK 'C'	X	X	X				115	CY		16 of 35	C	27+18 - 30+11



9/23/2022

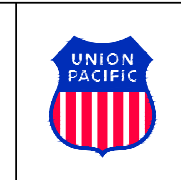
Bin D. Bush

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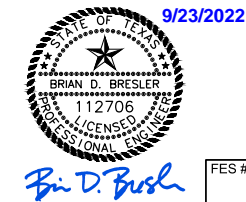
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SHEET NUMBER: 4 OF 69	

35	Turnout - No. 09 RH HTTO	TURNOUT #9	X	X	X				1	EA		16 of 35	C	30+11 - 31+16
36	Ballast	TRACK 'C'	X	X	X				105	CY		16 of 35	C	30+11 - 52+16
37	Rail & Ties	TRACK 'C' - 115# on Metal Ties, Premium Fasteners	X	X	X				2205	TF		16 of 35	C	30+11 - 52+16
38	Rail & Ties	TRACK 'B' - 115# on Metal Ties, Premium Fasteners	X	X	X				2124	TF		14 of 35	B	0+00 - 21+24
39	Ballast	TRACK 'B' + TURNOUT #6	X	X	X				810	CY		16 of 35	B	0+00 - 21+24
40	Turnout - No. 09 RH HTTO	TURNOUT #6	X	X	X				1	EA		16 of 35	B	21+24 - 22+29
41	Ballast	TRACK 'B' + TURNOUT #7	X	X	X				57	CY		16 of 35	B	21+24 - 22+73
42	Turnout - No. 09 RH HTTO	TURNOUT #7	X	X	X				1	EA		16 of 35	B	22+73 - 23+78
43	Rail & Ties	TRACK 'B' - 115# on Metal Ties, Premium Fasteners	X	X	X				149	TF		16 of 35	B	21+24 - 22+73
44	Ballast	TRACK 'B'	X	X	X				1095	CY		16 of 35	B	22+73 - 51+45
45	Rail & Ties	TRACK 'B' - 115# on Metal Ties, Premium Fasteners	X	X	X				2880	TF		16 of 35	B	22+73 - 51+45
46	Ballast	TRACK 'A' + TURNOUT #5	X	X	X				640	CY		16 of 35	A	0+00 - 16+79
47	Turnout - No. 09 RH HTTO	TURNOUT #5	X	X	X				1	EA		16 of 35	A	16+79 - 17+84
48	Rail & Ties	TRACK 'A' - 115# on Metal Ties, Premium Fasteners	X	X	X				1679	TF		16 of 35	A	00+00 - 16+79
49	Rail & Ties	TRACK 'A' - 115# on Metal Ties, Premium Fasteners	X	X	X				1588	TF		14 of 35	A	16+79 - 32+67
50	Ballast	TRACK 'A' + TURNOUT #11	X	X	X				605	CY		17 of 35	A	16+79 - 32+67
51	Turnout - No. 09 RH HTTO	TURNOUT #11	X	X	X				1	EA		17 of 35	A	32+67 - 33+72
52	Ballast	TRACK 'A'	X	X	X				572	CY		17 of 35	A	32+67 - 47+68
53	Rail & Ties	TRACK 'A' - 115# on Metal Ties, Premium Fasteners	X	X	X				1501	TF		17 of 35	A	32+67 - 47+68
54	Track Removal	TRACK 807 REMOVAL FOR TURNOUT #10	X	X	X				188	TF		17 of 35	807	24+45 - 26+33
55	Ballast	TRACK 807 + TURNOUT #10	X	X	X				72	CY		16 of 35	807	24+45 - 26+33
56	Turnout - No. 09 RH HTTO	TURNOUT #10	X	X	X				1	EA		16 of 35	807	26+33 - 27+38
57	Rail & Ties	TRACK 807 - 115# on Metal Ties, Premium Fasteners	X	X	X				83	TF		16 of 35	807	25+50 - 26+33
	<b>NOTE</b>	<b>NOTE DESCRIPTION</b>												

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SHEET NUMBER: 5 OF 69	SHEET TITLE: SCOPE OF MATRIX 02

**1. GENERAL NOTES**

- A. THE DRAWINGS ARE INTENDED SPECIFICALLY FOR RAIL IMPROVEMENTS ONLY AND DO NOT REPRESENT ALL EXISTING FACILITIES (BOTH ABOVE GROUND OR UNDERGROUND) LOCATED AT THIS SITE.
- B. CONTRACTOR SHALL PERFORM SITE VISITS AS REQUIRED TO COMPLETELY FAMILIARIZE HIMSELF WITH PROJECT PARAMETERS AND CONSTRAINTS.
- C. PRIOR TO THE COMMENCEMENT OF ANY WORK AT PROJECT SITE, CONTRACTOR SHALL VERIFY WITH PORT FREEPORT PROJECT ENGINEER THAT PROPOSED CONSTRUCTION METHODS WILL NOT INTERFERE OR IMPEDE DAILY ACTIVITY OF ANY PORT FREEPORT FACILITY LOCATED IN THIS SITE.
- D. CONTRACTORS SHALL VERIFY LOCATION AND DEPTH OF ANY UNDERGROUND UTILITIES LOCATED IN AREA OF PROPOSED EXCAVATION PRIOR TO THE COMMENCEMENT OF WORK.
- E. CONTRACTOR SHALL PLAN AND PERFORM HIS WORK IN A SAFE AND ORDERLY MANNER AND IN ACCORDANCE WITH STATE AND FEDERAL REQUIREMENTS.
- F. ALL CONSTRUCTION STAKING WILL BE PROVIDED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
- G. ANY RAILROAD TRACK REMOVAL AND REINSTALLATION SHALL BE DONE IN ACCORDANCE WITH UPRR STANDARDS.
- H. ADEQUATE DRAINAGE SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION AND ANY DRAINAGE DITCH OR STRUCTURE DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO THE SATISFACTION OF PORT FREEPORT.

**2. SEQUENCE OF CONSTRUCTION**

- A. THE CONTRACTOR SHALL COORDINATE HIS ACTIVITIES WITH PORT FREEPORT AND ENGINEER ASSIGNED SITE REPRESENTATIVE TO MINIMIZE CONFLICTS BETWEEN CONCURRENT SURROUNDING PROJECTS AND PORT RELATED ACTIVITIES.
- B. THE CONTRACTOR SHALL PROVIDE THE PORT FREEPORT AND ENGINEER A WORK ACTIVITY PLAN WHICH IDENTIFIES TASKS AND ASSOCIATED TIME DURATIONS. THIS PLAN MUST BE APPROVED BY THE PORT IN ITS ENTIRETY PRIOR TO CONTRACTOR COMMENCEMENT OF ANY ACTIVITY.

**3. MISCELLANEOUS**

- A. THE STORM WATER POLLUTION PREVENTION PLAN SHALL CONSIST OF USING STORM WATER ELEMENTS AS SHOWN IN THE PLANS AND DETAILS AND PER SW3P.
- B. CONTRACTOR TO COORDINATE EXISTING RAIL CLOSURES WITH VULCAN RAIL SHIPMENTS. SHIPMENTS ARE USUALLY ONCE A MONTH, WITH 1-2 DAY OFFLOADING REQUIRED.
- C. RUBBER FLANGE WAY PROTECTION SHOWN IN STD. DRAWING 0302 IS SUBSIDIARY TO THE PER T.F. PRICE IN THE BID.
- D. RIP RAP FOR USACE CHANNEL STABILIZATION PROJECT STORED ON NEW RAIL PLATFORM TO BE MOVED BY OTHERS PRIOR TO TRACK CONSTRUCTION

**4. UTILITIES**

- A. THE CONTRACTOR SHALL TAKE PRECAUTIONS TO PROTECT EXISTING UTILITIES. ALL PIPES AND UTILITIES DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED TO THE OWNER'S SATISFACTION AT THE CONTRACTOR'S EXPENSE.
- B. EXISTING UTILITIES ARE SHOWN APPROXIMATELY, BASED ON THE BEST AVAILABLE INFORMATION AT THE TIME. CONTRACTOR SHALL NOTIFY TEXAS ONE CALL AT (713) 223-4567 AT LEAST 48 HOURS BEFORE PROCEEDING WITH ANY EXCAVATION.
- C. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION AND/OR SAFETY OF THE WORK, WORKERS, SUBCONTRACTORS, MATERIALS AND/OR EQUIPMENT

**5. CONCRETE NOTES**

- A. ALL CONCRETE SHALL BE IN ACCORDANCE WITH ACI 318 AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 P.S.I. AT 28 DAYS, UNLESS NOTED OTHERWISE.
- B. ALL CONCRETE SHALL BE DESIGNED, MIXED, TRANSPORTED AND PLACED IN ACCORDANCE WITH THE LATEST SPECIFICATIONS OF THE AMERICAN CONCRETE INSTITUTE (ACI 315) & (ACI 318).
- C. MAXIMUM SIZE OF COARSE AGGREGATE SHALL BE 1-1/2" AND FINE AGGREGATE SHALL BE CLEAN WITHOUT ANY CLAY PARTICLES.
- D. ALL CONCRETE SHALL BE AIR ENTRAINED, CONFORMING TO ASTM C-260 MINIMUM AIR CONTENT, 6%. ANY OTHER ADDITIVES SHALL BE SUBJECT TO PRIOR APPROVAL BY THE ENGINEER.
- E. REINFORCEMENT: ASTM A 615, GRADE 60, DEFORMED.
- F. LAPS AND SPLICES: MINIMUM 30 BAR DIAMETERS OF LARGER DIAMETER BAR. STAGGER ADJACENT BAR SPLICES MIN. 24".
- G. REINFORCEMENT SHALL BE SECURELY SUPPORTED TO PREVENT BOTH VERTICAL AND HORIZONTAL MOVEMENT DURING PLACING OF CONCRETE.

- H. ALL REBAR MUST HAVE A MINIMUM OF 3" COVER.
- I. EXCEPT AS OTHERWISE REQUIRED, ALL EXPOSED CONCRETE CORNERS AND EDGES SHALL HAVE 3/4" CHAMFERS.

**7. PAVING**

- A. CONCRETE AND ASPHALT PAVING MATERIALS AND PROCEDURES SHALL BE IN CONFORMANCE WITH THE SOILS REPORT, PROJECT SPECIFICATIONS, AND DETAILS IN PLANS.
- B. SUBGRADE SHALL BE PREPARED IN CONFORMANCE WITH SOILS REPORT AND DETAILS IN PLAN.
- C. ALL FINISHED GRADES SHALL VARY UNIFORMLY BETWEEN FINISHED ELEVATIONS.
- D. GUIDELINES SET FORTH IN THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" SHALL BE OBSERVED.

**SHOP DRAWINGS**

- A. ALL SHOP DRAWINGS MUST BE REVIEWED AND SEALED BY THE GENERAL CONTRACTOR PRIOR TO SUBMITTAL.
- B. THE OMISSION FROM THE SHOP DRAWINGS OF ANY MATERIAL REQUIRED BY THE CONTRACT DOCUMENTS TO BE FURNISHED SHALL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF FURNISHING AND INSTALLING SUCH MATERIALS, REGARDLESS OF WHETHER THE SHOP DRAWINGS HAVE BEEN REVIEWED AND APPROVED.

**UPRR GENERAL NOTES**





















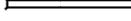
1. CONTRACTORS SHALL NOTIFY SERVICE ALERT, (800) 642-2444 AND UPRR FIBER OPTICS HOTLINE (800) 336-9193, 48 HOURS PRIOR TO ANY EXCAVATION. THE USA AUTHORIZATION NUMBERS SHALL BE KEPT AT THE JOB SITE.
2. NO WORK WHATSOEVER SHALL BE COMMENCED WITHOUT FIRST NOTIFYING THE UPRR ENGINEER.
3. THE CONTRACTOR 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 UPGRADE. FOR ANY EXISTING CULVERTS, PER UPRR STANDARD, MARK TIES WITH BLUE PAINT THAT ARE OVER CULVERTS.
8. CONTRACTOR SHALL VERIFY LOCATIONS AND ELEVATIONS OF EXISTING UTILITIES WHETHER KNOWN OR UNKNOWN PRIOR TO BEGINNING CONSTRUCTION.
9. ANY EXISTING CONDITIONS FOUND TO BE IN VARIANCE WITH THESE DRAWINGS MUST BE IMMEDIATELY REPORTED TO THE ENGINEER.
10. CONTRACTOR SHALL MAINTAIN AND CLEAN TO THE SATISFACTION OF THE ENGINEER, ALL ACCESS AND SERVICE ROADS USED DURING CONSTRUCTION.
11. 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.
12. CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS FOR ALL IMPROVEMENTS.
13. NO FIELD CHANGES WILL BE PERMITTED WITHOUT DIRECT WRITTEN AUTHORIZATION FROM THE PORT FREEPORT OR HIS REPRESENTATIVE.
14. 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.
15. 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.
16. RIGHT-OF-WAY LINES SHOWN ON THE PLANS WERE TAKEN FROM EXISTING UPRR RIGHT-OF-WAY MAP AND ARE APPROXIMATE.
17. MATCH LINES FOR SHEETS ARE BASED ON THE EXISTING MAIN LINE STATIONING UNLESS OTHERWISE SPECIFIED.
18. CONTRACTOR SHALL COMPLY WITH ALL TEXAS AND CITY STANDARD SPECIFICATIONS FOR CONSTRUCTION OF PUBLIC IMPROVEMENTS REQUIREMENTS. CITY STANDARD SPECIFICATIONS SHALL PREVAIL.
19. ALL NEW RAILROAD TRACK AND ASSOCIATED APPURTENANCES SHALL CONFORM TO UPRR STANDARDS.
20. ALL CONSTRUCTION/INSTALLATION OF NEW RAILROAD TRACK AND ASSOCIATED APPURTENANCES SHALL CONFORM TO UPRR STANDARDS.
21. PRIOR TO BEGINNING CONSTRUCTION AND INDEPENDENT OF ANY PORT OF FREEPORT PRE-CONSTRUCTION MEETING, AN ADDITIONAL ON-SITE PRE-CONSTRUCTION MEETING SHALL BE SCHEDULED AND CONDUCTED WITH UP CONSTRUCTION REPRESENTATIVE DAVE STUCKS (870) 783-0094




9-26-2022

DATE: 9/21/2022 SAVE BY: DKS


REV. #	BY	DATE	DESCRIPTION

 Ex. UPRR Track	 Shift Ind. Track	 Hand Throw Turnout
 Prop. UPRR Track	 Future Ind. Track	 Power Turnout
 Remove UPRR Track	 Prop. Leased Ind. Trk	 Power Derail
 Shift UPRR Track	 Ex. Leased Ind. Trk	 Hand Throw Derail
 Ex. Ind. Track	 No RR Operations	 Point of Curve
 Prop. Ind. Track	 Other Ind. Track	 Bridge
 Remove Ind. Track	 Right of Way	 Signal



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Freese and Nichols, Inc.  
Texas Registered Engineering Firm F-2144



FES #: 47960	DOCUMENT TYPE: ISSUED FOR BID
DRAWN BY: DKS, EB	For use in Agreement with: <b>UNION PACIFIC RAILROAD</b>  <b>PORT FREEPORT</b>
CHECKED BY: BDB	LOCATION & DESCRIPTION: MILEPOST 1/4, FREEPORT IND LEAD FREEPORT, BRAZORA, TEXAS TRACKAGE TO SERVE: PORT FREEPORT
DATE: 9/21/22	
SHEET NUMBER: 6 OF 69	SHEET TITLE: GENERAL NOTES 01

**PIPELINE CONTACT INFORMATION:**

- EXXONMOBIL PIPELINE CO. – DEPARTMENT OF ENERGY GAS PIPELINE  
TOMMY LUXTON – FACILITIES MANAGER – (713) 253-8006
- EMS USA, INC. – SHELTEX PIPELINE  
RICHARD VASQUEZ – PROJECT MANAGER – (832) 245-4967
- CHEVRON PIPELINE CO. – HVL PRODUCTS PIPELINE  
CHRIS MARTIN – FACILITIES OPERATOR – (832) 418-5220
- ENTERPRISE PRODUCTS L.P. – CRUDE PIPELINES  
CHRIS YORGENSEN – PIPELINE OPERATIONS SUPERVISOR – (979) 230-7308
- PHILLIPS 66 PETROLEUM CO. – CRUDE PIPELINES  
JESS TUFTS – OPERATIONS ENGINEER – (832) 904-4851
- CENTERPOINT ELECTRIC – TRANSMISSION LINES  
TRAVIS DRABEK – TRANSMISSION ENGINEER – (713) 207-6480
- CENTERPOINT ELECTRIC – DISTRIBUTION LINES  
DAVID RUBIO – DISTRIBUTION ENGINEER – (281) 229-1361

**CENTERPOINT ENERGY NOTES**

**CAUTION: UNDERGROUND GAS FACILITIES:**

LOCATIONS OF CENTERPOINT ENERGY MAIN LINES (TO INCLUDE CENTERPOINT ENERGY, INTRASTATE PIPELINE, LLC. WHERE APPLICABLE) ARE SHOWN IN AN APPROXIMATE LOCATION ONLY. SERVICE LINES ARE USUALLY NOT SHOWN. OUR SIGNATURE ON THESE PLANS ONLY INDICATES THAT OUR FACILITIES ARE SHOWN IN APPROXIMATE LOCATION. IT DOES NOT IMPLY THAT A CONFLICT ANALYSIS HAS BEEN MADE. THE CONTRACTOR SHALL CONTACT THE UTILITY COORDINATING COMMITTEE AT 1-800-545-6005 OR 811, A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION TO HAVE MAIN SERVICE LINES FIELD LOCATED.

- WHEN CENTERPOINT ENERGY PIPELINE MARKINGS ARE NOT VISIBLE, CALL (713) 945-8036 OR (713) 945-8037. (7:00AM TO 4:30PM) FOR STATUS OF LINE LOCATION REQUEST BEFORE EXCAVATION BEGINS.
- WHEN EXCAVATING WITHIN EIGHTEEN INCHES (18”) OF THE INDICATED LOCATION OF CENTERPOINT ENERGY FACILITIES, ALL EXCAVATION MUST BE ACCOMPLISHED USING NON-MECHANIZED EXCAVATION PROCEDURES.
- WHEN CENTERPOINT ENERGY FACILITIES ARE EXPOSED, SUFFICIENT SUPPORT MUST BE PROVIDED TO THE FACILITIES TO PREVENT EXCESSIVE STRESS ON THE PIPING.
- FOR EMERGENCIES REGARDING GAS LINES CALL (713) 659-3552 OR (713) 207-4200

THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY DAMAGES CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE THESE UNDERGROUND FACILITIES.

**CAUTION: OVERHEAD ELECTRICAL LINE:**

OVERHEAD LINES MAY EXIST ON THE PROPERTY. THE LOCATION OF OVERHEAD LINES HAS NOT BEEN SHOWN ON THESE DRAWINGS AS THE LINES ARE CLEARLY VISIBLE, BUT YOU SHOULD LOCATE THEM PRIOR TO BEGINNING ANY CONSTRUCTION. TEXAS LAW, SECTION 752, HEALTH & SAFETY CODE FORBIDS ACTIVITIES THAT OCCUR IN CLOSE PROXIMITY TO HIGH VOLTAGE LINES, SPECIFICALLY:

- ANY ACTIVITY WHERE PERSON OR THINGS MAY COME WITHIN SIX(6) FEET OF LIVE OVERHEAD HIGH VOLTAGE LINES: AND
- OPERATING A CRANE, DERRICK, POWER SHOVEL, DRILLING RIG, PILE DRIVER, HOISTING EQUIPMENT, OR SIMILAR APPARATUS WITHIN 10 FEET OF LIVE OVERHEAD HIGH VOLTAGE LINES.

PARTIES RESPONSIBLE FOR THE WORK, INCLUDING CONTRACTORS ARE LEGALLY RESPONSIBLE FOR THE SAFETY OF CONSTRUCTION WORKERS UNDER THIS LAW. THIS LAW CARRIES BOTH CRIMINAL AND CIVIL LIABILITY. TO ARRANGE FOR LINES TO BE TURNED OFF OR REMOVED, CALL CENTERPOINT ENERGY AT (713) 207-2222.

**PIPELINE NOTE:**

CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL EXIST. PIPELINES PRIOR TO CONSTRUCTION OF PROPOSED IMPROVEMENTS.

DATE: 9/21/2022 SAVE BY: DKS

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Ex. Ind. Track	No RR Operations	Point of Curve
Prop. Ind. Track	Other Ind. Track	Bridge
Remove Ind. Track	Right of Way	Signal

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DATE: 9/21/22	SHEET TITLE: GENERAL NOTES 02
SHEET NUMBER: 7 OF 69	

### 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	Drugging Equipment Detector
DTC	Direct Traffic Control
ELTO	Electric Lock Turnout
HBD	Hot Box Detector
HTTO	Hand Throw Turnout
HWD	High Wide Detector
POTO	Power Operated Turnout
TWC	Track Warrant Control
WILD	Wheel Impact Load Detector

#### 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
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

### UTILITIES

— AIR —	Compressed Air
— F/O —	Fiber Optic Cable
— G —	Gas Pipeline
— OHP —	Overhead Power Line
— SS —	Sanitary Sewer
— OS —	Overhead Signal Line
— S —	Steam Line
— SS —	Storm Sewer
— T —	Telephone
— UGE —	Underground Electric
— W —	Water Main
— W —	Underground Wire
• V.	Valve
• M.H.	Manhole
• C.B.	Catch Basin
• F.H.	Fire Hydrant

### TRACK

—	Existing Mainline
—	Existing Siding, Spur or UPRR Owned Industry
—	Proposed Mainline
—	Proposed Siding, Spur or UPRR Owned Industry
- - - - -	Remove Mainline
- - - - -	Shift Mainline
—	No RR Operations
—	Existing Industry Owned
—	Proposed Industry Owned
—	Remove Industry Owned
—	Shift Industry Owned
—	Future Industry Track
—	Prop. Leased Ind. Track
—	Exist. Leased Ind. Track
—	Other Industry Track
—	In Buildings or Under Structures
—	Turnout
—	Bumping Post
—	Earthen Bumper
—	Derail
—	Switch Point Derail or 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
—	Foreign Right of Way

### SYMBOLS

#### 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

#### STRUCTURES

—	Culvert
—	Culvert with Headwalls
—	Double Culvert
—	Railroad Bridge
—	Highway Overpass
—	Highway Underpass
—	Tunnel
—	Building

#### LIGHTING

⊗	Light Pole
⊗	Light Tower

#### CONSTRUCTION

—	Note (Work by Contractor)
—	Note (Work by Others)
—	Cut Lines
—	Fill Lines

### SIGNS

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

### FENCES

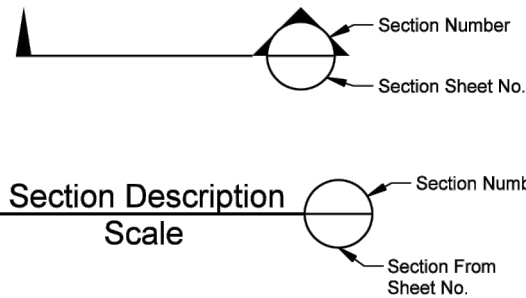
— X — X —	Barbed Wire
— // —	Chain Link
—	Snow / Sand

### ROADS

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

### OTHER

—	Wetlands
—	River or Lake
—	Embankment
—	Flow Line
—	Milepost
—	Milemarker
—	Control Point
—	Revision Number
—	Revision Cloud



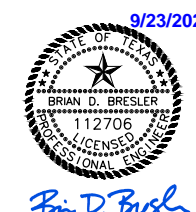
DATE: 9/21/2022 SAVE BY:DKS

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—	Ex. Ind. Track	—	No RR Operations	—	Point of Curve
—	Prop. Ind. Track	—	Other Ind. Track	—	Bridge
—	Remove Ind. Track	—	Right of Way	—	Signal

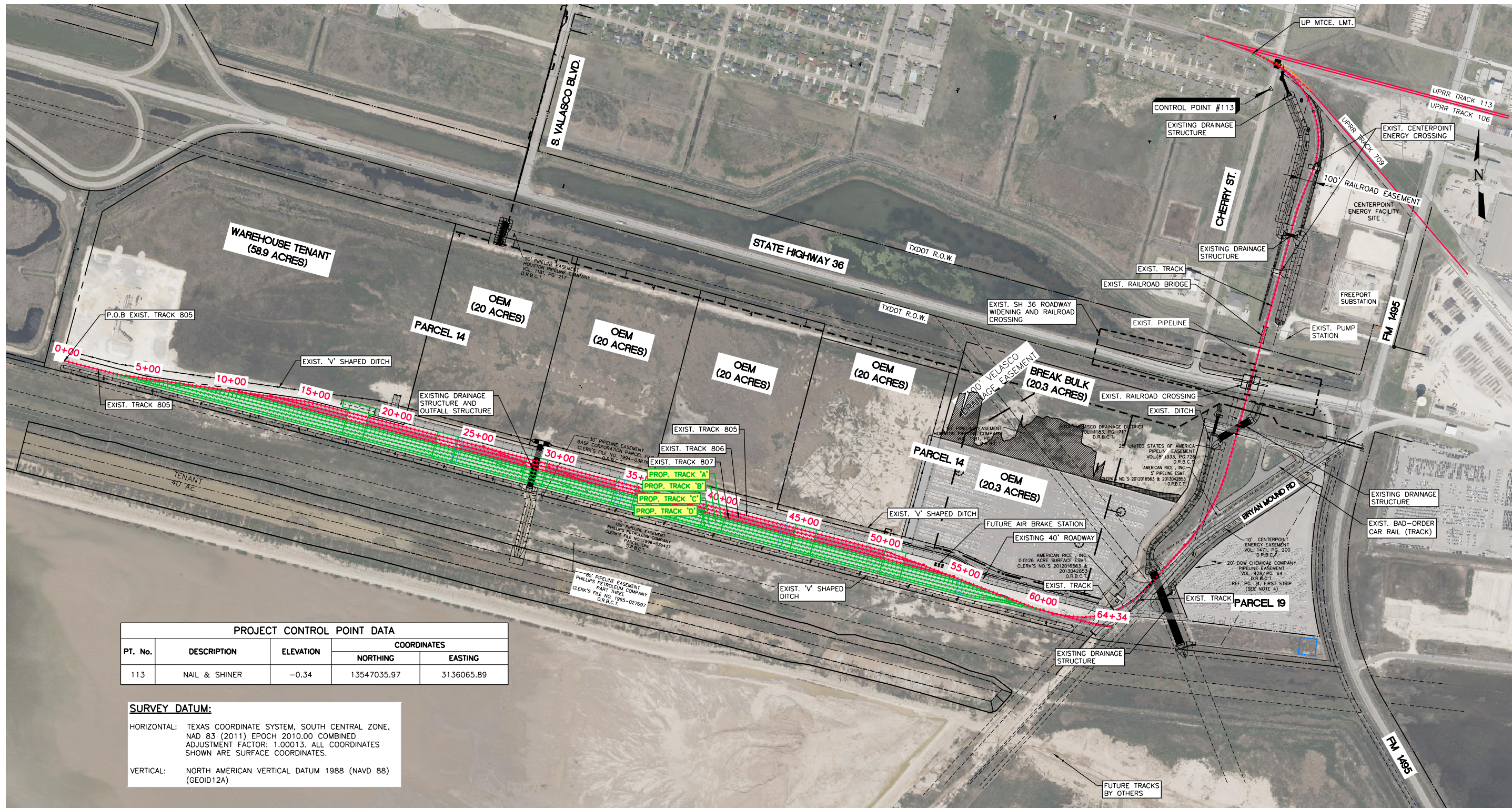


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DATE:	9/21/22	SHEET TITLE: CONSTRUCTION ABBREVIATIONS & LEGEND	
SHEET NUMBER:	8 OF 69		



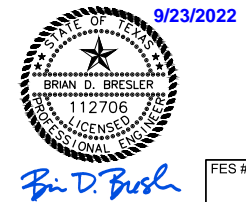
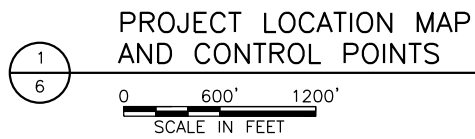
*Brian D. Bresler*





PROJECT CONTROL POINT DATA				
PT. No.	DESCRIPTION	ELEVATION	COORDINATES	
			NORTHING	EASTING
113	NAIL & SHINER	-0.34	13547035.97	3136065.89

**SURVEY DATUM:**  
 HORIZONTAL: TEXAS COORDINATE SYSTEM, SOUTH CENTRAL ZONE, NAD 83 (2011) EPOCH 2010.00 COMBINED ADJUSTMENT FACTOR: 1.00013. ALL COORDINATES SHOWN ARE SURFACE COORDINATES.  
 VERTICAL: NORTH AMERICAN VERTICAL DATUM 1988 (NAVD 88) (GEOID12A)



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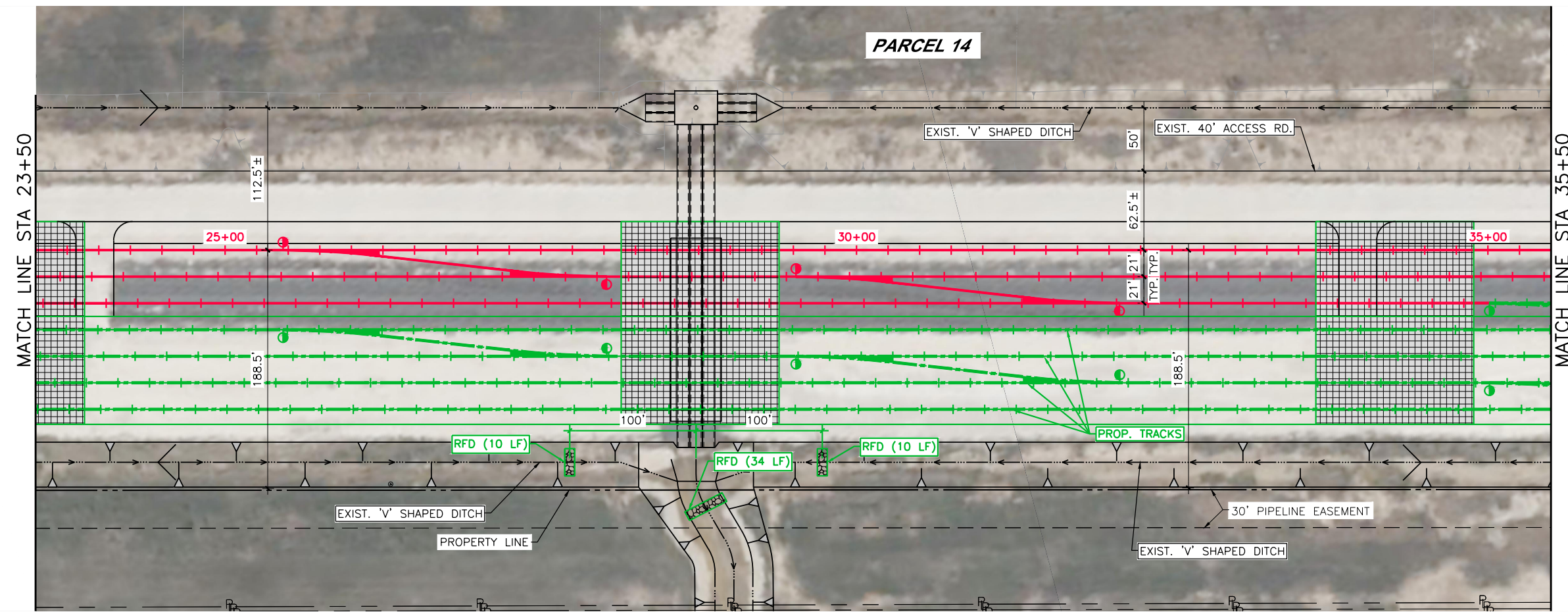
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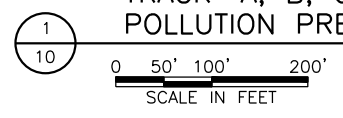
**UNION PACIFIC**

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DATE: 9/21/22	SHEET TITLE: PROJECT LOCATION MAP AND CONTROL POINTS
SHEET NUMBER: 9 OF 69	

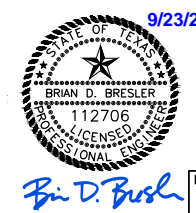


**LEGEND:**

 PROP. ROCK FILTER DAM (RFD)























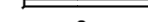
**TRACK 'A, B, C & D' - STORM WATER POLLUTION PREVENTION PLAN**



9/23/2022

DATE: 9/21/2022 SAVE BY: DKS


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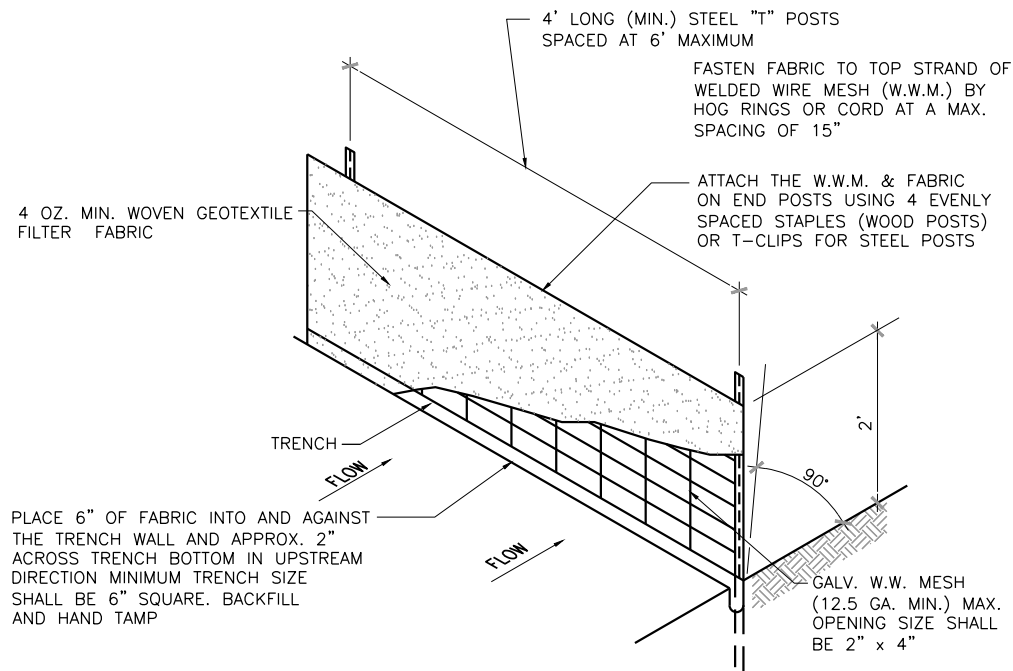
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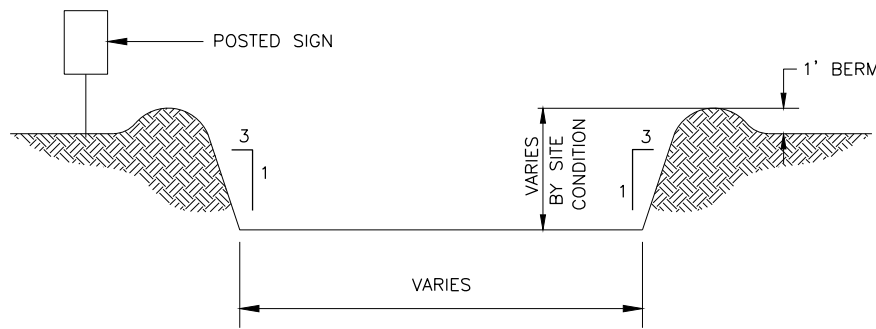
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DATE: 9/21/22	SHEET TITLE: SW3P - TRACK 'A, B, C & D' STA. 23+50 TO STA. 35+50
SHEET NUMBER 10 OF 69	



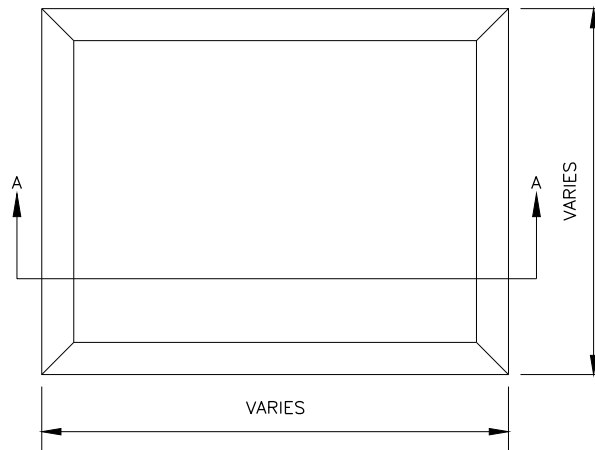
**SILT FENCE DETAIL (TYPE 1)**

**NOTE:**  
REFER TO STANDARD SPECIFICATION SECTION 031420 "SILT FENCE"

SYMBOL:



**SECTION A-A**  
N.T.S.

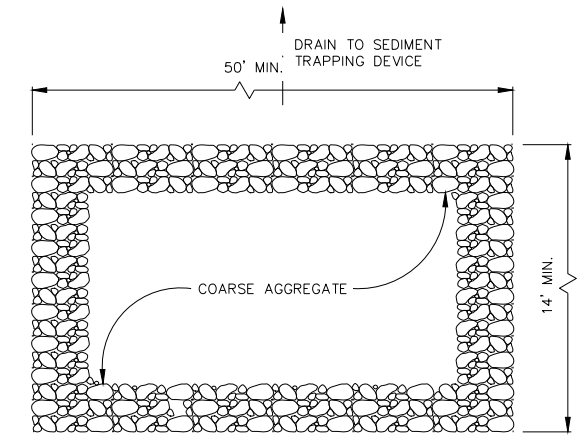


**PLAN VIEW**  
N.T.S.

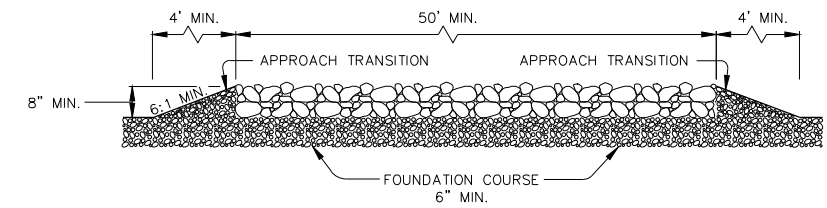
**TRUCK WASHOUT AREA GENERAL NOTES:**

1. POST A SIGN (24"x30") READING "CONCRETE WASH OUT PIT" NEXT TO THE PIT.
2. INSTRUCT THE CONCRETE TRUCK DRIVERS WHERE THE PIT IS AND TO WASH OUT THEIR TRUCKS IN THE PIT AND NO WHERE ELSE.
3. UPON THE CONCRETE SETTING UP (CURING, DRYING OUT), THE CONCRETE WASTE SHALL BE REMOVED FROM THE PROJECT SITE AND DISPOSED OF PROPERLY BY THE CONTRACTOR. AFTER REMOVAL OF THE CONCRETE WASTE, THE WASH OUT PIT SHALL BE FILLED WITH CLEAN FILL MATERIAL AND COMPACTED TO IN-SITU CONDITIONS, OR AS DIRECTED BY THE PROJECT SPECIFICATIONS.
4. CONCRETE WASH OUT PITS SHALL NOT BE LOCATED DIRECTLY ADJACENT TO, NOR AT ANY TIME DRAIN INTO THE STORM SEWER SYSTEM OR ANY OTHER SWALE, DITCH, OR WATERWAY.
5. CONSTRUCT ENTRY ROAD AND BOTTOM OF WASHOUT AREA TO SUPPORT EXPECTED LOADINGS FROM TRUCKS EQUIPMENT.

**CONCRETE TRUCK WASHOUT AREA**



**PLAN**



**PROFILE**

**CONSTRUCTION ENTRANCE/EXIT (TYPE 1)**

(7 REQUIRED - LOCATION AS DIRECTED BY ENGINEER)

**CONSTRUCTION EXIT GENERAL NOTES:**

1. THE LENGTH OF THE TYPE 1 CONSTRUCTION EXIT SHALL BE AS INDICATED ON THE PLANS, BUT NOT LESS THAN 50'.
2. THE COARSE AGGREGATE SHOULD BE OPEN GRADED WITH A SIZE OF 4" TO 8".
3. THE APPROACH TRANSITIONS SHOULD BE NO STEEPER THAN 6:1 AND CONSTRUCTED AS DIRECTED BY THE ENGINEER.
4. THE CONSTRUCTION EXIT FOUNDATION COURSE SHALL BE FLEXIBLE BASE, BITUMINOUS CONCRETE, PORTLAND CEMENT CONCRETE OR OTHER MATERIAL AS APPROVED BY THE ENGINEER.
5. THE CONSTRUCTION EXIT SHALL BE GRADED TO ALLOW DRAINAGE TO A SEDIMENT TRAPPING DEVICE.
6. THE GUIDELINES SHOWN HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.

**SILT FENCE GENERAL NOTES:**

1. STEEL POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POSTS MUST BE EMBEDDED A MINIMUM OF ONE FOOT.
2. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. WHERE FENCE CANNOT BE TRENCHED IN (e.g. PAVEMENT), WEIGHT FABRIC FLAP WITH ROCK ON UPHILL SIDE TO PREVENT FLOW FROM SEEPING UNDER FENCE.
3. THE TRENCH MUST BE A MINIMUM OF 6 INCHES DEEP AND 6 INCHES WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.
4. SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE, WHICH IN TURN IS ATTACHED TO THE STEEL FENCE POST. THERE SHALL BE A 3 FOOT OVERLAP, SECURELY FASTENED WHERE ENDS OF FABRIC MEET.
5. INSPECTION SHALL BE MADE EVERY TWO WEEKS AND AFTER EACH 1/2" RAINFALL. REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
6. SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
7. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF HALF THE HEIGHT OF THE FENCE. THE SILT SHALL BE DISPOSED OF AT AN APPROVED SITE AND IN SUCH A MANNER AS TO NOT CONTRIBUTE TO ADDITIONAL SILTATION.

DATE: 9/21/2022 SAVE BY: DKS

REV. #	BY	DATE	DESCRIPTION

Ex. UPRR Track	Shift Ind. Track	Hand Throw Turnout
Prop. UPRR Track	Future Ind. Track	Power Turnout
Remove UPRR Track	Prop. Leased Ind. Trk	Power Derail
Shift UPRR Track	Ex. Leased Ind. Trk	Hand Throw Derail
Ex. Ind. Track	No RR Operations	Point of Curve
Prop. Ind. Track	Other Ind. Track	Bridge
Remove Ind. Track	Right of Way	Signal

Hand Throw Turnout	Power Turnout	Power Derail
Hand Throw Derail	Point of Curve	Bridge
Signal		

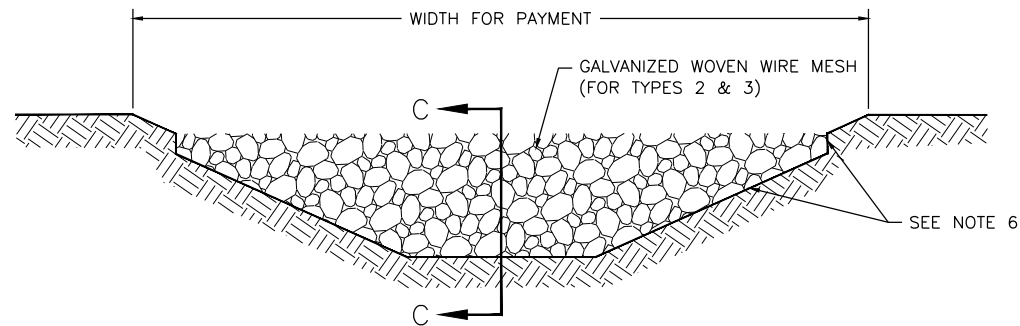
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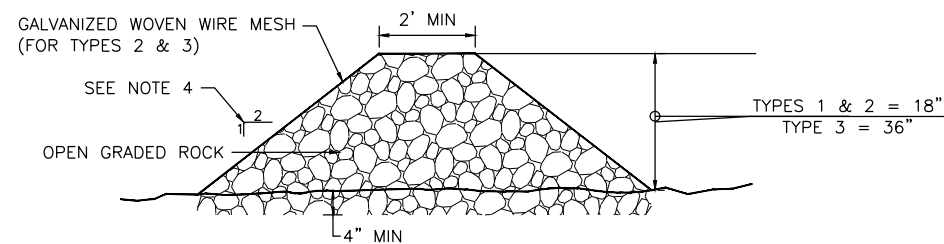
*Brian D. Bresler*



FES #: 47960	DOCUMENT TYPE: ISSUED FOR BID
DRAWN BY: DKS, EB	For use in Agreement with: <b>UNION PACIFIC RAILROAD</b>
CHECKED BY: BDB	LOCATION & DESCRIPTION: MILEPOST 1/4, FREEPORT IND LEAD FREEPORT, BRAZORA, TEXAS TRACKAGE TO SERVE: PORT FREEPORT
DATE: 9/21/22	
SHEET NUMBER 11 OF 69	SHEET TITLE: SW3P - DETAILS 1



**FILTER DAM AT CHANNEL SECTIONS**



**SECTION C-C**

**ROCK FILTER DAM USAGE GUIDELINES**

ROCK FILTER DAMS SHOULD BE CONSTRUCTED DOWNSTREAM FROM DISTURBED AREAS TO INTERCEPT SEDIMENT FROM OVERLAND RUNOFF AND/OR CONCENTRATED FLOW. THE DAMS SHOULD BE SIZED TO FILTER A MAXIMUM FLOW THROUGH RATE OF 60 GPM/FT<sup>2</sup> OF CROSS SECTIONAL AREA. A TWO YEAR STORM FREQUENCY MAY BE USED TO CALCULATE THE FLOW RATE.

**TYPE 1 (18" HIGH WITH NO WIRE MESH):** TYPE 1 MAY BE USED AT THE TOE OF SLOPES, AROUND INLETS, IN SMALL DITCHES, AND AT DIKE OR SWALE OUTLETS. THIS TYPE OF DAM IS RECOMMENDED TO CONTROL EROSION FROM A DRAINAGE AREA OF 5 ACRES OR LESS. TYPE 1 MAY NOT BE USED IN CONCENTRATED HIGH VELOCITY FLOWS (APPROX. 8 FT/SEC OR MORE) IN WHICH AGGREGATE WASH OUT MAY OCCUR. SANDBAGS MAY BE USED AT THE EMBEDDED FOUNDATION (4" DEEP MIN) FOR BETTER FILTERING EFFICIENCY OF LOW FLOWS IF CALLED FOR ON THE PLANS OR DIRECTED BY THE ENGINEER.

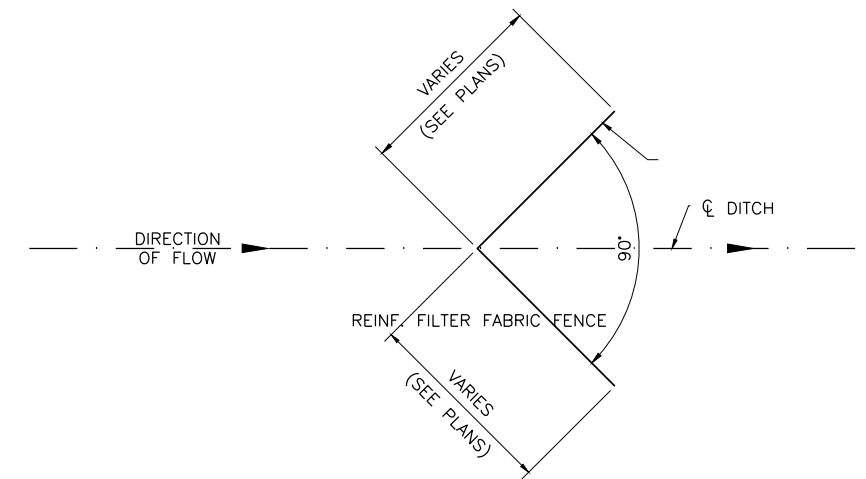
**TYPE 2 (18" HIGH WITH WIRE MESH):** TYPE 2 MAY BE USED IN DITCHES AND AT DIKE OR SWALE OUTLETS.

**TYPE 3 (36" HIGH WITH WIRE MESH):** TYPE 3 MAY BE USED IN STREAM FLOW AND SHOULD BE SECURED TO THE STREAM BED.

**TYPE 4 (SACK GABIONS):** TYPE 4 MAY BE USED IN DITCHES AND SMALLER CHANNELS TO FORM AN EROSION CONTROL DAM.

**ROCK FILTER DAM GENERAL NOTES:**

- IF SHOWN ON THE PLANS OR DIRECTED BY THE ENGINEER, FILTER DAMS SHOULD BE PLACED NEAR THE TOE OF SLOPES WHERE EROSION IS ANTICIPATED, UPSTREAM AND/OR DOWNSTREAM AT DRAINAGE STRUCTURES, AND IN ROADWAY DITCHES AND CHANNELS TO COLLECT SEDIMENT.
- MATERIALS (AGGREGATE, WIRE MESH, SANDBAGS, ETC.) SHALL BE AS INDICATED BY THE SPECIFICATION FOR "ROCK FILTER DAMS FOR EROSION AND SEDIMENTATION CONTROL".
- THE ROCK FILTER DAM DIMENSIONS SHALL BE AS INDICATED IN SW3P PLANS.
- SIDE SLOPES SHOULD BE 2:1 OR FLATTER. DAMS WITHIN THE SAFETY ZONE SHALL HAVE SIDESLOPES OF 6:1 OR FLATTER.
- MAINTAIN A MINIMUM OF 1' BETWEEN TOP OF ROCK FILTER DAM WEIR AND TOP OF EMBANKMENT FOR FILTER DAMS AT SEDIMENT TRAPS.
- FILTER DAMS SHOULD BE EMBEDDED A MINIMUM OF 4" INTO EXISTING GROUND.
- THE SEDIMENT TRAP FOR PONDING OF SEDIMENT LADEN RUNOFF SHALL BE OF THE DIMENSIONS SHOWN ON THE PLANS.
- ROCK FILTER DAM TYPES 2 7 3 SHALL BE SECURED WITH 20 GAUGE GALVANIZED WOVEN WIRE MESH WITH 1" DIAMETER HEXAGONAL OPENINGS. THE AGGREGATE SHALL BE PLACED ON THE MESH TO THE HEIGHT AND SLOPES SPECIFIED. THE MESH SHALL BE FOLDED AT THE UPSTREAM SIDE OVER THE AGGREGATE AND TIGHTLY SECURED TO ITSELF ON THE DOWNSTREAM SIDE USING WIRE TIES OR HOG RINGS. IN STREAM USE THE MESH SHOULD BE SECURED OR STAKED TO THE STREAM BED PRIOR TO AGGREGATE PLACEMENT.
- SACK GABIONS SHOULD BE STACKED DOWN WITH 3/4" DIA. REBAR STAKES.
- FLOW OUTLET SHOULD BE ONTO A STABILIZED AREA (VEGETATION, ROCK, ETC.).
- THE GUIDELINES SHOWN HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.
- CONTRACTOR SHALL REMOVE ROCK FILTER DAM PRIOR TO FINAL ACCEPTANCE



**SILT FENCE DETAIL (TYPE 2)**



*Brian D. Bresler*

9/23/2022

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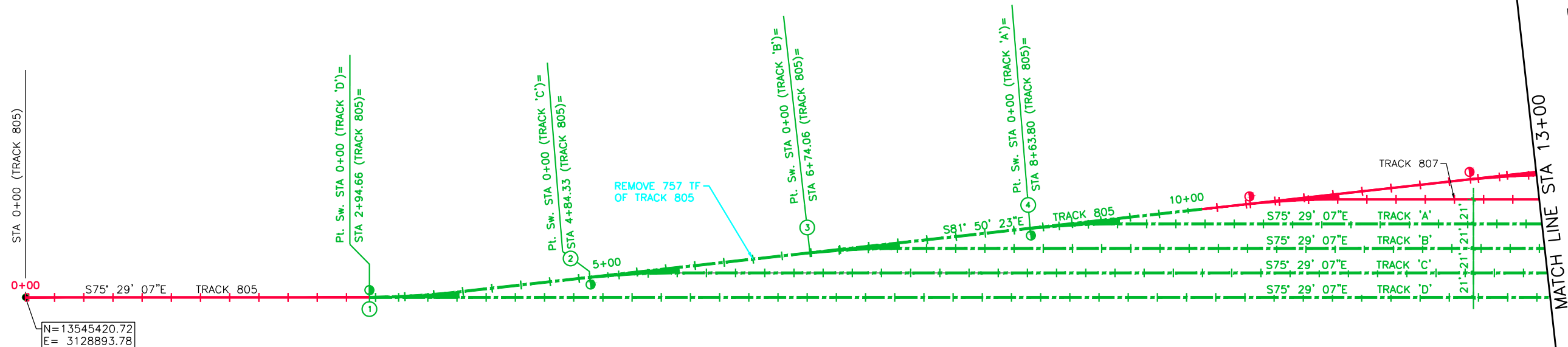
REV. #	BY	DATE	DESCRIPTION

Ex. UPRR Track	Shift Ind. Track	Hand Throw Turnout
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Ex. Ind. Track	No RR Operations	Point of Curve
Prop. Ind. Track	Other Ind. Track	Bridge
Remove Ind. Track	Right of Way	Signal

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 Fax - (832) 456-4701  
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CHECKED BY: BDB	LOCATION & DESCRIPTION: MILEPOST 1/4, FREEPORT IND LEAD FREEPORT, BRAZORA, TEXAS TRACKAGE TO SERVE: PORT FREEPORT
DATE: 9/21/22	SHEET TITLE: SW3P - DETAIL 2
SHEET NUMBER: 12 OF 69	



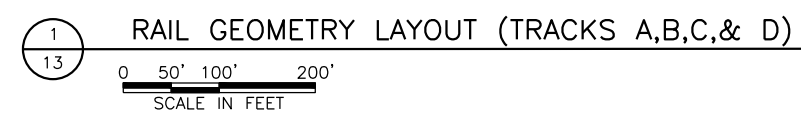
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E= 3128893.78

**NOTE**

1. PROPOSED ELEVATIONS ARE BASED ON EXISTING GRADES FROM AS-BUILT DRAWINGS OBTAINED FROM THE PORT OF FREEPORT.
2. COORDINATE WITH THE PORT OF FREEPORT ENGINEERING DEPT. FOR CONTROL POINT DATA WITHIN THE RAIL YARD.

