

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION



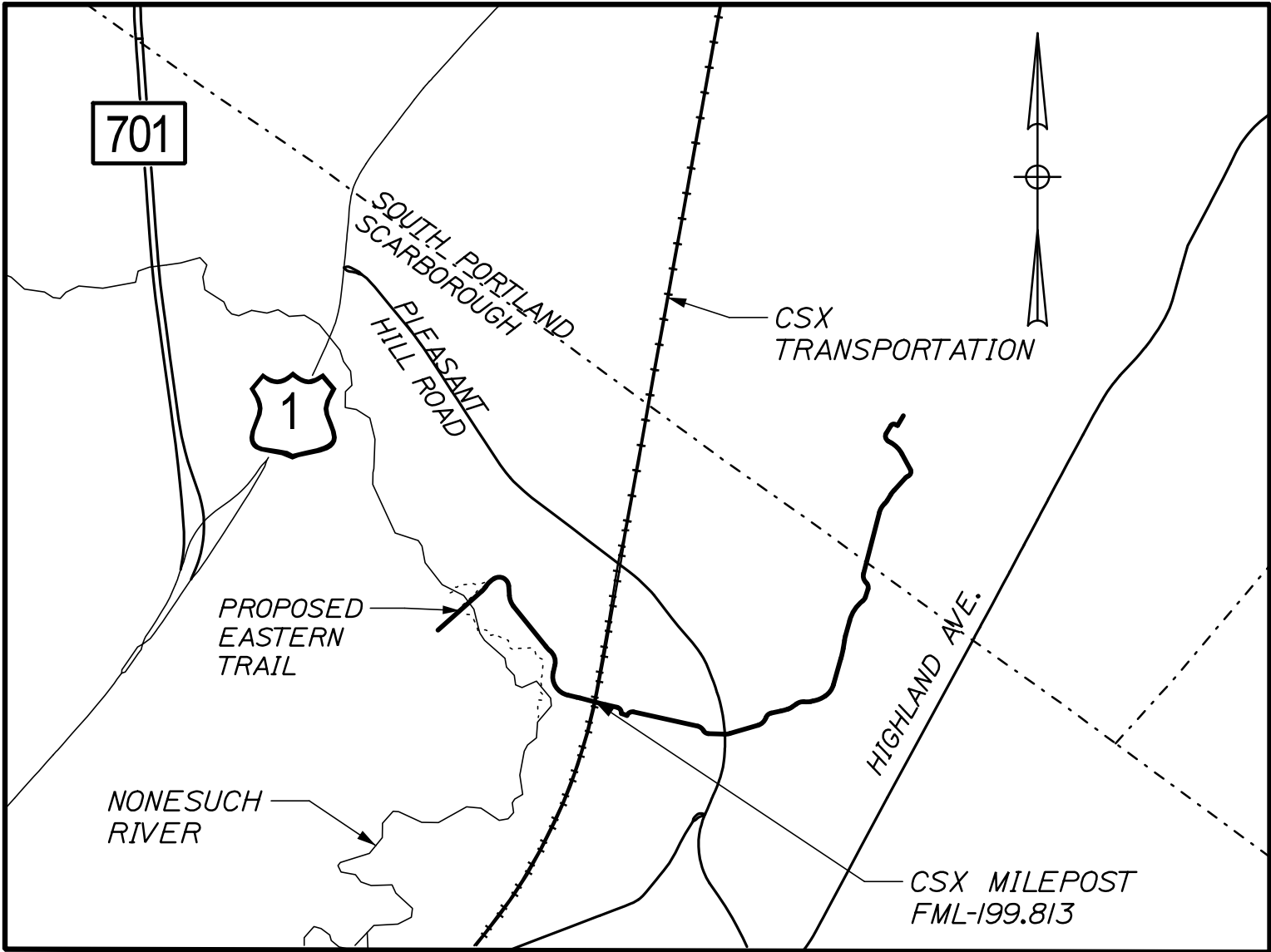
SCARBOROUGH AND SOUTH PORTLAND
CUMBERLAND COUNTY

FEDERAL AID PROJECT NO. AC-STP-1942(600)X & CMAQ-1942(610)

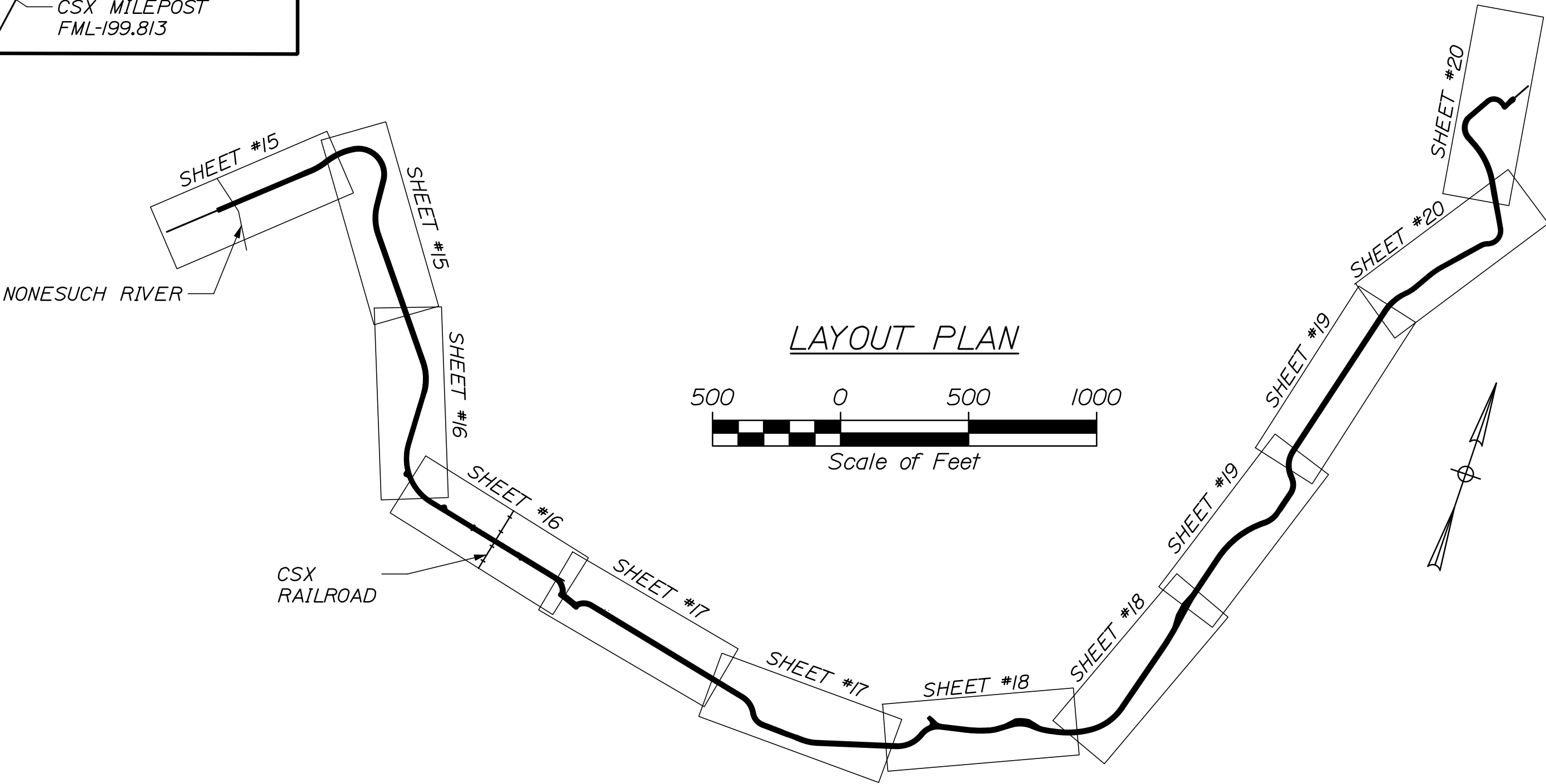
MaineDOT WIN's 19426.00 & 19426.10

EASTERN TRAIL:
MULTI-USE RECREATIONAL
TRAIL DEVELOPMENT
PROJECT LENGTH : 1.6 mi.

A GRADING, BASE, SURFACE, TRAIL
AND BRIDGE PROJECT



LOCATION MAP
N.T.S.



LAYOUT PLAN

500 0 500 1000
Scale of Feet

INDEX OF SHEETS

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STATE OF MAINE DEPARTMENT OF TRANSPORTATION	APPROVED	DATE
	COMMISSIONER:	
	CHIEF ENGINEER:	

SIGNATURE JOSHUA K. OLLUND No. 12130 Professional Engineer	P.E. NUMBER 12130	DATE 3/11/2025

PROJECT INFORMATION	PROGRAM	MULTIMODAL
	PROJECT MANAGER	TOM HALL
	DESIGNER	JOSH OLLUND, PE
	CONSULTANT	HNTB
	PROJECT RESIDENT	
	CONTRACTOR	
PROJECT COMPLETION DATE		

TOWN OF SCARBOROUGH EASTERN TRAIL CONNECTOR SCARBOROUGH TO SOUTH PORTLAND, MAINE	TITLE SHEET
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SHEET NUMBER
1
OF 69



Date: 3/10/2025

Username:

Division:

Filename: 001_Title.dgn

Date: 3/12/2025

Username:

Division:

Filename: 002_General Notes.dgn

GENERAL NOTES

1. ALL WORK TO BE DONE UNDER THIS CONTRACT SHALL BE GOVERNED BY THE "STATE OF MAINE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, MARCH 2020 EDITION" AND "STATE OF MAINE DEPARTMENT OF TRANSPORTATION STANDARD DETAILS, MARCH 2020 EDITION". EXCEPT AS MODIFIED BY THE CONTRACT DOCUMENTS.

2. ALL TREES, BRUSH, VEGETATION, STUMPS, AND OTHER ITEMS SHALL BE REMOVED FROM THE AREA. ALL DEBRIS SHALL BE REMOVED AND DISPOSED OF IN ACCORDANCE WITH STATE AND LOCAL REGULATIONS AND CODES.

3. INFORMATION REGARDING THE LOCATION OF EXISTING UTILITIES IS BASED UPON AVAILABLE INFORMATION, MAY BE INCOMPLETE, AND WHERE SHOWN ON THE PLANS SHOULD BE CONSIDERED APPROXIMATE. THE LOCATION OF ALL EXISTING UTILITIES SHOULD BE CONFIRMED PRIOR TO BEGINNING CONSTRUCTION. PRIOR TO ANY DIGGING, THE CONTRACTOR SHALL CONTACT "DIG SAFE" AT 1-800-344-7233 TO DETERMINE LOCATIONS OF EXISTING UNDERGROUND UTILITIES.

4. THE UTILITIES PRESENT WITHIN PROJECT LIMITS ARE AS FOLLOWS:
AT&T
CENTRAL MAINE POWER
SPRINGFIELD TERMINAL RAILWAY (CSX)
CHARTER COMMUNICATIONS
CONSOLIDATED COMMUNICATIONS
FIRSTLIGHT
TOWN OF SCARBOROUGH
CITY OF SOUTH PORTLAND
SCARBOROUGH FIRE DEPARTMENT

5. UNLESS DIRECTED BY THE RESIDENT, ALL DISTURBED AREAS SHALL RECEIVE A MINIMUM OF 4" OF EROSION CONTROL MIX AND BE SEEDED WITH METHOD #2. MULCH SHALL BE APPLIED IN AREAS SEEDED.

6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION LAYOUT AND STAGING.

7. PLACE A 2' WIDE STRIP OF TEMPORARY EROSION CONTROL BLANKET ALONG THE TOP OF ALL RIPRAP SLOPES.

8. DO NOT EXCAVATE FOR AGGREGATE SUBBASE COURSE WHERE EXISTING MATERIAL IS SUITABLE AS DETERMINED BY THE RESIDENT.

9. CLEARING SHALL BE 5' FROM TOE OF SLOPES OR AS SHOWN ON THE PLANS UNLESS OTHERWISE DIRECTED BY THE RESIDENT. CLEARING NEAR, OR WITHIN CMP RIGHT OF WAY, SHALL OCCUR WITH A CONTROLLED METHOD TO KEEP ALL EQUIPMENT AND DEBRIS FURTHER THAN 20' FROM THE NEAREST POWER LINE.

10. THE LOCATION AND EXTENT OF CEDAR RAIL FENCE IS SHOWN FOR ESTIMATING PURPOSES. THE FINAL LOCATION AND QUANTITY SHALL BE DETERMINED BY THE RESIDENT.

11. CEDAR RAIL FENCE AND TIMBER GUARDRAIL SHALL BE INSTALLED AT LEAST 10' FROM THE EDGE OF TRAVELWAY AT ROADWAY CROSSINGS AND BOLLARDS SHALL BE INSTALLED AT LEAST 30' FROM THE EDGE OF THE TRAVELWAY AT ROADWAY CROSSINGS. EXACT LOCATIONS WILL BE DETERMINED BY THE RESIDENT.

12. EXISTING CULVERTS TO REMAIN SHALL BE CLEANED AS DIRECTED BY THE RESIDENT. PAYMENT WILL BE MADE UNDER ITEM 631.32 CULVERT CLEANER (INCLUDING OPERATOR).

13. ALL WASTE MATERIAL NOT USED ON THE PROJECT SHALL BE DISPOSED OF OFF THE PROJECT IN WASTE AREAS APPROVED BY THE RESIDENT.

14. INLETS AND OUTLETS OF ALL PROPOSED CULVERTS SHALL BE RIPRAPPED IN ACCORDANCE WITH THE MAINEDOT STANDARD DETAILS UNLESS OTHERWISE NOTED ON THE PLANS OR AS DIRECTED BY THE RESIDENT.

15. ANY DAMAGE TO THE SLOPES CAUSED BY THE CONTRACTOR'S EQUIPMENT, PERSONNEL, OR OPERATION SHALL BE REPAIRED AT THE CONTRACTORS EXPENSE TO THE SATISFACTION OF THE RESIDENT.

16. NO SEPARATE PAYMENT FOR SUPERINTENDENT OR FOREMAN WILL BE MADE FOR THE SUPERVISION OF EQUIPMENT BEING PAID FOR UNDER THE EQUIPMENT RENTAL ITEMS.

17. UNDETERMINED LOCATIONS SHALL BE DETERMINED BY THE RESIDENT.

18. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE MAINE DEPARTMENT OF TRANSPORTATION'S BEST MANAGEMENT PRACTICES FOR EROSION AND SEDIMENTATION CONTROL, FEBRUARY, 2008. PAYMENT WILL BE MADE UNDER ITEM 656.75 TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL, LUMP SUM.

19. WHERE TYPICAL SECTION CALL-OUTS ARE DESIGNATED ON THE TRAIL PLANS, THE LIMITS SHALL BE CONSIDERED APPROXIMATE. THE LIMIT AND TYPE OF TYPICAL SECTION TO BE USED MAY BE CHANGED BASED ON EXISTING CONDITIONS AS DIRECTED BY THE RESIDENT.

20. QUANTITIES INCLUDED FOR PAY ITEMS MEASURED AND PAID FOR BY LUMP SUM ARE ESTIMATED QUANTITIES AND ARE PROVIDED BY THE TOWN OF SCARBOROUGH FOR INFORMATIONAL PURPOSES ONLY. LUMP SUM PAY ITEMS WILL BE PAID FOR AT THE CONTRACT BID AMOUNT, WITH NO ADDITION OR REDUCTION IN PAYMENT TO THE CONTRACTOR IF THE ACTUAL FINAL QUANTITIES ARE DIFFERENT FROM THE PROVIDED ESTIMATED QUANTITIES, EXCEPT AS FOLLOWS:

A. IF A LUMP SUM PAY ITEM IS ELIMINATED, THE REQUIREMENTS OF STANDARD SPECIFICATIONS SECTION 109.2, ELIMINATION OF ITEMS WILL TAKE PRECEDENCE.

B. IF OTHER CONTRACT DOCUMENTS SPECIFICALLY ALLOW A CHANGE IN PAYMENT FOR LUMP SUM PAY ITEM, THOSE REQUIREMENTS WILL BE FOLLOWED.

C. IF A DESIGN CHANGE RESULTS IN CHANGES TO ESTIMATED QUANTITIES FOR LUMP SUM PAY ITEMS, PRICE AND ADJUSTMENTS WILL BE MADE IN ACCORDANCE WITH STANDARD SPECIFICATIONS SECTION 109.7, EQUITABLE ADJUSTMENTS TO COMPENSATION AND TIME.

21. FOR EASEMENTS, CONSTRUCTION LIMITS AND RIGHT-OF-WAY LINES, REFER TO THE RIGHT OF WAY MAPS.

22. PROTECTIVE COATING FOR CONCRETE SURFACES SHALL BE APPLIED TO THE FOLLOWING AREAS:
-ALL EXPOSED SURFACES OF CONCRETE PIERS
-TOP OF ABUTMENT BACKWALLS AND TO ONE FOOT BELOW THE TOP OF BACKWALLS ON THE BACK SIDE
-EXPOSED SURFACES OF ABUTMENTS AND WINGWALLS

23. THE PROPOSED EMBANKMENTS AT THE CSX RAILROAD BRIDGE SHALL BE CONSTRUCTED USING A COMBINATION OF COMMON BORROW, CRUSHED STONE, AND LIGHTWEIGHT FILL - REFER TO THE CSX CROSSING DETAILS SHEETS FOR ADDITIONAL INFORMATION.

24. PROJECT INFORMATION REFERRED TO BELOW MAY ALSO BE ACCESSED AT THE FOLLOWING TOWN OF SCARBOROUGH WEB ADDRESS:
[HTTP://WWW.SCARBOROUGHMAINE.ORG/DEPARTMENTS/PURCHASING](http://www.scarboroughmaine.org/departments/purchasing)

25. THE PROJECT GEOTECHNICAL REPORT TITLED: REPORT OF GEOTECHNICAL EVALUATION FOR SCARBOROUGH EASTERN TRAIL, WIN 19426.00 & 19426.10, DATED NOVEMBER 30, 2018 BY R.W. GILLESPIE MAY BE ACCESSED AT THE TOWN OF SCARBOROUGH WEBSITE.

26. GEOTECHNICAL INFORMATION FURNISHED OR REFERRED TO IN THIS PLAN SET IS FOR THE USE OF BIDDERS AND THE CONTRACTOR. NO ASSURANCE IS GIVEN THAT THE INFORMATION OR INTERPRETATIONS WILL BE REPRESENTATIVE OF ACTUAL SUBSURFACE CONDITIONS AT THE CONSTRUCTION SITE. THE TOWN OF SCARBOROUGH WILL NOT BE RESPONSIBLE FOR THE BIDDER'S OR CONTRACTOR'S INTERPRETATIONS OF, OR CONCLUSIONS DRAWN FROM THE GEOTECHNICAL INFORMATION. THE BORING LOGS CONTAINED IN THE PLAN SET PRESENT FACTUAL AND INTERPRETIVE SUBSURFACE INFORMATION COLLECTED AT DISCRETE LOCATIONS. DATA PROVIDED MAY NOT BE REPRESENTATIVE OF THE SUBSURFACE CONDITIONS BETWEEN THE BORING LOCATIONS.

27. THE CONTRACTOR SHALL SUBMIT DETAILED SCHEMATICS, NARRATIVES, AND AN ANTICIPATED SCHEDULE OF ACTIVITIES PLANNED WITHIN CMP'S RIGHT OF WAY FOR REVIEW. REFER TO SPECIAL PROVISION 104 FOR ADDITIONAL INFORMATION.

ESTIMATED QUANTITIES					
ITEM NO.	DESCRIPTION	UNIT	19426.10 QUANTITY	19426.00 QUANTITY	TOTAL QUANTITY
201.11	CLEARING	AC	2.4	1.3	3.7
201.12	SELECTIVE CLEARING & THINNING	AC	0.5	0.5	1
203.20	COMMON EXCAVATION	CY	100	900	1000
203.24	COMMON BORROW	CY	11,000	1600	12,600
203.247	EXPANDED SHALE LIGHTWEIGHT AGGREGATE	CY	970	0	970
203.25	GRANULAR BORROW	CY	81	0	81
203.35	CRUSHED STONE ¾- INCH	CY	1300	0	1300
206.082	STRUCTURAL EARTH EXCAVATION - MAJOR STRUCTURES, PLAN QUANTITY	CY	110	0	110
304.10	AGGREGATE SUBBASE COURSE - GRAVEL (MODIFIED)	CY	1750	2750	4500
403.210	HOT MIX ASPHALT, 9.5 mm NOMINAL MAXIMUM SIZE	TON	360	340	700
411.13	STONE DUST SURFACE COURSE	TON	17	820	837
501.231	DYNAMIC LOAD TESTING	EA	3	0	3
501.48	STEEL H-BEAM PILES 74 LB/FT, DELIVERED	LF	2200	0	2200
501.481	STEEL H-BEAM PILES 74 LB/FT, IN PLACE	LF	2200	0	2200
501.90	PILE TIPS	EA	20	0	20
501.91	PILE SPLICES	EA	20	0	20
501.92	PILE DRIVING EQUIPMENT MOBILIZATION	LS	1	0	1
502.21	STRUCTURAL CONCRETE, ABUTMENTS AND RETAINING WALLS	CY	3	0	3
502.219	STRUCTURAL CONCRETE, ABUTMENTS AND RETAINING WALLS (53 CY)	LS	1	0	1
502.239	STRUCTURAL CONCRETE, PIERS (58 CY)	LS	1	0	1
503.12	REINFORCING STEEL, FABRICATED AND DELIVERED	LB	12,000	0	12,000
503.13	REINFORCING STEEL, PLACING	LB	12,000	0	12,000
515.21	PROTECTIVE COATING FOR CONCRETE SURFACES (285 SY)	LS	1	0	1
525.26	REPOINTING GRANITE MASONRY	SF	200	0	200
528.20	TIMBER STREAM CROSSING BRIDGE - STA. 162+90	LS	0	1	1
528.20	TIMBER STREAM CROSSING BRIDGE - STA. 174+25	LS	0	1	1
528.20	TIMBER STREAM CROSSING BRIDGE - STA. 175+90	LS	0	1	1
528.20	TIMBER STREAM CROSSING BRIDGE - STA. 176+25	LS	0	1	1
530.01	PREFABRICATED STEEL TRUSS - NONESUCH RIVER	LS	1	0	1
530.01	PREFABRICATED STEEL TRUSS - CSX RAILWAY	LS	1	0	1
603.159	12 INCH CULVERT PIPE OPTION III	LF	0	24	24
603.179	18 INCH CULVERT PIPE OPTION III	LF	56	190	246
603.219	36 INCH CULVERT PIPE OPTION III	LF	320	32	352
606.611	TIMBER GUARDRAIL	LF	140	180	320
607.16	CHAIN LINK FENCE - 4 FOOT	LF	0	670	670
607.173	CHAIN LINK FENCE - 6 FOOT - PVC COATED	LF	950	1800	2750
607.22	CEDAR RAIL FENCE	LF	1550	1150	2700
607.23	CHAIN LINK FENCE GATE	EA	0	5	5
607.2325	PIPE ENTRY GATE	EA	1	0	1
607.2341	CHAIN LINK FENCE SLIDING GATE	EA	0	3	3
607.34	BRACING ASSEMBLY CHAIN LINK FENCE	EA	0	8	8
607.35	BRACING ASSEMBLY CHAIN LINK FENCE - PVC COATED	EA	2	10	12
608.26	CURB RAMP DETECTABLE WARNING FIELD	SF	64	150	214
609.11	VERTICAL CURB TYPE 1	LF	0	110	110
609.12	VERTICAL CURB TYPE 1- CIRCULAR	LF	0	70	70
609.238	TERMINAL CURB TYPE 1- 8 FOOT	EA	0	2	2
610.08	PLAIN RIPRAP	CY	306	46	352
610.18	STONE DITCH PROTECTION	CY	0	68	68
613.319	EROSION CONTROL BLANKET	SY	0	180	180
615.07	LOAM	CY	64	170	234
618.14	SEEDING METHOD NUMBER 2	UNIT	90	75	165
619.12	MULCH	UNIT	90	75	165
619.14	EROSION CONTROL MIX	CY	990	600	1590
620.58	EROSION CONTROL GEOTEXTILE	SY	740	400	1140
620.60	SEPARATION GEOTEXTILE	SY	1550	450	2000
621.031	EVERGREEN TREE (4'-5') GROUP A	EA	6	0	6
627.75	WHITE OR YELLOW PAVEMENT AND CURB MARKING	SF	220	450	670
629.05	HAND LABOR, STRAIGHT TIME	HR	20	20	40
631.12	ALL PURPOSE EXCAVATOR (INCLUDING OPERATOR)	HR	15	15	30
631.133	SKID STEER (INCLUDING OPERATOR)	HR	5	5	10
631.14	GRADER (INCLUDING OPERATOR)	HR	5	5	10
631.171	TRUCK - SMALL (INCLUDING OPERATOR)	HR	5	5	10
631.32	CULVERT CLEANER (INCLUDING OPERATOR)	HR	5	5	10
631.36	FOREMAN	HR	5	5	10
639.18	FIELD OFFICE, TYPE A	EA	0.5	0.5	1
641.12	BENCH	EA	0	1	1
643.621	RECTANGULAR RAPID FLASHING BEACON	EA	0	2	2
645.271	REGULATORY, WARNING, CONFIRMATION, AND ROUTE ASSEMBLY SIGN, TYPE 1	SF	43	99	142
652.33	DRUM	EA	10	10	20
652.34	CONE	EA	10	10	20
652.35	CONSTRUCTION SIGNS	SF	45	45	90
652.361	MAINTENANCE OF TRAFFIC CONTROL DEVICES	LS	0.5	0.5	1
652.38	FLAGGERS	HR	150	150	300
656.75	TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL	LS	0.5	0.5	1
659.10	MOBILIZATION	LS	0.5	0.5	1
677.20	MECHANICALLY STABILIZED EARTH RETAINING WALL	SF	2850	0	2850
841.49	BOLLARDS - COLLAPSIBLE	EA	5	15	20

STATE OF MAINE

DEPARTMENT OF TRANSPORTATION

AC-STP-1942(600)X & CMAQ-1942(610)

WIN 19426.00 & 019426.10 HIGHWAY PLANS

TOWN OF SCARBOROUGH

EASTERN TRAIL CONNECTOR

SCARBOROUGH TO SOUTH PORTLAND, MAINE

GENERAL NOTES

AND QUANTITIES

PROJ. MANAGER

DESIGN-DETAILED

CHECKED-REVIEWED

DESIGN-DETAILED

DESIGN-DETAILED

REVISIONS 1

REVISIONS 2

REVISIONS 3

REVISIONS 4

FIELD CHANGES

BY

P. Bishop

J. O'Neil

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DATE

3/2025

3/2025

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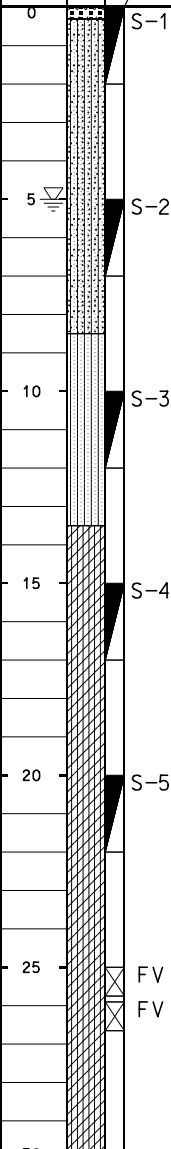
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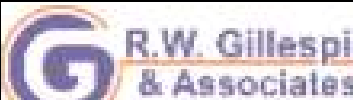
SHEET NUMBER

2

OF 69

 R.W. Gillespie & Associates • Geotechnical Engineering • Environmental Consulting • Process Training Services			Boring Log:BB-SPC-102 Total Depth (ft): 101.5 Sheet 1 of 4					
Project Name:Scarborough Eastern Trail Project RW&A Project No. 0600-092 Location: Scarborough, Maine Client: HNTB Corporation RW&A Representative: C. Morrell Boring Location: See Exploration Location Plan Boring Abandonment Method: Backfilled with cuttings Observed Water Depth:5.0'			Drilling Co.:Great Works Test Boring Drill Rig:CME 850 Driller Rep.:J. Lee Date Started: 06/12/2013 Date Completed: 06/12/2013 Surface Elevation: 31.5 FEET Drilling Method:Rotary Wash Casing Type: 4" Steel					
DEPTH, FT.	SYMBOL	SAMPLE NUMBER	DESCRIPTION OF MATERIAL	SAMPLE RECOVERY, IN.	BLMS PER 6"	SPT-N BLMS PER FT.	MOISTURE CONTENT %	LAB TESTS
0		S-1	TOPSOIL AND ORGANIC MATERIAL (4 inches). SILTY SAND (SP/SM); Very loose to medium dense, moist, fine sand, little silt, orange-brown.	14	1 1 2 5	3	21.0	MC
5		S-2	SILTY SAND (SP/SM); Medium dense, wet, fine to medium sand, little silt, orange-brown. Becomes gray-brown around 6ft.	24	4 7 7 10	14	22.6	MC
10		S-3	SILTY SAND (SM); Loose, wet, fine sand, some silt, gray.	13	4 6 4 5	10	26.1	MC
15		S-4	SILTY CLAY WITH SAND (CL-ML); Very soft to medium stiff, wet, silty clay, occasional fine sand seams, gray.	22	WOH/ 18"	WOH	41.8	MC
20		S-5		24	WOH/ 24"	WOH	46.0	MC
25		FV	Field Vane Raw Data: T=50ft-lb, Residual T=4ft-lb Undrained Shear Strength: Su=0.55 ksf, Residual Su=0.04 ksf					
		FV	Field Vane Raw Data: T=39ft-lb, Residual T=2ft-lb Undrained Shear Strength: Su=0.43 ksf, Residual Su=0.02 ksf					
30								

Notes: 1. MaineDOT Project No. 019386.00
2. SPT blowfalls are uncorrected.
3. Shear Strength data collected using an Aker 3-5/8" x 9" Field vane and torque wrench.
4. Hydraulically pushed casing from 15' to 60' to continue drilling below 60', no manner used to drive casing.

 • Geotechnical Engineering • Environmental Consulting • Hazardous Waste Services			Boring Log: BB-SPC-102					
Project Name: Scarborough Eastern Trail Project			Total Depth: 101.5					
Location: Scarborough Maine			Sheet 2 of 4					
Client: HNTB Corporation			RW&A Project No. 0600-092					
Observed Water Depth: 5.0'			Surface Elevation: 31.5 FEET					
			Casing Type: 4" Steel					
DEPTH, FT.	SYMBOL	SAMPLE NUMBER	DESCRIPTION OF MATERIAL	SAMPLE RECOVERY, IN.	BLOWS PER 6"	SPT-N BLOWS PER FT.	MOISTURE CONTENT %	LAB TESTS
30		U-1	Thin-walled tube sample from 30' - 32'.	20			50.2	C AL GV MC
35	FV		Field Vane Raw Data: T=39ft-lb, Residual T=1ft-lb Undrained Shear Strength: Su=0.40 ksf, Residual Su=0.01 ksf					
	FV		Field Vane Raw Data: T=42ft-lb, Residual T=1ft-lb Undrained Shear Strength: Su=0.46 ksf, Residual Su=0.01 ksf					
40		U-2	Thin-walled tube sample from 40' - 42'.	12				
45	FV		Field Vane Raw Data: T=66ft-lb, Residual T=1ft-lb Undrained Shear Strength: Su=0.72 ksf, Residual Su=0.01 ksf					
	FV		Field Vane Raw Data: T=75ft-lb, Residual T=0ft-lb Undrained Shear Strength: Su=0.82 ksf, Residual Su=0.00 ksf					
50		U-3	Thin-walled tube sample from 50' - 52'.	24			40.9	C GV MC
55	FV		Field Vane Raw Data: T=66ft-lb, Residual T=0ft-lb Undrained Shear Strength: Su=0.72 ksf, Residual Su=0.00 ksf					
	FV		Field Vane Raw Data: T=90ft-lb, Residual T=0ft-lb Undrained Shear Strength: Su=0.98 ksf, Residual Su=0.00 ksf					
60								

Notes: 1. Moisture Project No. 019386-00
2. SPT N-values are uncorrected.
3. Shear Strength data collected using an Aker 3-5/8" x 9" Field vane and torque wrench.
4. Hydraulically pushed casing from 15' to 60' to continue drilling below 60', no hammer used to drive casing.



• Geotechnical Engineering

• Environmental Consulting

• Marine & Dredging Services

Boring Log: BB-SPC-102

Total Depth: 101.5

Sheet 3 of 4

Project Name: Scarborough Eastern Trail Project

Location: Scarborough, Maine

Client: HNTB Corporation

Observed Water Depth: 5.0'

RWG&A Project No. 0600-092

Surface Elevation: 31.5 FEET

Casing Type: 4" Steel

DEPTH, FT.	SYMBOL	SAMPLE NUMBER	DESCRIPTION OF MATERIAL	SAMPLE RECOVERY, IN.	BLOWS PER 6"	SPT-N BLOWS PER FT.	MOISTURE CONTENT %	LAB TESTS
60	X	FV	Field Vane Raw Data: T=50ft-lb, Residual T=0ft-lb					
	X	FV	Undrained Shear Strength: Su=0.55 ksf, Residual Su=0.00 ksf					
			Field Vane Raw Data: T=79ft-lb, Residual T=0ft-lb					
			Undrained Shear Strength: Su=0.86 ksf, Residual Su=0.00 ksf					
65	X	FV	Field Vane Raw Data: T=88ft-lb, Residual T=12ft-lb					
	X	FV	Undrained Shear Strength: Su=0.96 ksf, Residual Su=0.13 ksf					
			Field Vane Raw Data: T=87ft-lb, Residual T=13ft-lb					
			Undrained Shear Strength: Su=0.95 ksf, Residual Su=0.14 ksf					
70		S-6	SILTY SAND (SM): Medium dense to dense, wet, fine sand, some silt, trace medium sand, gray-brown.	14	10 11 18 18	29	24.1	MC
75		S-7		12	12 17 18 22	35	20.0	MC
80		S-8		14	12 15 20 31	35	21.3	MC
85		S-9	Occasional medium to coarse sand from 85' - 86'.	20	15 13 19 28	32	22.2	MC
90								

Notes: 1. MainDOT Project No. 019386.00

2. SPT N-values are uncorrected.

3. Shear Strength data collected using an Acker 3-5/8" x 9" Field vane and torque wrench.

4. Hydraulically pushed casing from 15' to 60' to continue drilling below 60', no hammer used to drive casing.

 R.W. Gillespie & Associates • Geotechnical Engineering • Environmental Consulting • Heavy Construction Services				Boring Log:BB-SPC-102 Total Depth:101.5 Sheet 4 of 4				
Project Name:Scarborough Eastern Trail Project Location: Scarborough Maine Client: HNTB Corporation Observed Water Depth:5.0'				RW&A Project No. 0600-092 Surface Elevation: 31.5 FEET Casing Type: 4" Steel				
DEPTH, FT.	SYMBOL SAMPLES	SAMPLE NUMBER	DESCRIPTION OF MATERIAL	SAMPLE RECOVERY, IN.	BLOWS PER 6"	SPT-N BLOWS PER FT.	MOISTURE CONTENT %	LAB TESTS
90		5-10	SILTY SAND WITH GRAVEL (SM): Dense, wet, fine to medium sand, little silt, few fine gravel, orange-brown. SILTY SAND WITH GRAVEL (SM): Dense to very dense, wet, fine sand, some silt, little gravel, gray. [Glacial Till]	15	10 14 17 24	31	26-2	MC
95		5-11		12	13 20 30 31	50	13.5	MC
100		5-12	14	17 32 50/5"	82	10-3	MC	
105			Bottom of Exploration at 101.5'; Terminated boring in Glacial Till.					
110								
115								
120								

Notes: 1. MainDOT Project No. 019386-00
2. SPT N-values are uncorrected.
3. Shear Strength data collected using an Aker 3-5/8" x 9" Field vane and torque wrench.
4. Hydraulically pushed casing from 15' to 60' to continue drilling below 60', no hammer used to drive casing.

HNTB

Maine Department of Transportation				Project: Scarborough Eastern Trail Project		Boring No.: BB-SPC-201A	
Soil/Bore Exploration Log				Location: Scarborough, Maine		WIN: 019426.10	
US UNITS							
Driller:		Northern Test Boring		Elevation (ft.):		Auger ID/OD:	
Operator:		Mike Nadeau		Datum:		Sampler: SPT Split-Barrel	
Logged By:		Serena Pope		Rig Type:		Hammer Wt./Fall: 140 lb/30in.	
Date Start/Finish:		06-15-2018 / 06-18-2018		Drilling Method:		Core Barrel:	
Boring Location:		East of Tracks		Casing ID/OD:		Water Level Ft: 6'	
Definitions: S = Split Spoon Sample M = Unconfined Split Spoon Sample attempt U = Thin wall Tube Sample R = Rock Core Sample V = In situ vane shear test St = Split Stem Auger				Definitions: S _u = In situ field vane shear strength (psf) T _u = Pocket Torque Shear Strength (psf) C _u = Unconfined Compressive Strength (psf) S _{u(w)} = Lab Vane Shear Strength (psf) W ₅₀ = Weight of 50% finer W ₂₀₀ = Weight of 200% finer			
Definitions: MC = water content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test							
Sample Information							
Depth (ft.)	Sample No.	Pen./Reloc. (in)	Sample Depth (ft.)	Blows 1/6 in. Shear (psf) or 100 lb (ft)	N-value	Casing Blow	Elevation (ft.)
Graphic Log							
Visual Description and Remarks							
Laboratory Testing Results/ASHTO and Unified Class							
0							
35							
40							
45							
50							
55	S-1	24/24	55.0 - 57.0	3 / 4 / 4 / 3	8		55.0
60							
Remarks: 1. NWSA Project No. 0600-102 2. Drive and wash to 55 feet without sampling. Refer to log BB-SPC-201 for subsurface materials from 0 to 55 feet below ground surface. 3. Hammer S-Bottom No. 377. 4. SPT N-Values uncorrected.							
Stratification lines represent approximate boundaries between soil types; transitions may be gradual. * Note that readings from boreholes at this and other locations stored. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.							
Boring No.: BB-SPC-201A							

Maine Department of Transportation										Project: Scarborough Eastern Trail Project		Boring No.: BB-SPC-201A	
Soil/Root Exploration Log										Location: Scarborough, Maine		WIN: 019426.10	
US UNITS													
Driller:		Northern Test Boring			Elevation (ft.):		Auger 10/OD:		Sampler: SPT Split-Barrel				
Operator:		Mike Nadeau			Datum:		Hammer Wt./Fall:		140 lb/50in.				
Logged By:		Serena Pope			Rig Type:		Dierich D-50 Turbo		Core Barrel:				
Date Start/Finish:		06-15-2018 / 06-18-2018			Drilling Method:		3" Tri cone Bit, Rotary Wash		Water Level#: 6'				
Boring Location:		East of Tracks			Casing 10/OD:		4" Steel Casing		Soil Notes:				
Soil Notes:		S-1 Split Soam Sample W = (uncorrected) Split Soam Sample (wet) U = Thin Wall Tube Sample R = Root, Core Sample V = (In situ) Vane Shear Test SS = Split Stem Auger			S _u = Unconfined Field vane Shear Strength (psf) T _u = Torsion Shear Shear Strength (psf) C _u = (uncorrected) Cohesive Strength (psf) S _u (lab) = Lab vane Shear Strength (psf) W ₈₅ = weight of solids, % W ₁₀₀ = weight of solids, %		LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consistency Test						
Sample Information													
Depth (ft.)	Sample No.	Pen./Reb. (in)	Sample depth (ft.)	Grain S/S (in)	Grain S/S (in)	Grain S/S (in)	Grain S/S (in)	Grain S/S (in)	Grain S/S (in)	Grain S/S (in)	Grain S/S (in)	Grain S/S (in)	Grain S/S (in)
60	S-2	24/14	60.0 - 62.0	5 / 5 / 7 / 8	12								
65	S-3	24/8	65.0 - 67.0	4 / 5 / 7 / 9	12								
70	S-4	24/24	70.0 - 72.0	3 / 2 / 3 / 5	5								
75	S-5	24/9	75.0 - 77.0	16 / 16 / 35 / 23	51								
80	S-6	24/18	80.0 - 82.0	26 / 26 / 34 / 27	60								
85	S-7	24/15	85.0 - 87.0	17 / 18 / 25 / 38	43								
90													

Notes:

1. RW&A Project No. 0600-102

2. Drive and wash to 55 feet without sampling. Refer to log BB-SPC-201 for subsurface materials from 0 to 55 feet below ground surface.

3. Hammer Serial No. 377.

4. SPT N-Values uncorrected.

Stratification lines represent approximate boundaries between soil types. Transitions may be gradual.

* Refer to Test Results for details on fines and water content tests. Granularity fluctuations may occur due to conditions other than those present at the time measurements were made.

Page 3 of 5

Boring No.: BB-SPC-201A

Maine Department of Transportation				Project: Scarborough Eastern Trail Project		Boring No.: BB-SPC-201A		
Sol/Rock Exploration Log				Location: Scarborough, Maine		WIN: 019426.10		
US UNITS								
Driller: Northern Test Boring		Elevation (ft.):		Auger 10/OD:				
Operator: Mike Nadeau		Datum:		Sampler: SPT Split-Barrel				
Logged By: Serena Pope		Rig Types: Dieckman D-50 Turbo		Hammer Wt./Fall: 140 lb/30in.				
Date Start/Finish: 06-15-2018 / 06-18-2018		Drilling Method: 3" Tr cone Bit, Rotary Wash		Core Barrel:				
Boring Location: East of Tracks		Casing 10/OD: 4" Steel Casing		Water Level#: 6'				
Definitions: B = Split Stem Sample W = Unconsolidated Split Stem Sample (heist) H = Thin Wall Tube Sample F = Rock Core Sample V = Intact Vane Shear Test SS = Solid Stem Auger				Definitions: S _u = Intact Vane Shear Strength (psf) T _u = Pocket Torque Shear Strength (psf) C _u = Unconfined Compressive Strength (psf) T _{u(10)} = Lab Vane Shear Strength (psf) W ₁₀ = weight of solids, water W ₁₀ = weight of rods WC = water content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index c = Grain Size Analysis C = Consolidation Test				
Depth (ft.)	Sample Information						Visual Description and Remarks	Laboratory Testing Results/ASTM and Unified Class
	Sample No.	Pen./Rev. (in)	Sample Depth (ft.)	Blows 1/6 In. (blows/ft)	Blows 1/2 In. (blows/ft)	N-value Casing Blows		
90	S-8	23/16	90.0 - 91.8	23 / 19 / 21 / 50/5"	40	109	Switch to 3" casing at 90'. Chatter in auger at 91'.	WC=11.6%
95	S-9	24/15	95.0 - 97.0	40 / 50 / 50/3"	100+			WC=8.1%
100	S-10	24/17	100.0 - 108.0	39 / 45 / 50/5"	95+			WC=7.5%
105	S-11	24/21	105.0 - 107.0	52 / 31 / 45 / 50/5"	82			WC=8.4%
110	S-12	24/8	110.0 - 112.0	21 / 50/5"	100+			WC=9.8%
115	S-13	24/19	115.0 - 117.0	33 / 46 / 50/5"	86+			WC=9.0%
120								
REMARKS:								
1. RWSA Project No. 0600-102 2. Drive and wash to 55 feet without sampling. Refer to log BB-SPC-201 for subsurface materials from 0 to 55 feet below ground surface. 3. Hammer Serial No. 377. 4. SPT N-values uncorrected.								
Stratification lines represent approximate boundaries between soil and rock. Transitions may be gradual. * Refer to log BB-SPC-201 for subsurface materials from 0 to 55 feet below ground surface. Groundwater fluctuations may occur due to conditions other than those present at the time the measurements were made.								
							Page 4 of 5 Boring No.: BB-SPC-201A	

Maine Department of Transportation					Project: Scarborough Eastern Trail Project		Boring No.: BB-SPC-201A																																																																																																																																																																																																								
Sol/100k Exploration Log					Location: Scarborough, Maine		WIN: 019426.10																																																																																																																																																																																																								
US UNITS																																																																																																																																																																																																															
Driller:		Northern Test Boring		Elevation (ft.):		Auger 10/00D																																																																																																																																																																																																									
Operator:		Mike Nadeau		Rig Type:		Sampler: SPT Split-Barrel																																																																																																																																																																																																									
Logged By:		Serena Pose		Datum:		Hammer Wt./Falls: 140 lb/30in.																																																																																																																																																																																																									
Date Start/Finish:		06-15-2018 / 06-18-2018		Drilling Method:		3" Tri cone B1+, Rotary Wash																																																																																																																																																																																																									
Boring Location:		East of Tracks		Casing 10/00D:		4" Steel Casing																																																																																																																																																																																																									
Soil Types:		Soil Types: U = Soft to Loose Sand W = Unconsolidated Soft to Loose Sand O = Thin to Thick Silty Sand S = Thin to Thick Silty Sand M = Thin to Thick Silty Sand CL = Clay MH = High Plasticity Clay SH = Solid to Very Stiff Clay		Soil Types: U = Thin to Thick Silty Sand W = Unconsolidated Sand O = Thin to Thick Silty Sand S = Thin to Thick Silty Sand M = Thin to Thick Silty Sand CL = Clay MH = High Plasticity Clay SH = Solid to Very Stiff Clay		Soil Types: U = Thin to Thick Silty Sand W = Unconsolidated Sand O = Thin to Thick Silty Sand S = Thin to Thick Silty Sand M = Thin to Thick Silty Sand CL = Clay MH = High Plasticity Clay SH = Solid to Very Stiff Clay																																																																																																																																																																																																									
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Maine Department of Transportation										Project: Scarborough Eastern Trail Project										Boring No.: BB-SPC-202									
Soil/Book Exploration Log										Location: Scarborough, Maine										WIN: 019426.10									
US UNITS																													
Driller:		R.W. GITTLESPER & ASSOCIATES, Inc.								Elevation (ft.):		N/A								Auger ID/OD:		4.25" ID / 7.5" OD							
Operator:		M. Nadeau								Datum:										Sampler:		SPT Split-Barrel							
Logged By:		D. Walker								Rig Type:		Dierich D50								Hammer Wt./Fall:		140lbs. 30"							
Date Start/Finish:		10/04/2016 / 10/06/2016								Drilling Method:		HSA 3" roller bit, drive + wash								Core Barrel:		N02							
Boring Location:		See Exploration Location Plan								Casing ID/OD:		3" and 4" ID								Water Level#:		7'							
Definitions:										Definitions:										Definitions:									
D = Split Spoon Sample										Su = In-situ Field Vane Shear Strength (psf)										WC = water content, percent									
M = Unsuccessful Split Spoon Sample attempt										L = Liquid Limit										LL = Liquid Limit									
U = Thin Wall Tube Sample										Cu = Unconfined Compressive Strength (psf)										PL = Plastic Limit									
R = Rock Core Sample										Su (up) = Lab Vane Shear Strength (psf)										PI = Plasticity Index									
V = In-situ Vane Shear Test										W = Weight of 140lb. Hammer										G = Grain Size Analysis									
SS = Solid Stem Auger										W = Weight of 140lb. Hammer										C = Consolidation Test									
Sample Information										Visual Description and Remarks										Laboratory Testing Results/ASHTO and Unified Class									
Depth (ft.)	Sample No.	Pen./Reco. (in.)	Sample Depth (ft.)	Blows / 6 in. Shear Strength (pcf) or RQD (%)	N-value	Coring	Elevation (ft.)	Graphic Log																					
5	S-1	24/15	0.0 - 2.0		13																								
5	S-2	24/23	5.0 - 7.0		15																								
10	S-3	24/20	7.0 - 9.0		13																								
10	S-4	24/18	10.0 - 12.0		9	P																							
15	S-5	24/24	12.0 - 14.0		7																								
15	S-7	24/24	15.0 - 17.0																										
20	U-1	24/24	20.0 - 22.0																										
25	FV-1		25.0 - 26.8	Sum=45 psf Residual=25 psf																									
	FV-2		26.0 - 26.8	Sum=90 psf Residual=45 psf																									
30																													
Remarks:																													
1. RWGA Project No. 0600-102.																													
2. In-situ vane shear tests conducted using MairneBOT provided Geonor 65x130mm rectangular vane.																													
3. Hammer Serial No. 283.																													
4. SPT N-Values are uncorrected.																													
Settlement lines represent approximate boundaries between soil types; transitions may be gradual.																													
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.																				Page 1 of 5									
																				Boring No.: BB-SPC-202									

Maine Department of Transportation				Project: Scarborough Eastern Trail Project				Boring No.: BB-SPC-202			
Soil/Book Exploration Log				Location: Scarborough, Maine				WIN: 019426.10			
US UNITS											
Driller:		R.W. GittleSPer & Associates, Inc.		Elevation (ft.):		N/A		Auger ID/OD:		4.25" ID / 7.5" OD	
Operator:		M. Nadeau		Datum:				Sampler:		SPT Split-Barrel	
Logged By:		D. Walker		Rig Type:		Dierich D50		Hammer Wt./Fall:		140lbs. 30"	
Date Start/Finish:		10/04/2016 / 10/06/2016		Drilling Method:		HSA 3" roller bit, drive + wash		Core Barrel:		N02	
Boring Location:		See Exploration Location Plan		Casing ID/OD:		3" and 4" ID		Water Level#:		7'	
Definitions:				Definitions:				Definitions:			
D = Split Spoon Sample				Su = In-situ Field Vane Shear Strength (psf)				WC = water content, percent			
M = Unsuccessful Split Spoon Sample attempt				L = Liquid Limit				LL = Liquid Limit			
U = Thin Wall Tube Sample				Cu = Unconfined Compressive Strength (psf)				PL = Plastic Limit			
R = Rock Core Sample				Su (up) = Lab Vane Shear Strength (psf)				PI = Plasticity Index			
V = In-situ Vane Shear Test				W = Weight of 140lb. Hammer				G = Grain Size Analysis			
SS = Solid Stem Auger				W = Weight of 140lb. Hammer				C = Consolidation Test			
Sample Information											
Depth (ft.)	Sample No.	Pen./Rec. (in)	Sample Depth (ft.)	Blows $\frac{1}{6}$ in. (10 blows per foot)	N-value	Casing	Elevation (ft.)	Graphic Log	Visual Description and Remarks		Laboratory Testing Results/ASHTO and Unified Class
30	U-2	24/24	50.0 - 52.0								
35	FV-3		36.0 - 36.8	Su=63 psf Residual=52 psf					65x130 mm raw torque readings: FV-3: 20.5/1.9 ft-lbs FV-4: 18.5/1.2 ft-lbs		
	FV-4		37.0 - 37.5	Su=68 psf Residual=53 psf							
40	U-3	24/24	40.0 - 42.0								
45	FV-5		46.0 - 46.8	Su=94 psf Residual=58 psf					65x130 mm raw torque readings: FV-5: 28.9/3.9 ft-lbs FV-6: 31.3/3.5 ft-lbs		
	FV-6		47.0 - 47.5	Su=60 psf Residual=56 psf							
50	U-4	12/12	50.0 - 51.0						SANDY SILT (ML): Dark gray, wet, loose, silt, with fine sand.	49.0	
55	S-9	24/12	55.0 - 57.0		9				SILTY SAND (SM): Gray, wet, loose to medium dense, fine grain, little silt, little clay, few fine to medium gravel.	55.0	14380A WC=13.2% G
60											
Remarks:											
1. RW664 Project No. 0600-102.											
2. In-situ vane shear tests conducted using MaineDOT provided Geonor 65x130mm rectangular vane.											
3. Hammer Serial No. 283.											
4. SPT N-Values are uncorrected.											
Stratification lines represent approximate boundaries between all types transitions may be gradual.											
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than present at the time measurements were made.											
Boring No.: BB-SPC-202										Page 2 of 5	

Maine Department of Transportation				Project: Scarborough Eastern Trail Project				Boring No.: BB-SPC-203			
Soil/Bore Exploration Log				Location: Scarborough, Maine				WIN: 019426.10			
US UNITS											
Driller:		R.W. NOTESTADT & ASSOCIATES, Inc.		Elevation (ft.):		N/A		Auger: 10/00D: 4.25" ID / 7.5" OD			
Operator:		M. Nadeau		Datum:				Sampler: SPT 30" Bit-Barrel			
Logged By:		D. Walker		Rig Types:		Dierich D50		Hammer Wt./Fall: 140 lbs / 30 In.			
Date Start/Finish:		09/27/2016 / 09/30/2016		Drilling Method:		HSA, 3" roller bit, drive + wash		Core Barrel: NQ2			
Boring Location:		See Exploration Location Plan		Casing 10/00D:		3- and 4-inch ID		Water Level: 8'			
Definitions: S = Split-Spoon Sample W = groundwater, Split-Spoon Sample attempt U = Thin Wall Tube Sample R = Rock Core Sample V = Inside Tube Shear Test SS = Solid Stem Auger				Definitions: S = In situ Field Vane Shear Strength (psf) T _v = Torsion Shear Strength (psf) U _c = Unconfined Compressive Strength (psf) T _{ult} = Lab Vane Shear Strength (psf) W ₁ = weight of hole, water W ₂ = weight of rods				Definitions: WC = water content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = grain size analysis C = consolidation test			
Depth (ft.)	Sample No.	Pen./Ref. (in)	Sample Depth (ft.)	Blows / 6 In. (SPT)	Strength (psf)	N-value	Casing Depth (ft.)	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ASTM and Utilized Class
120	S-20	17/20	120.0 - 121.4			86/11	120			Grades to little fine gravel, trace coarse gravel and clay.	
							120				
							120				
							120				
125	S-21	24/8	125.0 - 127.0			59	175			Drilling resistance increase.	
							225				
							225				
							225				
130							225				
135	S-22	24/24	135.0 - 137.0			69					
140	S-23	16/0	140.0 - 143.3			84/10				Wash materials and large cobble in bedrock.	
	R-1	18/14	142.0 - 142.7		RQD=25%						
	R-2	42/15	142.0 - 145.5		RQD=25%						
145	R-3	60/24	145.0 - 151.0		RQD=25%					Grades to little fine gravel, trace coarse gravel and clay. R-1 Recovery=75% R-2 Recovery=55% R-3 Recovery=40%	
150											
Remarks: 1. RWQA Project No. D600-102. 2. In situ vane shear tests conducted using MWDOT provided Geonor 65x130mm rectangular vane. 3. Hammer Serial No. 233. 4. SPT N-values are uncorrected.											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.											
* Water level readings have been read at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.											
										Page 5 of 5	
										Boring No.: BB-SPC-203	

Maine Department of Transportation				Project: Scarborough Eastern Trail Project		Boring No.: BB-SPC-203	
Soil/Bore Exploration Log				Location: Scarborough, Maine		WIN: 019426.10	
US UNITS							
Driller: H.W. VITTESSIO & ASSOCIATES, INC.		Elevation (ft.): N/A		Auger ID/OD: 4.25" ID / 7.5" OD			
Operator: M. Nadeau		Datum:		Sampler: SPT 25" (Barrel)			
By: D. Walker		Rig Type: Dieckhoff D50		Hammer Wt./Fall: 140 lbs / 30 in.			
Date Start/Finish: 09/27/2016 / 09/30/2016		Drilling Method: HSA, 3" roller bft, drive + wash		Core Barrel: NG2			
Boring Location: See Exploration Location Plan		Casing ID/OD: 3- and 4-Inch ID		Water Level: 8'			
Definitions: D = Split Spoon Sample B = Groundwater Split Spoon Sample (wet) U = Thin Wall Tube Sample R = Rod Core Sample V = Intact Vane Shear Test Sd = Split Stem Auger				Terminations: Su = Intact Vane Shear Strength (psf) Tv = Horizontal Shear Strength (psf) Cu = Unconfined Compressive Strength (psf) Su (ap) = Lab Vane Shear Strength (psf) Wt = weight of 100 lb. hammer WH = weight of core WC = water content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index U = Grain Size Analysis C = Consolidation Test			
Sample Information							
Depth (ft.)	Sample No.	Pen./Rec. (in)	Sample Depth (ft.)	Blows 1/6 In. Strength or ASD (s)	N-value	Coring Notes	Elevation (ft.)
150							
155							
160							
165							
170							
175							
180							
Remarks:							
1. RWSA Project No. 0600-102. 2. In situ vane shear tests conducted using MaineDOT provided Geor 65x130mm rectangular vane. 3. Hammer Serial No. 283. 4. SPT N-values are uncorrected.							
Stratification lines represent approximate boundaries between all types; transitions may be gradual.							
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.							