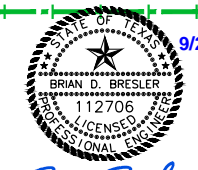
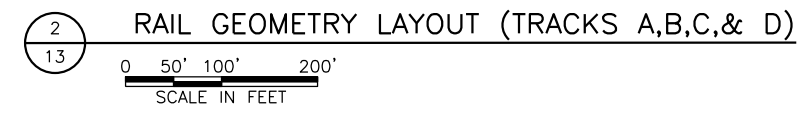
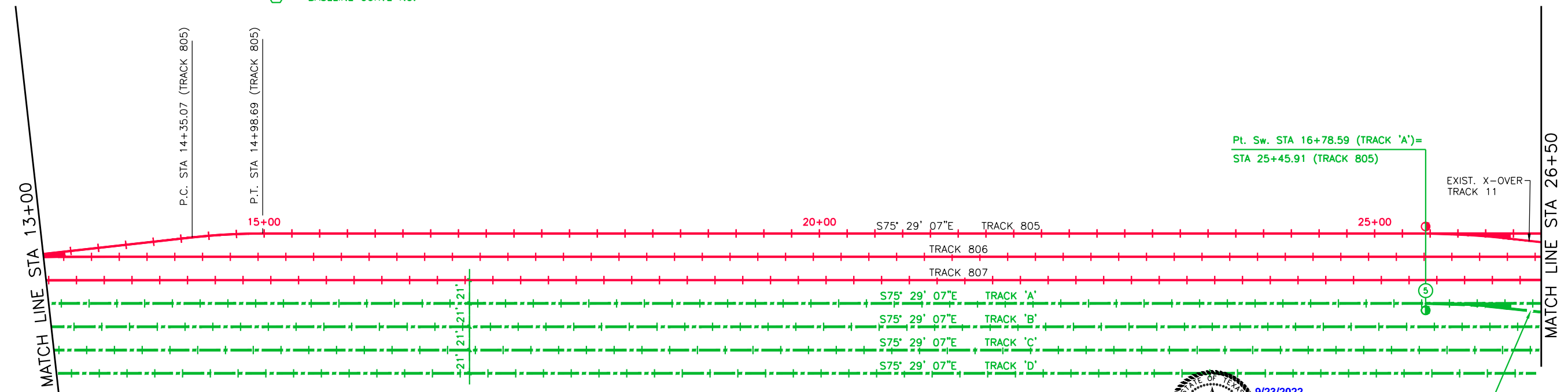
**LEGEND**

- ① POINT OF SWITCH (POS) WITH I.D. NUMBER
- ② BASELINE CURVE NO.



TRACKS 'A', 'B' 'C' & 'D' TURNOUT DATA			
I.D.	POS STA*	SIZE/TYPE	NORTHING EASTING
①	2+94.66	NO. 9 LH HTTO, SMSG FROG, 115#, STEEL	N=13545346.81 E= 3129179.01
②	4+84.33	NO. 9 RH HTTO, SMSG FROG, 115#, STEEL	N=13545316.19 E= 3129366.09
③	6+74.06	NO. 9 RH HTTO, SMSG FROG, 115#, STEEL	N=13545289.26 E= 3129553.91
④	8+63.80	NO. 9 RH HTTO, SMSG FROG, 115#, STEEL	N=13545262.33 E= 3129741.72
⑤	25+45.91	NO. 9 RH HTTO, SMSG FROG, 115#, STEEL	N=13544845.29 E= 3131367.55

\* TURNOUT DATA IS STATIONED OFF TRACK 805 UNLESS NOTED OTHERWISE



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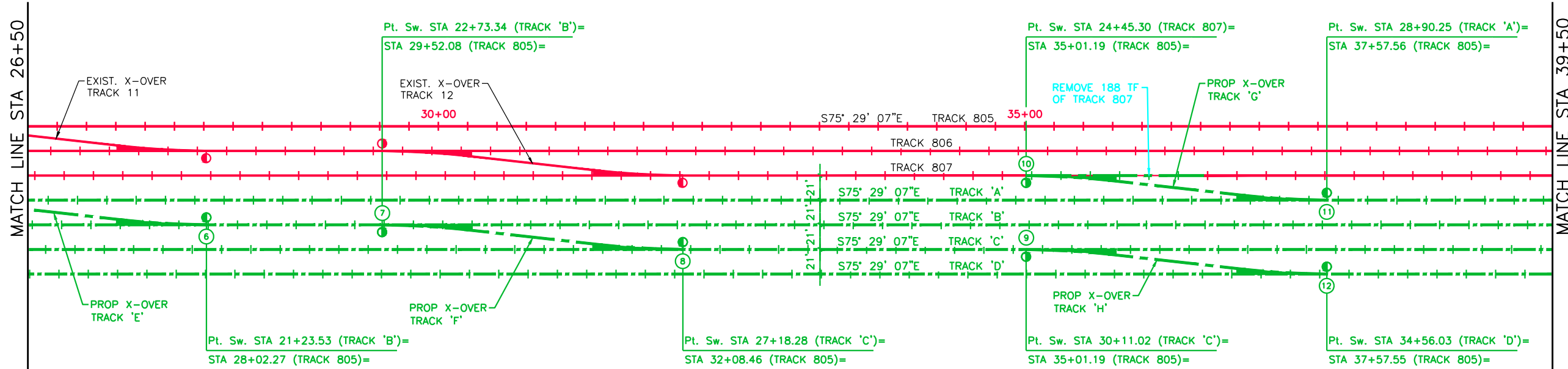
REV. #	BY	DATE	DESCRIPTION

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DATE: 9/21/22	SHEET TITLE: RAIL GEOMETRY LAYOUT (TRACKS A,B,C&D) STA. 0+00 TO STA. 26+50
SHEET NUMBER: 13 OF 69	



TURNOUT DATA			
I.D.	POS STA*	SIZE/TYPE	NORTHING EASTING
⑥	28+02.27	NO. 9 RH HTTO, SMSG FROG, 115#, STEEL	N= 13544760.70 E= 3131610.48
⑦	29+52.08	NO. 9 RH HTTO, SMSG FROG, 115#, STEEL	N= 13544723.16 E= 3131755.51
⑧	32+08.46	NO. 9 RH HTTO, SMSG FROG, 115#, STEEL	N= 13544638.57 E= 3131998.43
⑨	35+01.19	NO. 9 RH HTTO, SMSG FROG, 115#, STEEL	N= 13544565.21 E= 3132281.82
⑩	35+01.19	NO. 9 RH HTTO, SMSG FROG, 115#, STEEL	N= 13544626.19 E= 3132297.61
⑪	37+57.54	NO. 9 RH HTTO, SMSG FROG, 115#, STEEL	N= 13544541.61 E= 3132540.54
⑫	37+57.55	NO. 9 RH HTTO, SMSG FROG, 115#, STEEL	N= 13544480.62 E= 3132524.75

\* TURNOUT DATA IS STATIONED OFF TRACK 805 UNLESS NOTED OTHERWISE

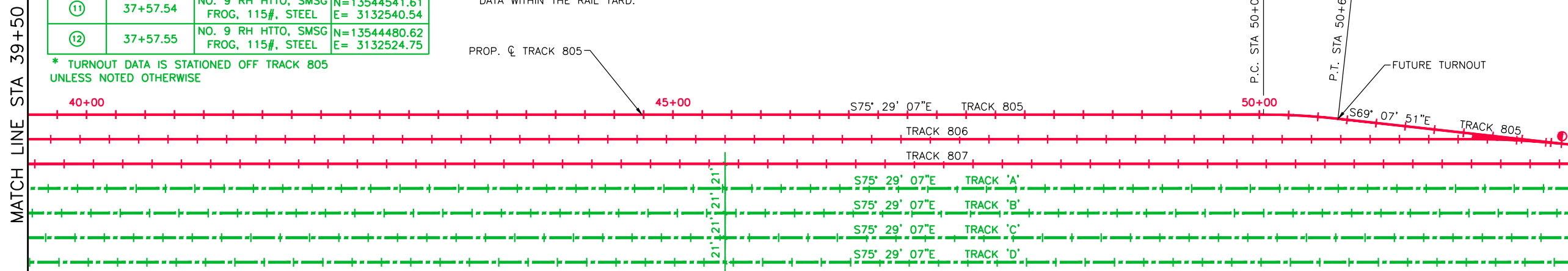
1 RAIL GEOMETRY LAYOUT (TRACKS A,B,C,& D)  
SCALE IN FEET

**NOTE**

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- COORDINATE WITH THE PORT OF FREEPORT ENGINEERING DEPT. FOR CONTROL POINT DATA WITHIN THE RAIL YARD.

**LEGEND**

- ① POINT OF SWITCH (POS) WITH I.D. NUMBER



2 RAIL GEOMETRY LAYOUT (TRACKS A,B,C,& D)  
SCALE IN FEET

DATE: 9/21/2022 SAVE BY: DKS

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Ex. Ind. Track	No RR Operations	Point of Curve
Prop. Ind. Track	Other Ind. Track	Bridge
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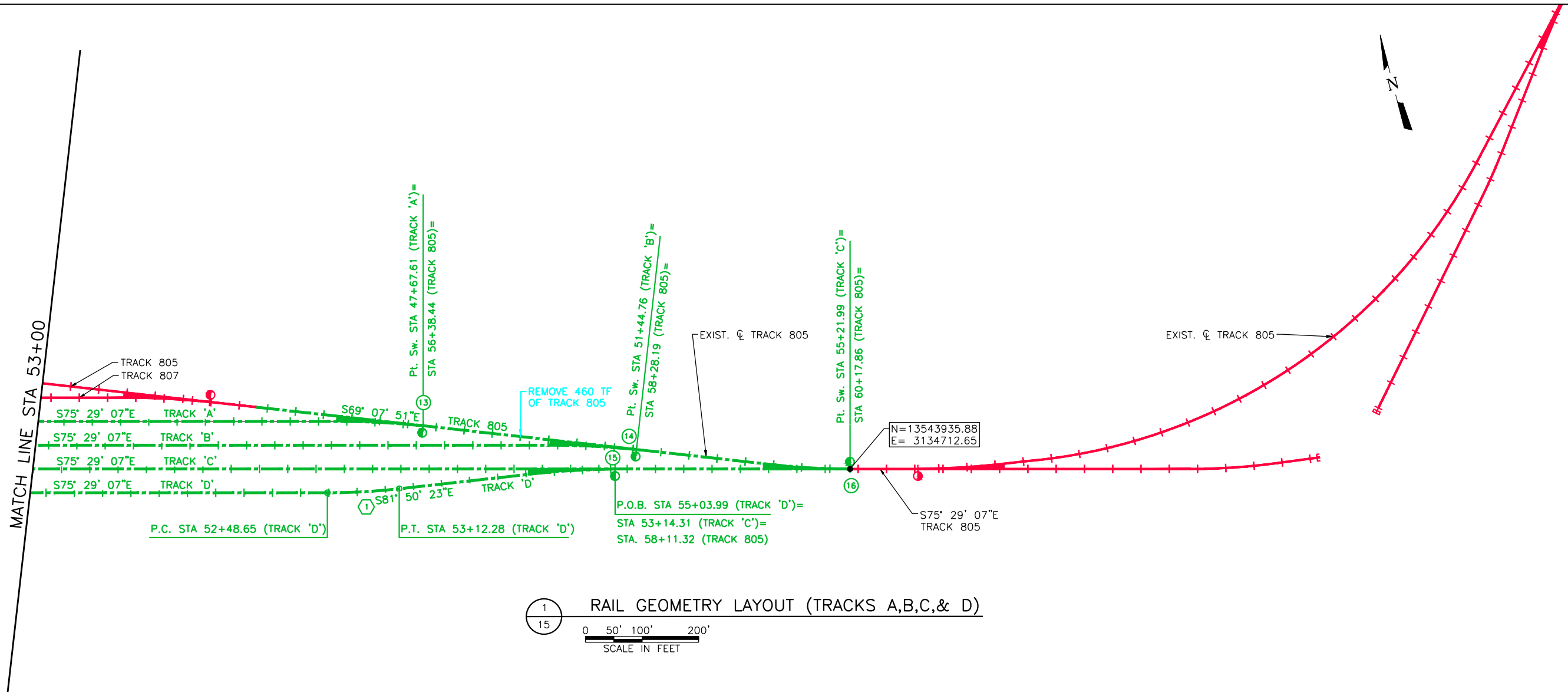


9/23/2022

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DATE: 9/21/22	SHEET TITLE: RAIL GEOMETRY LAYOUT (TRACKS A,B,C&D) STA. 26+50 TO STA. 53+00
SHEET NUMBER: 14 OF 69	



TURNOUT DATA			
I.D.	POS STA*	SIZE/TYPE	NORTHING EASTING
13	56+38.44	NO. 9 LH HTTO, SMSG FROG, 115#, STEEL	N=13544067.49 E= 3134356.92
14	58+28.19	NO. 9 LH HTTO, SMSG FROG, 115#, STEEL	N=13543999.89 E= 3134534.22
15	58+11.32	NO. 9 LH HTTO, SMSG FROG, 115#, STEEL	N=13543987.93 E= 3134511.61
16	60+17.86	NO. 9 RH HTTO, SMSG FROG, 115#, STEEL	N=13543935.88 E= 3134712.65

\* TURNOUT DATA IS STATIONED OFF TRACK 805 UNLESS NOTED OTHERWISE

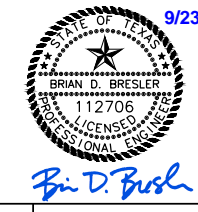
**NOTE**

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2. COORDINATE WITH THE PORT OF FREEPORT ENGINEERING DEPT. FOR CONTROL POINT DATA WITHIN THE RAIL YARD.

**LEGEND**

- POINT OF SWITCH (POS) WITH I.D. NUMBER
- BASELINE CURVE NO.
- Ex. UPRR Track
- Prop. UPRR Track
- Remove UPRR Track
- Shift UPRR Track
- Ex. Ind. Track
- Prop. Ind. Track
- Remove Ind. Track
- Shift Ind. Track
- Future Ind. Track
- Prop. Leased Ind. Trk
- Ex. Leased Ind. Trk
- No RR Operations
- Other Ind. Track
- Right of Way
- Hand Throw Turnout
- Power Turnout
- Power Derail
- Hand Throw Derail
- Point of Curve
- Bridge
- Signal

CURVE DATA - TRACK 'D' (CHORD DEFINITION)	
P.I. STA. 52+80.50,	N=13544023.36, E=3134290.98
DELTA = 06°21'16" (LT)	
D = 10°00'00"	
T = 31.85'	
L = 63.63'	
R = 573.69'	
P.C. STA. 52+48.66,	N=13544031.34, E=3134260.15
P.T. STA. 53+12.28,	N=13544018.84, E=3134322.50



9/23/2022

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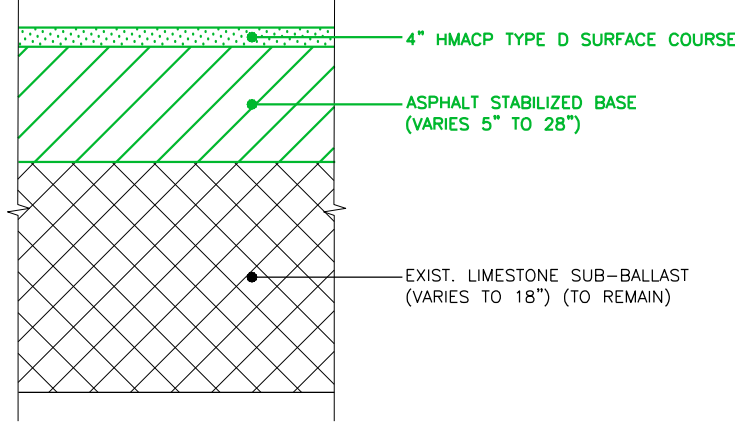
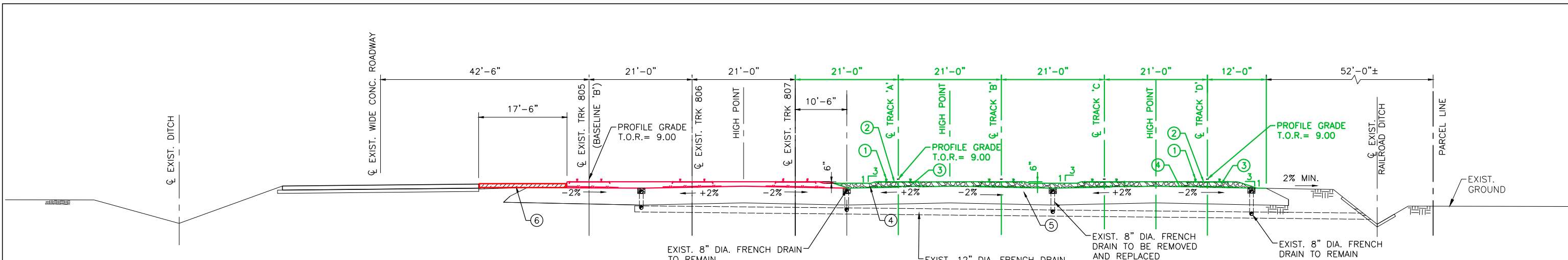
SHEET NUMBER: 15 OF 69

LOCATION & DESCRIPTION: MILEPOST 1/4, FREEPORT IND LEAD FREEPORT, BRAZORA, TEXAS TRACKAGE TO SERVE: PORT FREEPORT

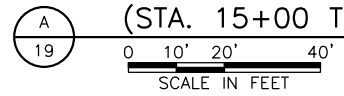
SHEET TITLE: RAIL GEOMETRY LAYOUT (TRACKS A,B,C&D) STA. 53+00 TO STA. 64+50

For use in Agreement with:

DATE: 9/22/2022 SAVE BY:DKS



**TYPICAL TRACK SECTION (4 TRACKS)**  
(STA. 15+00 TO STA. 50+00)



**NOTE**

- INSTALL A MIN. 12' WIDE ROLL OF 8 OZ./S.Y. NON-WOVEN GEOTEXTILE BELOW THE NEW BALLAST ALONG THE CENTERLINE OF ALL NEW TRACKS. DO NOT PLACE GEOTEXTILE OVER THE TOP OF THE FRENCH DRAIN TRENCHES.

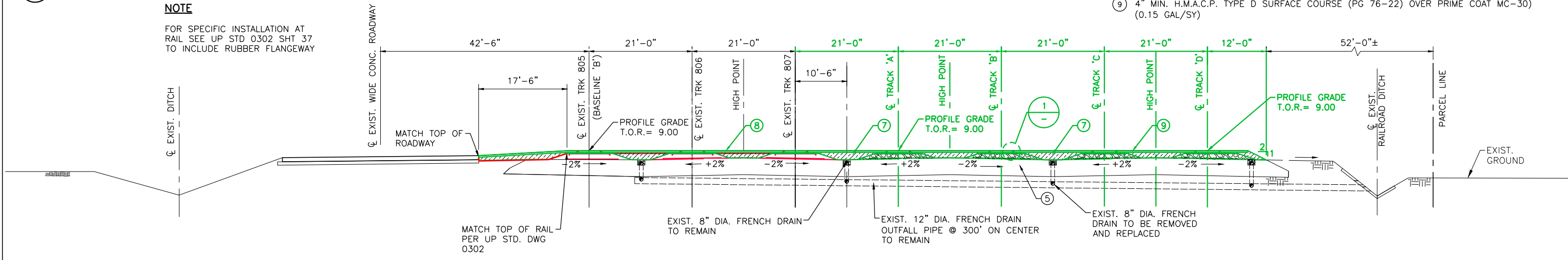
**LEGEND:**

- 115 LB A.R.E.M.A. RAIL
- M10 STEEL TIE SPACED @ 24" O.C. (ALONG 4'-11' CURVE USE @ 22" O.C.)
- 12" MIN. TAMPED BALLAST (UNDER TIE) (AREMA CLASS 4)
- 12' WIDE MIN. LAYER OF 8 OZ./S.Y. NON-WOVEN GEOTEXTILE FABRIC.
- EXISTING 18" LIMESTONE BASE (TXDOT TY A GR 1) (SUB-BALLAST) COMPACTED TO A MIN. OF 98% MODIFIED PROCTOR DENSITY (ASTM 1557)
- EXISTING 12" LIMESTONE BASE (TXDOT TY A GR 1) (SUB-BALLAST) COMPACTED TO A MIN. OF 98% MODIFIED PROCTOR DENSITY (ASTM 1557)
- ASPHALT STABILIZED BASE MATERIAL (GR 2)(PG 64) (DEPTH VARIES 5"-28")
- GEOTEXTILE FABRIC ON TOP OF CROSSTIES AND BELOW HMACP PER UP STD. 0302
- 4" MIN. H.M.A.C.P. TYPE D SURFACE COURSE (PG 76-22) OVER PRIME COAT MC-30) (0.15 GAL/SY)

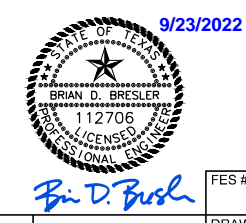
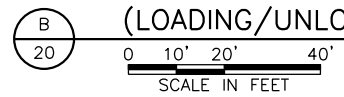
**HMAC LOADING PAD SECTION**  
SCALE: N.T.S.

**NOTE**

FOR SPECIFIC INSTALLATION AT RAIL SEE UP STD 0302 SHT 37 TO INCLUDE RUBBER FLANGWAY



**TYPICAL TRACK SECTION (4 TRACKS)**  
(LOADING/UNLOADING H.M.A.C.P. PADS)



REV. #	BY	DATE	DESCRIPTION

Ex. UPRR Track	Shift Ind. Track	Hand Throw Turnout
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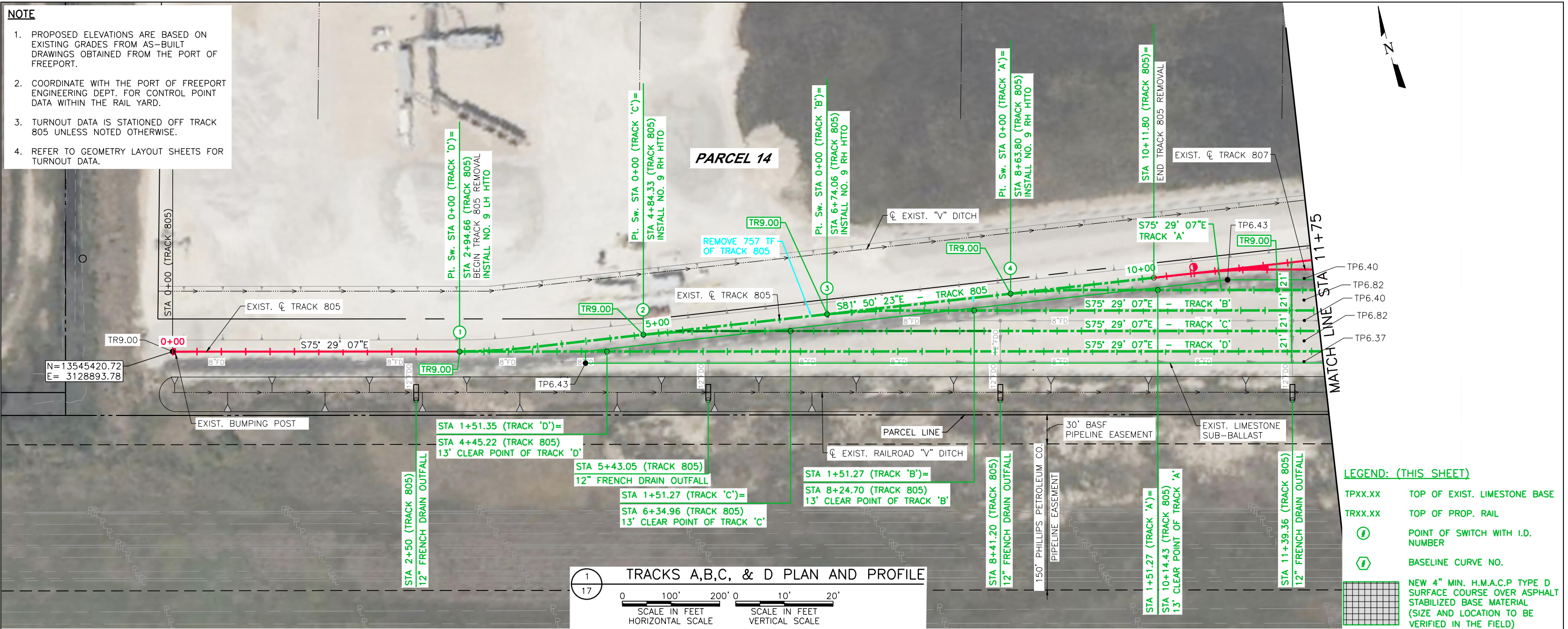


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CHECKED BY: BDB	LOCATION & DESCRIPTION: MILEPOST 1/4, FREEPORT IND LEAD FREEPORT, BRAZORA, TEXAS TRACKAGE TO SERVE: PORT FREEPORT
DATE: 9/22/22	SHEET TITLE: TYPICAL RAILROAD TRACK SECTIONS
SHEET NUMBER: 16 OF 69	



**NOTE**

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3. TURNOUT DATA IS STATIONED OFF TRACK 805 UNLESS NOTED OTHERWISE.
4. REFER TO GEOMETRY LAYOUT SHEETS FOR TURNOUT DATA.

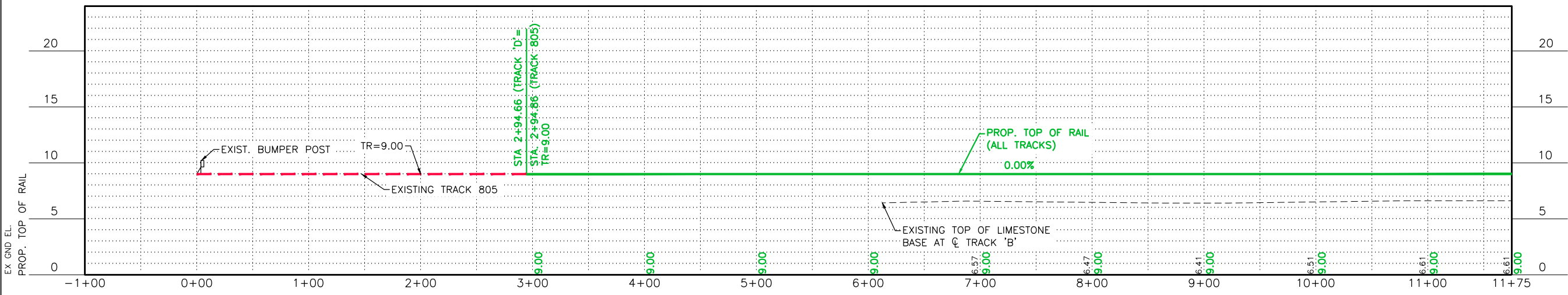


**1**  
**17**  
**TRACKS A,B,C, & D PLAN AND PROFILE**

0 100' 200' 0 10' 20'  
SCALE IN FEET HORIZONTAL SCALE SCALE IN FEET VERTICAL SCALE

**LEGEND: (THIS SHEET)**

- TPXX.XX TOP OF EXIST. LIMESTONE BASE
- TRXX.XX TOP OF PROP. RAIL
- ① POINT OF SWITCH WITH I.D. NUMBER
- ② BASELINE CURVE NO.
- NEW 4" MIN. H.M.A.C.P TYPE D SURFACE COURSE OVER ASPHALT STABILIZED BASE MATERIAL (SIZE AND LOCATION TO BE VERIFIED IN THE FIELD)



DATE: 9/21/2022 SAVE BY: DKS

REV. #	BY	DATE	DESCRIPTION

Ex. UPRR Track	Shift Ind. Track	Hand Throw Turnout
Prop. UPRR Track	Future Ind. Track	Power Turnout
Remove UPRR Track	Prop. Leased Ind. Trk	Power Derail
Shift UPRR Track	Ex. Leased Ind. Trk	Hand Throw Derail
Ex. Ind. Track	No RR Operations	Point of Curve
Prop. Ind. Track	Other Ind. Track	Bridge
Remove Ind. Track	Right of Way	Signal

**FREESE & NICHOLS**

11200 Broadway Street, Suite 2320  
Pearland, Texas 77584  
Phone - (832) 456-4700  
Fax - (832) 456-4701  
Freeze and Nichols, Inc.  
Texas Registered Engineering Firm F-2144

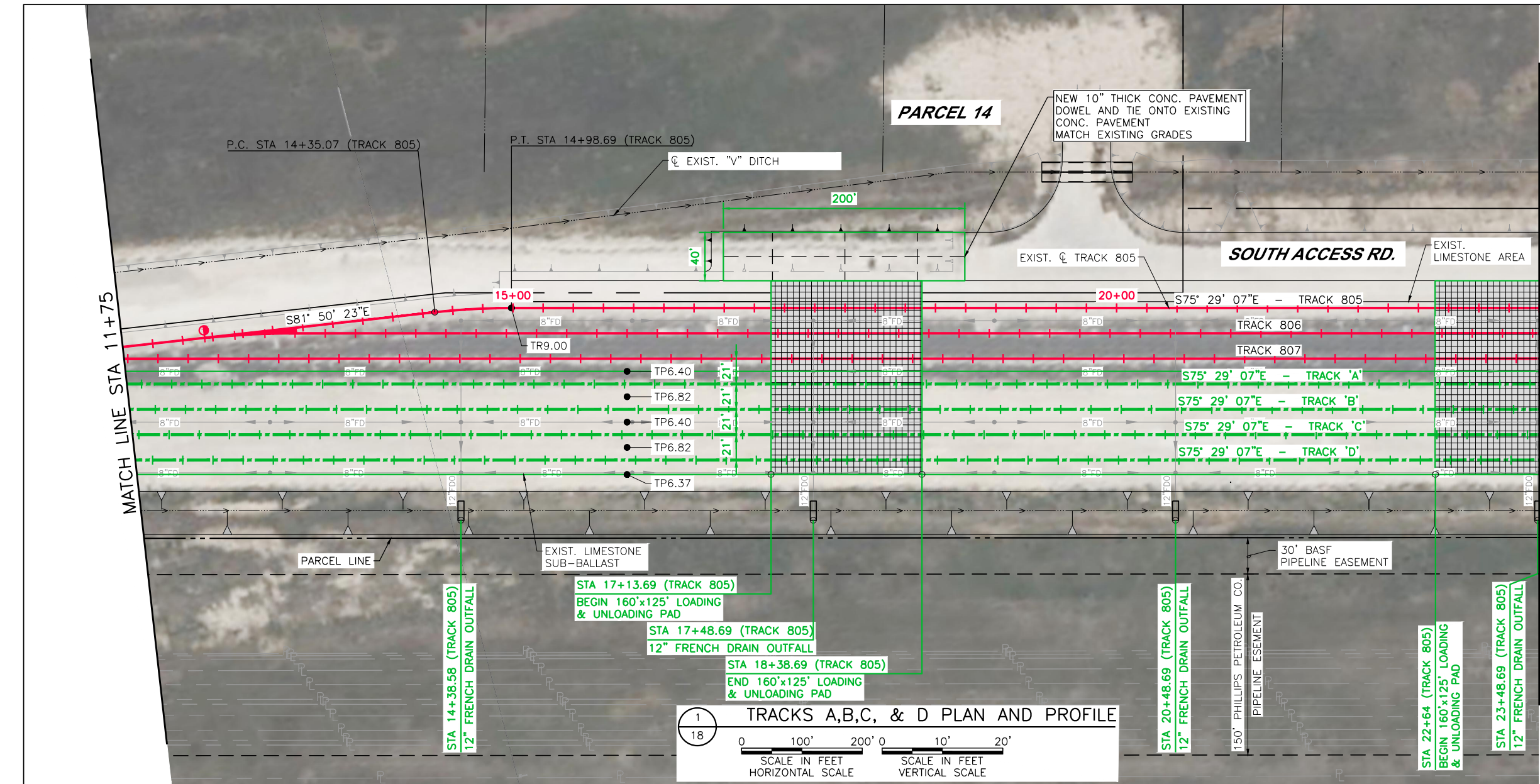


FES #: 47960	DOCUMENT TYPE: ISSUED FOR BID
DRAWN BY: DKS, EB	CHECKED BY: BDB
DATE: 9/21/22	SHEET NUMBER: 17 OF 69
LOCATION & DESCRIPTION: MILEPOST 1/4, FREEPORT IND LEAD FREEPORT, BRAZORA, TEXAS TRACKAGE TO SERVE: PORT FREEPORT SHEET TITLE: PLAN & PROFILE (TRACKS A,B,C,&D) STA. 0+00 TO STA. 11+75	

9/23/2022

**BRIAN D. BRESLER**  
112706  
LICENSED PROFESSIONAL ENGINEER

*Brian D. Bresler*



**NOTE**

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**LEGEND: (THIS SHEET)**

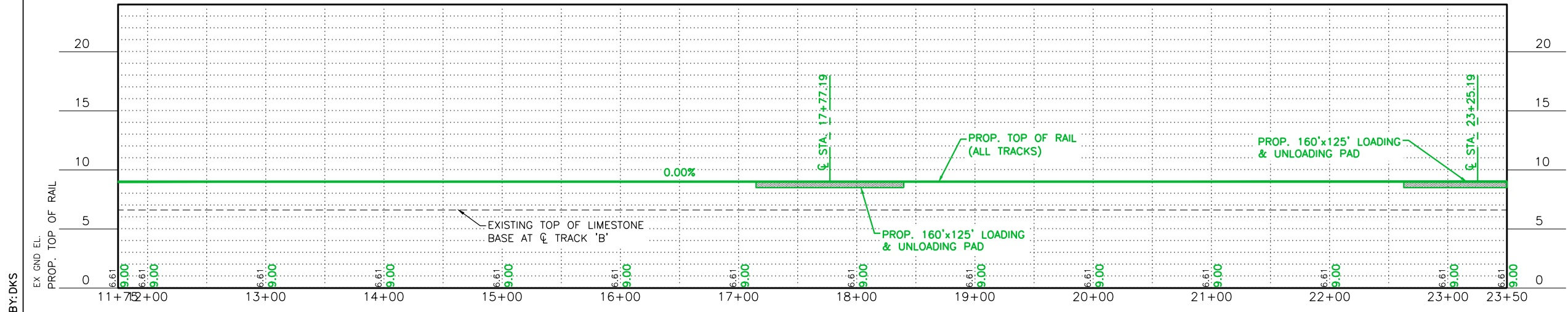
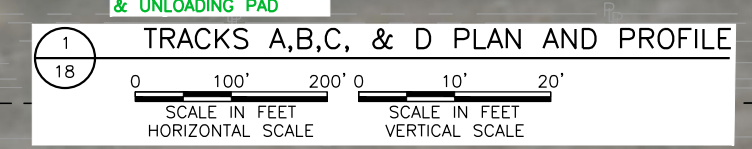
TPXX.XX TOP OF EXIST. LIMESTONE BASE

TRXX.XX TOP OF PROP. RAIL

(I) POINT OF SWITCH WITH I.D. NUMBER

(I) BASELINE CURVE NO.

(Grid Symbol) NEW 4" MIN. H.M.A.C.P TYPE D SURFACE COURSE OVER ASPHALT STABILIZED BASE MATERIAL (SIZE AND LOCATION TO BE VERIFIED IN THE FIELD)



DATE: 9/21/2022 SAVE BY:DKS

REV. #	BY	DATE	DESCRIPTION

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	Prop. UPRR Track		Future Ind. Track		Power Turnout
	Remove UPRR Track		Prop. Leased Ind. Trk		Power Derail
	Shift UPRR Track		Ex. Leased Ind. Trk		Hand Throw Derail
	Ex. Ind. Track		No RR Operations		Point of Curve
	Prop. Ind. Track		Other Ind. Track		Bridge
	Remove Ind. Track		Right of Way		Signal

**FREESSE & NICHOLS**

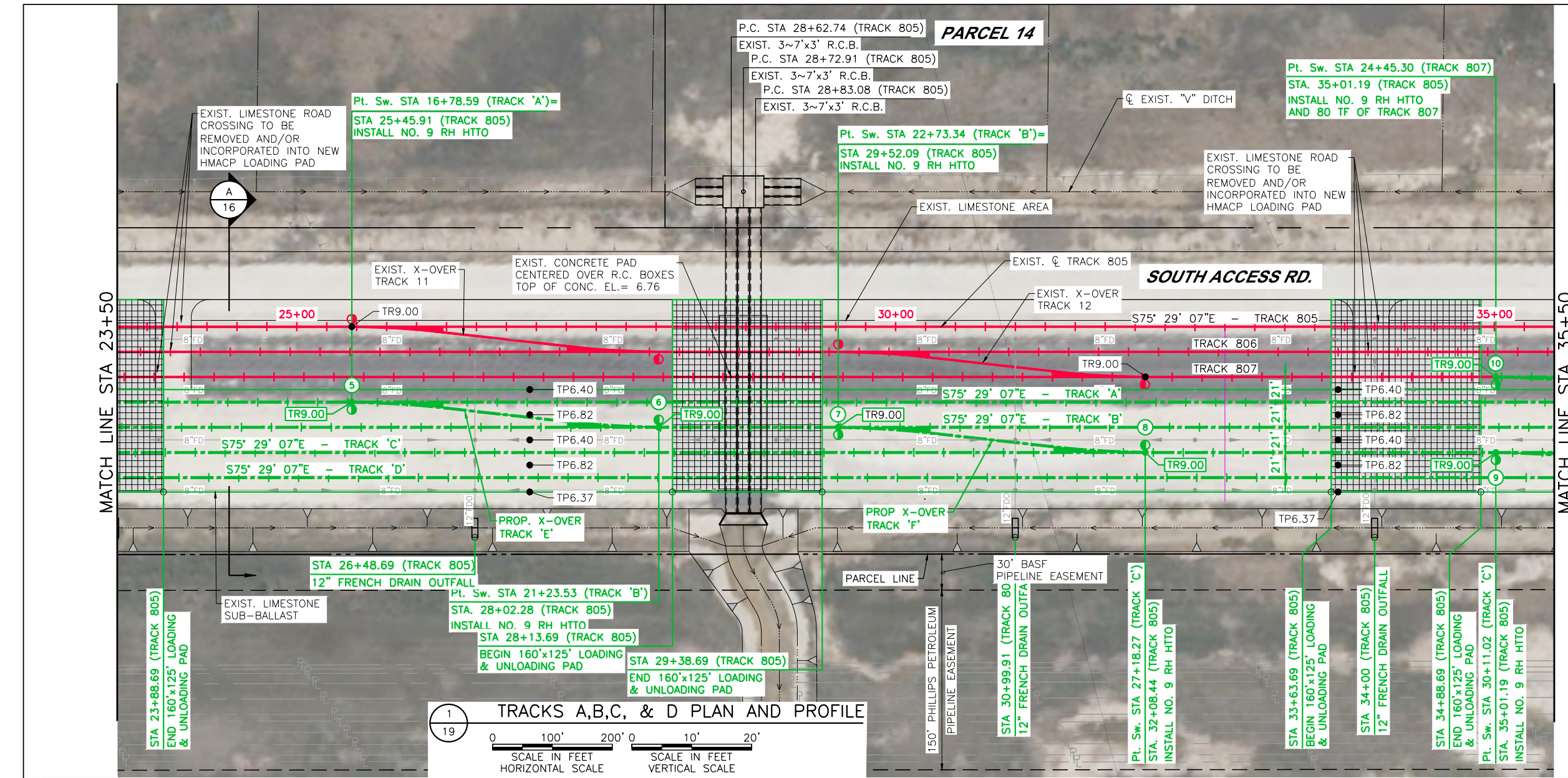
11200 Broadway Street, Suite 2320  
Pearland, Texas 77584  
Phone - (832) 456-4700  
Fax - (832) 456-4701  
Freese and Nichols, Inc.  
Texas Registered Engineering Firm F-2144

**UNION PACIFIC**

FES #:	47960	DOCUMENT TYPE:	ISSUED FOR BID
DRAWN BY:	DKS, EB	CHECKED BY:	BDB
DATE:	9/21/22	SHEET NUMBER:	18 OF 69
LOCATION & DESCRIPTION:		MILEPOST 1/4, FREEPORT IND LEAD FREEPORT, BRAZORA, TEXAS TRACKAGE TO SERVE: PORT FREEPORT	
SHEET TITLE:		PLAN & PROFILE (TRACKS A,B,C,&D) STA. 11+75 TO STA. 23+50	

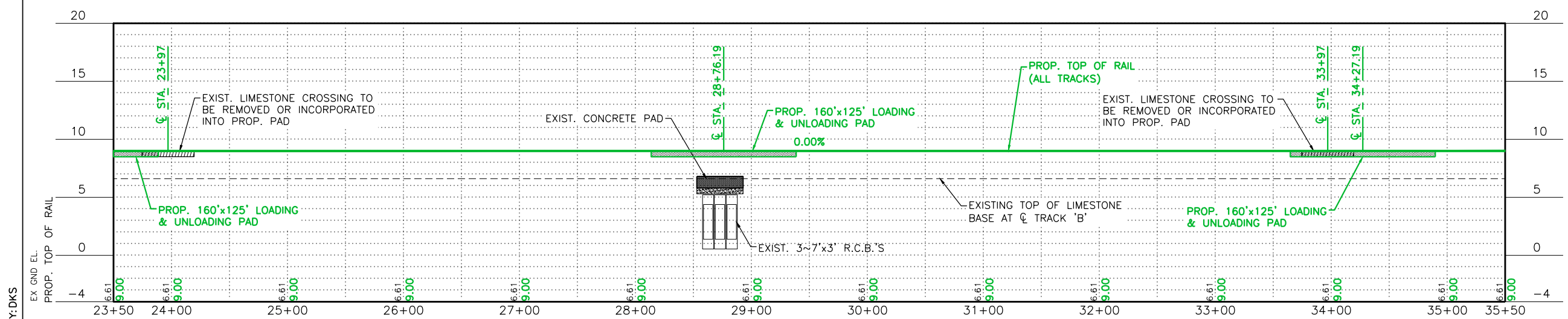
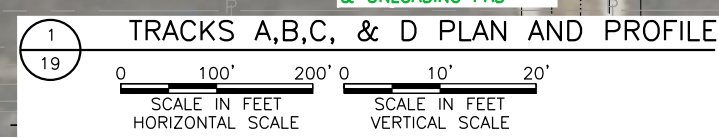
9/23/2022

Brian D. Bresler



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  - TRXX.XX TOP OF PROP. RAIL
  - (I) POINT OF SWITCH WITH I.D. NUMBER
  - (I) BASELINE CURVE NO.
  - NEW 4" MIN. H.M.A.C.P TYPE D SURFACE COURSE OVER ASPHALT STABILIZED BASE MATERIAL (SIZE AND LOCATION TO BE VERIFIED IN THE FIELD)



DATE: 9/21/2022 SAVE BY:DKS

9/23/2022

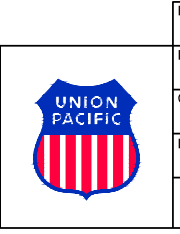


REV. #	BY	DATE	DESCRIPTION

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	Prop. UPRR Track		Future Ind. Track		Power Turnout
	Remove UPRR Track		Prop. Leased Ind. Trk		Power Derail
	Shift UPRR Track		Ex. Leased Ind. Trk		Hand Throw Derail
	Ex. Ind. Track		No RR Operations		Point of Curve
	Prop. Ind. Track		Other Ind. Track		Bridge
	Remove Ind. Track		Right of Way		Signal

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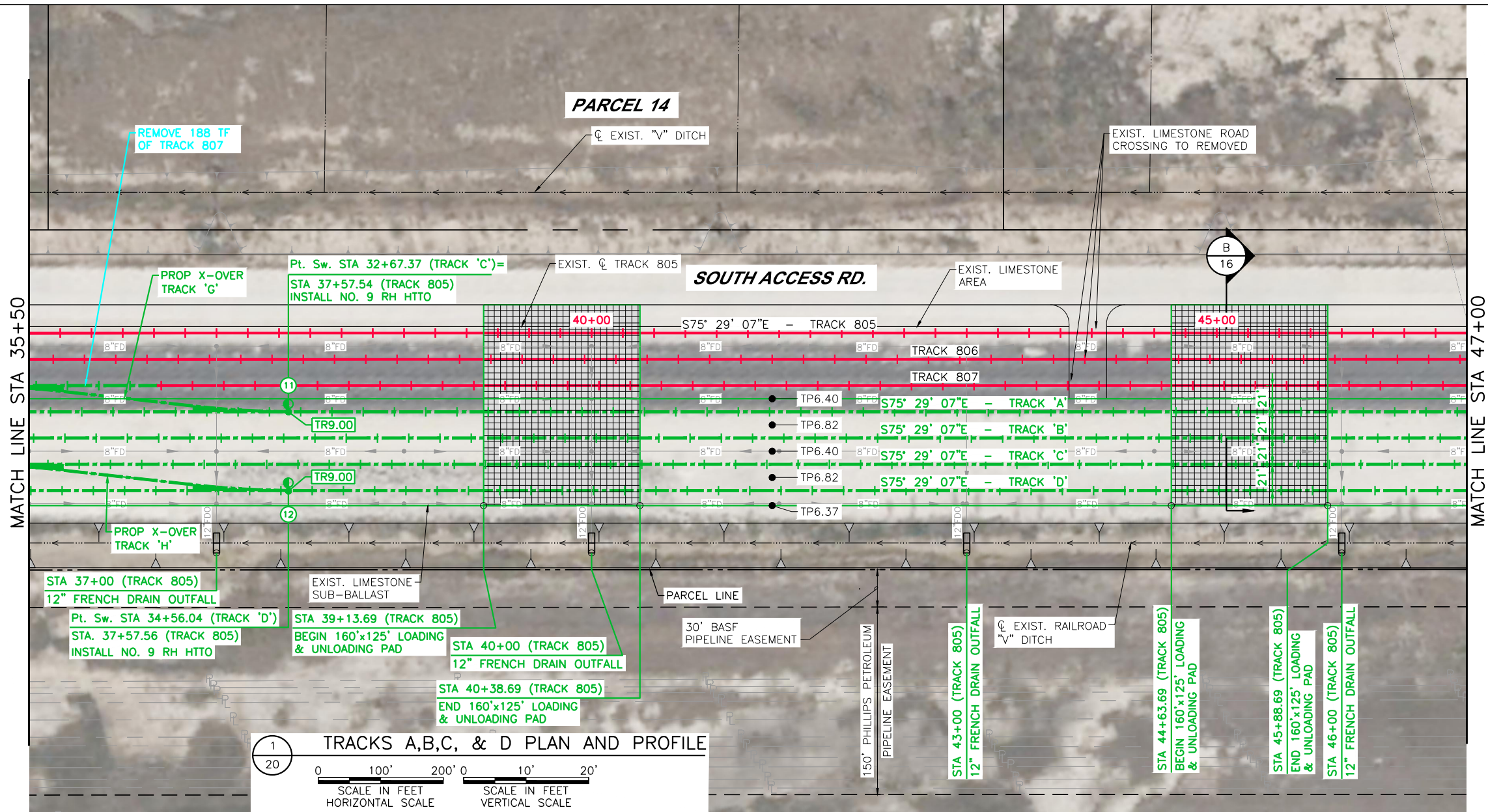
FES #:	47960	DOCUMENT TYPE:	ISSUED FOR BID
DRAWN BY:	DKS, EB	For use in Agreement with: <b>UNION PACIFIC RAILROAD</b> and <b>PORT FREEPORT</b>	
CHECKED BY:	BDB	LOCATION & DESCRIPTION: MILEPOST 1/4, FREEPORT IND LEAD FREEPORT, BRAZORA, TEXAS TRACKAGE TO SERVE: PORT FREEPORT	
DATE:	9/21/22	SHEET TITLE: PLAN & PROFILE (TRACKS A,B,C,&D) STA. 23+50 TO STA. 35+50	
SHEET NUMBER:	19 OF 69		

**NOTE**

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- TRXX.XX TOP OF PROP. RAIL
- (I) POINT OF SWITCH WITH I.D. NUMBER
- (B) BASELINE CURVE NO.
- [Grid Symbol] NEW 4" MIN. H.M.A.C.P TYPE D SURFACE COURSE OVER ASPHALT STABILIZED BASE MATERIAL (SIZE AND LOCATION TO BE VERIFIED IN THE FIELD)



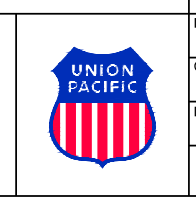
1  
20  
SCALE IN FEET  
HORIZONTAL SCALE  
SCALE IN FEET  
VERTICAL SCALE

DATE: 9/21/2022 SAVE BY:DKS

REV. #	BY	DATE	DESCRIPTION

	Ex. UPRR Track		Shift Ind. Track		Hand Throw Turnout
	Prop. UPRR Track		Future Ind. Track		Power Turnout
	Remove UPRR Track		Prop. Leased Ind. Trk		Power Derail
	Shift PRR Track		Ex. Leased Ind. Trk		Hand Throw Derail
	Ex. Ind. Track		No RR Operations		Point of Curve
	Prop. Ind. Track		Other Ind. Track		Bridge
	Remove Ind. Track		Right of Way		Signal

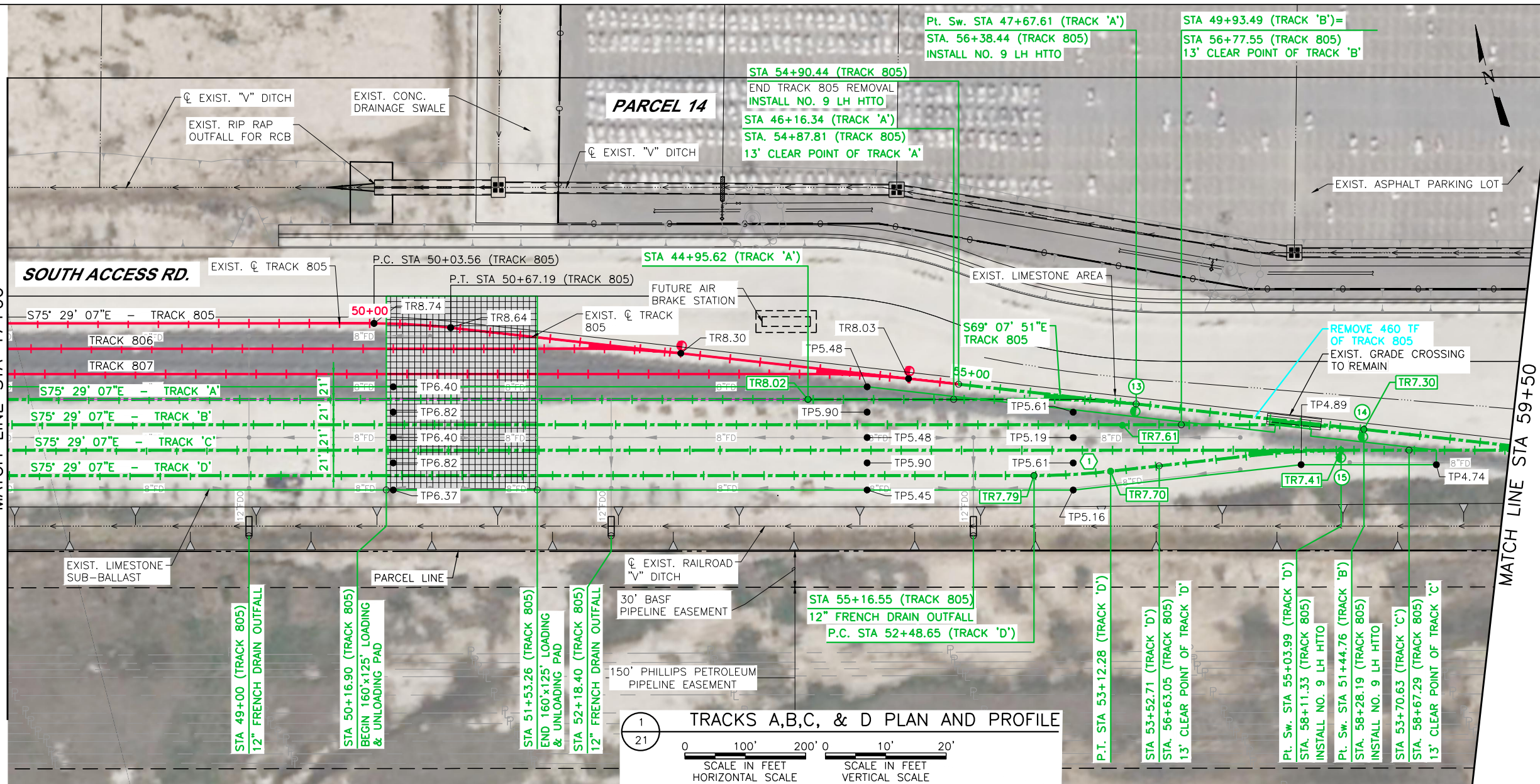
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CHECKED BY: BDB	LOCATION & DESCRIPTION: MILEPOST 1/4, FREEPORT IND LEAD FREEPORT, BRAZORA, TEXAS TRACKAGE TO SERVE: PORT FREEPORT
DATE: 9/21/22	SHEET TITLE: PLAN & PROFILE (TRACKS A,B,C,&D) STA. 35+50 TO STA. 47+50
SHEET NUMBER: 20 OF 69	