Maine Department of Transportation Soil/Rock Exploration Log US UNITS										Project: Scarborough Eastern Trail Project Location: Scarborough, Maine		Boring No.: BB-SPC-203A WIN: 019426.10	
Drillers:		Northern Test Boring		Elevation (ft.):		Auger ID/OD:		Operator:		Thin-Walled Tube			
Operators:		Mike Nadeau		Datum:		Sampler:		Hammer Wt./Fall:					
Logged By:		Serena Pope		Rig Type:		D-50 Turbo		Core Barrel:					
Date Start/Finish:		06-19-2018 / 06-19-2018		Drilling Method:		3" Tri cone B1+, Rotary Wash		Core Barrel:					
Boring Location:		East of Tracks		Casing ID/OD:		4" Steel Casing		Water Level/ft:		7'			
Definitions: D = Split Spoon Sample M = Unsuccessful Split Spoon Sample attempt L = Thin Wall Tube Sample R = Rock Core Sample V = In Situ Vane Shear Test SSA = Solid Stem Auger Definitions: Su = In Situ Field Vane Shear Strength (psf) Tv = Pocket Torque Shear Strength (psf) Cu = Unconfined Compressive Strength (psf) Su (up) = Lab Vane Shear Strength (psf) Wt = Weight of 140lb. Hammer Wt = Weight of Rod Definitions: EC = water content, percent LL = Liquid Limit PL = Plasticity Limit PI = Plasticity Index C = Grain Size Analysis C = Consolidation Test													
Sample Information													
Depth (ft.)	Sample No.	Pen./Blow (ft.)	Sample Depth (ft.)	Blow /ft. (ft.)	Blow /ft. (ft.)	N-value	Casing	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ASHTO and Unified Class		
0										TOPSOIL AND ORGANIC MATERIAL (2 inches).			
0										SILTY SAND (SM): Loose, dry, medium to fine sand, some silt, brown.			
5										Becomes wet.			
10													
15	FV		15.0 - 15.4	Surf=10 psf Residual: Surf=10 psf						SILTY CLAY (CL): Very stiff, wet, gray clay.			
15	FV		16.0 - 16.4	Surf=110 psf Residual: Surf=110 psf						65x130 mm row torque readings: FV-21: 37.0/4.0 ft-lbs FV-22: 42.0/6.0 ft-lbs			
20	U-1	24/21	20.0 - 22.0								15111A WC=45.6% A & C LL=40.9 PL=21.7 PI=18.2		
25	FV		25.0 - 25.4	Surf=50 psf Residual: Surf=50 psf						65x130 mm row torque readings: FV-35: 23.0/2.0 ft-lbs FV-41: 19.0/2.0 ft-lbs			
25	FV		26.0 - 26.4	Surf=50 psf Residual: Surf=50 psf									
30													
Remarks: 1. RWGA Project No. 0600-102 2. Hammer Serial No. 377. 3. SPT N-values uncorrected. 4. Casing hydraulically pushed. 5. MWDOT Field vane													
Stratification lines represent approximate boundaries between soil types; transitions may be gradual. * Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.													
Boring No.: BB-SPC-203A													

Maine Department of Transportation Soil/Rock Exploration Log US UNITS				Project: Scarborough Eastern Trail Project Location: Scarborough, Maine				Boring No.: BB-SPC-203A WIN: 019426.10			
Drillers: Northern Test Boring		Elevation (ft.):		Auger ID/OD:		Operator: Mike Nadeau		Datum:		Sampler: Thin-Walled Tube	
Logged By: Serena Pope		Rig Type: D-50 Turbo		Core Barrel:		Water Level/ft:		Water Level/ft:		Water Level/ft:	
Date Start/Finish: 06-19-2018 / 06-19-2018		Drilling Method: 3" Tri cone B1+, Rotary Wash		Core Barrel:		Water Level/ft:		Water Level/ft:		Water Level/ft:	
Boring Location: East of Tracks		Casing ID/OD: 4" Steel Casing		Water Level/ft:		Water Level/ft:		Water Level/ft:		Water Level/ft:	
Definitions: D = Split Spoon Sample M = Unsuccessful Split Spoon Sample attempt L = Thin Wall Tube Sample R = Rock Core Sample V = In Situ Vane Shear Test SSA = Solid Stem Auger Definitions: Su = In Situ Field Vane Shear Strength (psf) Tv = Pocket Torque Shear Strength (psf) Cu = Unconfined Compressive Strength (psf) Su (up) = Lab Vane Shear Strength (psf) Wt = Weight of 140lb. Hammer Wt = Weight of Rod Definitions: EC = water content, percent LL = Liquid Limit PL = Plasticity Index PI = Plasticity Index C = Grain Size Analysis C = Consolidation Test											
Sample Information											
Depth (ft.)	Sample No.	Pen./Blow (ft.)	Sample Depth (ft.)	Blow /ft. (ft.)	Blow /ft. (ft.)	N-value	Casing	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ASHTO and Unified Class
30	U-2	24/22	50.0 - 52.0								15111B WC=49.0% C
35	FV		35.0 - 35.4 35.4 - 36.0 36.0 - 36.4	Surf=10 psf Residual: Surf=10 psf Residual: Surf=10 psf						65x130 mm row torque readings: FV=51: 17.0/0.0 ft-lb FV=61: 18.0/0.0 ft-lb	
40	U-3		40.0 - 42.0							Significant water loss, possible sand seam allowing water to fill BB-SPC-203.	15111C WC=42.3% A & C LL=40.0 PL=22.5 PI=17.5
45	FV		45.0 - 45.4 45.4 - 46.0 46.0 - 46.4	Surf=50 psf Residual: Surf=50 psf Residual: Surf=50 psf						65x130 mm row torque readings: FV=71: 20.0/0.0 ft-lb FV=81: 23.0/0.0 ft-lb	
50	U-4	24/20	50.0 - 52.0								
55	FV		55.0 - 55.4 55.4 - 56.0 56.0 - 56.4	Surf=10 psf Residual: Surf=10 psf Residual: Surf=10 psf						65x130 mm row torque readings: FV=91: 25.0/0.0 ft-lb FV=101: 27.0/0.0 ft-lb	
60											
Remarks: 1. RWGA Project No. 0600-102 2. Hammer Serial No. 377 3. SPT N-values uncorrected. 4. Casing hydraulically pushed. 5. MWDOT Field vane											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.											
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.											
Boring No.: BB-SPC-203A											

Maine Department of Transportation Soil/Rock Exploration Log US UNITS										Project: Scarborough Eastern Trail Project Location: Scarborough, Maine										Boring No.: BB-SPC-203A WIN: 019426.10											
Driller: Northern Test Boring					Elevation (ft.):					Auger ID/OD:					Operator: Mike Nadeau					Datum:					Sampler: Thin-Walled Tube						
Logged By: Serena Pope					Rig Type: D-50 Turbo					Core Barrel:					Water Level/ft:					Water Level/ft:					Water Level/ft:						
Date Start/Finish: 06-19-2018 / 06-19-2018					Drilling Method: 3" Tri cone B1+, Rotary Wash					Core Barrel:					Water Level/ft:					Water Level/ft:					Water Level/ft:						
Boring Location: East of Tracks					Casing ID/OD: 4" Steel Casing					Water Level/ft:					Water Level/ft:					Water Level/ft:					Water Level/ft:						
Definitions: D = Split Spoon Sample M = Unsuccessful Split Spoon Sample attempt L = Thin Wall Tube Sample R = Rock Core Sample V = In Situ Vane Shear Test SSA = Solid Stem Auger										Definitions: Su = In Situ Field Vane Shear Strength (psf) Tv = Pocket Torque Shear Strength (psf) Cu = Unconfined compressive strength (psf) Su (up) = Lab Vane Shear Strength (psf) Wt = weight of 140lb. hammer Wt = weight of rods										Definitions: WC = water content, percent LL = Liquid Limit PL = Plasticity Limit PI = Plasticity Index C = Grain Size Analysis C = Consolidation Test											
Sample Information										Visual Description and Remarks										Laboratory Testing Results/ASHTO and Unified Class											
Depth (ft.)	Sample No.	Pen./Blow (ft.)	Sample Depth (ft.)	Blow /ft. (ft.)	Blow /ft. (ft.)	Blow /ft. (ft.)	N-value	Casing	Elevation (ft.)	Graphic Log																					
60	U-5	24/21	60.0 - 62.0						62.0			Bottom of Exploration at 62.0 feet below ground surface. Not refused.										15111D WC=37.4% A & C LL=39.9 PI=19.2 PI=10.7									
65																															
70																															
75																															
80																															
85																															
90																															
Remarks:																															
1. RWGA Project No. 0600-102 2. Hammer Serial No. 377. 3. SPT N-values uncorrected. 4. Casing hydraulically pushed. 5. MWDOT Field vane																															
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.																															
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.																															
Boring No.: BB-SPC-203A																															

Maine Department of Transportation Soil/Rock Exploration Log US UNITS										Project: Scarborough Eastern Trail Project Location: Scarborough, Maine		Boring No.: EB-SPC-203 WIN: 019426.10	
Drillers: R.W. Little & Associates, Inc.		Elevation (ft.):		N/A		Auger ID/OD:		4.25" ID / 7.5 OD					
Operators: M. Nadeau		Datum:				Sampler:		SPT Split-Barrel					
Logged By: D. Walker		Rig Type:		D-50 Turbo		Hammer Wt./Fall:		140 lbs. 30"					
Date Start/Finish: 09/27/2016 / 09/27/2016		Drilling Method:		HSA		Core Barrel:		N/A					
Boring Location: See Exploration Location Plan		Casing ID/OD:		N/A		Water Level/ft:		5.5'					
Definitions: D = Split Spoon Sample M = Unsuccessful Split Spoon Sample attempt L = Thin Wall Tube Sample R = Rock Core Sample V = In Situ Vane Shear Test SSA = Solid Stem Auger Definitions: Su = In Situ Field Vane Shear Strength (psf) Tv = Pocket Torque Shear Strength (psf) Cu = Unconfined Compressive Strength (psf) Su (up) = Lab Vane Shear Strength (psf) Wt = Weight of 140lb. Hammer Wt = Weight of Rod Definitions: EC = water content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index C = Grain Size Analysis C = Consolidation Test													
Sample Information													
Depth (ft.)	Sample No.	Pen./Blow (ft.)	Sample Depth (ft.)	Blow /ft. (ft.)	Blow /ft. (ft.)	N-value	Casing Bore	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ASHTO and Unified Class		
0	S-1	24/15	0.0 - 2.0			3				TOPSOIL AND ORGANIC MATERIAL (2 inches).			
	S-2	24/13	2.0 - 4.0			8				SAND (SP): Reddish brown, dry to wet, very loose to medium dense, fine to medium sand, little coarse sand.	0.2		
5	S-3	24/16	4.0 - 6.0			20				Becomes tan, loose, fine to coarse sand, little silt. Becomes moist, medium dense.			
	S-4	24/24	6.0 - 8.0			11				Becomes reddish brown, wet, fine to medium sand.			
	S-5	24/15	8.0 - 10.0			2				2" Clay layer at 7", then 2" medium to coarse sand layer. Grades to fine sand. Becomes very soft.			
10	S-6	24/15	10.0 - 12.0			5				SILTY CLAY (CL): Gray, wet, soft to medium clay, some silt. Alternating clay and silt lenses.	9.0		
	S-7	24/24	12.0 - 14.0			2				SILTY SAND (SM): Gray, wet, very loose, fine sand, some silt. Alternating seams of fine sand and silt.	11.5		
15	S-8	24/16	14.0 - 16.0			MR				SILTY CLAY (CL): Gray, wet, very soft, silty clay. Alternating lenses of silty clay and silty sand.	13.5		
										Bottom of Exploration at 16.0 feet below ground surface. Not further.	16.0		
20													
25													
30													
Remarks: 1. RWGA Project No. 0600-102. 2. Hammer Serial No. 285. 3. SPT N-values uncorrected.													
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.													
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.													
Boring No.: EB-SPC-203													

Maine Department of Transportation				Project: Scarborough Eastern Trail Project				Boring No.: EB-SPC-203A			
Soil/Rock Exploration Log				Location: Scarborough, Maine				WIN: 019426.10			
US UNITS											
Driller:		Northern Test Boring		Elevation (ft.):		Auger ID/OD:		Operator:		SPT Split-Barrel	
Operator:		Mike Nadeau		Datum:		Sampler:		Hammer Wt./Fall:		140lb/30in	
Logged By:		Serena Pope		Rig Type:		D-50 Turbo		Core Barrel:		140lb/30in	
Date Start/Finish:		06-19-2018 / 06-19-2018		Drilling Method:		3" Trl cone B/T, Rotary Wash		Water Level/ft:		6.5'	
Boring Location:		East of Tracks		Casing ID/OD:		4" Steel Casing		Corrections:			
Notes:				SPRINTS:				MC = water content, percent			
D = Split Spoon Sample				Su = 1-in. field vane shear strength (psf)				LL = Liquid Limit			
W = unconsolidated Split Spoon Sample				V _u = Pocket Vane Shear Strength (psf)				P = Plasticity Index			
U = Thin Wall Tube Sample				q _u = Uncorrected Compressive Strength (psf)				PI = Plasticity Index			
F = Road Core Sample				Su _{avg} = Lab Vane Shear Strength (psf)				d = Grain Size Analysis			
V = Vane Shear Test				W _u = weight of solids, water				c = consolidation test			
SS = Solid Stem Auger				W _t = weight of rods							
Sample Information											
Depth (ft.)	Sample No.	Pen./Rec. (in)	Sample Depth (ft.)	Blows /6 In.	Strength	SPRINTS	Penetration	Casing	Elevation	Graphic Log	Visual Description and Remarks
	S-1	24/23	0.0 - 2.0	3 / 4 / 4 / 7	8				-0.2		TOPSOIL AND ORGANIC MATERIAL (3 inches).
											SILTY SAND (SM) Loose, moist, medium to fine sand, little silt, top. Becomes brown at 0.5'.
5	S-2	24/17	5.0 - 7.0	5 / 6 / 3 / 4	9				-6.0		SANDY SILT (ML) Very loose, wet, silt, some fine sand, gray.
											Becomes some clay at 9'.
10	S-3	24/24	10.0 - 12.0		WDH						
15	FV-1	24/24	15.0 - 19.0			Su=1000 psf Residual Su=100 psf WDH			-15.0		SILTY CLAY WITH SAND (CL): Soft, wet, clay, little silt, few fine sand, gray.
											65x130 mm raw torque reading: FV-1: 37.0/4.0 ft-lbs
20	S-4 FV-3	24/24	20.0 - 21.4		WDH	Su=1000 psf Residual Su=300 psf Su=500 psf Residual Su=200 psf					Becomes trace fine sand. 65x130 mm raw torque readings: FV-2: 16.0/1.0 ft-lbs FV-3: 20.0/1.0 ft-lbs FV-3: 20.0/1.0 ft-lbs
25	S-5 FV-4	24/24	25.0 - 27.0		WDH	Su=1000 psf Residual Su=500 psf					65x130 mm raw torque reading: FV-4: 18.0/2.0 ft-lbs
30											
Remarks:											
1. REM6A Project No. 0600-102											
2. SPT blow counts are uncorrected											
3. Hammer Serial No. 317											
4. Wet/soil field vane											
5. Field vane conducted from samples with SPT Split-Barrel											
Interpretation: Lines represent approximate boundaries between soil types. Transitions may be gradual.											
* Asterisk (*) indicates tests have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.											
Page 1 of 3										Boring No.: EB-SPC-203A	

Maine Department of Transportation				Project: Scarborough Eastern Trail Project		Boring No.: EB-SPC-205	
Soil/Bore Log/Exploration Log				Location: Scarborough, Maine		WIN: 019426.10	
US UNITS							
Driller:		Northern Test Boring		Elevation (ft.):		N/A	
Operator:		Mirka Nadeau		Datum:		Auger 10/00:	
Logged By:		Sarena Pope		Rig Type:		Dierich D-50 Turbo	
Boring Start/Finish:		06-20-2018 / 06-20-2018		Drilling Method:		3" Tri cone B1+, Rotary Wash	
Date Location:		East of Tracks		Casing 10/00:		4" Steel Casing	
Soil		East of Tracks		Water Level:		2'	
0 = Split Spoon Sample W = unconfined Split Spoon Sample attempt U = Thin Wall Tube Sample R = Rock Core Sample V = Inside Vane Shear Test SW = Solid Stem Auger		S _u = In situ field vane shear strength (psf) T _u = Pocket Torque Shear Strength (psf) C _u = Unconfined Compressive Strength (psf) S ₁₀₀ = Lab Vane Shear Strength (psf) W ₁₀₀ = Weight of 100lb. hammer Eff = weight of rods		SP100 = LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = consolidation Test			
Sample Information							
Depth (ft.)	Sample No.	Pen./Rev. (in)	Sample Depth (ft.)	Blows / 6 In. (blows / 150 mm)	Void Ratio	Coring Blows	Elevation (ft.)
0	S-1	24/17	0.0 - 2.0	1 / 2 / 3 / 8	5		
	S-2	24/16	2.0 - 4.0	8 / 10 / 8 / 11	18		
5	S-3	24/19	4.0 - 6.0	5 / 5 / 5 / 5	10		
	S-4	24/22	6.0 - 8.0	4 / 4 / 5 / 4	9		
	S-5	24/24	8.0 - 10.0	1 / 1 / 1 / 1	2		
10	S-6	24/24	10.0 - 12.0	NOR			
15	FV-1 FV-2	24/24	15.0 - 17.0 17.0 - 19.0	SW-360 pcf Real Qual SW-400 pcf SW-360 pcf Real Qual SW-400 pcf			
20	FV-3 FV-4	24/24	20.0 - 22.0 22.0 - 24.0	SW-360 pcf Real Qual SW-400 pcf SW-360 pcf Real Qual SW-400 pcf			
25	S-7 FV-6	24/24	25.0 - 27.0 27.0 - 29.0	NOR Real Qual SW-400 pcf SW-360 pcf Real Qual SW-400 pcf			
30							
Visual Description and Remarks TOPSOIL AND ORGANIC MATERIAL (2 Inches). SAND WITH SILT (SP-SW1) Loose to medium dense, moist, medium to fine sand, few silt, orange brown. Becomes medium dense, tan at 2'. Becomes wet, possibly due to rotor-wash at 4'. Rust colored stripe at 5.2'. Becomes loose at 6'. Becomes gray at 7.2'. SILTY CLAY (CL): Very soft to medium, wet, clay, some silt, gray.							
						Laboratory Testing Results/ ASTM and Unified Class	
						15192, 15193 G	
Remarks: 1. RMGA Project No. D600-102 2. SPT N-Values are uncorrected 3. Hammer Serial No. 317. 4. Moistend field vane 5. Field vane test conducted then sampled with SPT Split-Barrel.							

Stratification lines represent correlations between soil types/ transitions may be gradual.

* Bore hole readings have been done at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.

Page 1 of 2

Boring No.: EB-SPC-205

Maine Department of Transportation				Project: Scarborough Eastern Trail Project				Boring No.:		EB-SPC-205	
Soil/Bore Exploration Log				Location: Scarborough, Maine				WIN:		019426.10	
US UNITS											
Driller:		Northern Test Boring		Elevation (ft.):		N/A		Auger ID/OD:			
Operator:		Serena Padeau		Datum:				Sampler:		SPT Split-Barrel	
Logged by:		Serena Padeau		Rig Type:		Die-Drill D-50 Turbo		Hammer Wt./Fall:		140lbs/30in	
Date Start/Finish: 06-20-2018 / 06-20-2018				Drilling Method:				3" Trl cone Btt., Rotary Wash		Core Barrel:	
Boring Location: East of Tracks				Casing ID/OD:				4" Steel Casing		Water Level: 2'	
Definitions: B = Split Spoon Sample AC = Annular/Cone Split Spoon Sample Interval u = Thin Red Tube Sample R = Root Core Sample V = Test to Vane Shear Test Sd = Split Stem Auger				Definitions: S _u = Initial Vane Shear Strength (psf) S _u = Point to Point Shear Strength (psf) S _u = Unconfined Compressive Strength (psf) S _u (avg) = Lab Vane Shear Strength (psf) w _u = weight of 140lb. hammer W = weight of core				Definitions: MC = water content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index U = Grain Size Analysis C = Consolidation Test			
Sample Information											
Depth (ft.)	Sample No.	Pen./Rec. (in)	Sample Depth (ft.)	Blows 1/6 In. Strength per 600 (s)	Notes	Coring Dates	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ASTM and Unified Class	
30	S-10	24/24	30.0 - 32.0		NOR						
35	S-11	24/24	34.0 - 36.0		NOR						
40	S-12	24/24	40.0 - 42.0	5 / 5 / 4 / 4	9				SANDY SILT (SM-ML) Loose, wet, silt, some fine sand, gray.	15120 MC=24.0% G	
									SILTY CLAY (CL) Stiff, wet, clay, little silt, gray.	41.5	
45	S-13	24/24	46.0 - 47.0	2 / 3 / 5 / 4	8				SAND WITH SILT (SP-SM) Loose to medium dense, wet, fine sand, little silt, occasional clay seams, gray.	45.0 15126 MC=24.0% G	
50	S-14	24/24	50.0 - 52.0	3 / 1 / 1 / 1	2				Becomes very loose at 50'.		
55	S-15	24/19	55.0 - 57.0	7 / 7 / 9 / 14	16				Becomes medium dense at 54'.		
60									Bottom of Exploration at 57.0 feet below ground surface.	57.0	
Remarks:											
1. RME&A Project No. 0600-102 2. SPT N-Values are uncorrected 3. Hammer Serial No. 371 4. Maribott Field Vane 5. Field vane test conducted than sampled with SPT Split-Barrel.											
Stratification lines represent approximate boundaries between all types; transitions may be gradual.											
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.											
									Page 2 of 2		
									Boring No.: EB-SPC-205		

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Maine Department of Transportation Soil/Book Exploration Log US UNITS					Project: Scarborough Eastern Trail Project Location: Scarborough, Maine		Boring No.: EB-SNR-101 WIN: 019426.10		
Driller: Great Works Test Boring		Elevation (ft.):		Auger ID/DD:		-			
Operator: Jeff Lee		Datum:		Sampler: SPT Split-Barrel					
Logged By: D. Walker		Rig Type: CM 75 Track Rig		Hammer Wt./Fall: 140 lbs / 30 Inches					
Date Start/Finish: 07/12/2016		Drilling Method: Drive + Wash		Core Barrel: -					
Boring Location: See Expl. Location Plan		Casing ID/DD: 4-inch		Water Level/Ft: 7'					
Definitions: S = Split Spoon Sample M = Unsuccessful Split Spoon Sample attempt T = Thin Wall Tube Sample R = Rock Core Sample V = In Situ Vane Shear Test SS = Solid Stem Auger		Definitions: S _u = In Situ Field Vane Shear Strength (psf) T _u = Torque Shear Strength (psf) C _u = Unconfined Compressive Strength (psf) S _u (90) = Lab Vane Shear Strength (psf) Wt = weight of 100 lb; volume Wt = weight of rods		Definitions: WC = water content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index U = Grain Size Analysis C = consolidation Test					
Sample Information					Visual Description and Remarks				
Depth (ft.)	Sample No.	Pen./Reco. (in.)	Sample Depth (ft.)	Blows / 6 in. Shear Strength (psf)	N-value	Coring Notes	Elevation (ft.)	Grain Size Log	Laboratory Testing Results/ASTM and Unified Class
0	S-1	24/12	0.0 - 2.0		4				FILLS Fine to medium sand, little fine gravel and silt.
	S-2	24/8	2.0 - 4.0		4				
5	S-3	24/18	5.0 - 7.0		5				SILT WITH SAND (SM): Very loose, moist, silt, little fine sand, gray. -5.0
	S-4	24/14	7.0 - 9.0		4				SILTY SAND (SM): Very loose, wet, fine to medium sand, some silt, tan-brown. -7.0
10	S-5	24/14	9.0 - 11.0		3				Becomes very loose. -9.5
15	S-6	24/12	15.0 - 17.0		3				SILT CLAY (CL): Soft, moist, clay, some silt, gray. -15.5
									SAND WITH GRAVEL (SP): Very loose, wet, fine to medium sand, little fine gravel, trace silt, gray. -15.5
20	S-7	24/24	20.0 - 22.0		WDH				SILTY CLAY (CL): Very soft to medium, wet, clay, some silt, dark gray. -20.0
25	FV-1 24/24		25.0 - 25.9 26.7		Su=60 pcf Residual Su=60 pcf SPT=60 pcf Residual Su=60 pcf				65x150 mm raw torque readings: FV-1= 61.0/5.0 F=lbs FV-2= 59.0/5.0 F=lbs
Remarks: 1. RWGA Project No. 0600-102 2. SPT N-Values are uncorrected. 3. Shear vane data collected using 3-5/8"x9" field vane and torque wrench. 4. Hydraulically pushed 4-inch diameter steel casing, no hammer used to drive casing.									
Stratification lines represent approximate boundaries between soil types; transitions may be gradual. * Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.									
Boring No.: EB-SNR-101								Page 1 of 3	

Maine Department of Transportation				Project: Scarborough Eastern Trail Project				Boring No.: EB-SNR-103			
Soil/Back Exploration Log				Location: Scarborough, Maine				WIN: 019426.10			
US UNITS											
Drillers:		Great Works Test Boring		Elevation (ft.):				Auger ID/OD:		-	
Operator:		Jeff Lee		Datum:				Sampler:		SPT Split-Barrel	
Logged By:		D. Walker		Rig Type:		CME TS		Hammer Wt./Fall:		140lbs / 30 Inches	
Date Start/Finish:		07/12/2016		Drilling Method:		Drive + Wash		Core Barrels:			
Boring Location:		See Exp. Location Plan		Casing ID/OD:		4-inch		Water Level/Ft:		3'	
Definitions:				Definitions:				Definitions:			
D = Split Spoon Sample				S _u = In Situ Field Vane Shear Strength (psf)				W = water content, percent			
M = Unsuccessful Split Spoon Sample attempt				T _u = Pocket Torque Shear Strength (psf)				LL = Liquid Limit			
U = Thin Wall Tube Sample				q _u = Unconfined Compressive Strength (psf)				PL = Plastic Limit			
R = Rock Core Sample				S _{u(g)} = Lab Vane Shear Strength (psf)				PI = Plasticity Index			
V = In Situ Vane Shear Test				W = weight of 140lb. hammer				G = Grain Size Analysis			
SS = Split Stem Auger				SS = weight of rate				C = Consolidation Test			
Sample Information											
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows / 6 in. (1 in. = 12 in.)	N-value	Coring	Elevation (ft.)	Graphic Log	Visual Description and Remarks		Laboratory Testing Results/ASHTO and Unified Class
5	S-1	24/14	0.0 - 2.0					-0.3		TOPSOIL AND ORGANIC MATERIAL (2 inches). SANDY SILT (ML): Very loose, moist, silt, some fine sand. Little clay, mottled near top.	-0.3
10	S-2	24/24	5.0 - 7.0					-5.0		SILTY CLAY (CL): Very soft, wet, clay with some silt, gray.	-5.0
15	S-3	24/12	10.0 - 12.0		3			-10.0		Attempted vane, too firm to advance, proceed with split-barrel sample. SILTY SAND (SM): Very loose, wet, coarse to fine sand. Little silt, with fine gravel, organic odor, gray to dark gray.	-10.0
20	S-4	24/16	15.0 - 17.0		2			-15.0		SILTY CLAY (CL): Soft to medium, wet, clay, some silt.	-15.0
25	S-5	24/24	20.0 - 27.0							65x130 mm raw torque readings: FV-1: 66.0/6.0 ft-lbs FV-2: 53.0/4.0 ft-lbs	
30											
Remarks:											
1. RWGA Project No. 0600-102											
2. SPT N-Values are uncorrected.											
3. Shear vane data collected using 3-5/8" field vane and torque wrench.											
4. Hydraulically pushed 4-inch diameter steel casing, no hammer used to drive casing.											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.											
Page 1 of 3											
* Some test readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than present at the time measurements were made.											
Boring No.: EB-SNR-103											

Maine Department of Transportation				Project: Scarborough Eastern Trail Project				Boring No.: EB-SNR-103			
Soil/Back Exploration Log				Location: Scarborough, Maine				WIN: 019426.10			
US UNITS											
Driller:		Great Works Test Boring		Elevation (ft.):		Datum:		Auger ID/OD:		-	
Operator:		Jeff Lee		Rig Type:		CME TS		Sampler:		SPT Split-Barrel	
Logged By:		D. Walker		Drilling Method:		Drive + Wash		Hammer Wt./Fall:		140 lbs / 30 Inches	
Date Start/Finish:		07/12/2016		Casing ID/OD:		4-inch		Core Barrels:		-	
Boring Location:		See Exp. Location Plan		Coring Method:		In-situ		Water Level/Ft:		3'	
Definitions:				Definitions:				Definitions:			
D = Split Spoon Sample				S _u = In Situ Field Vane Shear Strength (psf)				W = water content, percent			
M = Unsuccessful Split Spoon Sample attempt				T _u = Pocket Torque Shear Strength (psf)				LL = Liquid Limit			
U = Thin Wall Tube Sample				q _u = Unconfined Compressive Strength (psf)				PL = Plastic Limit			
R = Rock Core Sample				S _{u(g)} = Lab Vane Shear Strength (psf)				PI = Plasticity Index			
V = In Situ Vane Shear Test				W = Weight of 140lb. hammer				S _{u(g)} = Lab Vane Shear Strength (psf)			
SS = Split Stem Auger				SS = Split Stem Auger				C = Consolidation Test			
Sample Information											
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows / 6 in. (1 in. = 12 in.)	Blows / 6 in. (1 in. = 12 in.)	N-value	Coring	Elevation (ft.)	Graphic Log	Visual Description and Remarks	
30	FV-3		30.0 - 31.7	Residual Split-100 pcf	Residual Split-100 pcf					65x130 mm raw torque readings: FV-3: 77.0/10.0 ft-lbs FV-4: 75.0/10.0 ft-lbs	
35	S-6	24/24	35.0 - 37.0			MOH				Too stiff for attempted vane test. Proceed with split-spoon sample.	
40	S-7	24/24	40.0 - 42.0			4		-41.0		SILT (ML): Soft, wet, silt, few fine sand, trace clay, gray.	
45	S-8	24/6	45.0 - 47.0			MOH		-46.0		Too stiff for attempted vane test. Proceed with split-spoon sample.	
50	S-9	24/20	50.0 - 52.0			MOH		-50.0		SAND (SP): Very loose to medium dense, wet, fine sand, few silt, gray.	
55	S-10	24/24	55.0 - 57.0			10					
Remarks:											
1. RWGA Project No. 0600-102											
2. SPT N-Values are uncorrected.											
3. Shear vane data collected using 3-5/8" field vane and torque wrench.											
4. Hydraulically pushed 4-inch diameter steel casing, no hammer used to drive casing.											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.											
Page 2 of 3										Boring No.: EB-SNR-103	

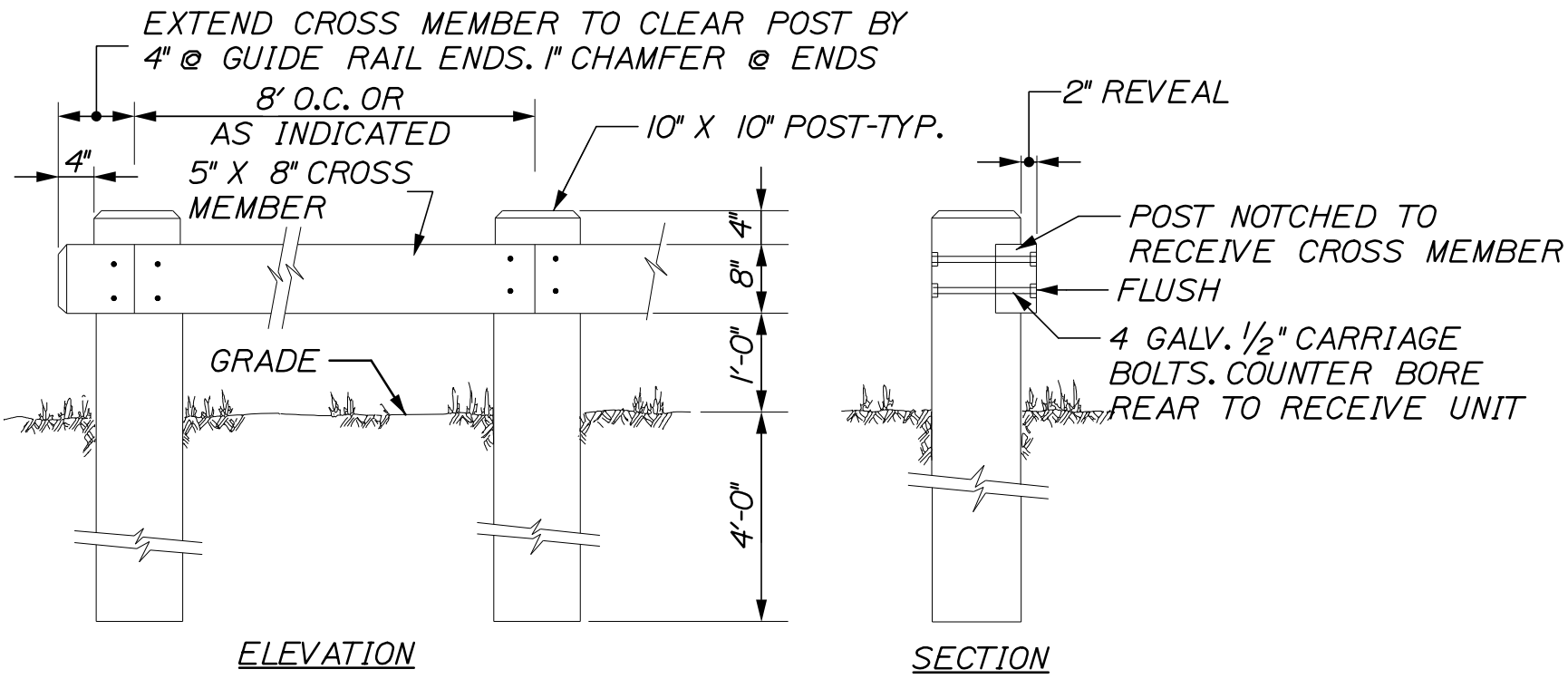
Maine Department of Transportation						Project: Scarborough Eastern Trail Project		Boring No.:		EB-SNR-103																									
Soil/Back Exploration Log						Location: Scarborough, Maine		WIN:		019426.10																									
US UNITS																																			
Driller:		Great Works Test Boring		Elevation (ft.):		Auger ID/OD:		-																											
Operator:		Jeff Lee		Datum:		Sampler:		SPT Split-Barrel																											
Logged By:		D. Walker		Rig Type:		CME TS		Hammer Wt./Fall:		140lbs / 30 Inches																									
Date Start/Finish:		07/12/2016		Drilling Method:		Drive + Wash		Core Barrels:																											
Boring Location:		See Exp. Location Plan		Casing ID/OD:		4-inch		Water Level/Ft:		3'																									
Definitions: D = Split Spoon Sample M = Unsuccessful Split Spoon Sample attempt U = Thin Wall Tube Sample R = Rock Core Sample V = In Situ Vane Shear Test SS = Split Stem Auger						Definitions: S _u = In Situ Field Vane Shear Strength (psf) T _u = Pocket Torque Shear Strength (psf) q _u = Unconfined Compressive Strength (psf) S _{u(g)} = Lab Vane Shear Strength (psf) W = Weight of 140lb. hammer SS = Split Stem Auger						Definitions: W = water content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index S _{u(g)} = Lab Vane Shear Strength (psf) W = Weight of 140lb. hammer SS = Split Stem Auger																							
Sample Information												Visual Description and Remarks												Laboratory Testing Results/ASHTO and Unified Class											
Depth (ft.)		Sample No.		Pen./Rec. (in.)		Sample Depth (ft.)		Blows / 6 in. (1 in. = 12 in.)		N-value		Coring		Elevation (ft.)		Graphic Log																			
60		S-11		18/18		60.0		61.5						-62.0				Becomes medium dense, gray to brown.																	
																		Bottom of Exploration at 62.0 feet below ground surface. Not Refused.																	
65																																			
70																																			
75																																			
80																																			
85																																			
90																																			
95																																			
100																																			
Remarks:																																			
1. RFGSA Project No. 0600-102																																			
2. SPT N-Values are uncorrected.																																			
3. Shear vane data collected using 3-5/8"x9" field vane and torque wrench.																																			
4. Hydraulic/Tool Pushed 4-inch diameter cone casing, no hammer used to drive casing.																																			
Stratification lines represent approximate boundaries between soil types; transitions may be gradual.																								Page 3 of 3											
* Note: Level readings have been used at times and color conditions stored. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.																								Boring No.: EB-SNR-103											

Date:3/10/2025

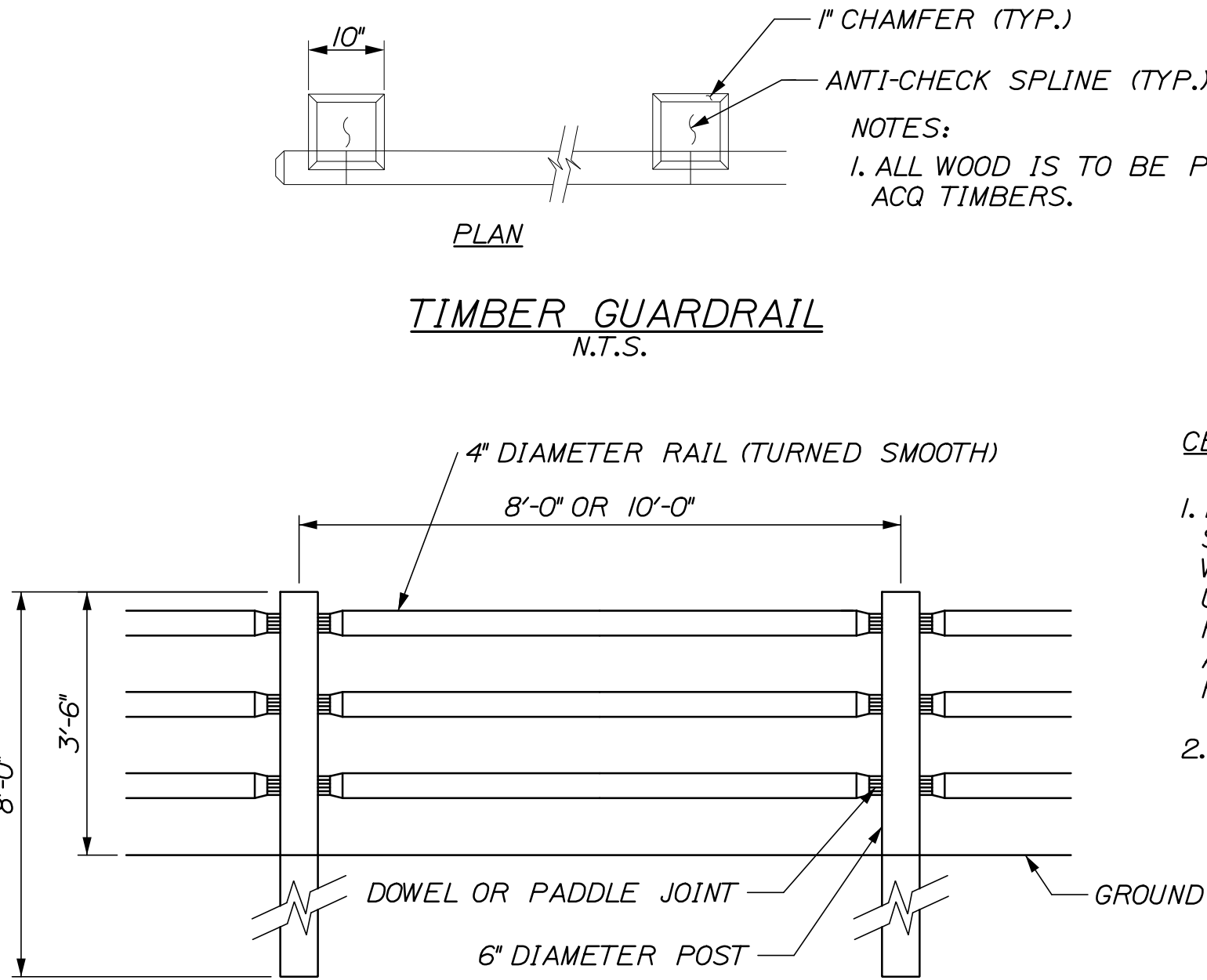
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Division:

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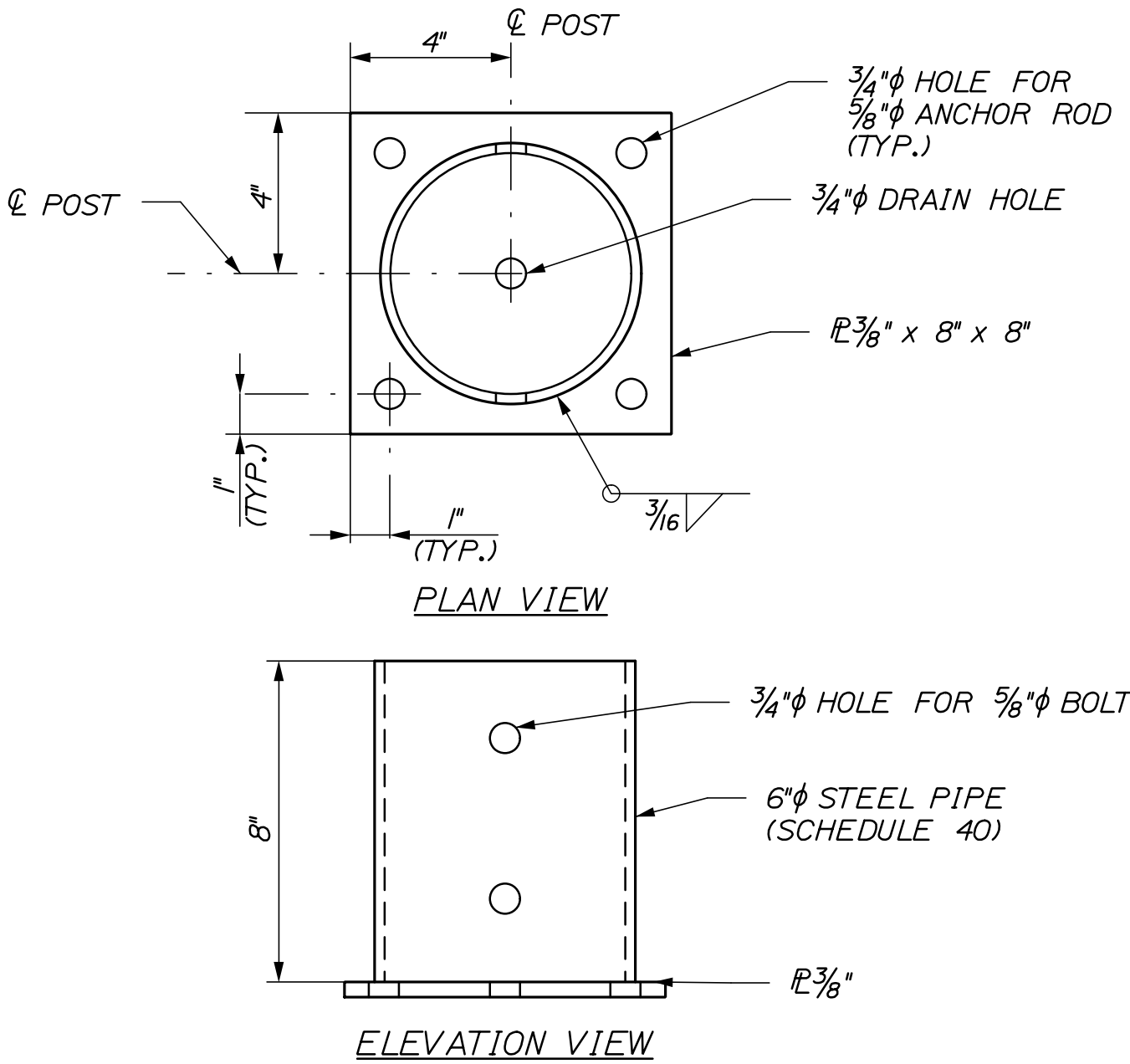
TIMBER GUARDRAIL
N.T.S.



CEDAR RAIL FENCE
N.T.S.