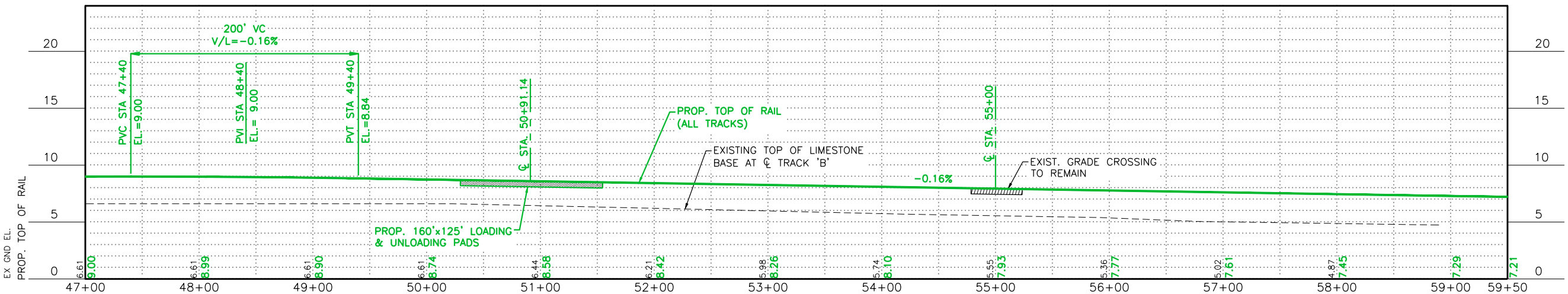
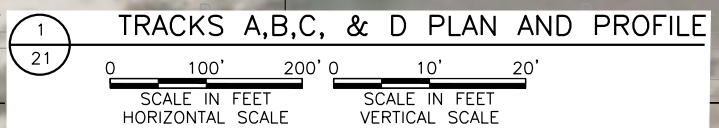


DATE: 9/21/2022 SAVE BY:DKS



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REV. #	BY	DATE	DESCRIPTION

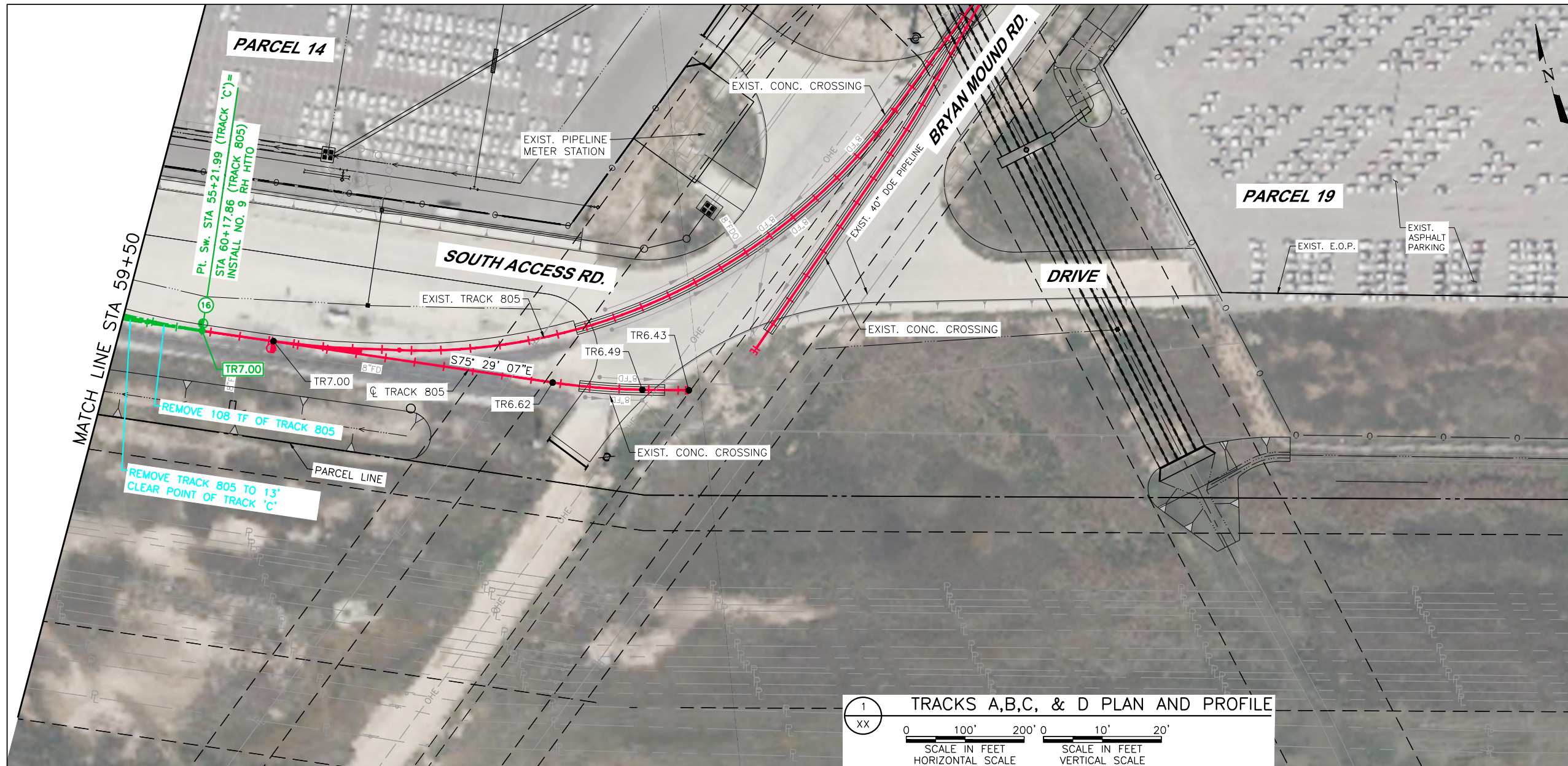
	Ex. UPRR Track		Shift Ind. Track		Hand Throw Turnout
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CHECKED BY: BDB	LOCATION & DESCRIPTION: MILEPOST 1/4, FREEPORT IND LEAD FREEPORT, BRAZORA, TEXAS TRACKAGE TO SERVE: PORT FREEPORT
DATE: 9/21/22	SHEET TITLE: PLAN & PROFILE (TRACKS A,B,C,&D) STA. 47+50 TO STA. 59+50
SHEET NUMBER: 21 OF 69	

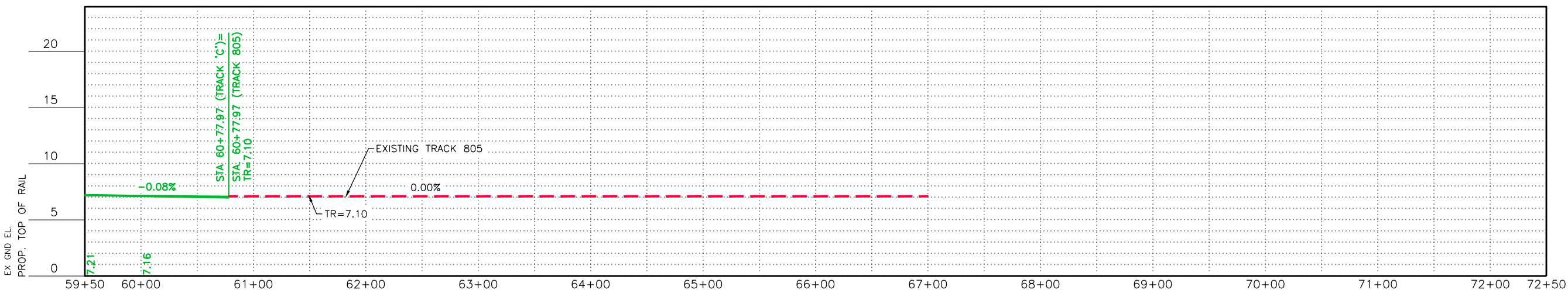


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1  
XX  
**TRACKS A,B,C, & D PLAN AND PROFILE**

0 100' 200' 0 10' 20'  
SCALE IN FEET HORIZONTAL SCALE SCALE IN FEET VERTICAL SCALE



DATE: 9/21/2022 SAVE BY:DKS

REV. #	BY	DATE	DESCRIPTION

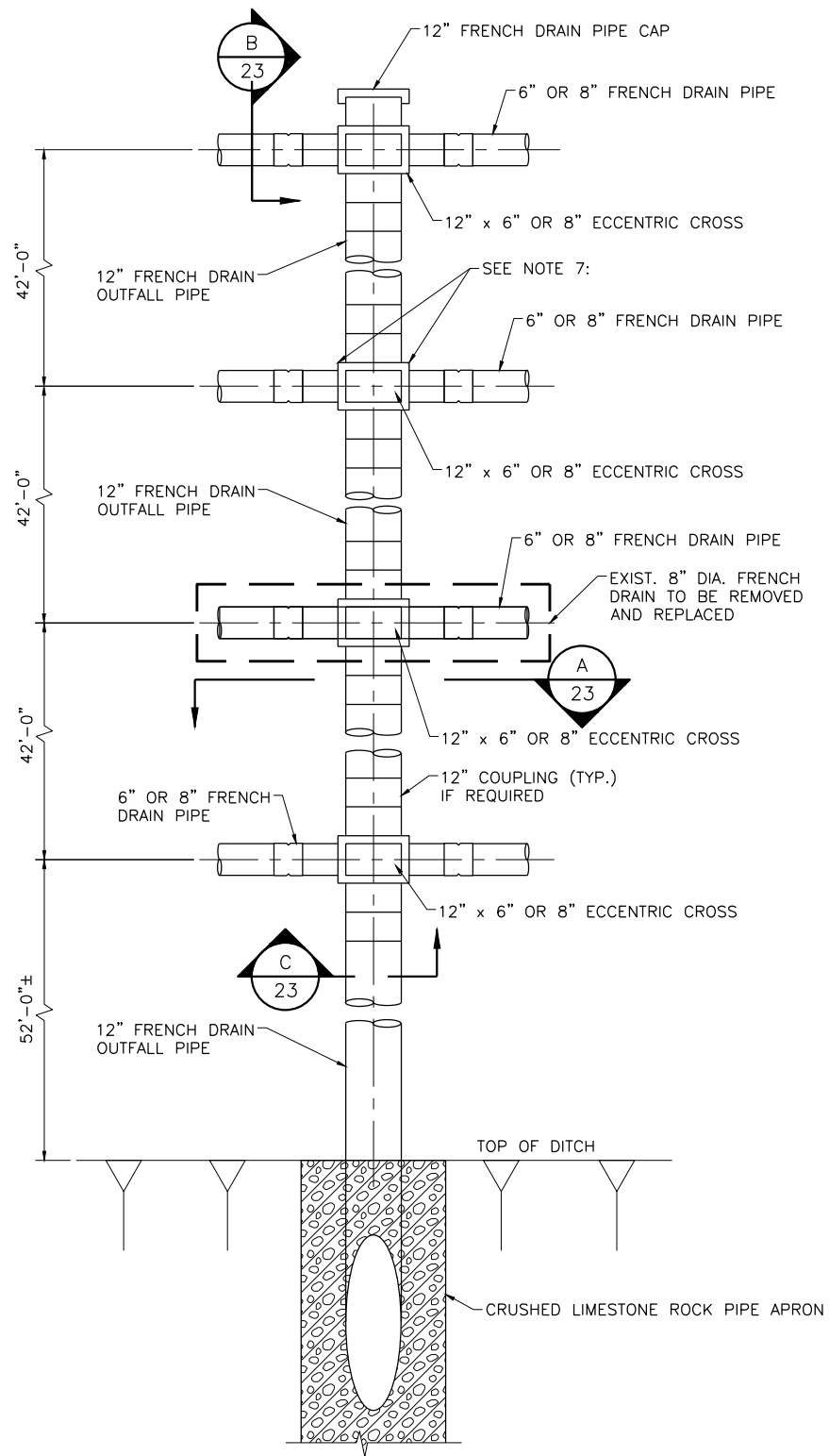
Ex. UPRR Track	Shift Ind. Track	Hand Throw Turnout
Prop. UPRR Track	Future Ind. Track	Power Turnout
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**FREESSE & NICHOLS**

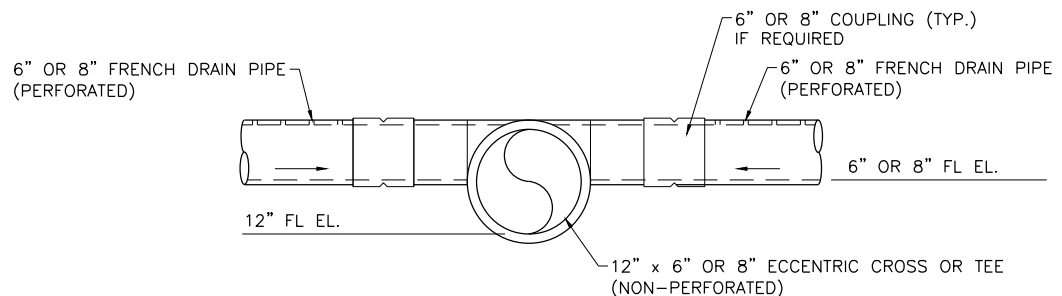
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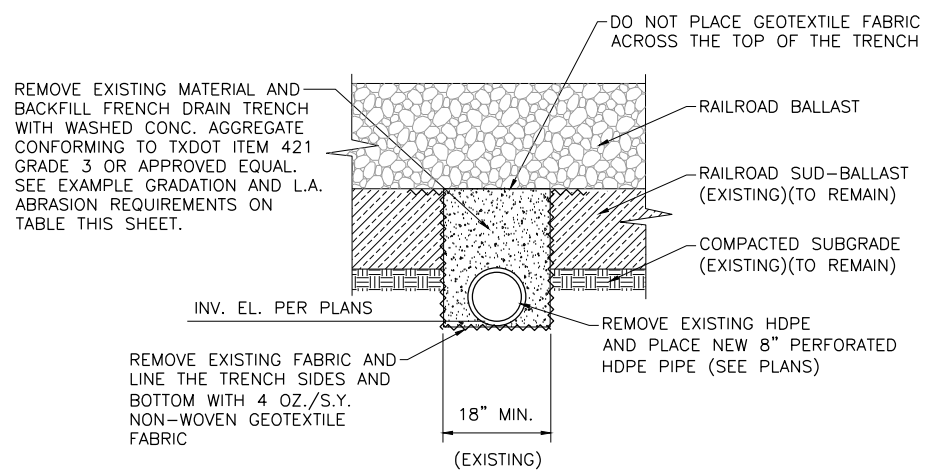
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CHECKED BY: BDB	LOCATION & DESCRIPTION: MILEPOST 1/4, FREEPORT IND LEAD FREEPORT, BRAZORA, TEXAS TRACKAGE TO SERVE: PORT FREEPORT
DATE: 9/21/22	SHEET TITLE: PLAN & PROFILE (TRACKS A,B,C,&D) STA. 59+50 TO STA. 64+34
SHEET NUMBER: 22 OF 69	



1 FRENCH DRAIN OUTFALL PLAN  
17-22 SCALE: N.T.S.



A ELEVATION  
23 SCALE: N.T.S.



B FRENCH DRAIN SECTION  
23 SCALE: N.T.S.

**FRENCH DRAIN TRENCH BACKFILL:**

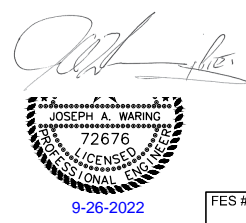
TXDOT ITEM 421 GRADE 3 - 1 1/8" TO 5/16" AGGREGATE WITH LA ABRASION 35% MAXIMUM

SIEVE SIZE	% RETAINED	% PASSING	CUMULATIVE % PASSING
2"	0.0	100.0	100.0
1 1/2"	0.0	100.0	95-100
1 1/4"	-	-	-
1"	16.5	83.5	-
7/8"	-	-	-
3/4"	39.2	60.8	60-90
5/8"	-	-	-
1/2"	72.6	27.4	25-60
3/8"	-	-	-
1/4"	-	-	-
#4	96.8	3.2	0-5
#8	-	-	-
#10	99.4	0.6	-

**NOTE:**

1. THE FRENCH DRAIN PIPES AND FRENCH DRAIN OUTFALL PIPES SHALL BE UNIFORMLY SLOPED BETWEEN THE INVERT ELEVATIONS SHOWN ON THE PLANS (±1" TOLERANCE), WITH NO SAGS IN THE PIPE ALIGNMENTS.
2. FRENCH DRAIN PIPES SHALL BE HIGH DENSITY POLYETHYLENE (HDPE) WITH A CORRUGATED EXTERIOR WALL AND INTEGRAL SMOOTH INTERIOR WALL. AASHTO CLASS 2 PERFORATIONS, TYPE N-12 AS MANUFACTURED BY ADVANCE DRAINAGE SYSTEMS, INC. OR APPROVED EQUAL. FRENCH DRAIN FITTINGS SHALL HAVE WATERTIGHT JOINTS. INSTALL ALL PIPE AND FITTINGS PER MANUFACTURER'S RECOMMENDATIONS. USE JOINTS WHICH ALLOW FOR UP TO 3 DEGREES OF DEFLECTION AT EACH JOINT.
3. INSTALL CAP FITTINGS AT THE UPSTREAM END TERMINATIONS OF THE FRENCH DRAIN PIPES.
4. DURING PIPE CONSTRUCTION PLACE TEMPORARY CAPS, FILTER FABRIC, HAY BALES, ETC. AT ANY OPEN PIPE ENDS TO PREVENT SEDIMENT FROM ENTERING THE PIPES. IMMEDIATELY REMOVE ANY SEDIMENTS THAT ENTER THE PIPES.
5. EITHER MAINTAIN SUFFICIENT COVER OVER THE PIPES WHERE SUBJECTED TO CONSTRUCTION TRAFFIC, OR DO NOT ALLOW ANY VEHICLE TRAFFIC OVER THE PIPES UNTIL COVER IS SUFFICIENT.
6. OUTFALL DETAILS ARE JUST TO ILLUSTRATE THE CONNECTION POINTS TO NEWLY INSTALLED FRENCH DRAINS.
7. CONTRACTOR SHALL EXERCISE CARE WHEN REMOVING EXISTING FRENCH DRAINS AND CONNECTING NEW PIPE TO THE EXISTING OUTFALLS. ANY DAMAGE TO EXISTING DRAINS TO REMAIN IN PLACE SHALL BE SOLELY THE RESPONSIBILITY OF THE CONTRACTOR.

DATE: 9/22/2022 SAVE BY:DKS



REV. #	BY	DATE	DESCRIPTION

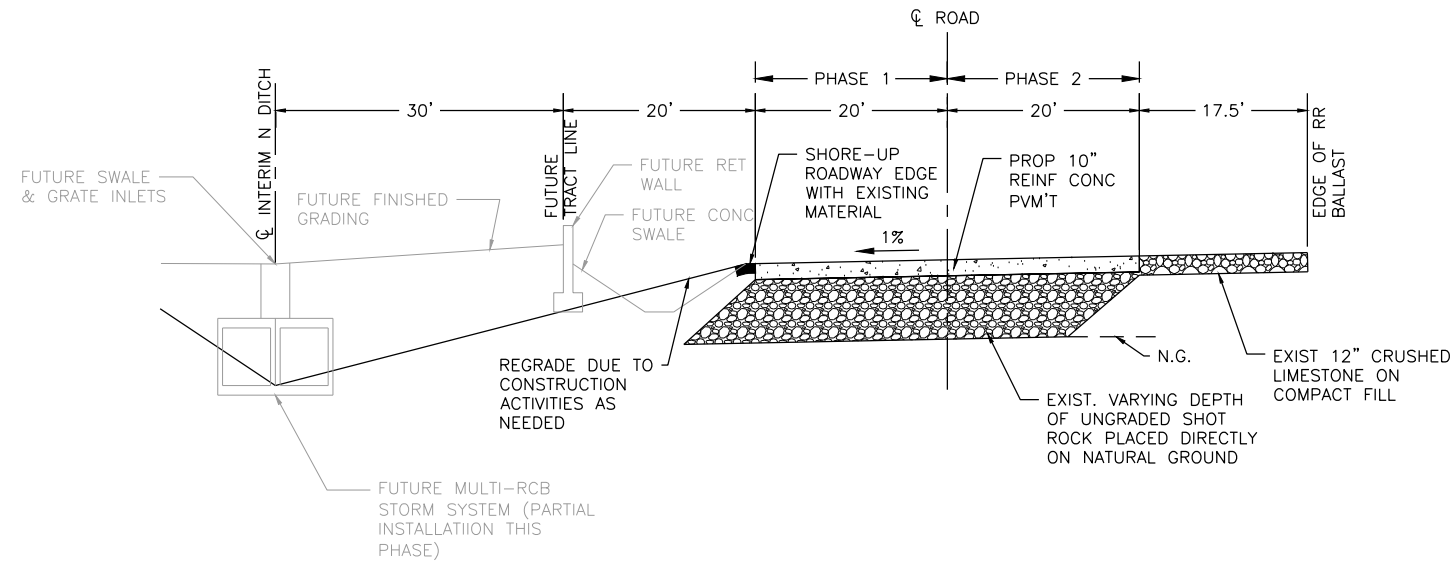
Ex. UPRR Track	Shift Ind. Track	Hand Throw Turnout
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CHECKED BY: BDB	LOCATION & DESCRIPTION: MILEPOST 1/4, FREEPORT IND LEAD FREEPORT, BRAZORA, TEXAS TRACKAGE TO SERVE: PORT FREEPORT
DATE: 9/22/22	SHEET TITLE: FRENCH DRAIN DETAILS
SHEET NUMBER: 23 OF 69	



1 TYPICAL SECTION SOUTH OF ACCESS ROAD EXTENSION  
1"=10'

**NOTES:**

1. EXISTING CRUSHED LIMESTONE MATERIAL REMOVED IN ORDER TO PLACE PROPOSED 10' CRCP. CRCP MAY BE USED AT PROPOSED LOADING/UNLOADING PADS, PROVIDED IT PASSES THE SPEC REQUIREMENTS OF GRADATION, ETC.
2. CONTRACTOR SHALL COORDINATE PHASING WITH PORT TENANTS.
3. CONTRACTOR SHALL PROOF ROLL AREA, PRIOR TO PLACING 10" CRCP
4. CONTRACTOR SHALL PLACE TWO(2) LAYERS OF 30# ROOFING FELT BETWEEN THE EXISTING SHOT ROCK AND PROPOSED 10" CRCP TO ACT AS A BOND BREAKER. THIS WORK SHALL BE INCIDENTAL TO THE 10" CRCP BID ITEM.

*Joseph A. Waring*



DATE: 9/21/2022 SAVE BY: DKS

REV. #	BY	DATE	DESCRIPTION

Ex. UPRR Track	Shift Ind. Track	Hand Throw Turnout
Prop. UPRR Track	Future Ind. Track	Power Turnout
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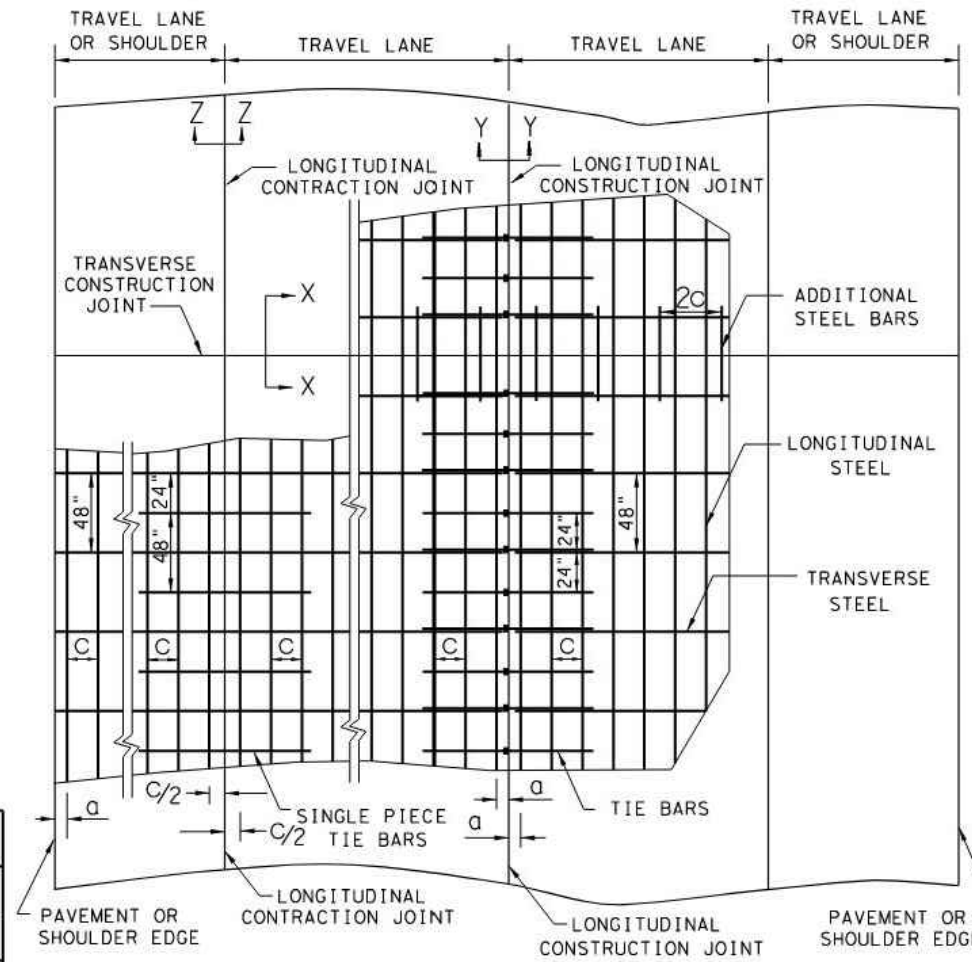
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CHECKED BY: BDB	LOCATION & DESCRIPTION: MILEPOST 1/4, FREEPORT IND LEAD FREEPORT, BRAZORA, TEXAS TRACKAGE TO SERVE: PORT FREEPORT
DATE: 9/21/22	SHEET TITLE: SOUTH ACCESS ROAD TYPICAL SECTION
SHEET NUMBER: 24 OF 69	



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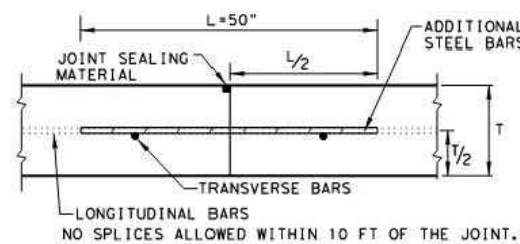
SLAB THICKNESS AND BAR SIZE		REGULAR STEEL BARS	FIRST SPACING AT EDGE OR JOINT	ADDITIONAL STEEL BARS AT TRANSVERSE CONSTRUCTION JOINT (SECTION X-X)	
T (IN.)	BAR SIZE	SPACING C (IN.)	SPACING a (IN.)	SPACING 2 x C (IN.)	LENGTH L (IN.)
7.0	#5	6.5	3 TO 4	13	50
7.5	#5	6.0	3 TO 4	12	50
8.0	#6	9.0	3 TO 4	18	50
8.5	#6	8.5	3 TO 4	17	50
9.0	#6	8.0	3 TO 4	16	50
9.5	#6	7.5	3 TO 4	15	50
10.0	#6	7.0	3 TO 4	14	50
10.5	#6	6.75	3 TO 4	13.5	50
11.0	#6	6.5	3 TO 4	13	50
11.5	#6	6.25	3 TO 4	12.5	50
12.0	#6	6.0	3 TO 4	12	50
12.5	#6	5.75	3 TO 4	11.5	50
13.0	#6	5.5	3 TO 4	11	50

SLAB THICKNESS (IN.)	TRANSVERSE STEEL		TIE BARS AT LONGITUDINAL CONSTRUCTION JOINT (SECTION Z-Z)		TIE BARS AT LONGITUDINAL CONSTRUCTION JOINT (SECTION Y-Y)	
	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)	BAR SIZE	SPACING (IN.)
7.0 - 7.5	#5	48	#5	48	#5	24
8.0 - 13.0	#5	48	#6	48	#6	24

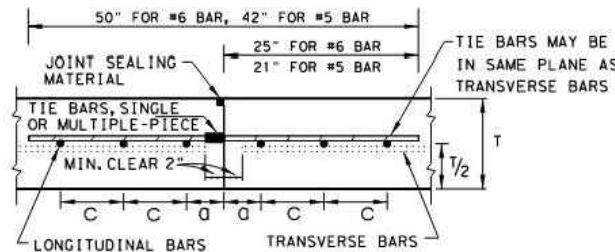


TYPICAL PAVEMENT LAYOUT  
PLAN VIEW (NOT TO SCALE)

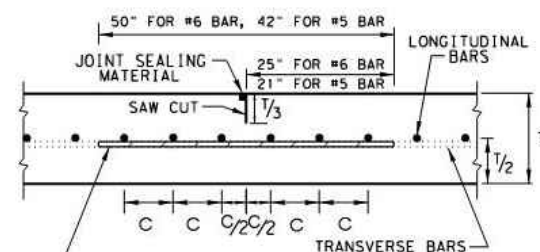
- GENERAL NOTES**
1. DETAILS FOR PAVEMENT WIDTH, PAVEMENT THICKNESS AND THE CROWN CROSS-SLOPE SHALL BE SHOWN ELSEWHERE IN THE PLANS. PAVEMENTS WIDER THAN 100 FT. WITHOUT A FREE LONGITUDINAL JOINT ARE NOT COVERED BY THIS STANDARD.
  2. USE COARSE AGGREGATES WITH A RATED COEFFICIENT OF THERMAL EXPANSION (COTE) OF NOT MORE THAN  $5.5 \times 10^{-6}$  IN/IN/°F AS LISTED IN THE CONCRETE RATED SOURCE QUALITY CATALOG (CRSQC).
  3. ALL THE REINFORCING STEEL AND TIE BARS SHALL BE DEFORMED STEEL BARS CONFORMING TO ASTM A 615 (GRADE 60) OR ASTM A 996 (GRADE 60) OR ABOVE. STEEL BAR SIZES AND SPACINGS SHALL CONFORM TO TABLE NO. 1 AND TABLE NO. 2.
  4. STEEL BAR PLACEMENT TOLERANCE SHALL BE +/- 1 IN. HORIZONTALLY AND +/- 0.5 IN. VERTICALLY. CALCULATED AVERAGE BAR SPACING (CONCRETE PLACEMENT WIDTH / NUMBER OF LONGITUDINAL BARS) SHALL CONFORM TO TABLE NO. 1.
  5. PAVEMENT WIDTHS OF MORE THAN 15 FT. SHALL HAVE A LONGITUDINAL JOINT (SECTION Z-Z OR SECTION Y-Y). THESE JOINTS SHALL BE LOCATED WITHIN 6 IN. OF THE LANE LINE UNLESS THE JOINT LOCATION IS SHOWN ELSEWHERE ON THE PLANS.
  6. THE SAW CUT DEPTH FOR THE LONGITUDINAL CONTRACTION JOINT (SECTION Z-Z) SHALL BE ONE THIRD OF THE SLAB THICKNESS (T/3).
  7. WHEN TYING CONCRETE GUTTER AT A LONGITUDINAL JOINT, THE TIE BAR LENGTH OR POSITION MAY BE ADJUSTED. PROVIDE 3 IN. OF CONCRETE COVER FROM THE BACK OF GUTTER TO THE END OF TIE BAR.
  8. REPLACE MISSING OR DAMAGED TIE BARS WITHOUT ADDITIONAL COMPENSATION BY DRILLING MIN. 10 IN. DEEP AND GROUTING TIE BARS WITH TYPE III, CLASS C EPOXY. MEET THE PULL-OUT TEST REQUIREMENTS IN ITEM 361.
  9. OMIT TIE BARS LOCATED WITHIN 18-IN. OF THE TRANSVERSE CONSTRUCTION JOINTS (SECTION X-X). USE HAND-OPERATED IMMERSION VIBRATORS TO CONSOLIDATE THE CONCRETE ADJACENT TO ALL FORMED JOINTS.
  10. LONGITUDINAL REINFORCING STEEL SPLICES SHALL BE A MINIMUM OF 25 IN. STAGGER THE LAP LOCATIONS SO THAT NO MORE THAN 1/3 OF THE LONGITUDINAL STEEL IS SPLICED IN ANY GIVEN 12-FT. WIDTH AND 2-FT. LENGTH OF THE PAVEMENT.
  11. THE DETAIL FOR THE JOINT SEALANT AND RESERVOIR IS SHOWN ON STANDARD SHEET "CONCRETE PAVING DETAILS, JOINT SEALS."



TRANSVERSE CONSTRUCTION JOINT  
SECTION X - X



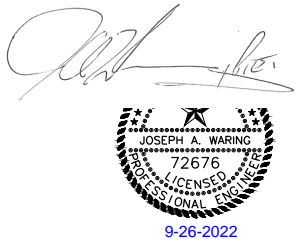
LONGITUDINAL CONSTRUCTION JOINT  
SECTION Y - Y



LONGITUDINAL CONTRACTION JOINT  
SECTION Z - Z

SHEET 1 OF 2

Texas Department of Transportation		Design Division Standard	
<b>CONTINUOUSLY REINFORCED CONCRETE PAVEMENT</b>			
<b>ONE LAYER STEEL BAR PLACEMENT</b>			
<b>T - 7 TO 13 INCHES</b>			
<b>CRCP (1) - 20</b>			
FILE: crcp120.dgn	DW: TxDOT	CK: KM	DW: AN
©TxDOT: APRIL 2020	CONT SECT	JOB	HIGHWAY
10/10/2011 ADD ON #12	REVISOR:	DIST	COUNTY
04/09/2013 REMOVE 6" AND 6.5" ADD CTE REQUIREMENTS			
05/05/2017 COTE AS RATED 4.3			SHEET NO. 22



DATE: 9/21/2022 SAVE BY: DKS

REV. #	BY	DATE	DESCRIPTION

Ex. UPRR Track	Shift Ind. Track	Hand Throw Turnout
Prop. UPRR Track	Future Ind. Track	Power Turnout
Remove UPRR Track	Prop. Leased Ind. Trk	Power Derail
Shift UPRR Track	Ex. Leased Ind. Trk	Hand Throw Derail
Ex. Ind. Track	No RR Operations	Point of Curve
Prop. Ind. Track	Other Ind. Track	Bridge
Remove Ind. Track	Right of Way	Signal

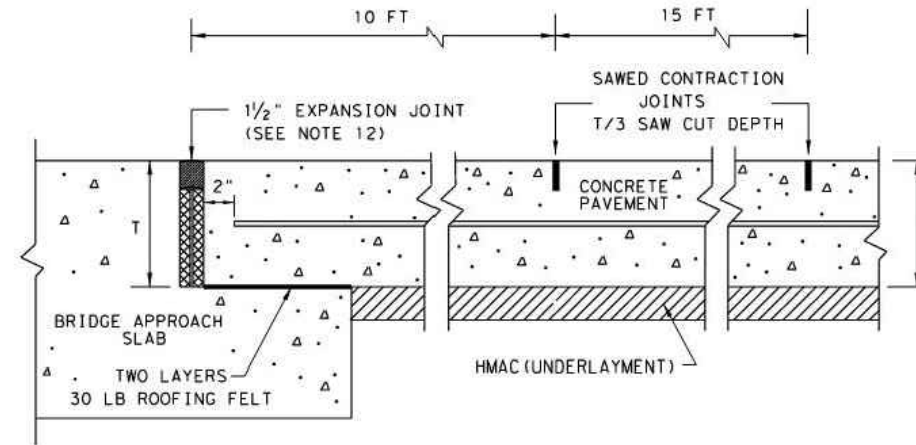
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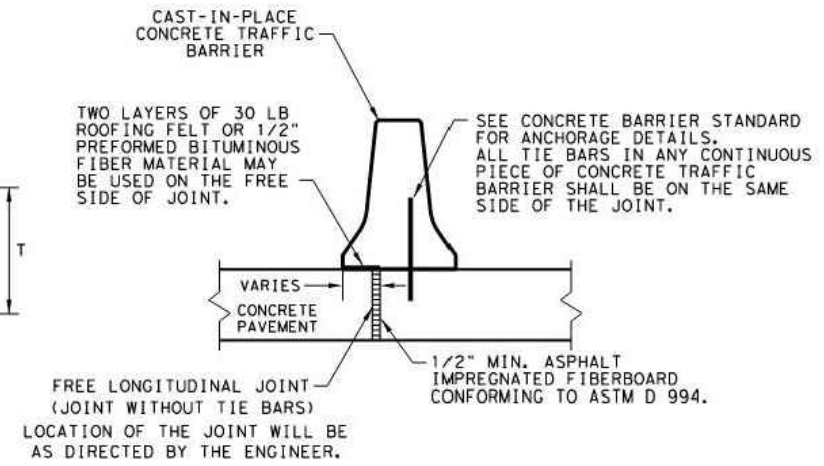


FES #: 47960	DOCUMENT TYPE: ISSUED FOR BID
DRAWN BY: DKS, EB	For use in Agreement with: <b>UNION PACIFIC RAILROAD</b> and <b>PORT FREEPORT</b>
CHECKED BY: BDB	LOCATION & DESCRIPTION: MILEPOST 1/4, FREEPORT IND LEAD FREEPORT, BRAZORA, TEXAS TRACKAGE TO SERVE: PORT FREEPORT
DATE: 9/21/22	SHEET TITLE: CONTINUOUSLY REINFORCED CONCRETE PAVEMENT - CRCP(1)-20
SHEET NUMBER: 25 OF 69	

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TRANSVERSE EXPANSION JOINT DETAIL AT BRIDGE APPROACH

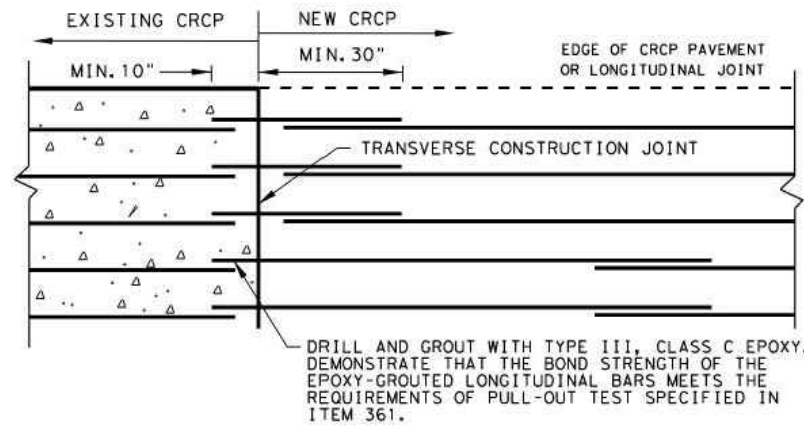


FREE LONGITUDINAL JOINT DETAIL

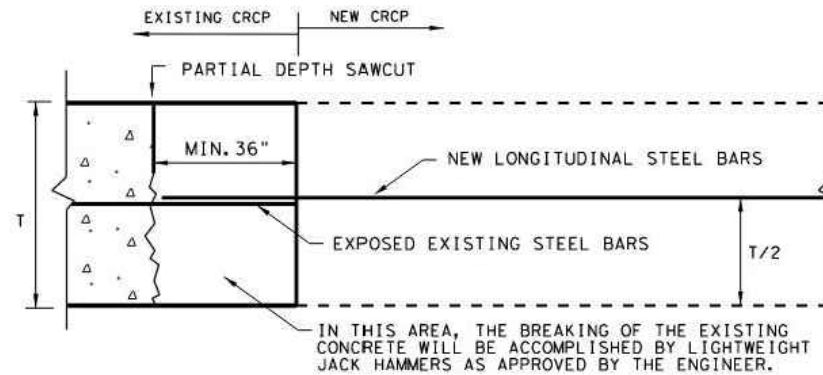


STAGGER THE LAP LOCATIONS SO THAT NO MORE THAN 1/3 OF THE LONGITUDINAL STEEL IS SPLICED IN ANY GIVEN 12-FT. WIDTH AND 2-FT. LENGTH OF THE PAVEMENT. ANY OTHER LAP CONFIGURATION MEETING THIS REQUIREMENT WILL BE ALLOWED.

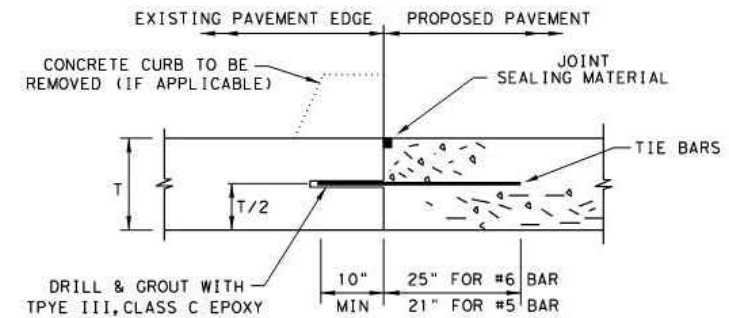
EXAMPLES OF LAP CONFIGURATION PLAN VIEW (NOT TO SCALE)



OPTION A: DRILL AND EPOXY PLAN VIEW (NOT TO SCALE)



OPTION B: BREAKBACK AND LAP TRANSVERSE TIE JOINT DETAIL EXISTING CRCP TO NEW CRCP

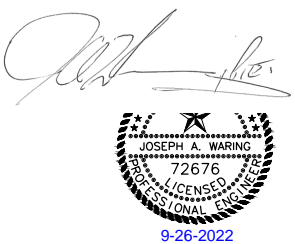


- BEFORE WIDENING WORK, DEMONSTRATE THAT THE BOND STRENGTH OF THE EPOXY-GROUTED TIE BARS MEETS THE REQUIREMENTS OF PULL-OUT TEST SPECIFIED IN ITEM 361.
- SPACE TIE BARS AT 24" SPACING. USE #6 TIE BARS FOR 8" AND THICKER SLABS, USE #5 TIE BARS FOR LESS THAN 8" THICK SLABS.

LONGITUDINAL WIDENING JOINT DETAIL

SHEET 2 OF 2

Texas Department of Transportation		Design Division Standard	
<b>CONTINUOUSLY REINFORCED CONCRETE PAVEMENT</b>			
<b>ONE LAYER STEEL BAR PLACEMENT</b>			
<b>T - 7 TO 13 INCHES</b>			
<b>CRCP (1) - 20</b>			
FILE: crcp120.dgn	DW: TxDOT	CK: EM	DW: AN
©TxDOT: APRIL 2020	CONT SECT	JOB	HIGHWAY
REVISIONS:			
03/16/2020 REMOVED TABLE 1A	DIST	COUNTY	SHEET NO.
			23



DATE: 9/21/2022 SAVE BY: DKS

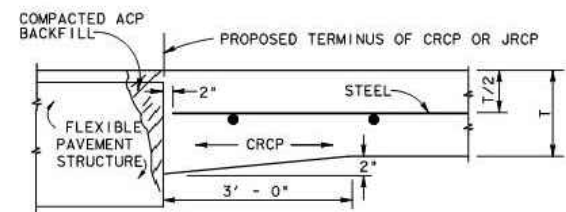
REV. #	BY	DATE	DESCRIPTION

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Remove Ind. Track	Right of Way	Signal

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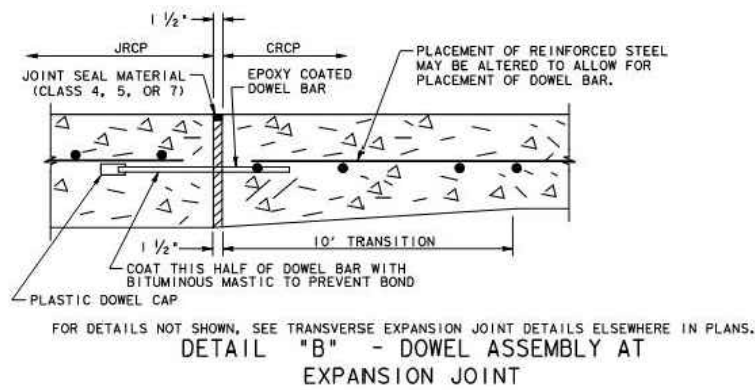


FES #:	47960	DOCUMENT TYPE:	ISSUED FOR BID
DRAWN BY:	DKS, EB	FOR USE IN AGREEMENT WITH:	UNION PACIFIC RAILROAD
CHECKED BY:	BDB	LOCATION & DESCRIPTION:	MILEPOST 1/4, FREEPORT IND LEAD FREEPORT, BRAZORA, TEXAS
DATE:	9/21/22	TRACKAGE TO SERVE:	PORT FREEPORT
SHEET NUMBER:	26 OF 69	SHEET TITLE:	CONTINUOUSLY REINFORCED CONCRETE PAVEMENT - CRCP(1)-20



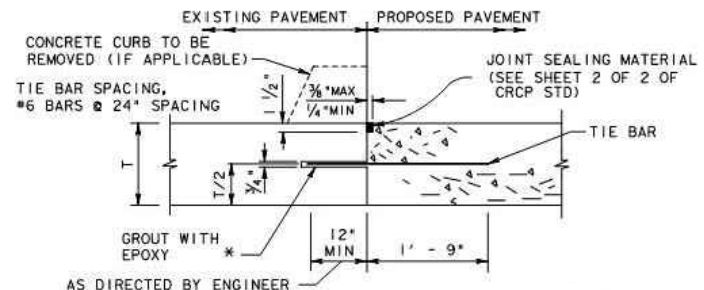
NOTE:  
ADDITIONAL CONCRETE FOR THICKENED EDGE IS INCIDENTAL TO VARIOUS BID ITEMS. BACKFILL DISTURBED MATERIAL IN THE FLEXIBLE PAVEMENT WITH ACP. THIS ACP IS INCIDENTAL TO VARIOUS BID ITEMS.

**JUNCTURE A & B - CRCP OR JRCP WITH FLEXIBLE TYPE PAVEMENT STRUCTURE**



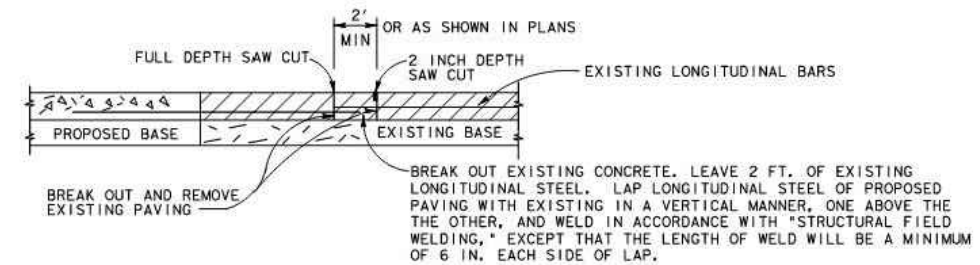
DOWEL BAR DATA			
SLAB THICKNESS (T)	6"-7.5"	8"-10"	10.5"-15"
DOWEL SIZE	1"	1 1/4"	1 1/2"
DOWEL LENGTH	18"	20"	22"
DOWEL BAR SPACING	12"	12"	12"

**TABLE A - DOWEL BAR DATA**



**JUNCTURE D - TYPICAL CONNECTION TO EXISTING CONCRETE**

\*FOR EPOXY TYPE SEE ITEM 361.



**JUNCTURE F - "BREAK BACK" CONCRETE CRCP WITH CRCP OR JRCP WITH JRCP**

**GENERAL NOTES**

- FOR FURTHER INFORMATION REGARDING PLACING CONCRETE AND REINFORCEMENT, REFER TO THE GOVERNING SPECIFICATION FOR CONCRETE PAVEMENT.
- THE DESIGN REQUIREMENTS FOR THE PAVEMENT STRUCTURE, I.E. BAR SPACING, BAR SIZE LAP REQUIREMENTS, ETC., ARE SHOWN ON THE APPROPRIATE PAVEMENT DESIGN DETAIL.
- SLEEPER SLAB AND ADDITIONAL REINFORCING REQUIRED ON THIS DRAWING ARE INCIDENTAL TO THE VARIOUS BID ITEMS.
- USE THE SIZE, SPACING, AND LENGTH OF DOWEL BARS SHOWN IN TABLE "A".
- WHERE THERE WILL BE A JUNCTURE AND ADDITIONAL JRCP PAVING WILL BE PLACED AT A FUTURE DATE, MULTIPLE PIECE DOWEL BARS WILL BE PERMITTED AT THE JUNCTURE. PROVIDE MULTIPLE PIECE DOWEL BAR ASSEMBLIES WITH A MINIMUM ULTIMATE TENSILE STRENGTH OF 60.0 KIPS AND THAT HAVE SMOOTH EPOXY COATED BARS. ENSURE THE MULTIPLE PIECE DOWEL BAR ASSEMBLIES HAVE STOP TYPE COUPLINGS AND HAVE HAD ROLLED THREADS ON THE BARS. DISMANTLE THE BAR AND FIT THE COUPLING PORTION USED IN CONSTRUCTION, WITH A PLASTIC CAP. FURNISH THE REMAINING PORTION OF THE BAR TO THE ENGINEER.
- WHERE THE PAVING IS CRCP AND A RAMP COMPOSED OF A FLEXIBLE PAVEMENT WILL BE USED AT THE JUNCTURE UNTIL FUTURE PAVING IS CONSTRUCTED, MULTIPLE PIECE TIE BARS MAY BE USED IF PERMITTED BY THE ENGINEER. IF USED, ENSURE THE MULTIPLE PIECE TIE BAR ASSEMBLIES HAVE STOP TYPE COUPLINGS AND ROLLED THREADS ON THE BARS. FURNISH MULTIPLE PIECE TIE BAR ASSEMBLIES THAT DEVELOP A MINIMUM ULTIMATE TENSILE STRENGTH EQUAL TO 1.25 TIMES THE YIELD STRENGTH OF THE TRANSVERSE BARS BEING JOINED. FOR TIE BARS, USE DEFORMED REINFORCING BARS. TIE BAR ASSEMBLIES MADE FROM STEELS OTHER THAN ASTM GRADE 60 AND WITH DEFORMATIONS OTHER THAN ASTM STD. MAY BE USED PROVIDED THEY PROVE SATISFACTORY TO THE ENGINEER AND ARE IN EVERY RESPECT THE EQUAL TO THE ASSEMBLIES SPECIFIED. LABORATORY TESTING OF THE PROPOSED ASSEMBLIES, AT THE CONTRACTOR'S EXPENSE, MAY BE REQUIRED. LAP AND WELD ONE PORTION OF THE TIE BAR ASSEMBLY TO EACH LOGITUDINAL BAR IN ACCORDANCE WITH THE ITEM "STRUCTURAL FIELD WELDING" AND THE OTHER PORTION INTO THE COUPLING PRIOR TO PAVING. ENSURE MULTIPLE PIECE TIE BAR LENGTHS CONFORM TO THE TIE BAR LENGTHS SHOWN ELSEWHERE IN THE PLANS. ADDITIONAL "SHEAR STEEL" WILL ALSO BE REQUIRED AND MAY BE USED WITH MULTIPLE PIECE ASSEMBLIES AS PREVIOUSLY DESCRIBED. USE ADDITIONAL STEEL BARS OF EQUAL DIAMETER AT A SPACING DOUBLE THAT OF THE LOGITUDINAL STEEL AND ENSURE THE LENGTH IS 66 TIMES THE TIE BAR DIAMETER.
- DO NOT SHEAR CUT DOWEL BARS.
- ENSURE DOWEL BAR EPOXY COATING CONFORMS TO ARTICLE 440.2.F., "EPOXY COATING".
- REPLACE ANY BENT LONGITUDINAL REINFORCING. IF THERE IS NOT SUFFICIENT EXPOSED REINFORCING TO PROVIDE A MINIMUM OF A 33 TIMES BAR DIAMETER LAP, REMOVE THE EXISTING PAVEMENT AND SUFFICIENTLY EXPOSE THE EXISTING REINFORCING TO PROVIDE A 33 TIMES BAR DIAMETER LAP. REPLACE ANY SHEAR BARS THAT ARE DISTURBED, BY DRILLING AND GROUTING AS REQUIRED BY NOTE 12 BELOW. PERFORM THIS CORRECTIVE ACTION AT NO EXPENSE TO THE DEPARTMENT.
- TIE BARS AND DOWEL BARS OMITTED, LOST, OR DAMAGED SHALL BE REPAIRED BY DRILLING AND EPOXY GROUTING AT NO EXPENSE TO THE DEPARTMENT.
- JUNCTURES A & B ARE ONLY SUITABLE FOR MINOR STREETS WITH LOW TRAFFIC VOLUMES.
- FURNISH ADDITIONAL SHEAR BARS (DIAMETER "D") OF THE SAME SIZE AS LONGITUDINAL BARS AND SPACE THEM MIDWAY BETWEEN ALTERNATE LONGITUDINAL BARS ALONG THE TRANSVERSE CONSTRUCTION JOINT FORMED AT THE LEAVE-OUT.

**LEGEND**

- ACP - ASPHALT CONCRETE PAVEMENT
- CRCP - CONTINUOUSLY REINFORCED CONCRETE PAVEMENT
- JRCP - JOINTED REINFORCED CONCRETE PAVEMENT
- T - THICKNESS

SHEET 1 OF 2

Texas Department of Transportation  
Houston District

**CONCRETE PAVEMENT JUNCTURES**

CPJ

FILE# ST08-5.dgn	DN#	CK#	DN#	CK#
© TXDOT DEC. 2009	DIST	FED REG	PROJECT NO.	SHEET
REVISIONS	HOU	6		24
5/05 2004 SPECS	COUNTY	CONTROL	SECT	JOB
REVISED 4/2008				HIGHWAY

DATE: 9/21/2022 SAVE BY: DKS

REV. #	BY	DATE	DESCRIPTION

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**UNION PACIFIC RAILROAD**

DATE: 9/21/22  
SHEET NUMBER: 27 OF 69

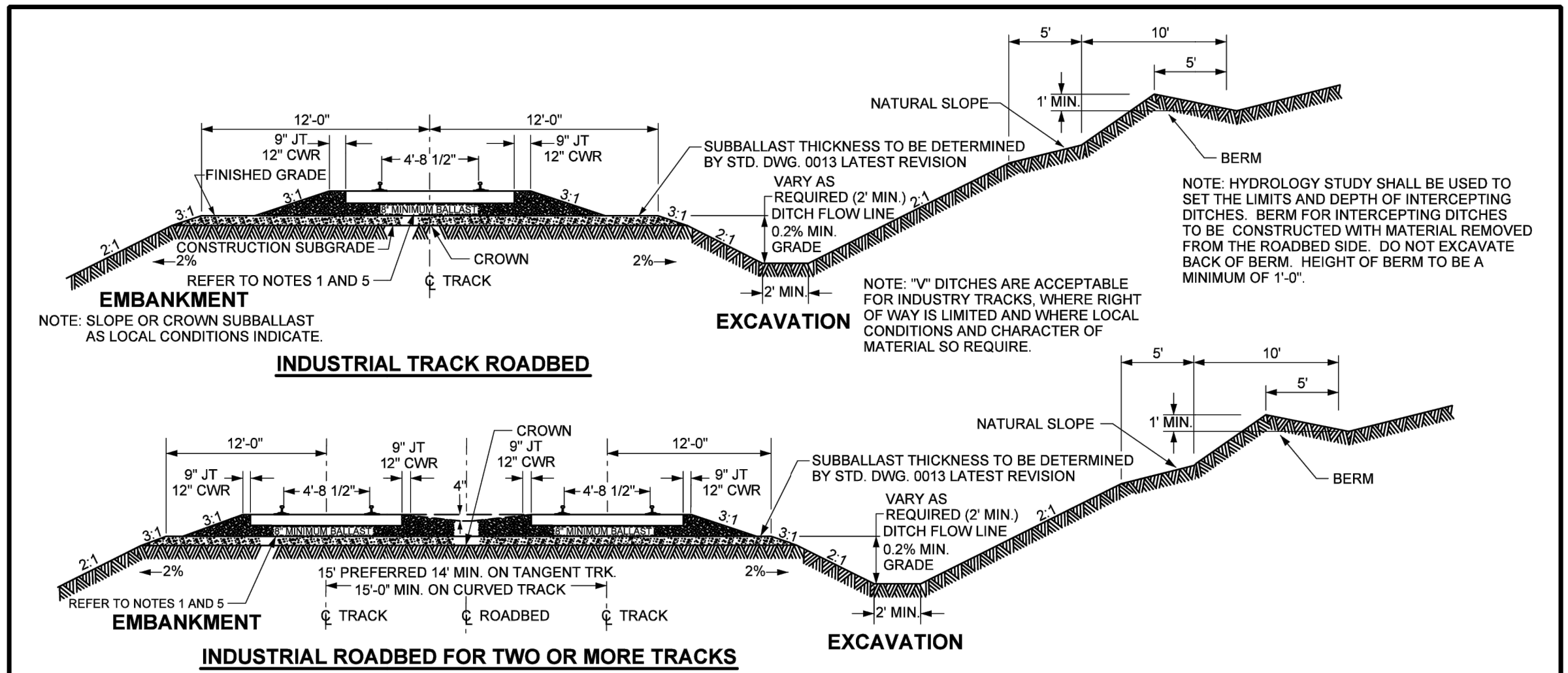
FES #: 47960 DOCUMENT TYPE: ISSUED FOR BID

DRAWN BY: DKS, EB  
CHECKED BY: BDB

LOCATION & DESCRIPTION: MILEPOST 1/4, FREEPORT IND LEAD FREEPORT, BRAZORA, TEXAS TRACKAGE TO SERVE: PORT FREEPORT

SHEET TITLE: CONCRETE PAVEMENT JUNCTURES - CPJ

DATE: 9/21/2022 SAVE BY: DKS



**EMBANKMENT**  
NOTE: SLOPE OR CROWN SUBBALLAST AS LOCAL CONDITIONS INDICATE.

**EXCAVATION**  
NOTE: "V" DITCHES ARE ACCEPTABLE FOR INDUSTRY TRACKS, WHERE RIGHT OF WAY IS LIMITED AND WHERE LOCAL CONDITIONS AND CHARACTER OF MATERIAL SO REQUIRE.

NOTE: HYDROLOGY STUDY SHALL BE USED TO SET THE LIMITS AND DEPTH OF INTERCEPTING DITCHES. BERM FOR INTERCEPTING DITCHES TO BE CONSTRUCTED WITH MATERIAL REMOVED FROM THE ROADBED SIDE. DO NOT EXCAVATE BACK OF BERM. HEIGHT OF BERM TO BE A MINIMUM OF 1'-0".

**INDUSTRIAL TRACK ROADBED**

**INDUSTRIAL ROADBED FOR TWO OR MORE TRACKS**

- NOTES:**
1. IF USING CONCRETE TIES - 12" MINIMUM BALLAST UNDER TIES  
IF USING STEEL TIES - 12" MINIMUM BALLAST UNDER TIES
  2. PREFERABLY TRACKS WILL NOT BE DEPRESSED BELOW GROUND LEVEL PARTICULARLY IN SNOW AND HIGH RUNOFF TERRITORIES. TRACKS CONSTRUCTED AT OR BELOW GROUND LEVEL MUST HAVE FULL STANDARD ROADBED DITCHES.
  3. ALL NECESSARY DRAINAGE FACILITIES TO DIVERT RUNOFF WATER AWAY FROM TRACKS ARE TO BE PROVIDED AS APPROVED BY UNION PACIFIC RAILROAD'S AVP ENGINEERING DESIGN.
  4. WALKWAYS WILL BE CONSTRUCTED TO COMPLY WITH STATE REQUIREMENTS.
  5. THESE STANDARDS DO NOT APPLY TO HEAVY TONNAGE AND/OR HIGH DENSITY LINES, REFER TO STD. DWG. 0001 LATEST REVISION.
  6. ALL FILL SLOPES, BERMS AND OTHER DISTURBED AREAS SHALL BE FACED WITH COVER OF MATERIAL SUITABLE FOR GROWING GRASS AND HAVING A THICKNESS OF APPROXIMATELY 6 INCHES. THE OUTER SURFACE OF THIS COVER SHALL COINCIDE WITH THE DESIGN SLOPE OF THE EMBANKMENT. MATERIAL FOR THIS COVER MAY BE OBTAINED FROM STRIPPING. SEEDING SHALL CONFORM TO THE DEPARTMENT OF TRANSPORTATION SPECIFICATION FOR THAT STATE AND REGION.
  7. SLOPES SHOWN FOR BANKS IN CUTS AND ON FILLS SHALL BE CONSIDERED STANDARD AND GENERALLY USED, BUT MAY BE MODIFIED AS REQUIRED BY LOCAL CONDITIONS AND CHARACTER OF MATERIAL.
  8. WHERE OFF-TRACK ROADWAY IS TO BE PROVIDED, ADD 10'-0" ADDITIONAL WIDTH TO THE ROADBED SECTION AT TOP OF SUBBALLAST ELEVATION.

STD DWG  
0003B

**UNION PACIFIC RAILROAD  
ENGINEERING STANDARDS**

**ROADBED SECTION  
FOR INDUSTRIAL  
TRACK CONSTRUCTION**

ADOPTED: SEP. 21, 2020  
REVISED: NOV. 1, 2021  
FILE NO.: 0003

STD DWG  
**0003B**

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REV. #	BY	DATE	DESCRIPTION

<ul style="list-style-type: none"> <li><span style="color: red;">—</span> Ex. UPRR Track</li> <li><span style="color: green;">—</span> Prop. UPRR Track</li> <li><span style="color: blue; text-decoration: underline wavy;">—</span> Remove UPRR Track</li> <li><span style="color: orange; text-decoration: underline wavy;">—</span> Shift UPRR Track</li> <li><span style="color: red;">—</span> Ex. Ind. Track</li> <li><span style="color: green;">—</span> Prop. Ind. Track</li> <li><span style="color: blue; text-decoration: underline wavy;">—</span> Remove Ind. Track</li> </ul>	<ul style="list-style-type: none"> <li><span style="color: orange;">—</span> Shift Ind. Track</li> <li><span style="color: purple;">—</span> Future Ind. Track</li> <li><span style="color: blue; text-decoration: underline wavy;">—</span> Prop. Leased Ind. Trk</li> <li><span style="color: red; text-decoration: underline wavy;">—</span> Ex. Leased Ind. Trk</li> <li><span style="color: grey;">—</span> No RR Operations</li> <li><span style="color: purple;">—</span> Other Ind. Track</li> <li><span style="color: blue; text-decoration: underline wavy;">—</span> Right of Way</li> </ul>	<ul style="list-style-type: none"> <li> Hand Throw Turnout</li> <li> Power Turnout</li> <li> Power Derail</li> <li> Hand Throw Derail</li> <li> Point of Curve</li> <li> Bridge</li> <li> Signal</li> </ul>
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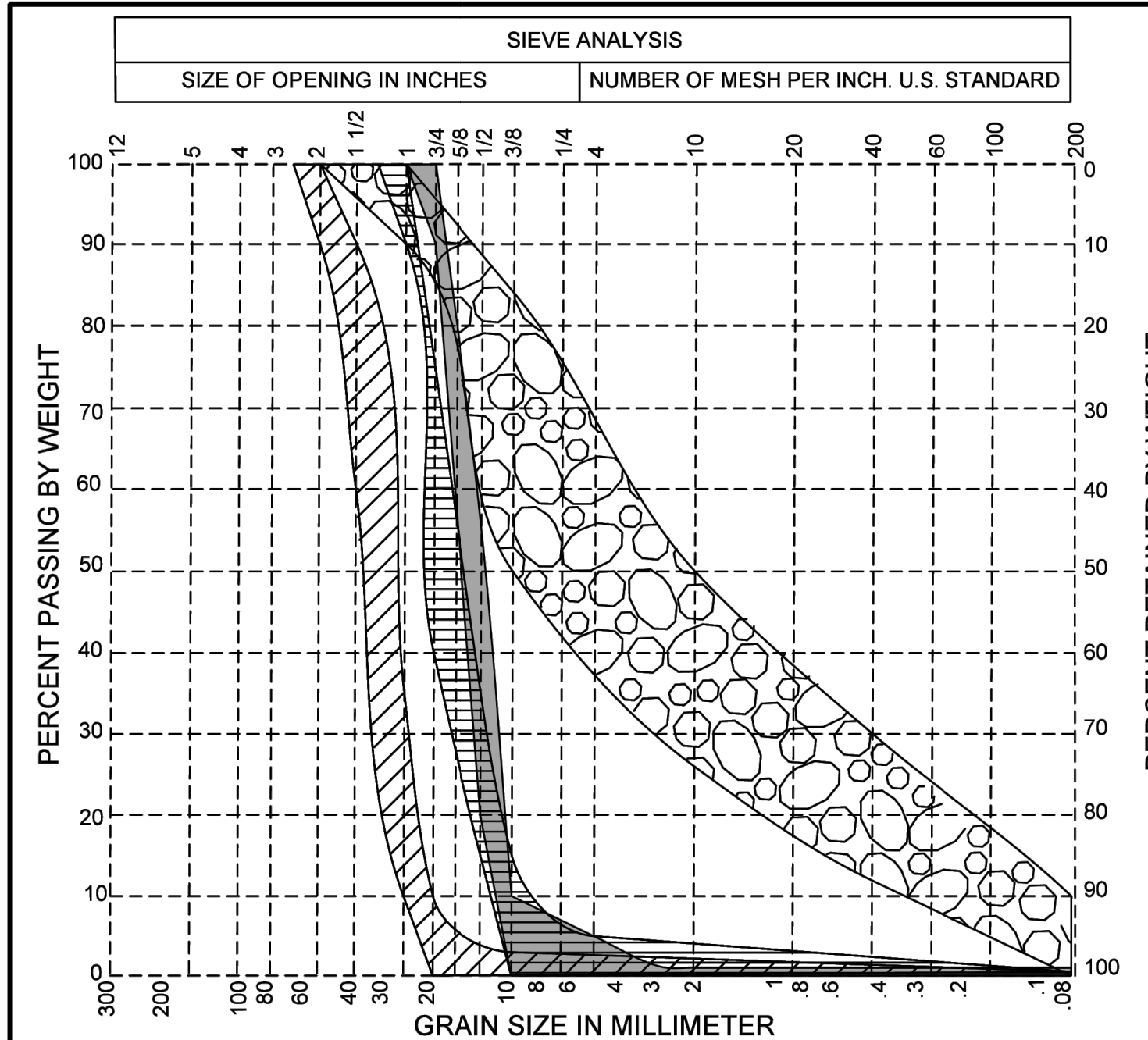
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DATE: 9/21/22	
SHEET NUMBER: 28 OF 69	SHEET TITLE: UNION PACIFIC RAILROAD ENGINEERING STANDARDS - DETAIL 0003B

DATE: 9/21/2022 SAVE BY: DKS



SIEVE ANALYSIS				
UP BALLAST CLASS				
SQUARE OPENING	1	2	3	SUB BALLAST
2"-3/8"	2"-3/8"	1"- NO. 4	3/4"- NO. 8	1 1/2"-0"
2 1/2"	100	—	—	—
2"	90-100	—	—	100
1 1/2"	50-80	100	—	—
1 1/4"	—	100	—	—
1"	10-35	90-100	100	90-100
3/4"	0-10	40-75	90-100	—
1/2"	0-5	15-35	20-55	—
3/8"	—	0-15	0-10	50-84
No.4	—	0-5	0-5	—
No.8	—	—	0-1	—
No.10	—	—	—	26-50
No.40	—	—	—	12-30
No.200	0-.5	0-.5	0-1	0-10

PERCENT PASSING (BY WEIGHT)  
[ALL AGGREGATE SAMPLING AND TESTING PER  
ASTM LATEST REVISION.]

- NOTES:
- FOR STANDARD CROSS SECTIONS, SEE STD DWG 0001, OR STD DWG 0002.
  - SELECT MATERIAL TO BE USED AS SUBBALLAST IN POOR NATIVE SOIL CONDITIONS WHERE SPECIFIED BY CHIEF ENGINEER.
  - CLASS 1 AND CLASS 2 BALLAST MATERIALS ARE REQUIRED TO BE WASHED PRIOR TO LOADING.

COBBLES	COARSE	FINE	COARSE	MEDIUM	FINE
	GRAVEL		SAND		

STD DWG <b>0010A</b> PAGE 1 OF 2	CLASS 1 BALLAST FOR MAIN TRACK (OLD "D")	<table border="1"> <tr><th>BALLAST CLASS</th><th>ITEM NO.</th></tr> <tr><td>1</td><td>562-0766</td></tr> <tr><td>2</td><td>562-1432</td></tr> <tr><td>3</td><td>562-2098</td></tr> <tr><td>SUBBALLAST</td><td>562-5428</td></tr> </table>	BALLAST CLASS	ITEM NO.	1	562-0766	2	562-1432	3	562-2098	SUBBALLAST	562-5428
	BALLAST CLASS	ITEM NO.										
	1	562-0766										
	2	562-1432										
3	562-2098											
SUBBALLAST	562-5428											
CLASS 2 BALLAST FOR SECONDARY MAIN, BRANCH AND YARD TRACK (OLD "C")												
CLASS 3 BALLAST SCREENINGS FOR SIGNAL MOUNDS, ETC..												
SELECT MATERIAL (SUBBALLAST - SEE NOTE 2)												

**UNION PACIFIC RAILROAD  
ENGINEERING STANDARDS**

**BALLAST & SUBBALLAST  
MATERIAL SPECIFICATIONS**

ADOPTED: SEP. 21, 2020  
 REVISED: OCT. 29, 2021  
 FILE NO.: 0010

STD DWG  
**0010A**  
 PAGE 1 OF 2

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REV. #	BY	DATE	DESCRIPTION

Ex. UPRR Track	Shift Ind. Track	Hand Throw Turnout
Prop. UPRR Track	Future Ind. Track	Power Turnout
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Ex. Ind. Track	No RR Operations	Point of Curve
Prop. Ind. Track	Other Ind. Track	Bridge
Remove Ind. Track	Right of Way	Signal

**FREESE & NICHOLS**

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 Pearland, Texas 77584  
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 Fax - (832) 456-4701  
 Freese and Nichols, Inc.  
 Texas Registered Engineering Firm F-2144



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CHECKED BY: BDB	LOCATION & DESCRIPTION: MILEPOST 1/4, FREEPORT IND LEAD FREEPORT, BRAZORA, TEXAS TRACKAGE TO SERVE: PORT FREEPORT
DATE: 9/21/22	SHEET TITLE: UNION PACIFIC RAILROAD ENGINEERING STANDARDS - DETAIL 0010A
SHEET NUMBER: 29 OF 69	

**BALLAST AND SUBBALLAST MATERIAL SPECIFICATIONS**


TEST SPECIFICATION	ASTM TEST	LIMITING VALUES	
		BALLAST CLASS 1, 2 & 3	SUBBALLAST
MATERIAL TYPES ALLOWED		NATURALLY OCCURRING, CRUSHED ROCK BALLAST	NATURALLY OCCURRING, SINGLE SOURCE, CRUSHED STONE
WASHING 100% REQUIRED		YES*	NO
ABRASION NUMBER	ASTM C535 AND MMA	30% MAX.	
L.A. ABRASION NUMBER	ASTM C535 OR C131	25% MAX.	50% MAX.
SOUNDNESS (SODIUM SULFATE) LOSS	ASTM C88	1.8% MAX.	10% MAX.
FLAT OR ELONGATED PARTICLES	ASTM D4791 OR USACE CRD-C119	5% MAX.	
ABSORPTION	ASTM C127	0.5% MAX.	
BULK SPECIFIC GRAVITY	ASTM C127	2.6 MIN.	
PASSING NO. 200 SIEVE**	ASTM C117	0.5% MAX.	10% MAX.
CLAY LUMPS AND FRIABLE PARTICLES	ASTM C142	0.4% MAX.	
TOTAL SAMPLE LIQUID LIMIT	ASTM D423	25 MAX.	
TOTAL SAMPLE PLASTICITY INDEX	ASTM D424	6 MAX.	
SAMPLING AND TESTING FREQUENCY	ASTM D75	10,000 TONS	

\*APPLIES TO CLASS 1 AND 2, INCLUDING REWASHING PROCESSED BALLAST (STOCK PILES)

\*\*WASHED SAMPLE

**UNION PACIFIC RAILROAD  
ENGINEERING STANDARDS**

**BALLAST & SUBBALLAST  
MATERIAL SPECIFICATIONS**



ADOPTED: SEP. 21, 2020  
REVISED: OCT. 29, 2021  
FILE NO.: 0010

STD DWG  
**0010A**  
PAGE 2 OF 2

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STD DWG  
**0010A**  
 PAGE 2 OF 2



DATE: 9/21/2022 SAVE BY: DKS

REV. #	BY	DATE	DESCRIPTION

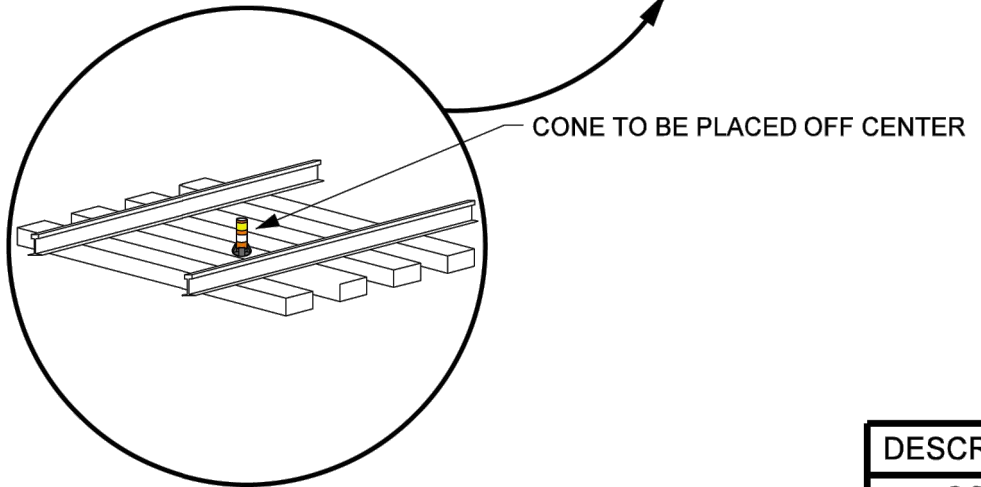
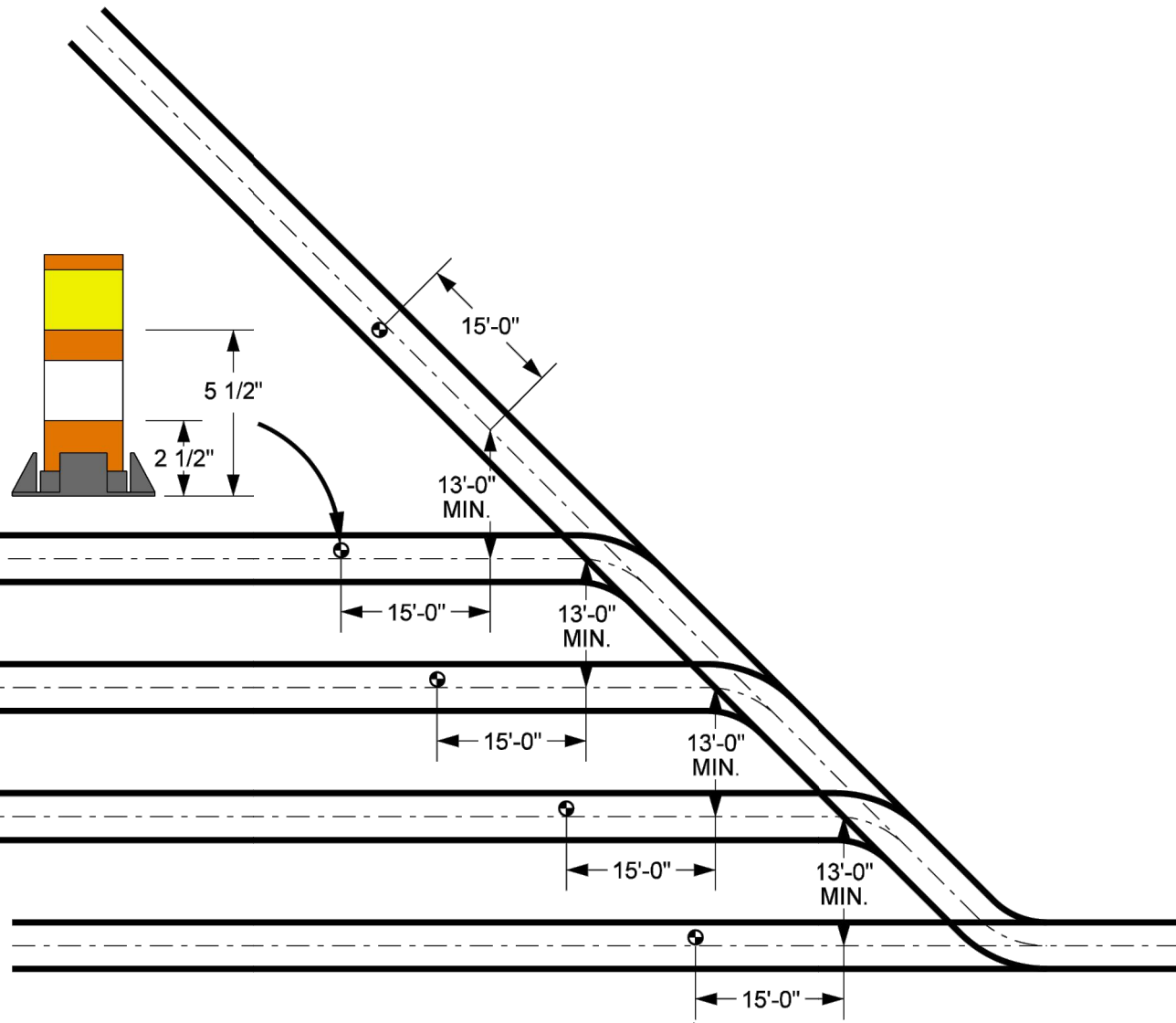
Ex. UPRR Track	Shift Ind. Track	Hand Throw Turnout
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DATE: 9/21/22	
SHEET NUMBER: 30 OF 69	SHEET TITLE: UNION PACIFIC RAILROAD ENGINEERING STANDARDS - DETAIL 0010A



- NOTES:
1. USE OF CONES IS REQUIRED.
  2. CONES TO BE PLACED IN CLASSIFICATION YARDS AND AT OTHER SWITCHING LOCATIONS DESIGNATED BY THE GENERAL MANAGER.
  3. CONES NOT REQUIRED AT DERAIL LOCATIONS.
  4. CONES TO BE INSTALLED 15 FEET FROM 13 FEET TRACK CENTER LOCATION.
  5. INSTALL CONE OFF CENTER TO PREVENT THE CONE FROM BEING HIT BY AIR HOSES.
  6. IN YARDS WHERE TRACK CENTERS ARE LESS THAN 13 FEET, THE LOCATION WHERE THE SPREAD MEETS THE DESIGNED TRACK CENTER IS CONSIDERED THE CLEARANCE POINT, AND MARKER IS TO BE PLACED 15 FEET FROM THAT LOCATION.
  7. CLEARANCE CONES REQUIRED ON ALL INDUSTRY MAINTAINED TRACKS.

**UNION PACIFIC RAILROAD  
ENGINEERING STANDARDS**

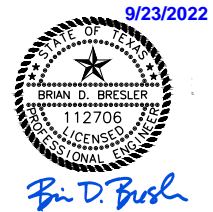
**CLEARANCE POINT  
MARKING**

ADOPTED: SEP. 21, 2020  
 REVISED: MAR. 8, 2021  
 FILE NO.: 0026

**STD DWG  
0026A**

DESCRIPTION	ITEM NO.
CONE	380-0630

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**STD DWG  
0026A**

REV. #	BY	DATE	DESCRIPTION

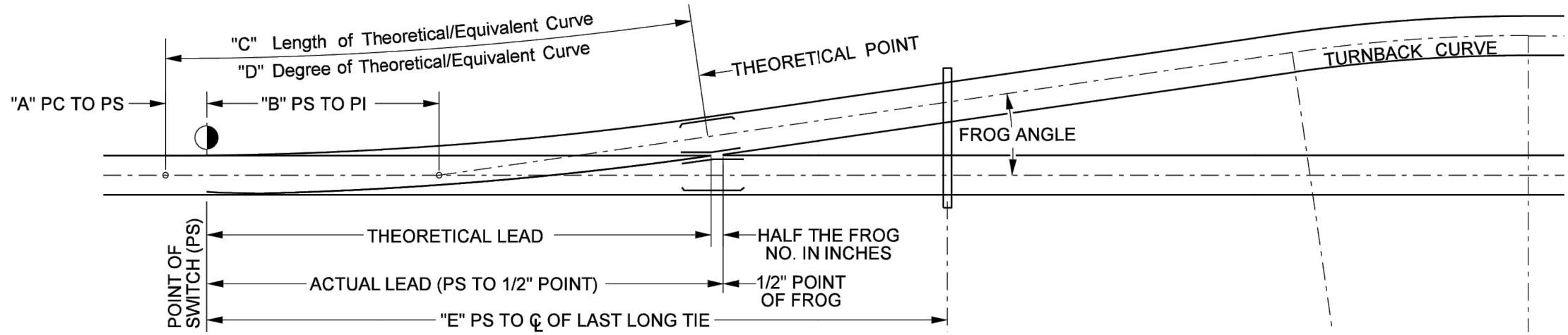
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DATE: 9/21/22	SHEET TITLE: UNION PACIFIC RAILROAD ENGINEERING STANDARDS - DETAIL 0026A
SHEET NUMBER: 31 OF 69	



**THEORETICAL TURNOUT DESIGN DATA**  
(SEE INDIVIDUAL TURNOUT STANDARDS FOR ACTUAL TURNOUT GEOMETRY)

FROG NO.	FROG ANGLE	SWITCH LENGTH	ACTUAL LEAD	THEO. LEAD	DESIGN RADIUS	"A"	"B"	"C"	"D"	"E"	TURNBACK CURVE	TURNBACK RADIUS
7	8°10'16"	16.5'	64.52'	64.23'	461.44	1.69'	31.27'	65.81'	12°26'29"	94'-7"	12°30'00"	459.28'
8.5	6°43'59"	15.0'	70.19'	69.84'	680.26	10.20'	29.82'	79.94'	8°25'49"	100'-0"	8°30'00"	674.69'
9	6°21'35"	16.5'	72.92'	72.54'	762.68'	12.20'	30.17'	84.66'	7°31'04"	109'-8"	7°30'00"	764.49'
9 C.S.	6°21'35"	16.5'	72.92'	72.54'	762.68'	12.20'	30.17'	84.66'	7°31'04"	107'-4 1/2"	7°30'00"	764.49'
9 STEEL	6°21'35"	16.5'	72.92'	72.54'	762.68'	12.20'	30.17'	84.66'	7°31'04"	105'-7"	7°30'00"	764.49'
10	5°43'29"	16.5'	80.30'	79.89'	941.72'	14.29'	32.80'	94.09'	6°05'13"	120'-5"	6°00'00"	955.37'
10 CONC	5°43'29"	16.5'	80.30'	79.89'	941.72'	14.29'	32.80'	94.09'	6°05'13"	120'-5"	6°00'00"	955.37'
11 C.S.	5°12'18"	19.5'	83.50'	83.04'	1139.44'	20.54'	31.25'	103.51'	5°01'48"	124'-7"	5°00'00"	1146.28'
11 CONC	5°12'18"	19.5'	83.50'	83.04'	1139.44'	20.54'	31.25'	103.51'	5°01'48"	124'-3 1/2"	5°00'00"	1146.28'
11 STEEL	5°12'18"	19.5'	83.50'	83.04'	1139.44'	20.54'	31.25'	103.51'	5°01'48"	123'-2"	5°00'00"	1146.28'
14	4°05'27"	24.0'	115.70'	115.11'	1845.60'	16.71'	49.20'	131.77'	3°06'17"	175'-10 1/2"	3°00'00"	1910.08'
14 CONC	4°05'27"	24.0'	115.70'	115.11'	1845.60'	16.71'	49.20'	131.77'	3°06'17"	176'-1 3/8"	3°00'00"	1910.08'
15 C.S.	3°49'06"	26.0'	111.23'	110.60'	2119.01'	30.66'	39.97'	141.22'	2°42'15"	179'-9 1/2"	3°00'00"	1910.08'
15 CONC	3°49'06"	26.0'	111.23'	110.60'	2119.01'	30.66'	39.97'	141.22'	2°42'15"	169'-0 1/2"	3°00'00"	1910.08'
20	2°51'51"	39.0'	156.06'	155.22'	3766.59'	33.10'	61.06'	188.29'	1°31'16"	243'-10 5/8"	1°30'00"	3819.83'
20 CONC	2°51'51"	39.0'	156.06'	155.22'	3766.59'	33.10'	61.06'	188.29'	1°31'16"	234'-8"	1°30'00"	3819.83'
20 C.S.	2°51'51"	39.0'	156.06'	155.22'	3766.59'	33.10'	61.06'	188.29'	1°31'16"	249'-0 11/16"	1°30'00"	3819.83'
24 C.S.	2°23'13"	39.0'	177.25'	176.25'	5424.08'	49.75'	63.25'	225.97'	1°03'23"	282'-7 3/4"	1°00'00"	5729.65'
24 CONC	2°23'13"	39.0'	177.25'	176.25'	5424.08'	49.75'	63.25'	225.97'	1°03'23"	267'-0"	1°00'00"	5729.65'
30	1°54'35"	115.5'	256.53'	255.28'	8475.05'	27.22'	114.03'	282.48'	0°40'34"	372'-4 5/8"	0°45'00"	7639.49'

NOTES:  
 1. THE INFORMATION INCLUDED IN THIS DWG IS THEORETICAL DESIGN DATA AND DOES NOT REFLECT ACTUAL TURNOUT GEOMETRY.  
 2. FOR ACTUAL TURNBACK CURVE OFFSETS, REFER TO STD. DWG. 5004.

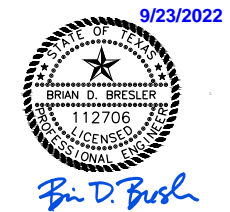
**UNION PACIFIC RAILROAD  
ENGINEERING STANDARDS**

**DESIGN DATA FOR  
TURNOUT LAYOUT**

ADOPTED: SEP. 21, 2020  
 REVISED:  
 FILE NO.: 0050

STD DWG  
**0050**

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DATE: 9/21/2022 SAVE BY: DKS

0050  
STD DWG

REV. #	BY	DATE	DESCRIPTION

Ex. UPRR Track	Shift Ind. Track	Hand Throw Turnout
Prop. UPRR Track	Future Ind. Track	Power Turnout
Remove UPRR Track	Prop. Leased Ind. Trk	Power Derail
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Ex. Ind. Track	No RR Operations	Point of Curve
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Remove Ind. Track	Right of Way	Signal

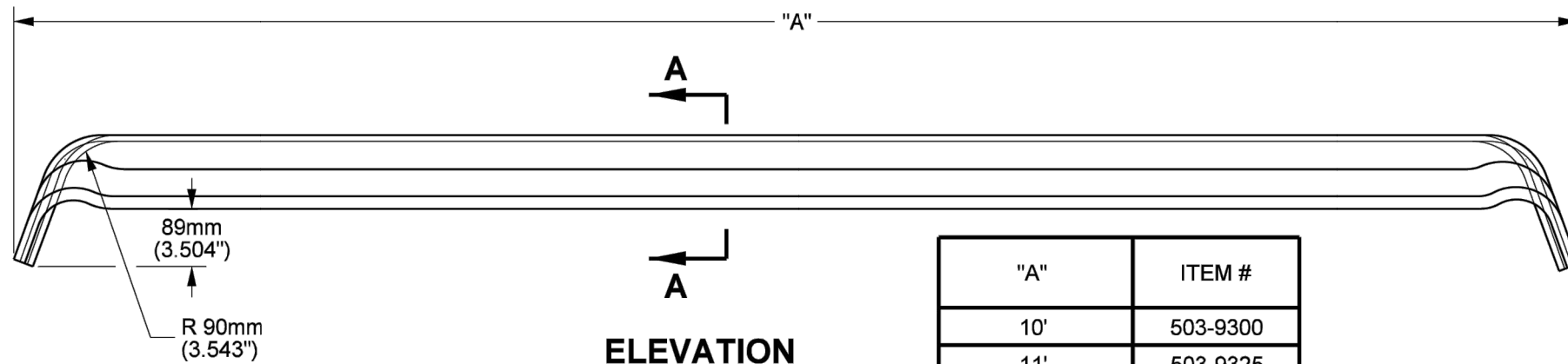
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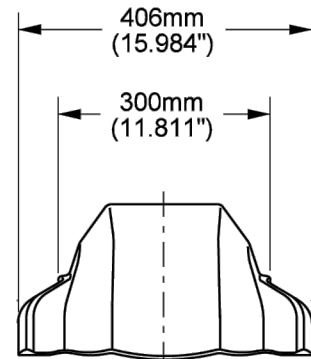
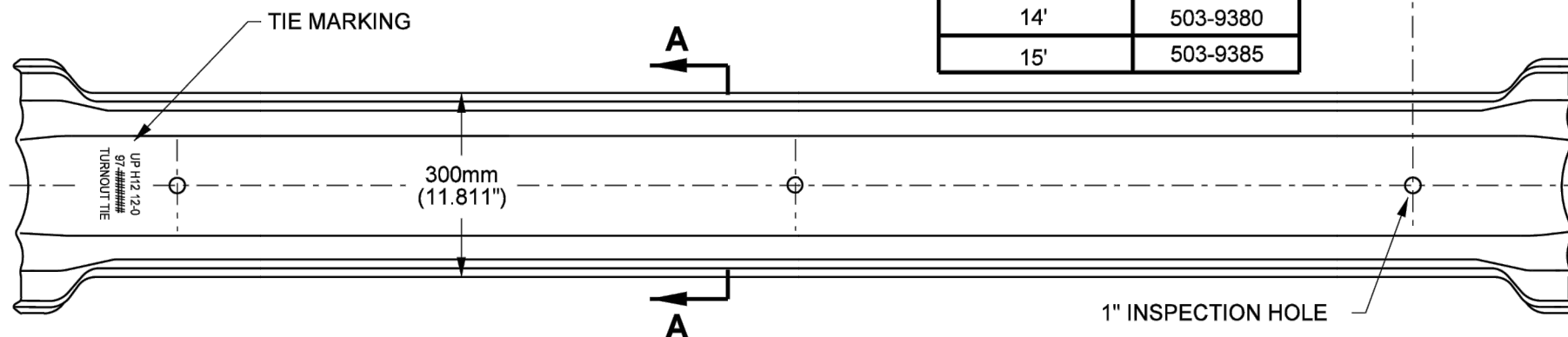


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SHEET NUMBER: 32 OF 69	

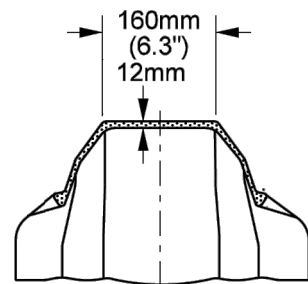




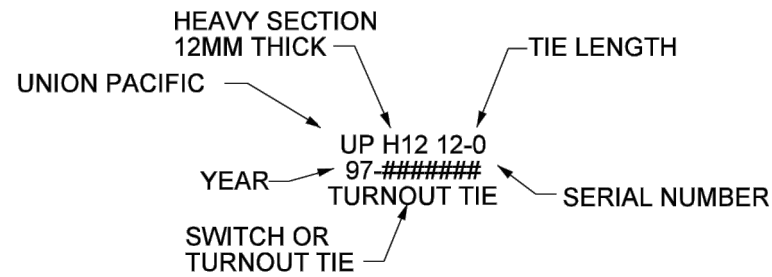
"A"	ITEM #
10'	503-9300
11'	503-9325
12'	503-9350
13'	503-9375
14'	503-9380
15'	503-9385



END ELEVATION



SECTION A-A



TIE MARKING

- NOTES:
- 4 MINI-PLATES REQUIRED FOR EACH SWITCH TIE, TO BE PLACED IN CLOSURE AREA AT TURNOUT.
  - FOR MINI-PLATES SEE STD DWG 0465. FOR STEEL TIE ASSEMBLY SEE STD DWG 0415.

**UNION PACIFIC RAILROAD  
ENGINEERING STANDARDS**

**STEEL TURNOUT TIE**



ADOPTED: SEP. 21, 2020  
REVISED:  
FILE NO.: 0222

STD DWG  
**0222**

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9/23/2022  
*Brian D. Bresler*

DATE: 9/21/2022 SAVE BY:DKS

STD DWG  
**0222**

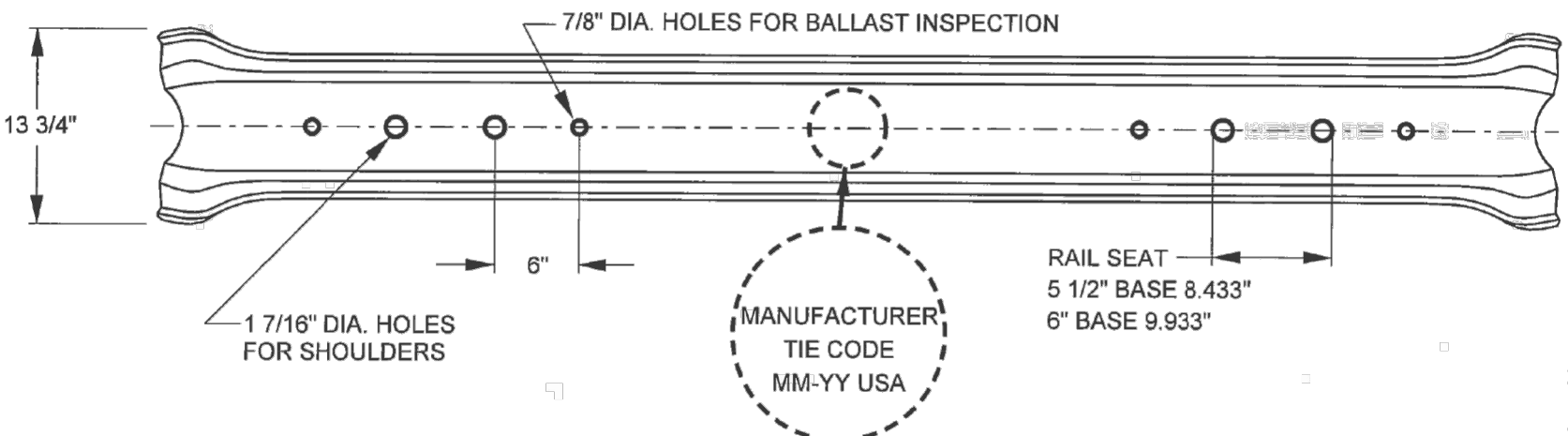
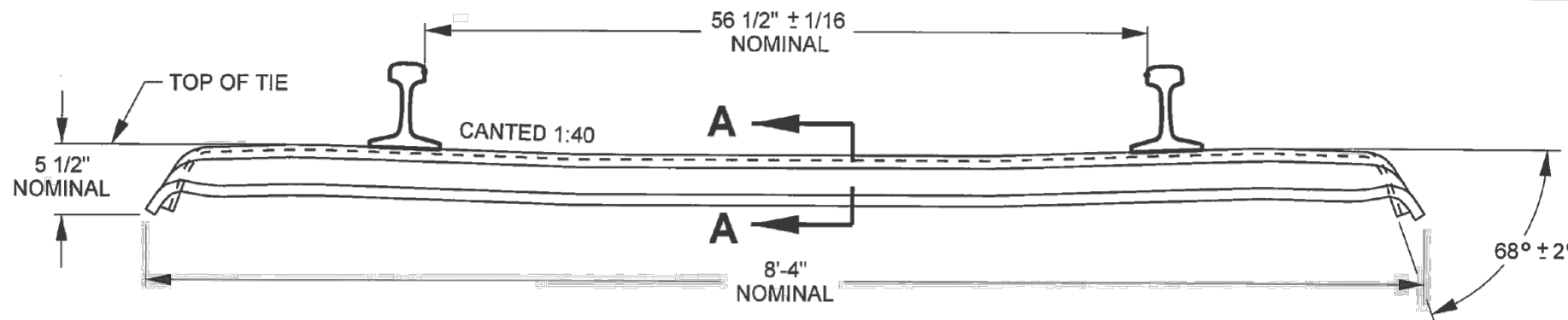
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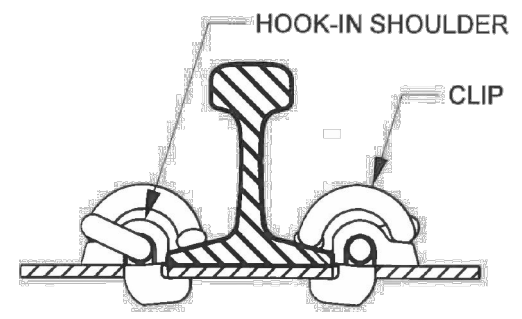
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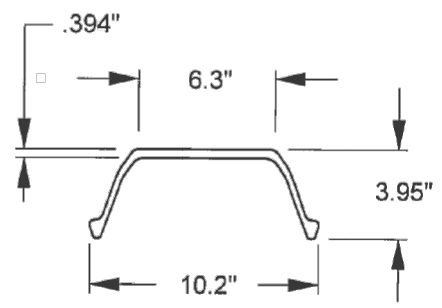
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DATE: 9/21/22	SHEET TITLE: UNION PACIFIC RAILROAD ENGINEERING STANDARDS - DETAIL 0222
SHEET NUMBER: 33 OF 69	



**STAMP DETAIL**



**NON-INSULATED RAIL ASSEMBLY**



**SECTION A-A**

- NOTES:
1. NEW TIES SHALL INCLUDE FOUR HOOK IN SHOULDERS AND FOUR ECLIPS.
  2. TIES SHALL BE MANUFACTURED FROM A242 STEEL.
  3. TIES CAN BE USED IN OTHER THAN MAIN TRACK WHERE NO TRACK CIRCUITS EXIST.
  4. TIE SHALL BE SPACED ON 24" CENTERS. FOR CURVED AND TANGENT TRACK OVER 4 DEGREES, TIES SHALL BE SPACED ON 22" CENTERS.
  5. FOR HOOK-IN SHOULDER, SEE STD DWG 0414 FOR E-CLIP, SEE STD DWG 132500.
  6. MINIMUM BALLAST DEPTH OF 10" REQUIRED MEASURED FROM TOP OF TIE.
  7. RECOMMENDED USE FOR YARD AND INDUSTRY APPLICATIONS.

**UNION PACIFIC RAILROAD  
ENGINEERING STANDARDS**

**M10 STEEL YARD TIE FOR  
5 1/2" & 6" BASE RAIL**

30

DESCRIPTION	ITEM NOS.
M10 - 5 1/2" BASE	503-9270
M10 - 6" BASE	503-9275

ADOPTED: SEPT. 7, 2000  
REVISED: MAR. 19, 2014  
FILE NO.: 0238D

**STD DWG  
0238D**

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**STD DWG  
0238D**

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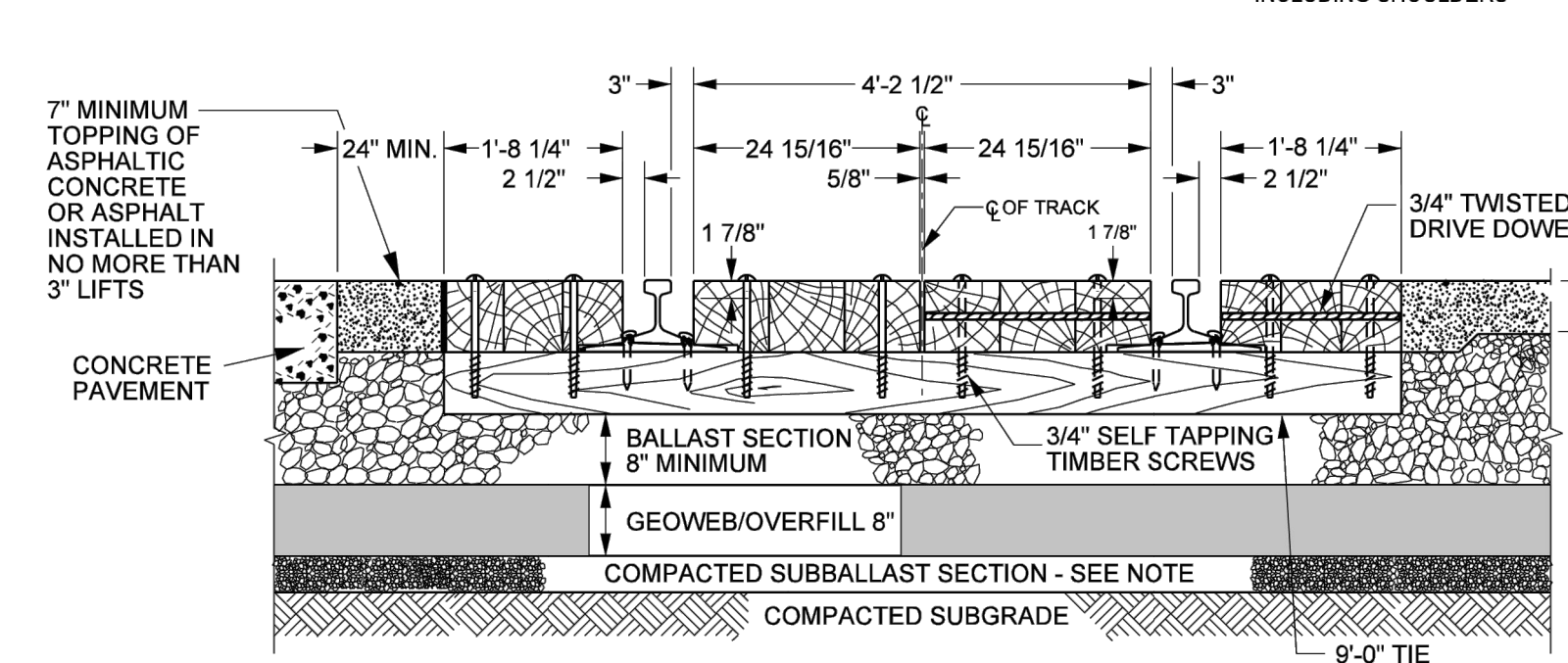
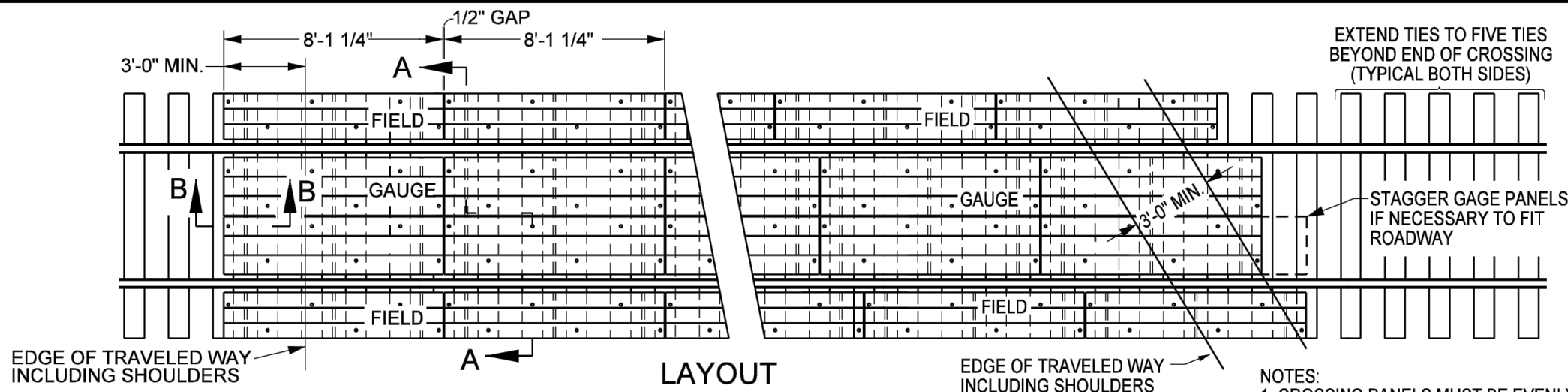
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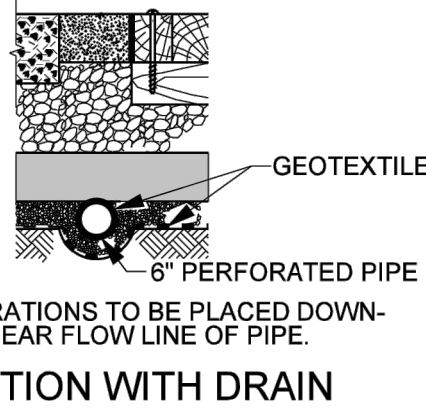
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DATE: 9/21/22	SHEET TITLE: UNION PACIFIC RAILROAD ENGINEERING STANDARDS - DETAIL 0238D
SHEET NUMBER: 34 OF 69	

9/23/2022

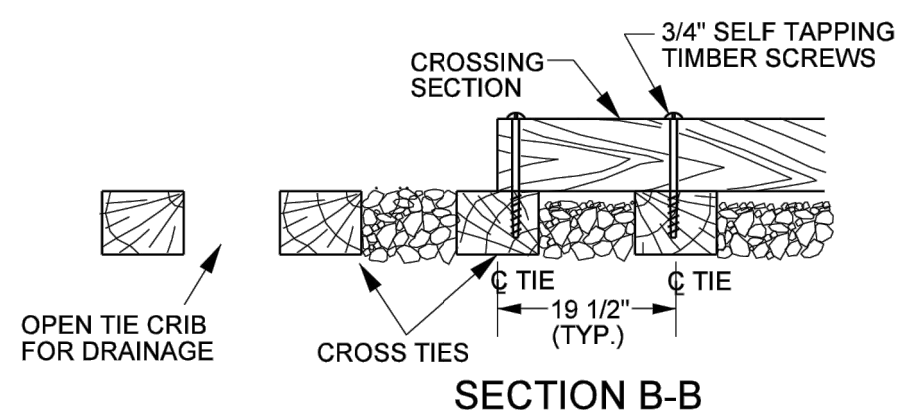
*Brian D. Bresler*



SECTION A-A (THROUGH CROSSING WITH TIMBER TIES)



SECTION WITH DRAIN



SECTION B-B

- NOTES:
- CROSSING PANELS MUST BE EVENLY SUPPORTED ON ALL TIES. TRACK STRUCTURE INCLUDING RAIL, OTM, TIES, BALLAST AND ROADBED MUST BE IN EXCELLENT CONDITION. ALL TIES MUST BE 9' LONG, SPACED AT 19 1/2" CENTERS AND EXTEND FIVE TIES BEYOND END OF CROSSING. NEW 7" X 9" X 9'-0" TRACK TIES TO BE INSTALLED IF NECESSARY.
  - CROSSING SITE IS TO BE INSPECTED PRIOR TO START OF INSTALLATION TO DETERMINE THAT PROPER DRAINAGE AND SURFACE SUPPORT IS PROVIDED, TRACK GRADE IS UNIFORM AND EXISTING TIES ARE AT LEAST 9' LONG.
  - IF CONDITIONS WARRANT, SITE IS TO BE OVER-EXCAVATED AND CROSSING DRAINAGE SYSTEM INSTALLED USING COMPACTED, WELL GRADED GRANULAR FILL; SUBBALLAST, GEOTEXTILE AND PERFORATED DRAINAGE PIPE (IF REQUIRED) INSTALLED PER DETAILS OF THIS DRAWING.
  - GEOWEB UNDERLAYMENT RECOMMENDED FOR ALL ROAD CROSSING INSTALLATIONS.
  - ADDITIONAL SITE DRAINAGE INCLUDING PROPER DRAINAGE AT EACH QUADRANT OF CROSSING SHALL BE COMPLETED TO ENSURE CROSSING DRAINAGE.
  - RAIL JOINTS TO BE LOCATED TO FALL OUTSIDE THE CROSSING AREA A MINIMUM OF 15'-0" FROM END OF CROSSING TIMBER.