CEDAR RAIL FENCE NOTES:

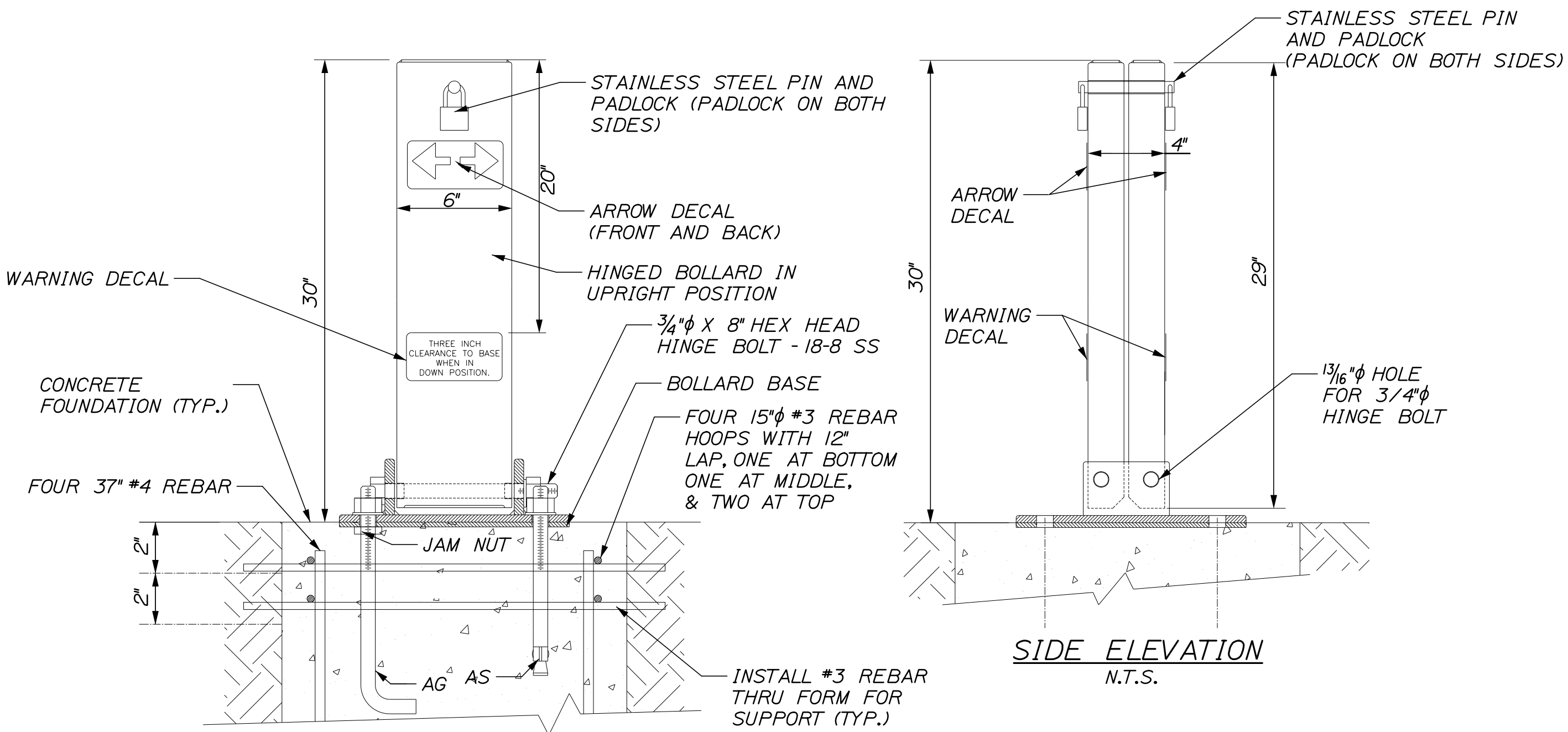
1. FENCE SHALL BE INSTALLED IN THE SHOULDER WHERE NOTED ON PLANS OR WHERE DIRECTED BY THE RESIDENT. USE OF FENCE IS INTENDED FOR PROTECTION OF SLOPES 2:1 OR GREATER AND HIGHER THAN 5' IN HEIGHT AND TO RESTRICT ACCESS WHERE NECESSARY.
2. ALL WOOD IS TO BE WHITE CEDAR.



CEDAR RAIL FENCE POST ANCHORAGE DETAIL
N.T.S.

CEDAR RAIL FENCE POST ANCHORAGE NOTES:

1. ANCHORAGES FOR CEDAR RAIL FENCE SHALL BE USED WHERE EXISTING CONCRETE LIMIT RAIL POST EMBEDMENT TO THREE FEET OR LESS.
2. STEEL PLATE SHALL CONFORM TO ASTM A36, STEEL PIPE SHALL CONFORM TO ASTM A500, CLASS B.
3. BOLTS FOR SECURING RAILING POSTS TO ANCHORAGE SHALL BE 5/8" DIAMETER CONFORMING TO ASTM A307 OR ASME B18.2.1, GRADE 5. ANCHOR RODS SHALL CONFORM TO ASTM F1554, GRADE 55.
4. ALL ASSEMBLIES AND HARDWARE SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM A153 AND ASTM A123 AS APPLICABLE.
5. ANCHOR RODS SHALL BE DRILLED AND GROUTED INTO THE EXISTING CONCRETE USING A MATERIAL LISTED ON THE MAINEDOT QUALIFIED PRODUCTS LIST OF EPOXY ANCHORING MATERIALS. THE DEPTH OF EMBEDMENT SHALL BE SUFFICIENT TO DEVELOP THE FULL YIELD STRENGTH OF THE ROD.
6. ANCHORAGES SHALL BE SHIMMED AS NEEDED TO ALLOW THE RAILING POST TO BE INSTALLED PLUMB.
7. THE FABRICATION AND INSTALLATION OF ANCHORAGES, DRILLING AND GROUTING ANCHOR RODS, SHIMMING, AND INSTALLING FENCE POSTS SHALL BE INCIDENTAL TO THE CEDAR RAIL FENCE PAY ITEM.



FRONT ELEVATION
N.T.S.

COLLAPSIBLE BOLLARD NOTE:
DOUBLE HINGED COLLAPSIBLE BOLLARDS
AS MANUFACTURED BY:

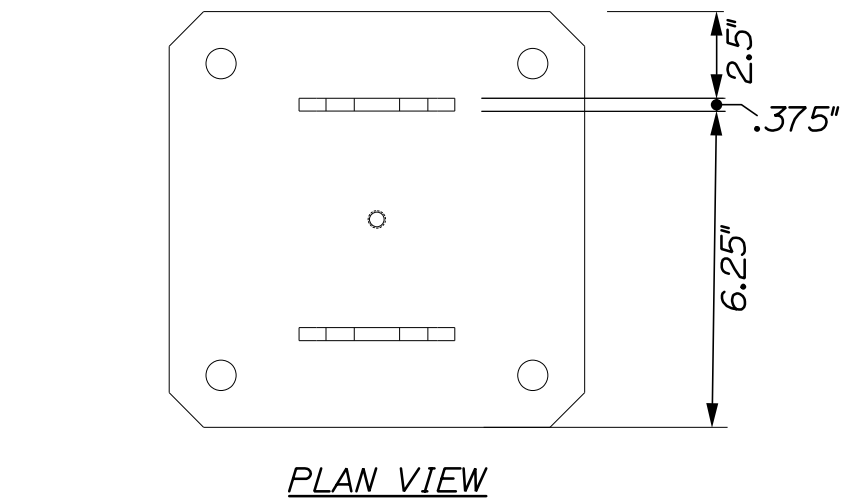
TRAFFIC GUARD LLC MODEL #DHB

CHOICE OF ANCHORAGE SYSTEMS:

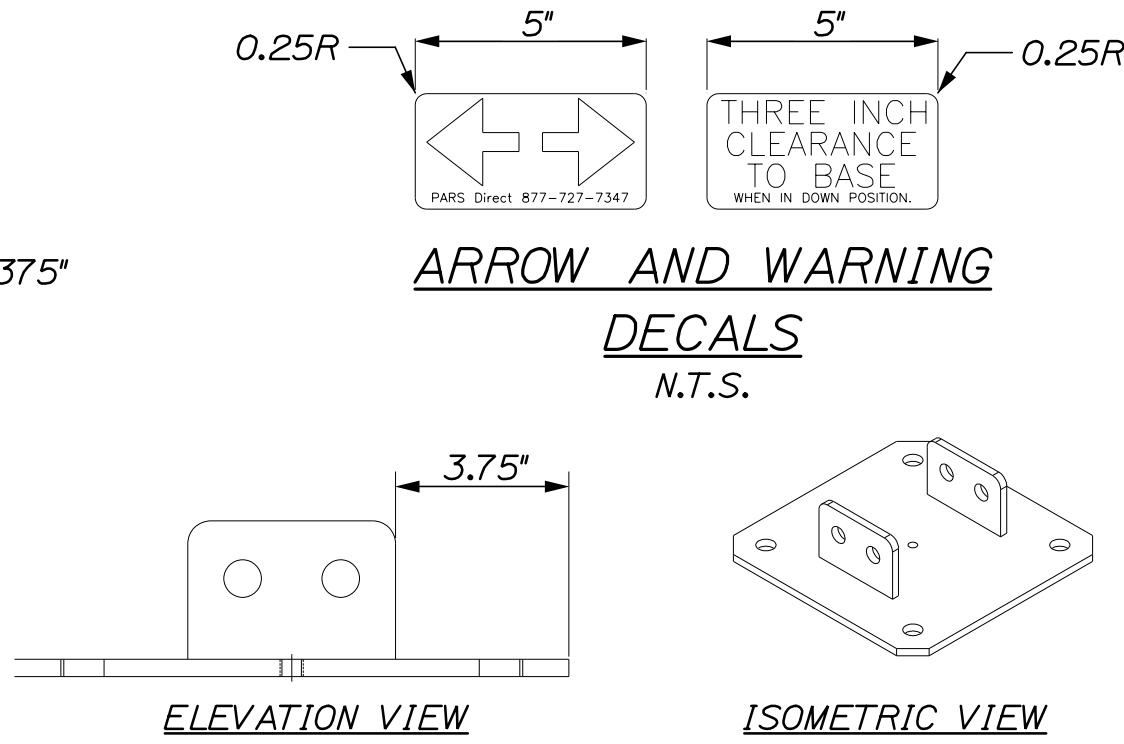
"AS" - 3/4" x 10" EXPANSION ANCHOR
ASTM SS316 HILTI KWIK BOLT II CATALOG
*00045490 WITH HEX HEAD NUT AND
TYPE "A" FLAT WASHER. INSTALL PER
SPECIFICATION AND AS NOTED.

"AG" - 3/4" x 12" ASTM A36 L-HOOK
ANCHOR BOLT WITH HEX HEAD NUT AND
TYPE "A" FLAT WASHER, ALL H.D. GALVANIZED.
INSTALL PER SPECIFICATION AND AS NOTED.

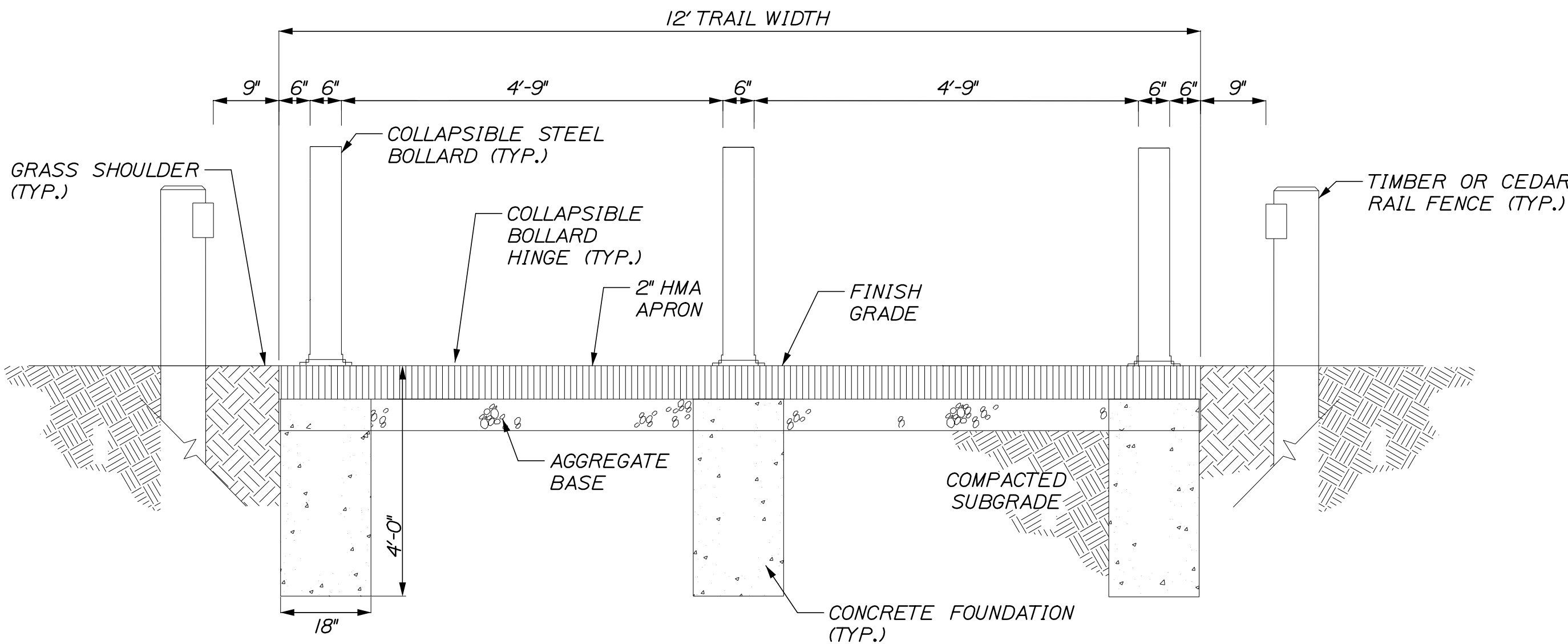
OR APPROVED EQUAL



COLLAPSIBLE BOLLARD DETAIL
N.T.S.



BASE
N.T.S.



COLLAPSIBLE BOLLARDS
N.T.S.

NOTE: AT LOCATIONS WITH A 10' TRAIL WIDTH,
A SINGLE BOLLARD SHALL BE PLACED IN
THE CENTER OF THE TRAIL

HNTB

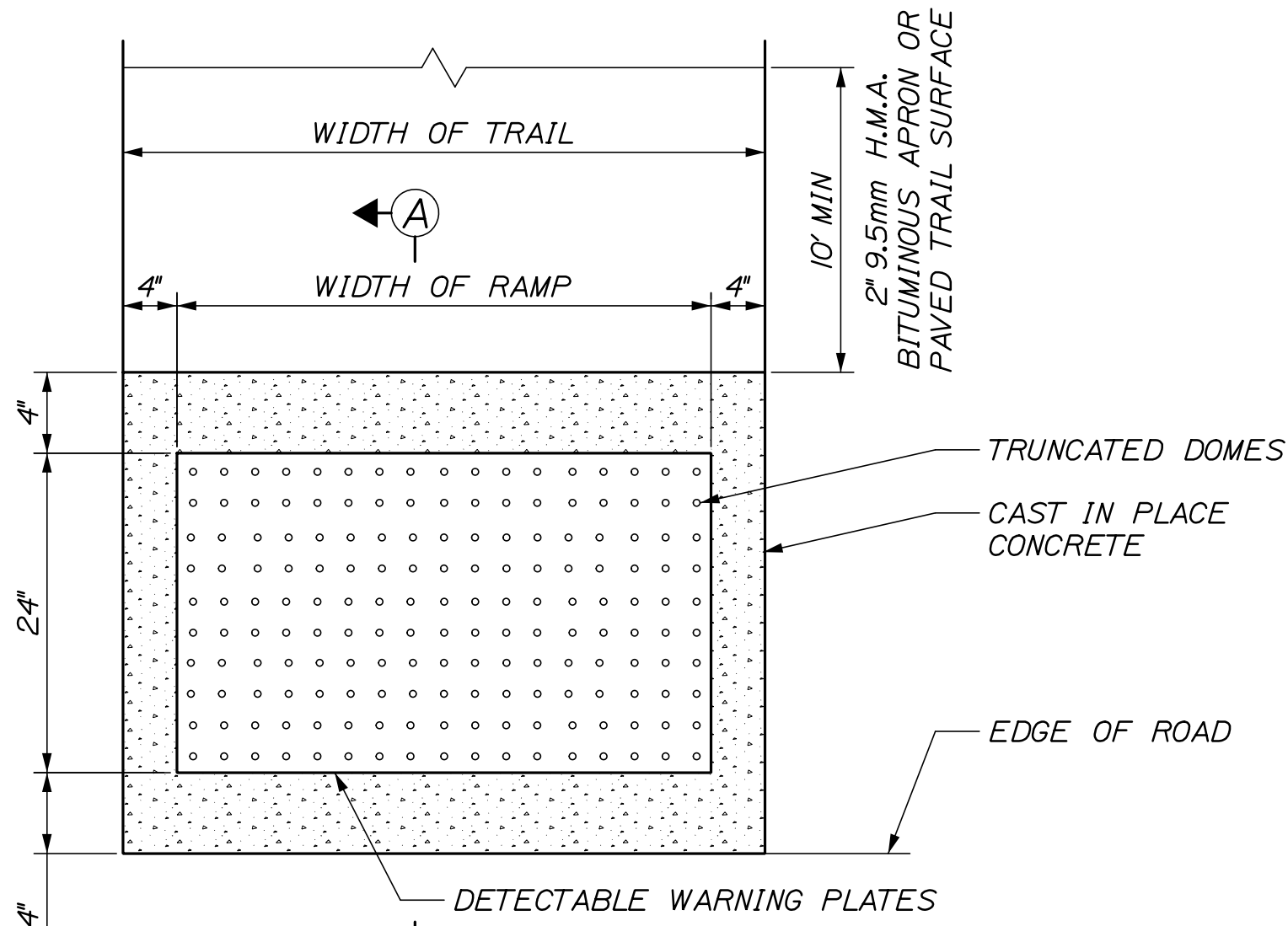
STATE OF MAINE				DEPARTMENT OF TRANSPORTATION				AC-STP-1942(600)X & CMAQ-1942(610)				WIN				19426.00 & 019426.10 HIGHWAY PLANS			
TOWN OF SCARBOROUGH				EASTERN TRAIL CONNECTOR				SCARBOROUGH TO SOUTH PORTLAND, MAINE				TRAIL DETAILS I				SHEET NUMBER			
PROJ. MANAGER				DESIGN-DETAILED				CHECKED-REVIEWED				DESIGN-DETAILED				REVISIONS 1			
BILL REICH				C. Helmick				P. Bishop				J. Driscoll				-			
BY				DATE				SIGNATURE				P.E. NUMBER				DATE			
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Date: 3/10/2025

Username:

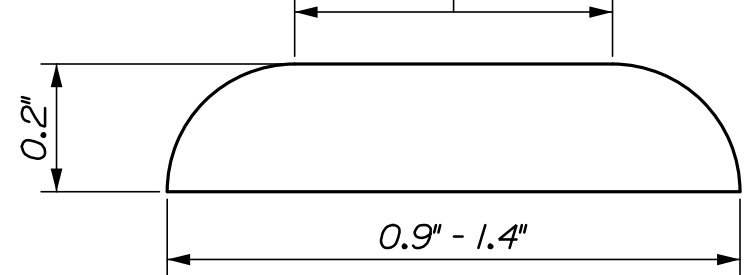
Division:

Filename: 013_TrailDetails II.dgn



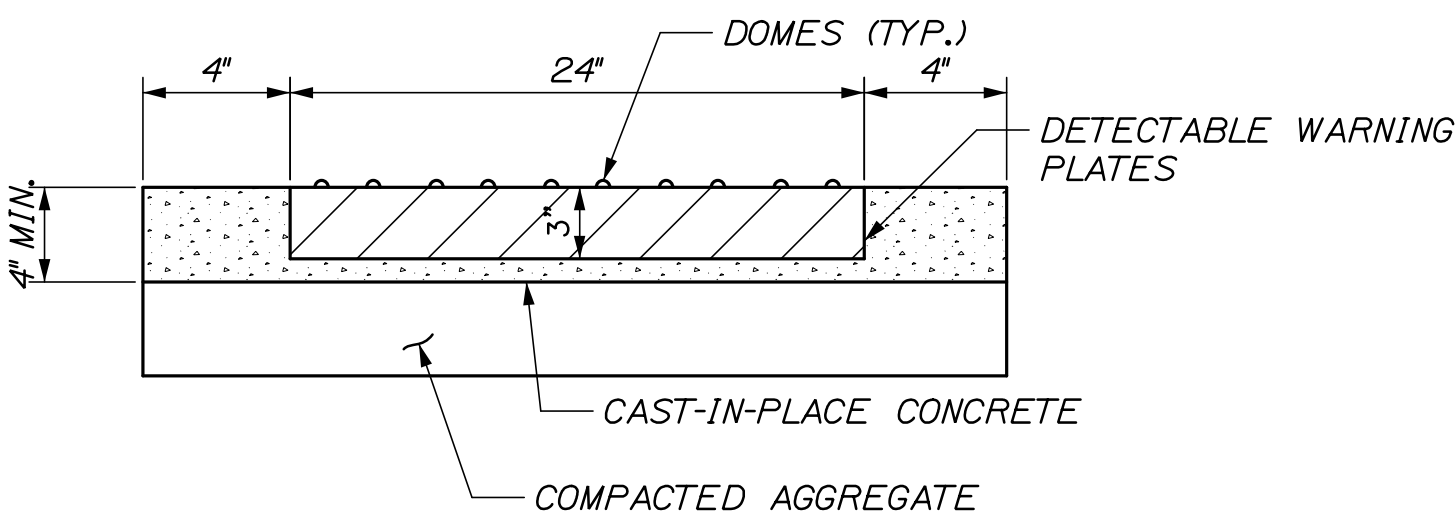
PLAN VIEW OF
DETECTABLE WARNING AND WELL

THE TOP DIAMETER OF THE TRUNCATED DOMES
SHALL BE 50% TO 65% OF THE BASE DIAMETER



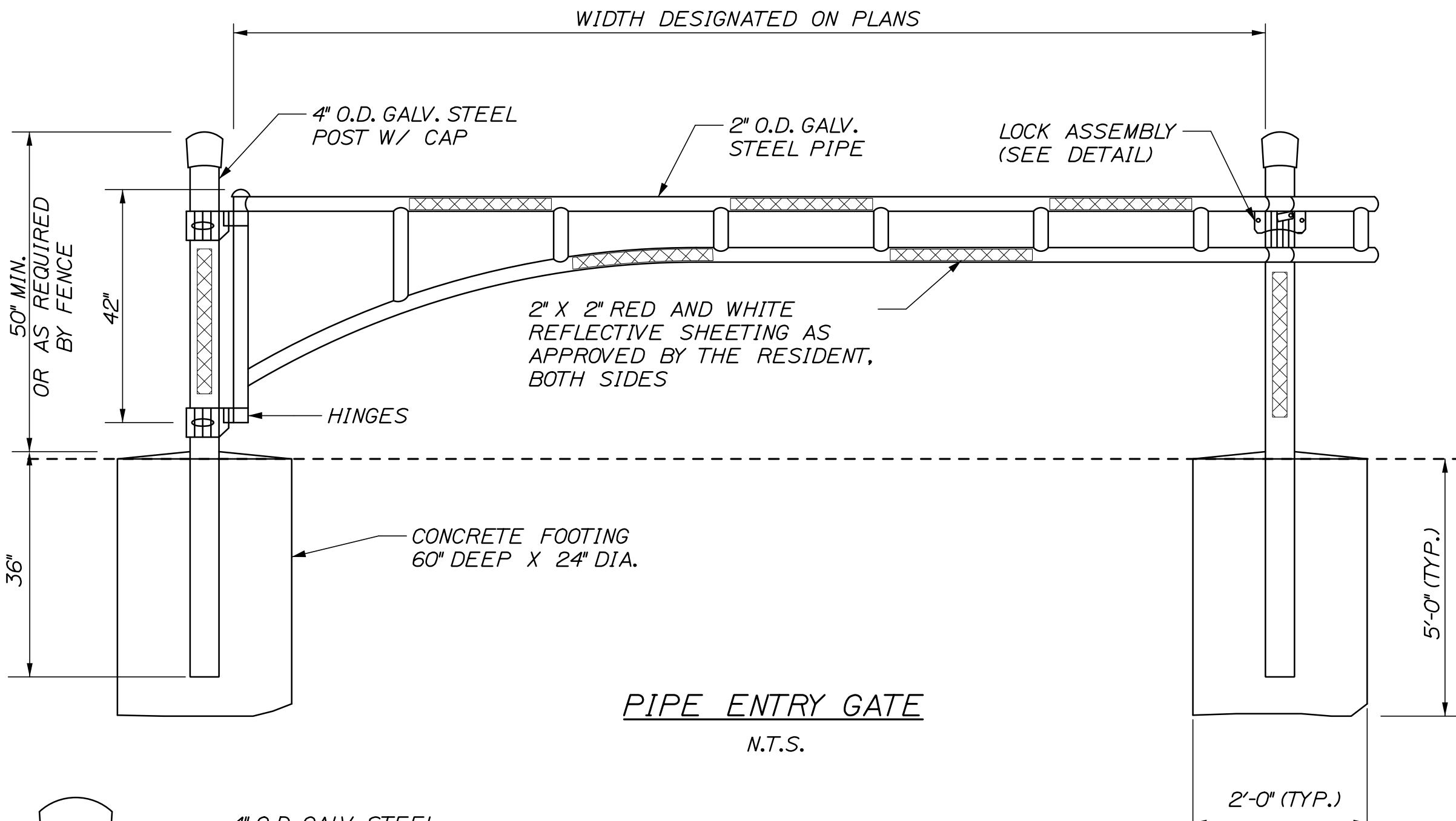
ELEVATION VIEW OF
TRUNCATED DOME

DETECTABLE WARNING FIELD DETAILS
N.T.S.

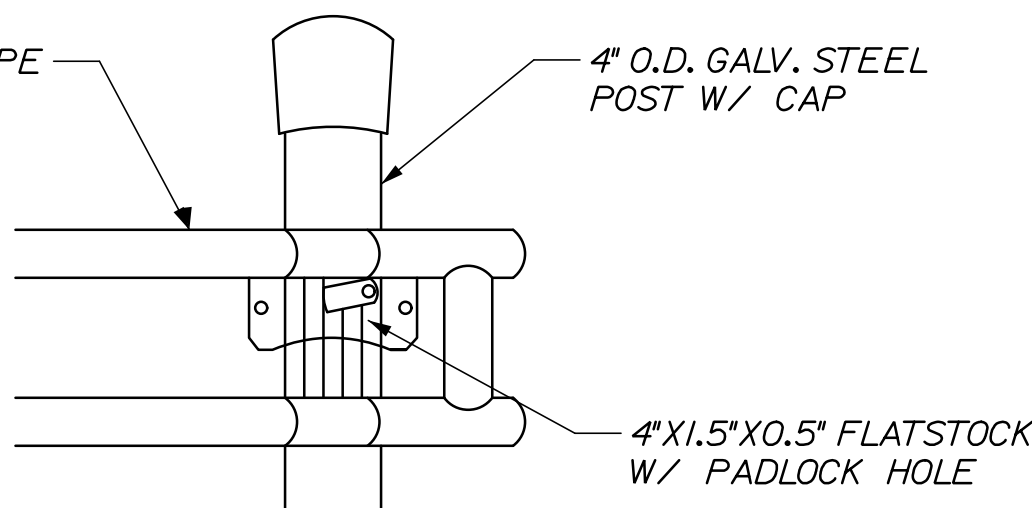


SECTION A-A

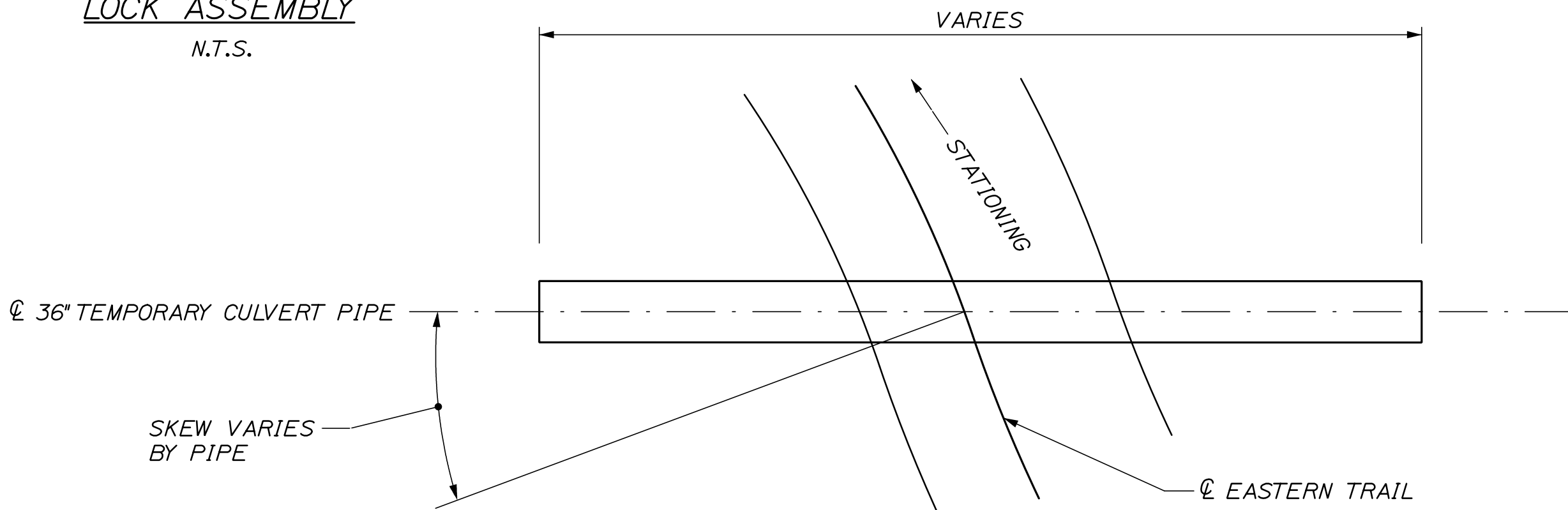
- NOTE:
1. ALL DETECTABLE WARNING AREAS SHALL START 4" FROM THE FLOW LINE OF THE CURB AND BE 24" IN DEPTH AND COVER THE COMPLETE WIDTH OF THE TRAIL.
 2. DETECTABLE WARNINGS REQUIRED AT STREET CROSSINGS.
 3. DOMES SHALL BE EQUALLY SPACED IN BOTH DIRECTIONS 1.6" TO 2.4".



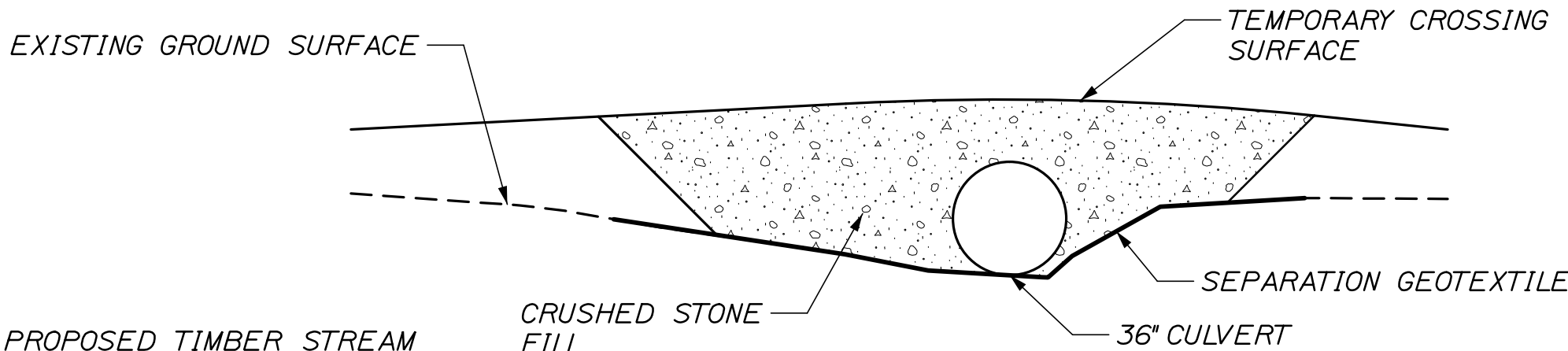
PIPE ENTRY GATE
N.T.S.



LOCK ASSEMBLY
N.T.S.



PLAN VIEW

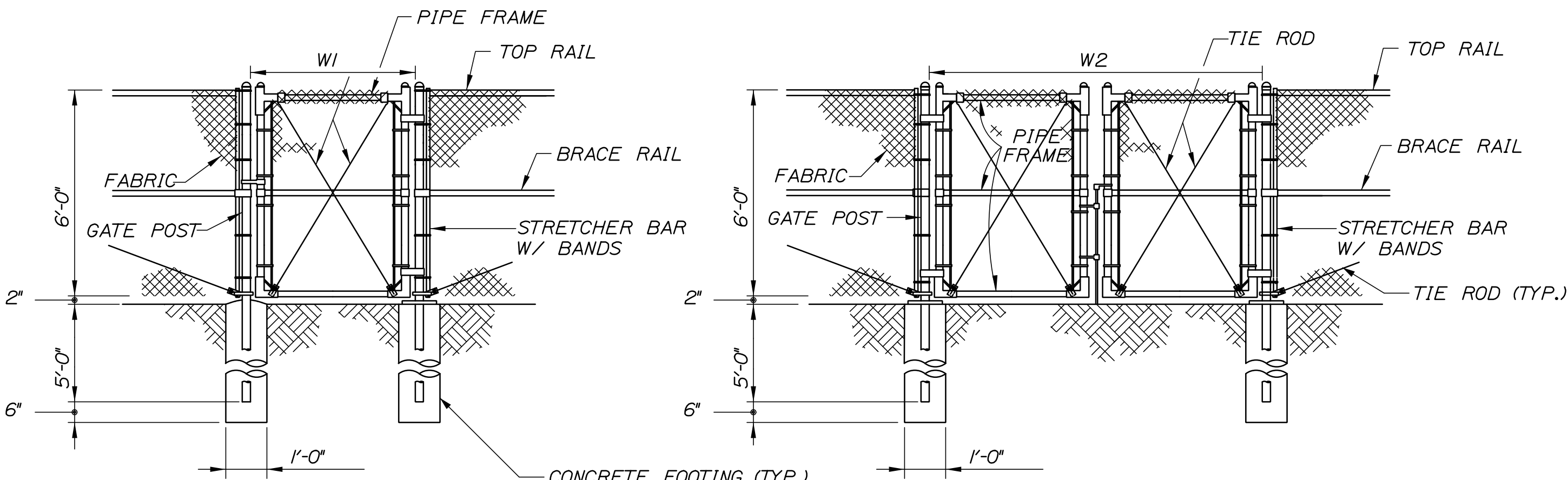


ELEVATION
(NORMAL TO STREAM; SKEW NOT SHOWN)

CONCEPTUAL TEMPORARY
CROSSING DETAIL

TEMPORARY STREAM CROSSINGS ARE LOCATED
AT THE FOLLOWING APPROXIMATE STATIONS:

STATION 162+92
STATION 174+25
STATION 175+58
STATION 176+26



SINGLE GATE

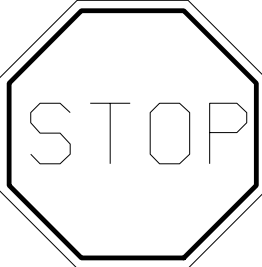
DOUBLE GATE

GATE WIDTH		GATE POST O.D.
W1	W2	
TO 6'	TO 12'	3"
6' TO 12'	12' TO 24'	4"
12' TO 18'	24' TO 36'	6"

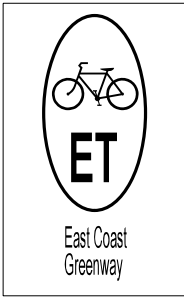
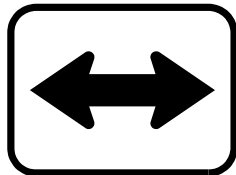
TEMPORARY STREAM CROSSING NOTES:

1. DUE TO THE LIMITED STRUCTURAL CAPACITY OF THE PROPOSED TIMBER STREAM CROSSINGS, TEMPORARY CROSSINGS, SUCH AS THOSE SHOWN CONCEPTUALLY HEREIN OR OTHER CONTRACTOR-PROPOSED AT-GRADE STRUCTURES, SHALL BE USED TO ACCESS TRAIL SECTIONS LOCATED BETWEEN STREAMS FOR THE PURPOSE OF CLEARING, GRUBBING, TRAIL CONSTRUCTION, AND OTHER ACTIVITIES NECESSITATING CROSSING THE STREAMS WITH HEAVY EQUIPMENT.
2. TEMPORARY STREAM CROSSING DETAILS PROVIDED ARE CONCEPTUAL ONLY; THE CONTRACTOR SHALL SUBMIT ACTUAL TEMPORARY CROSSING DETAILS FOR APPROVAL.
3. PAYMENT FOR INSTALLATION AND REMOVAL OF TEMPORARY STREAM CROSSINGS WILL NOT BE MADE SEPARATELY AND WILL BE CONSIDERED INCIDENTAL TO RELATED CONTRACT ITEMS, INCLUDING, BUT NOT LIMITED TO, TEMPORARY CULVERTS, CRUSHED STONE FILL, SEPARATION GEOTEXTILE, AND OTHER APPROVED MATERIALS AS WELL AS ALL LABOR AND EQUIPMENT NECESSARY TO COMPLETE THE WORK.

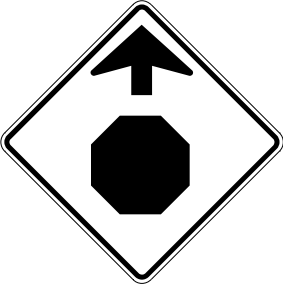
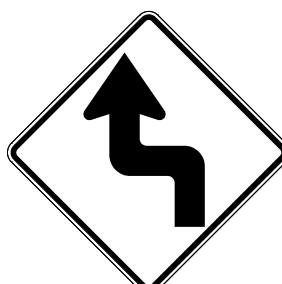
REGULATORY SIGNS

SIGN DESIGNATION		(A)	(B)
SIGN NUMBER		R1-1	R5-3
LEGEND			
COLOR	BACKGROUND	RED	WHITE
	COPY	WHITE	BLACK
SIGN DIMENSION	WIDTH, INCHES	18	24
	HEIGHT, INCHES	18	24
AREA PER SIGN (SF)		2.25	4
NUMBER OF SIGNS		8	8
TOTAL AREA (SF)		18	32

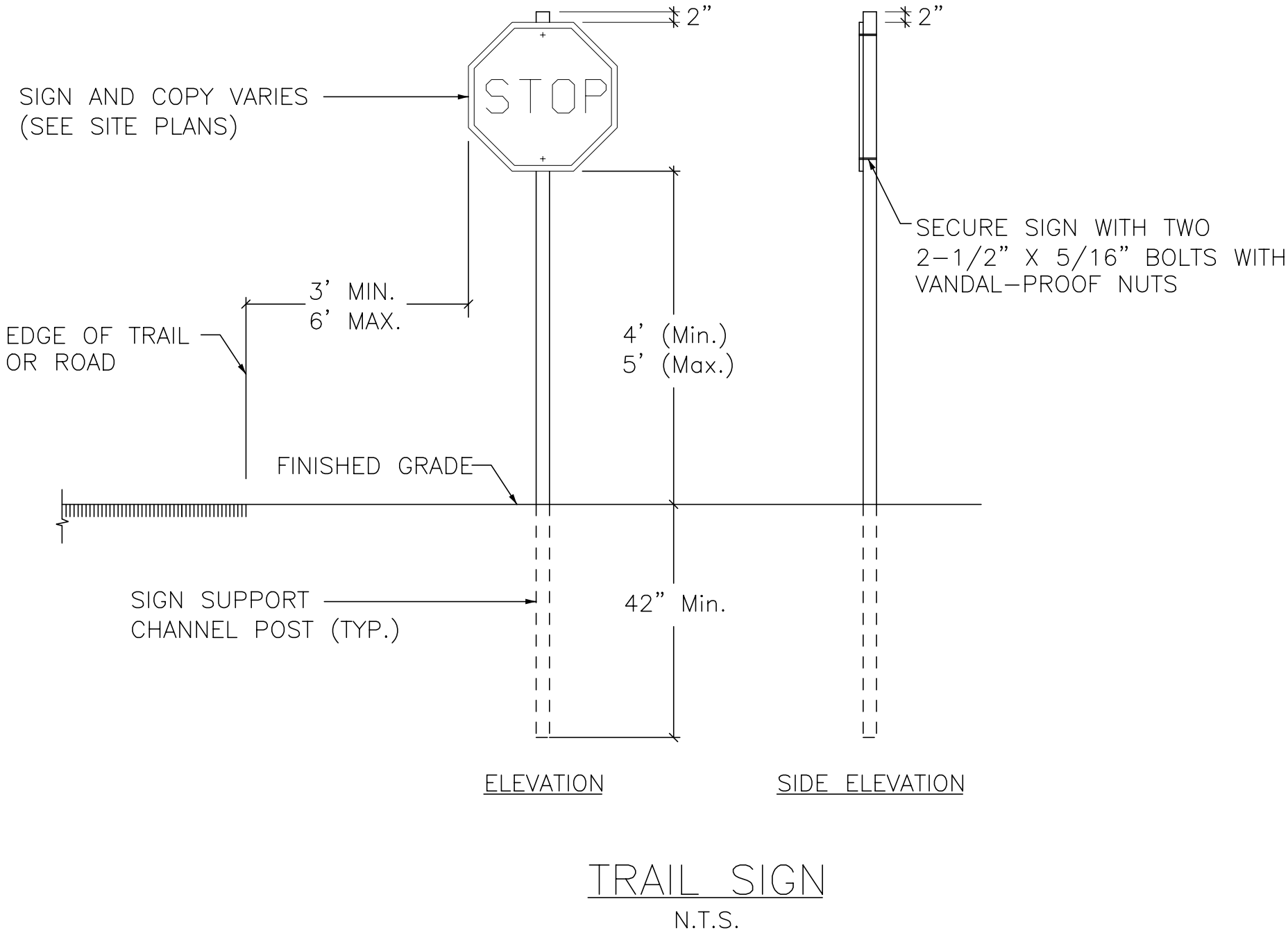
GUIDE SIGNS

SIGN DESIGNATION		(C)	(D)
SIGN NUMBER		D11-1	M7-5
LEGEND			
COLOR	BACKGROUND	TO BE SUPPLIED BY ETMD	GREEN
	COPY		WHITE
SIGN DIMENSION	WIDTH, INCHES		12
	HEIGHT, INCHES		9
AREA PER SIGN (SF)			0.75
NUMBER OF SIGNS		9	3
TOTAL AREA (SF)			2.25

WARNING SIGNS

SIGN DESIGNATION		(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)
SIGN NUMBER		W11-15	W16-7pL	W7-5	W3-1	W1-2R	W1-2L	W1-3R	W1-3L
LEGEND									
COLOR	BACKGROUND	YELLOW	YELLOW	YELLOW	YELLOW	YELLOW	YELLOW	YELLOW	YELLOW
	COPY	BLACK	BLACK	BLACK	BLACK	BLACK	BLACK	BLACK	BLACK
SIGN DIMENSION	WIDTH, INCHES	30	24	18	18	18	18	18	18
	HEIGHT, INCHES	30	12	18	18	18	18	18	18
AREA PER SIGN (SF)		6.25	2	2.25	2.25	2.25	2.25	2.25	2.25
NUMBER OF SIGNS		8	8	3	1	3	2	4	2
TOTAL AREA (SF)		50	16	6.75	2.25	6.75	5	10	5

- NOTES:**
1. ALL SIGNS SHALL BE TYPE I. REFER TO SECTION 645 FOR NUMBER AND TYPE.
2. THE ORDER SHALL BE AS NOTED ON THE PLANS.
3. SIGN POSTS WITHIN 10' OF A LOCAL ROAD SHALL BE COMPLIANT WITH BREAKAWAY STANDARDS.



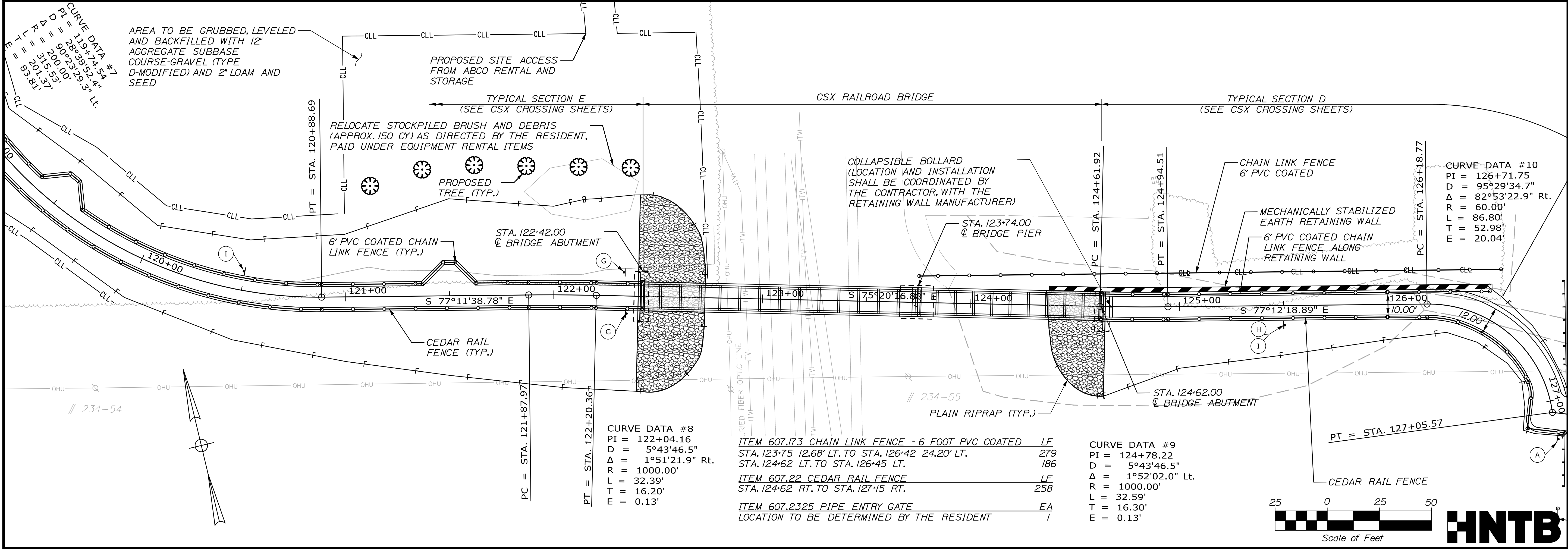
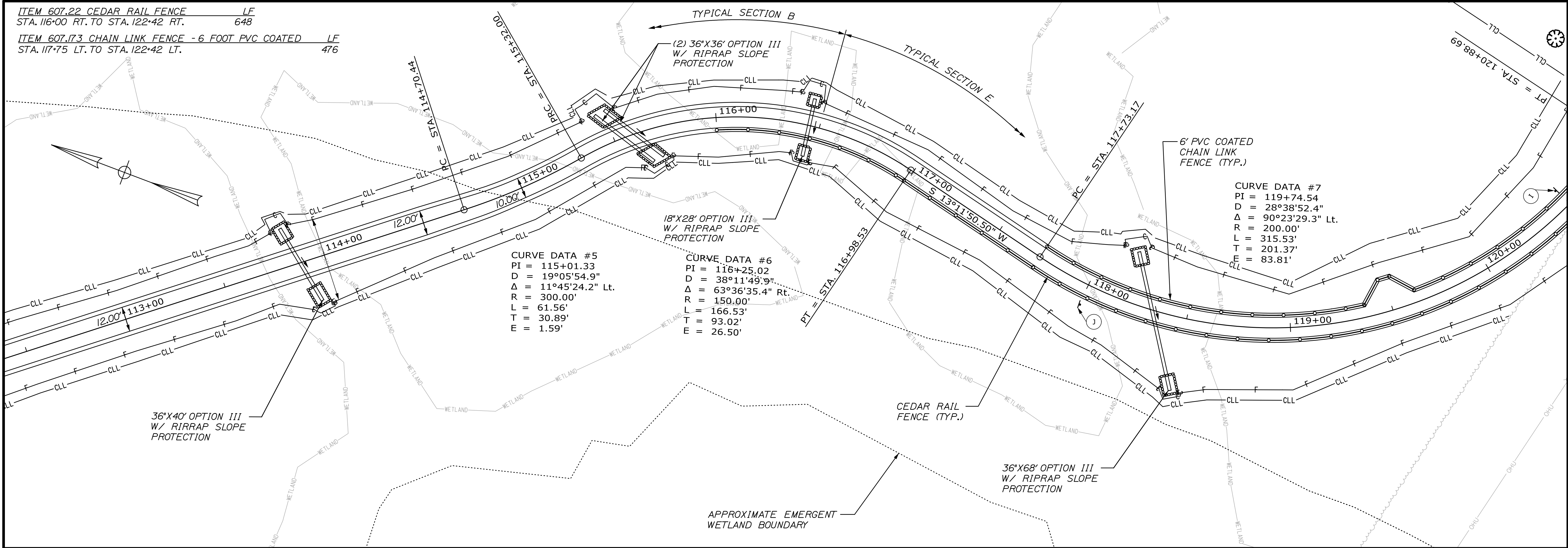
STATE OF MAINE DEPARTMENT OF TRANSPORTATION AC-STP-1942(600)X & CMAQ-1942(610)	SIGNATURE		DATE
	P.E. NUMBER		DATE
	WIN		HIGHWAY PLANS
TOWN OF SCARBOROUGH EASTERN TRAIL CONNECTOR SCARBOROUGH TO SOUTH PORTLAND, MAINE		SHEET NUMBER	
SIGN DETAILS AND SUMMARY		14 OF 69	

Date: 3/10/2025

Username:

Division:

Filename: 016_TrailPlan02.dgn



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
AC-STP-1942(600)X & CMAQ-1942(610)

WIN
19426.00 & 019426.10 HIGHWAY PLANS

PROJECT MANAGER
DESIGN-DETAILED
CHECKED-REVIEWED
DESIGN-DETAILED
REVISIONS 1
REVISIONS 2
REVISIONS 3
REVISIONS 4
FIELD CHANGES

DATE
3/2025
3/2025
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BY
P. Bishop
J. O'Neil
-
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SIGNATURE
P.E. NUMBER
DATE

TOWN OF SCARBOROUGH
EASTERN TRAIL CONNECTOR
SCARBOROUGH TO SOUTH PORTLAND, MAINE

SHEET NUMBER
16
OF 69

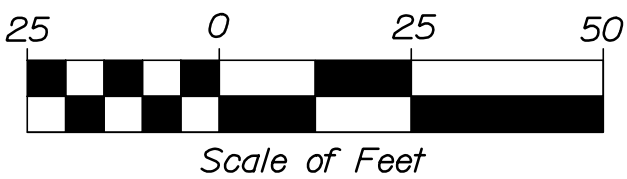
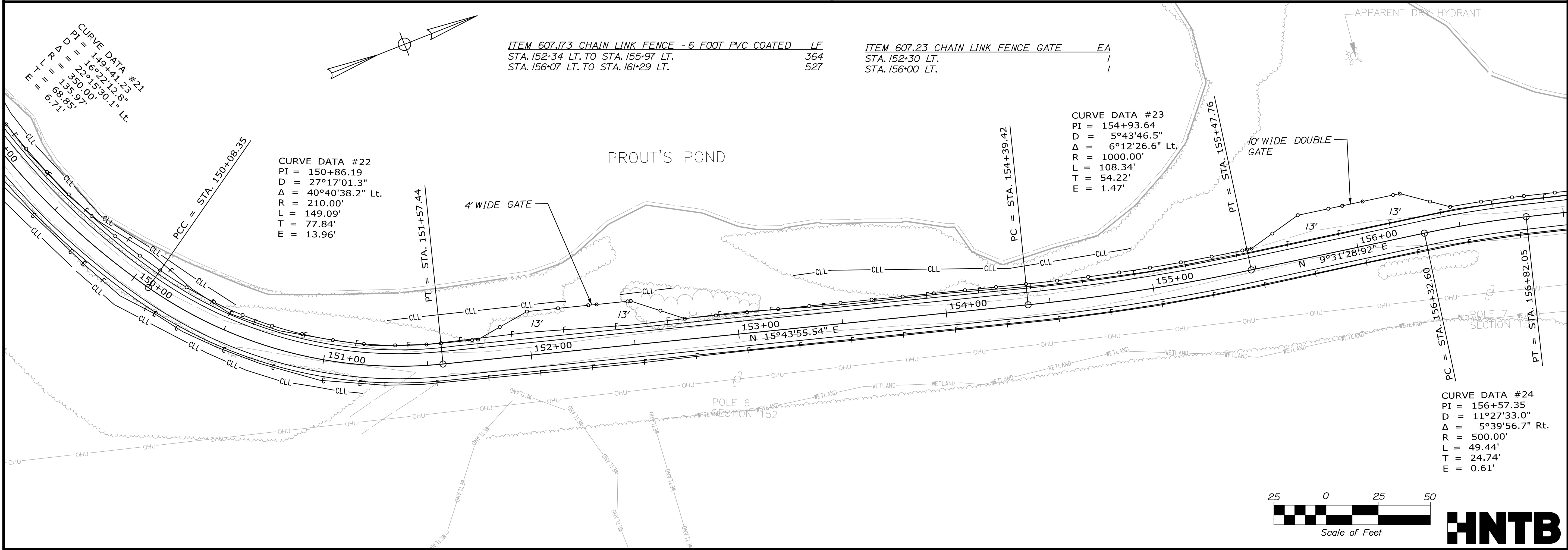
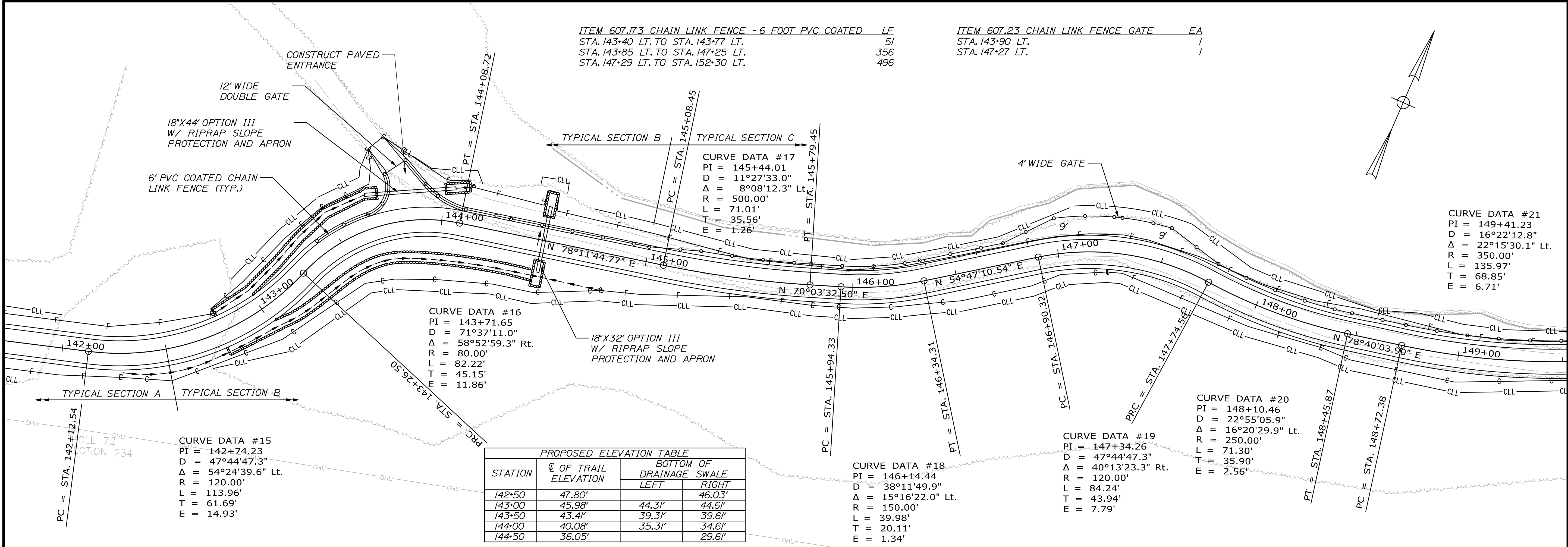
TRAIL PLAN 2

Date: 3/10/2025

Username:

Division:

Filename: 018_TrailPlan04.dgn



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
AC-STP-1942(600)X & CMAQ-1942(610)
WIN
19426.00 & 019426.10 HIGHWAY PLANS

PROJ. MANAGER
DESIGN-DETAILED
CHECKED-REVIEWED
DESIGN-DETAILED
REVISIONS 1
REVISIONS 2
REVISIONS 3
REVISIONS 4
FIELD CHANGES

DATE
3/2025
3/2025
3/2025
-
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BY
P. Bishop
J. O'Neil
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SIGNATURE
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P.E. NUMBER
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TOWN OF SCARBOROUGH
EASTERN TRAIL CONNECTOR
SCARBOROUGH TO SOUTH PORTLAND, MAINE
TRAIL PLAN 4

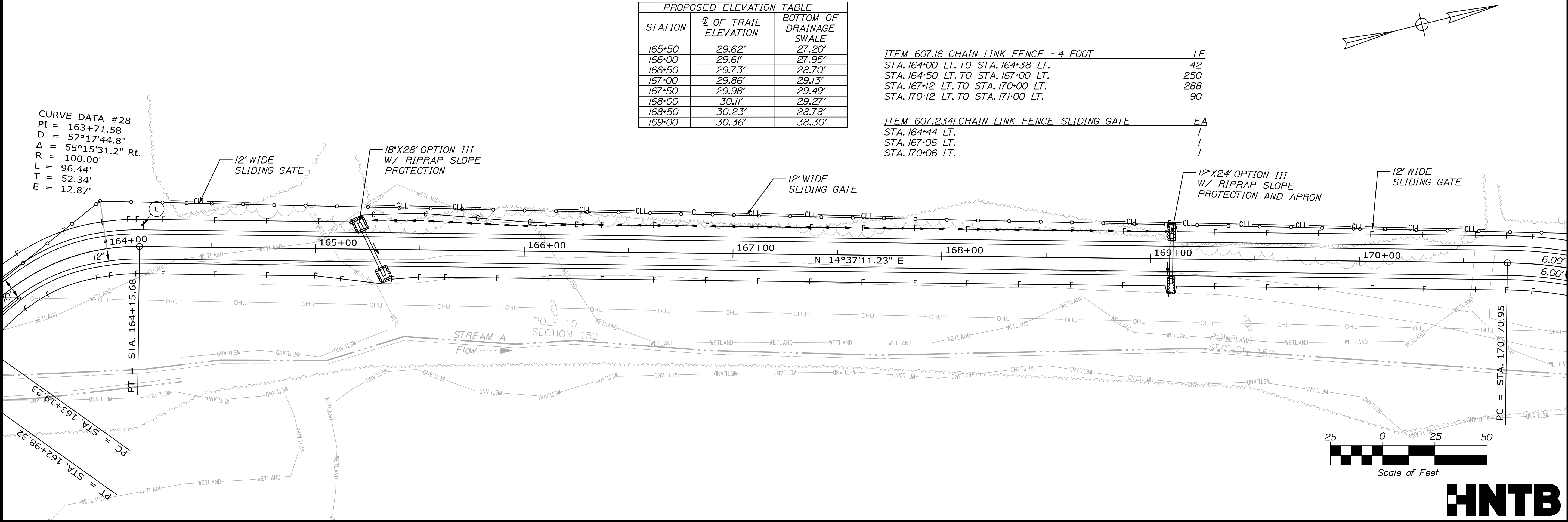
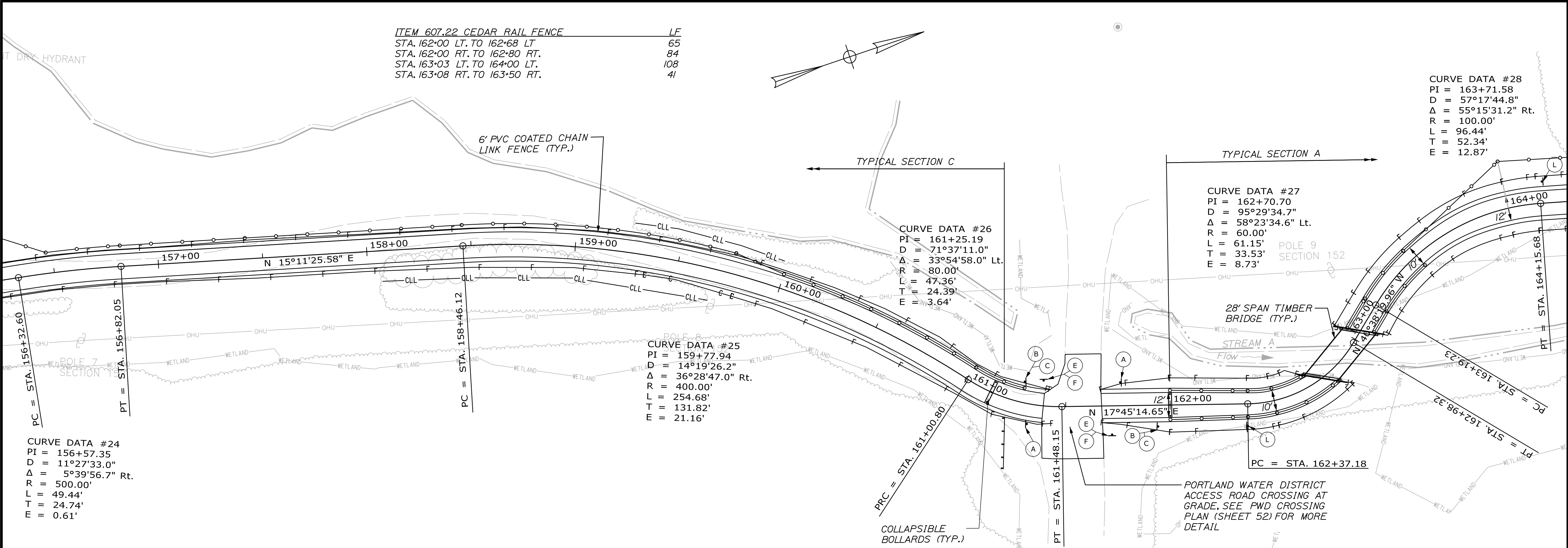
SHEET NUMBER
18
OF 69

Date: 3/10/2025

Username:

Division:

Filename: 019_TrailPlan05.dgn



PROPOSED ELEVATION TABLE		
STATION	CLL OF TRAIL ELEVATION	BOTTOM OF DRAINAGE SWALE
165+50	29.62'	27.20'
166+00	29.61'	27.95'
166+50	29.73'	28.70'
167+00	29.86'	29.13'
167+50	29.98'	29.49'
168+00	30.11'	29.27'
168+50	30.23'	28.78'
169+00	30.36'	38.30'

ITEM 607.16 CHAIN LINK FENCE - 4 FOOT	LF
STA. 164+00 LT. TO STA. 164+38 LT.	42
STA. 164+50 LT. TO STA. 167+00 LT.	250
STA. 167+12 LT. TO STA. 170+00 LT.	288
STA. 170+12 LT. TO STA. 171+00 LT.	90

ITEM 607.23(1) CHAIN LINK FENCE SLIDING GATE	EA
STA. 164+44 LT.	/
STA. 167+06 LT.	/
STA. 170+06 LT.	/

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
AC-STP-1942(600)X & CMAQ-1942(610)

WIN
19426.00 & 019426.10 HIGHWAY PLANS

PROJ. MANAGER	BILL	RECH	BY	DATE
DESIGN-DETAILED	C. Heirick	J. O'Neil	P. Bishop	3/2025
CHECKED-REVIEWED	L. Driscoll	J. O'Neil	P. Bishop	3/2025
DESIGN-DETAILED	-	-	-	-
DESIGN-DETAILED	-	-	-	-
REVISIONS 1	-	-	-	-
REVISIONS 2	-	-	-	-
REVISIONS 3	-	-	-	-
REVISIONS 4	-	-	-	-
FIELD CHANGES	-	-	-	-

SIGNATURE
P.E. NUMBER
DATE

TOWN OF SCARBOROUGH
EASTERN TRAIL CONNECTOR
SCARBOROUGH TO SOUTH PORTLAND, MAINE

SHEET NUMBER
19
OF 69

TRAIL PLAN 5

Username: Date: 3/10/2025

Division:

Filename: 020_TrailPlan06.dgn

ITEM 607.22 CEDAR RAIL FENCE
STA. 171+00 LT. TO 174+19 RT.
STA. 173+50 RT. TO 174+19 RT.
STA. 174+34 LT. TO 175+38 LT.
STA. 174+34 RT. TO 175+44 RT.
STA. 175+69 RT. TO 176+18 RT.
STA. 175+74 LT. TO 176+12 LT.
STA. 176+35 LT. TO 177+00 LT.
STA. 176+36 RT. TO 177+00 RT.

CURVE DATA #29
PI = 171+28.23
D = 28°38'52.4"
Δ = 31°57'45.1" Rt.
R = 200.00'
L = 111.57'
T = 57.28'
E = 8.04'

CURVE DATA #30
PI = 172+02.25
D = 38°11'49.9"
Δ = 14°58'56.9" Lt.
R = 150.00'
L = 39.22'
T = 19.72'
E = 1.29'

CURVE DATA #31
PI = 173+25.39
D = 19°05'54.9"
Δ = 10°52'30.3" Rt.
R = 300.00'
L = 56.94'
T = 28.56'
E = 1.36'

CURVE DATA #32
PI = 175+42.90
D = 95°29'34.7"
Δ = 27°55'59.1" Rt.
R = 60.00'
L = 29.25'
T = 14.92'
E = 1.83'

CURVE DATA #33
PI = 176+15.50
D = 114°35'29.6"
Δ = 98°44'19.3" Lt.
R = 50.00'
L = 86.17'
T = 58.27'
E = 26.78'

CURVE DATA #34
PI = 179+13.03
D = 19°05'54.9"
Δ = 31°47'52.9" Lt.
R = 300.00'
L = 166.49'
T = 85.45'
E = 11.93'

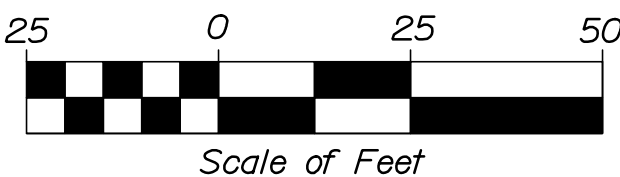
CURVE DATA #35
PI = 180+87.74
D = 95°29'34.7"
Δ = 90°53'09.0" Rt.
R = 60.00'
L = 95.18'
T = 60.93'
E = 25.52'

CURVE DATA #36
PI = 182+49.11
D = 146°54'44.1"
Δ = 88°33'23.9" Rt.
R = 39.00'
L = 60.28'
T = 38.03'
E = 15.47'

ITEM 609.11 VERTICAL CURB TYPE I
STA. 181+17 LT. TO 182+11 LT.
STA. 182+71 LT. TO 182+79 LT.

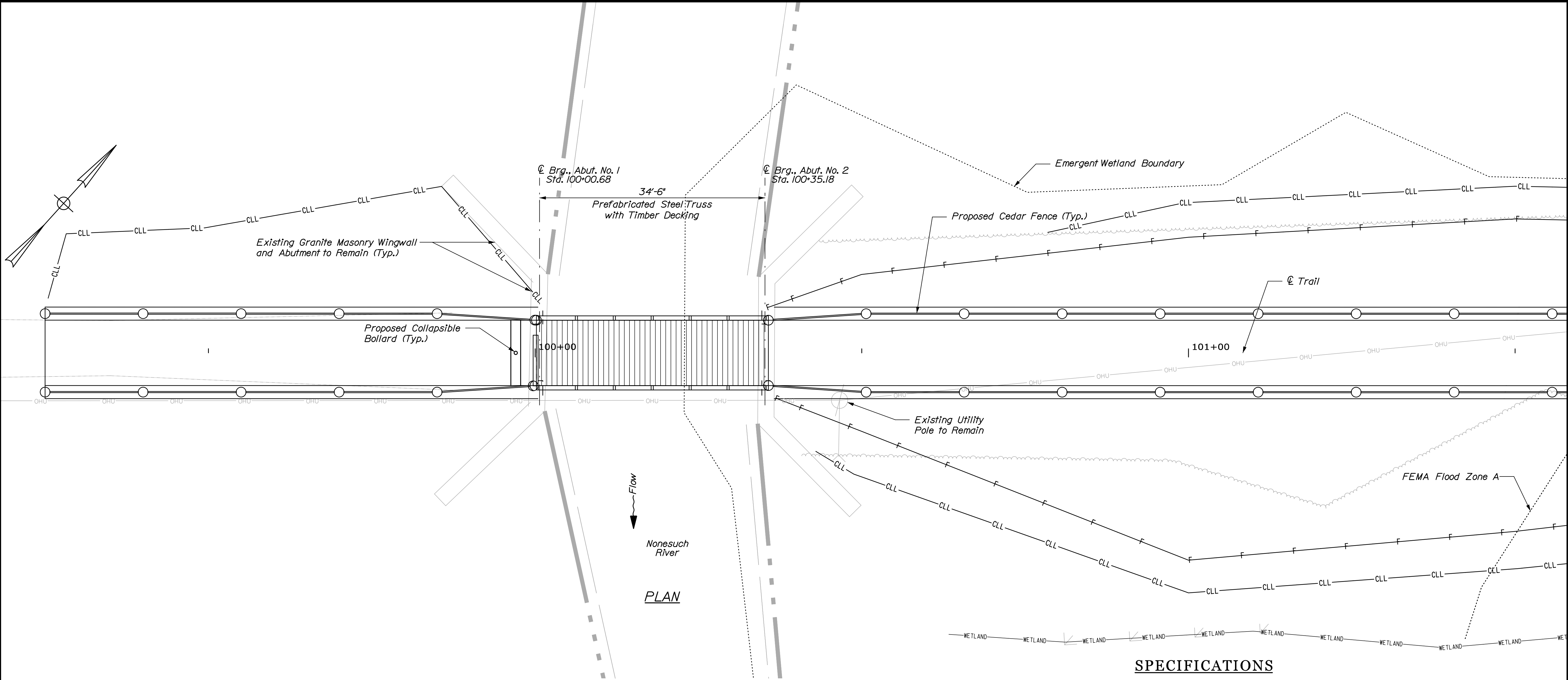
ITEM 609.12 VERTICAL CURB TYPE I - CIRCULAR
STA. 182+11 LT. TO 182+71 LT.

ITEM 609.238 TERMINAL CURB TYPE I - 8 FOOT
STA. 181+17 LT.
STA. 182+79 LT.

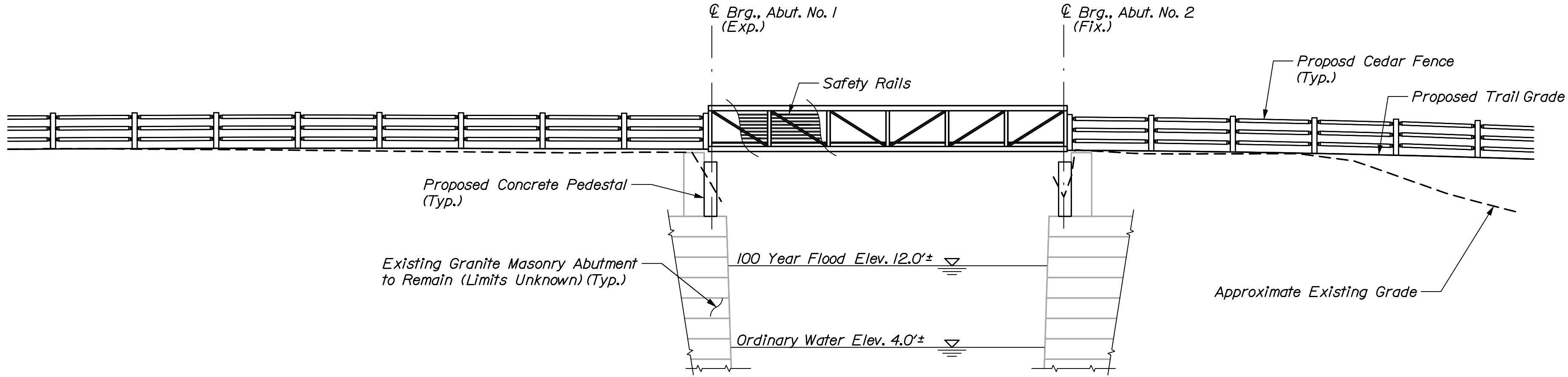


HNTB

STATE OF MAINE		DEPARTMENT OF TRANSPORTATION		AC-STP-1942(600)X & CMAQ-1942(610)		WIN		19426.00 & 019426.10 HIGHWAY PLANS	
TOWN OF SCARBOROUGH		EASTERN TRAIL CONNECTOR		SCARBOROUGH TO SOUTH PORTLAND, MAINE		TRAIL PLAN 6		SHEET NUMBER	
20		OF 69		DATE		SIGNATURE		P.E. NUMBER	
BY		DATE		DATE		DATE		DATE	
BILL REICH		3/2025		3/2025		3/2025		3/2025	
P. Bishop		C. Heirick		J. O'Neil		J. Driscoll		-	
DESIGN-DETAILED		CHECKED-REVIEWED		DESIGN-DETAILED		DESIGN-DETAILED		DESIGN-DETAILED	
REVISED 1		REVISED 2		REVISED 3		REVISED 4		FIELD CHANGES	
-		-		-		-		-	



PLAN



ELEVATION

SPECIFICATIONS

DESIGN: AASHTO LRFD Bridge Design Specifications, Ninth Edition 2020.

AASHTO LRFD Guide Specification for Design of Pedestrian Bridges and Interim Specifications through 2015.

DESIGN LOADING

Live Load: 90 p.s.f. (Pedestrian only) or H10 vehicle

MATERIALS

Concrete (Unless noted otherwise)..... Class "A"

Reinforcing Steel..... ASTM A615, Grade 60

Structural Steel..... ASTM A709, Grade 50W (Unpainted)

Timber..... Southern Yellow Pine, No. 1

BASIC DESIGN STRESSES

Concrete, Class "A"..... f'c = 4,000 psi

Reinforcing Steel, ASTM A615, Grade 60..... fy = 60,000 psi

Structural Steel:

ASTM A709, Grade 50W..... Fy = 50,000 psi

ASTM F3125, Grade A325, Type 3..... Fu = 120,000 psi

UTILITIES

Central Maine Power



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
AC-STP-1942(600)X & CMAQ-1942(610)

WIN
19426.00 & 019426.10
BRIDGE PLANS

PROJ. MGR.	DESIGN-DETAILED	CHECKED-REVIEWED	DESIGN-DETAILED	DESIGN-DETAILED	REVISIONS 1	REVISIONS 2	REVISIONS 3	REVISIONS 4	FIELD CHANGES

PROJ. MGR.	DESIGN-DETAILED	CHECKED-REVIEWED	DESIGN-DETAILED	DESIGN-DETAILED	REVISIONS 1	REVISIONS 2	REVISIONS 3	REVISIONS 4	FIELD CHANGES

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PROJ. MGR.	DESIGN-DETAILED	CHECKED-REVIEWED	DESIGN-DETAILED	DESIGN-DETAILED	REVISIONS 1	REVISIONS 2	REVISIONS 3	REVISIONS 4	FIELD CHANGES

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PROJ. MGR.	DESIGN-DETAILED	CHECKED-REVIEWED	DESIGN-DETAILED	DESIGN-DETAILED	REVISIONS 1	REVISIONS 2	REVISIONS 3	REVISIONS 4	FIELD CHANGES

PROJ. MGR.	DESIGN-DETAILED	CHECKED-REVIEWED	DESIGN-DETAILED	DESIGN-DETAILED	REVISIONS 1	REVISIONS 2	REVISIONS 3	REVISIONS 4	FIELD CHANGES

PROJ. MGR.	DESIGN-DETAILED	CHECKED-REVIEWED	DESIGN-DETAILED	DESIGN-DETAILED	REVISIONS 1	REVISIONS 2	REVISIONS 3	REVISIONS 4	FIELD CHANGES

PROJ. MGR.	DESIGN-DETAILED	CHECKED-REVIEWED	DESIGN-DETAILED	DESIGN-DETAILED	REVISIONS 1	REVISIONS 2	REVISIONS 3	REVISIONS 4	FIELD CHANGES

PROJ. MGR.	DESIGN-DETAILED	CHECKED-REVIEWED	DESIGN-DETAILED	DESIGN-DETAILED	REVISIONS 1	REVISIONS 2	REVISIONS 3	REVISIONS 4	FIELD CHANGES

PROJ. MGR.	DESIGN-DETAILED	CHECKED-REVIEWED	DESIGN-DETAILED	DESIGN-DETAILED	REVISIONS 1	REVISIONS 2	REVISIONS 3	REVISIONS 4	FIELD CHANGES

PROJ. MGR.	DESIGN-DETAILED	CHECKED-REVIEWED	DESIGN-DETAILED	DESIGN-DETAILED	REVISIONS 1	REVISIONS 2	REVISIONS 3	REVISIONS 4	FIELD CHANGES

PROJ. MGR.	DESIGN-DETAILED	CHECKED-REVIEWED	DESIGN-DETAILED	DESIGN-DETAILED	REVISIONS 1	REVISIONS 2	REVISIONS 3	REVISIONS 4	FIELD CHANGES

PROJ. MGR.	DESIGN-DETAILED	CHECKED-REVIEWED	DESIGN-DETAILED	DESIGN-DETAILED	REVISIONS 1	REVISIONS 2	REVISIONS 3	REVISIONS 4	FIELD CHANGES

PROJ. MGR.	DESIGN-DETAILED	CHECKED-REVIEWED	DESIGN-DETAILED	DESIGN-DETAILED	REVISIONS 1	REVISIONS 2	REVISIONS 3	REVISIONS 4	FIELD CHANGES

PROJ. MGR.	DESIGN-DETAILED	CHECKED-REVIEWED	DESIGN-DETAILED	DESIGN-DETAILED	REVISIONS 1	REVISIONS 2	REVISIONS 3	REVISIONS 4	FIELD CHANGES

PROJ. MGR.	DESIGN-DETAILED	CHECKED-REVIEWED	DESIGN-DETAILED	DESIGN-DETAILED	REVISIONS 1	REVISIONS 2	REVISIONS 3	REVISIONS 4	FIELD CHANGES

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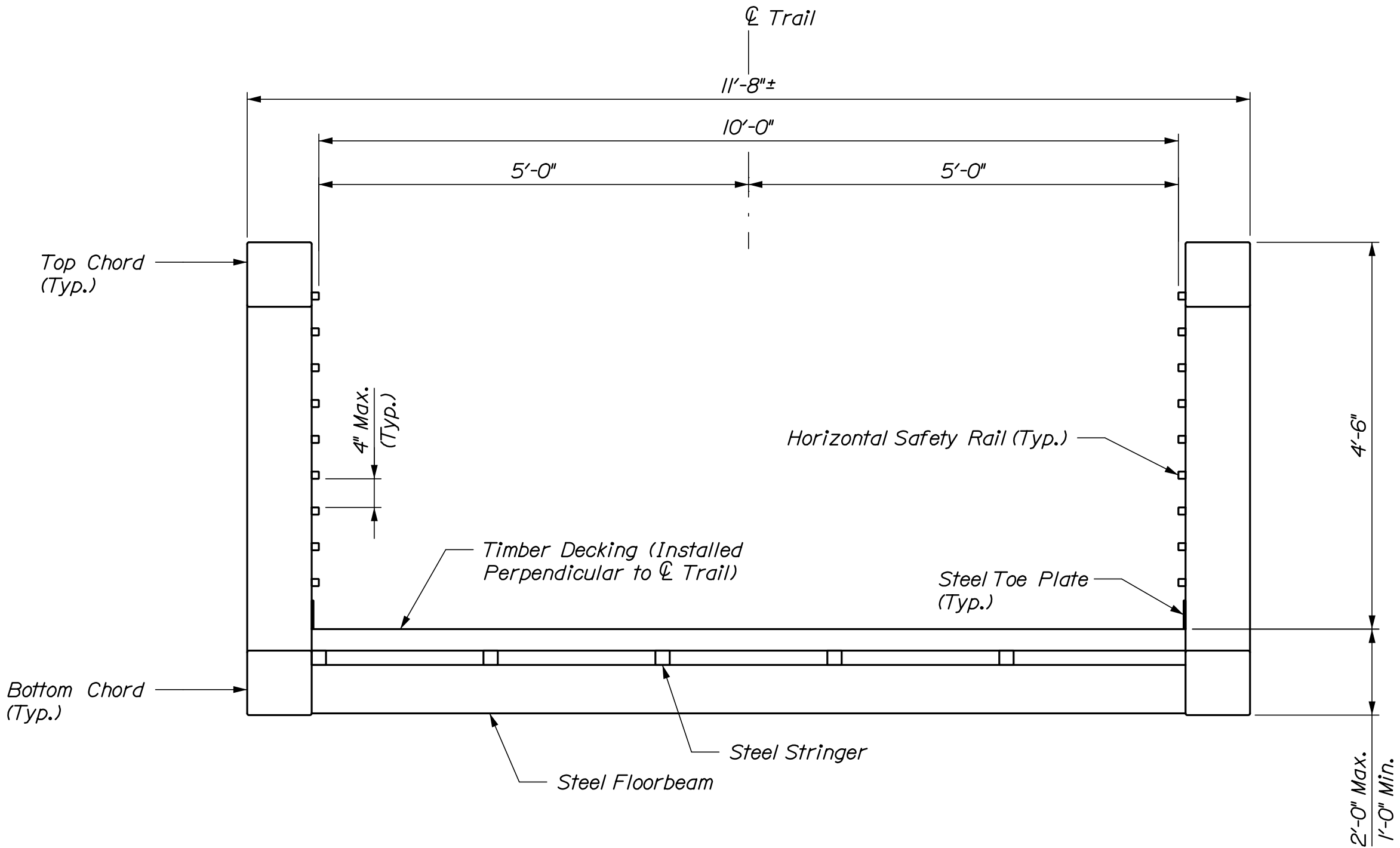
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PREFABRICATED STEEL TRUSS NOTES:

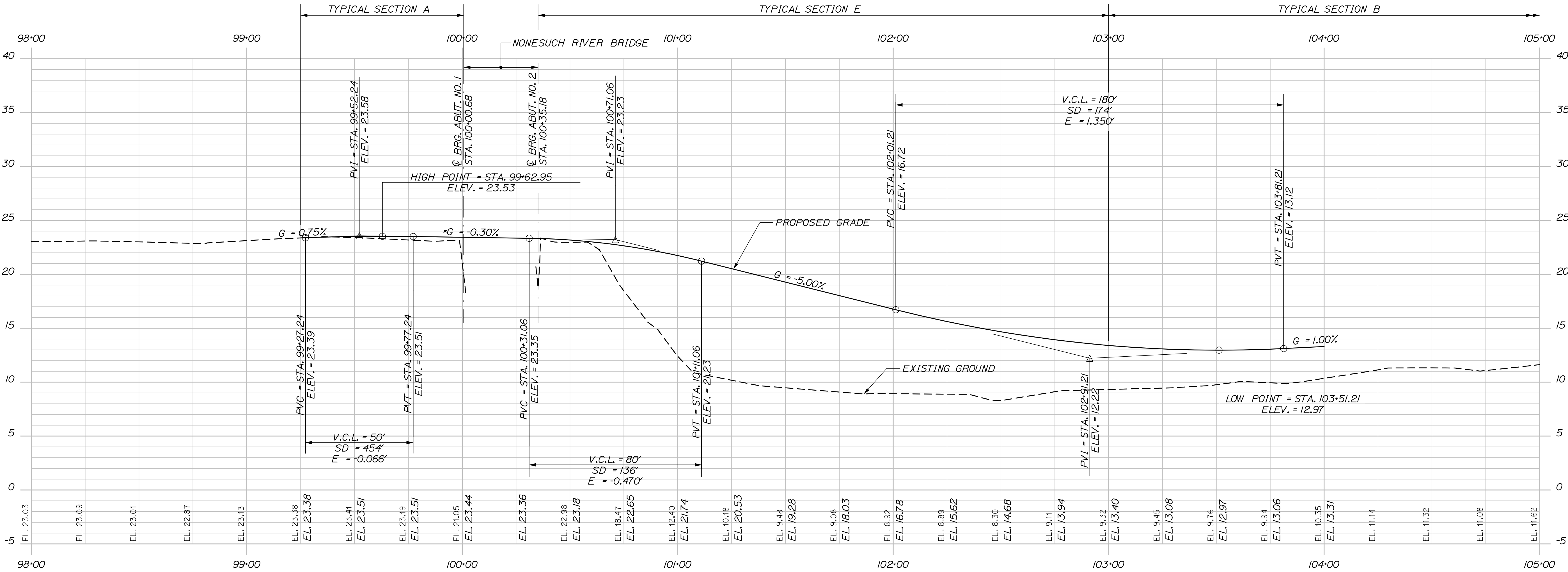
1. All construction, handling, assembly, and installation of the Prefabricated Steel Truss shall be in accordance with Special Provisions 104 and 530, and in accordance with the manufacturers recommendations, as applicable.
2. No reductions in live load intensity shall be taken in the design of the Prefabricated Steel Truss.
3. Design and detailing of bridge superstructure, bearings, anchorages, and sliding plate expansion joints shall be completed by the bridge fabricator. Payment shall be considered incidental to Item 530.01, Prefabricated Steel Truss Bridge, In Place - Nonesuch River.
4. Erection of the bridge will require close coordination between the Contractor and Central Maine Power in accordance with Special Provision 104. The Contractor should anticipate erecting the bridge during an overnight period during the mid-Spring or mid-Fall season. The Contractor is responsible to provide, for approval, a site lighting plan in accordance with Section 652.
5. The Prefabricated Steel Truss shall be electrically grounded in accordance with Special Provision 530.

GENERAL CONSTRUCTION NOTES:

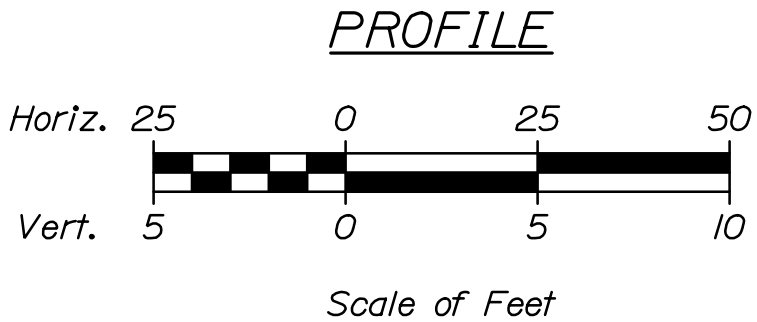
1. Plans for the existing bridge abutments are not available.
2. Adjustments shall be made by the Contractor to the bearing seat elevations to accommodate the actual superstructure dimensions. Adjustments outside the limits on the Plans require approval by the Engineer.
3. Existing abutment dimensions and locations provided on the Plans are approximate and shall be field verified and submitted by the Contractor prior to the start of construction and bridge fabrication.
4. All dimensions marked "*" are approximate or subject to change based on the fabricators bridge design. The Contractor shall plan and coordinate their work accordingly.
5. The proposed cedar fence rails shall extend over the backwall as needed to ensure a gap no larger than 4" exists between the approach fence and bridge safety rail. At the Contractors option, alternate means of achieving this result may be submitted for approval.
6. Warp trail surface to match proposed bridge surface.



PREFABRICATED STEEL TRUSS SECTION



*NOTE: PROPOSED GRADE ACROSS NONESUCH RIVER BRIDGE IS APPROXIMATE AND IS SUBJECT TO MINOR DEVIATIONS BASED ON EXISTING BACKWALL ELEVATIONS.



PROJ. MANAGER	BILL REICH	BY	DATE
DESIGN-DETAILED	C. Heinek	P. Bishop	3/2025
CHECKED-REVIEWED	L. Driscoll	J. O'Neil	3/2025
DESIGN-DETAILED	-	-	-
DESIGN-DETAILED	-	-	-
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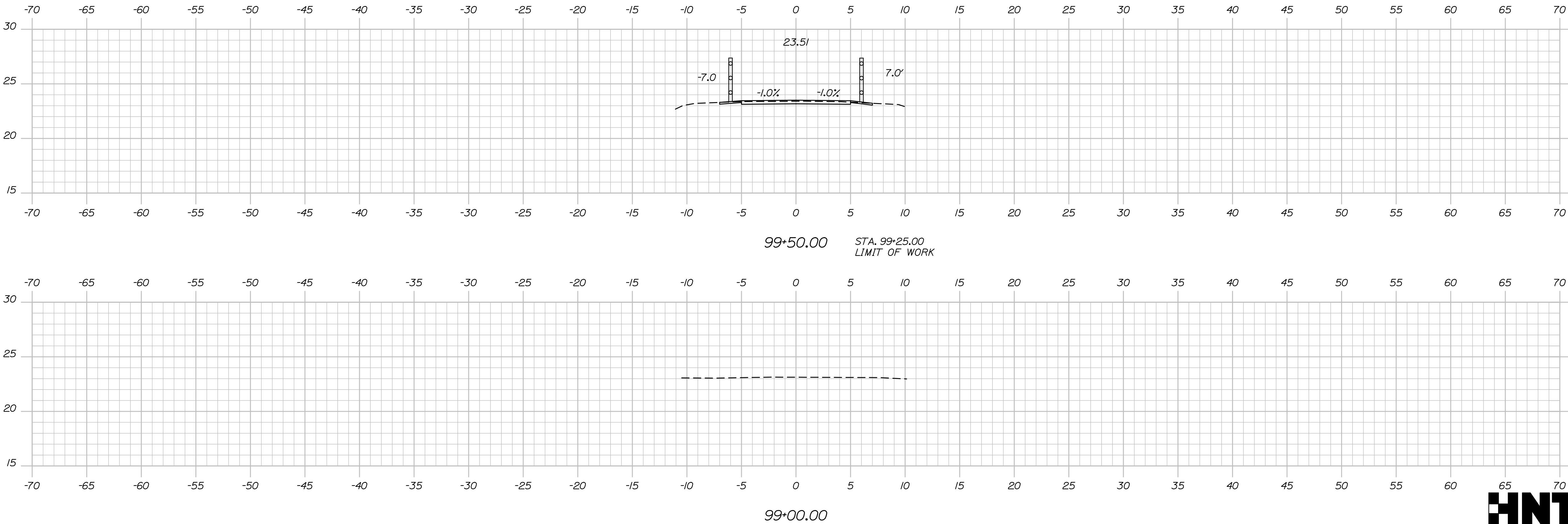
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P.E. NUMBER
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Date: 3/10/2025

Username:

Division:

Filename: Xsect_Nonesuch.dgn



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
A C-STP-1942(600)X & CMAQ-1942(610)
WIN 19426.00 & 019426.10 HIGHWAY PLANS

PROJ. MANAGER	BILL RECHL	BY	DATE
DESIGN-DETAILED	C. Herrick	P. Bishop	3/3/2025
CHECKED-REVIEWED	L. Driscoll	J. Oland	3/3/2025
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REVISIONS 3	-	-	-
REVISIONS 4	-	-	-
FIELD CHANGES	-	-	-
SIGNATURE			
P.E. NUMBER			
DATE			

TOWN OF SCARBOROUGH
EASTERN TRAIL CONNECTOR
SCARBOROUGH TO SOUTH PORTLAND, MAINE
NONESUCH RIVER CROSSING
CROSS SECTIONS

SHEET NUMBER
24
OF 69



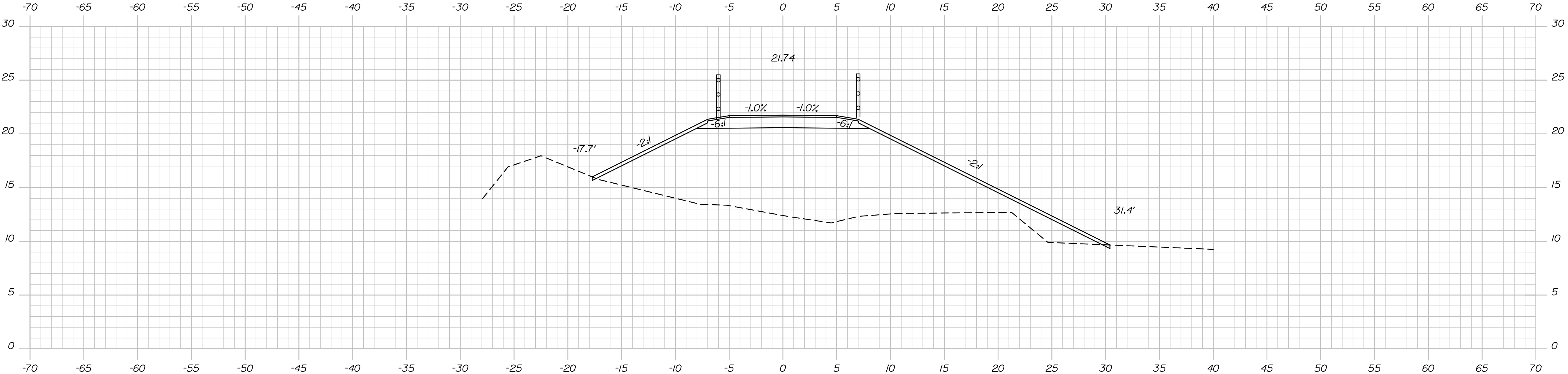
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Date: 3/10/2025

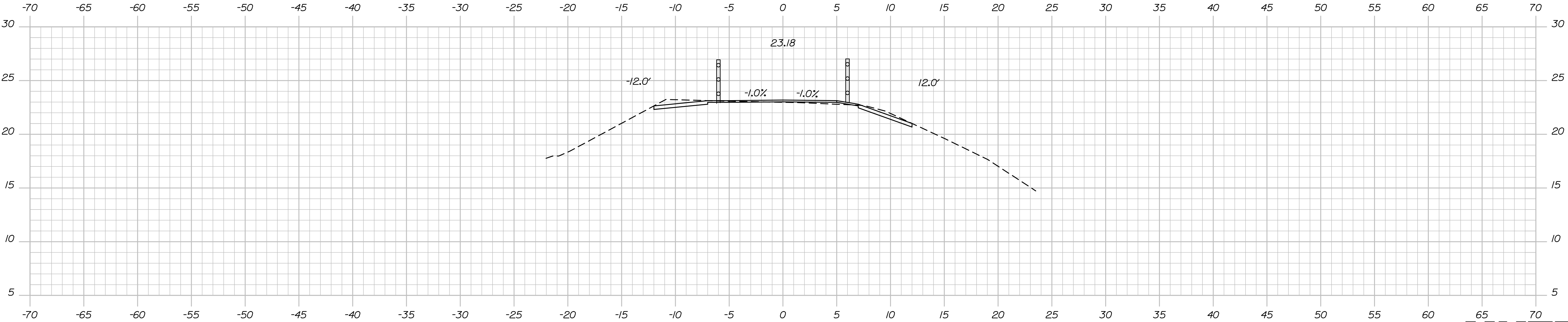
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STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
AC-STP-1942(600)X & CMAQ-1942(610)
WIN
19426.00 & 019426.10 HIGHWAY PLANS

PROJ. MANAGER	BILL RECH	BY	DATE
DESIGN-DETAILED	C. Herick	P. Bishop	3/3/2025
CHECKED-REVIEWED	L. Driscoll	J. O'Neil	3/3/2025
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REVISIONS 1	-	-	-
REVISIONS 2	-	-	-
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FIELD CHANGES	-	-	-

TOWN OF SCARBOROUGH
EASTERN TRAIL CONNECTOR
SCARBOROUGH TO SOUTH PORTLAND, MAINE
NONESUCH RIVER CROSSING
CROSS SECTIONS

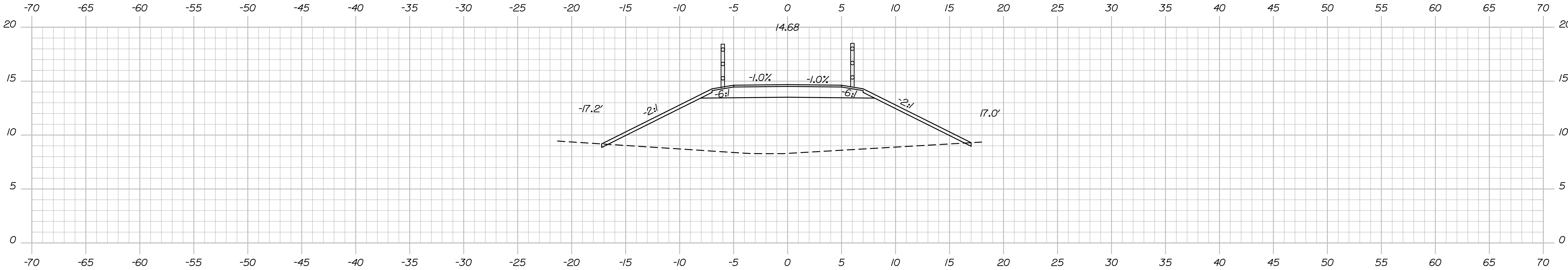
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OF 69

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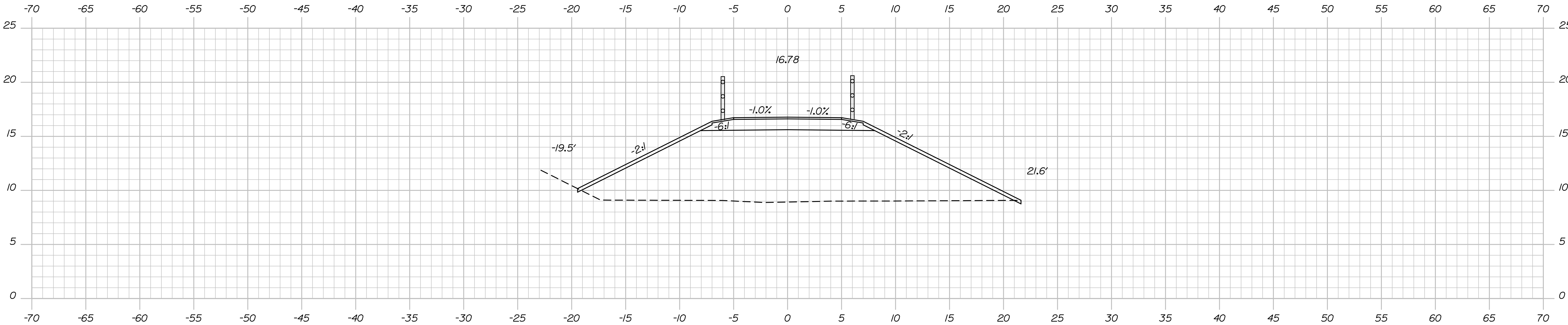
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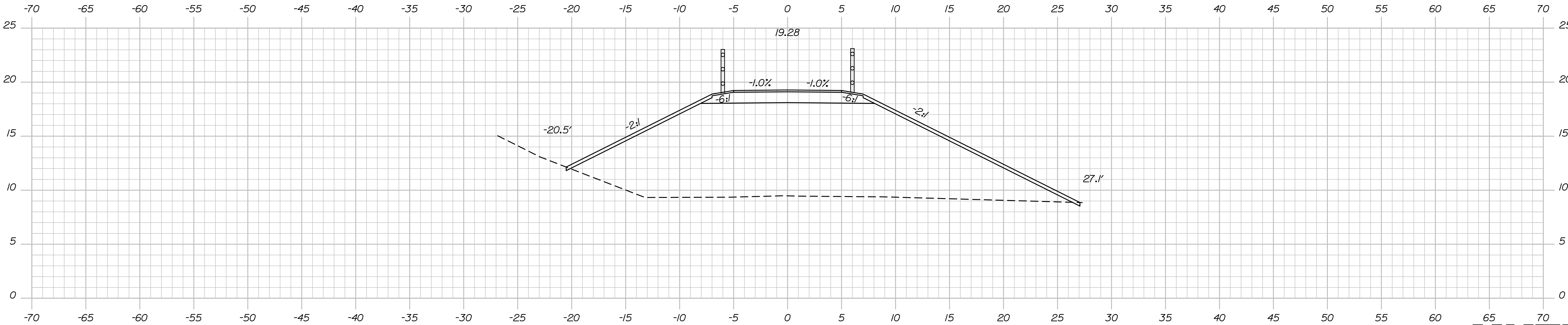
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STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
AC-STP-1942(600)X & CMAQ-1942(610)
WIN
19426.00 & 019426.10 HIGHWAY PLANS

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CHECKED-REVIEWED	L. Driscoll	J. O'Neil	3/3/2025
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REVISIONS 1	-	-	-
REVISIONS 2	-	-	-
REVISIONS 3	-	-	-
REVISIONS 4	-	-	-
FIELD CHANGES	-	-	-

TOWN OF SCARBOROUGH
EASTERN TRAIL CONNECTOR
SCARBOROUGH TO SOUTH PORTLAND, MAINE
NONESUCH RIVER CROSSING
CROSS SECTIONS

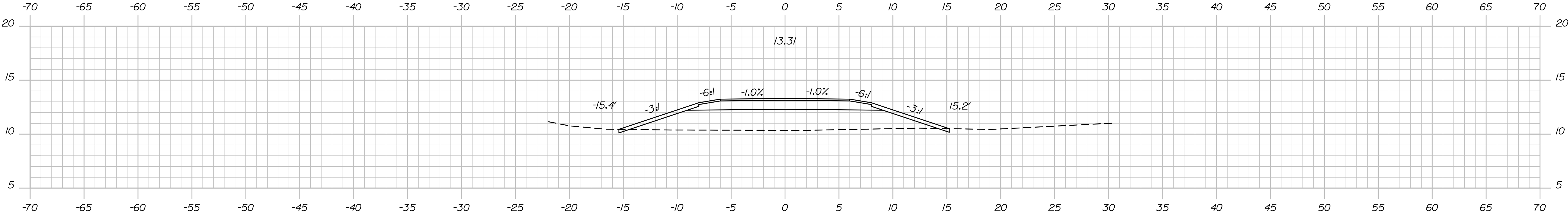
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OF 69