SEE PAGE 2 FOR THE REST OF THE NOTES

**UNION PACIFIC RAILROAD  
ENGINEERING STANDARDS**

**INSTALLATION OF ROAD  
CROSSING W/ PREFAB  
TIMBER PANELS**

ADOPTED: SEP. 21, 2020  
REVISED:  
FILE NO.: 0301

STD DWG  
**0301**  
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STD DWG  
0301

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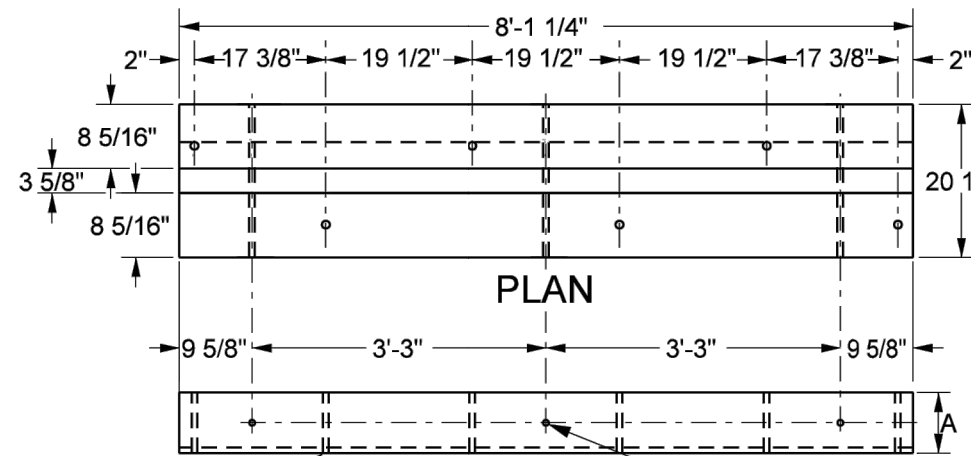
Ex. UPRR Track	Shift Ind. Track	Hand Throw Turnout
Prop. UPRR Track	Future Ind. Track	Power Turnout
Remove UPRR Track	Prop. Leased Ind. Trk	Power Derail
Shift UPRR Track	Ex. Leased Ind. Trk	Hand Throw Derail
Ex. Ind. Track	No RR Operations	Point of Curve
Prop. Ind. Track	Other Ind. Track	Bridge
Remove Ind. Track	Right of Way	Signal

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DRAWN BY: DKS, EB	For use in Agreement with: <b>UNION PACIFIC RAILROAD</b> and <b>PORT FREEPORT</b>
CHECKED BY: BDB	LOCATION & DESCRIPTION: MILEPOST 1/4, FREEPORT IND LEAD FREEPORT, BRAZORA, TEXAS TRACKAGE TO SERVE: PORT FREEPORT
DATE: 9/21/22	SHEET TITLE: UNION PACIFIC RAILROAD ENGINEERING STANDARDS - DETAIL 0301
SHEET NUMBER: 35 OF 69	



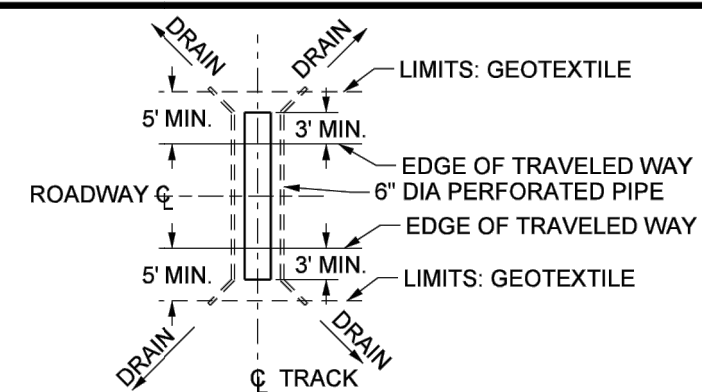
**MATERIAL FOR ONE SECTION**  
 2 - A x 8 1/2" x 8'-1 1/4" TIMBERS  
 3 - 3/4" x 19 1/2" TWISTED DRIVE DOWELS  
 6 - 3/4" x 12" SELF TAPPING TIMBER SCREWS  
 1 - A x 3 1/4" x 8'-1 1/4" TIMBER

**END VIEW**

DIMENSION CHART		
*RAIL SIZE	A	SCREWS
131# - 141#	8"	3/4" x 13"
110# - 119#	7 3/8"	3/4" x 13"
90# & 100#	6 3/4"	3/4" x 12"

\* RAIL SHALL BE AT LEAST 115# FOR A MINIMUM LENGTH OF 20' BEYOND THE EDGE OF TRAVELED WAY

**SUBBALLAST NOTE:**  
 SUBBALLAST SECTION TO BE A MINIMUM OF 4" WHEN RENEWING EXISTING CROSSING. FOR NEW CONSTRUCTION, SUBBALLAST SECTION TO BE IN ACCORDANCE WITH CONSTRUCTION DESIGN STANDARDS OR AS REQ'D. BY STATE OR LOCAL AGENCIES.

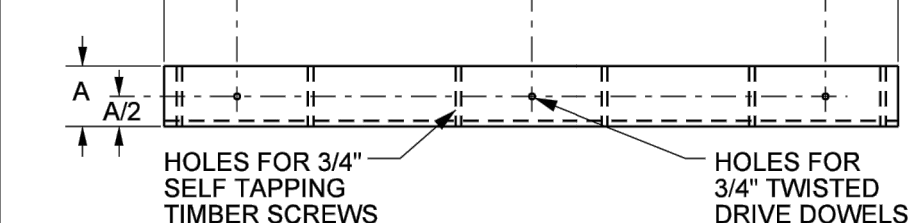
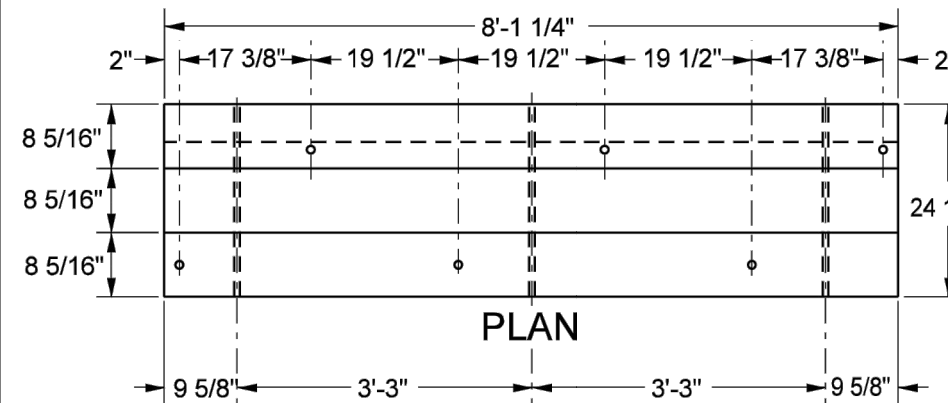


**TYPICAL PIPE LAYOUT**

NOTES (CONTINUED FROM PAGE 1):

**FABRICATION AND TREATMENT:**  
 1. CROSSING SECTIONS TO BE FABRICATED AND ASSEMBLED TO AVOID ANY CUTTING OR FITTING AT THE POINT OF INSTALLATION. SECTIONS TO BE PREDRILLED WITH 1/2" HOLES AND TRANSVERSELY DOWELED WITH 3/4" TWISTED DRIVE DOWELS. EACH PLANK TO BE FRAMED, BORED AND TREATED WITH A P2 SOLUTION TO 8 LBS. PER CUBIC FOOT RETENTION PRIOR TO ASSEMBLY INTO CROSSING SECTION. PLACE THE CROSSING SECTION MARK ON THE END OF ALL SECTIONS. EACH MARK TO HAVE A SUFFIX DENOTING RAIL SIZE AS SHOWN UNDER CATEGORIES IN DIMENSION CHART.

**MATERIALS AND INSTALLATION:**  
 1. REQUISITIONS FOR PREFABRICATED CROSSING SECTIONS TO BE MADE SPECIFYING THE NUMBER OF EACH TYPE OF SECTION REQUIRED (A OR B) AND THE WEIGHT OF RAIL WITH WHICH IT IS TO BE USED (133, 131, ETC.) AS DENOTED IN THE DIMENSION CHART UNDER CATEGORIES. DRILLING TO START AT THE CENTERLINE OF CROSSING AND WORK TOWARDS THE ENDS.  
 2. GEOTEXTILE AND PIPE TO BE INSTALLED ONLY AT LOCATIONS WHERE REQUIRED BY STATE OR LOCAL AGENCIES OR WHERE DESIGNATED BY CHIEF ENGINEER.  
 3. REPORT CROSSING GATE MALFUNCTIONS TO 24 HR UPRR CROSSING HOT LINE AT 1-800-848-8715.  
 4. ALL EXCEPTIONS TO THIS PLAN MUST BE APPROVED BY THE CHIEF ENGINEER.



**MATERIAL FOR ONE SECTION**  
 3 - A x 8 1/2" x 8'-1 1/4" TIMBERS  
 3 - 3/4" x 24" TWISTED DRIVE DOWELS  
 6 - 3/4" x 13" SELF TAPPING TIMBER SCREWS

**END VIEW**

REQUIRED COMPONENTS			
RAIL WEIGHT	90#-100#	110#-119#	131#-141#
4 PIECE SET	540-3500	540-3900	540-4300
FIELD TIMBER PANEL A	540-3600	540-4000	540-4400
GAUGE TIMBER PANEL B	540-3700	540-4100	540-4500
3/4" SELF TAP TIMBER SCREWS	130-5400	130-5402	

OPTIONAL COMPONENTS	
20' SECTION 6" PERFORATED PIPE	510-3201
6" ADJUSTABLE PIPE ELBOW	510-3557
6" PIPE CONNECTOR BAND	510-3379
100' ROLL GEOTEXTILE	550-0119
FLANGWAY RUBBER	540-1950
GEOWEB PANEL	550-0120
ATRA KEY (BOX OF 450)	550-0122

**UNION PACIFIC RAILROAD ENGINEERING STANDARDS**

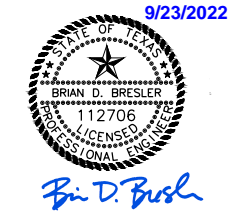
**INSTALLATION OF ROAD CROSSING W/ PREFAB TIMBER PANELS**

UNION PACIFIC  
 ADOPTED: SEP. 21, 2020  
 REVISED:  
 FILE NO.: 0301

STD DWG  
 0301  
 PAGE 2 OF 2

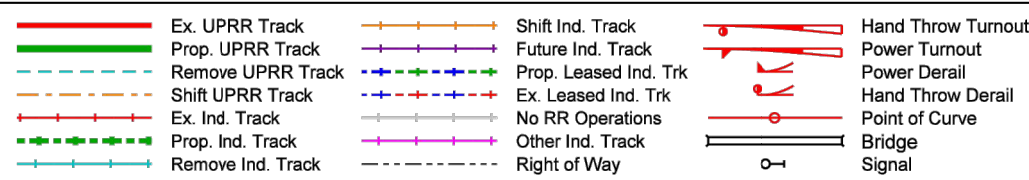
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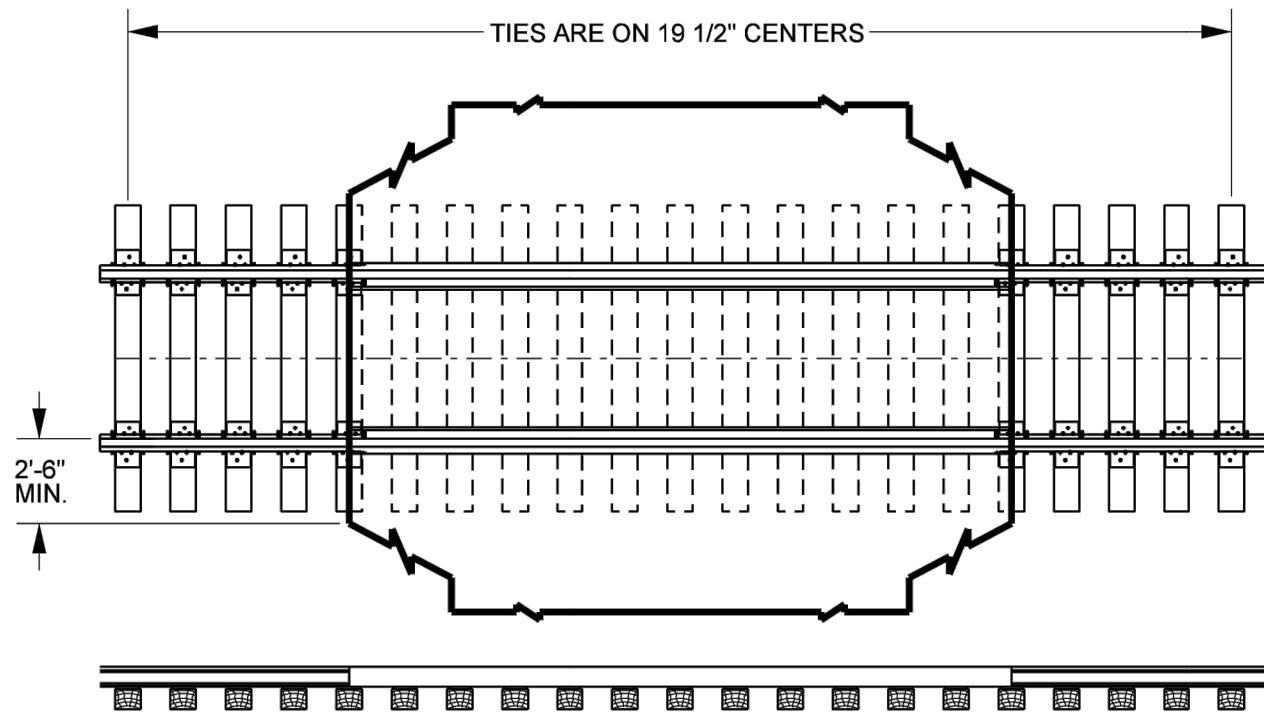
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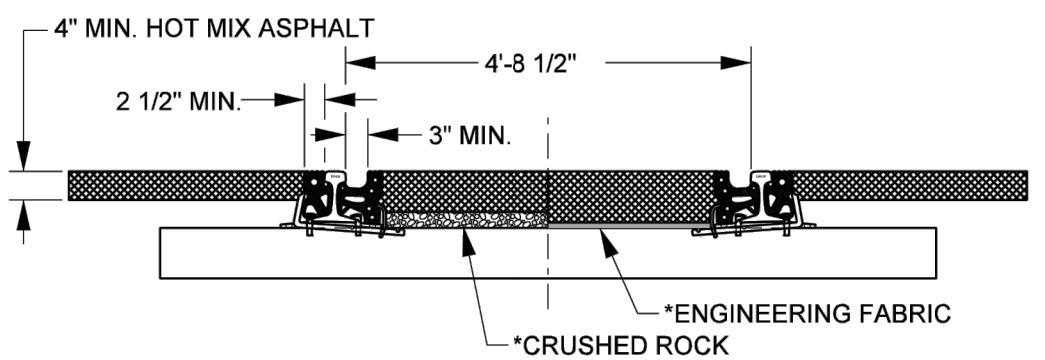
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SHEET NUMBER: 36 OF 69	

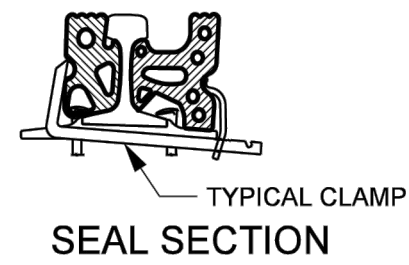


NOTE: SEE STD DWG 0301 FOR DRAINAGE DETAILS



\*ENGINEERING FABRIC OR 2" OF CRUSHED ROCK MUST BE USED TO PREVENT HOT MIX ASPHALT FROM BONDING TO TIES

CROSS SECTION DETAIL



ORDERING NOTE:  
RUBBER RAIL SEAL CROSSING SECTIONS ARE TO BE ORDERED BY "TRACK FEET" IN 8'-0" INCREMENTS. EACH 8'-0" INCREMENT WILL INCLUDE (2) GAUGE & (2) FIELD SIDE RAIL SEAL SECTIONS, (10) CLAMPS & ANY REQUIRED HARDWARE TO CONNECT THE SECTIONS TOGETHER.

RAIL SIZE	ITEM NO.
112-115 LB.	540-0206
132-141 LB.	540-1290

**UNION PACIFIC RAILROAD  
ENGINEERING STANDARDS**

**LIGHT DUTY ROAD CROSSING  
ASPHALT WITH  
RUBBER SEAL SECTIONS**

STD DWG  
**0302**

ADOPTED: SEP. 21, 2020  
REVISED:  
FILE NO.: 0302

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- NOTES:
- 1) USE OF THIS STANDARD FOR NEW CONSTRUCTION IS LIMITED TO INDUSTRIAL LEAD TRACKS, INDUSTRY AND YARD TRACKS WHERE THE AVERAGE DAILY TRAFFIC VOLUME DOES NOT EXCEED 500. USE ON MAIN LINES IS RESTRICTED TO TEMPORARY REPAIRS TO EXISTING CROSSINGS SURFACES.
  - 2) CROSSING SITE IS TO BE INSPECTED PRIOR TO START OF INSTALLATION TO DETERMINE THAT PROPER DRAINAGE AND SURFACE SUPPORT IS PROVIDED, TRACK GRADE IS UNIFORM.
  - 3) FOR COMPLETE RENEWAL OF CROSSING & NEW CONSTRUCTION: TRACK STRUCTURE INCLUDING RAIL, OTM, TIES, BALLAST, AND ROADBED MUST BE IN EXCELLENT CONDITION. ALL TIES MUST BE 8'-6" LONG, SPACED AT 19 1/2" CENTERS AND EXTEND 5 TIES BEYOND END OF CROSSING. NEW 7"x9"x8'-6" TRACK TIES TO BE INSTALLED IF NECESSARY. IF CONDITIONS WARRANT, SITE IS TO BE OVER-EXCAVATED AND CROSSING DRAINAGE SYSTEM INSTALLED USING COMPACTED, WELL-GRADED GRANULAR FILL; SUBBALLAST, GEOTEXTILE, AND PERFORATED DRAINAGE PIPE (IF REQUIRED) INSTALLED PER DETAILS OF THIS DRAWING. ADDITIONAL SITE DRAINAGE INCLUDING PROPER DRAINAGE AT EACH QUADRANT OF CROSSING SHALL BE COMPLETED TO ENSURE CROSSING DRAINAGE. SUBBALLAST SECTION TO BE A MINIMUM OF 4" WHEN COMPLETE RENEWAL OF EXISTING CROSSING. FOR NEW CONSTRUCTION, SUBBALLAST SECTION TO BE IN ACCORDANCE WITH CONSTRUCTION DESIGN STANDARDS OR AS REQUIRED BY STATE OR LOCAL AGENCIES. USE OF GEOTEXTILE AND DRAINAGE PIPE TO BE ONLY AT LOCATIONS WHERE REQUIRED BY STATE OR LOCAL AGENCIES OR WHERE SPECIFICALLY DESIGNATED BY CHIEF ENGINEER.
  - 4) IN ALL INSTALLATIONS THE RAIL JOINTS SHOULD FALL OUTSIDE THE CROSSING AREA A MINIMUM OF 15 FEET FROM THE END OF THE CROSSING.
  - 5) USE OF CLAMPS ARE REQUIRED IN EACH TIE CRIB WITHIN THE LIMITS OF THE CROSSING. CLAMPS MUST BE ATTACHED PRIOR TO PLACEMENT OF ASPHALTIC CONCRETE (SEE SECTION DETAILS).
  - 6) HOT MIX ASPHALTIC CONCRETE MUST COMPLY WITH STATE D.O.T. SPECIFICATIONS AND BE PLACED IN 2 INCHES MINIMUM & 4 INCHES MAXIMUM LIFTS. CARE MUST BE TAKEN DURING COMPACTION OF ASPHALT TO PREVENT DAMAGE TO HOLD DOWN CLAMPS OR RUBBER. ASPHALT SHOULD BE ROLLED PARALLEL TO THE RAIL UNTIL THE FINAL LIFT AND COMPACTION. FINAL LIFT OF ASPHALT IS TO BE LEVEL WITH THE TOP OF RAIL FOR 30 INCHES FROM THE FIELD SIDE OF THE RAIL.
  - 7) SLOPE EDGE OF PAVING TO RETURN TO ORIGINAL EDGE OF PAVING ALIGNMENT. LENGTH OF TRANSITION WILL DEPEND ON LOCAL CONDITIONS.
  - 8) AT THE TIE-IN POINT WITH THE EXISTING PAVEMENT, THE OLD PAVEMENT MUST BE CUT DOWN A MINIMUM 2" TO ELIMINATE A FEATHER EDGE ON THE NEW PAVEMENT.
  - 9) USE STATE D.O.T. SPECIFICATION FOR THE ASPHALT SPRAY TACK COAT.
  - 10) ENVIRONMENTAL RULES OF THE GOVERNMENT BODY HAVING AUTHORITY WILL BE FOLLOWED WHEN DISPOSING OF THE PAVEMENT REMOVED FROM THE CROSSING.
  - 11) MATERIAL USED ON GAUGE SIDE RAIL SEAL SHALL HAVE AN ELECTRICAL RESISTANCE OF A MINIMUM OF 10 MEGOHMS AT 500 VOLTS DC.

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**0302**

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Ex. Ind. Track	No RR Operations	Point of Curve
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Remove Ind. Track	Right of Way	Signal

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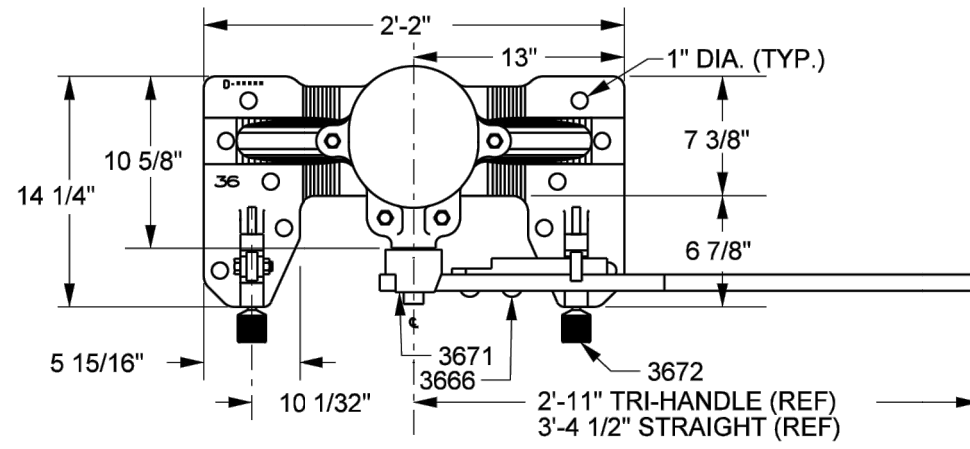
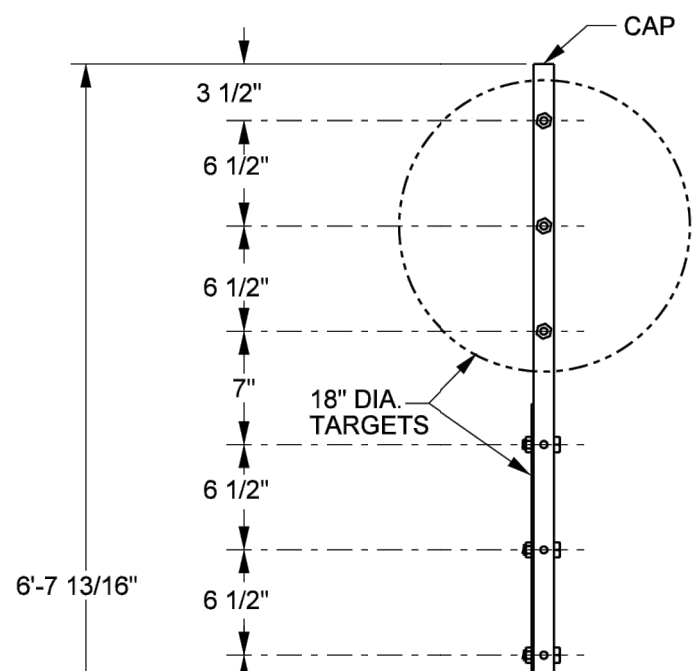
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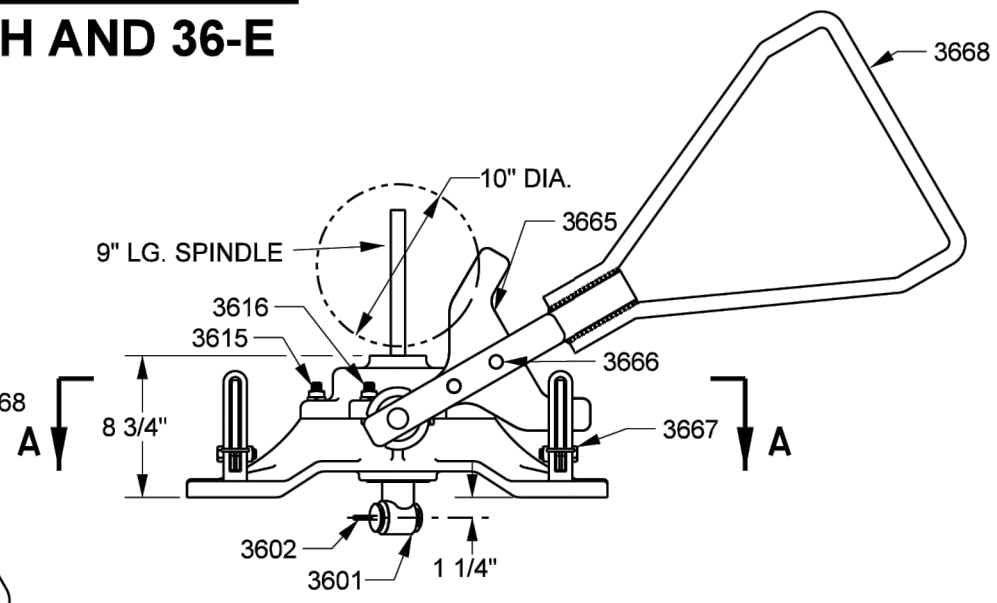
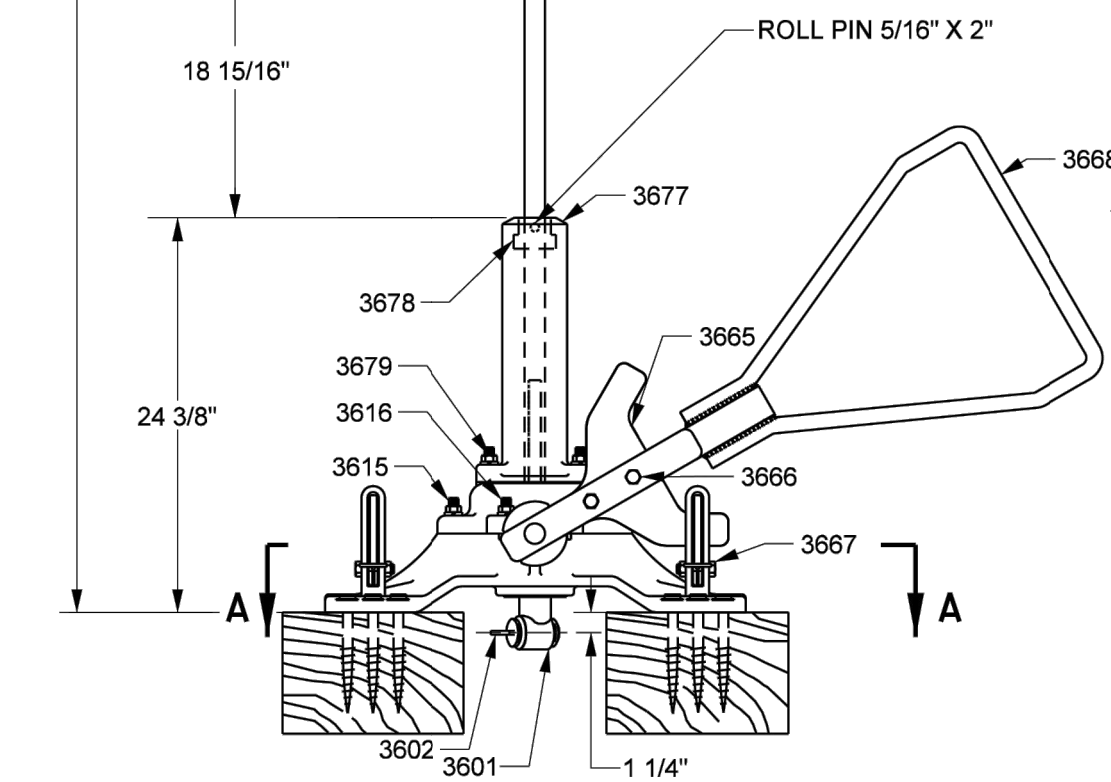
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SHEET NUMBER: 37 OF 69	

9/23/2022

*Brian D. Bresler*



**VIEW A-A**  
**36-EH AND 36-E**



**36-E**

NOTES:  
SEE PAGE 2 FOR NOTES AND DETAILS.

**UNION PACIFIC RAILROAD  
ENGINEERING STANDARDS**

**36-E AND 36-EH  
SWITCH STANDS**

SWITCH STAND	ITEM #
36-E	557-6989
36-EH	557-6995
STRAIGHT HANDLE	557-6990

UNION PACIFIC  
ADOPTED: SEP. 21, 2020  
REVISED:  
FILE NO.: 2132

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**2132**  
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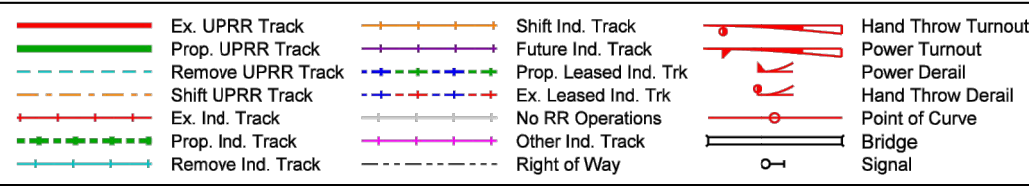
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**2132**  
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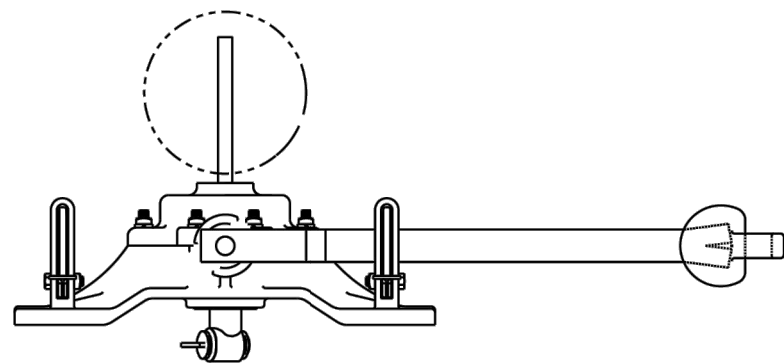


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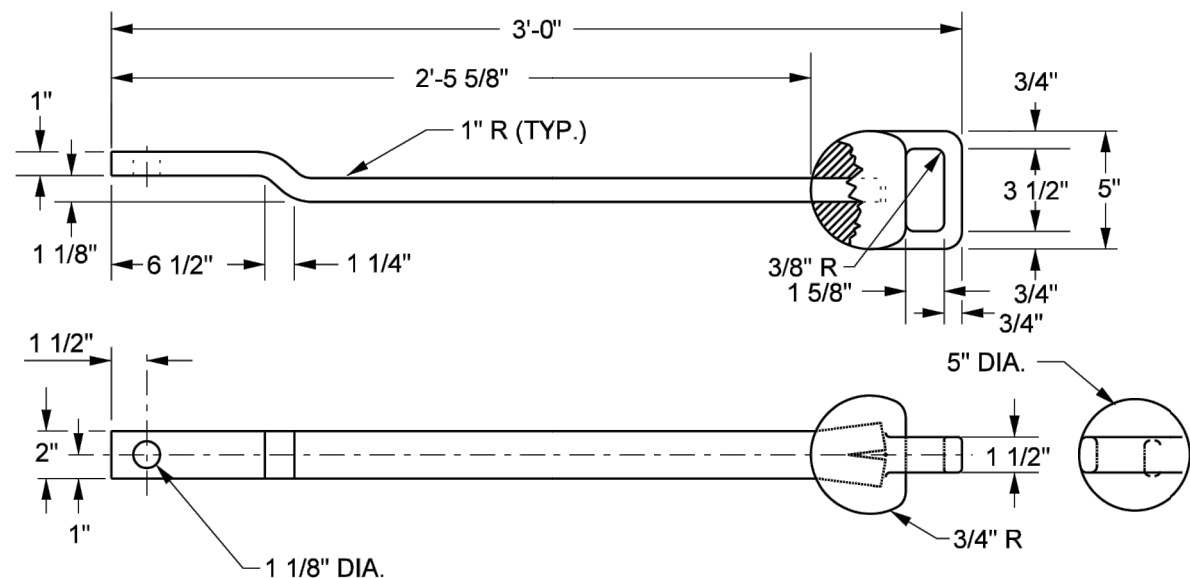
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SHEET NUMBER: 38 OF 69	



**STAND WITH OPTIONAL STRAIGHT HANDLE**



**OPTIONAL 36" STRAIGHT HANDLE  
(USE FOR TIGHT CLEARANCE ONLY)**

- NOTES:
- 36-E RECOMMENDED USE: CROSSOVERS, MAIN TRACK AND OTHER THAN MAIN TRACK. THE 36-E IS THE LOWER CLEARANCE VERSION.
  - 36-EH RECOMMENDED USE: MAIN TRACK AND SIDINGS. THE 36-EH IS THE HIGH MAST VERSION.
  - IN MAINLINE APPLICATIONS WHERE 36-E STAND IS USED THE HANDLE MUST BE CHANGED TO A 36" STRAIGHT HANDLE 557-6990.
  - USE RECTANGULAR HEAD SCREW SPIKES TO MOUNT THE STAND.
  - LUBRICATE INTERNALLY AT LEAST ONCE A YEAR IN BUSY LOCATIONS.

NOTE: SEE PAGE 1 FOR REST OF THE DWG.

**UNION PACIFIC RAILROAD  
ENGINEERING STANDARDS**

**36-E AND 36-EH  
SWITCH STANDS**



ADOPTED: SEP. 21, 2020  
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STD DWG

2132

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BILL OF MATERIAL			
QTY	CATALOG #	DRAWING #	DESCRIPTION
1	3674	C-3387	COVER (S-479)
1	3669	36E-6000	BASE (D-34678)
1	3601	GL-1909-9	SPINDLE
1	3602	SSC-100	CRANKEYE (GL-1889)
1	3668	PD-9405	TRI-HANDLE LEVER
2	3616	125114	SQ. HD. BOLT 3/4" X 3 1/4" LONG
2	3615	125108	SQ. HD. BOLT 3/4" X 4 3/4" LONG
1	3671	PD-9404	HUB (D-34629)
1	3665	D-34679	YOKE (D-34679)
2	3666	185145	3/4" BUTTON RIVETS
2	3672	E-3819	FOOT LATCH
1	3653	GL-3460	CRANK BUSHING
1	3654	233008	CRANK WASHER
1	3652	36E-1000	CRANK GL-1908
1	3656	215017	COTTER
2	3667	163006	1/2" X 2 1/4" HEX CAP SCREW
1	3677	S-480	STIFFENER S-480
1	3678	S-481	ADAPTER S-481
1		EXT #66	SPINDLE EXTENSION #66
2	3679	149001	SQUARE HEAD BOLT 1/2" X 2 1/2" LONG 2" THD.
2		200003	HEX NUT 1/2"
2		241008	SPRING WASHER-1/2"
2		189105	ANCO HEX NUT-1/2"
4		192004	HEX SECURITY NUT 3/4"-10
4		235102	SPRG WASHER 3/4"
1	3655	203111	HEX NUT HVY WF1 1/8-SLOTTED
2		191001	HEX SECURITY NUT-1/2"
1	3673	233017	FLAT WASHER 1 1/8"
2		430102	GREASE FITTING
2		1608B	GREASE FITTING
1		98296A455	ROLL PIN 5/16" X 2"

REF. DWGS:  
SCREW SPIKES - STD DWG 0431  
SWITCH TARGET DETAILS - STD DWG 2100  
TRACK IDENTIFICATION - STD DWG 2103  
CONNECTING ROD ASS'Y - STD DWG 2125  
SWITCH PADLOCK - STD DWG 2105

STD DWG  
2132  
PAGE 2 OF 2

9/23/2022



Brian D. Bresler

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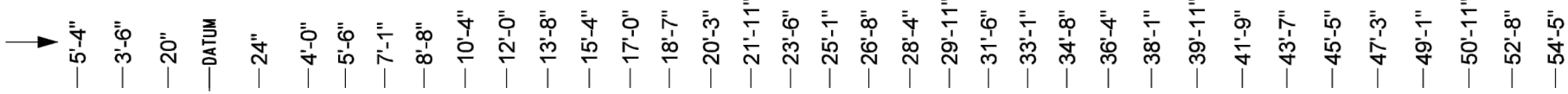
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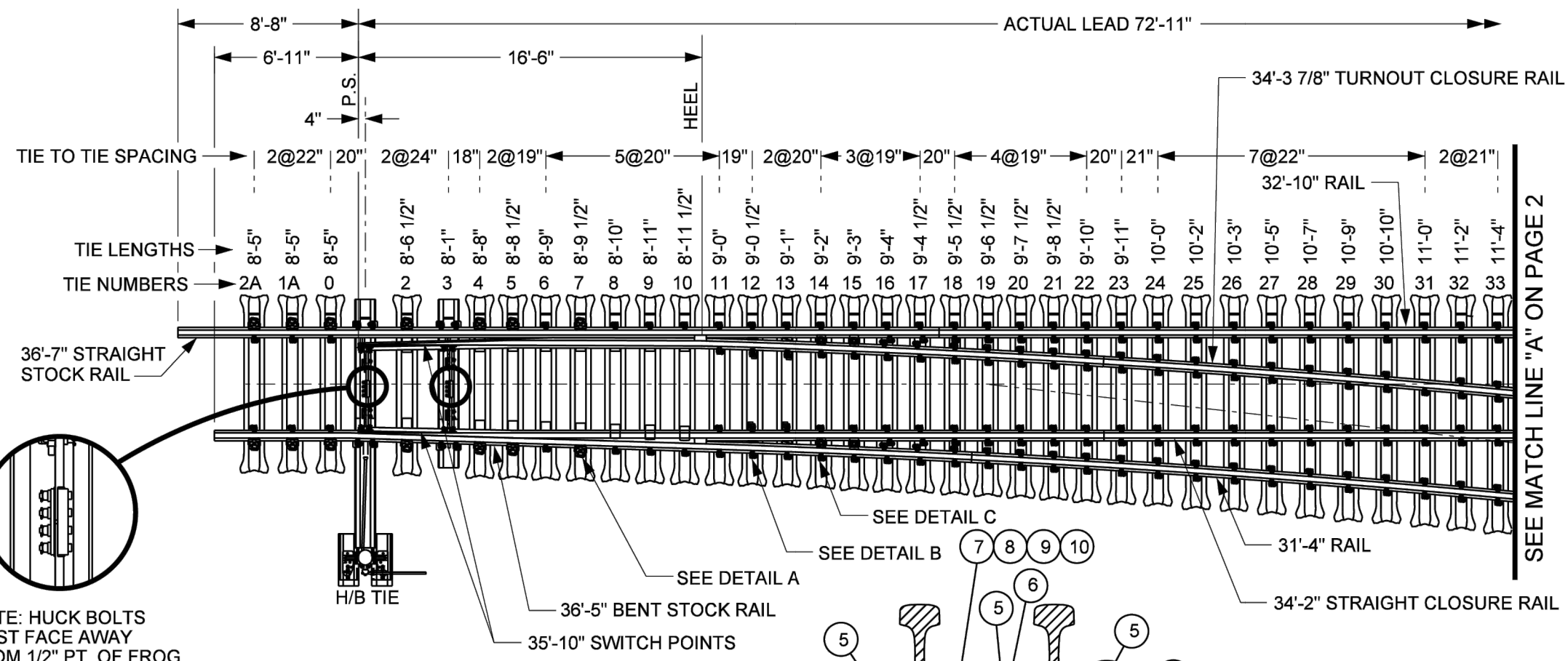


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SHEET NUMBER: 39 OF 69	

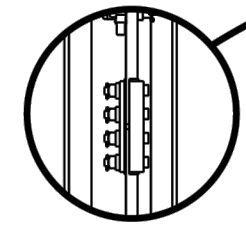
ACCUMULATIVE TIE SPACING FROM C OF TIE 1



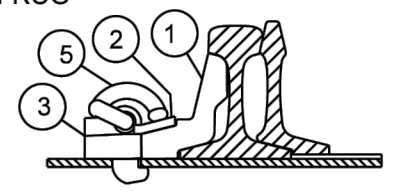
ACTUAL LEAD 72'-11"



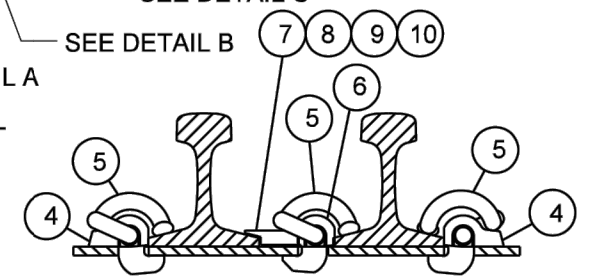
SEE MATCH LINE "A" ON PAGE 2



NOTE: HUCK BOLTS MUST FACE AWAY FROM 1/2" PT. OF FROG



DETAIL A - RAIL BRACE ASSEMBLY



DETAIL C - WEDGE PLATE ASSEMBLY

NOTES:

- STEEL TIE TURNOUTS TO BE USED IN YARD APPLICATIONS OR WHERE AUTHORIZED BY THE CHIEF ENGINEER.
- NEW INSTALLATIONS OF STEEL TIE TURNOUTS REQUIRE 8" OF CLEAN BALLAST UNDER TIES.
- TAMPING TOOL DEPTH TO BE 2" BELOW BOTTOM FLARE OF TIE.
- UNDERSIDE OF TIE TO BE FILLED WITH BALLAST. TIES ARE EQUIPPED WITH INSPECTION HOLE.
- VERTICAL SWITCH RODS MUST BE INSTALLED WITH THE HUCK BOLTS FACING AWAY FROM THE 1/2" PT. OF THE FROG, SWITCH POINTS WILL BE UNSUPPORTED IF THE SWITCH RODS ARE INCORRECTLY INSTALLED.
- SEE PAGE 2 FOR THE REST OF THE DWG.

**\*115 LB RAIL SHALL BE USED**

**UNION PACIFIC RAILROAD ENGINEERING STANDARDS**

**NO. 9 STEEL TIE TURNOUT ~~100 LB.~~ \***



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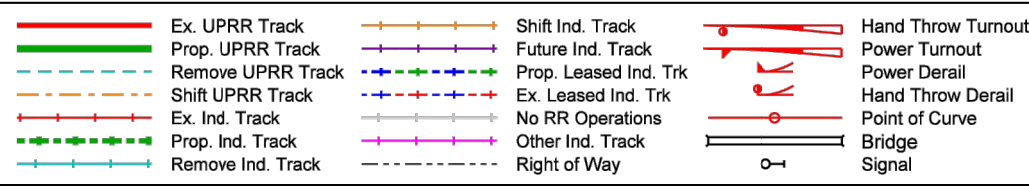


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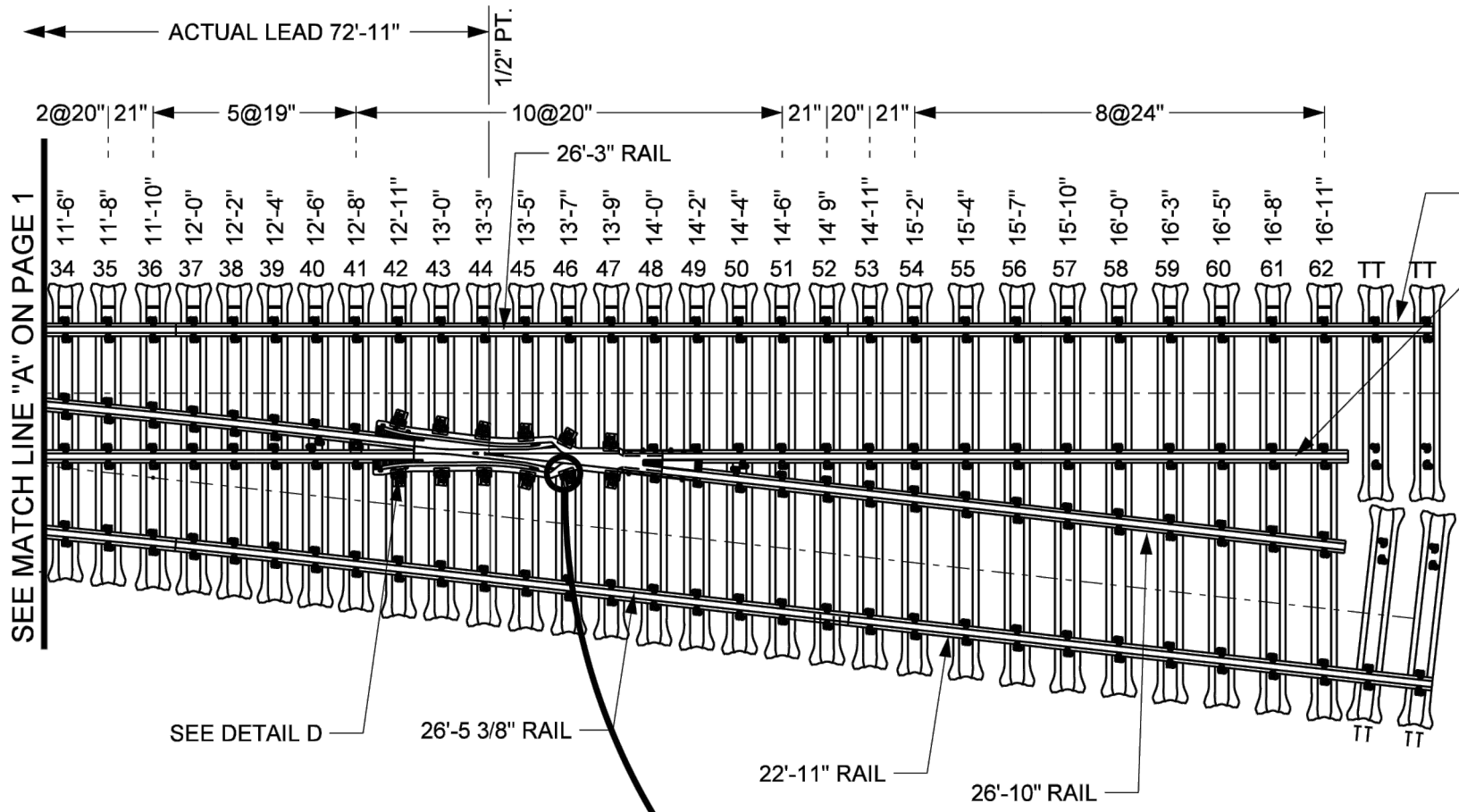
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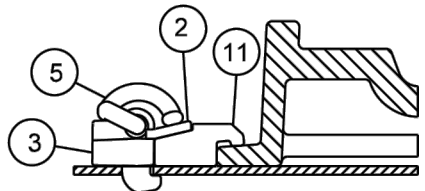
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DRAWN BY: DKS, EB	For use in Agreement with: <b>UNION PACIFIC RAILROAD</b> and <b>PORT FREEPORT</b>
CHECKED BY: BDB	LOCATION & DESCRIPTION: MILEPOST 1/4, FREEPORT IND LEAD FREEPORT, BRAZORA, TEXAS TRACKAGE TO SERVE: PORT FREEPORT
DATE: 9/21/22	SHEET TITLE: UNION PACIFIC RAILROAD ENGINEERING STANDARDS - DETAIL 5040
SHEET NUMBER: 40 OF 69	



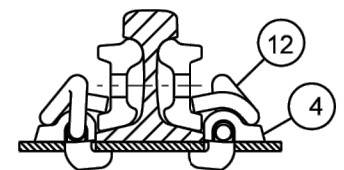
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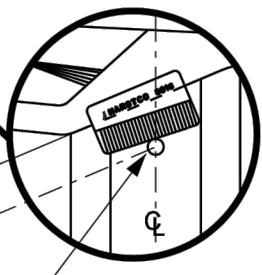
ITEM	TURNOUT COMPONENTS (AS SHOWN IN DETAILS)	QTY
1	ADJUSTABLE RAIL BRACE	14
2	RAIL BRACE SERRATED WASHER	26
3	RAIL BRACE HOOK-IN SHOULDER	26
4	HOO-K-IN SHOULDER (#4020)	398
5	PANDROL 'E' CLIP (RIGHT HANDED - STD)	428
6	WEDGE PLATE HOOK-IN SHOULDER	4
7	WEDGE PLATE (#14S)	1
8	WEDGE PLATE (#15S)	1
9	WEDGE PLATE PIN (#14T)	1
10	WEDGE PLATE PIN (#15T)	1
11	FROG CLAMP	12
12	PANDROL 'J' CLIP	32
13	PANDROL 'E' CLIP (LEFT HANDED - STD)	5



DETAIL D - SGSM FROG ASSEMBLY



JOINT BAR ASSEMBLY  
ONLY WHEN JOINT BARS ARE USED IN LIEU OF WELDED JOINTS



DRILL 1 13/32" DIA. HOLE

IN PRACTICE:  
 - LOCATE 8018 FROG CLAMP AS SHOWN ABOVE  
 - PLACE ANNUAL CUTTER AGAINST FROG CLAMP ON TIE CENTER  
 - ENERGIZE MAGNET AND REMOVE FROG CLAMP  
 - DRILL HOLE  
 - PLACE HOOK-IN SHOULDER 8016 IN HOLE AND DRIVE FROG CLAMP 8018 IN FROM RH SIDE  
 - INSTALL SERRATED WASHER AND THEN CLIP.

**\*115 LB RAIL SHALL BE USED**

NOTES:  
 1. SEE PAGE 1 FOR NOTES AND THE REST OF THE DWG.

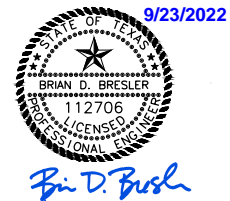
**UNION PACIFIC RAILROAD ENGINEERING STANDARDS**

**NO. 9 STEEL TIE TURNOUT ~~100 LB.~~ \***

UNION PACIFIC  
 ADOPTED: SEP. 21, 2020  
 REVISED:  
 FILE NO.: 5040

STD DWG  
 5040  
 PAGE 2 OF 2

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STD DWG  
 5040  
 PAGE 2 OF 2

REV. #	BY	DATE	DESCRIPTION

Ex. UPRR Track	Shift Ind. Track	Hand Throw Turnout
Prop. UPRR Track	Future Ind. Track	Power Turnout
Remove UPRR Track	Prop. Leased Ind. Trk	Power Derail
Shift UPRR Track	Ex. Leased Ind. Trk	Hand Throw Derail
Ex. Ind. Track	No RR Operations	Point of Curve
Prop. Ind. Track	Other Ind. Track	Bridge
Remove Ind. Track	Right of Way	Signal

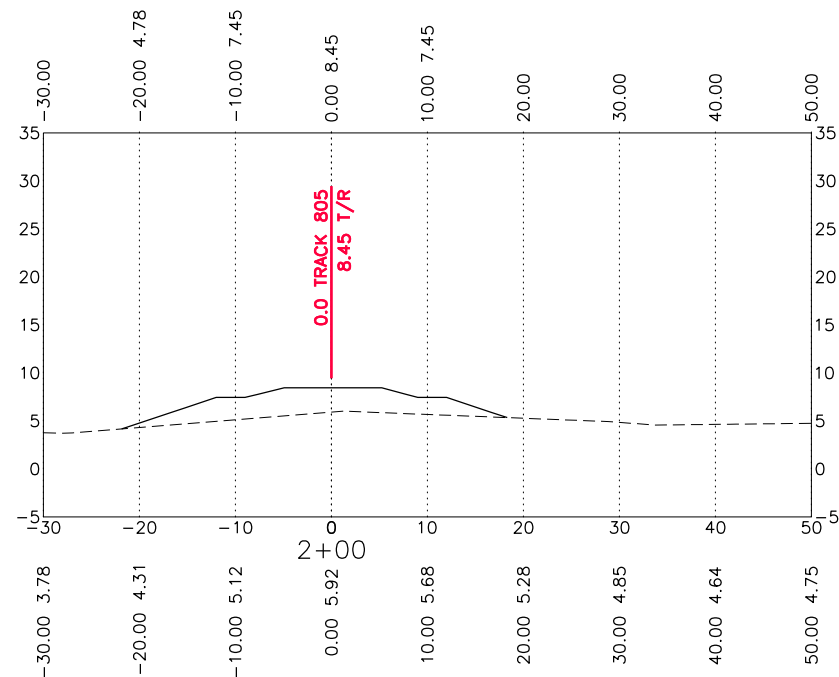
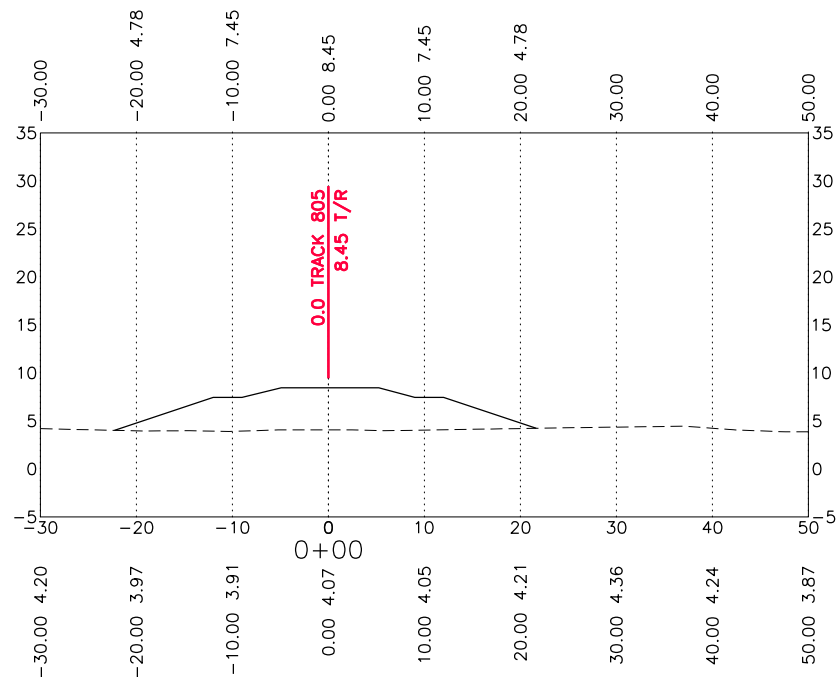
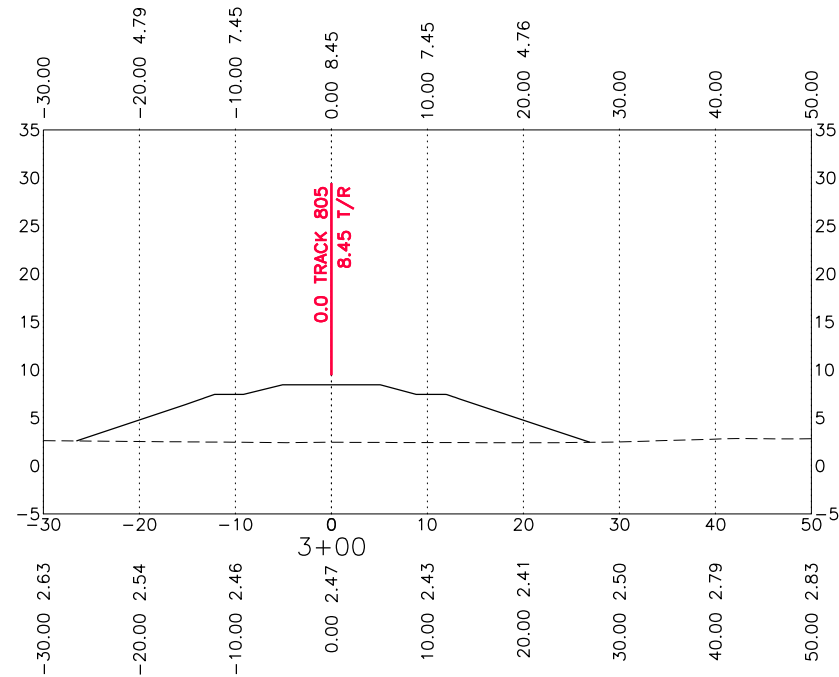
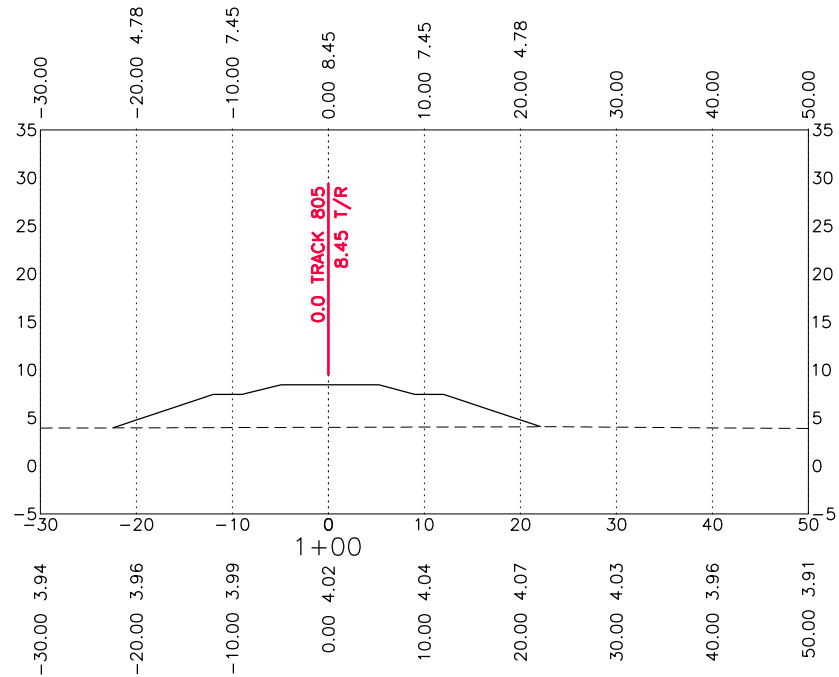
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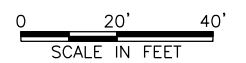
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DRAWN BY: DKS, EB	For use in Agreement with: <b>UNION PACIFIC RAILROAD</b> <b>PORT FREEPORT</b>
CHECKED BY: BDB	LOCATION & DESCRIPTION: MILEPOST 1/4, FREEPORT IND LEAD FREEPORT, BRAZORA, TEXAS TRACKAGE TO SERVE: PORT FREEPORT
DATE: 9/21/22	SHEET TITLE: UNION PACIFIC RAILROAD ENGINEERING STANDARDS - DETAIL 5040
SHEET NUMBER: 41 OF 69	

DATE: 9/21/2022 SAVE BY: DKS



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9/23/2022



REV. #	BY	DATE	DESCRIPTION

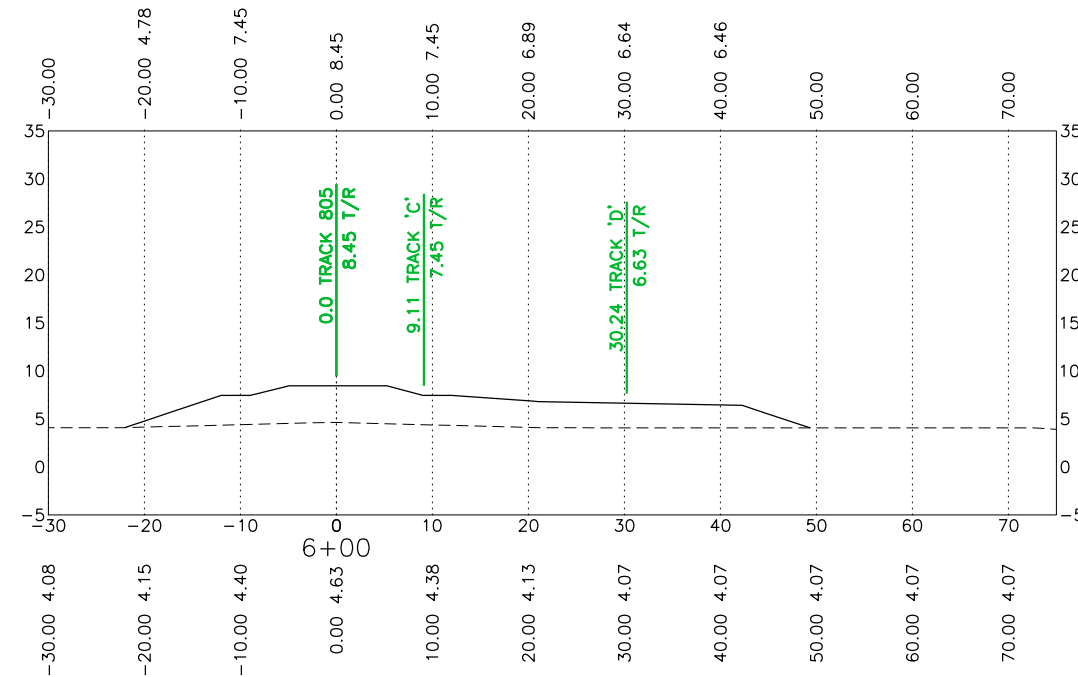
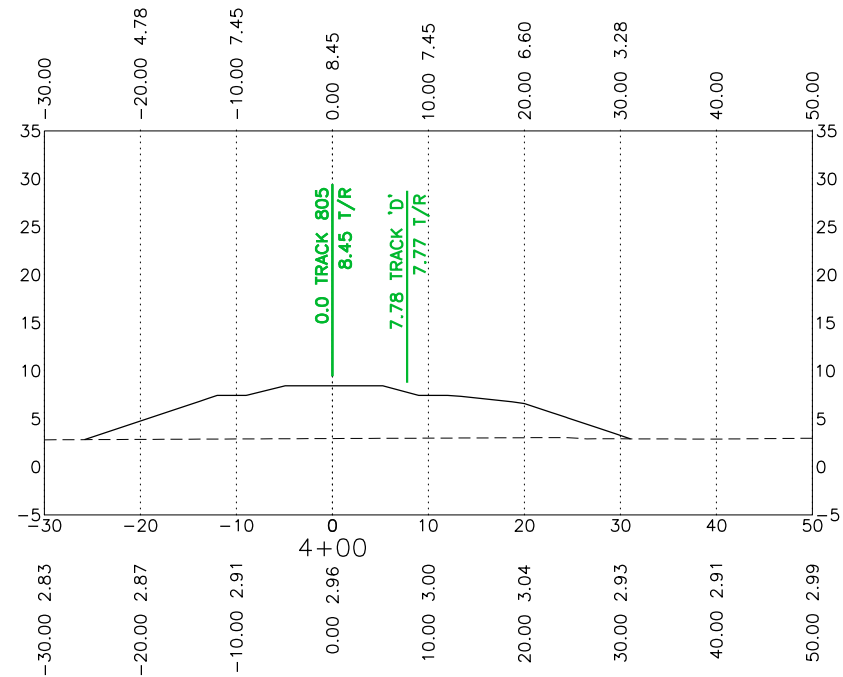
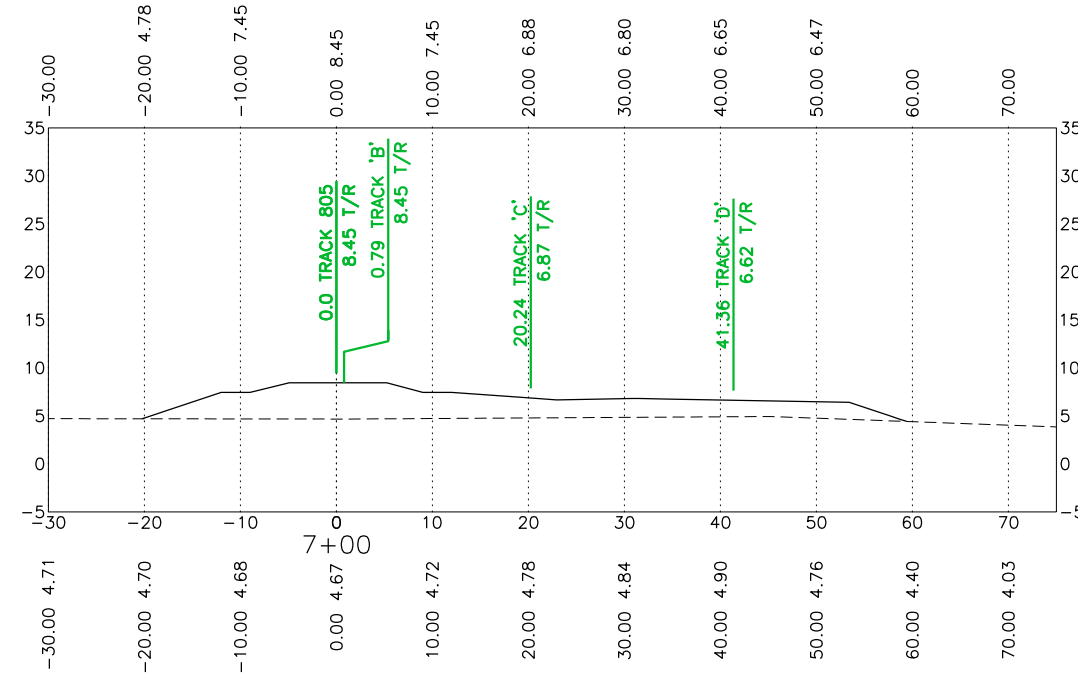
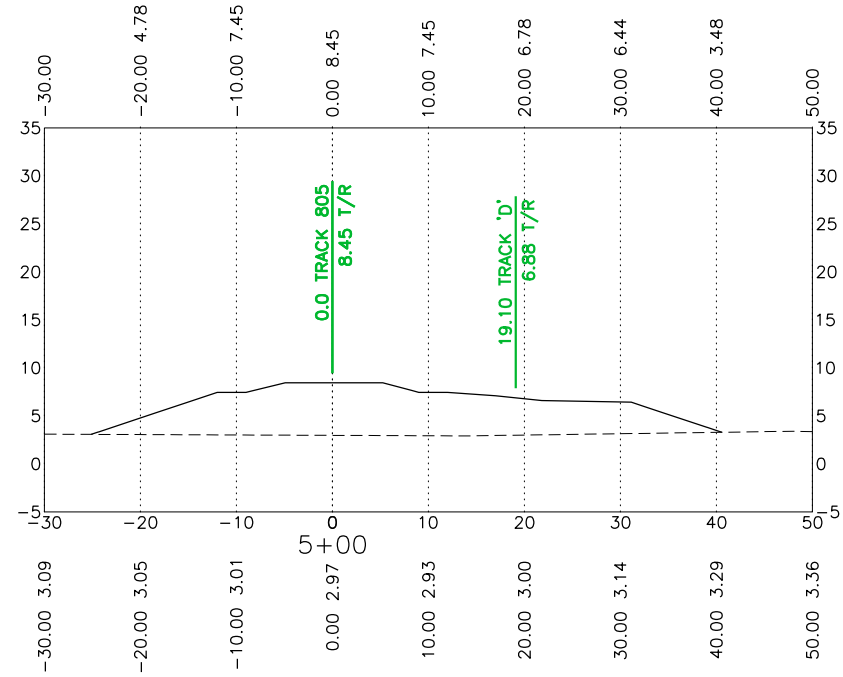
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	Prop. UPRR Track		Future Ind. Track		Power Turnout
	Remove UPRR Track		Prop. Leased Ind. Trk		Power Derail
	Shift UPRR Track		Ex. Leased Ind. Trk		Hand Throw Derail
	Ex. Ind. Track		No RR Operations		Point of Curve
	Prop. Ind. Track		Other Ind. Track		Bridge
	Remove Ind. Track		Right of Way		Signal

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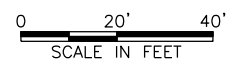
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CHECKED BY: BDB	LOCATION & DESCRIPTION: MILEPOST 1/4, FREEPORT IND LEAD FREEPORT, BRAZORA, TEXAS TRACKAGE TO SERVE: PORT FREEPORT
DATE: 9/21/22	SHEET TITLE: CROSS SECTIONS 0+00 TO 3+00
SHEET NUMBER: 42 OF 69	

DATE: 9/21/2022 SAVE BY: DKS



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9/23/2022



REV. #	BY	DATE	DESCRIPTION

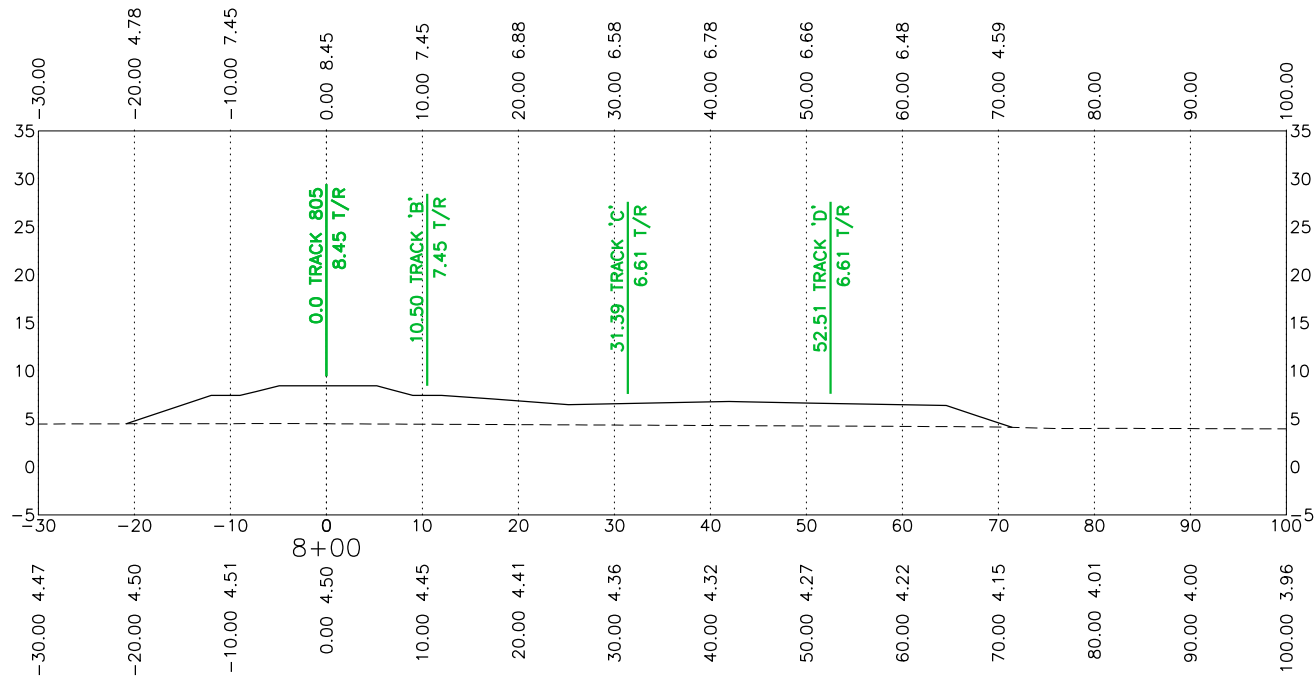
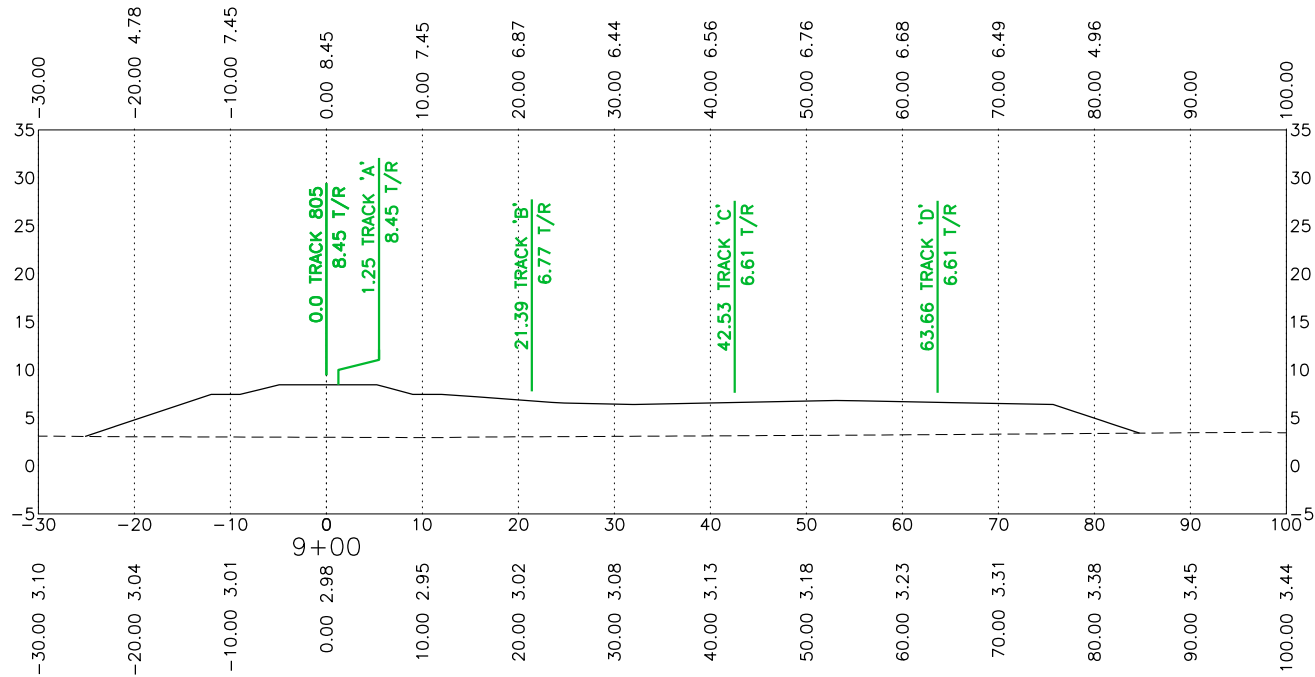
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Prop. UPRR Track	Future Ind. Track	Power Turnout
Remove UPRR Track	Prop. Leased Ind. Trk	Power Derail
Shift UPRR Track	Ex. Leased Ind. Trk	Hand Throw Derail
Ex. Ind. Track	No RR Operations	Point of Curve
Prop. Ind. Track	Other Ind. Track	Bridge
Remove Ind. Track	Right of Way	Signal

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CHECKED BY: BDB	LOCATION & DESCRIPTION: MILEPOST 1/4, FREEPORT IND LEAD FREEPORT, BRAZORA, TEXAS TRACKAGE TO SERVE: PORT FREEPORT
DATE: 9/21/22	SHEET TITLE: CROSS SECTIONS 4+00 TO 7+00
SHEET NUMBER: 43 OF 69	

DATE: 9/21/2022 SAVE BY: DKS



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9/23/2022

0 20' 40'  
SCALE IN FEET

REV. #	BY	DATE	DESCRIPTION

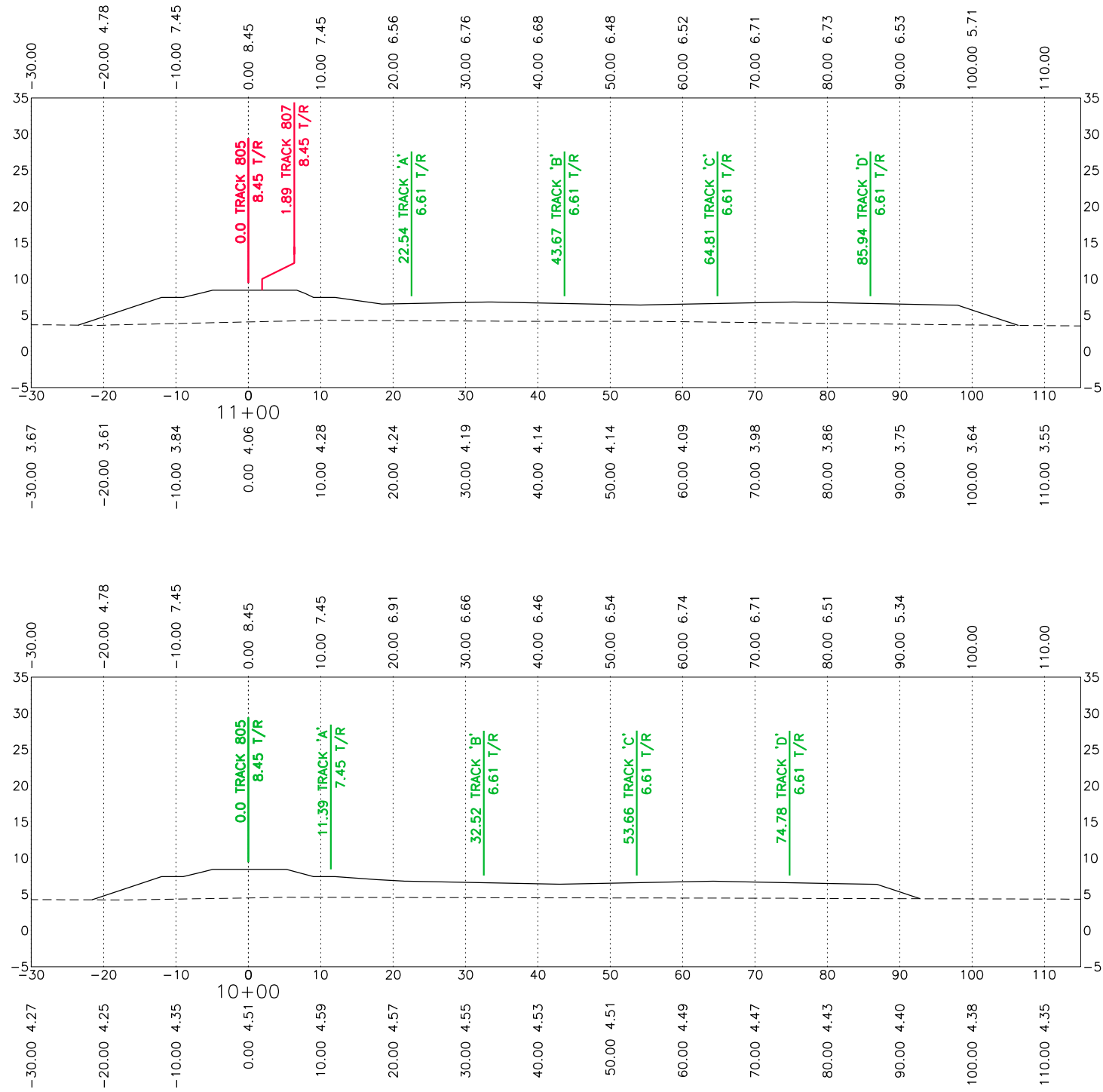
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	Remove UPRR Track		Prop. Leased Ind. Trk		Power Derail
	Shift UPRR Track		Ex. Leased Ind. Trk		Hand Throw Derail
	Ex. Ind. Track		No RR Operations		Point of Curve
	Prop. Ind. Track		Other Ind. Track		Bridge
	Remove Ind. Track		Right of Way		Signal

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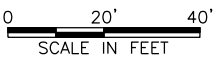


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CHECKED BY: BDB	LOCATION & DESCRIPTION: MILEPOST 1/4, FREEPORT IND LEAD FREEPORT, BRAZORA, TEXAS TRACKAGE TO SERVE: PORT FREEPORT
DATE: 9/21/22	SHEET TITLE: CROSS SECTIONS 8+00 TO 9+00
SHEET NUMBER: 44 OF 69	

DATE: 9/21/2022 SAVE BY: DKS



9/23/2022  
 Brian D. Bresler



REV. #	BY	DATE	DESCRIPTION

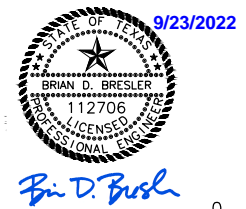
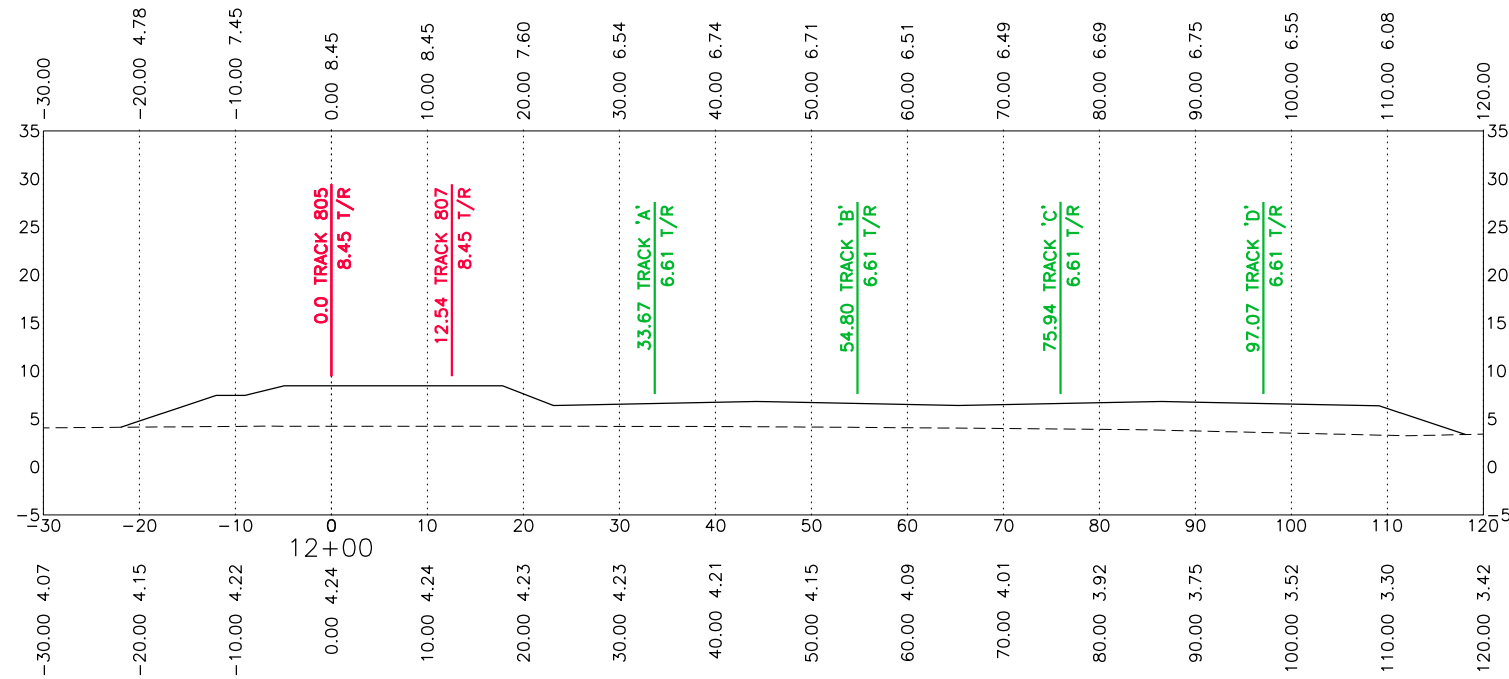
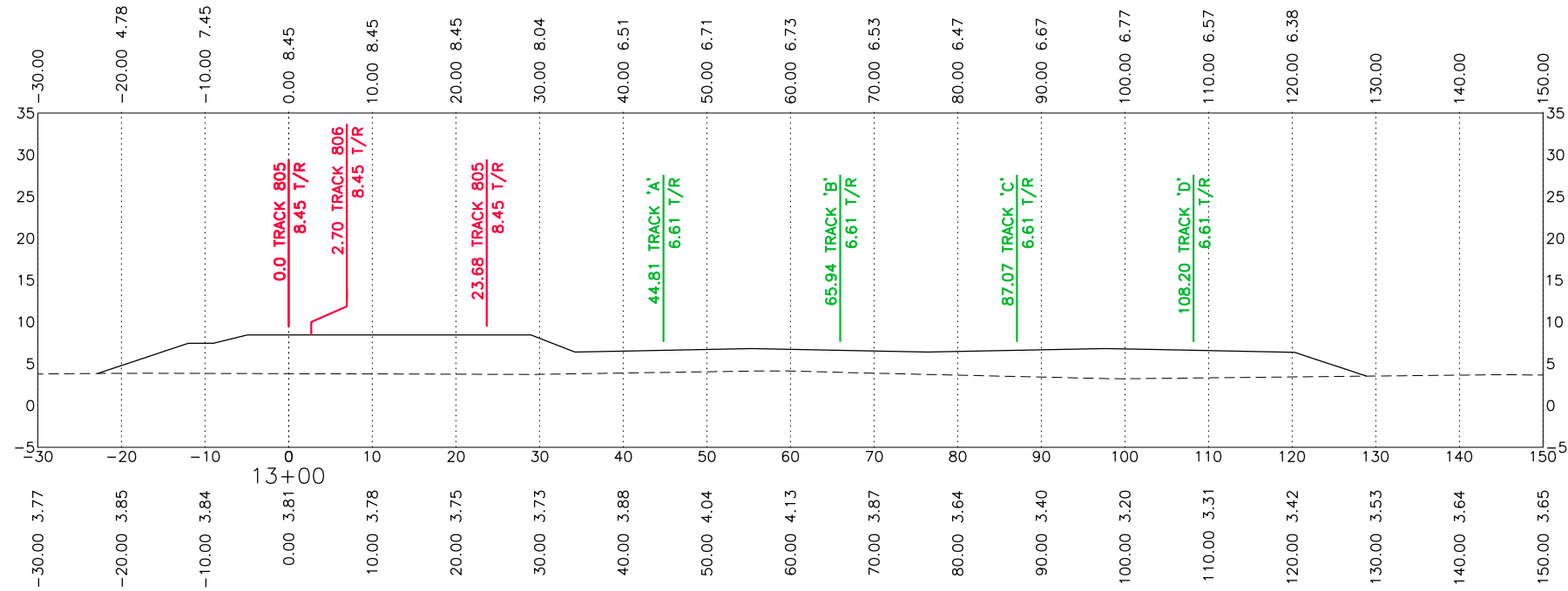
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	Remove UPRR Track		Prop. Leased Ind. Trk		Power Derail
	Shift UPRR Track		Ex. Leased Ind. Trk		Hand Throw Derail
	Ex. Ind. Track		No RR Operations		Point of Curve
	Prop. Ind. Track		Other Ind. Track		Bridge
	Remove Ind. Track		Right of Way		Signal

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DATE: 9/21/22	SHEET TITLE: CROSS SECTIONS 10+00 TO 11+00
SHEET NUMBER: 45 OF 69	

DATE: 9/21/2022 SAVE BY:DKS



0 20' 40'  
SCALE IN FEET

REV. #	BY	DATE	DESCRIPTION

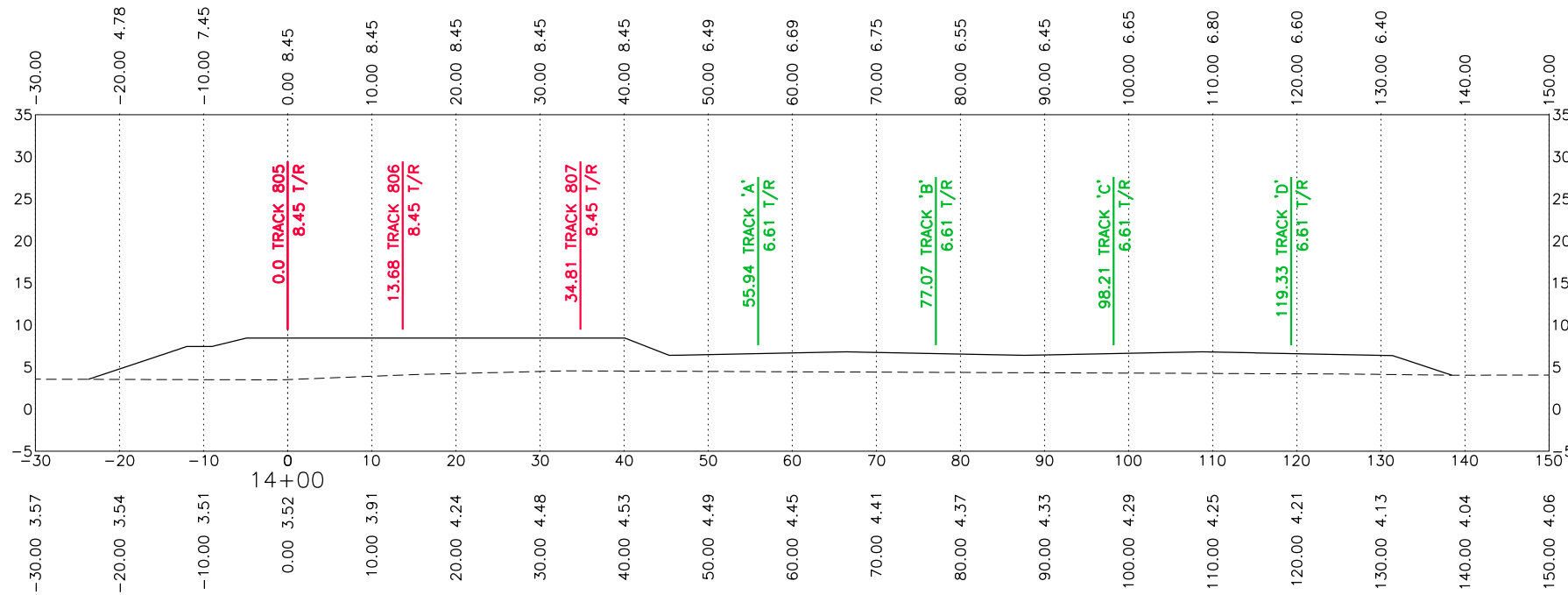
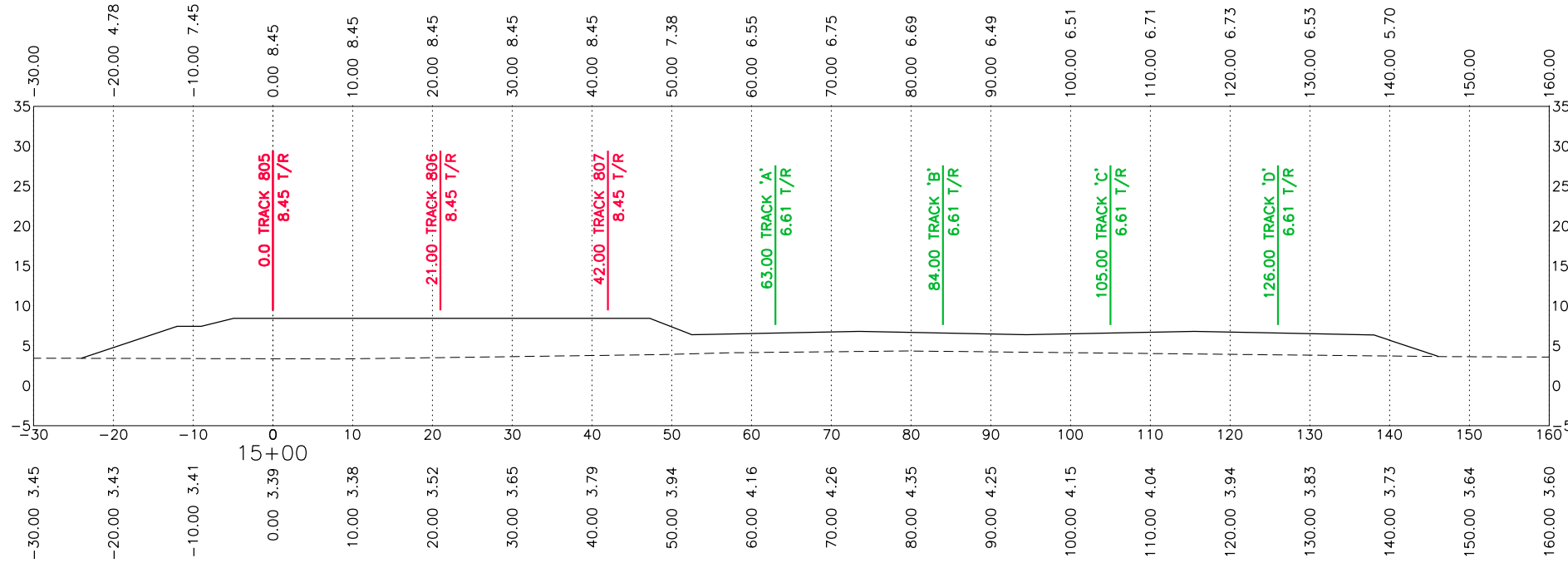
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	Shift UPRR Track		Ex. Leased Ind. Trk		Hand Throw Derail
	Ex. Ind. Track		No RR Operations		Point of Curve
	Prop. Ind. Track		Other Ind. Track		Bridge
	Remove Ind. Track		Right of Way		Signal

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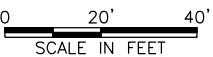
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CHECKED BY: BDB	LOCATION & DESCRIPTION: MILEPOST 1/4, FREEPORT IND LEAD FREEPORT, BRAZORA, TEXAS TRACKAGE TO SERVE: PORT FREEPORT
DATE: 9/21/22	SHEET TITLE: CROSS SECTIONS 12+00 TO 13+00
SHEET NUMBER: 46 OF 69	

DATE: 9/21/2022 SAVE BY: DKS



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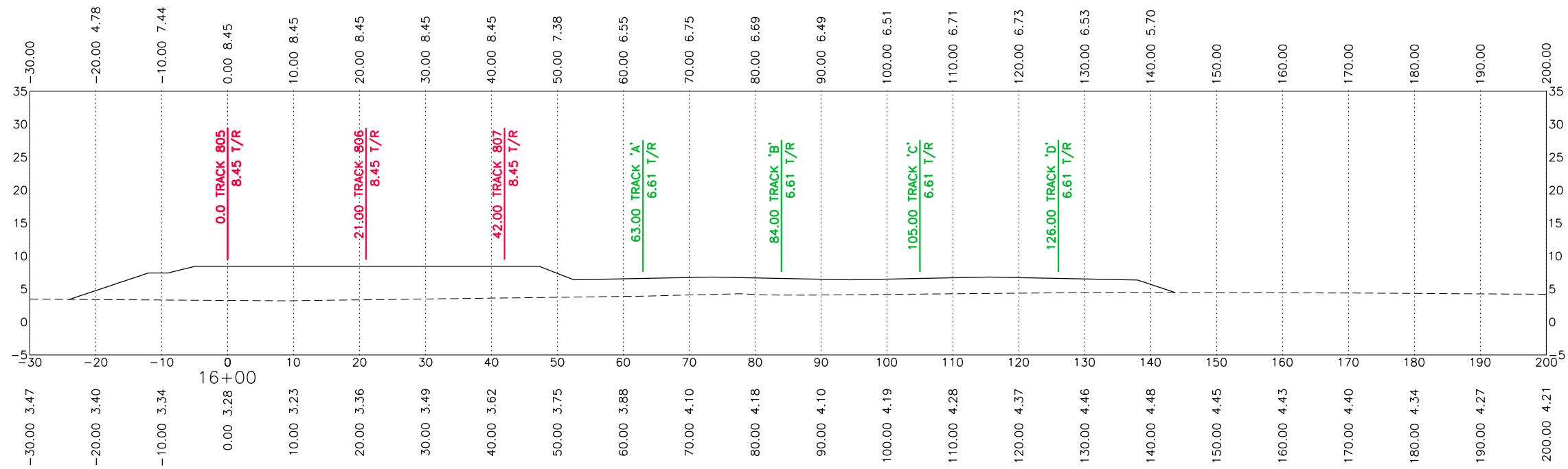
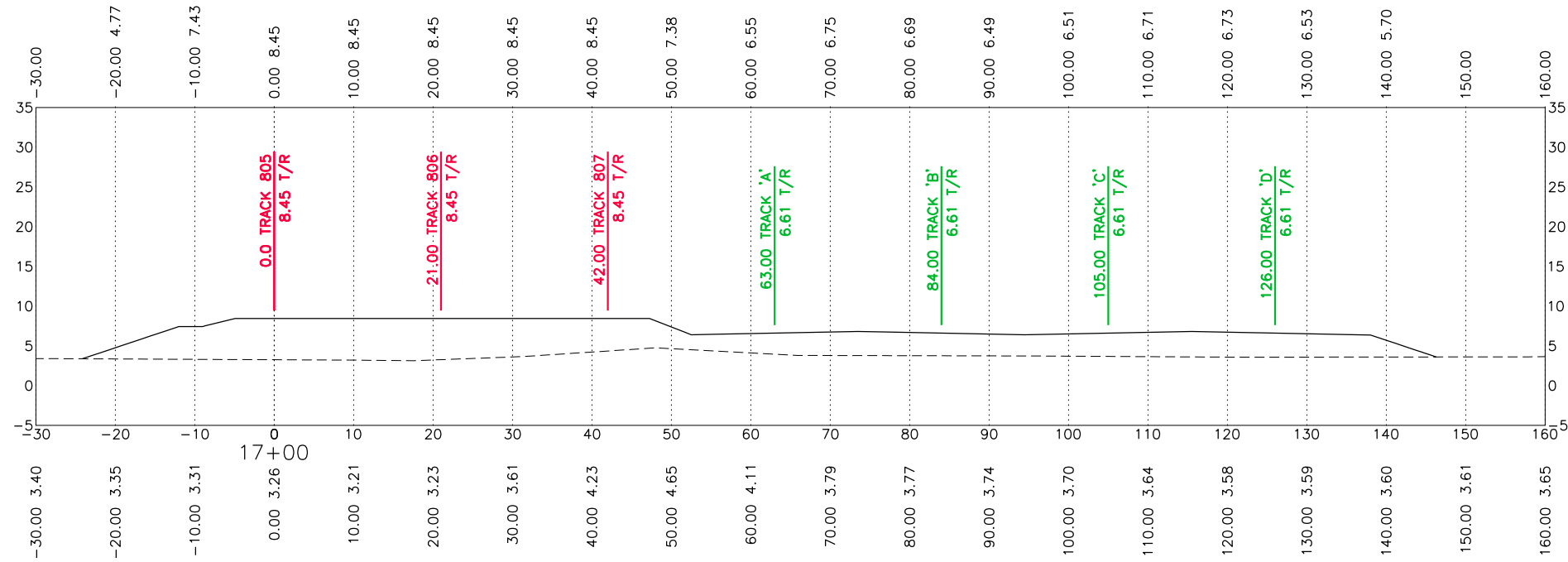
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	Shift UPRR Track		Ex. Leased Ind. Trk		Hand Throw Derail
	Ex. Ind. Track		No RR Operations		Point of Curve
	Prop. Ind. Track		Other Ind. Track		Bridge
	Remove Ind. Track		Right of Way		Signal

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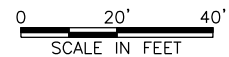


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DRAWN BY: DKS, EB	For use in Agreement with: <b>UNION PACIFIC RAILROAD</b> <b>PORT FREEPORT</b>
CHECKED BY: BDB	LOCATION & DESCRIPTION: MILEPOST 1/4, FREEPORT IND LEAD FREEPORT, BRAZORA, TEXAS TRACKAGE TO SERVE: PORT FREEPORT
DATE: 9/21/22	SHEET TITLE: CROSS SECTIONS 14+00 TO 15+00
SHEET NUMBER: 47 OF 69	

DATE: 9/21/2022 SAVE BY:DKS



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REV. #	BY	DATE	DESCRIPTION

- Ex. UPRR Track
- Prop. UPRR Track
- - - - - Remove UPRR Track
- - - - - Shift UPRR Track
- - - - - Ex. Ind. Track
- - - - - Prop. Ind. Track
- - - - - Remove Ind. Track
- +—+—+— Shift Ind. Track
- +—+—+— Future Ind. Track
- - - - - Prop. Leased Ind. Trk
- - - - - Ex. Leased Ind. Trk
- - - - - No RR Operations
- - - - - Other Ind. Track
- - - - - Right of Way
- Hand Throw Turnout
- Power Turnout
- Power Derail
- Hand Throw Derail
- Point of Curve
- Bridge
- Signal