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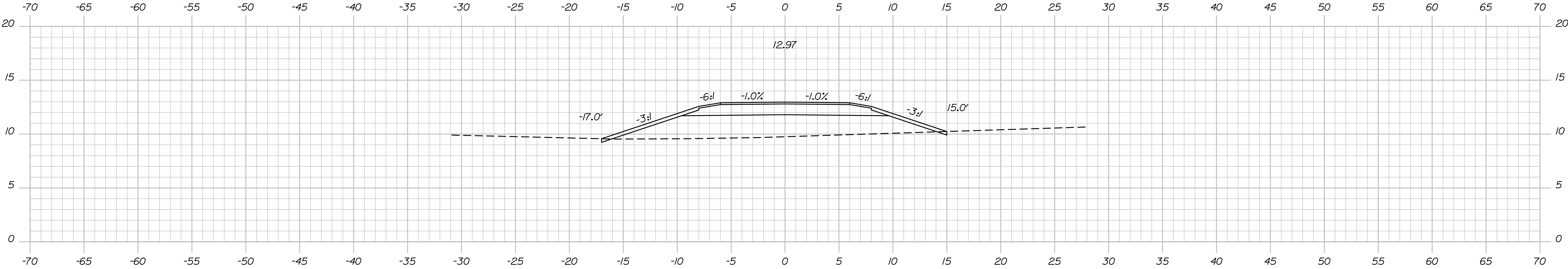
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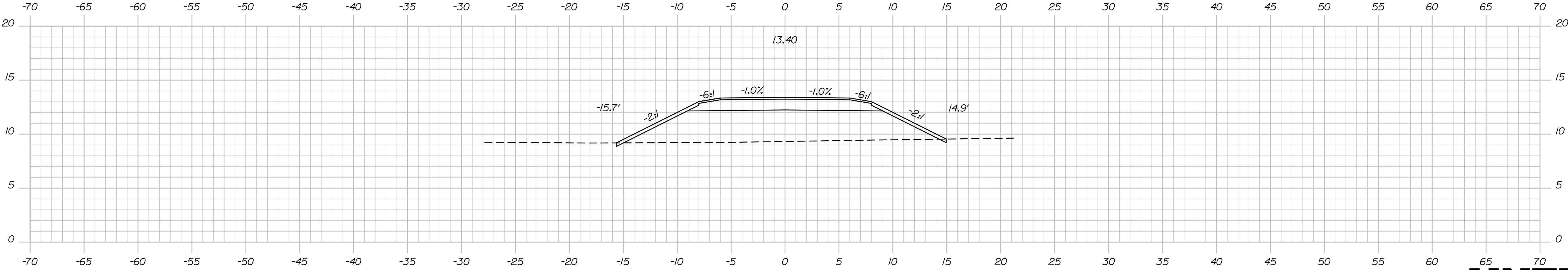
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103+00.00



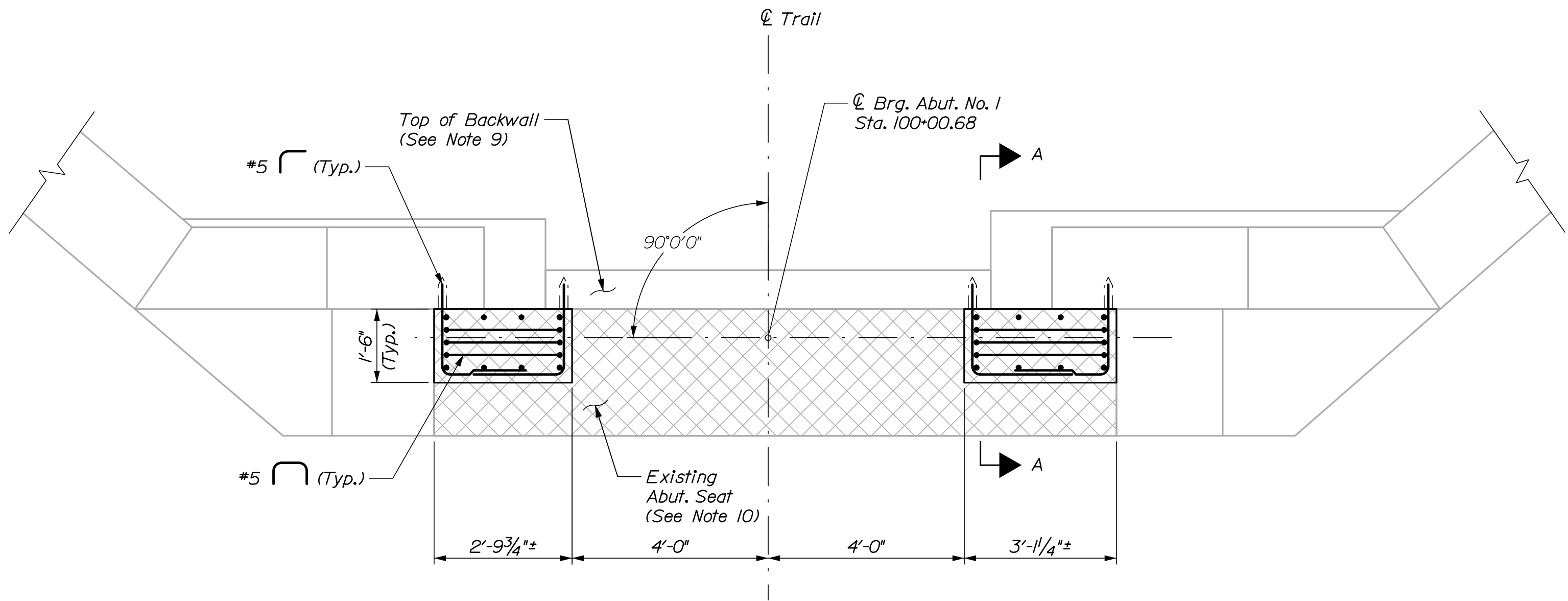
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STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
AC-STP-1942(600)X & CMAQ-1942(610)
WIN
19426.00 & 019426.10 HIGHWAY PLANS

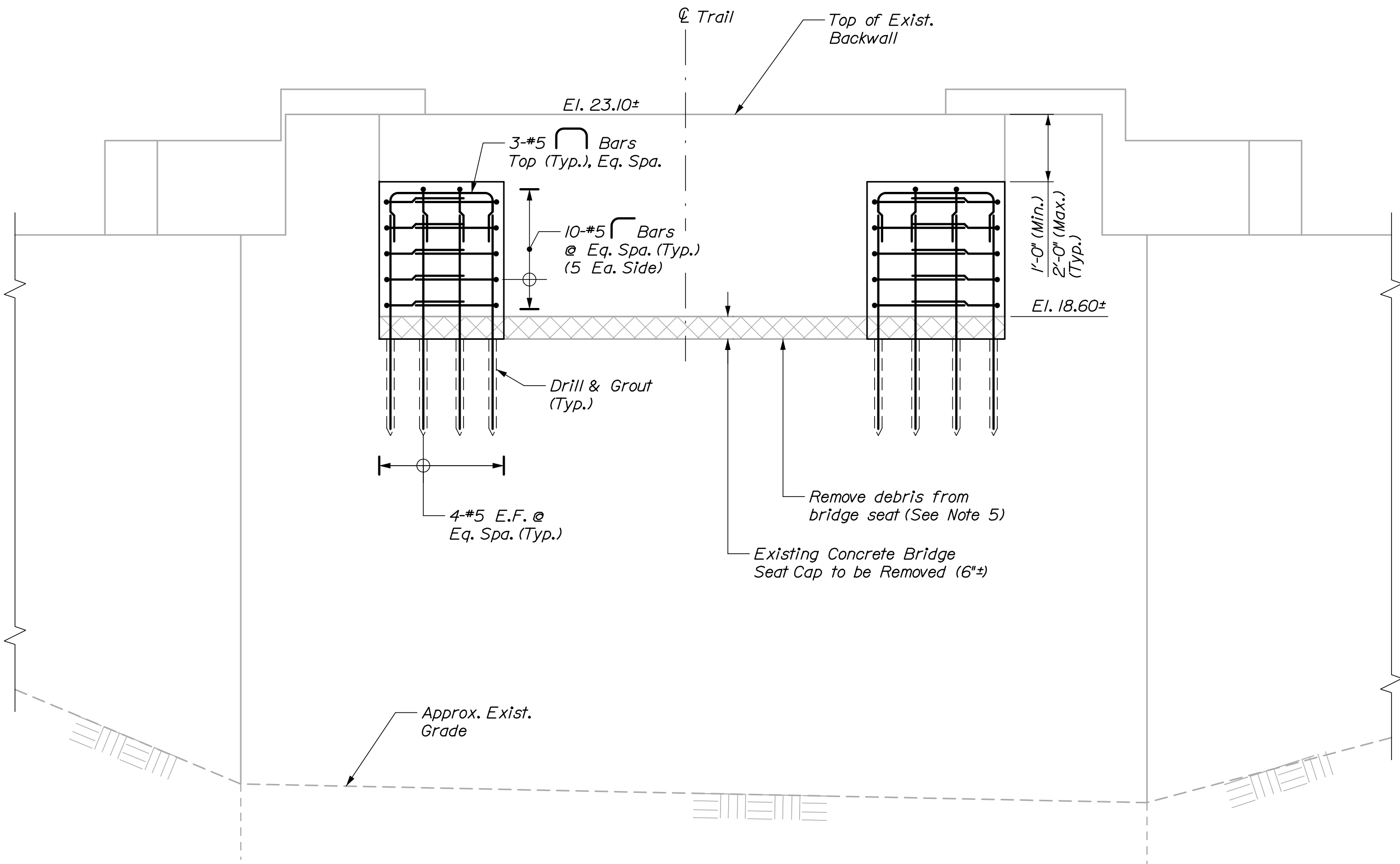
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REVISIONS 2	-	-	-
REVISIONS 3	-	-	-
REVISIONS 4	-	-	-
FIELD CHANGES	-	-	-

TOWN OF SCARBOROUGH
EASTERN TRAIL CONNECTOR
SCARBOROUGH TO SOUTH PORTLAND, MAINE
NONESUCH RIVER CROSSING
CROSS SECTIONS

SHEET NUMBER
27
OF 69



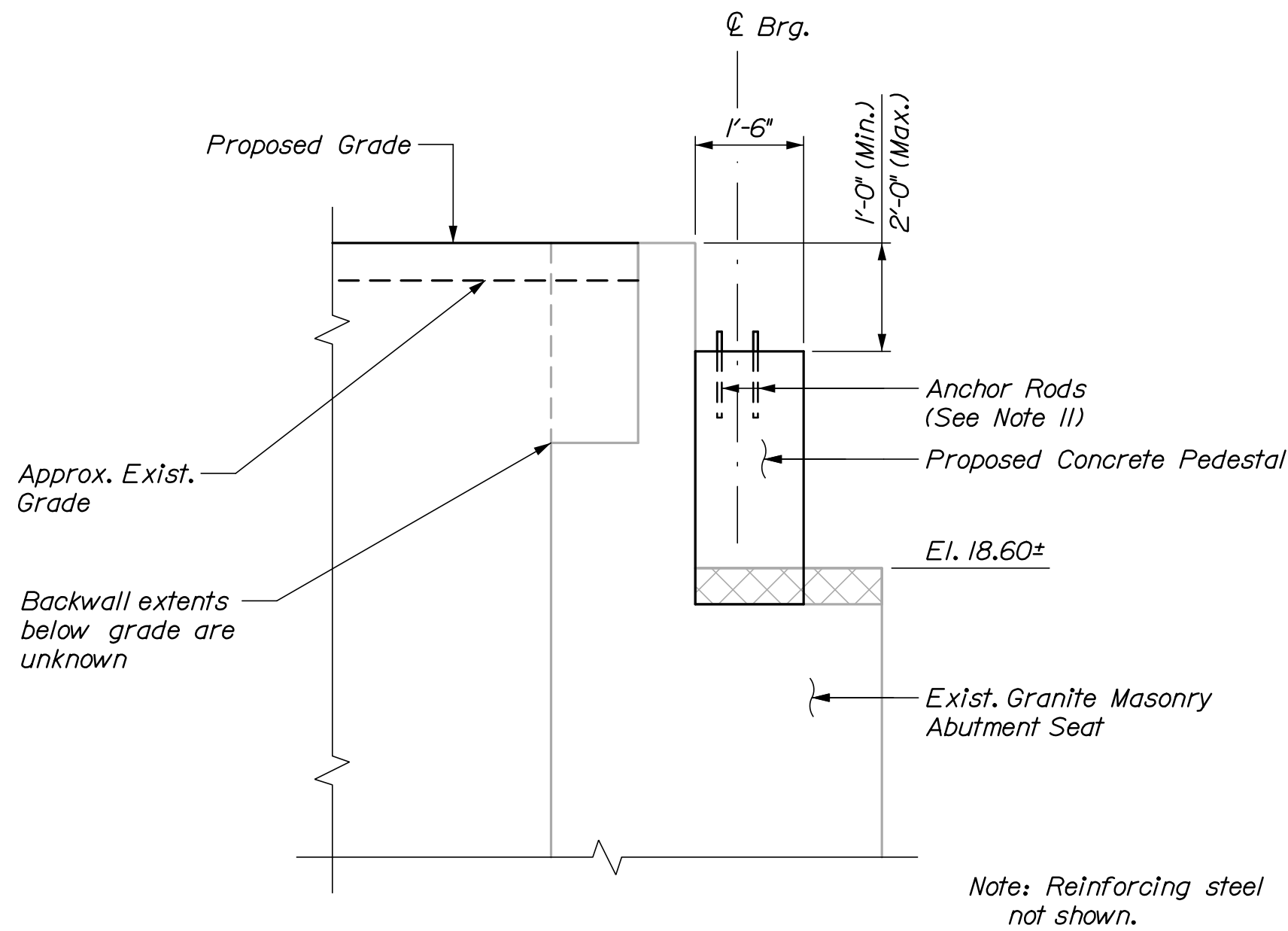
ABUTMENT NO. 1 - PLAN
(Abut. No. 2 Similar)



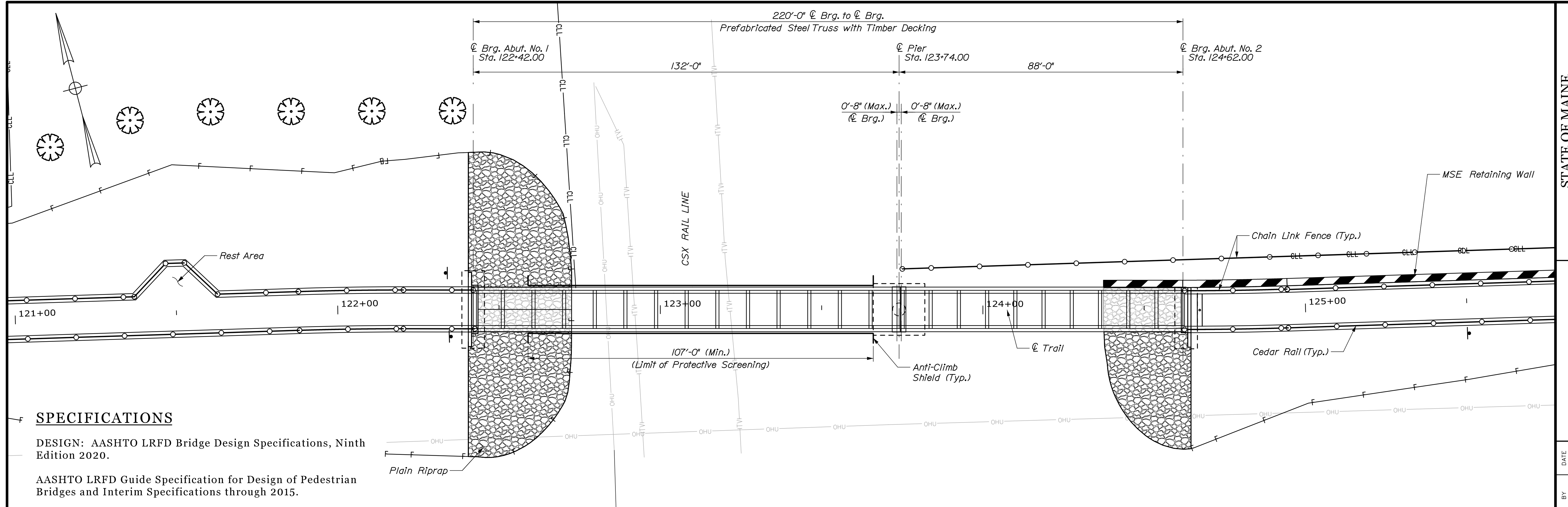
ABUTMENT NO. 1 - ELEVATION
(Abut. No. 2 Similar)

NOTES:

1. Abutment geometry shown is approximate and is based on limited field measurements and survey. Prior to commencing the design of the Prefabricated Steel Truss, or preparation of any shop drawings associated with construction of this bridge, the Contractor shall verify and adjust, as appropriate, all abutment elevations, dimensions, and abutment geometry with respect to the Centerline of Trail and Profile. Payment for efforts associated with this survey will not be made separately and will be considered incidental to related Contract Items.
2. All concrete shall be Class A, and shall be paid under Item 502.21, Structural Concrete, Abutments and Retaining Walls.
3. All exposed edges of concrete shall be chamfered 3/4".
4. Where drilling and grouting of reinforcing steel is specified, the anchoring material shall be one of the products listed on the Maine Department of Transportation Qualified Products List of Chemical Anchoring Materials. Installation shall be in accordance with the manufacturer's recommendations. Embedment depth shall be the greater of 1'-0" horizontally, 2'-0" vertically or manufacturer recommendations to fully develop the bars to full yield strength. Drilled and grouted bars shall have a minimum of 4" cover to existing faces.
5. Prior to the start of abutment modifications, the existing granite masonry surfaces shall be thoroughly cleaned of all dirt, debris, and foreign material by pressure washing or other method deemed suitable by the Resident. This work shall be considered incidental to Item 502.21, Structural Concrete, Abutments and Retaining Walls.
6. All existing masonry surfaces to receive new concrete shall be coated with an epoxy bonding agent listed on the Maine Department of Transportation Qualified Products List.
7. Areas of the mortar in the existing granite abutment shall be repaired as directed by the Resident. This work shall be completed in accordance with Item 525.26, "Repointing Granite Masonry." An estimate of 100-sf of repair per abutment is included in the Estimated Quantities table; the actual amount will vary and will be determined by the Resident in the field.
8. All reinforcing steel shall be uncoated and have a minimum cover of 2" unless otherwise noted. Fabrication, delivery, drilling and grouting, and placement of reinforcing steel shall be incidental to Item 502.21 Structural Concrete Abutments and Retaining Walls.
9. The Contractor shall provide a smooth surface at the top of backwall with no more than 1/4" in variation. This shall be completed by grinding, cutting or other approved method. Payment will be considered incidental to related Contract Items.
10. Payment for all existing concrete removal shall be incidental to Item 502.21, Structural Concrete, Abutments and Retaining Walls.
11. Anchor rods locations, sizes, and installation requirements shall be coordinated by the Contractor with the Prefabricated Steel Truss Manufacturer.



SECTION A-A



SPECIFICATIONS

DESIGN: AASHTO LRFD Bridge Design Specifications, Ninth Edition 2020.

AASHTO LRFD Guide Specification for Design of Pedestrian Bridges and Interim Specifications through 2015.

DESIGN LOADING

Live Load: 90 p.s.f. (Pedestrian only) or H10 vehicle

MATERIALS

Concrete (Unless noted otherwise)	Class "A"
Reinforcing Steel	ASTM A615, Grade 60
Structural Steel	ASTM A709, Grade 50W (Unpainted)
Timber	Southern Yellow Pine, No. 1

Reinforcing Steel.....ASTM A615, Grade 60

Structural Steel.....ASTM A709, Grade 50W
(Unpainted)

Timber.....Southern Yellow Pine, No. 1

BASIC DESIGN STRESSES

Concrete, Class "A" f'c = 4,000 psi

Reinforcing Steel, ASTM A615, Grade 60 $f_y = 60,000$ psi

Structural Steel:

ASTM A709, Grade 50W Fy = 50,000 psi

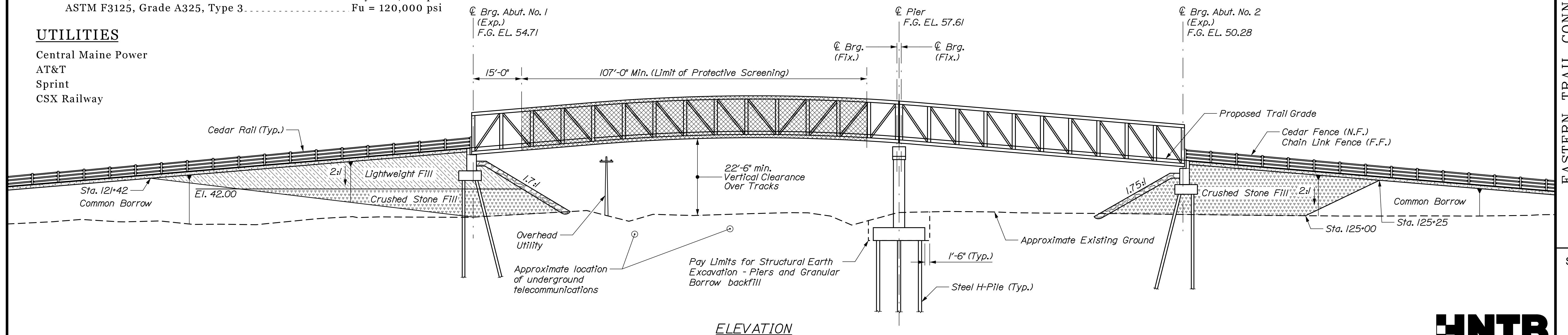
UTILITIES

Central Maine Power

AT&T

Sprint

CSX Railway



PREFABRICATED STEEL TRUSS NOTES:

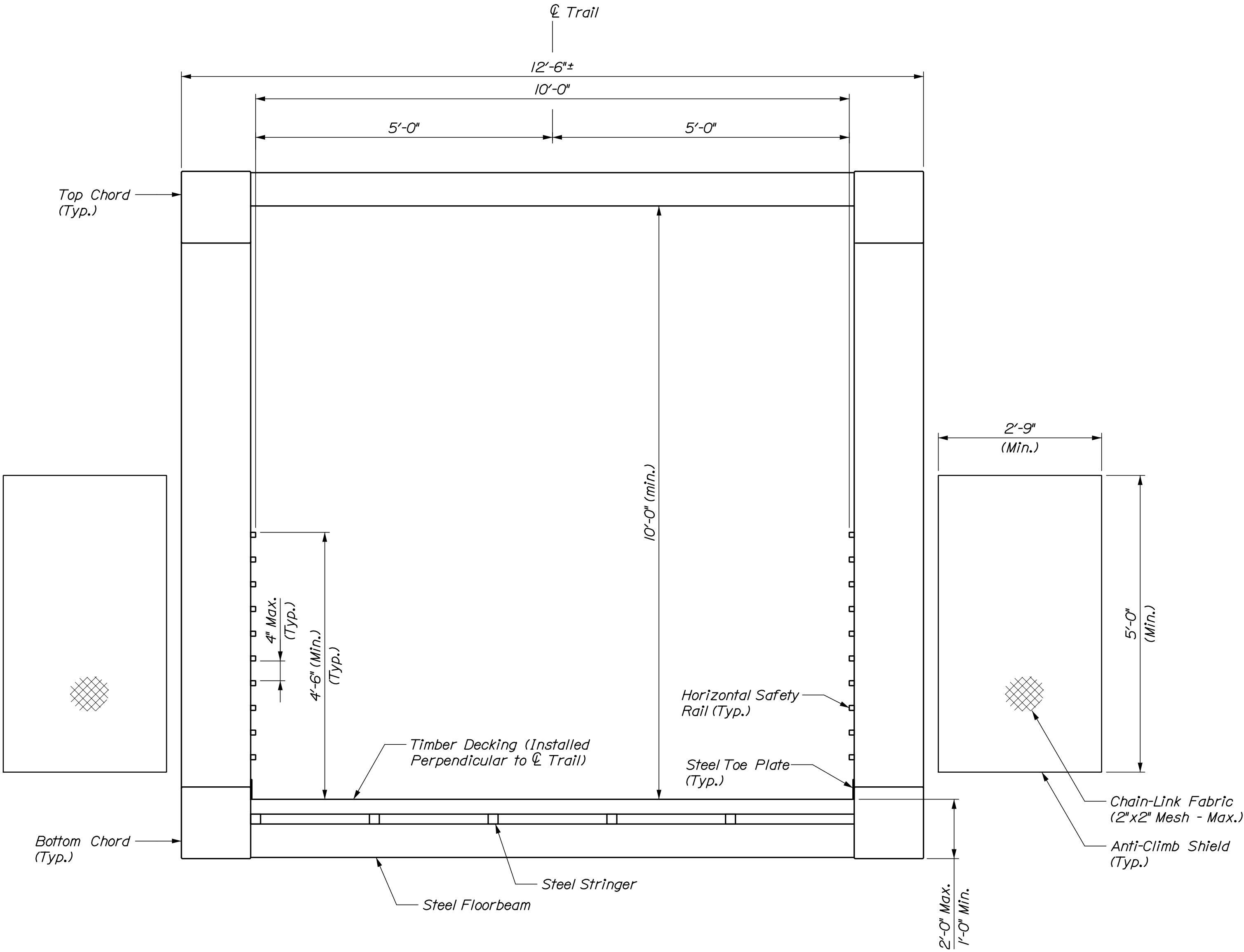
1. All construction, handling, assembly, and installation of the Prefabricated Steel Truss shall be in accordance with Special Provisions 104 and 530, and in accordance with the manufacturers recommendations, as applicable.
2. No reductions in live load intensity shall be taken in the design of the Prefabricated Steel Truss.
3. Design and detailing of bridge superstructure, anti-climb shield, bearings, anchorages, and sliding plate expansion joints shall be completed by the bridge fabricator. Payment shall be considered incidental to Item 530.01, Prefabricated Steel Truss Bridge, In Place - CSX Railway.
4. Erection of the bridge will require close coordination between the Contractor, CSX Railways, and Central Maine Power in accordance with Special Provision 104. The Contractor should anticipate erecting the bridge during an overnight period during the mid-Spring or mid-Fall season. The Contractor is responsible to provide, for approval, a site lighting plan in accordance with Section 652.

5. The Prefabricated Steel Truss shall be electrically grounded in accordance with Special Provision 530.

GENERAL CONSTRUCTION NOTES:

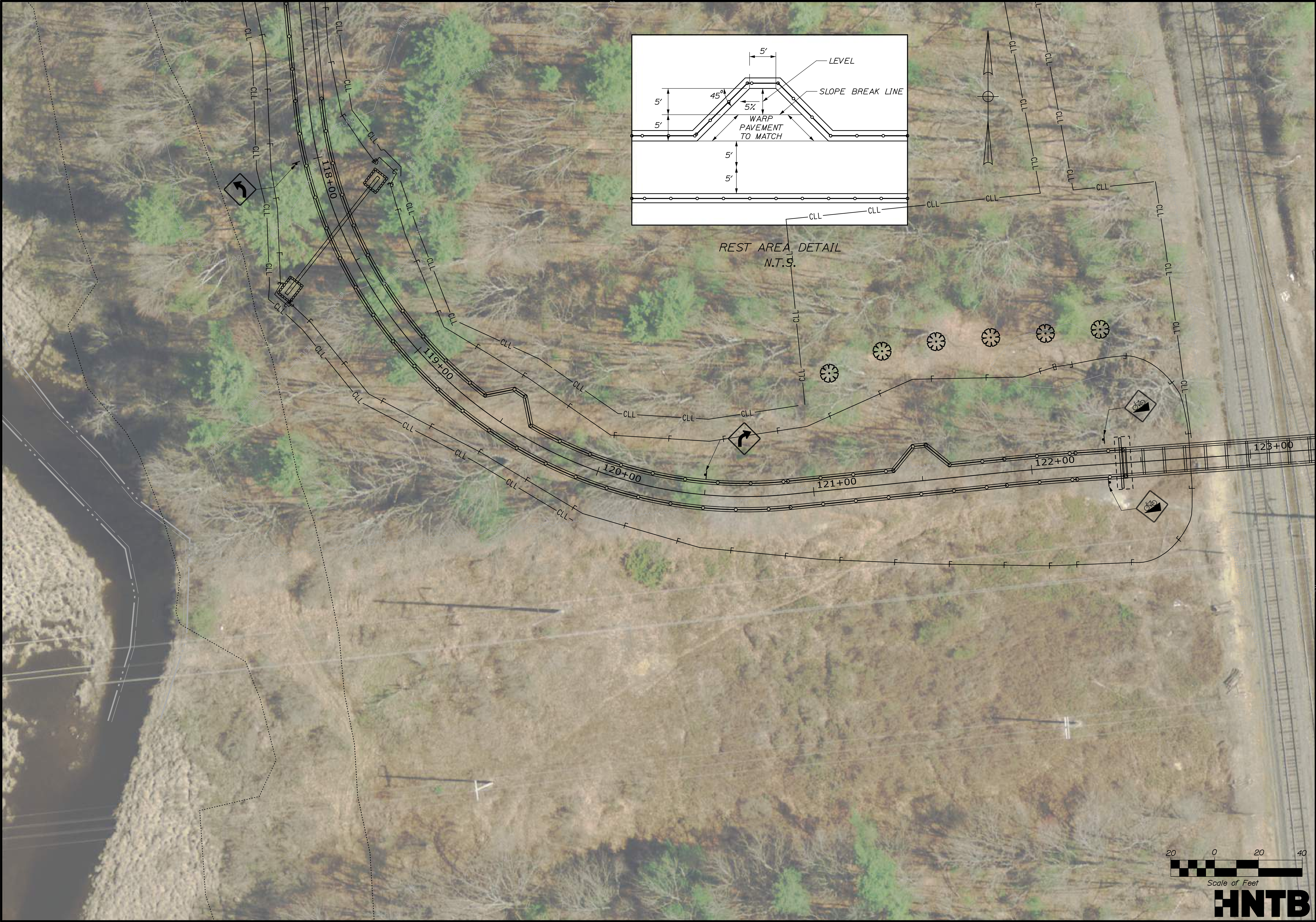
1. Proposed concrete bridge seat elevations are detailed based on a 24-inch depth from the top of deck to bottom of bottom chord, and a 6-inch bearing height. Adjustments shall be made by the Contractor to the bearing seat elevations to accommodate the actual superstructure and bearing dimensions within the limits shown.
2. All dimensions marked "*" are approximate or subject to change based on the fabricators bridge design. The Contractor shall plan and coordinate their work accordingly.
3. The proposed cedar fence rails and chain link fence panel shall extend over the backwall as needed to ensure a gap no larger than 4" exists between the approach fence and bridge safety rail. At the Contractors option, alternate means of achieving this result may be submitted for approval.
4. Warp trail surface to match proposed bridge surface.
5. Joint opening setting table and location of backwall shall be determined by the fabricator based on the thermal movements and superstructure extension beyond the $\varnothing$ bearing. Joint opening shall be no greater than 4" at -30°F and no less than 1/2" at 120°F.
6. Lightweight Fill shall conform to the requirements of Special Provision 203 and be paid under Item 203.247, Expanded Shale Lightweight Aggregate. At the Contractor's option, alternate lightweight materials may be proposed for use in place of the expanded shale aggregate, such as cellular concrete fill, foamed glass aggregate, or geofoam (expanded polystyrene). The in-place density of the alternate material shall be equal to, or less than that noted in Special Provision 203. Such proposals are subject to approval by the Engineer and shall include appropriate construction specifications, separation geotextiles, protective membranes, or other ancillary components as appropriate to the fill material. No change in payment will be made for Contractor-proposed substitutions.

7. The chain-link fence parallel to the top of the MSE Wall shall be electrically grounded in accordance with the details provided in Special Provision 530. Payment for materials, installation, and labor associated with this effort shall not be made separately and will be incidental to Item 607.173, Chain Link Fence - 6 foot - PVC Coated.



PREFABRICATED STEEL TRUSS SECTION

TOWN OF SCARBOROUGH EASTERN TRAIL CONNECTOR SCARBOROUGH TO SOUTH PORTLAND, MAINE CSX RAILROAD GENERAL NOTES & DETAILS	SHEET NUMBER				STATE OF MAINE			
	30 OF 69				DEPARTMENT OF TRANSPORTATION			
					AC-STP-1942(600)X & CMAQ-1942(610)			
					WIN			
					19426.00 & 019426.10			
					BRIDGE PLANS			
	PROJ. MANAGER				BILL REICH	BY	DATE	
	DESIGN-DETAILED				J. Olund	P. Bishop	3/2025	
	CHECKED-REVIEWED				G. Standley	A. Stephens	3/2025	
	DESIGN-DETAILED2				-	-	-	
DESIGN-DETAILED3				-	-	-		
REVISIONS 1				-	-	-		
REVISIONS 2				-	-	-		
REVISIONS 3				-	-	-		
REVISIONS 4				-	-	-		
FIELD CHANGES				-	-	-		



TOWN OF SCARBOROUGH EASTERN TRAIL CONNECTOR SCARBOROUGH TO SOUTH PORTLAND, MAINE CSX RAILROAD CROSSING PLAN I	STATE OF MAINE DEPARTMENT OF TRANSPORTATION AC-STP-1942(600)X & CMAQ-1942(610)				WIN 19426.00 & 019426.10 HIGHWAY PLANS			
	PROJ. MANAGER	BILL REICH	BY	DATE				
	DESIGN-DETAILED	C. Herrick	P. Bishop	3/2025	SIGNATURE			
					DESIGN-REVIEWED	L. Driscoll	J. Ould	3/2025
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					DATE			



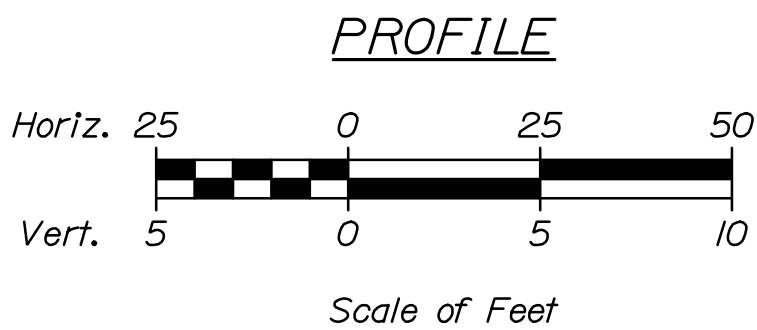
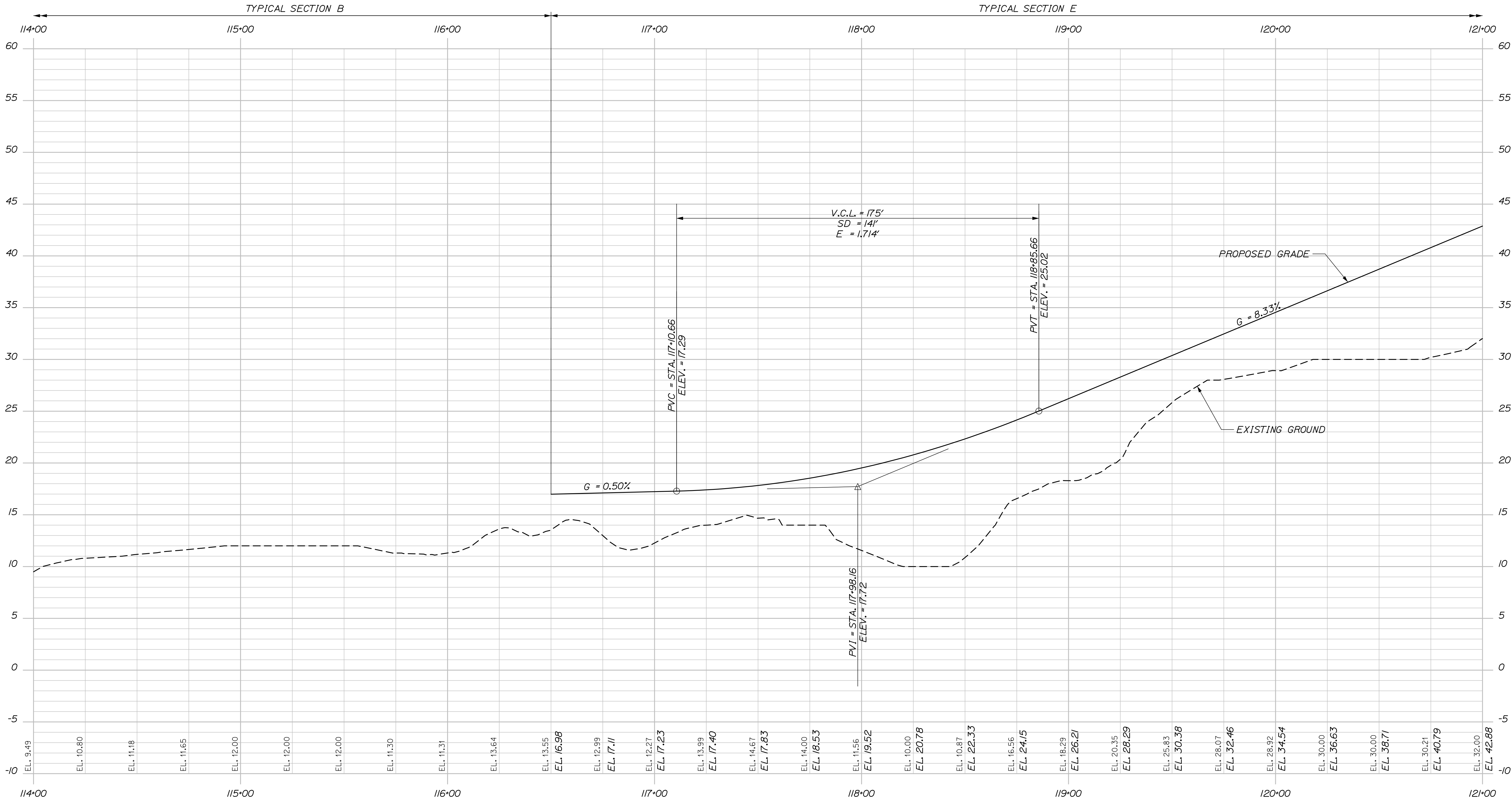
STATE OF MAINE DEPARTMENT OF TRANSPORTATION AC-STP-1942(600)X & CMAQ-1942(610)		TOWN OF SCARBOROUGH EASTERN TRAIL CONNECTOR SCARBOROUGH TO SOUTH PORTLAND, MAINE CSX RAILROAD CROSSING PLAN II		PROJ. MANAGER	BILL REICH	BY	DATE
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				CHECKED-REVIEWED	L. Driscoll	J. O'Neil	3/2025
SHEET NUMBER 32 OF 69				DESIGN-DETAILED	-	-	SIGNATURE
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WIN 19426.00 & 019426.10 HIGHWAY PLANS				REVISIONS 4	-	-	
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Date: 3/10/2025

Username:

Division:

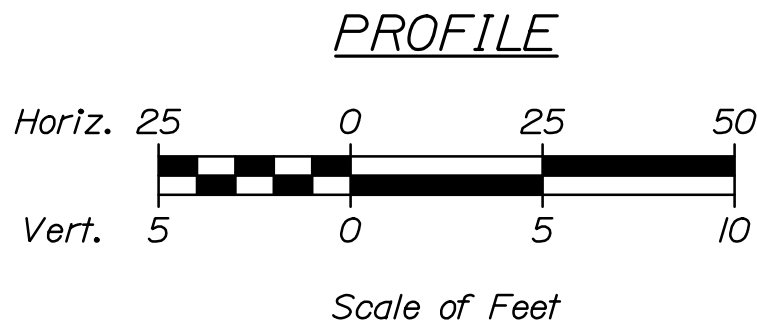
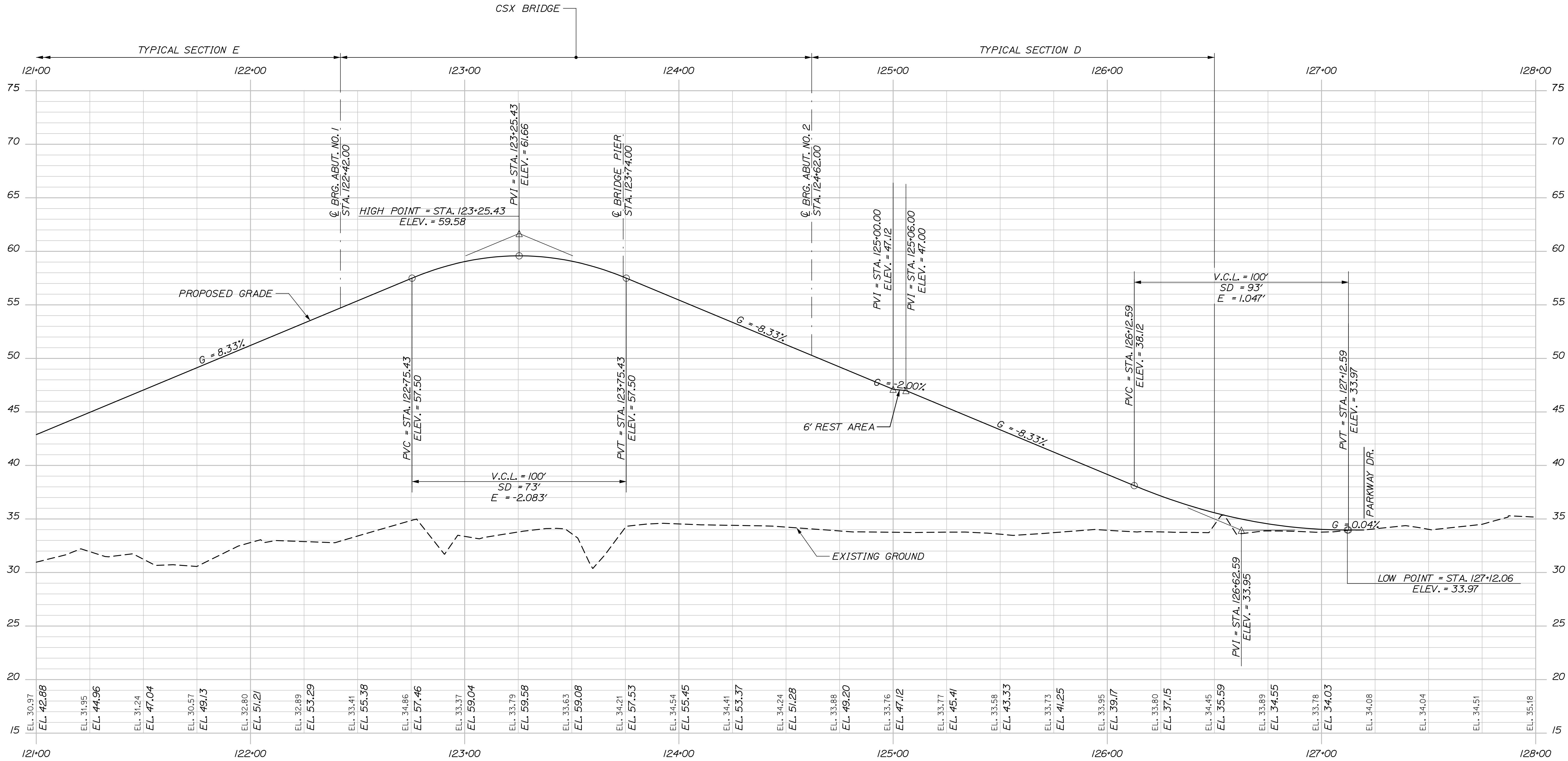
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TOWN OF SCARBOROUGH EASTERN TRAIL CONNECTOR SCARBOROUGH TO SOUTH PORTLAND, MAINE CSX RAILROAD PROFILE I	STATE OF MAINE			
	DEPARTMENT OF TRANSPORTATION			
	AC-STP-1942(600)X & CMAQ-1942(610)			
SHEET NUMBER	WIN		19426.00 & 019426.10	
	HIGHWAY PLANS			
	DATE		P.E. NUMBER	
	SIGNATURE		DATE	

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OF 69



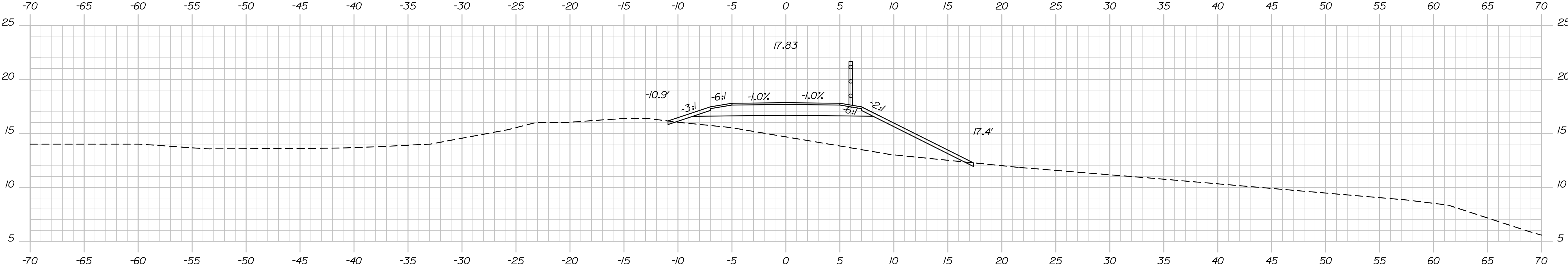
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HIGHWAY PLANS		FIELD CHANGES	
TOWN OF SCARBOROUGH		PROJ. MANAGER	BILL REICH
EASTERN TRAIL CONNECTOR		CHECKED-REVIEWED	C. Helmick
SCARBOROUGH TO SOUTH PORTLAND, MAINE		DESIGNED-DETAILED	P. Bishop
CSX RAILROAD		DESIGNED-DETAILED	J. O'Neil
PROFILE II		DESIGNED-DETAILED	-
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Date: 3/10/2025

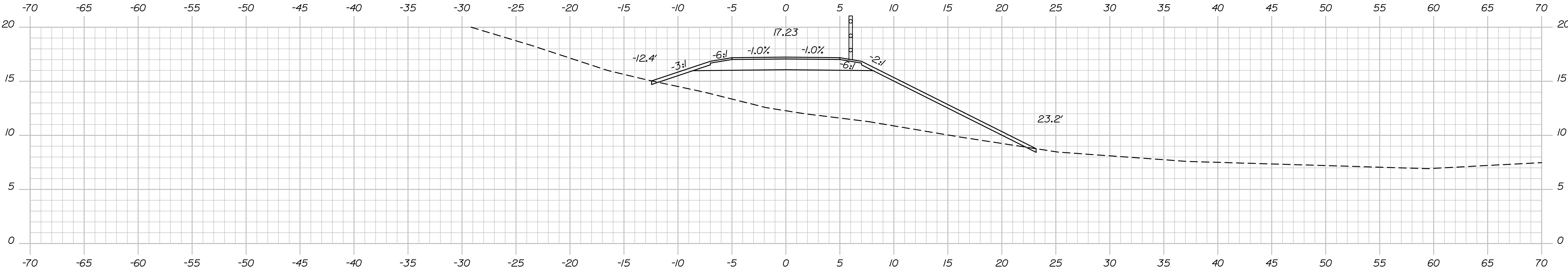
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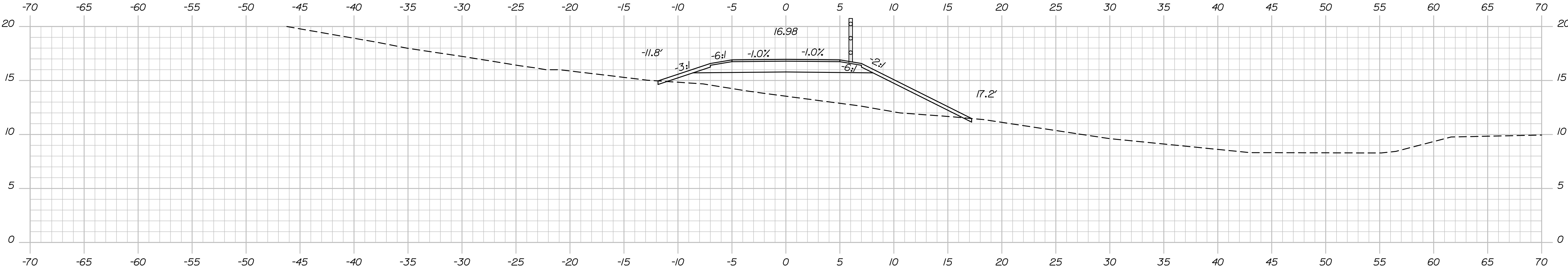
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117+50.00



117+00.00



116+50.00

HNTB

Sta. 116+50.00 to Sta. 117+50.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
AC-STP-1942(600)X & CMAQ-1942(610)

WIN
19426.00 & 019426.10

PROJ. MANAGER	BILL REICH	BY	DATE
DESIGN-DETAILED	C. Helmick	P. Bishop	3/20/25
CHECKED-REVIEWED	L. Dargatz	J. Olund	
DESIGN-DETAILED2	-	-	
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P.E. NUMBER			
DATE			

TOWN OF SCARBOROUGH
 EASTERN TRAIL CONNECTOR
 SCARBOROUGH TO SOUTH PORTLAND, MAINE

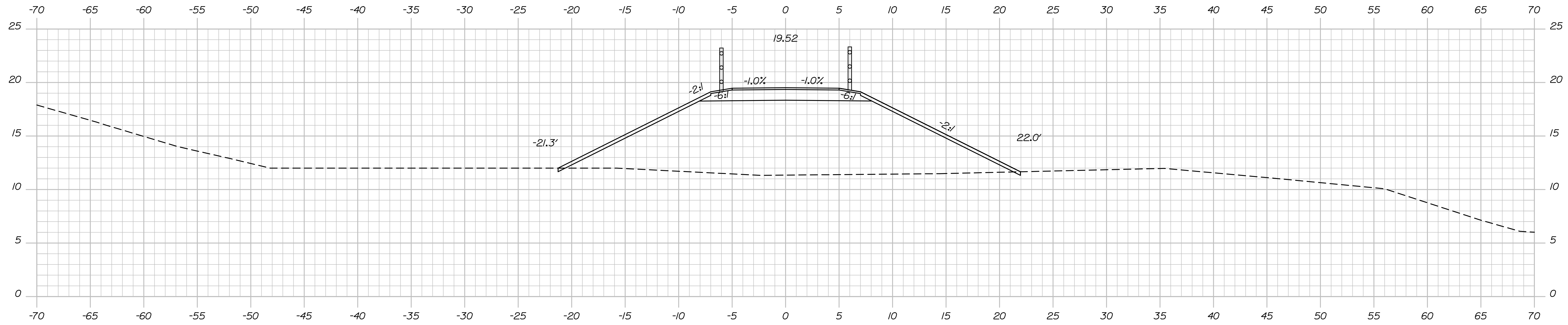
CSX RAILROAD
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SHEET NUMBER