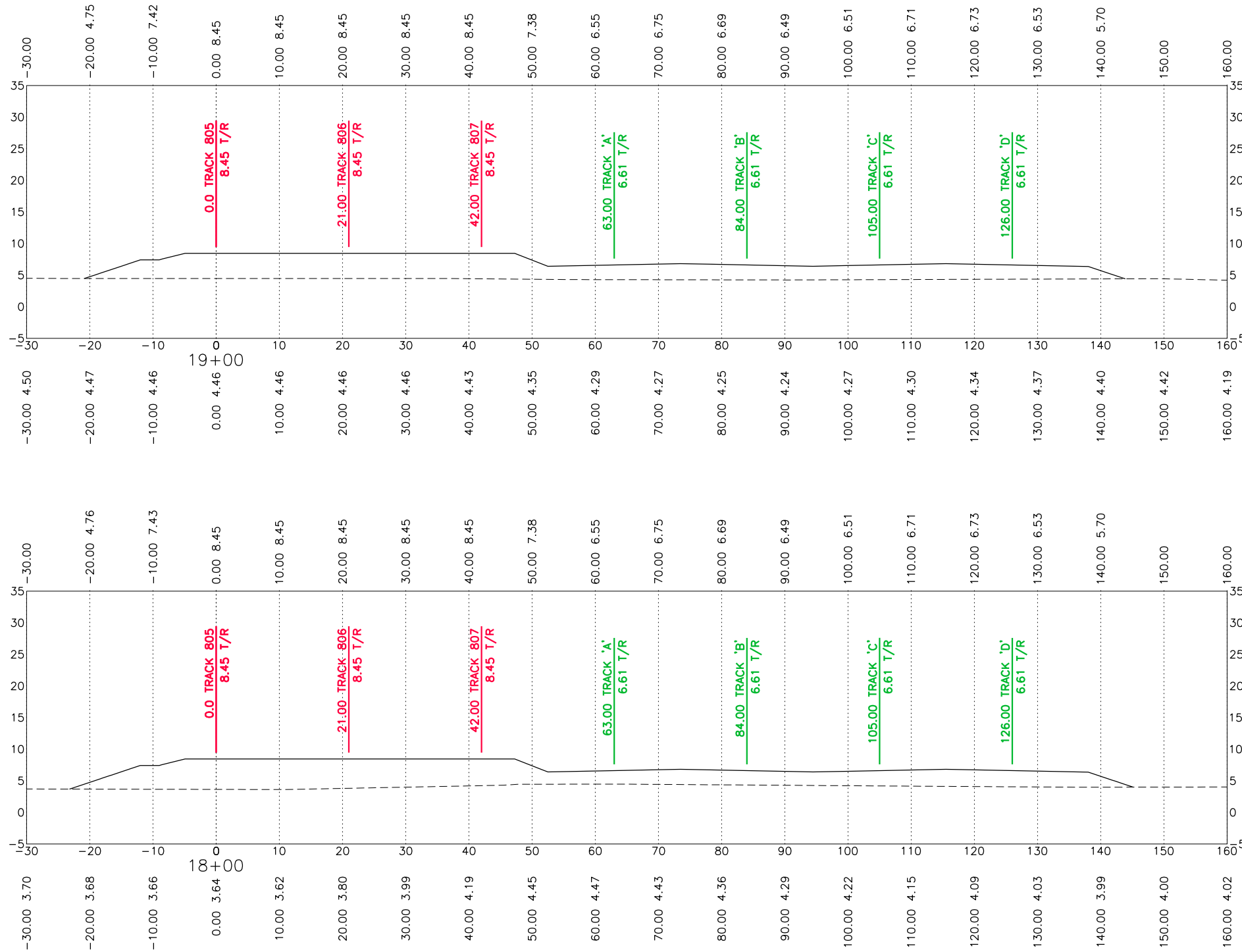
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CHECKED BY: BDB	LOCATION & DESCRIPTION: MILEPOST 1/4, FREEPORT IND LEAD FREEPORT, BRAZORA, TEXAS TRACKAGE TO SERVE: PORT FREEPORT
DATE: 9/21/22	SHEET TITLE: CROSS SECTIONS 16+00 TO 17+00
SHEET NUMBER: 48 OF 69	

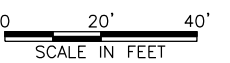


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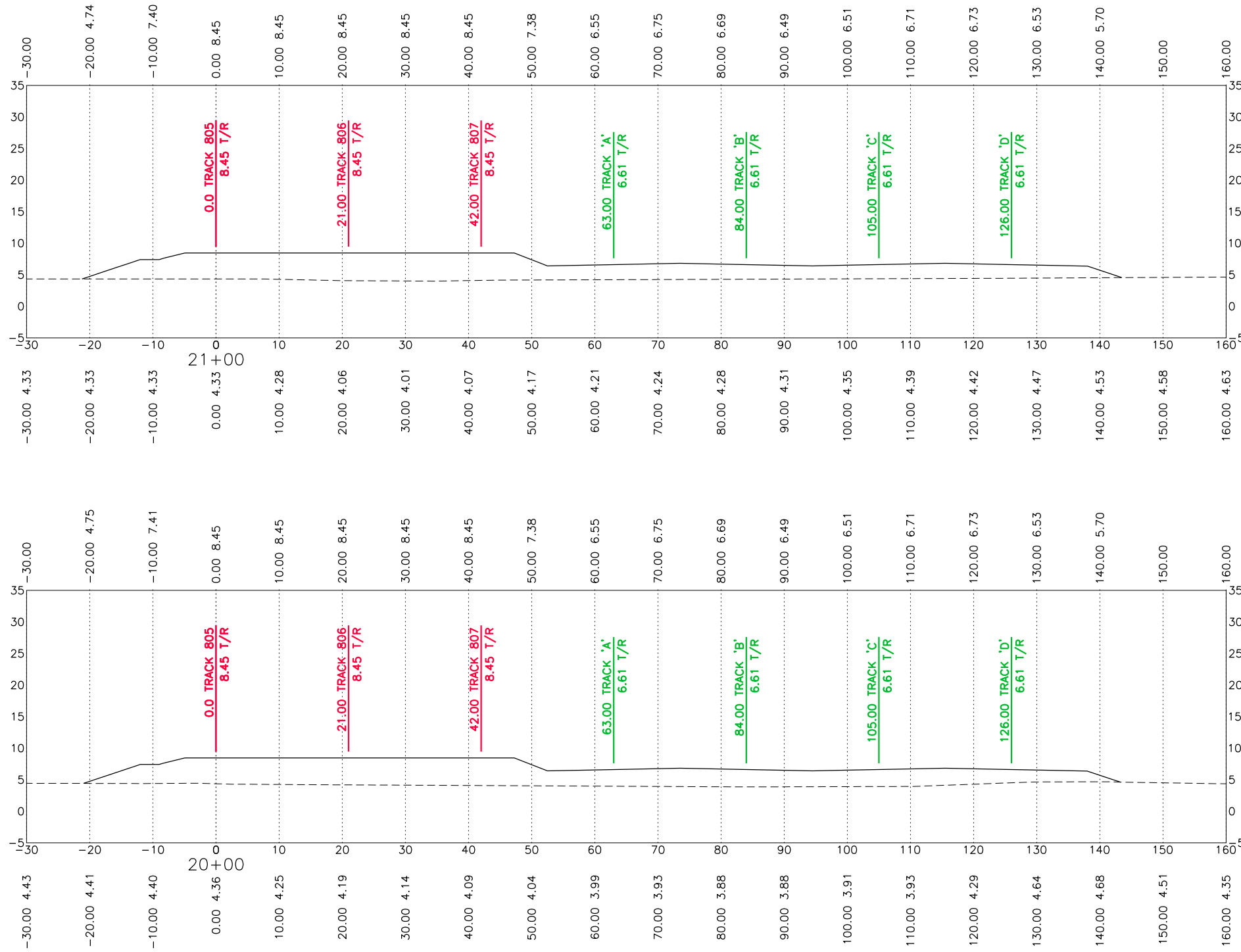
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	Prop. Ind. Track		Other Ind. Track		Bridge
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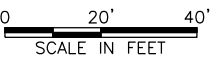
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DATE: 9/21/22	
SHEET NUMBER: 49 OF 69	SHEET TITLE: CROSS SECTIONS 18+00 TO 19+00

DATE: 9/21/2022 SAVE BY: DKS



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9/23/2022



REV. #	BY	DATE	DESCRIPTION

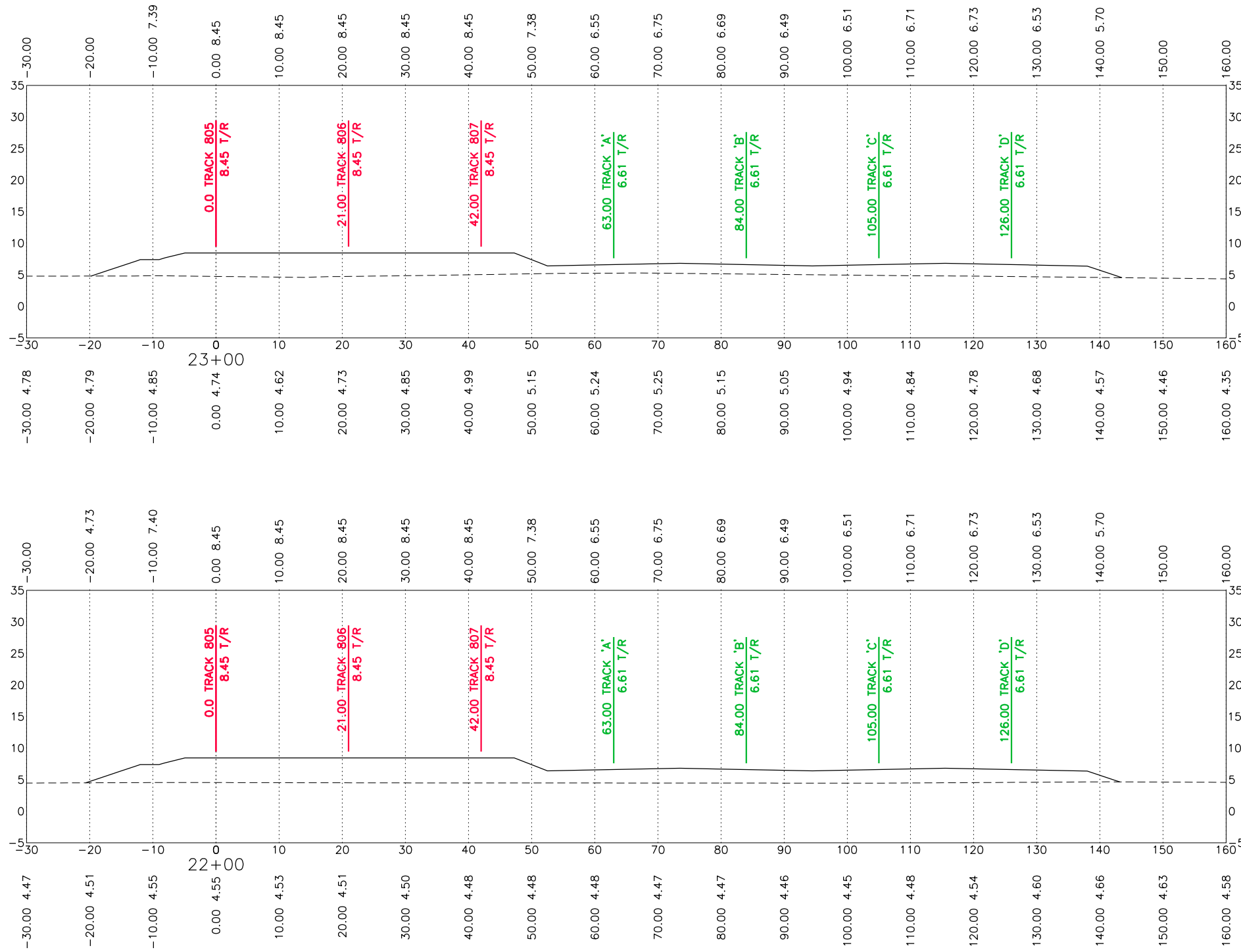
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	Ex. Ind. Track		No RR Operations		Point of Curve
	Prop. Ind. Track		Other Ind. Track		Bridge
	Remove Ind. Track		Right of Way		Signal

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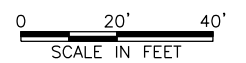
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CHECKED BY: BDB	LOCATION & DESCRIPTION: MILEPOST 1/4, FREEPORT IND LEAD FREEPORT, BRAZORA, TEXAS TRACKAGE TO SERVE: PORT FREEPORT
DATE: 9/21/22	SHEET TITLE: CROSS SECTIONS 20+00 TO 21+00
SHEET NUMBER: 50 OF 69	

DATE: 9/21/2022 SAVE BY:DKS



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9/23/2022



REV. #	BY	DATE	DESCRIPTION

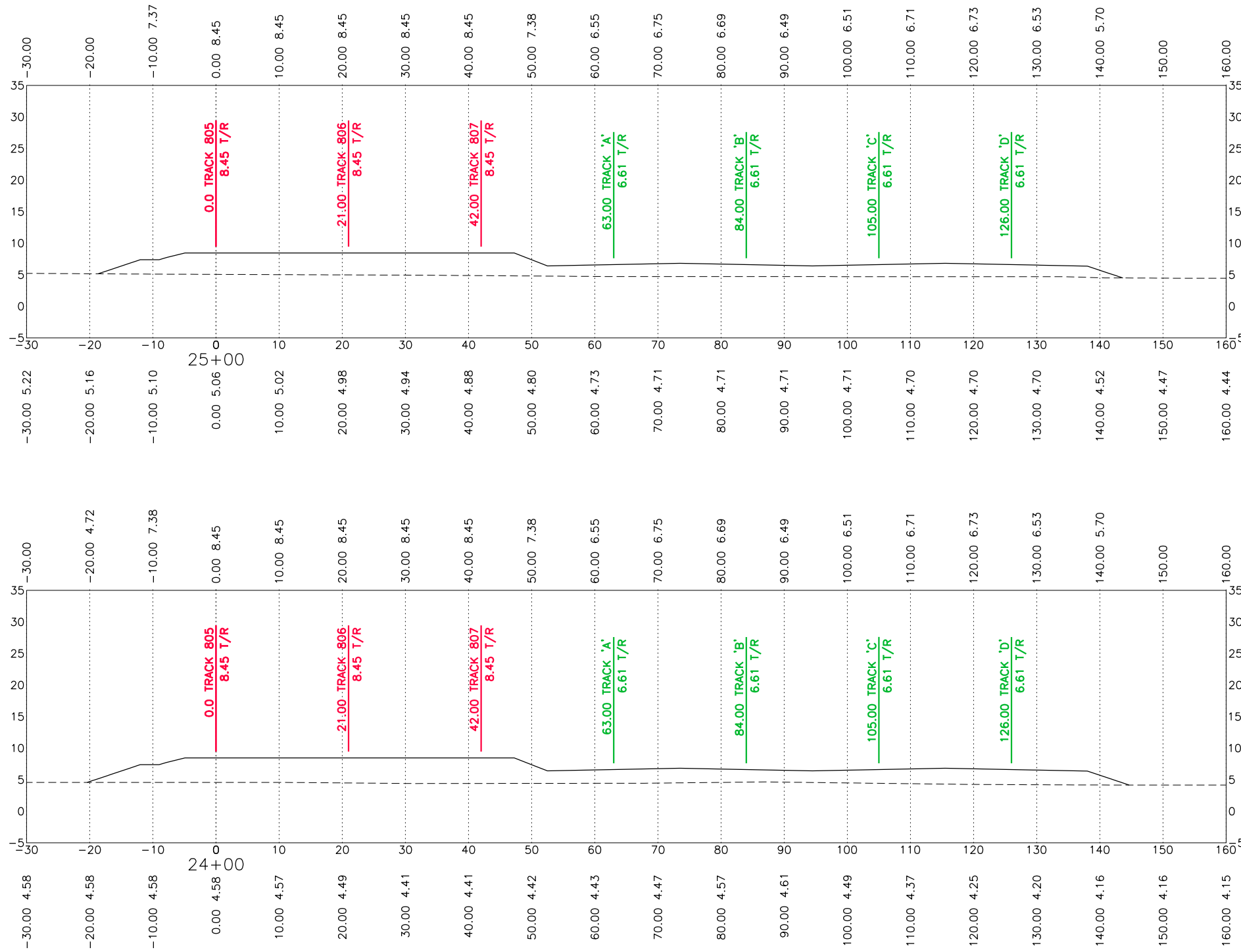
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	Shift UPRR Track		Ex. Leased Ind. Trk		Hand Throw Derail
	Ex. Ind. Track		No RR Operations		Point of Curve
	Prop. Ind. Track		Other Ind. Track		Bridge
	Remove Ind. Track		Right of Way		Signal

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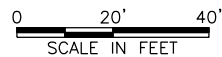


FES #: 47960	DOCUMENT TYPE: ISSUED FOR BID
DRAWN BY: DKS, EB	For use in Agreement with: <b>UNION PACIFIC RAILROAD</b> <b>PORT FREEPORT</b>
CHECKED BY: BDB	LOCATION & DESCRIPTION: MILEPOST 1/4, FREEPORT IND LEAD FREEPORT, BRAZORA, TEXAS TRACKAGE TO SERVE: PORT FREEPORT
DATE: 9/21/22	SHEET TITLE: CROSS SECTIONS 22+00 TO 23+00
SHEET NUMBER: 51 OF 69	

DATE: 9/21/2022 SAVE BY: DKS



9/23/2022  
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REV. #	BY	DATE	DESCRIPTION

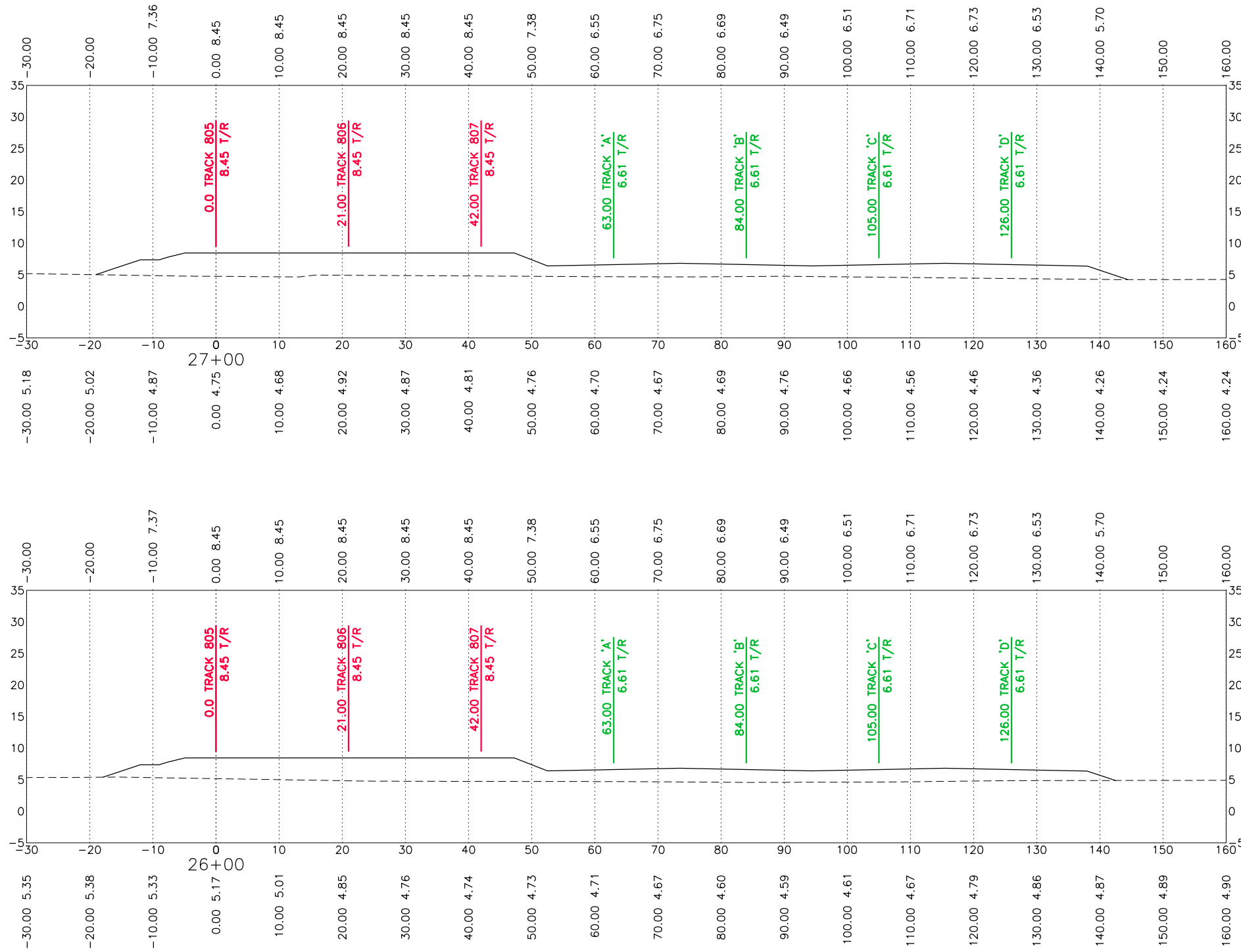
- |                   |                       |                    |
|-------------------|-----------------------|--------------------|
| Ex. UPRR Track    | Shift Ind. Track      | Hand Throw Turnout |
| Prop. UPRR Track  | Future Ind. Track     | Power Turnout      |
| Remove UPRR Track | Prop. Leased Ind. Trk | Power Derail       |
| Shift UPRR Track  | Ex. Leased Ind. Trk   | Hand Throw Derail  |
| Ex. Ind. Track    | No RR Operations      | Point of Curve     |
| Prop. Ind. Track  | Other Ind. Track      | Bridge             |
| Remove Ind. Track | Right of Way          | Signal             |

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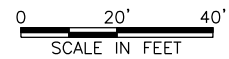


FES #: 47960	DOCUMENT TYPE: ISSUED FOR BID
DRAWN BY: DKS, EB	For use in Agreement with: <b>UNION PACIFIC RAILROAD</b> <b>PORT FREEPORT</b>
CHECKED BY: BDB	LOCATION & DESCRIPTION: MILEPOST 1/4, FREEPORT IND LEAD FREEPORT, BRAZORA, TEXAS TRACKAGE TO SERVE: PORT FREEPORT
DATE: 9/21/22	SHEET TITLE: CROSS SECTIONS 24+00 TO 25+00
SHEET NUMBER: 52 OF 69	

DATE: 9/21/2022 SAVE BY: DKS



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REV. #	BY	DATE	DESCRIPTION

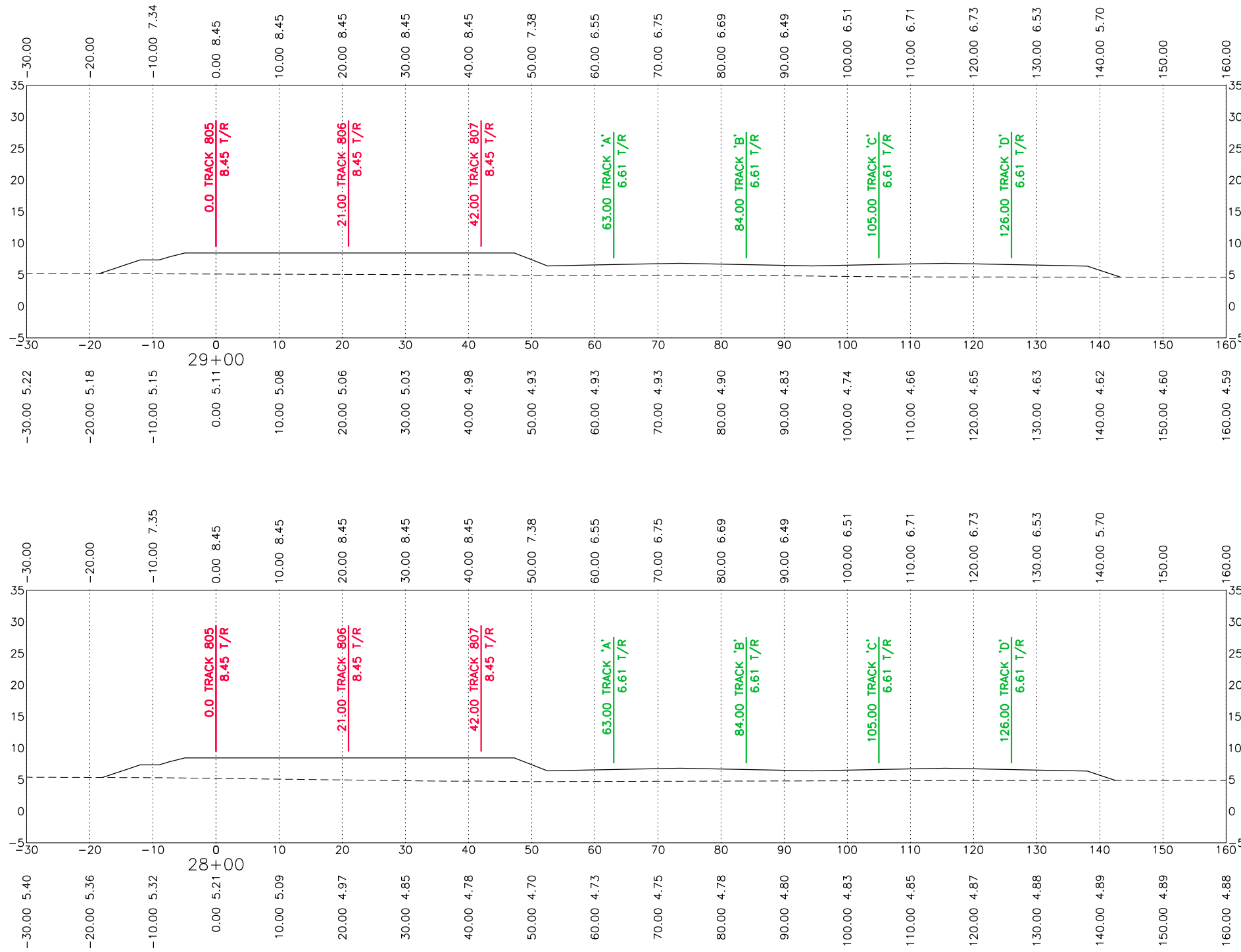
- Ex. UPRR Track
- Prop. UPRR Track
- - - Remove UPRR Track
- - - Shift UPRR Track
- + - + - Ex. Ind. Track
- + - + - Prop. Ind. Track
- + - + - Remove Ind. Track
- + - + - Shift Ind. Track
- + - + - Future Ind. Track
- + - + - Prop. Leased Ind. Trk
- + - + - Ex. Leased Ind. Trk
- + - + - No RR Operations
- + - + - Other Ind. Track
- - - - - Right of Way
- Hand Throw Turnout
- Power Turnout
- Power Derail
- Hand Throw Derail
- Point of Curve
- Bridge
- Signal

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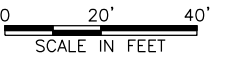


FES #: 47960	DOCUMENT TYPE: ISSUED FOR BID
DRAWN BY: DKS, EB	For use in Agreement with: <b>UNION PACIFIC RAILROAD</b> <b>PORT FREEPORT</b>
CHECKED BY: BDB	LOCATION & DESCRIPTION: MILEPOST 1/4, FREEPORT IND LEAD FREEPORT, BRAZORA, TEXAS TRACKAGE TO SERVE: PORT FREEPORT
DATE: 9/21/22	SHEET TITLE: CROSS SECTIONS 26+00 TO 27+00
SHEET NUMBER: 53 OF 69	

DATE: 9/21/2022 SAVE BY: DKS



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*Brian D. Bresler*



REV. #	BY	DATE	DESCRIPTION

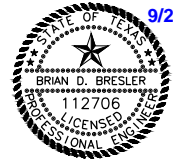
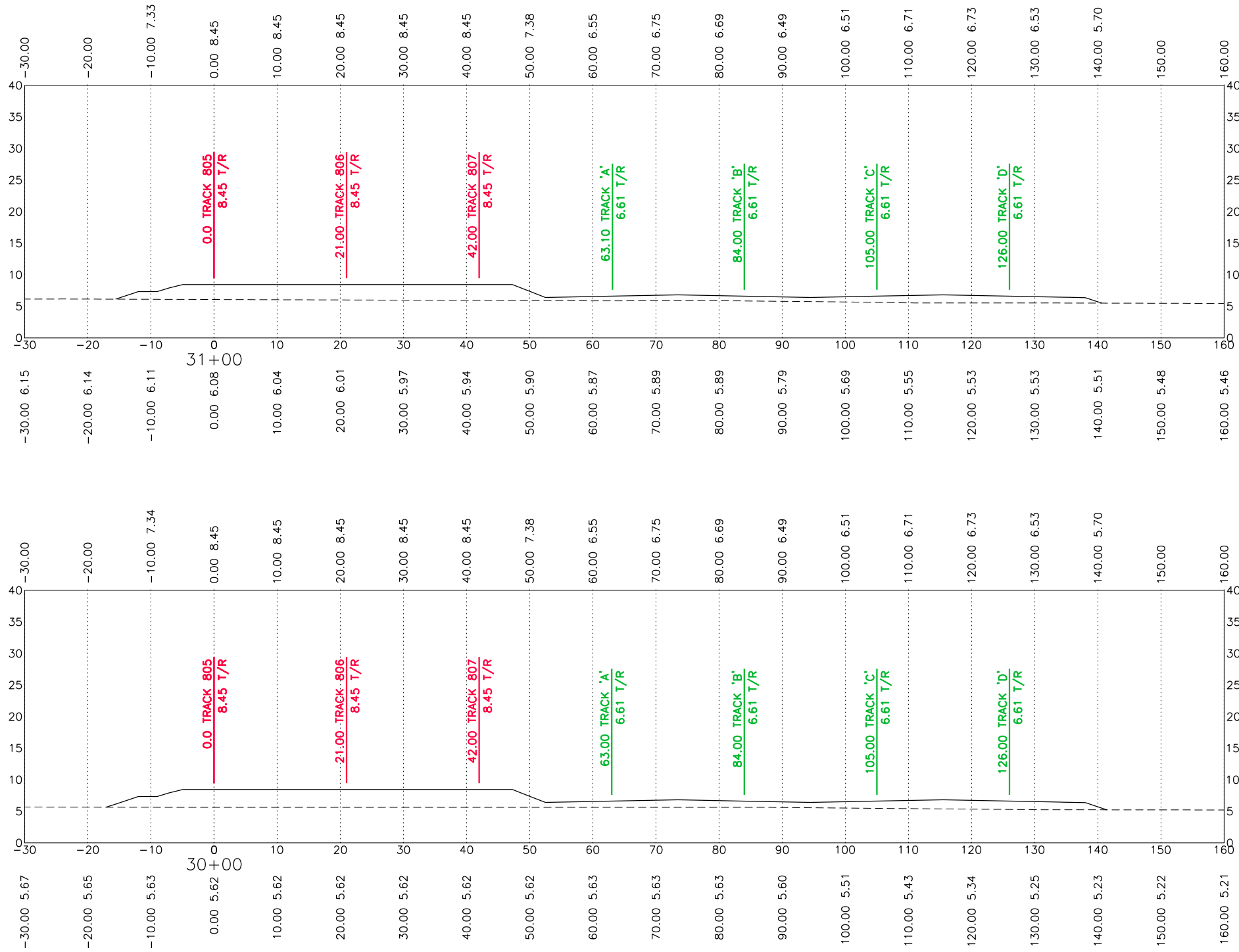
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	Prop. UPRR Track		Future Ind. Track		Power Turnout
	Remove UPRR Track		Prop. Leased Ind. Trk		Power Derail
	Shift UPRR Track		Ex. Leased Ind. Trk		Hand Throw Derail
	Ex. Ind. Track		No RR Operations		Point of Curve
	Prop. Ind. Track		Other Ind. Track		Bridge
	Remove Ind. Track		Right of Way		Signal

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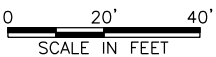
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DRAWN BY: DKS, EB	For use in Agreement with: <b>UNION PACIFIC RAILROAD</b> <b>PORT FREEPORT</b>
CHECKED BY: BDB	LOCATION & DESCRIPTION: MILEPOST 1/4, FREEPORT IND LEAD FREEPORT, BRAZORA, TEXAS TRACKAGE TO SERVE: PORT FREEPORT
DATE: 9/21/22	
SHEET NUMBER: 54 OF 69	SHEET TITLE: CROSS SECTIONS 28+00 TO 29+00

DATE: 9/21/2022 SAVE BY:DKS



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REV. #	BY	DATE	DESCRIPTION

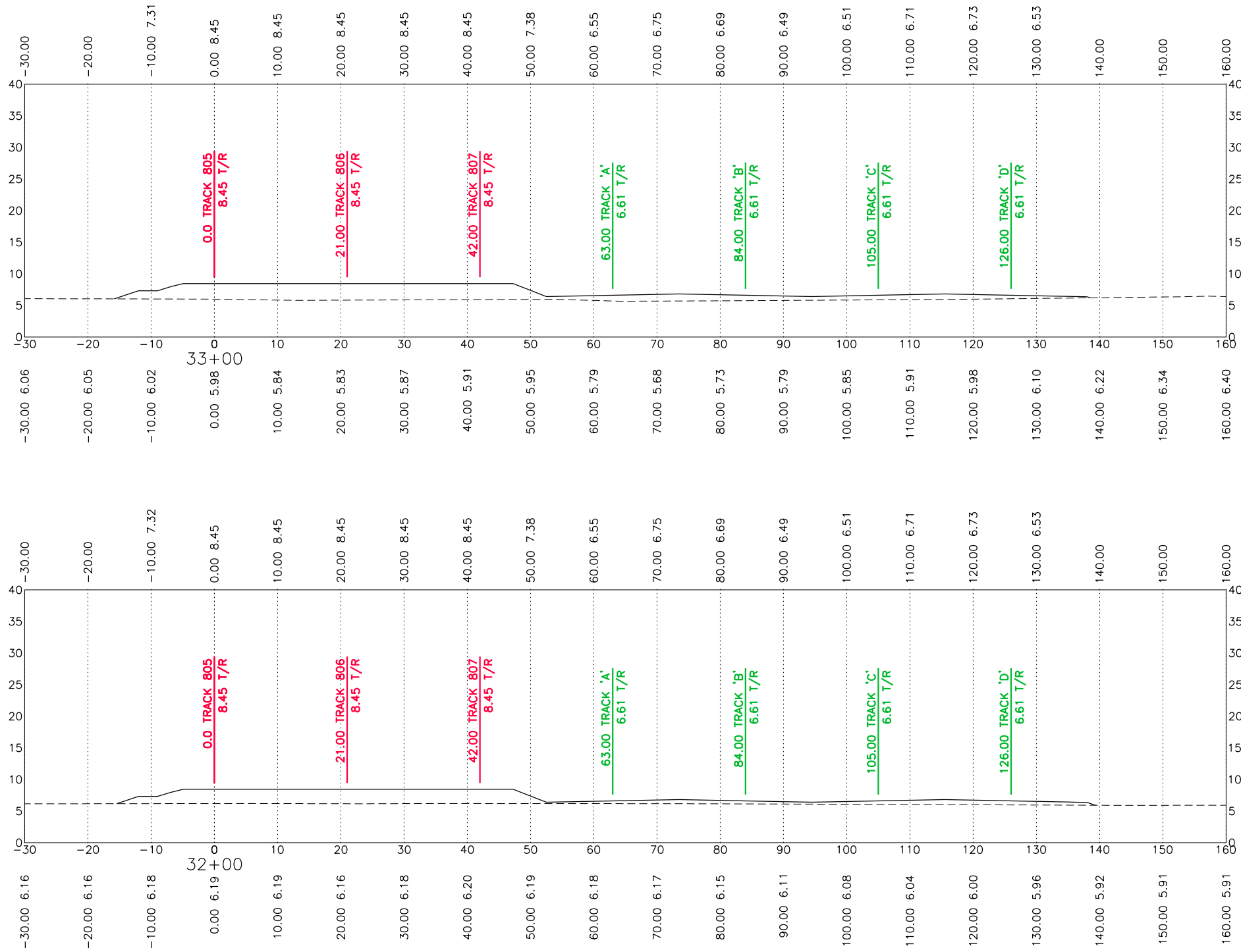
- Ex. UPRR Track
- Prop. UPRR Track
- - - Remove UPRR Track
- - - Shift UPRR Track
- + - + - Ex. Ind. Track
- + - + - Prop. Ind. Track
- + - + - Remove Ind. Track
- + - + - Shift Ind. Track
- + - + - Future Ind. Track
- + - + - Prop. Leased Ind. Trk
- + - + - Ex. Leased Ind. Trk
- + - + - No RR Operations
- + - + - Other Ind. Track
- - - - - Right of Way
- Hand Throw Turnout
- Power Turnout
- Power Derail
- Hand Throw Derail
- Point of Curve
- Bridge
- Signal

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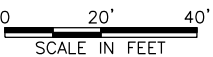
FES #: 47960	DOCUMENT TYPE: ISSUED FOR BID
DRAWN BY: DKS, EB	For use in Agreement with: <b>UNION PACIFIC RAILROAD</b> <b>PORT FREEPORT</b>
CHECKED BY: BDB	LOCATION & DESCRIPTION: MILEPOST 1/4, FREEPORT IND LEAD FREEPORT, BRAZORA, TEXAS TRACKAGE TO SERVE: PORT FREEPORT
DATE: 9/21/22	SHEET TITLE: CROSS SECTIONS 30+00 TO 31+00
SHEET NUMBER: 55 OF 69	

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9/23/2022



REV. #	BY	DATE	DESCRIPTION

- |                   |                       |                    |
|-------------------|-----------------------|--------------------|
| Ex. UPRR Track    | Shift Ind. Track      | Hand Throw Turnout |
| Prop. UPRR Track  | Future Ind. Track     | Power Turnout      |
| Remove UPRR Track | Prop. Leased Ind. Trk | Power Derail       |
| Shift UPRR Track  | Ex. Leased Ind. Trk   | Hand Throw Derail  |
| Ex. Ind. Track    | No RR Operations      | Point of Curve     |
| Prop. Ind. Track  | Other Ind. Track      | Bridge             |
| Remove Ind. Track | Right of Way          | Signal             |

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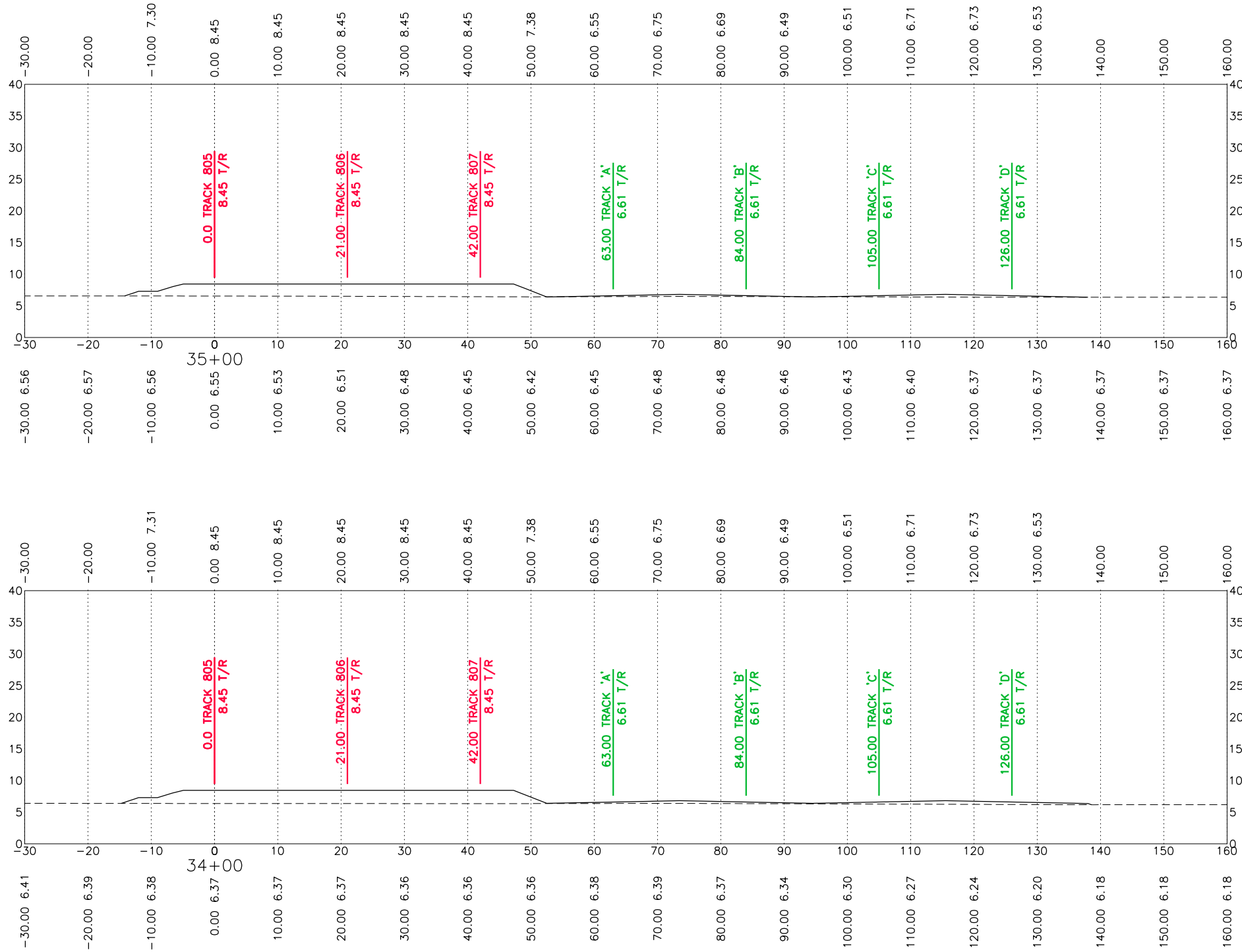
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FES #: 47960	DOCUMENT TYPE: ISSUED FOR BID
DRAWN BY: DKS, EB	For use in Agreement with: <b>UNION PACIFIC RAILROAD</b> <b>PORT FREEPORT</b>
CHECKED BY: BDB	LOCATION & DESCRIPTION: MILEPOST 1/4, FREEPORT IND LEAD FREEPORT, BRAZORA, TEXAS TRACKAGE TO SERVE: PORT FREEPORT
DATE: 9/21/22	SHEET TITLE: CROSS SECTIONS 32+00 TO 33+00
SHEET NUMBER: 56 OF 69	



DATE: 9/21/2022 SAVE BY:DKS



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REV. #	BY	DATE	DESCRIPTION

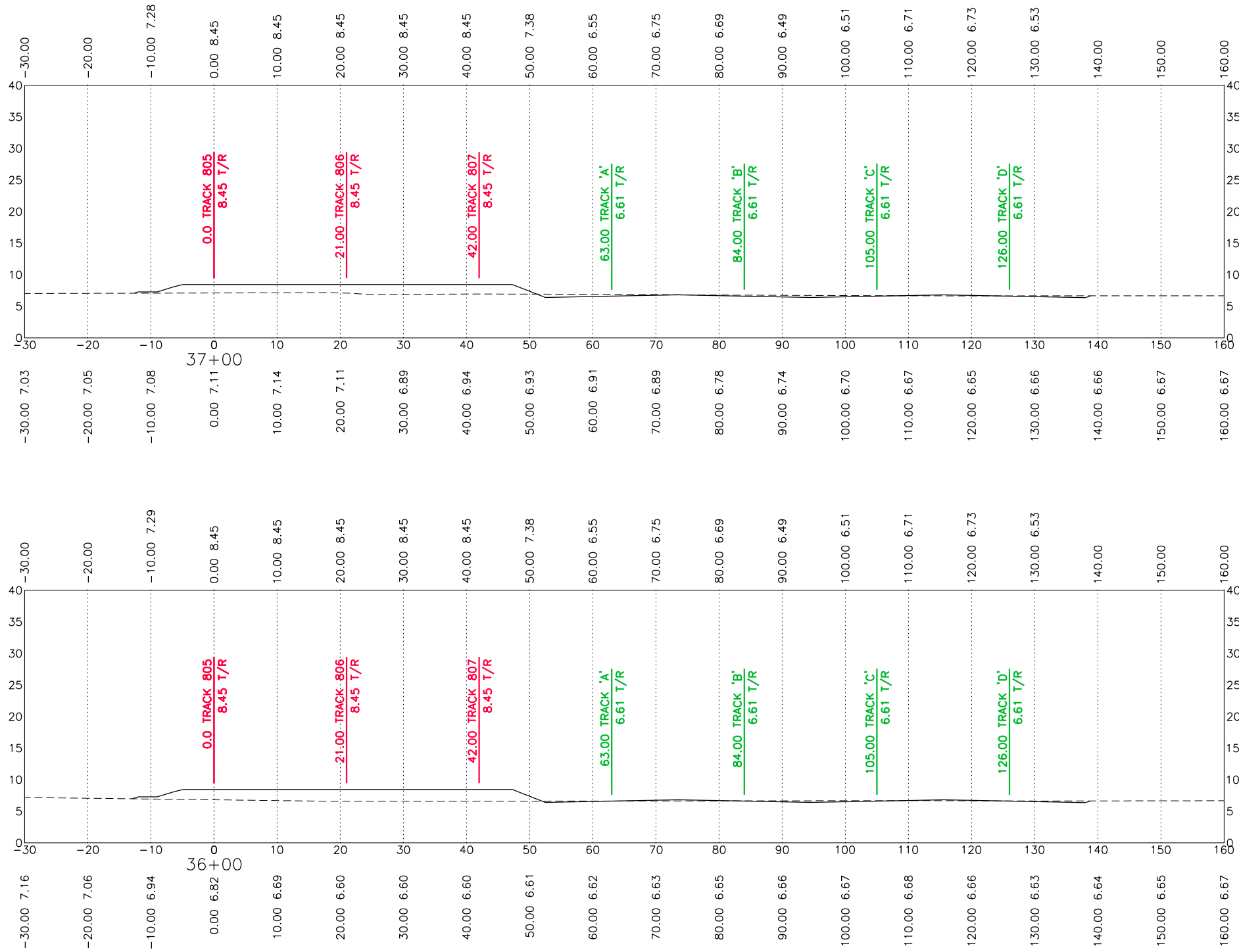
- Ex. UPRR Track
- Prop. UPRR Track
- - - Remove UPRR Track
- - - Shift UPRR Track
- + - + - Ex. Ind. Track
- + - + - Prop. Ind. Track
- + - + - Remove Ind. Track
- + - + - Shift Ind. Track
- + - + - Future Ind. Track
- + - + - Prop. Leased Ind. Trk
- + - + - Ex. Leased Ind. Trk
- + - + - No RR Operations
- + - + - Other Ind. Track
- - - - - Right of Way
- Hand Throw Turnout
- Power Turnout
- Power Derail
- Hand Throw Derail
- Point of Curve
- Bridge
- Signal

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FES #: 47960	DOCUMENT TYPE: ISSUED FOR BID
DRAWN BY: DKS, EB	For use in Agreement with: <b>UNION PACIFIC RAILROAD</b> <b>PORT FREEPORT</b>
CHECKED BY: BDB	LOCATION & DESCRIPTION: MILEPOST 1/4, FREEPORT IND LEAD FREEPORT, BRAZORA, TEXAS TRACKAGE TO SERVE: PORT FREEPORT
DATE: 9/21/22	
SHEET NUMBER: 57 OF 69	SHEET TITLE: CROSS SECTIONS 34+00 TO 35+00

DATE: 9/21/2022 SAVE BY: DKS



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9/23/2022



REV. #	BY	DATE	DESCRIPTION

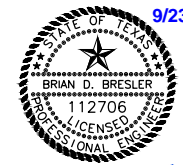
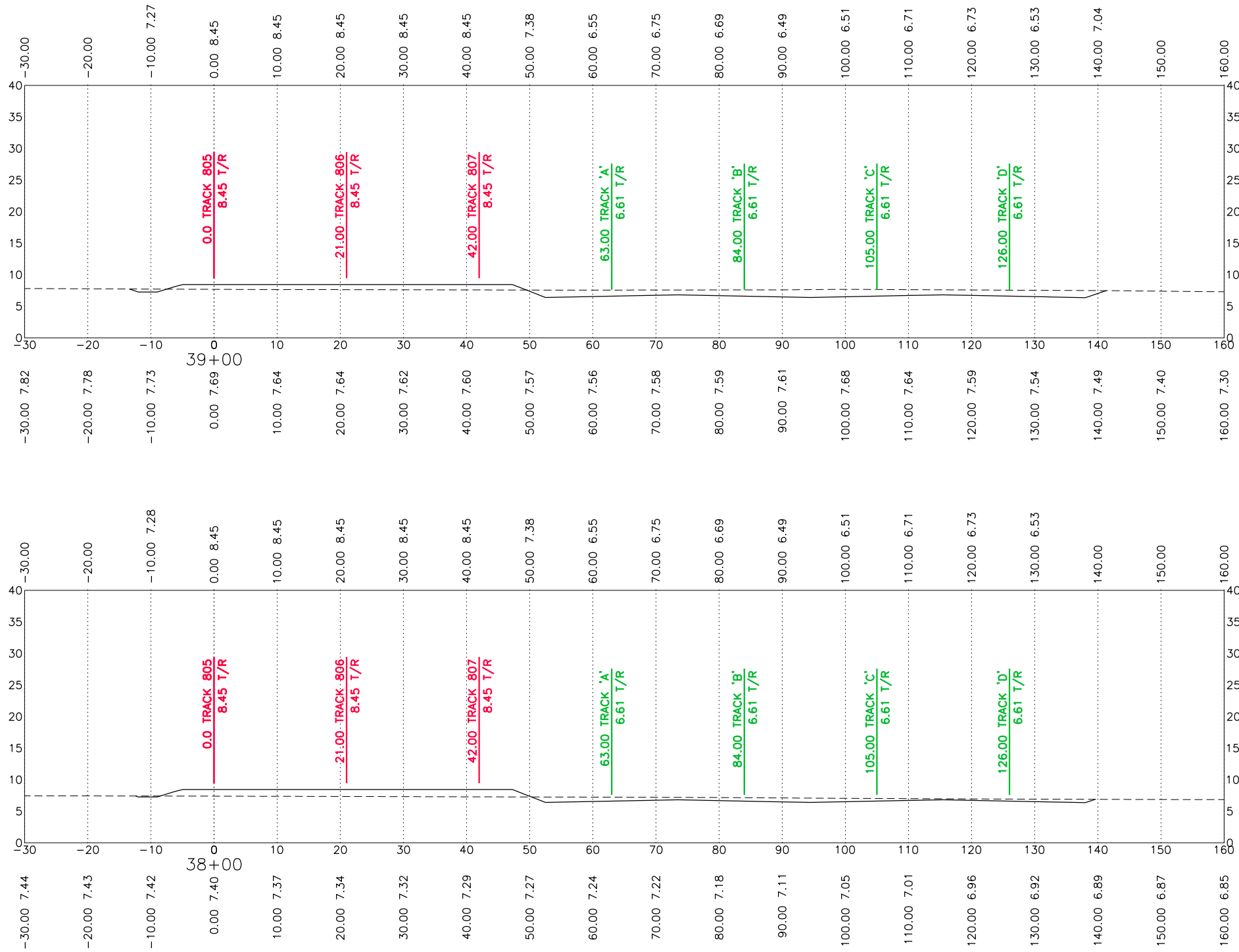
- Ex. UPRR Track
- Prop. UPRR Track
- - - Remove UPRR Track
- - - Shift UPRR Track
- + - + - Ex. Ind. Track
- + - + - Prop. Ind. Track
- + - + - Remove Ind. Track
- + - + - Shift Ind. Track
- + - + - Future Ind. Track
- + - + - Prop. Leased Ind. Trk
- + - + - Ex. Leased Ind. Trk
- + - + - No RR Operations
- + - + - Other Ind. Track
- + - + - Right of Way
- Hand Throw Turnout
- Power Turnout
- Power Derail
- Hand Throw Derail
- Point of Curve
- Bridge
- Signal

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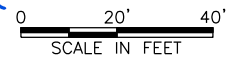
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DRAWN BY: DKS, EB	For use in Agreement with: <b>UNION PACIFIC RAILROAD</b> <b>PORT FREEPORT</b>
CHECKED BY: BDB	LOCATION & DESCRIPTION: MILEPOST 1/4, FREEPORT IND LEAD FREEPORT, BRAZORA, TEXAS TRACKAGE TO SERVE: PORT FREEPORT
DATE: 9/21/22	SHEET TITLE: CROSS SECTIONS 36+00 TO 37+00
SHEET NUMBER: 58 OF 69	

DATE: 9/21/2022 SAVE BY:DKS



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9/23/2022



REV. #	BY	DATE	DESCRIPTION

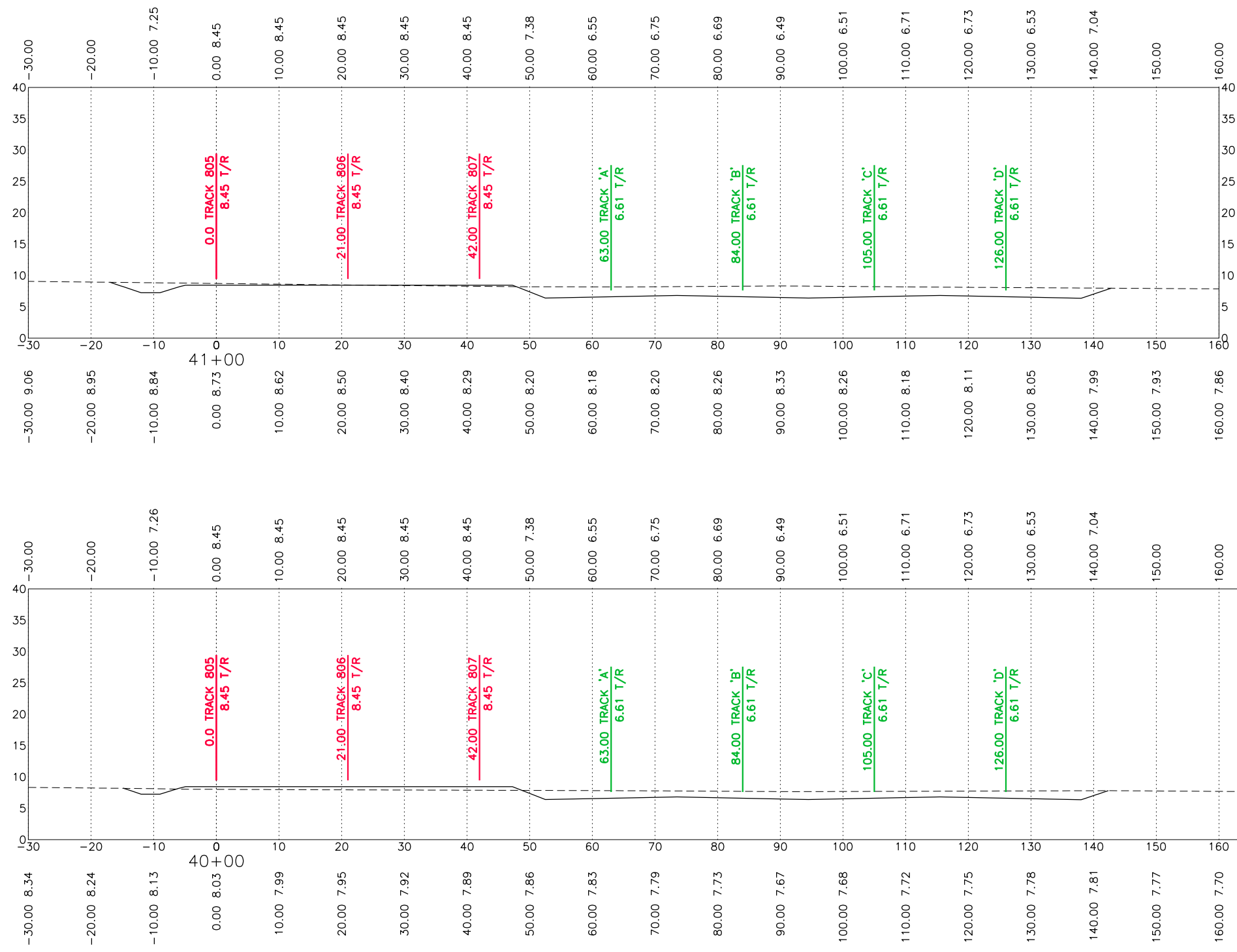
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- Prop. UPRR Track
- Remove UPRR Track
- Shift UPRR Track
- Ex. Ind. Track
- Prop. Ind. Track
- Remove Ind. Track
- Shift Ind. Track
- Future Ind. Track
- Prop. Leased Ind. Trk
- Ex. Leased Ind. Trk
- No RR Operations
- Other Ind. Track
- Right of Way
- Hand Throw Turnout
- Power Turnout
- Power Derail
- Hand Throw Derail
- Point of Curve
- Bridge
- Signal

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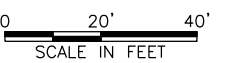
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DRAWN BY: DKS, EB	For use in Agreement with: <b>UNION PACIFIC RAILROAD</b> <b>PORT FREEPORT</b>
CHECKED BY: BDB	LOCATION & DESCRIPTION: MILEPOST 1/4, FREEPORT IND LEAD FREEPORT, BRAZORA, TEXAS TRACKAGE TO SERVE: PORT FREEPORT
DATE: 9/21/22	SHEET TITLE: CROSS SECTIONS 38+00 TO 39+00
SHEET NUMBER: 59 OF 69	

DATE: 9/21/2022 SAVE BY:DKS



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9/23/2022



REV. #	BY	DATE	DESCRIPTION

- Ex. UPRR Track
- Prop. UPRR Track
- - - Remove UPRR Track
- - - Shift UPRR Track
- + - Ex. Ind. Track
- + - Prop. Ind. Track
- + - Remove Ind. Track
- + - Shift Ind. Track
- + - Future Ind. Track
- + - Prop. Leased Ind. Trk
- + - Ex. Leased Ind. Trk
- + - No RR Operations
- + - Other Ind. Track
- - - Right of Way
- Hand Throw Turnout
- Power Turnout
- Power Derail
- Hand Throw Derail
- Point of Curve
- Bridge
- Signal

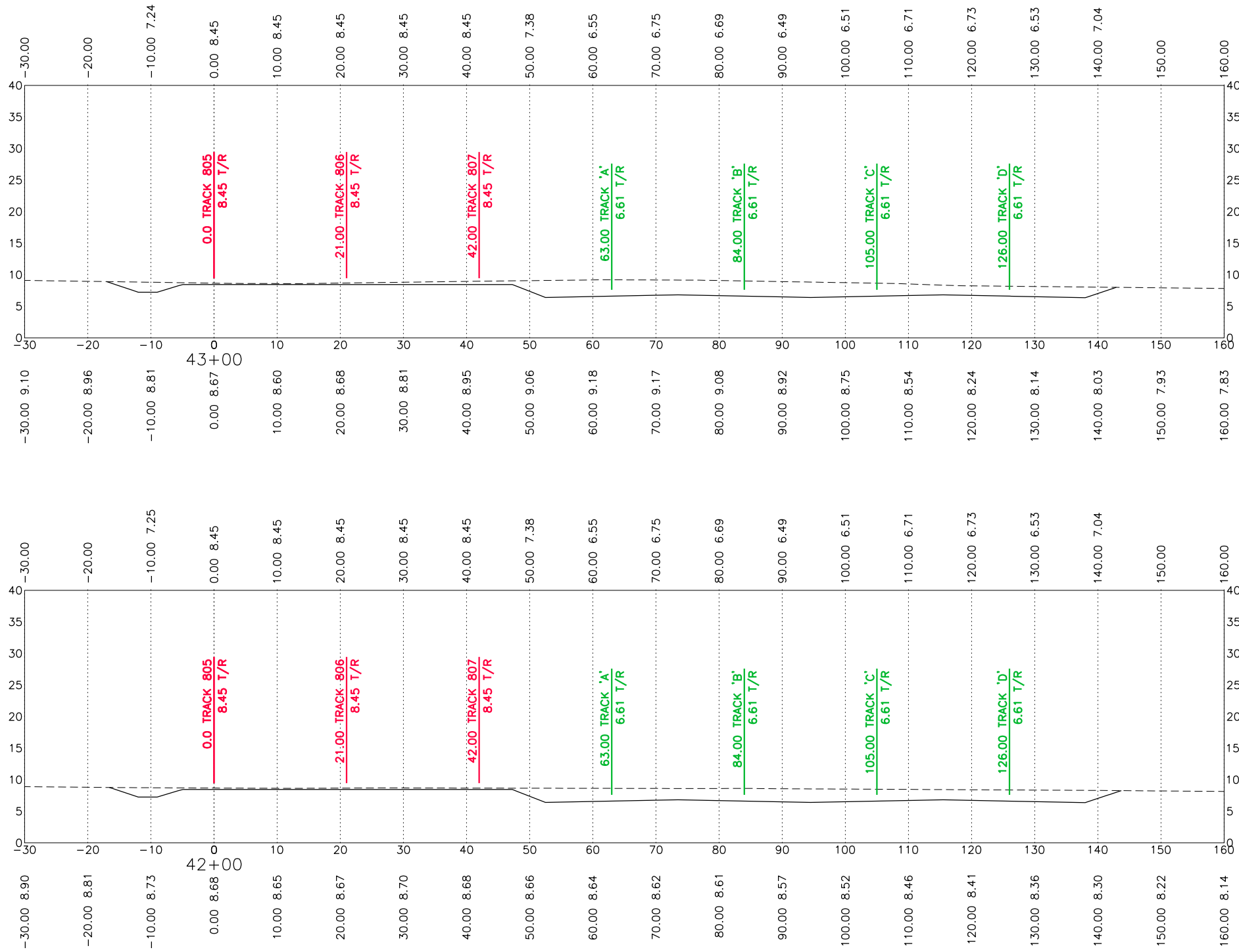
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FES #: 47960	DOCUMENT TYPE: ISSUED FOR BID
DRAWN BY: DKS, EB	For use in Agreement with: <b>UNION PACIFIC RAILROAD</b> <b>PORT FREEPORT</b>
CHECKED BY: BDB	LOCATION & DESCRIPTION: MILEPOST 1/4, FREEPORT IND LEAD FREEPORT, BRAZORA, TEXAS TRACKAGE TO SERVE: PORT FREEPORT
DATE: 9/21/22	SHEET TITLE: CROSS SECTIONS 40+00 TO 41+00
SHEET NUMBER: 60 OF 69	

DATE: 9/21/2022 SAVE BY: DKS



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9/23/2022  
0 20' 40'  
SCALE IN FEET

REV. #	BY	DATE	DESCRIPTION

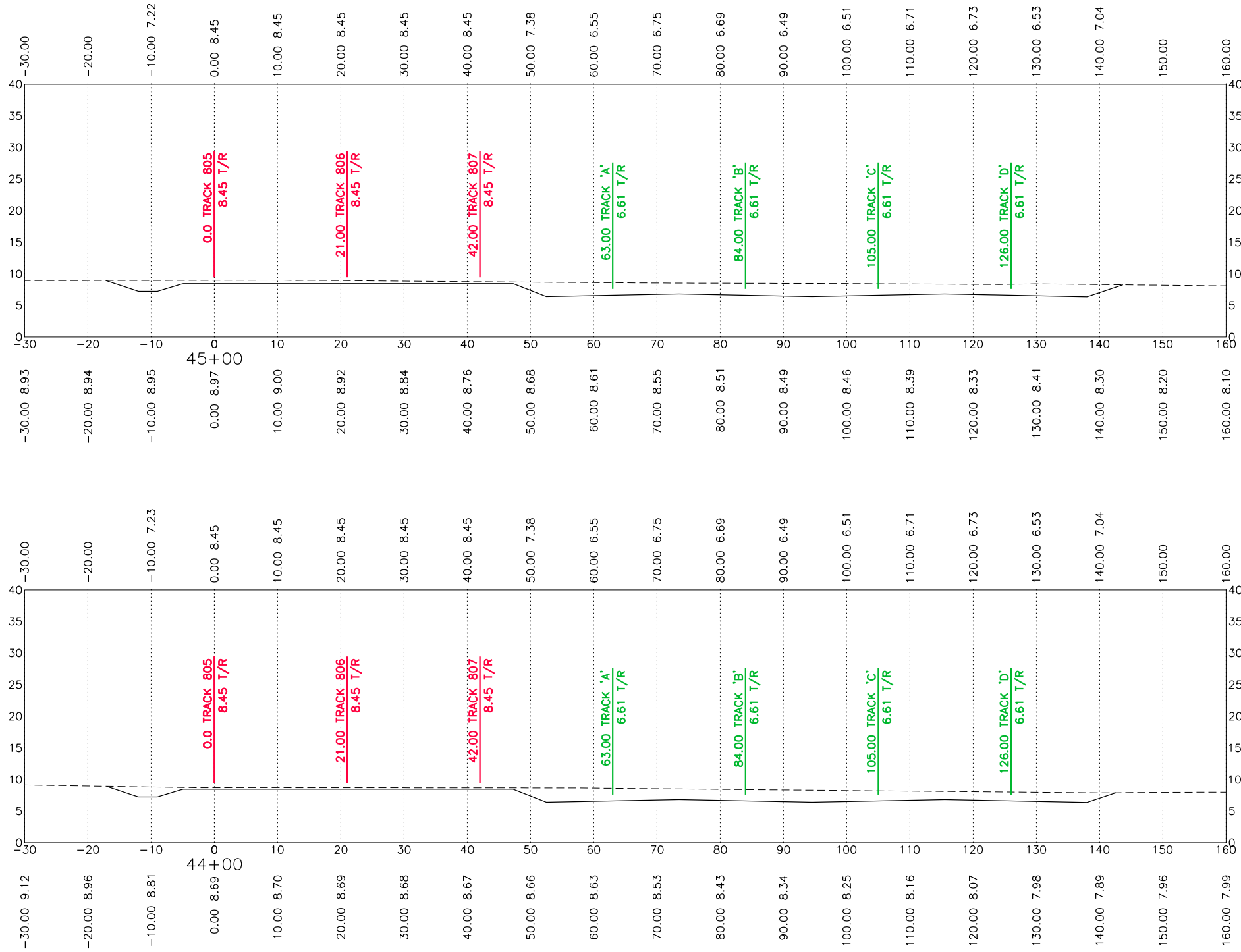
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	Prop. UPRR Track		Future Ind. Track		Power Turnout
	Remove UPRR Track		Prop. Leased Ind. Trk		Power Derail
	Shift UPRR Track		Ex. Leased Ind. Trk		Hand Throw Derail
	Ex. Ind. Track		No RR Operations		Point of Curve
	Prop. Ind. Track		Other Ind. Track		Bridge
	Remove Ind. Track		Right of Way		Signal

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FES #: 47960	DOCUMENT TYPE: ISSUED FOR BID
DRAWN BY: DKS, EB	For use in Agreement with: <b>UNION PACIFIC RAILROAD</b> <b>PORT FREEPORT</b>
CHECKED BY: BDB	LOCATION & DESCRIPTION: MILEPOST 1/4, FREEPORT IND LEAD FREEPORT, BRAZORA, TEXAS TRACKAGE TO SERVE: PORT FREEPORT
DATE: 9/21/22	SHEET TITLE: CROSS SECTIONS 42+00 TO 43+00
SHEET NUMBER: 61 OF 69	

DATE: 9/21/2022 SAVE BY: DKS



9/23/2022  
 STATE OF TEXAS  
 BRIAN D. BRESLER  
 112706  
 LICENSED PROFESSIONAL ENGINEER  
*Brian D. Bresler*

0 20' 40'  
 SCALE IN FEET

REV. #	BY	DATE	DESCRIPTION

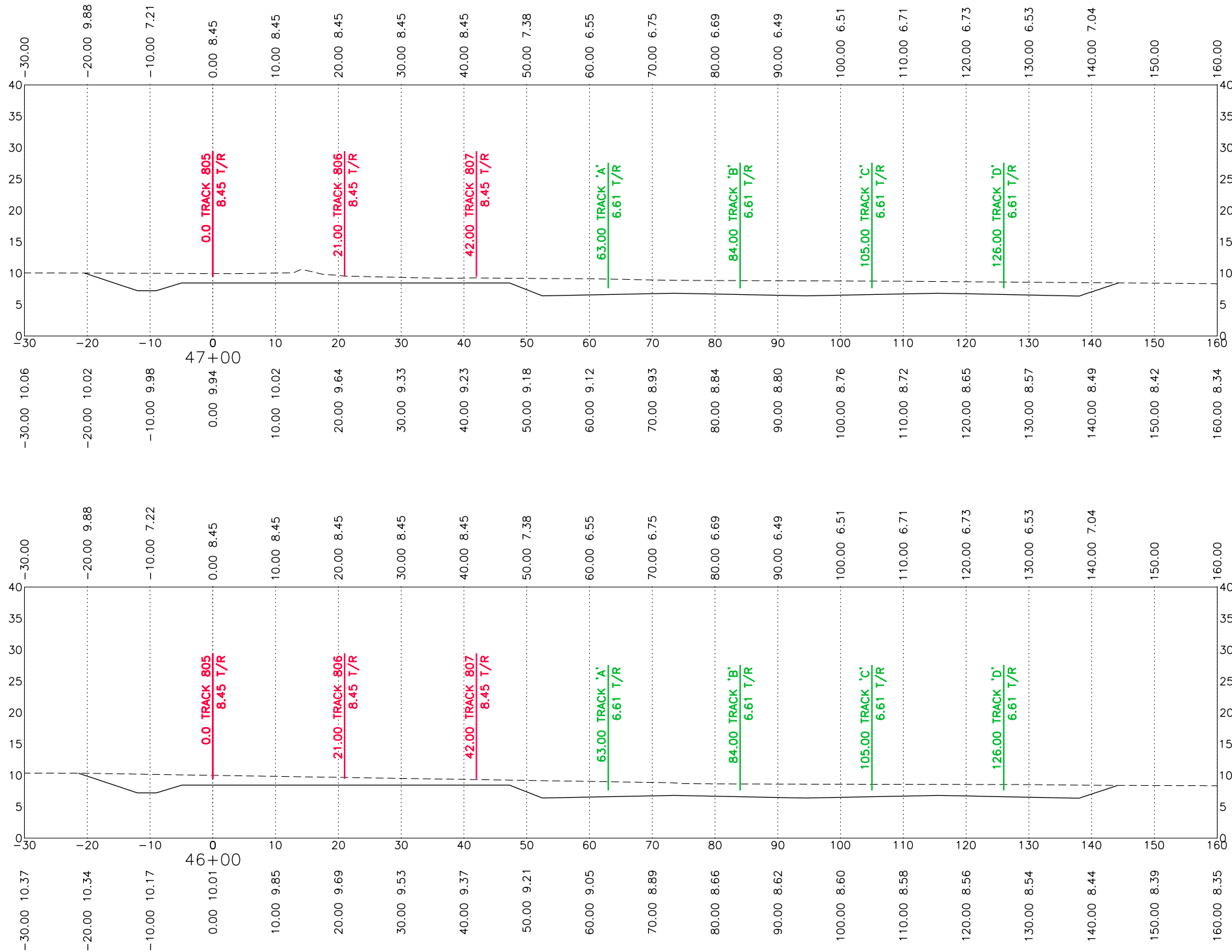
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	Prop. UPRR Track		Future Ind. Track		Power Turnout
	Remove UPRR Track		Prop. Leased Ind. Trk		Power Derail
	Shift UPRR Track		Ex. Leased Ind. Trk		Hand Throw Derail
	Ex. Ind. Track		No RR Operations		Point of Curve
	Prop. Ind. Track		Other Ind. Track		Bridge
	Remove Ind. Track		Right of Way		Signal

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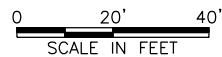


FES #: 47960	DOCUMENT TYPE: ISSUED FOR BID
DRAWN BY: DKS, EB	For use in Agreement with: <b>UNION PACIFIC RAILROAD</b> <b>PORT FREEPORT</b>
CHECKED BY: BDB	LOCATION & DESCRIPTION: MILEPOST 1/4, FREEPORT IND LEAD FREEPORT, BRAZORA, TEXAS TRACKAGE TO SERVE: PORT FREEPORT
DATE: 9/21/22	SHEET TITLE: CROSS SECTIONS 44+00 TO 45+00
SHEET NUMBER: 62 OF 69	

DATE: 9/21/2022 SAVE BY:DKS



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*Brian D. Bresler*



REV. #	BY	DATE	DESCRIPTION

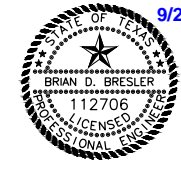
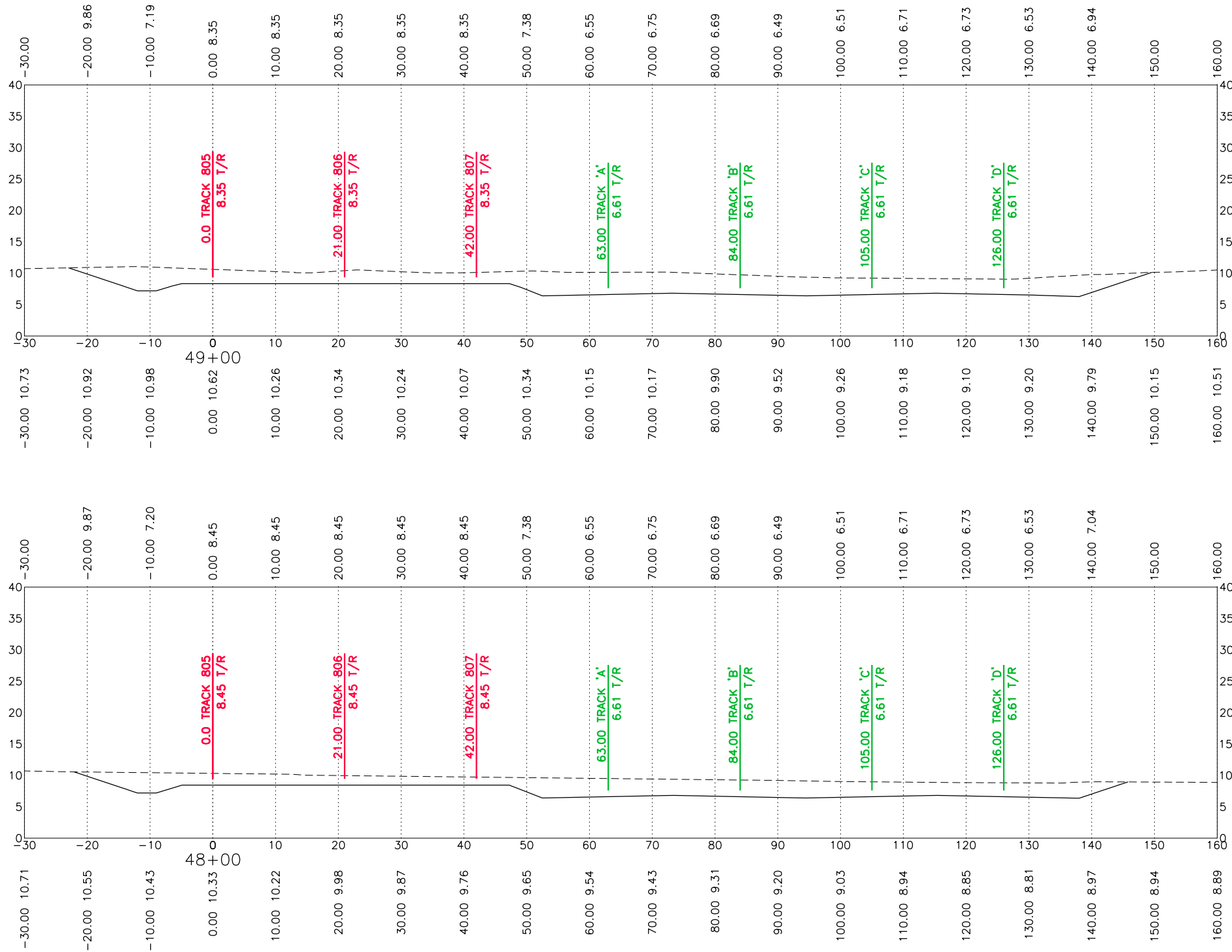
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	Prop. UPRR Track		Future Ind. Track		Power Turnout
	Remove UPRR Track		Prop. Leased Ind. Trk		Power Derail
	Shift UPRR Track		Ex. Leased Ind. Trk		Hand Throw Derail
	Ex. Ind. Track		No RR Operations		Point of Curve
	Prop. Ind. Track		Other Ind. Track		Bridge
	Remove Ind. Track		Right of Way		Signal

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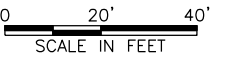
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DRAWN BY: DKS, EB	For use in Agreement with: <b>UNION PACIFIC RAILROAD</b> <b>PORT FREEPORT</b>
CHECKED BY: BDB	LOCATION & DESCRIPTION: MILEPOST 1/4, FREEPORT IND LEAD FREEPORT, BRAZORA, TEXAS TRACKAGE TO SERVE: PORT FREEPORT
DATE: 9/21/22	SHEET TITLE: CROSS SECTIONS 46+00 TO 47+00
SHEET NUMBER: 63 OF 69	

DATE: 9/21/2022 SAVE BY:DKS



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9/23/2022



REV. #	BY	DATE	DESCRIPTION

	Ex. UPRR Track		Shift Ind. Track		Hand Throw Turnout
	Prop. UPRR Track		Future Ind. Track		Power Turnout
	Remove UPRR Track		Prop. Leased Ind. Trk		Power Derail
	Shift UPRR Track		Ex. Leased Ind. Trk		Hand Throw Derail
	Ex. Ind. Track		No RR Operations		Point of Curve
	Prop. Ind. Track		Other Ind. Track		Bridge
	Remove Ind. Track		Right of Way		Signal

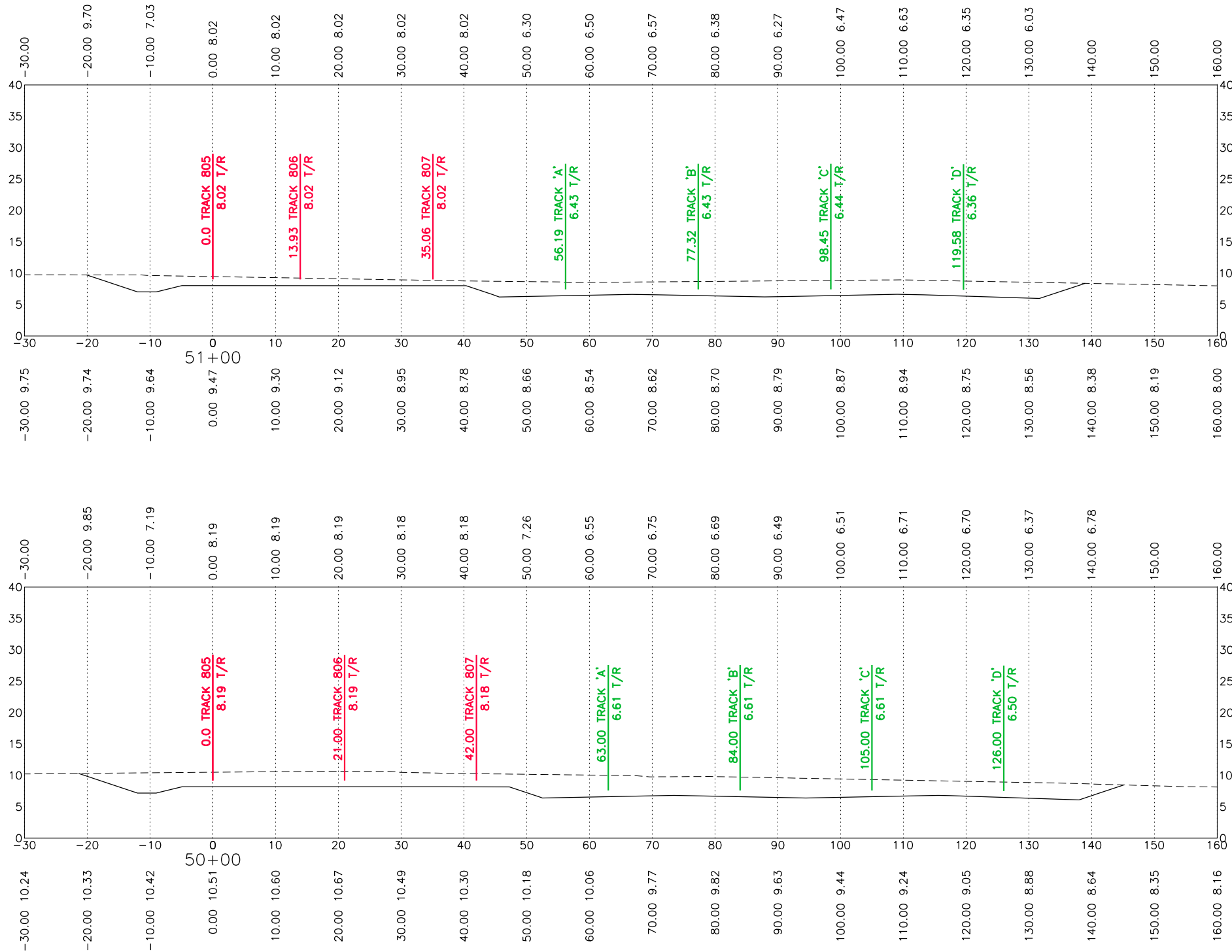
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FES #: 47960	DOCUMENT TYPE: ISSUED FOR BID
DRAWN BY: DKS, EB	For use in Agreement with: <b>UNION PACIFIC RAILROAD</b> <b>PORT FREEPORT</b>
CHECKED BY: BDB	LOCATION & DESCRIPTION: MILEPOST 1/4, FREEPORT IND LEAD FREEPORT, BRAZORA, TEXAS TRACKAGE TO SERVE: PORT FREEPORT
DATE: 9/21/22	SHEET TITLE: CROSS SECTIONS 48+00 TO 49+00
SHEET NUMBER: 64 OF 69	

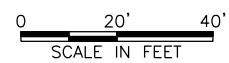


DATE: 9/21/2022 SAVE BY:DKS



9/23/2022

*Brian D. Bresler*



REV. #	BY	DATE	DESCRIPTION

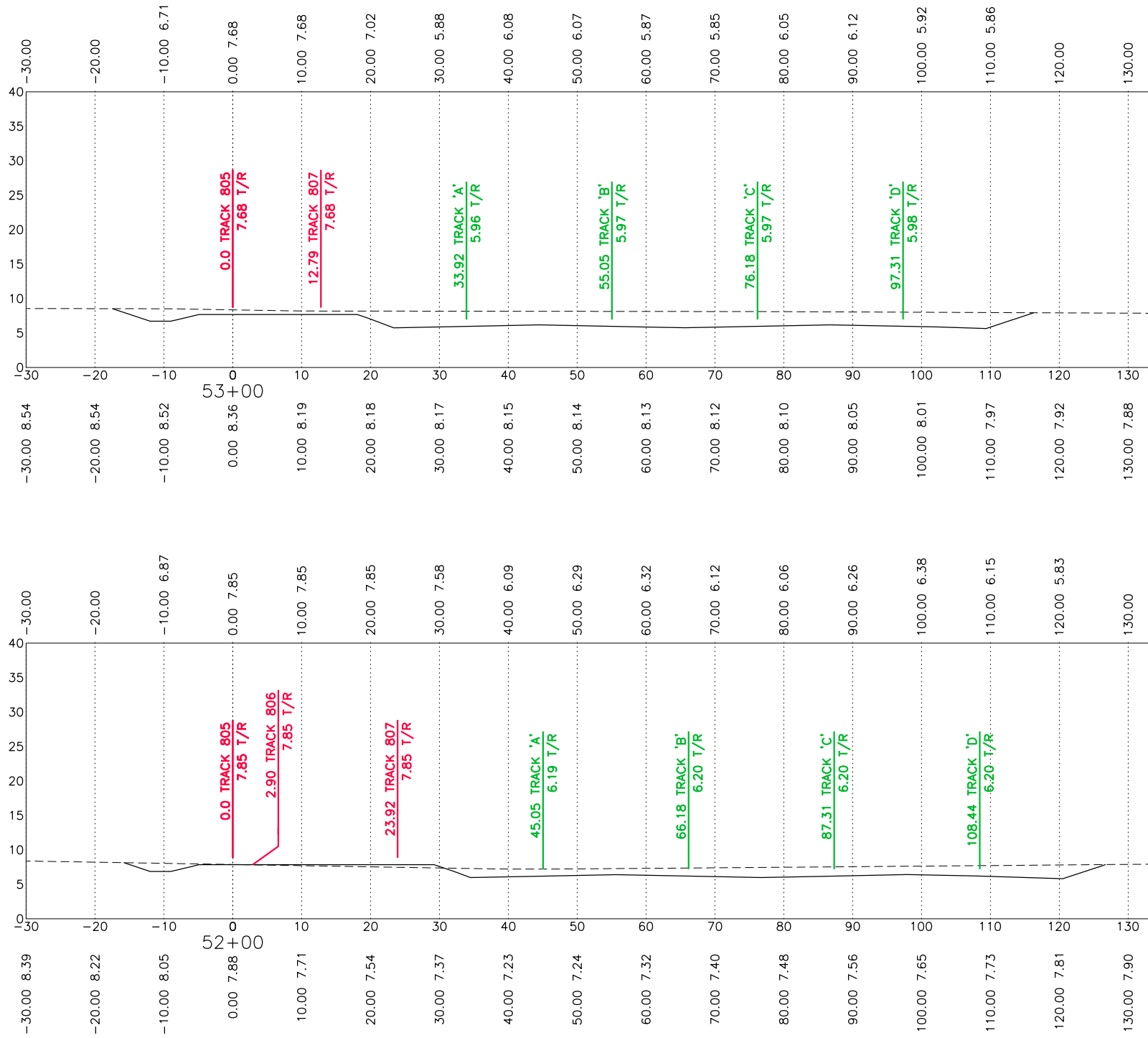
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	Prop. UPRR Track		Future Ind. Track		Power Turnout
	Remove UPRR Track		Prop. Leased Ind. Trk		Power Derail
	Shift UPRR Track		Ex. Leased Ind. Trk		Hand Throw Derail
	Ex. Ind. Track		No RR Operations		Point of Curve
	Prop. Ind. Track		Other Ind. Track		Bridge
	Remove Ind. Track		Right of Way		Signal

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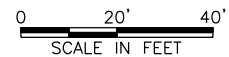
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CHECKED BY: BDB	LOCATION & DESCRIPTION: MILEPOST 1/4, FREEPORT IND LEAD FREEPORT, BRAZORA, TEXAS TRACKAGE TO SERVE: PORT FREEPORT
DATE: 9/21/22	SHEET TITLE: CROSS SECTIONS 50+00 TO 51+00
SHEET NUMBER: 65 OF 69	

DATE: 9/21/2022 SAVE BY: DKS



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REV. #	BY	DATE	DESCRIPTION

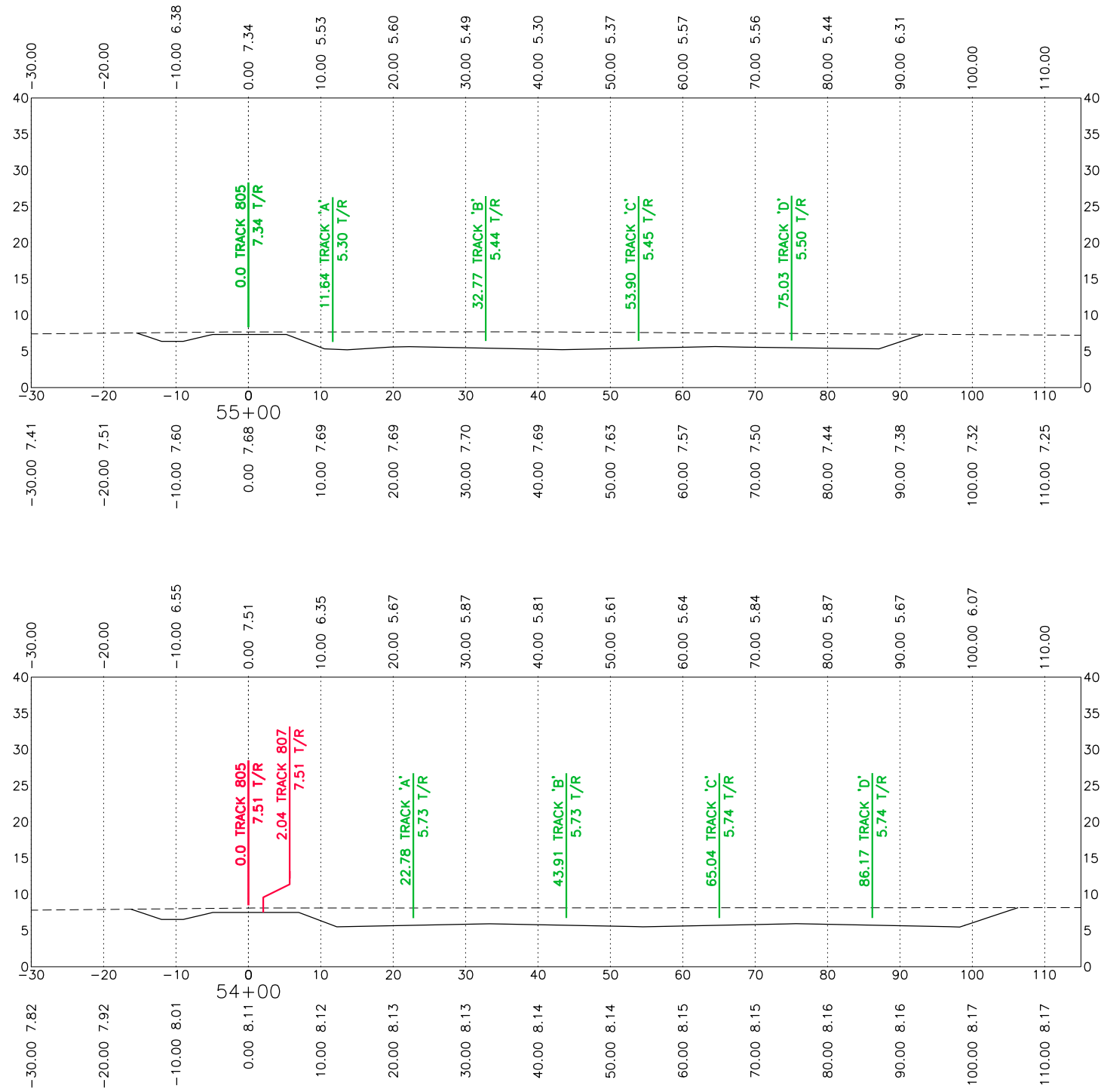
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- Prop. UPRR Track
- - - Remove UPRR Track
- - - Shift UPRR Track
- - - Ex. Ind. Track
- - - Prop. Ind. Track
- - - Remove Ind. Track
- - - Shift Ind. Track
- - - Future Ind. Track
- - - Prop. Leased Ind. Trk
- - - Ex. Leased Ind. Trk
- - - No RR Operations
- - - Other Ind. Track
- - - Right of Way
- Hand Throw Turnout
- Power Turnout
- Power Derail
- Hand Throw Derail
- Point of Curve
- Bridge
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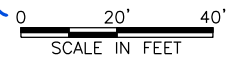
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DRAWN BY: DKS, EB	For use in Agreement with: <b>UNION PACIFIC RAILROAD</b> <b>PORT FREEPORT</b>
CHECKED BY: BDB	LOCATION & DESCRIPTION: MILEPOST 1/4, FREEPORT IND LEAD FREEPORT, BRAZORA, TEXAS TRACKAGE TO SERVE: PORT FREEPORT
DATE: 9/21/22	SHEET TITLE: CROSS SECTIONS 52+00 TO 53+00
SHEET NUMBER: 66 OF 69	

DATE: 9/21/2022 SAVE BY: DKS



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REV. #	BY	DATE	DESCRIPTION

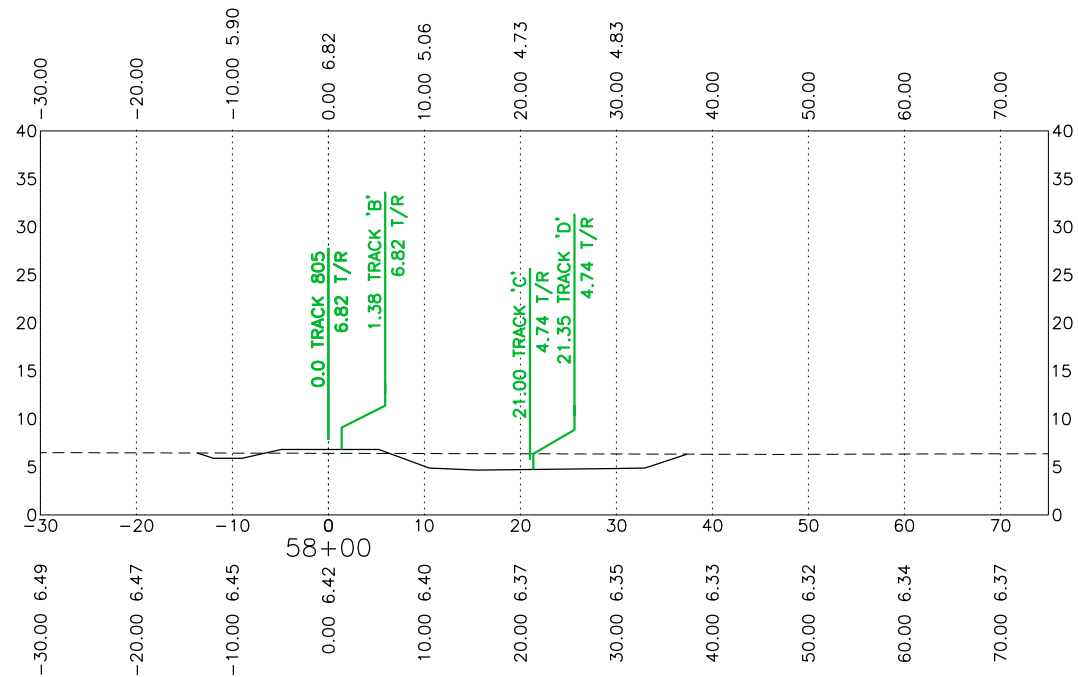
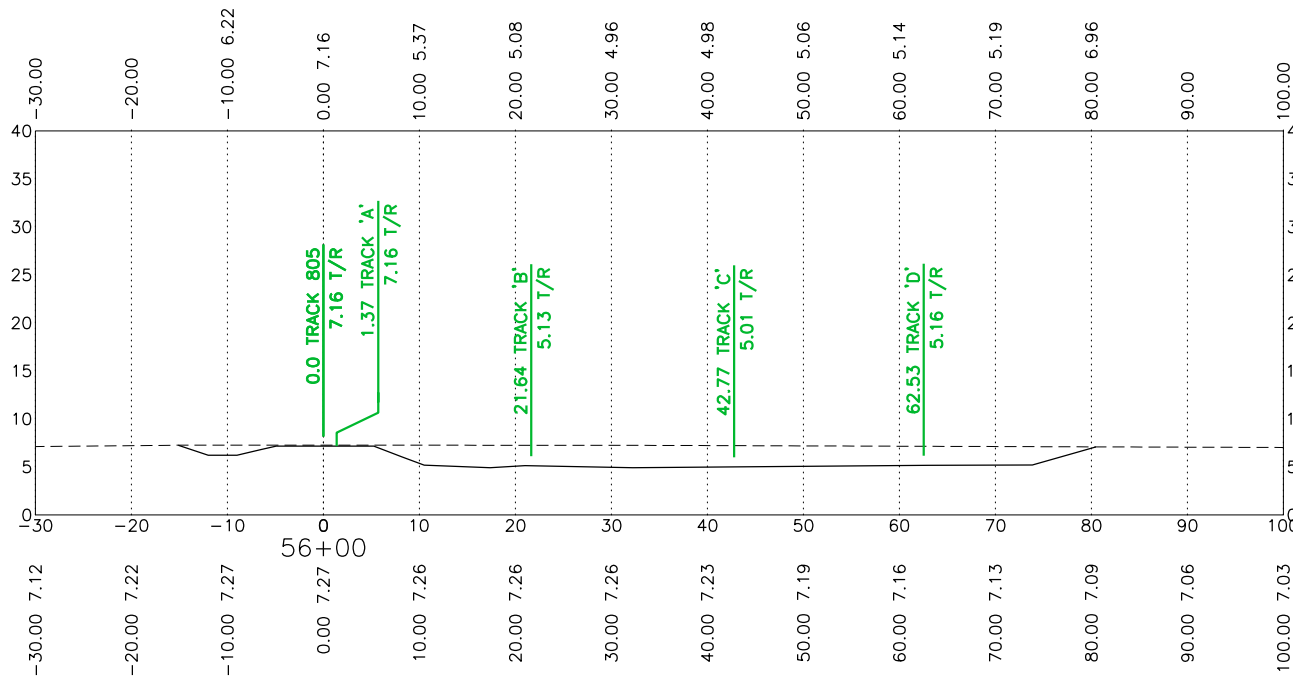
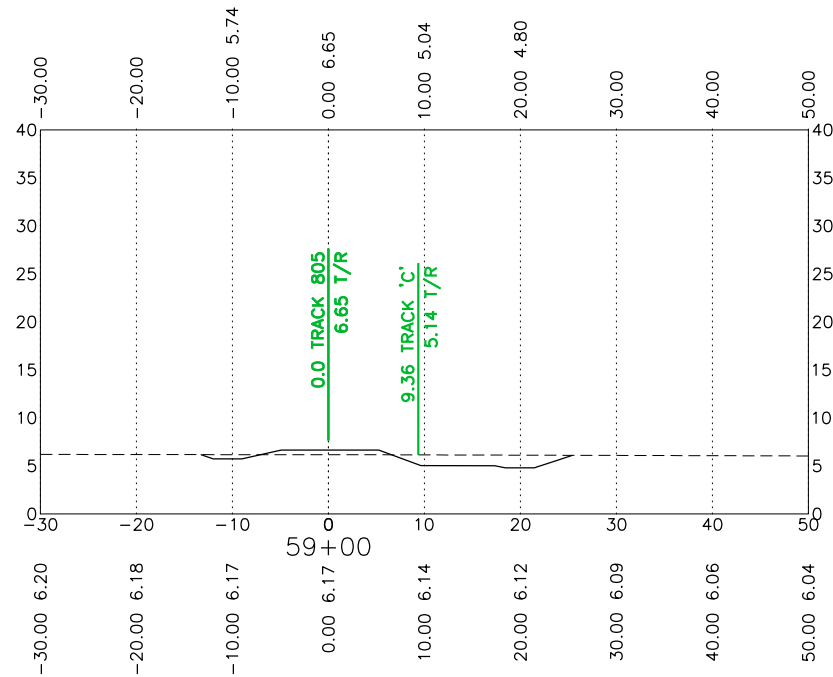
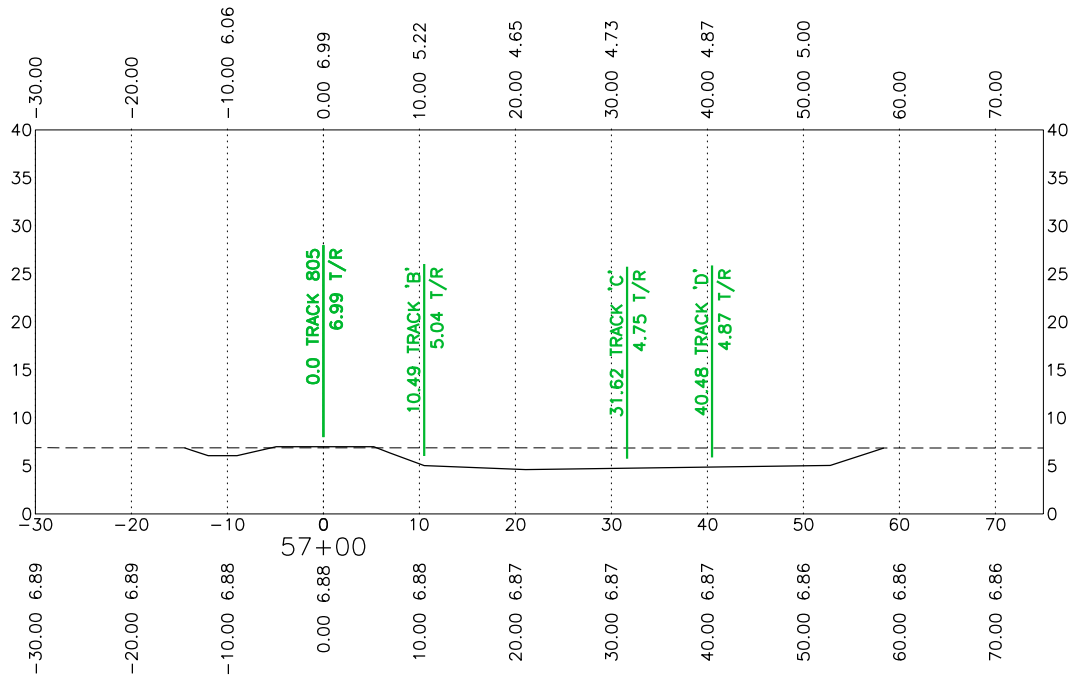
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- Prop. UPRR Track
- - - Remove UPRR Track
- - - Shift UPRR Track
- - - Ex. Ind. Track
- - - Prop. Ind. Track
- - - Remove Ind. Track
- - - Shift Ind. Track
- - - Future Ind. Track
- - - Prop. Leased Ind. Trk
- - - Ex. Leased Ind. Trk
- - - No RR Operations
- - - Other Ind. Track
- - - Right of Way
- Hand Throw Turnout
- Power Turnout
- Power Derail
- Hand Throw Derail
- Point of Curve
- Bridge
- Signal

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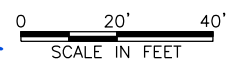
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CHECKED BY: BDB	LOCATION & DESCRIPTION: MILEPOST 1/4, FREEPORT IND LEAD FREEPORT, BRAZORA, TEXAS TRACKAGE TO SERVE: PORT FREEPORT
DATE: 9/21/22	SHEET TITLE: CROSS SECTIONS 54+00 TO 55+00
SHEET NUMBER: 67 OF 69	

DATE: 9/21/2022 SAVE BY: DKS



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9/23/2022



REV. #	BY	DATE	DESCRIPTION

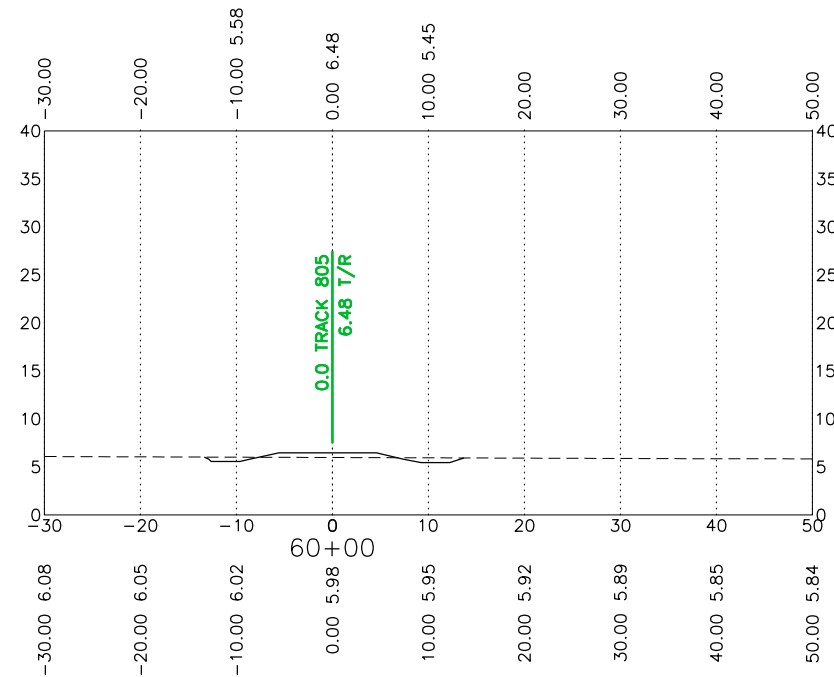
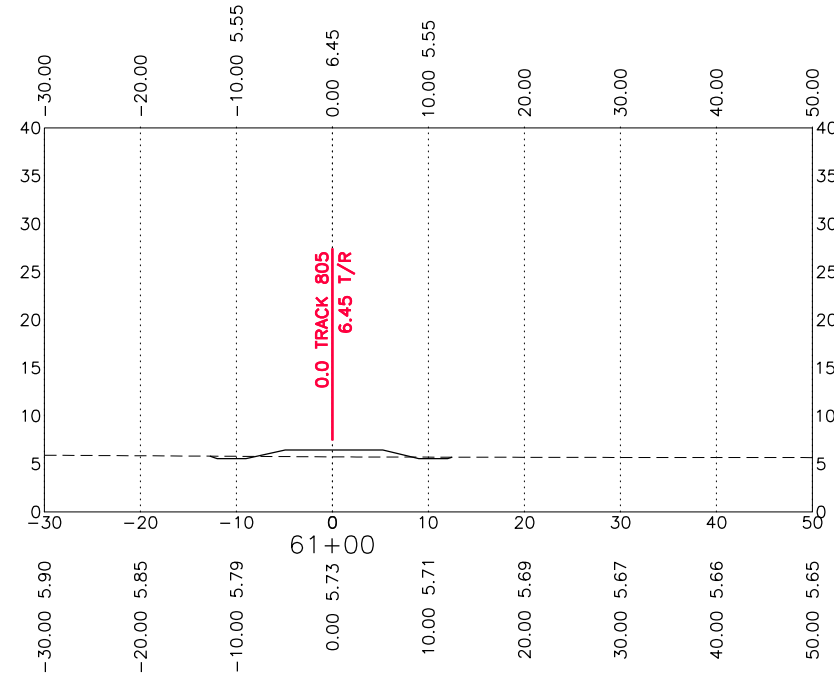
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	Prop. UPRR Track		Future Ind. Track		Power Turnout
	Remove UPRR Track		Prop. Leased Ind. Trk		Power Derail
	Shift UPRR Track		Ex. Leased Ind. Trk		Hand Throw Derail
	Ex. Ind. Track		No RR Operations		Point of Curve
	Prop. Ind. Track		Other Ind. Track		Bridge
	Remove Ind. Track		Right of Way		Signal

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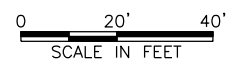
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DRAWN BY: DKS, EB	UNION PACIFIC RAILROAD For use in Agreement with: PORT FREEPORT
CHECKED BY: BDB	LOCATION & DESCRIPTION: MILEPOST 1/4, FREEPORT IND LEAD FREEPORT, BRAZORA, TEXAS TRACKAGE TO SERVE: PORT FREEPORT
DATE: 9/21/22	SHEET TITLE: CROSS SECTIONS 56+00 TO 59+00
SHEET NUMBER: 68 OF 69	

DATE: 9/21/2022 SAVE BY: DKS



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9/23/2022



REV. #	BY	DATE	DESCRIPTION

	Ex. UPRR Track		Shift Ind. Track		Hand Throw Turnout
	Prop. UPRR Track		Future Ind. Track		Power Turnout
	Remove UPRR Track		Prop. Leased Ind. Trk		Power Derail
	Shift UPRR Track		Ex. Leased Ind. Trk		Hand Throw Derail
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DATE: 9/21/22	SHEET TITLE: CROSS SECTIONS 60+00 TO 61+00
SHEET NUMBER: 69 OF 69	