35

OF 69

Filename: Xsect_CSX.dgn



SHEET NUMBER

36

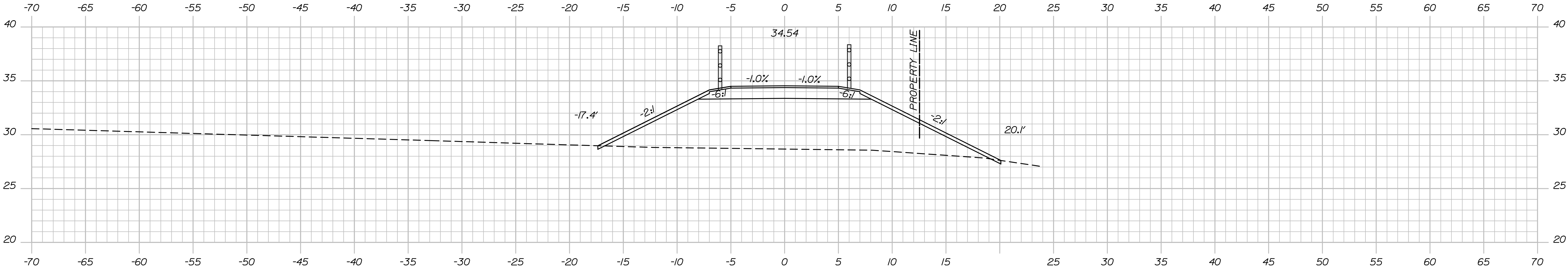
OF 69

Date: 3/10/2025

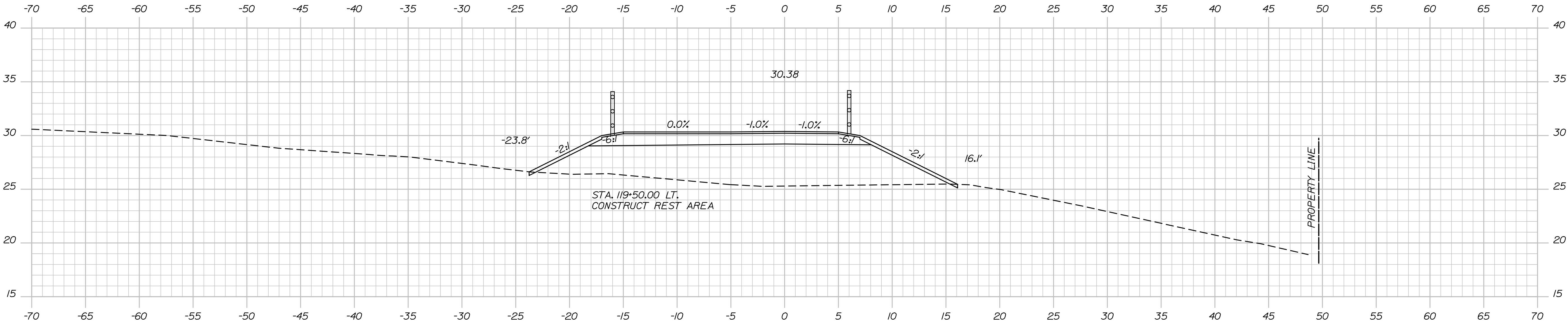
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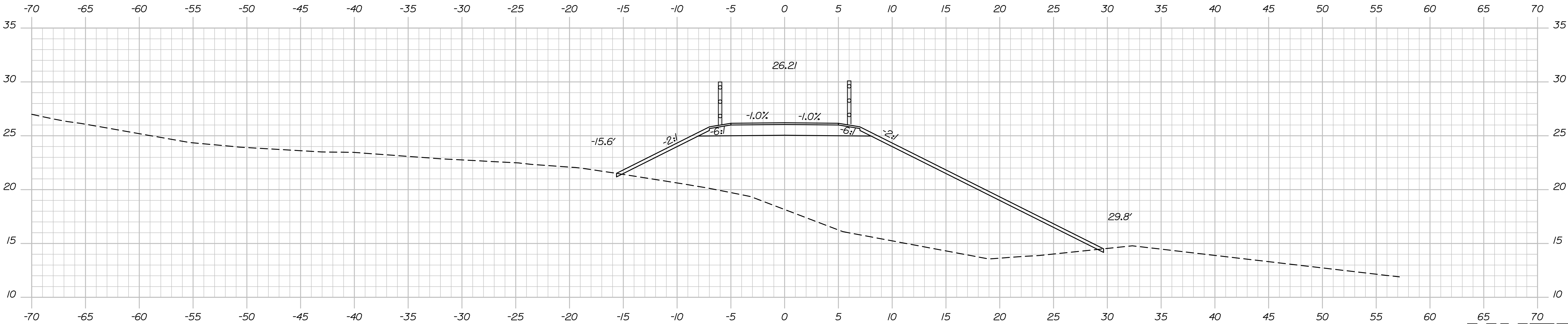
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119+50.00

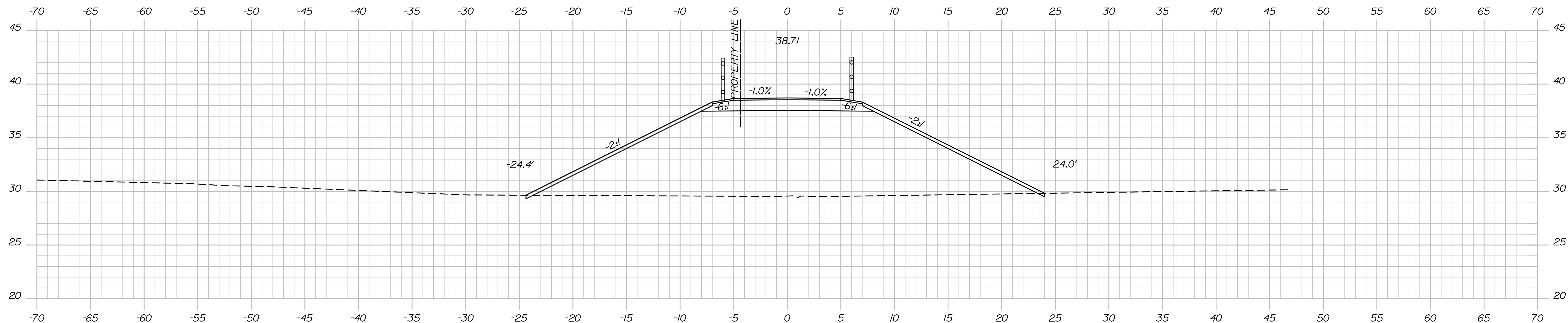


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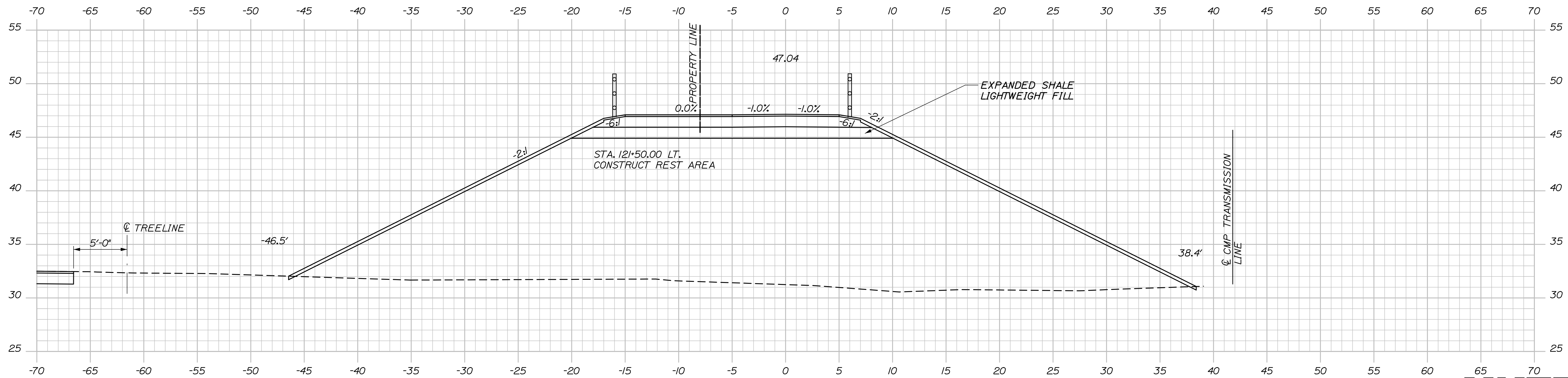
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Filename: Xsect_CSX.dgn



WIN
19426 00 & 019426 10

Filename: Xsect_CSX.dgn



39

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Sta. 121+50.00 to Sta. 122+00.00

STATE OF MAINE

DEPARTMENT OF TRANSPORTATION

AC-STP-1942(600)X & CMAQ-1942(610)

WIN
19426.00 & 019426.10

	PROJ. MANAGER	BILL REICHL	BY	DATE
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SIGNATURE	CHECKED-REVIEWED	L.Driscoll	J.Dunn	3/2025
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	DESIGNS-DRAFT#E03	-	-	-
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DATE	REVISIONS 4	-	-	-
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TOWN OF SCARBOROUGH
EASTERN TRAIL CONNECTOR
SCARBOROUGH TO SOUTH PORTLAND, MAINE
CSX RAILROAD
CROSS SECTIONS

SHEET NUMBER

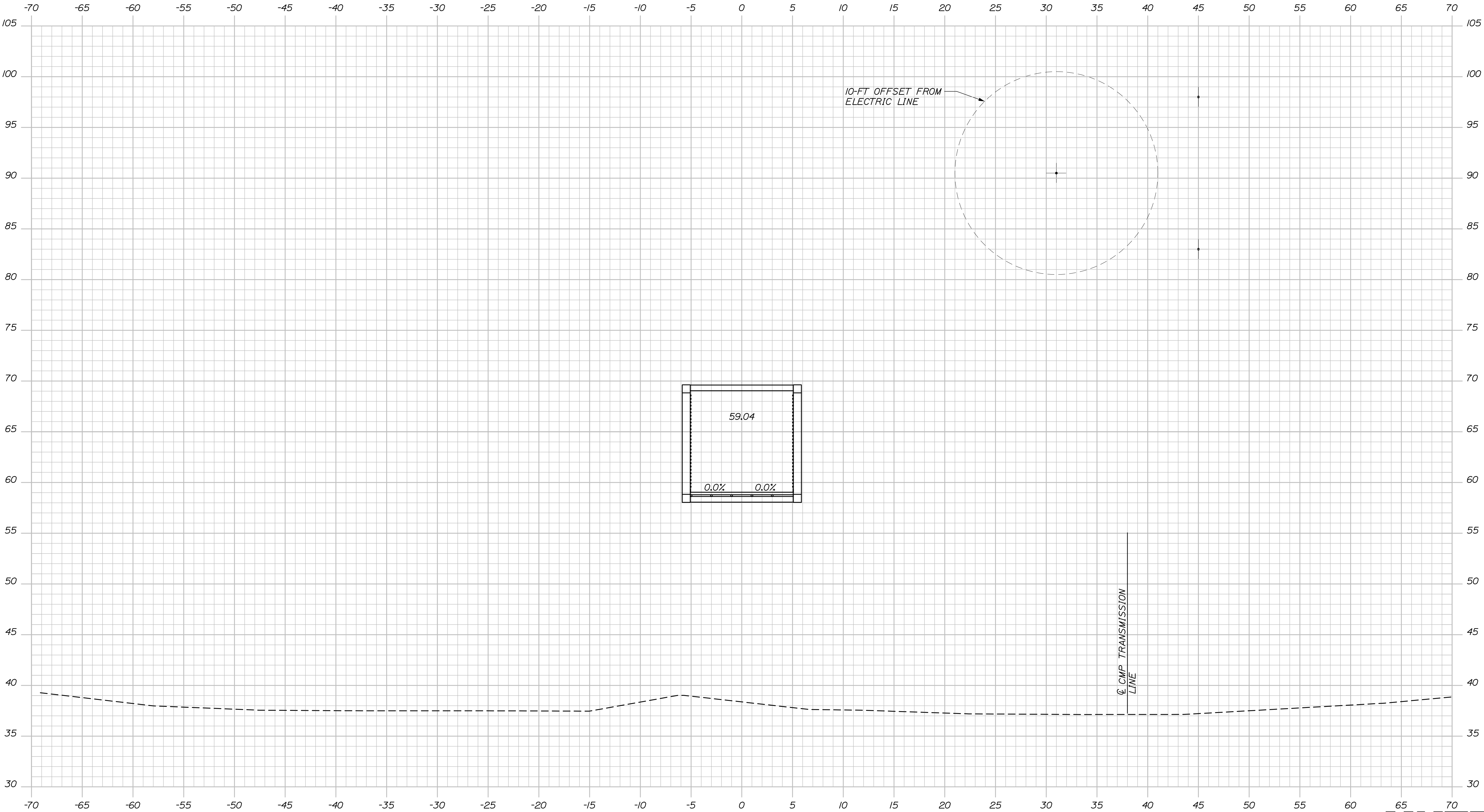
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Date: 3/10/2025

Username:

Division:

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123+00.00



Sta. 123+00.00 to Sta. 123+00.00

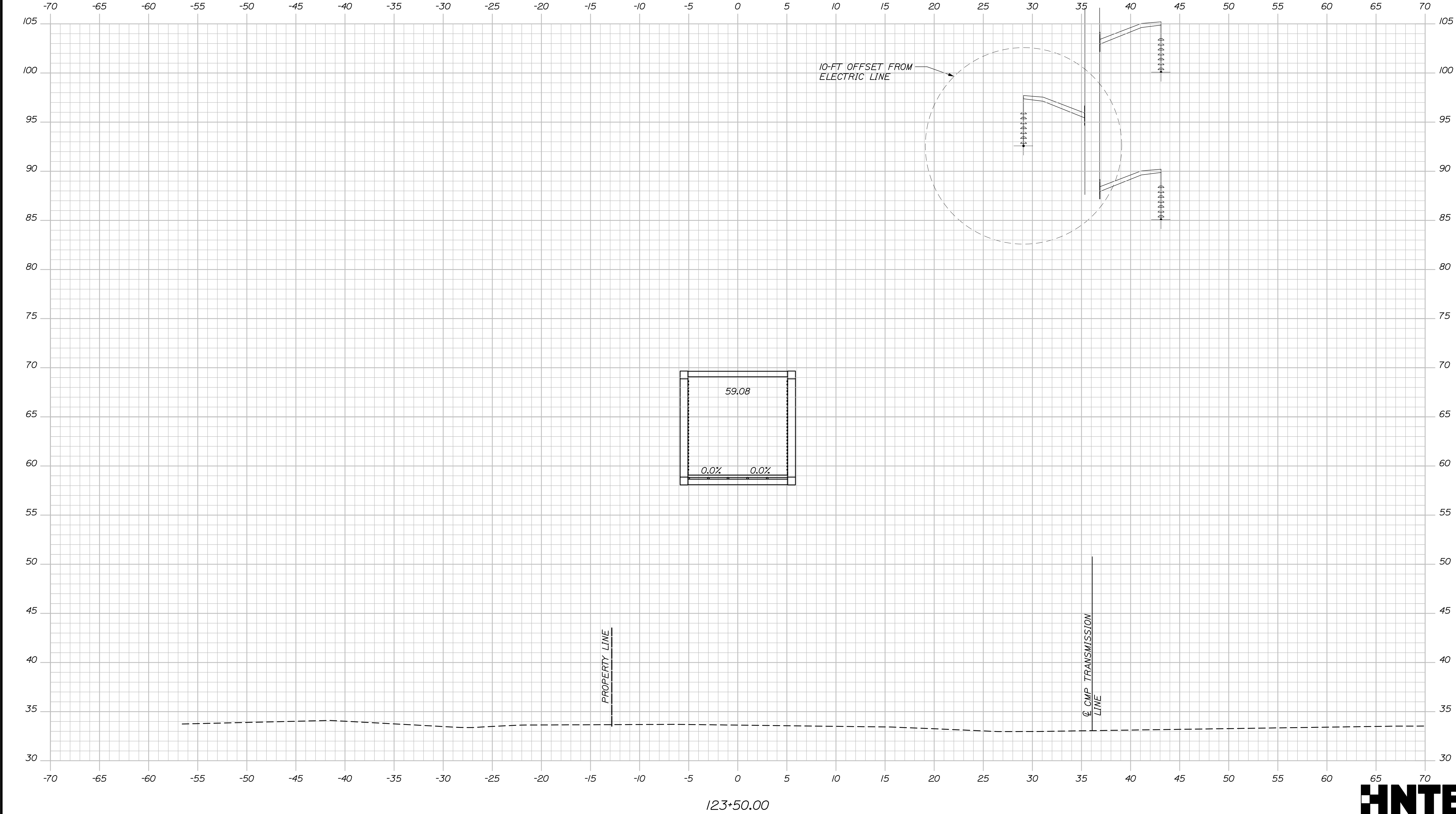
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AC-STP-1942(600)X & CMAQ-1942(610)		WIN	
19426.00 & 019426.10			
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EASTERN TRAIL CONNECTOR		41	
SCARBOROUGH TO SOUTH PORTLAND, MAINE		OF 69	
CSX RAILROAD			
CROSS SECTIONS			
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CHECKED-REVIEWED	L. Driscoll	J. O'Neil	3/2025
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SIGNATURE		P.E. NUMBER	
DATE		DATE	

Date: 3/10/2025

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Division:

Filename: Xsect_CSX.dgn



STATE OF MAINE	
DEPARTMENT OF TRANSPORTATION	
AC-STP-1942(600)X & CMAQ-1942(610)	
WIN 19426.00 & 019426.10	

PROJ. MANAGER	BILL RECH	BY	DATE	SIGNATURE
DESIGNED-DETAILED	CHECKED-REVIEWED	L. Driscoll	3/2025	P.E. NUMBER
DESIGNS-DETAILED	REVISIONS 1	-	-	DATE
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TOWN OF SCARBOROUGH	
EASTERN TRAIL CONNECTOR	
SCARBOROUGH TO SOUTH PORTLAND, MAINE	
CSX RAILROAD	
CROSS SECTIONS	

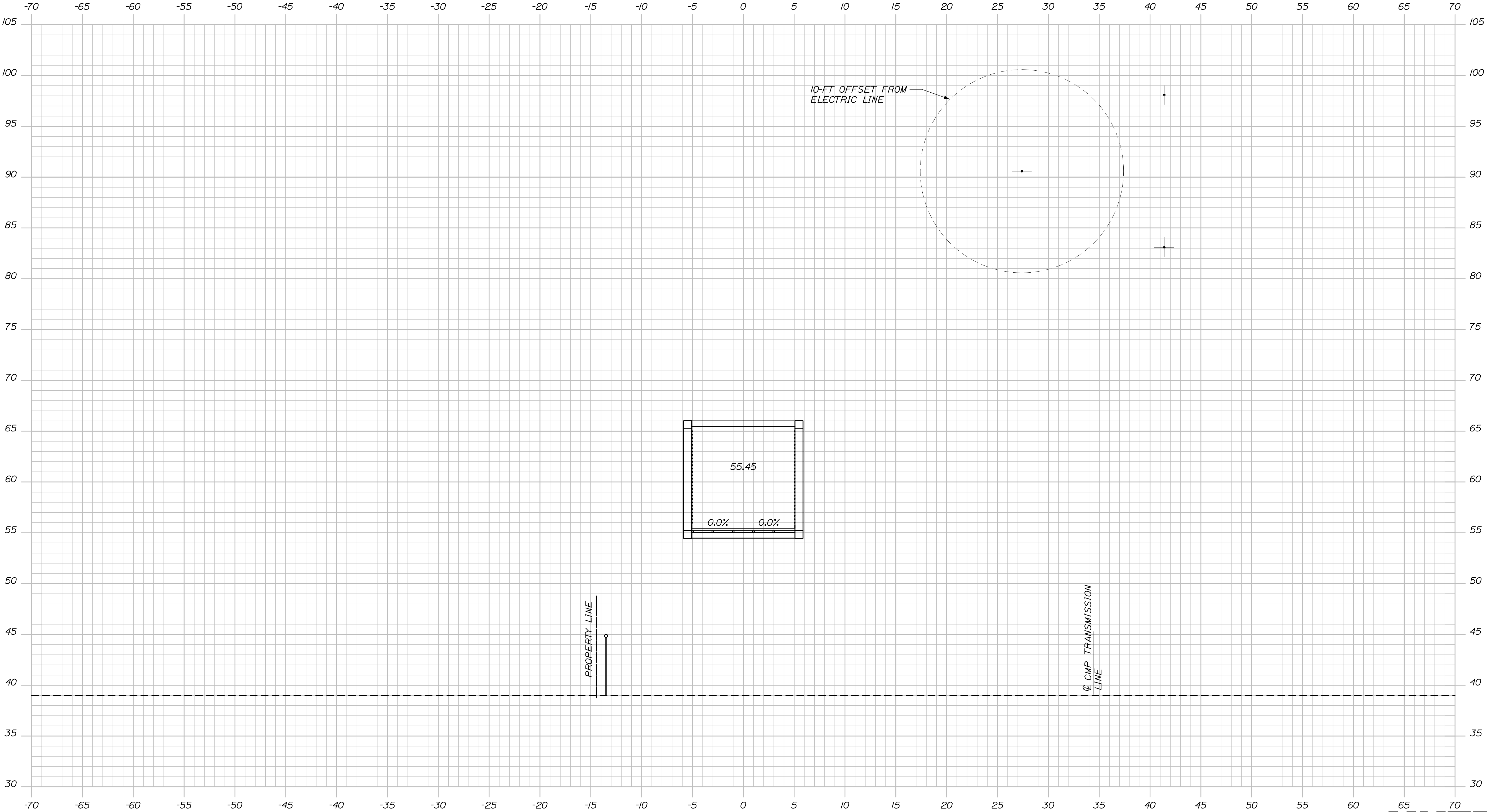
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OF 69	

Date: 3/10/2025

Username:

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124+00.00



Sta. 124+00.00 to Sta. 124+00.00

STATE OF MAINE	
DEPARTMENT OF TRANSPORTATION	
AC-STP-1942(600)X & CMAQ-1942(610)	
WIN 19426.00 & 019426.10	

PROJ. MANAGER	BILL RECH	BY	DATE
DESIGN-DETAILED	C. Herick	P. Bishop	3/2025
CHECKED-REVIEWED	L. Driscoll	J. O'Neil	3/2025
DESIGN-DETAILED	-	-	-
DESIGN-DETAILED	-	-	-
REVISIONS 1	-	-	-
REVISIONS 2	-	-	-
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REVISIONS 4	-	-	-
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TOWN OF SCARBOROUGH
EASTERN TRAIL CONNECTOR
SCARBOROUGH TO SOUTH PORTLAND, MAINE
CSX RAILROAD
CROSS SECTIONS

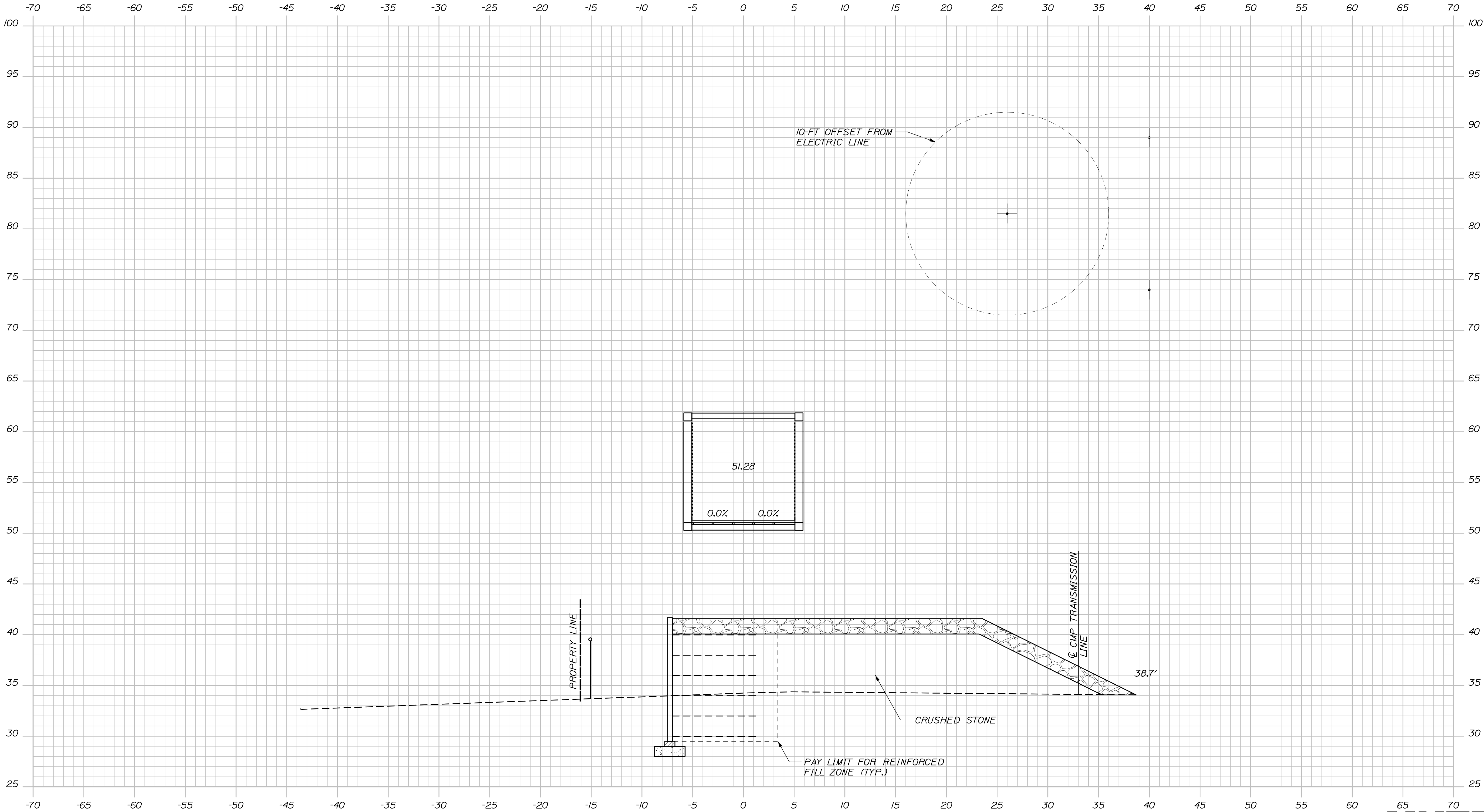
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Date: 3/10/2025

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124+50.00



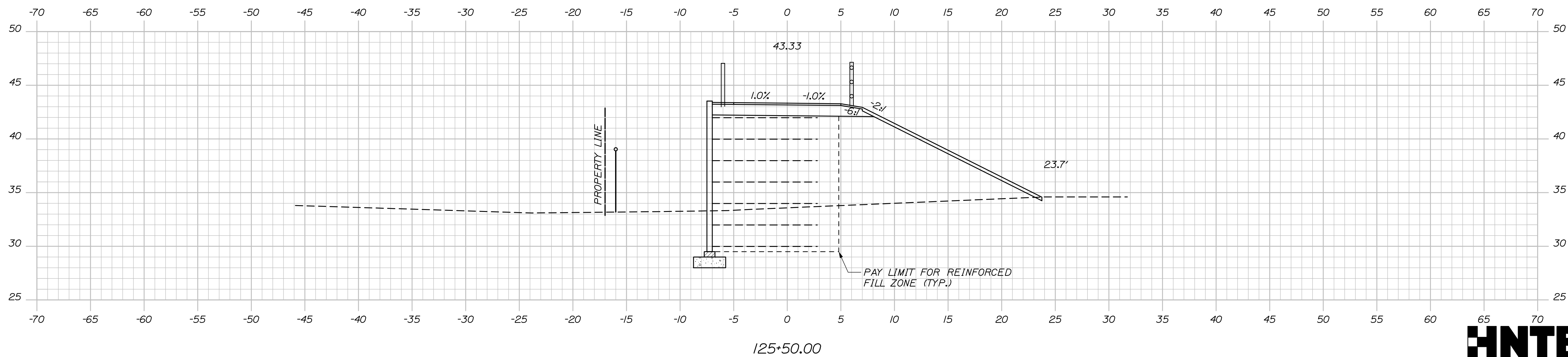
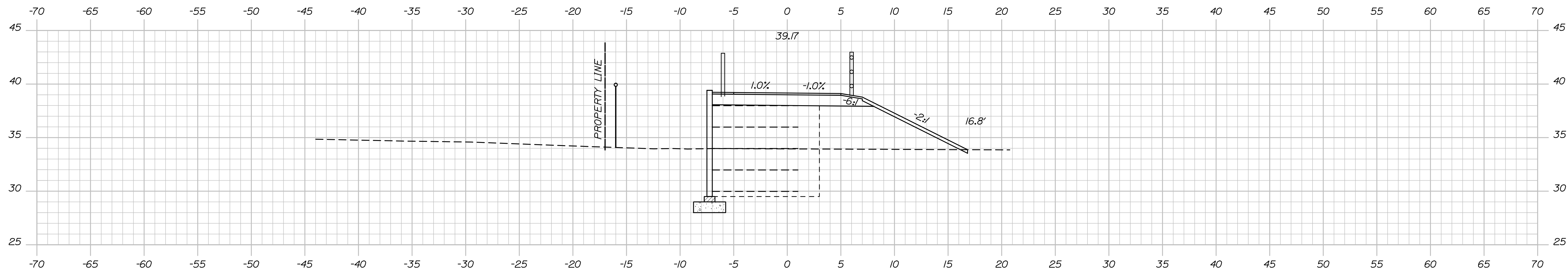
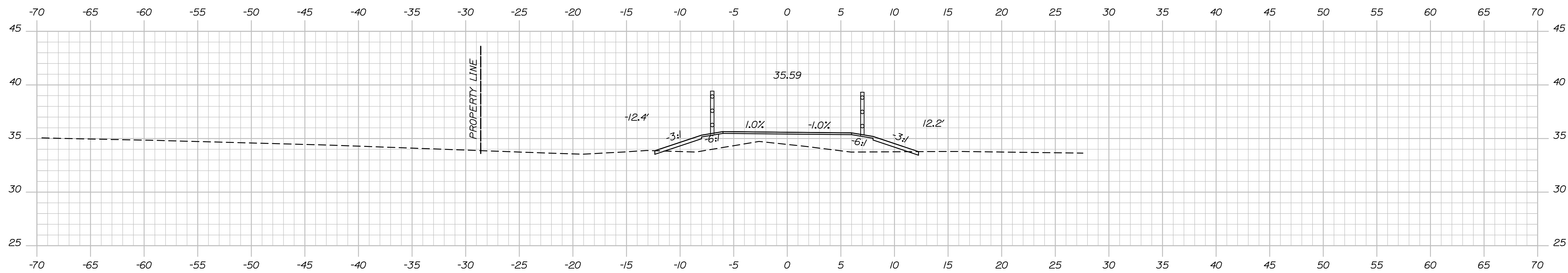
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STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
AC-STP-1942(600)X & CMAQ-1942(610)
WIN 19426.00 & 019426.10

PROJ. MANAGER	BILL RECH	BY	DATE
DESIGN-DETAILED	C. Herick	P. Bishop	3/3/2025
CHECKED-REVIEWED	L. Driscoll	J. O'Neil	3/3/2025
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TOWN OF SCARBOROUGH
EASTERN TRAIL CONNECTOR
SCARBOROUGH TO SOUTH PORTLAND, MAINE
CSX RAILROAD
CROSS SECTIONS

SHEET NUMBER
44
OF 69



STATE OF MAINE

DEPARTMENT OF TRANSPORTATION

AC-STP-1942(600)X & CMAQ-1942(610)

WIN
19426 00 & 019426 10

TOWN OF SCARBOROUGH

EASTERN TRAIL CONNECTOR

SCARBOROUGH TO SOUTH PORTLAND, MAINE

**CSX RAILROAD
CROSS SECTIONS**

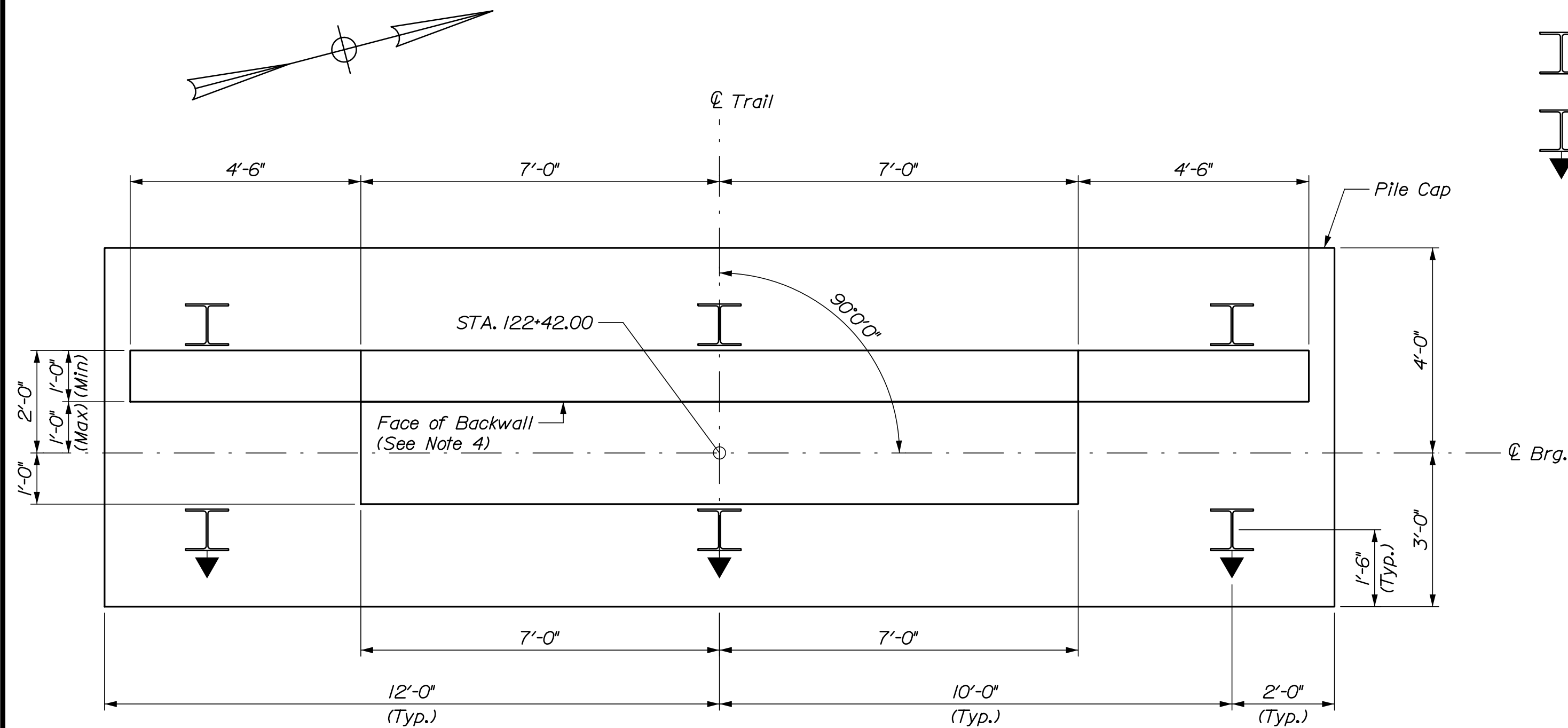
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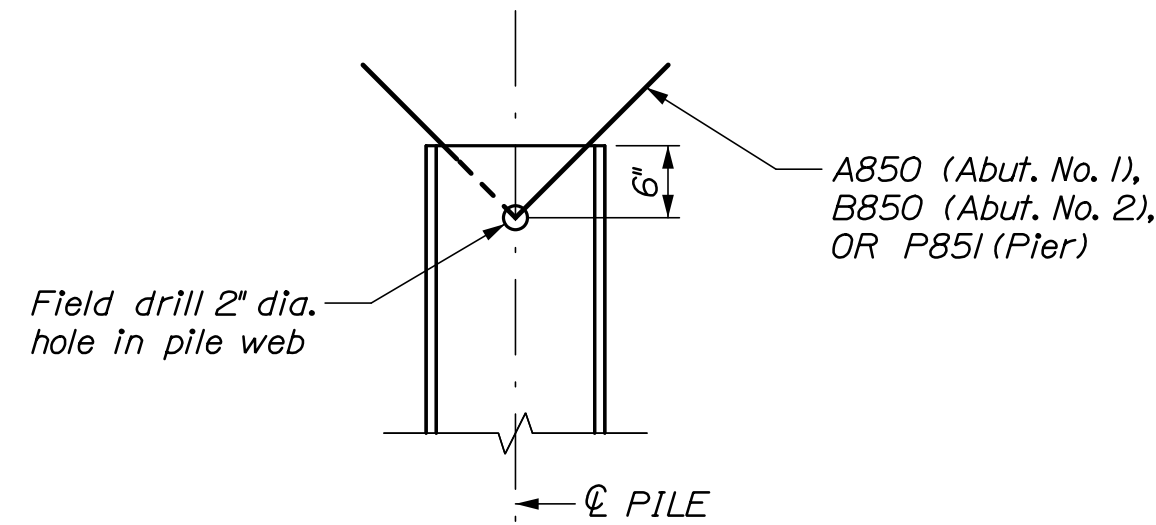
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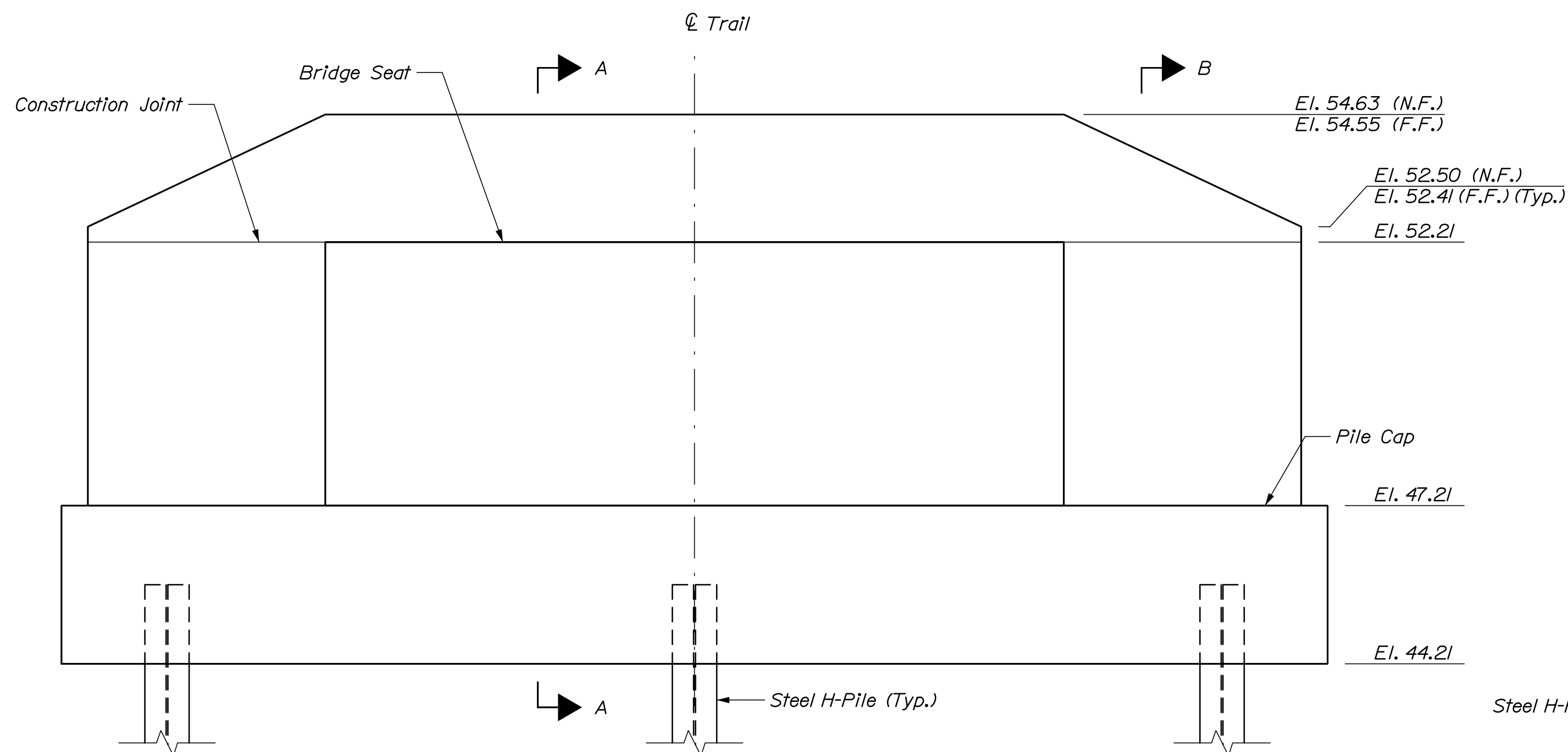
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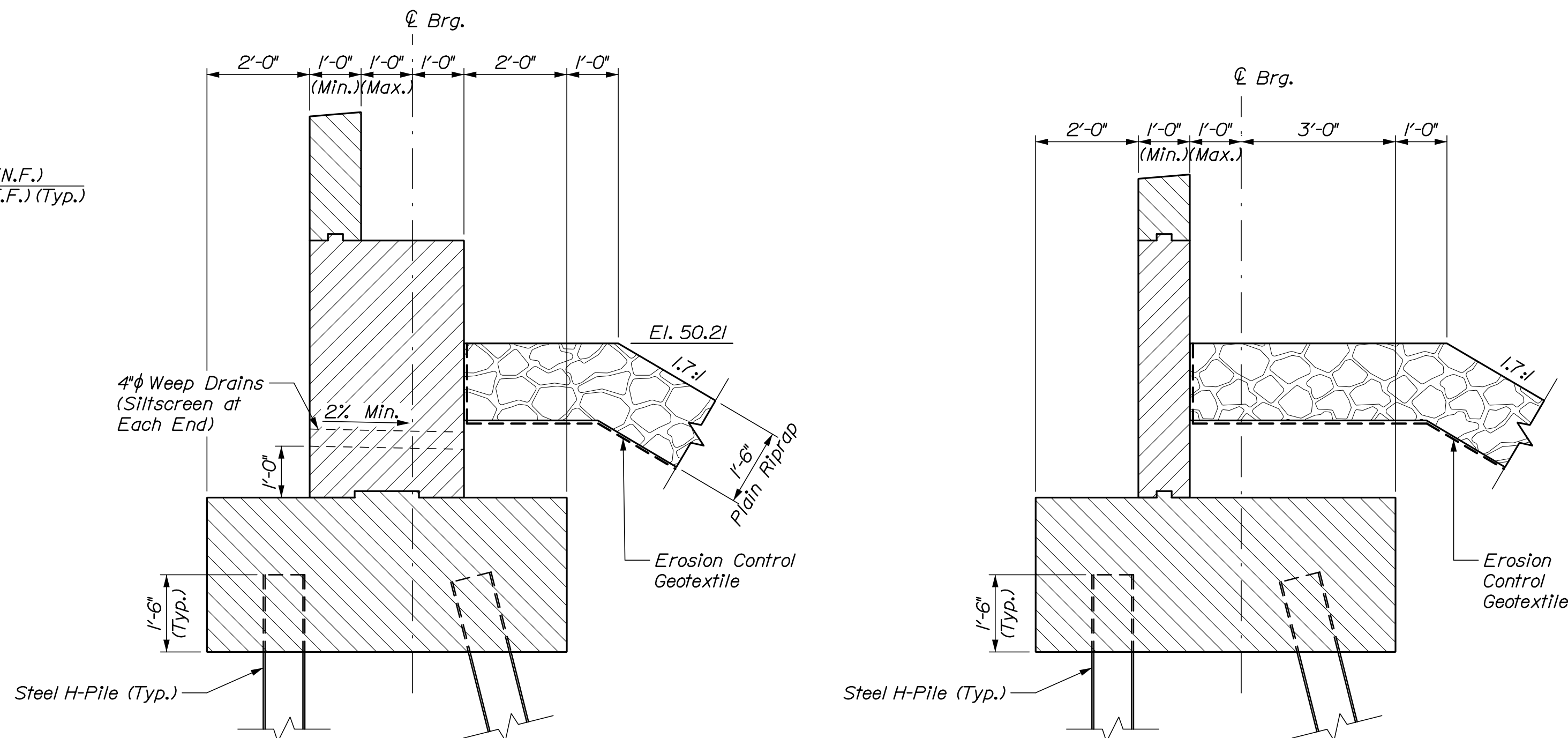
ABUTMENT NO. 1 PLAN



PILE ANCHORAGE DETAIL



ABUTMENT NO. 1 ELEVATION



SECTION A-A

SECTION B-B

ABUTMENT NOTES:

1. Reinforcing steel shall have a minimum concrete cover of 2 inches in the walls and 3 inches in the footings unless otherwise noted.
2. Place 4-in. diameter drains in the breastwall and wingwalls at 10-ft maximum spacing. The exact location will be determined by the Resident.
3. Cover joints where waterstops are not required in accordance with Standard Details Section 502.
4. The face of backwall shall be shifted to accommodate the Prefabricated Steel Truss dimensions and joint opening, as determined by the manufacturer. Location of piles, footing, bearing, face of seat, and back of backwall shall not be adjusted.
5. All concrete shall be Class A, and shall be paid under Item 502.219, Structural Concrete, Abutments and Retaining Walls.
6. Bridge seat elevations are approximate and shall be confirmed by the Contractor based on final bridge and bearing details. Refer to Special Provision 530 for additional guidance.

PILE NOTES:

1. The maximum factored pile load is:

Abutment No. 1 & 2:	365 kips (including 190 kips allowed for downdrag)
Pier:	145 kips
2. Piles shall be driven to the following nominal driving resistances:

Abutment No. 1 & 2:	560 kips
Pier:	225 kips
3. H-pile material shall be ASTM A572, Grade 50.
4. Estimate of piles required:

Abutment No. 1:	6 ~ HP 12x74 @ 130 feet
Abutment No. 2:	6 ~ HP 12x74 @ 110 feet
Pier:	8 ~ HP 12x74 @ 95 feet
5. All piles shall be equipped with a pile tip in accordance with Standard Specifications Section 501.048, Prefabricated Pile Tips.
6. The Contractor shall perform and submit a wave equation analysis for review and acceptance by the Resident. The maximum allowable driving stress is 0.90 times Fy. The submittal analyses shall include the proposed stopping criteria based on the wave equation analysis and the proposed driving system. The stopping criteria shall include the blows per inch and the number of 1-in. intervals at which pile installation may be terminated. The cost of performing the wave equation analysis will be considered incidental to Item No. 501.92, Pile Driving Equipment Mobilization.
7. The Contractor shall perform 3 dynamic load tests, one at each substructure location, to confirm the nominal driving resistances have been met. The dynamic tests shall be performed on the first production pile driven at each substructure. Minimum 48 hour pile restrikes shall be conducted on all test piles in order to ensure the required nominal resistance has been achieved and verify pile relaxation has not occurred. The Contractor may drive production piles to the preliminary driving criteria, however pile cut-off will not be permitted until completion of restrrike testing and establishment of final driving criteria.
8. All pile heads to be constructed with an anchorage dowel in accordance with the Pile Anchorage Detail, this sheet. Payment for drilling through the pile webs will not be made separately and will be considered incidental to Item 501.481, Steel H-Beam Piles, 74 lbs/ft, in place.
9. Abutment No. 2 piles may be driven before or after partial construction of the MSE Retaining Wall. If the piles are to be driven after partial construction of the MSE Retaining Wall, blockouts for pile installation shall be provided through the use of 2-ft diameter corrugated PVC sleeves and the annulus between the pile and sleeve shall be backfilled with material meeting the requirements of T03.02, Coarse Aggregate for Concrete, Class Latex. Payment for sleeves and sleeve backfill will not be made separately and will be considered incidental to Item 501.481, Steel H-Beam Piles, 74 lbs/ft, in place.

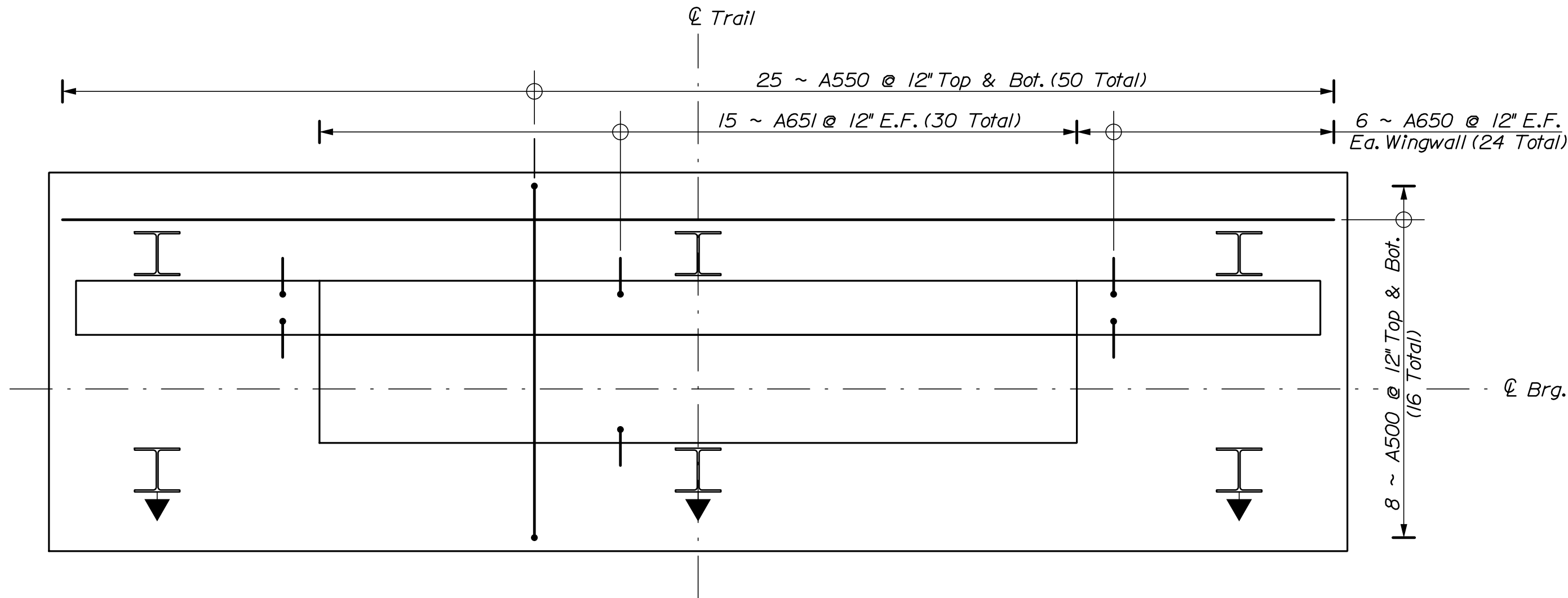
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		CHECKED-REVIEWED G. Standley 3/20/25	SIGNATURE	
		DESIGN-DETAILED A. Stephens	SIGNATURE	
		DESIGNS-DETAILED 3	P.E. NUMBER	
		REVISIONS 1 REVISIONS 2 REVISIONS 3 REVISIONS 4 FIELD CHANGES	DATE	

Date:3/10/2025

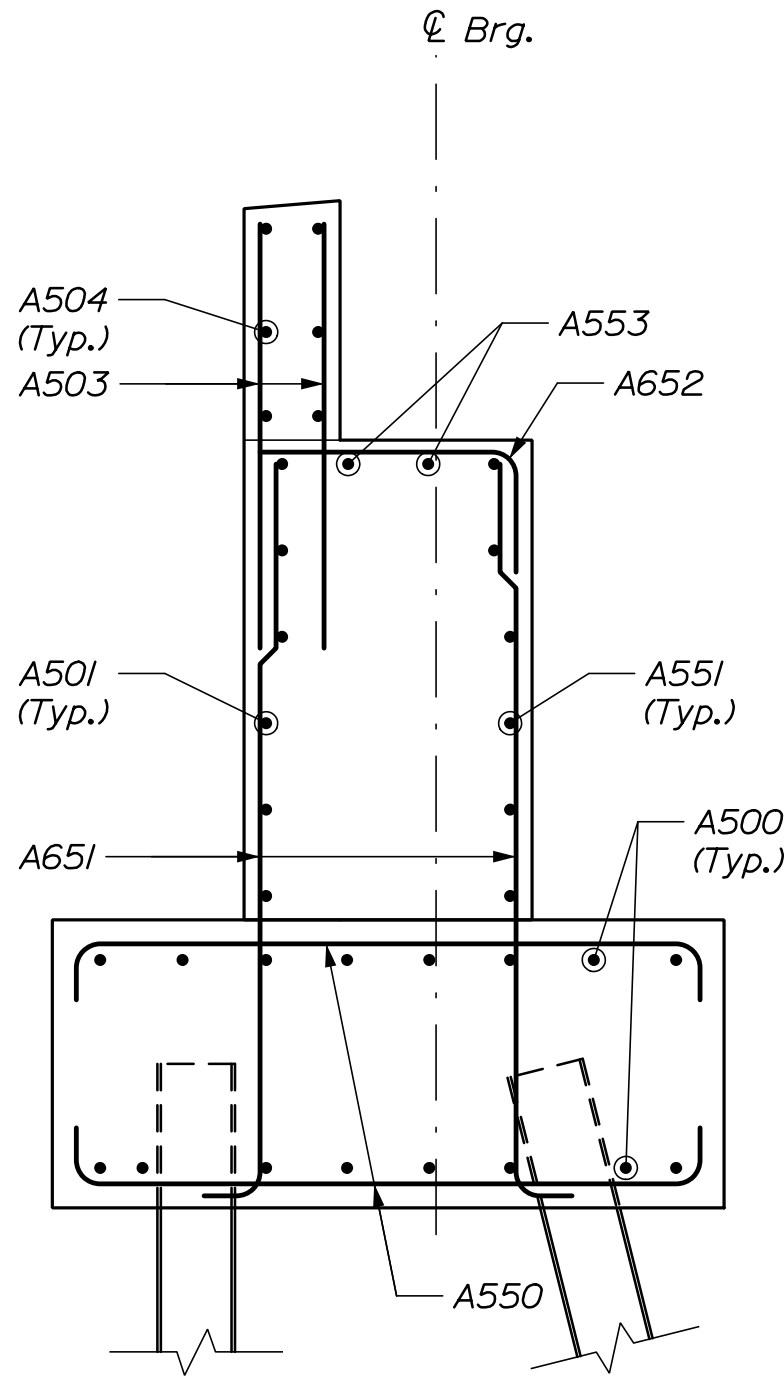
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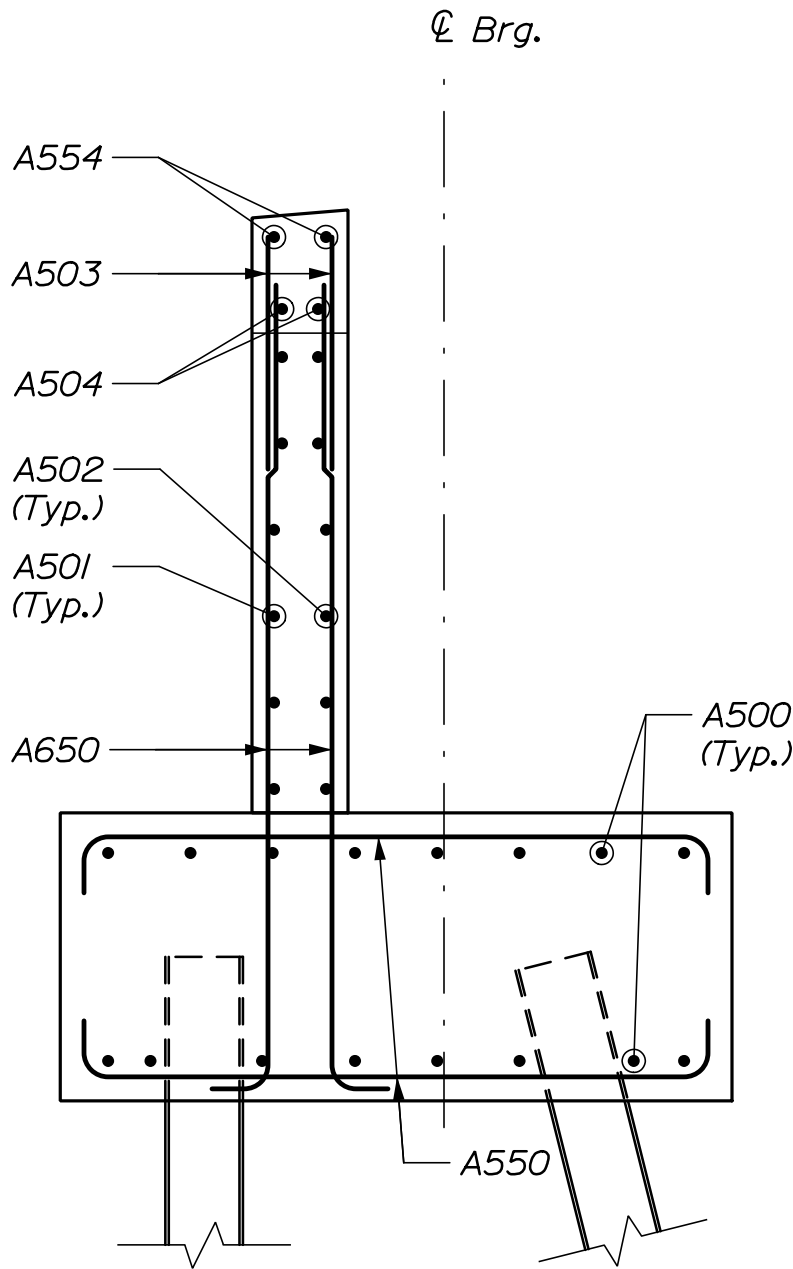
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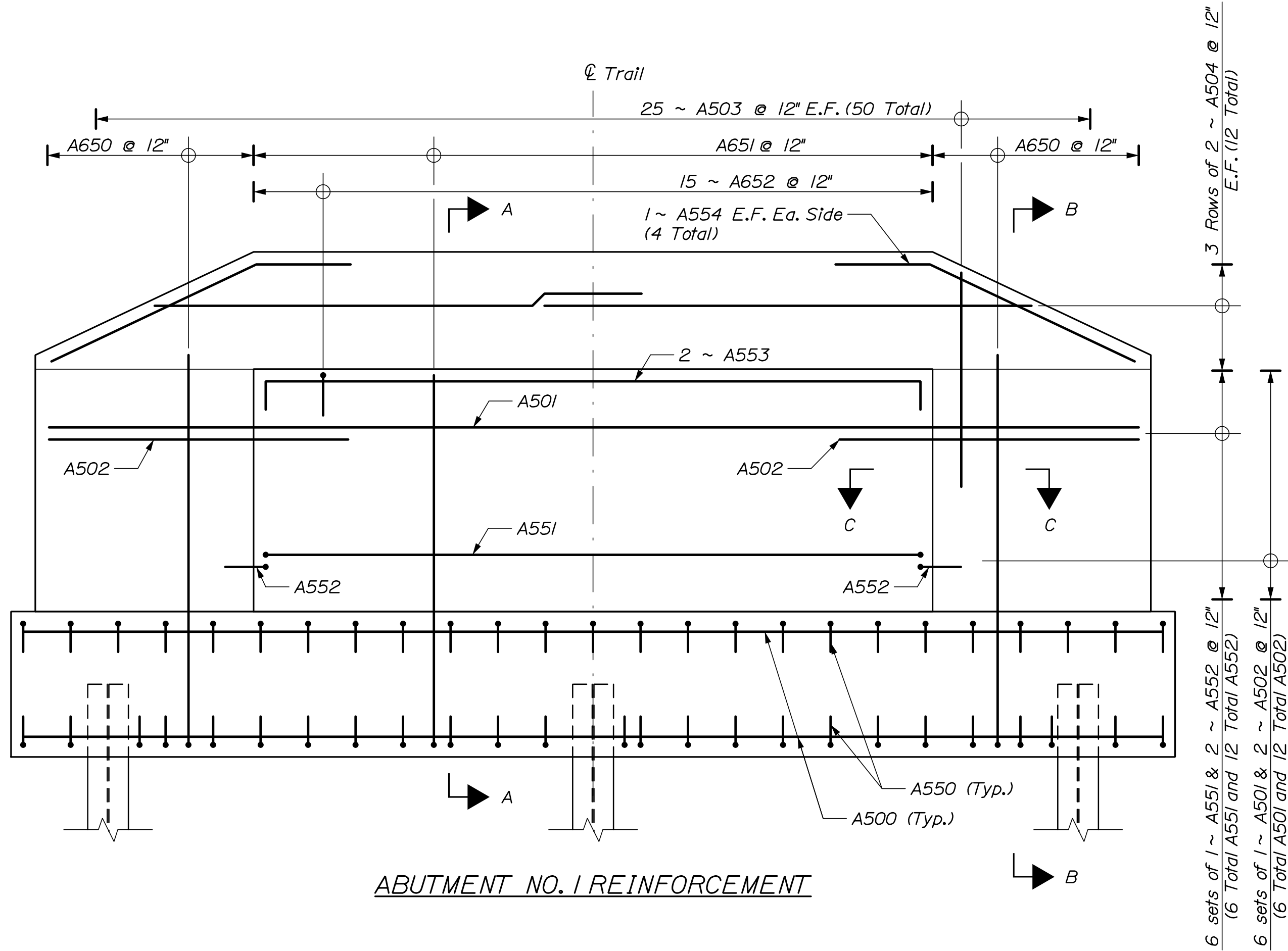
ABUTMENT NO.1 PILE CAP REINFORCEMENT PLAN



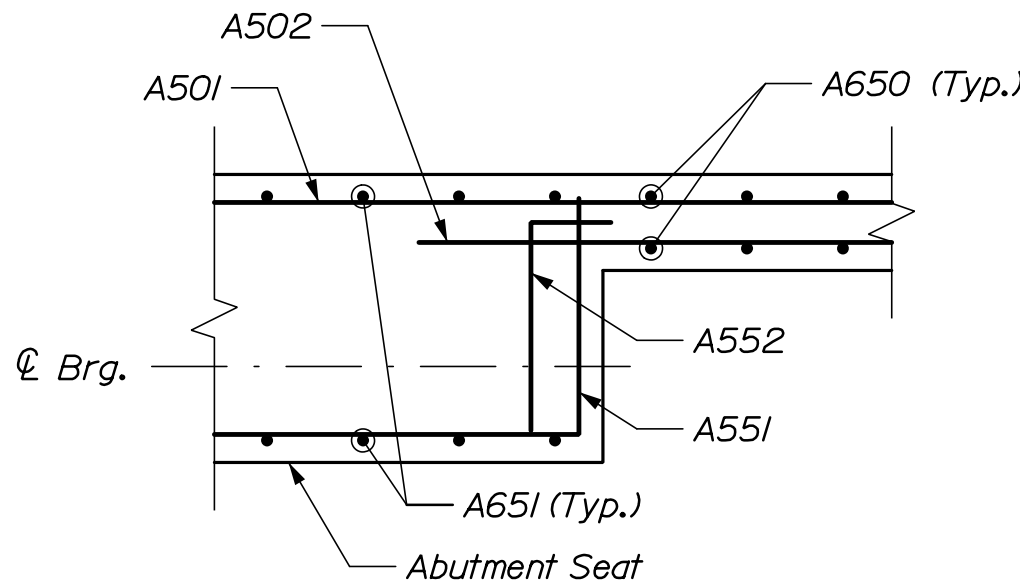
SECTION A-A



SECTION B-B



ABUTMENT NO.1 REINFORCEMENT



SECTION C-C

NOTES:

1. Minimum laps shall be:
#5 = 1'-11" (vertical)
#5 = 2'-7" (horizontal)
2. Reinforcement shall be shifted to avoid piles.
3. Reinforcement shall be shifted to avoid anchor rod placement.

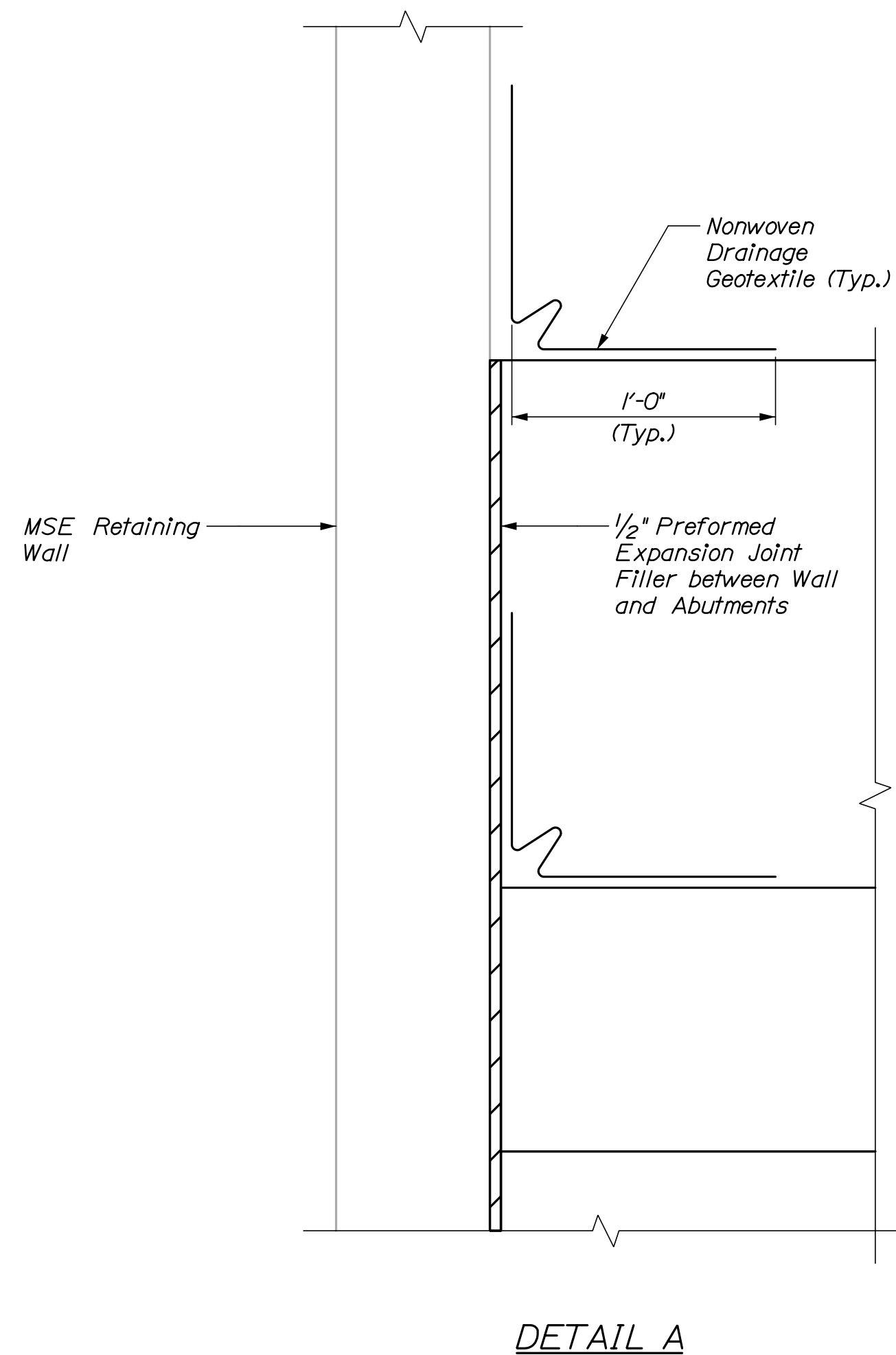
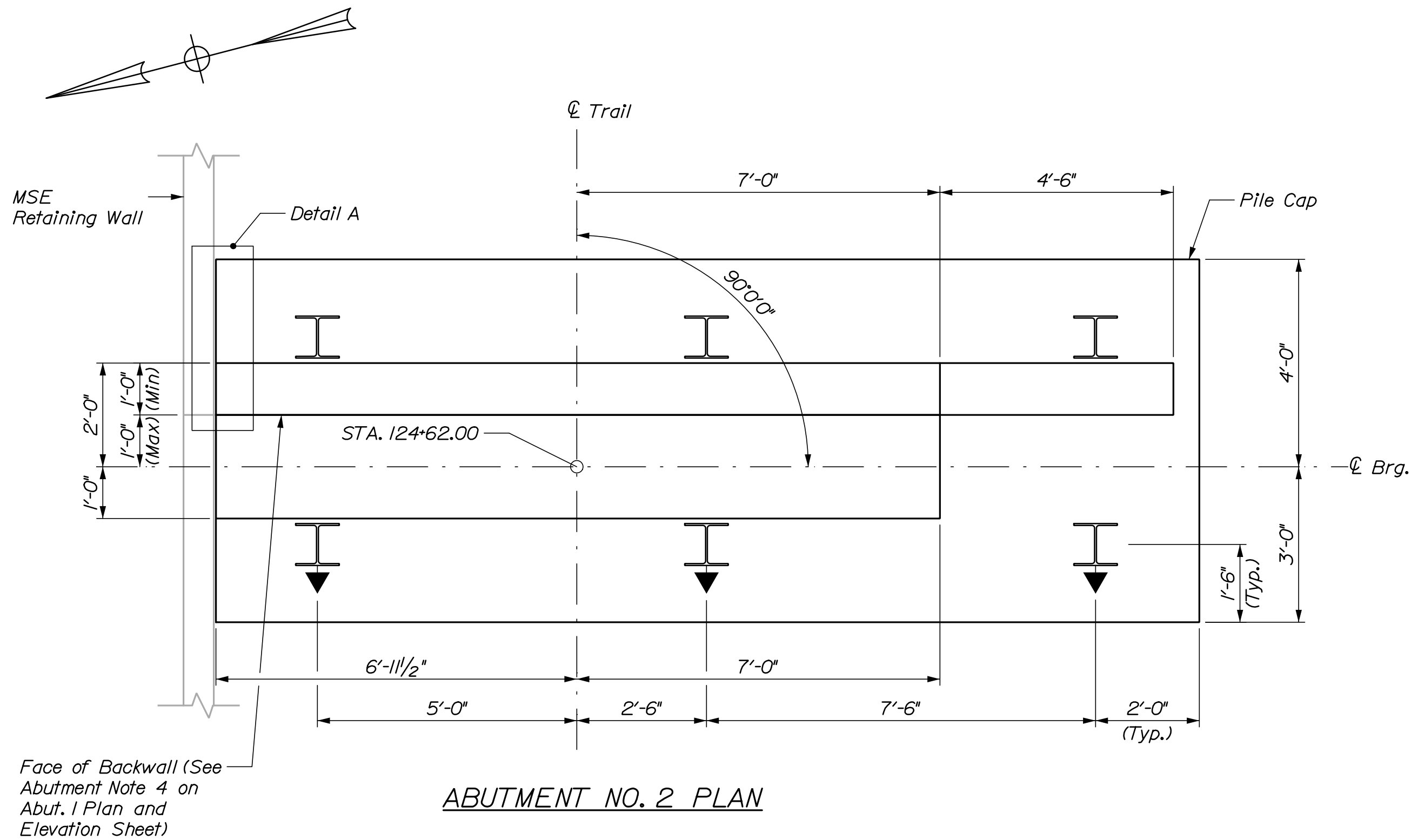
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48																	
OF 69																	

Date: 3/10/2025

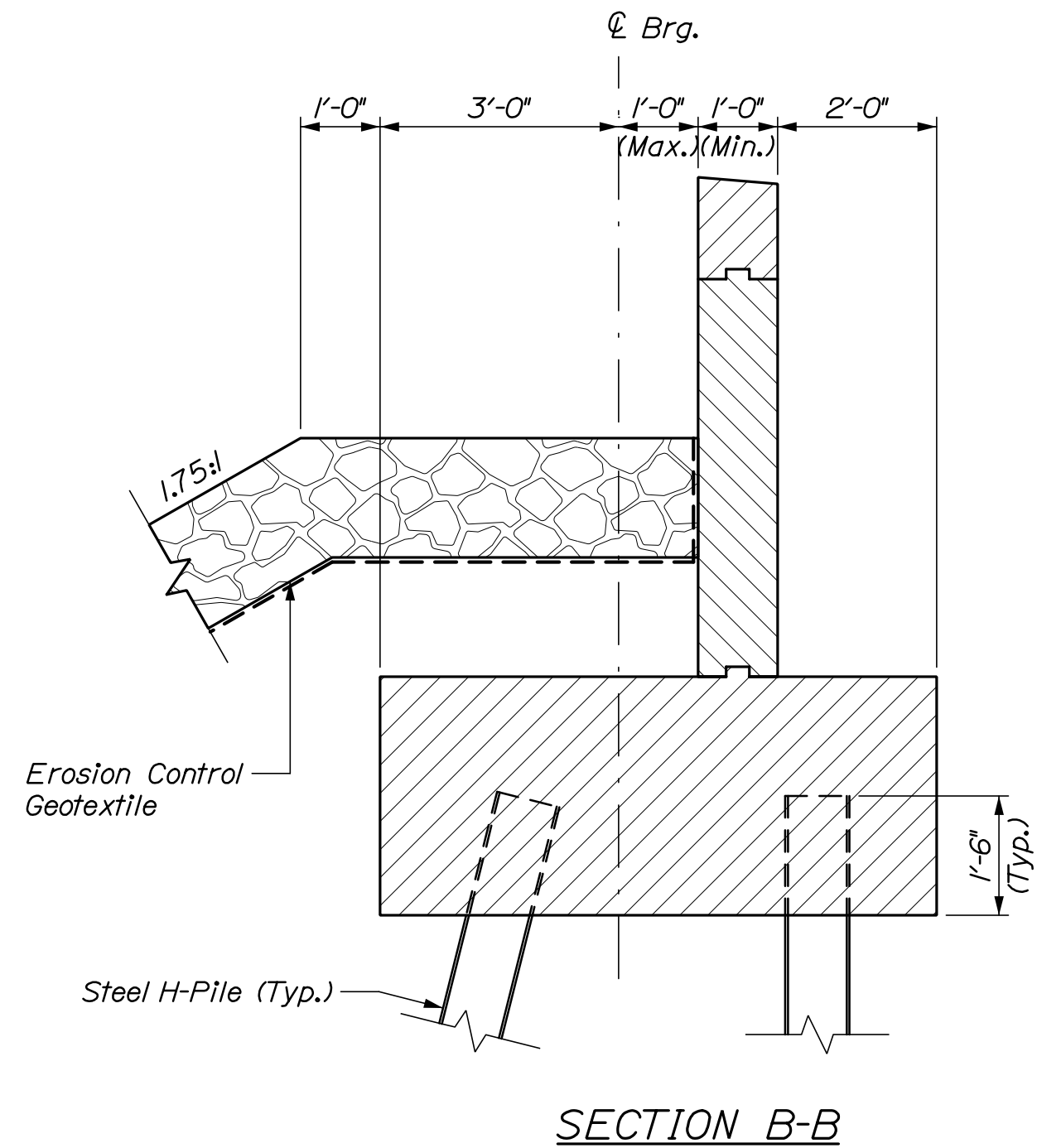
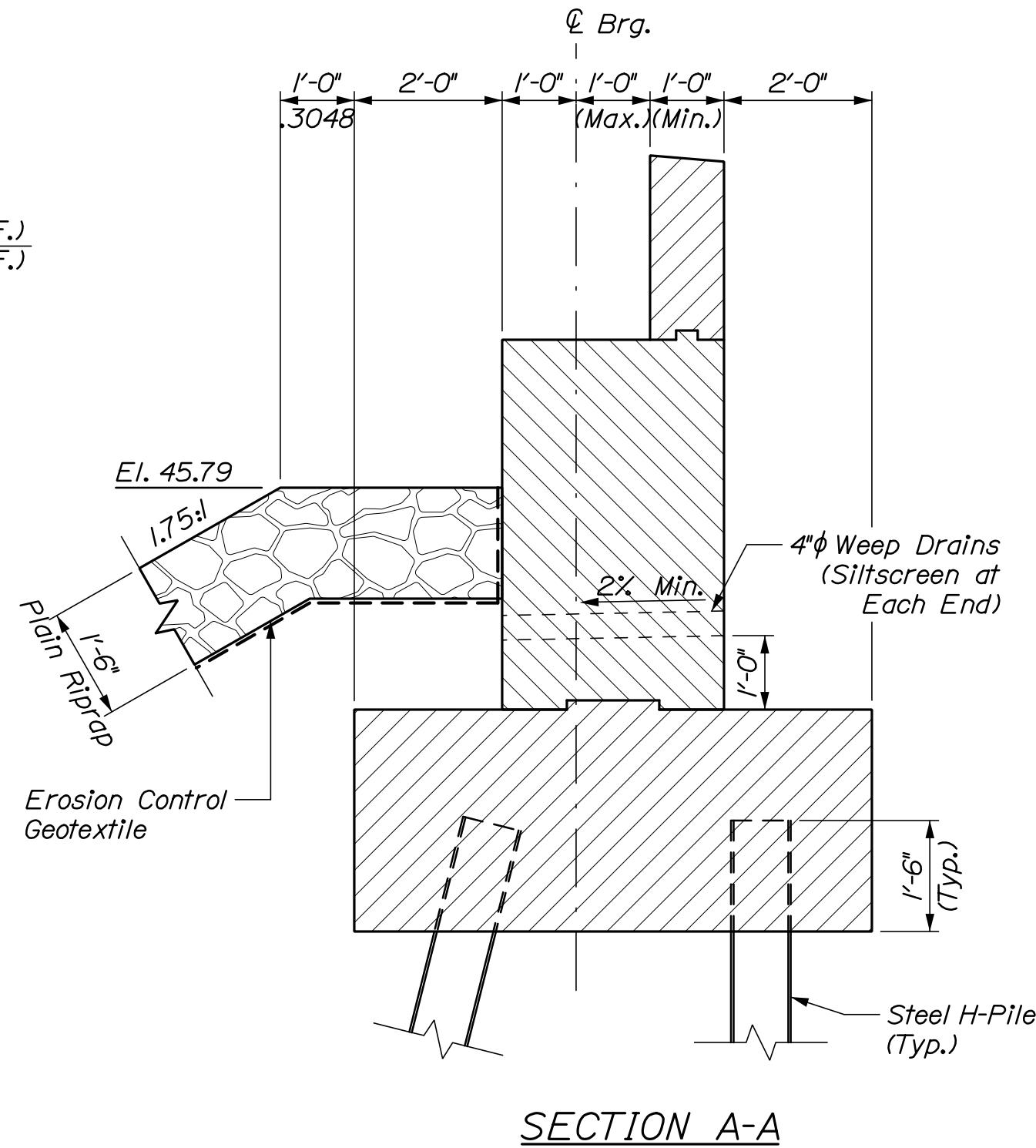
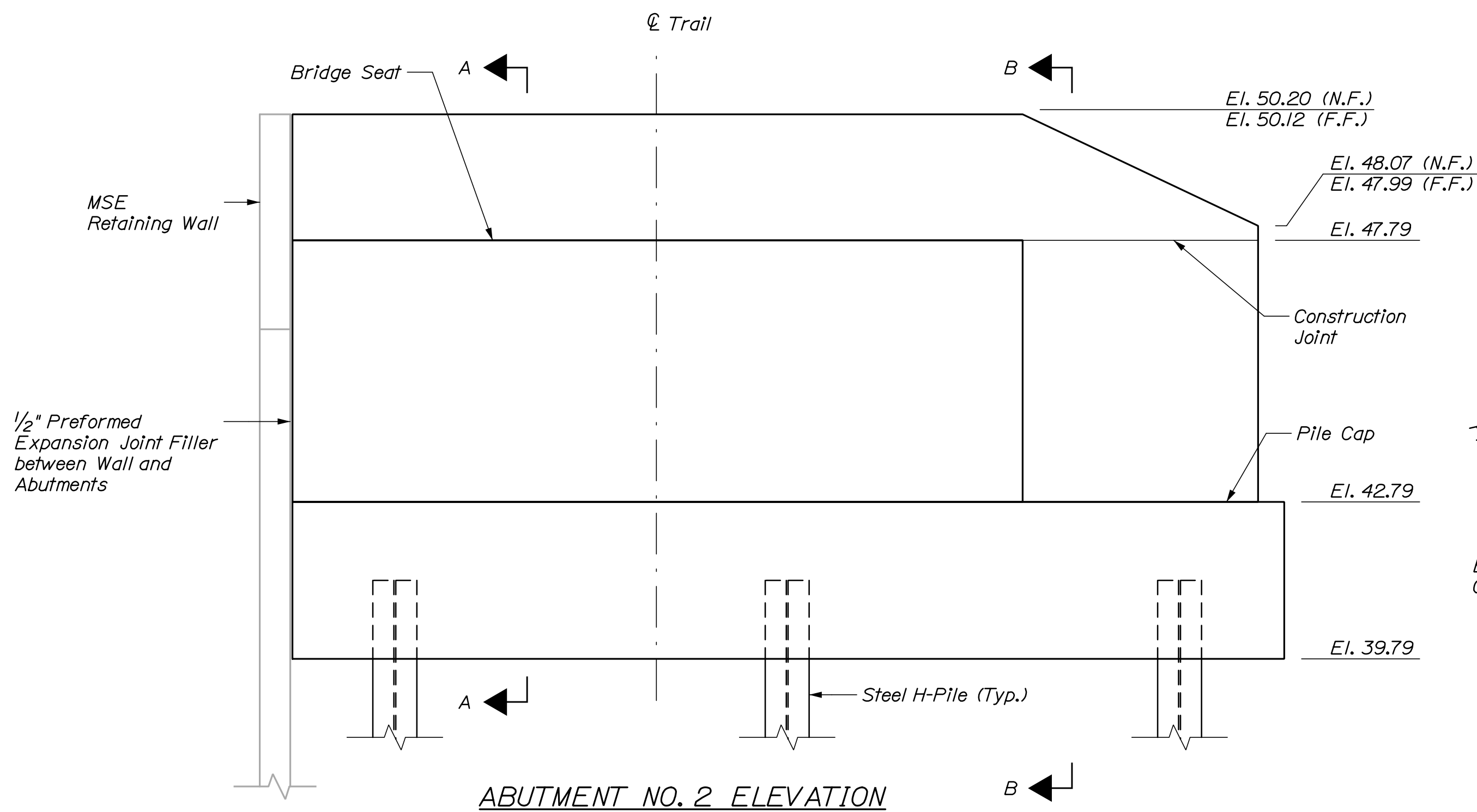
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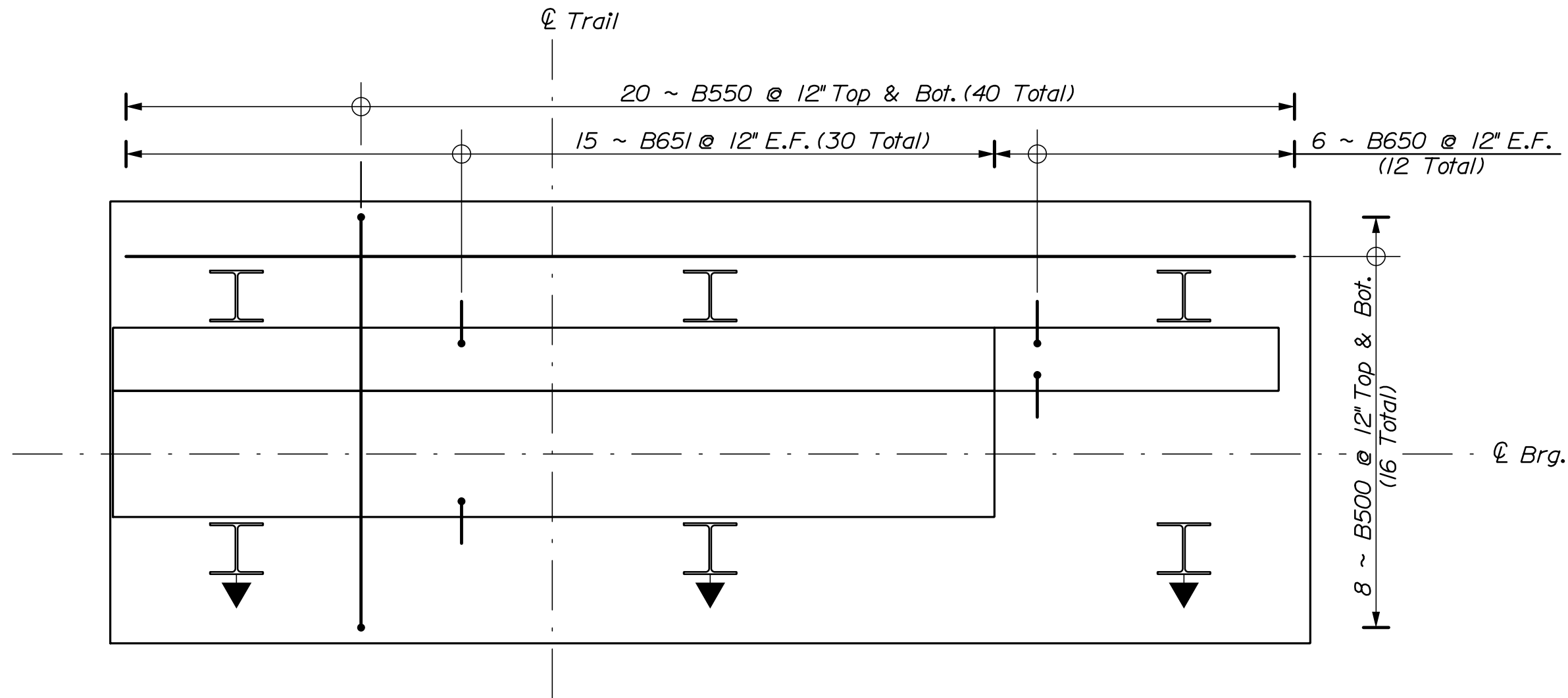
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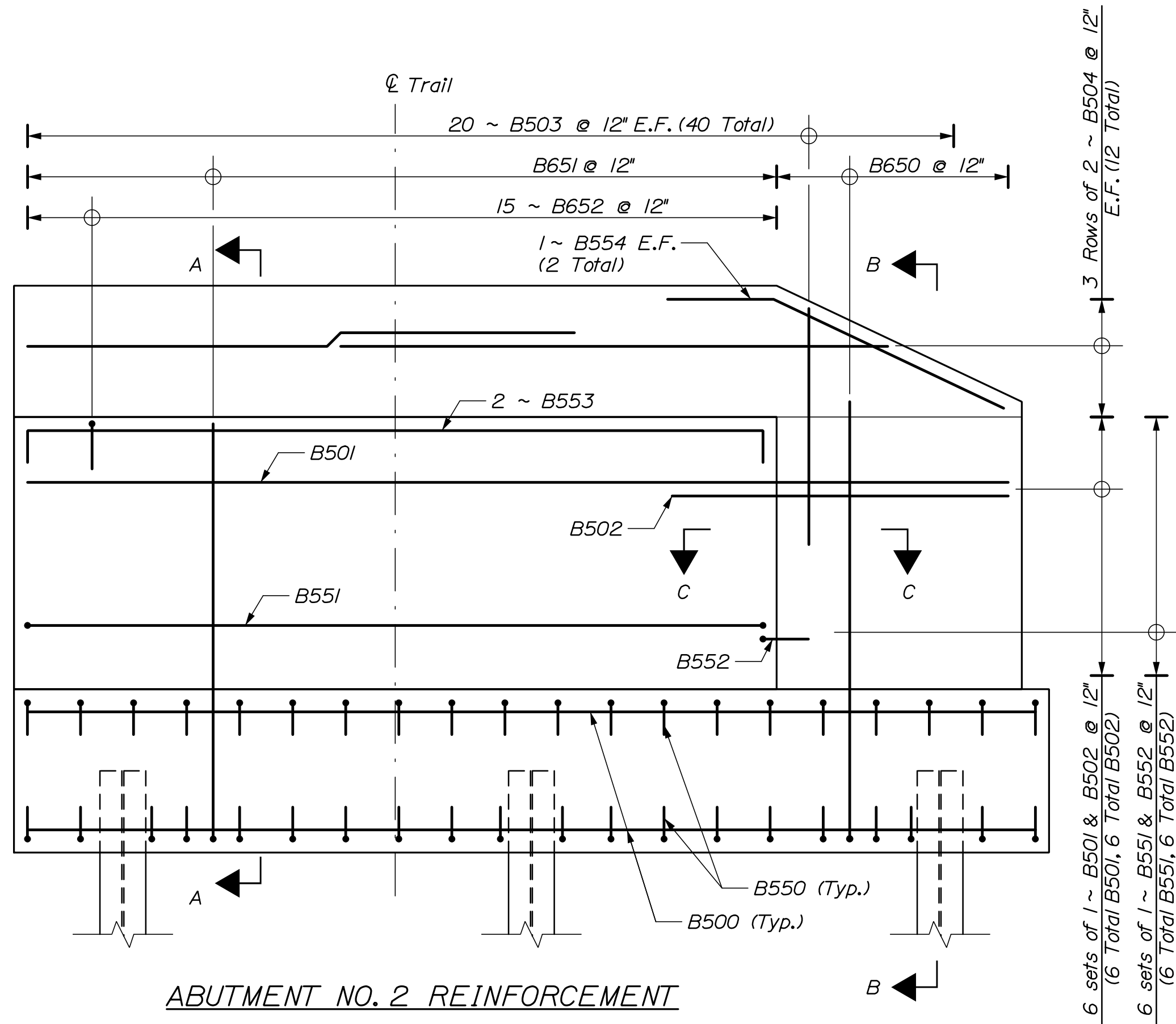
NOTE:
Payment for the Nonwoven Drainage Geotextile and Preformed Expansion Joint Filler shall be considered incidental to Item 677.20, Mechanically Stabilized Earth Retaining Wall



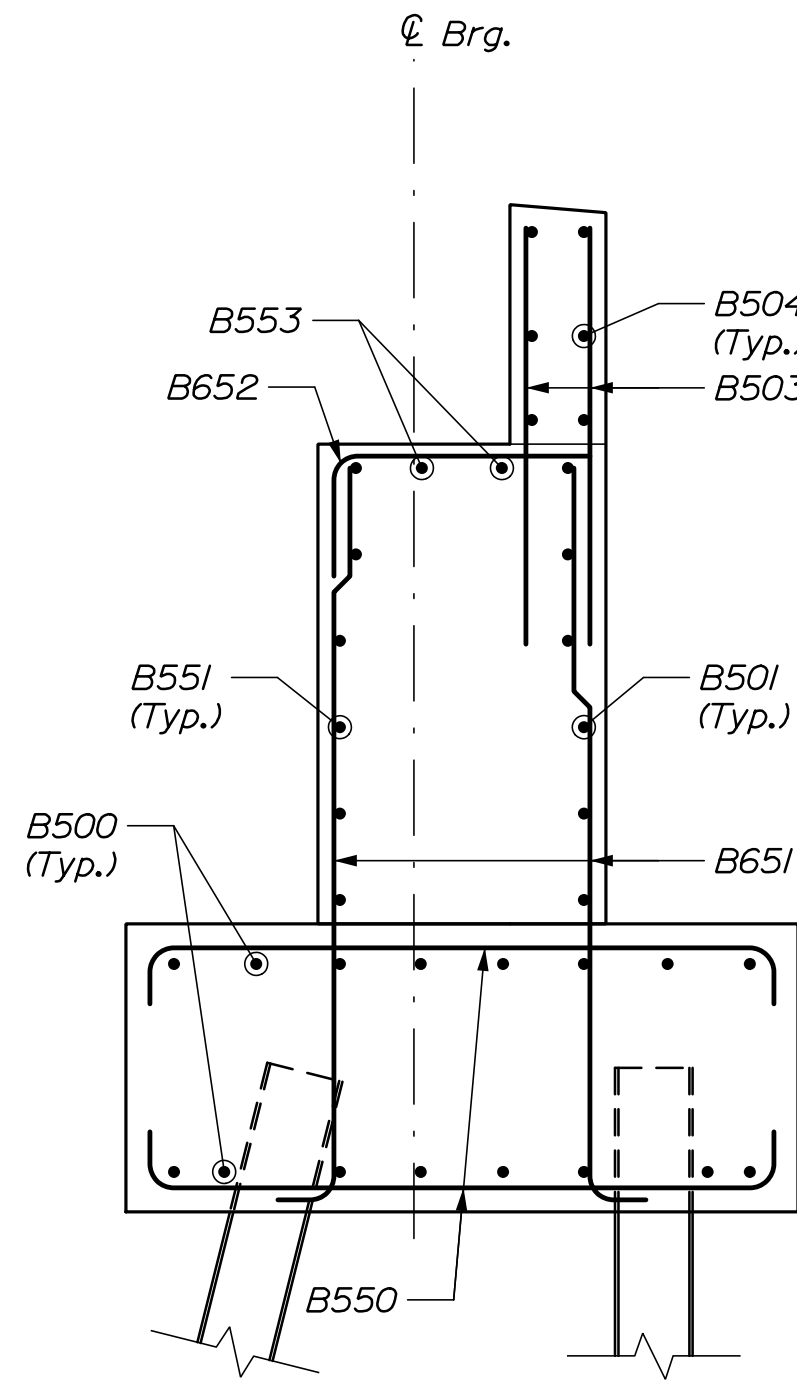
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DESIGNS 4	-	-	-
FIELD CHANGES	-	-	-



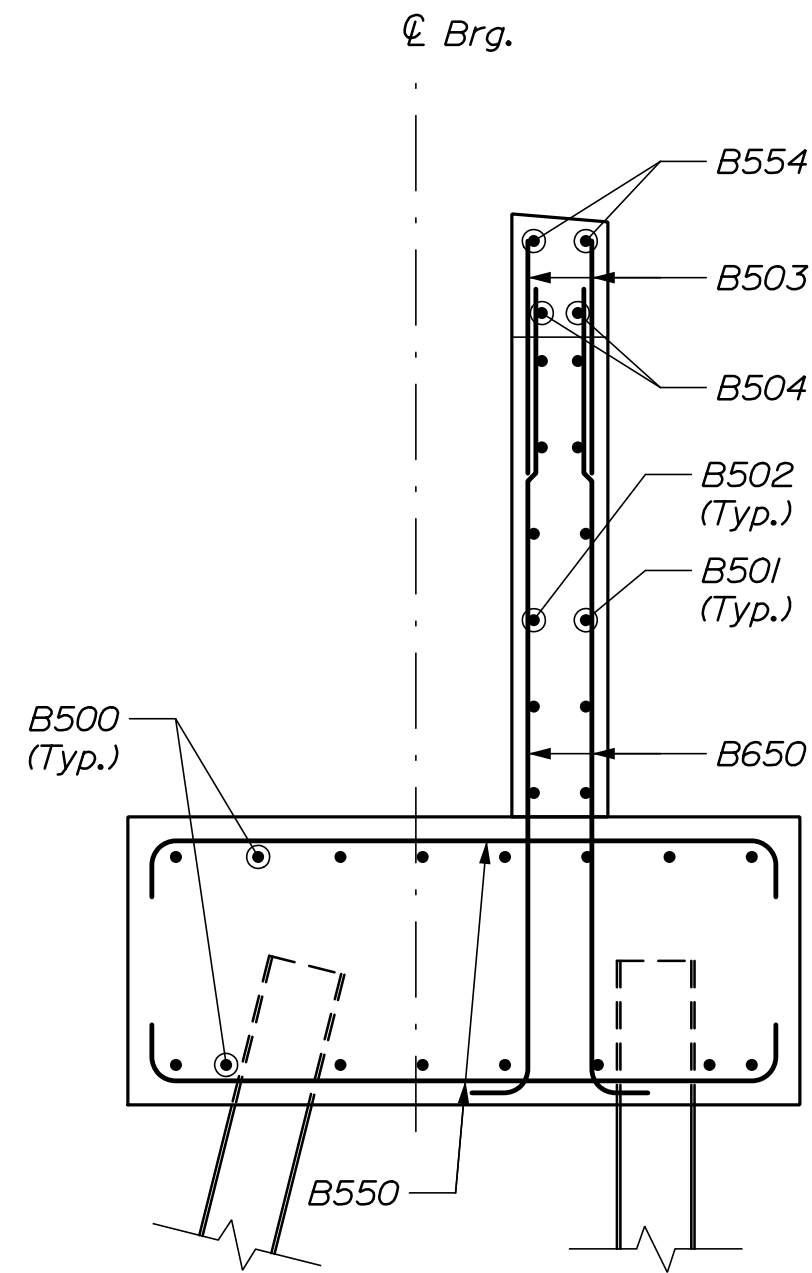
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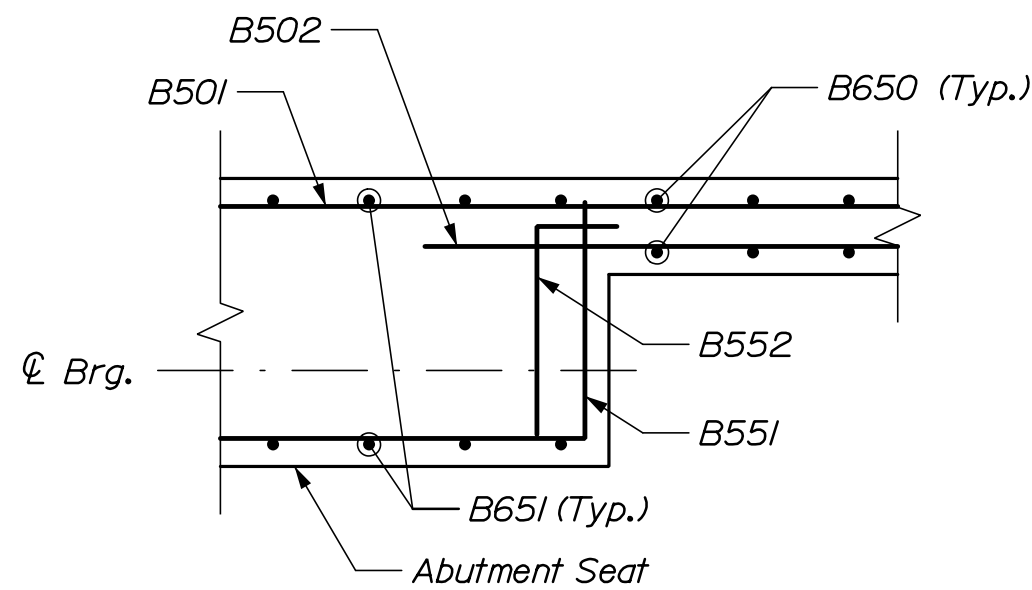
ABUTMENT NO. 2 REINFORCEMENT



SECTION A-A



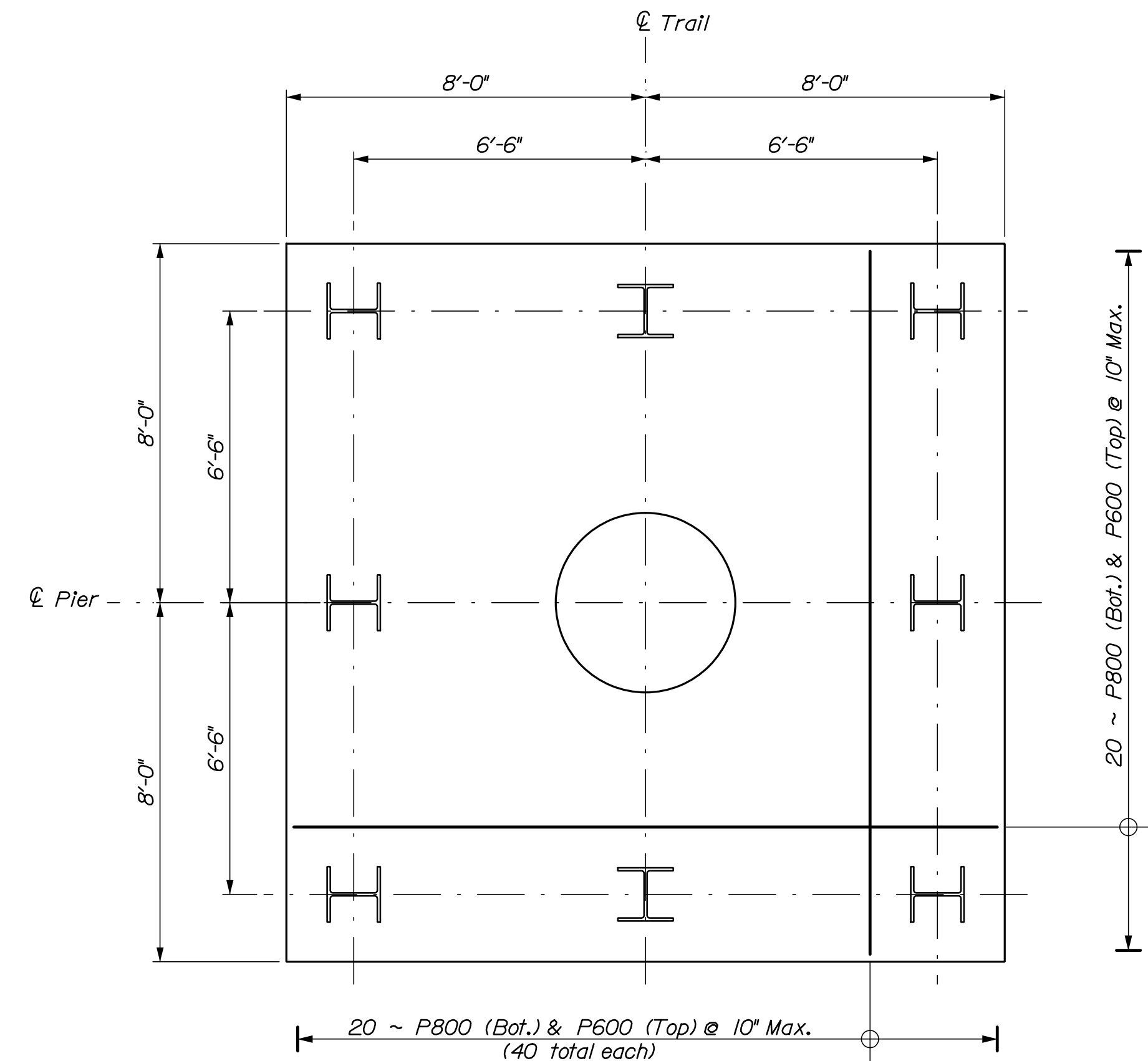
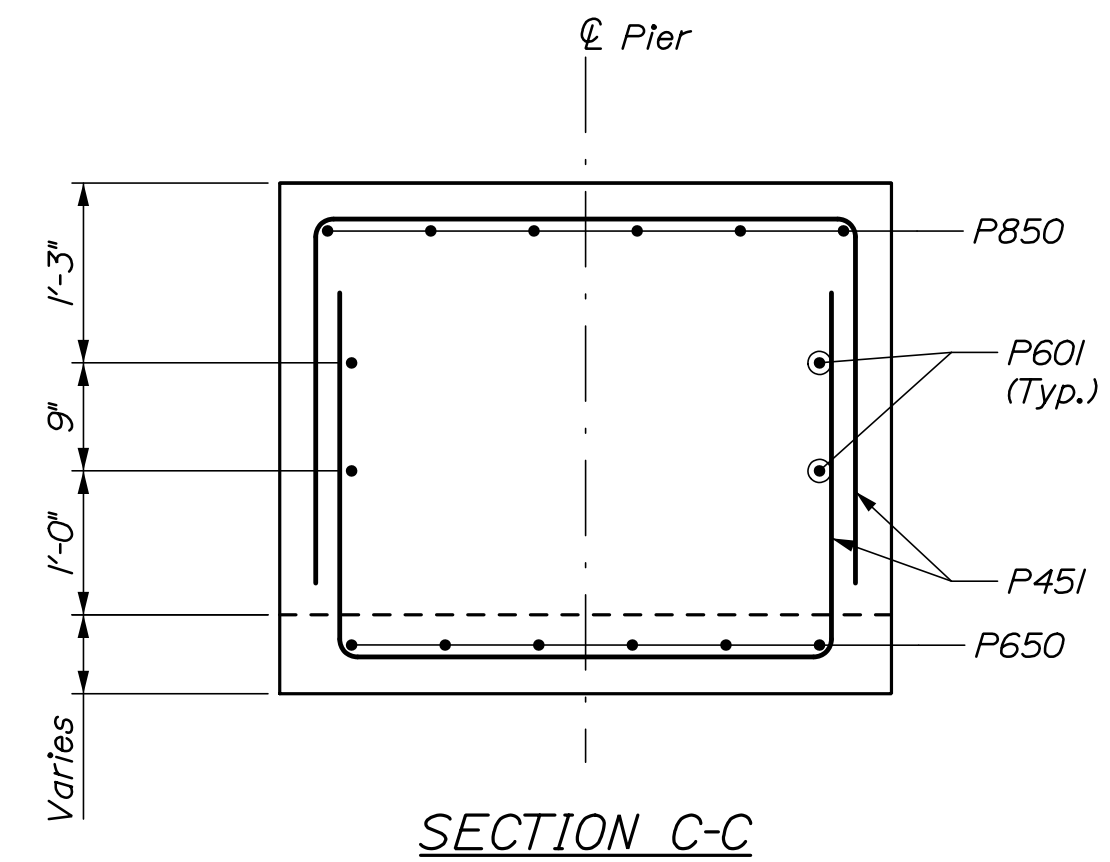
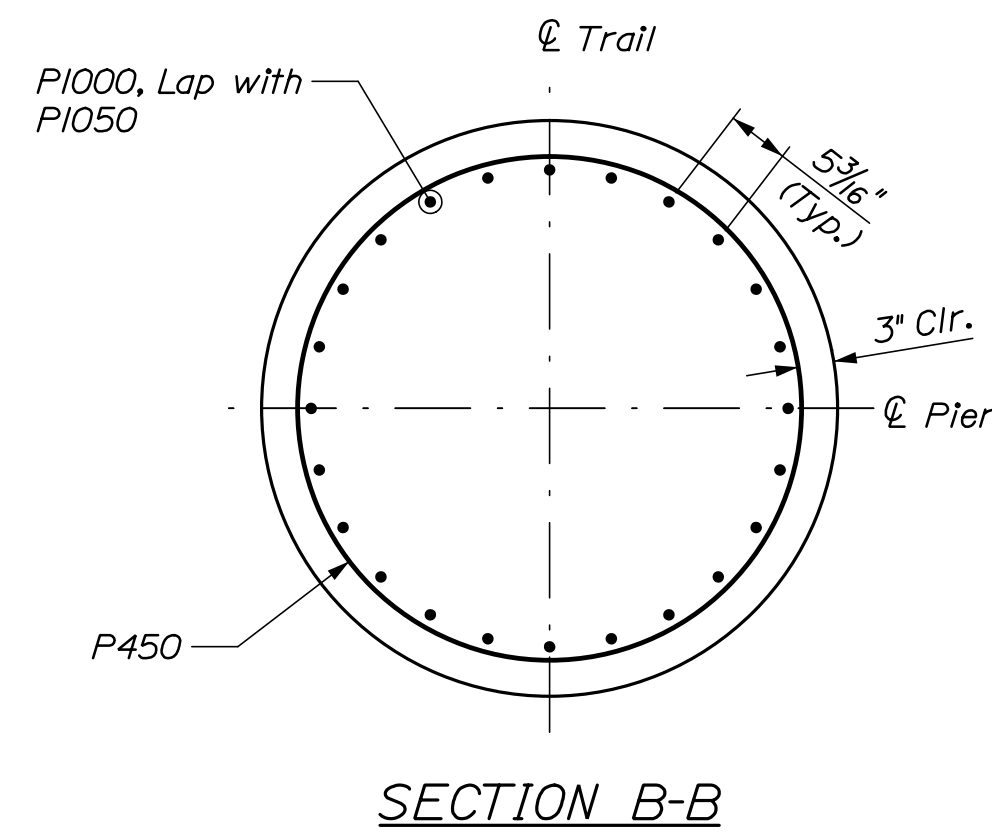
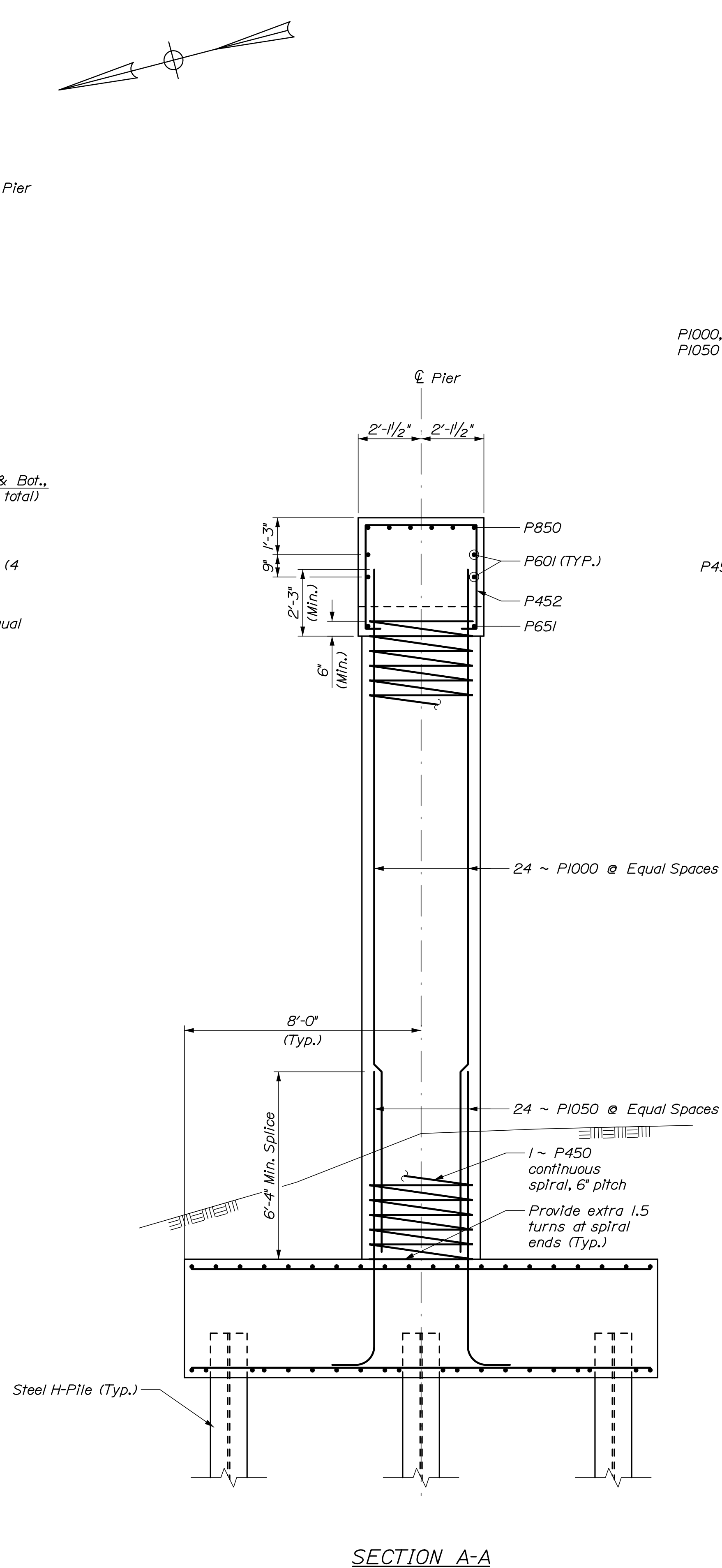
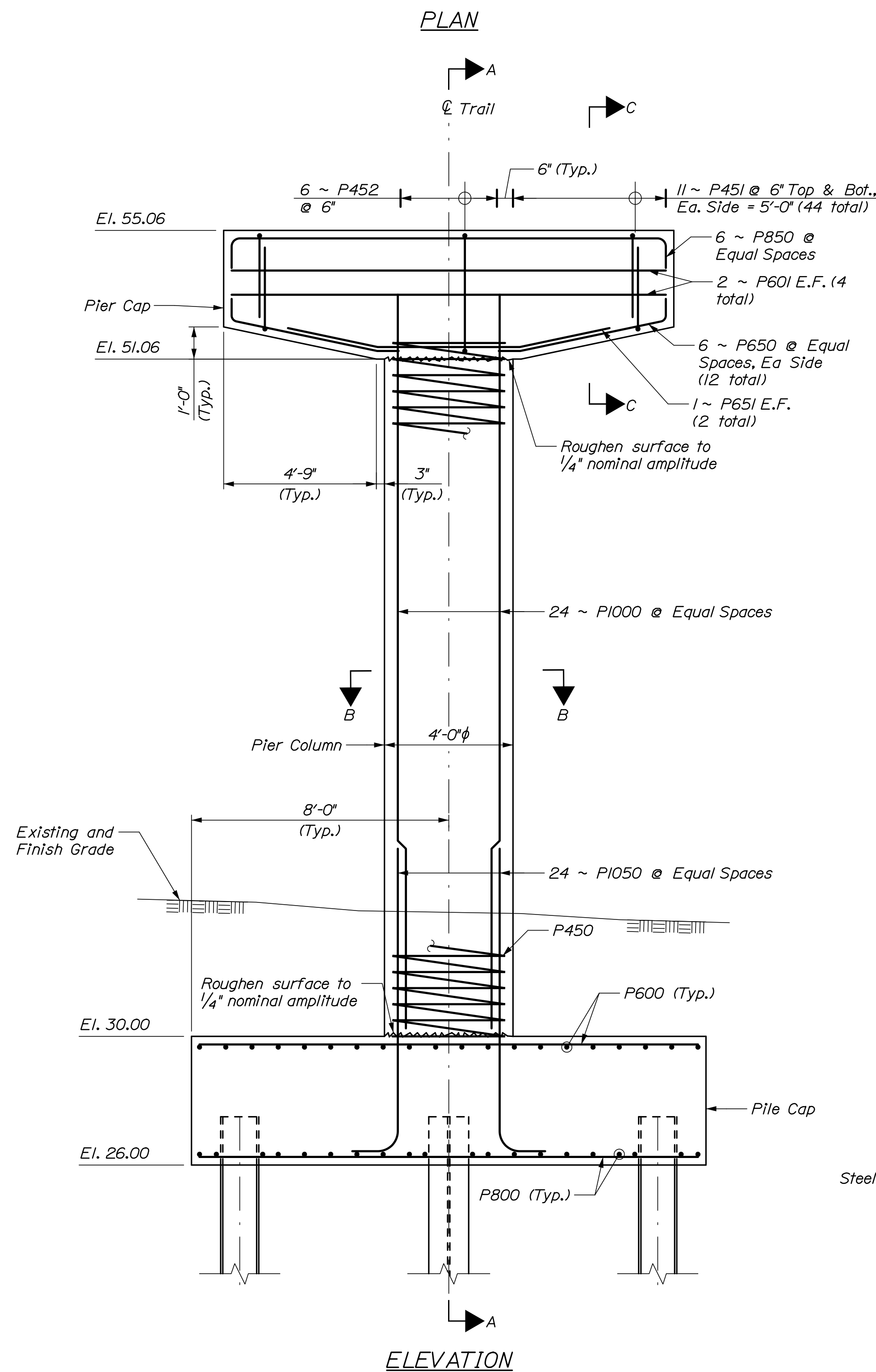
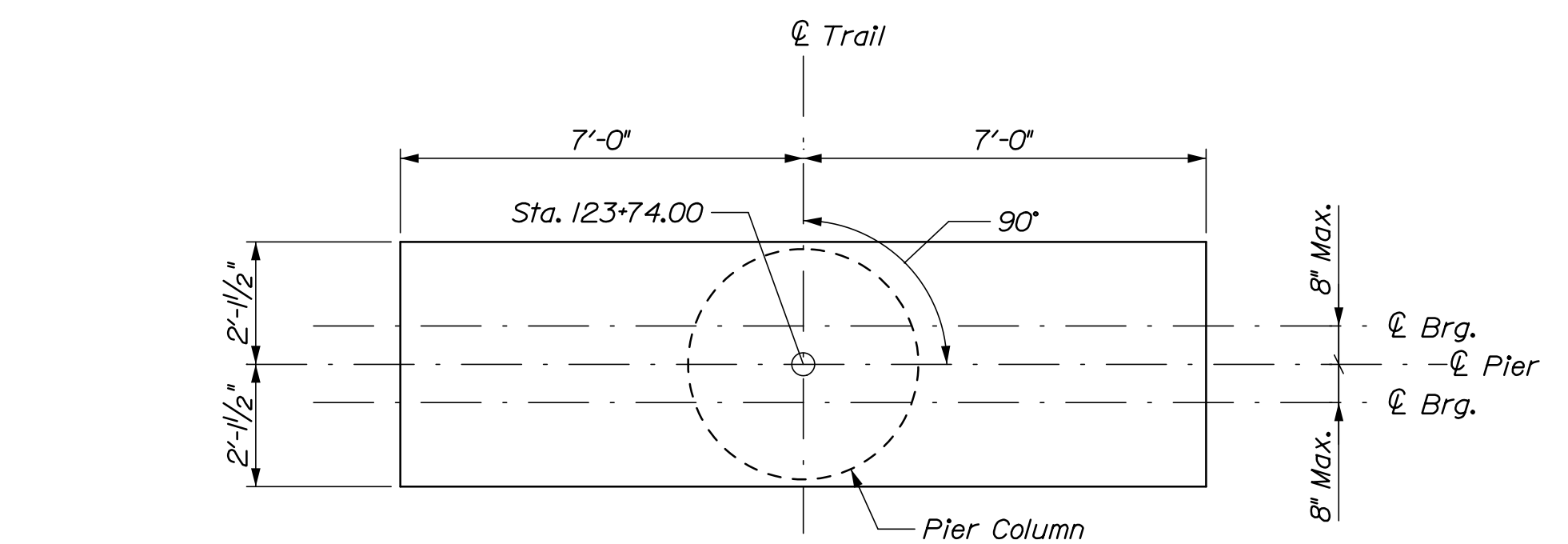
SECTION B-B



SECTION C-C

NOTES:

1. Minimum laps shall be:
#5 = 1'-11" (vertical)
#5 = 2'-7" (horizontal)
2. Reinforcement shall be shifted to avoid piles.
3. Reinforcement shall be shifted to avoid anchor rod placement.



PIER NOTES:

1. *The top of pier cap elevation is approximate and shall be confirmed by the Contractor based on final bridge and bearing details. Refer to Special Provision 530 for additional guidance.*
2. *Reinforcing steel shall have a minimum concrete cover of 3 inches unless otherwise noted.*
3. *Spiral reinforcement shall be continuous through the entire column. If a splice is used it shall be a minimum of 2'-1". No additional payment will be made for splices.*
4. *Reinforcing shall be shifted to avoid piles.*
5. *Reinforcing shall be shifted to avoid anchor rod replacement.*

PROJ. MANAGER	BY	DATE
J. Olund	P. Bishop	3/2/2025
CHECKED-REVIEWED	G. Standley	3/2/2025
DESIGN2-Detailed2	A. Stephens	-
DESIGN3-Detailed3	-	-
DESIGN4-Detailed4	-	-
DESIGN5-Detailed5	-	-
DESIGN6-Detailed6	-	-
DESIGN7-Detailed7	-	-
DESIGN8-Detailed8	-	-
DESIGN9-Detailed9	-	-
DESIGN10-Detailed10	-	-
DESIGN11-Detailed11	-	-
DESIGN12-Detailed12	-	-
DESIGN13-Detailed13	-	-
DESIGN14-Detailed14	-	-
DESIGN15-Detailed15	-	-
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DESIGN119-Detailed119	-	-
DESIGN120-Detailed120	-	-
DESIGN121-Detailed1	-	-

TOWN OF SCARBOROUGH
EASTERN TRAIL CONNECTOR
SCARBOROUGH TO SOUTH PORTLAND, MAINE
CSX RAILROAD
PIER PLAN & ELEVATION

SHEET NUMBER

51

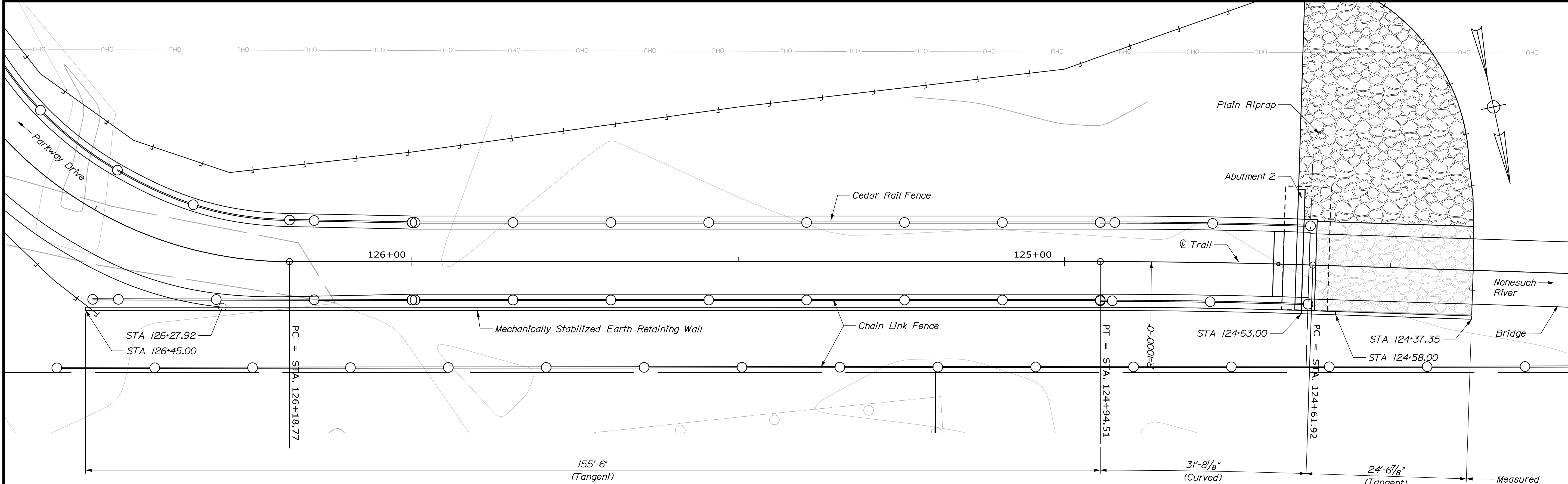
OF 69

Date: 3/10/2025

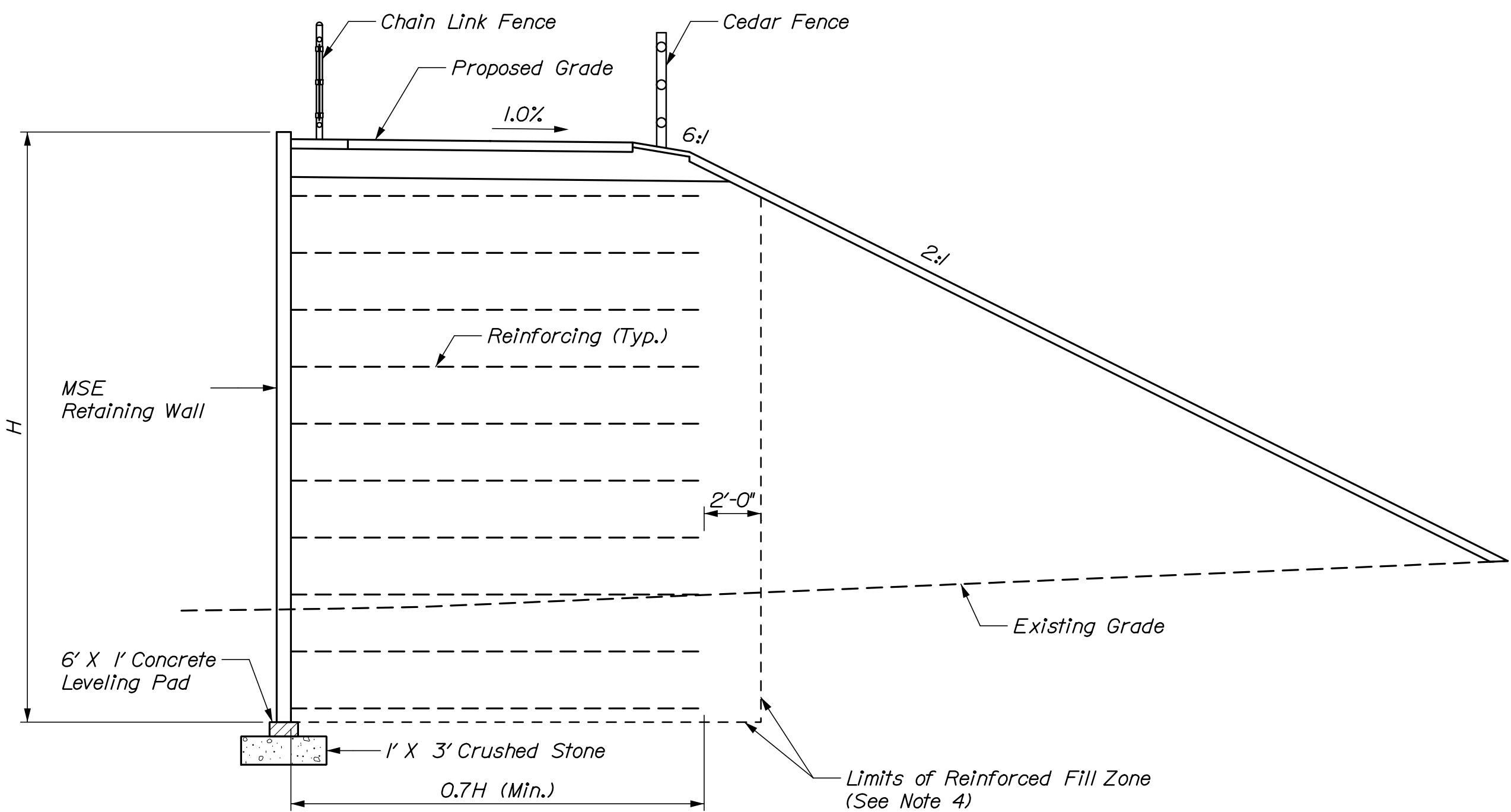
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Division:

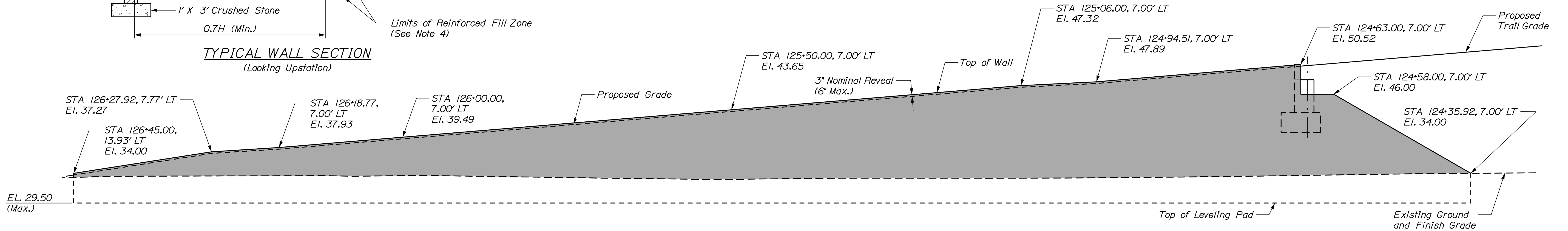
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PLAN



TYPICAL WALL SECTION
(Looking Upstation)



MECHANICALLY STABILIZED EARTH WALL ELEVATION

MECHANICALLY STABILIZED EARTH (MSE) WALL NOTES:

1. The Contractor shall provide a Mechanically Stabilized Earth (MSE) Retaining Wall in accordance with Section 677. The MSE Retaining Wall shall be designed and stamped by a Registered Professional Engineer in the State of Maine and the design shall be submitted to the Resident for review. Plan details are shown for estimating purposes only.
2. The MSE Retaining Wall shall be designed in accordance with Section 677, along with an additional 90 psf Pedestrian Surcharge load.
3. The factored bearing pressure for MSE Retaining Walls shall not exceed the factored bearing resistance of 3.3 ksf for wall heights greater than 10 ft tall walls and 2.7 ksf otherwise for the strength limit state. The factored bearing pressure for the service limit state shall not exceed the factored bearing resistance of 3.7 ksf.
4. The MSE Retaining Wall Reinforced Fill Zone between STA 124+35.92 and STA 125+25.00 shall consist of Crushed Stone Fill meeting the requirements of subsection 703.22. Gravel Borrow or Crushed Stone Fill shall be used for the remaining wall length. Payment for Crushed Stone Fill and Gravel Borrow within the identified Reinforced Fill Zone shall be incidental to Item 677.20, Mechanically Stabilized Earth Retaining Wall.

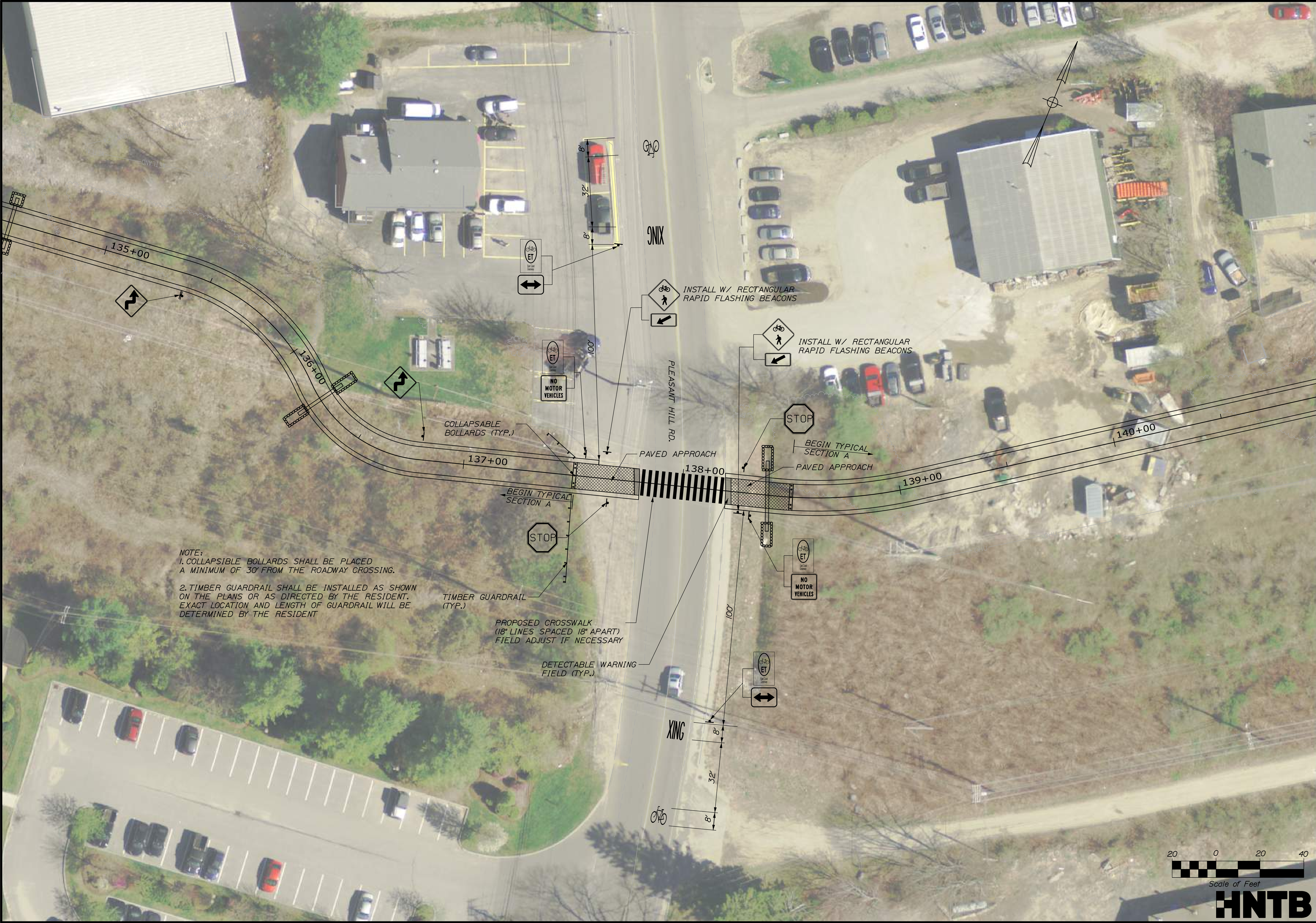
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
AC-STP-1942(600)X & CMAQ-1942(610)
WIN
19426.00 & 019426.10
BRIDGE PLANS

PROJ. MANAGER	BILL RECH	BY	DATE	SIGNATURE	P.E. NUMBER	DATE
DESIGN-DETAILED	J. Oland	P. Bishop	3/2025			
CHECKED-REVIEWED	G. Standley	A. Stephens	3/2025			
DESIGN-DETAILED						
REVISIONS 1						
REVISIONS 2						
REVISIONS 3						
REVISIONS 4						
FIELD CHANGES						

TOWN OF SCARBOROUGH
EASTERN TRAIL CONNECTOR
SCARBOROUGH TO SOUTH PORTLAND, MAINE
CSX RAILROAD
RETAINING WALL

SHEET NUMBER
53
OF 69





NOTE:
1. COLLAPSIBLE BOLLARDS SHALL BE PLACED
A MINIMUM OF 30' FROM THE ROADWAY CROSSING.
2. TIMBER GUARDRAIL SHALL BE INSTALLED AS SHOWN
ON THE PLANS OR AS DIRECTED BY THE RESIDENT.
EXACT LOCATION AND LENGTH OF GUARDRAIL WILL BE
DETERMINED BY THE RESIDENT

STATE OF MAINE		DEPARTMENT OF TRANSPORTATION	
AC-STP-1942(600)X & CMAQ-1942(610)		WIN	
19426.00 & 019426.10		HIGHWAY PLANS	
TOWN OF SCARBOROUGH		SHEET NUMBER	
EASTERN TRAIL CONNECTOR		54	
SCARBOROUGH TO SOUTH PORTLAND, MAINE		OF 69	
PLEASANT HILL ROAD			
CROSSING PLAN			
PROJ. MANAGER	BILL REICH	BY	DATE
DESIGN-DETAILED	C. Heimerl	P. Bishop	3/2025
CHECKED-REVIEWED	L. Driscoll	J. O'Neil	3/2025
DESIGN-DETAILED	-	-	-
REVISIONS 1	-	-	-
REVISIONS 2	-	-	-
REVISIONS 3	-	-	-
REVISIONS 4	-	-	-
FIELD CHANGES	-	-	-
SIGNATURE		P.E. NUMBER	
DATE			



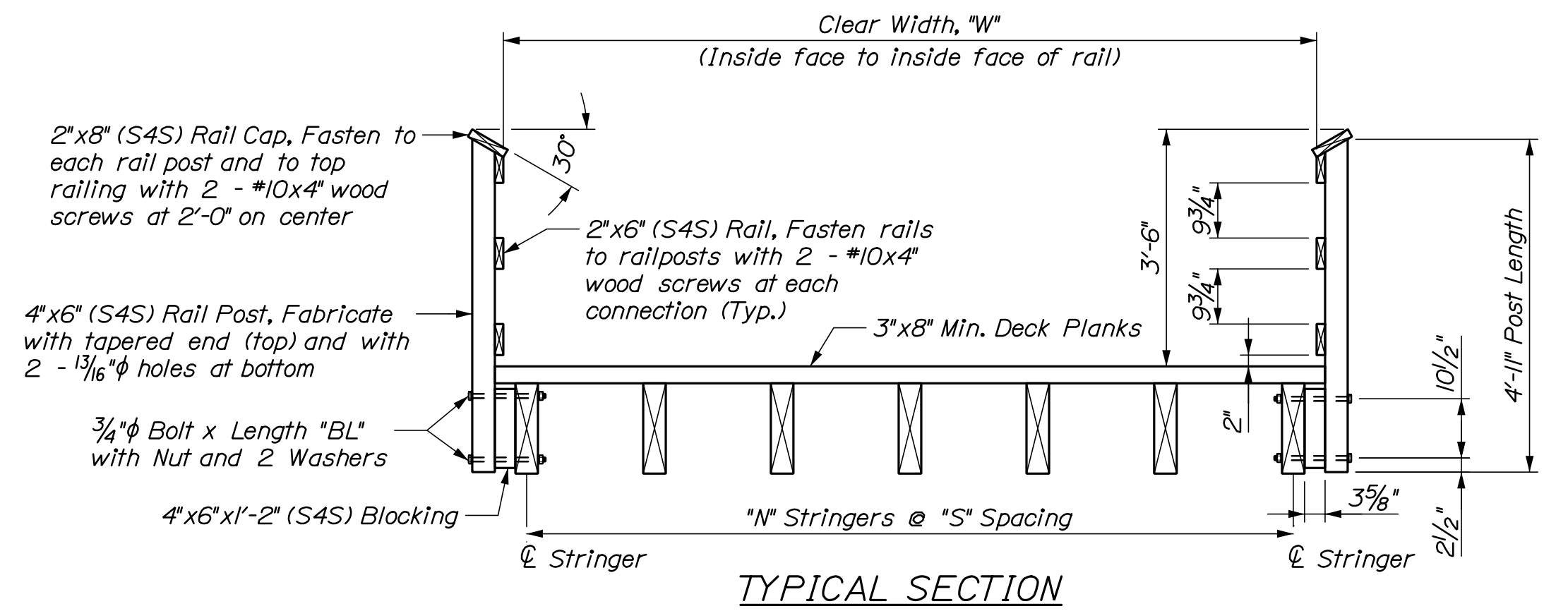
55 OF 69	SHEET NUMBER	TOWN OF SCARBOROUGH EASTERN TRAIL CONNECTOR SCARBOROUGH TO SOUTH PORTLAND, MAINE					PROJ. MANAGER	BILL REICH	BY	DATE	STATE OF MAINE DEPARTMENT OF TRANSPORTATION AC-STP-1942(600)X & CMAQ-1942(610) WIN 19426.00 & 019426.10 HIGHWAY PLANS
		DESIGN-DETAILED	C-Herrick	P. Bishop	3/20/25						
		CHECKED-REVIEWED	L. Driscoll	J. Oland	3/20/25						
		DESIGN2-DETAILED2	-	-	-						
		DESIGN3-DETAILED3	-	-	-						
		REVISIONS 1	-	-	-						
		REVISIONS 2	-	-	-						
		REVISIONS 3	-	-	-						
		REVISIONS 4	-	-	-						
		FIELD CHANGES	-	-	-						



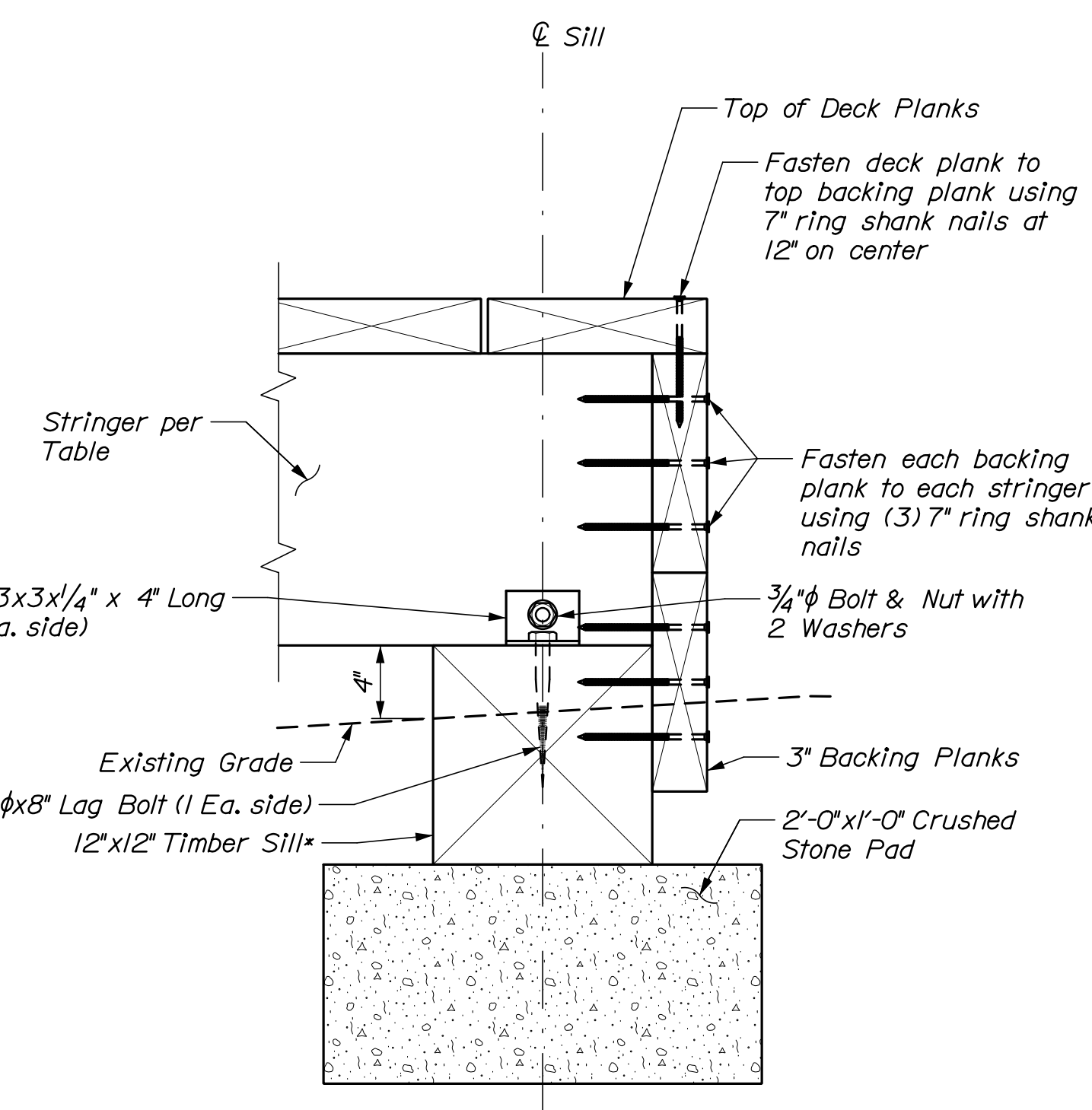
STATE OF MAINE		DEPARTMENT OF TRANSPORTATION	
AC-STP-1942(600)X & CMAQ-1942(610)		SIGNATURE	
WIN		P.E. NUMBER	
19426.00 & 019426.10		DATE	
HIGHWAY PLANS			

PROJ. MANAGER	BILL REICH	BY	DATE
DESIGN-DETAILED	C. Heirick	P. Bishop	3/2025
CHECKED-REVIEWED	L. Driscoll	J. O'Neil	3/2025
DESIGN-DETAILED	-	-	-
REVISIONS 1	-	-	-
REVISIONS 2	-	-	-
REVISIONS 3	-	-	-
REVISIONS 4	-	-	-
FIELD CHANGES	-	-	-

TOWN OF SCARBOROUGH	SHEET NUMBER
EASTERN TRAIL CONNECTOR	
SCARBOROUGH TO SOUTH PORTLAND, MAINE	
WAINWRIGHT COMPLEX	56
CROSSING PLAN	
	OF 69



TYPICAL SECTION



DETAIL A
TIMBER SILL CONNECTION DETAIL

(Rebar drift pin not shown for clarity)
*Timber sill can be either 12"x12" full sawn or built-up 2"x12", 3"x12", 4"x12", and 6"x12" treated members.

NOTES:

1. Proposed timber crossings shown are designed for 90 psf pedestrian loading only. Temporary crossings, or strengthened timber crossings, shall be used to access trail sections located between streams for the purpose of clearing, grubbing, trail construction, and other activities necessitating crossing the streams with heavy equipment. See sheet 13 for additional details.

2. Timber Stream Crossing Bridge's shall be fabricated and constructed in accordance with Special Provision 528.

3. All timber shall be Southern Yellow Pine, Grade No. 1, graded by a national grading agency and in accordance with AASHTO M168. Individual boards shall not be stamped with a grade stamp and a materials certification letter shall be provided for all timber.

4. *Incising boards for preservative treatment will not be allowed.*

5. All fasteners and associated hardware shall be hot dipped galvanized.

6. With the exception of carriage bolt heads, and unless noted otherwise, washers shall be provided under all bolt heads and nuts.

7. Fasten deck planks to stringers with two rows of $\frac{5}{16}$ " ϕ 7" ring shank nails per plank at each stringer. If deck planks are spliced, splice planks at stringers in an alternating pattern as shown.

8. *Splice rails at posts. Rails shall be continuous for two post spaces. Do not locate more than one rail splice at any one bridge rail post.*

9. *Prebore lag bolt holes using two diameters, one for the shank and one for the threads. The lead hole for the shank is to be 1/16" larger than the shank diameter and is to be bored to the depth of penetration of the shank. The lead hole for the threaded portion is to be 70% of the bolt diameter as shown on the Plans and is to be bored at least to the length of the threads. Do not drive lag bolts with a hammer.*

Bridge	WPI (Sta. & Offset)	WP2 (Sta. & Offset)	WP3 (Sta. & Offset)	WP4 (Sta. & Offset)	L (Span Length)	O (Out-to-Out)	W (Clear Width)	A (Skew Angle)	N (* of Stringers)	S (Stringer Spacing)	Stringer Size *	BL (Bolt Length)
Sta. 162+90.00	Sta. 162+69.57 6.06' Left	Sta. 162+80.89 5.83' Right	Sta. 163+01.15 8.04' Left	Sta. 163+07.16 7.17' Right	28'-0"	29'-1 $\frac{3}{4}$ "	14'-0"	60°	8	1'-10 $\frac{7}{8}$ "	6"x16"	15"
Sta. 174+25.00	Sta. 174+19.44 5.13' Left	Sta. 174+19.44 7.13' Right	Sta. 174+33.44 5.13' Left	Sta. 174+33.44 7.13' Right	14'-0"	15'-0"	12'-0"	90°	7	1'-10 $\frac{7}{8}$ "	4"x12"	13"
Sta. 175+60.00	Sta. 175+48.67 4.95' Left	Sta. 175+44.63 7.10' Right	Sta. 175+73.65 4.75' Right	Sta. 175+68.59 6.85' Right	24'-0"	25'-0 $\frac{1}{2}$ "	12'-0"	105°	8	1'-10 $\frac{3}{8}$ "	6"x14"	15"
Sta. 176+25.00	Sta. 176+13.34 4.58' Left	Sta. 176+18.82 6.81' Right	Sta. 176+34.57 5.32' Left	Sta. 176+35.54 7.32' Right	19'-0"	20'-0 $\frac{1}{2}$ "	12'-0"	75°	7	1'-10 $\frac{7}{8}$ "	4"x16"	13"

* Dimensions provided are nominal (Rough Sawn)

Date: 3/10/2025

Username:

Division:

Filename: 061_Row 4.dgn

Town, County, State
Approx. Property Lines
Existing Right of Way
Limits of Wrought Portion
Control Of Access
New Right of Way
New Easement
New Temporary Rights
New R/W Within Existing R/W

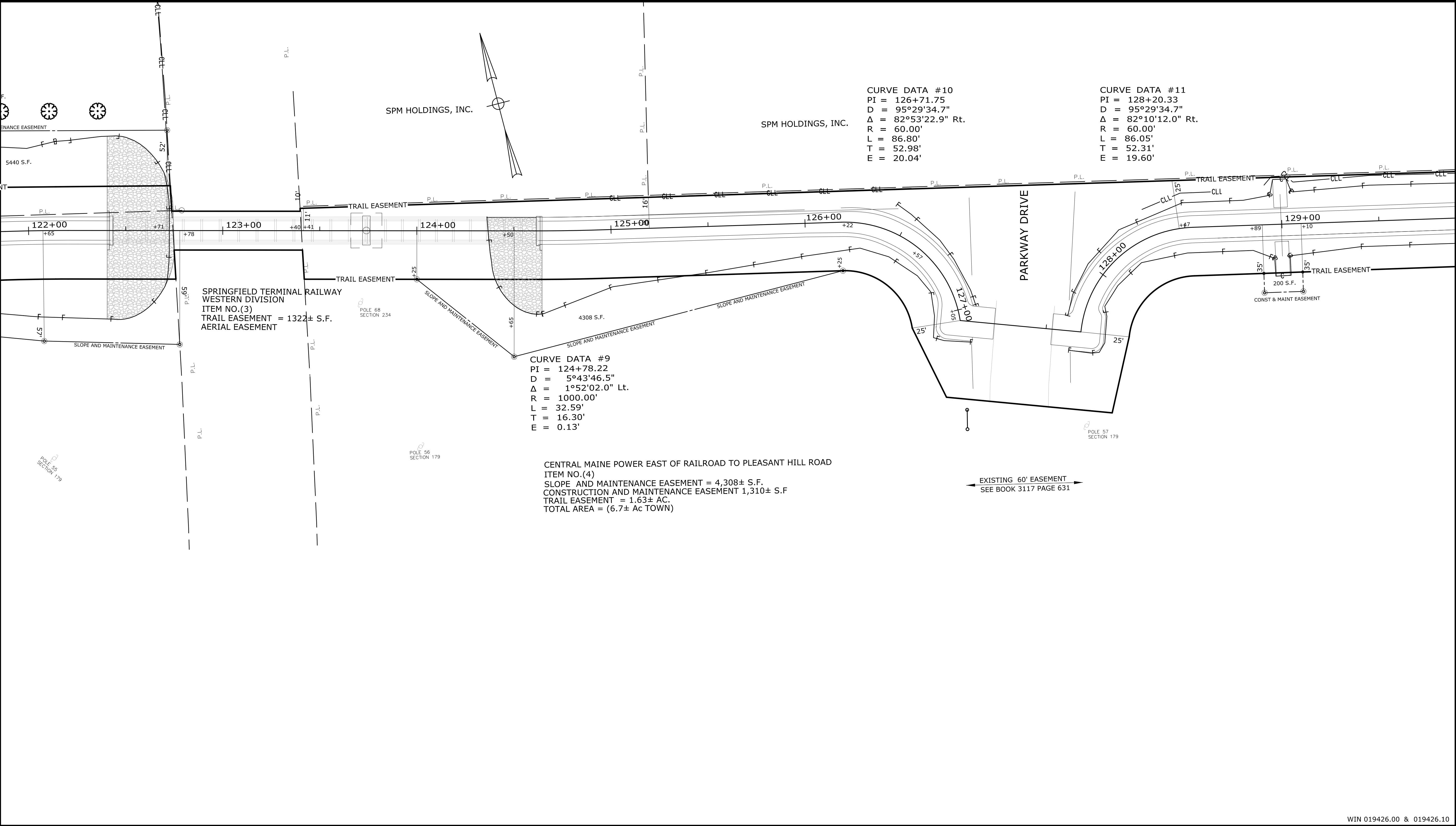
New R/W Along Existing R/W
Building
Trees
Tree Line
Water Edge
Ledge
Fence
Sign
Clearing Limit Line
Conifer
Deciduous
Bush Line
Rock/Boulder
Flag Pole
Barb Wire
Stockade
Well
Mailbox

PLAN LEGEND
Existing
Proposed
Sanitary Sewer
Telephone Line
Electric Line
Water Line
Underdrain Line
Gas Line
Guardrail
Culvert
Traveled Way
Ditch
Catch Basin
Manhole
Sewer Manhole
Utility Pole
Fire Hydrant
Curbing

Cut Line
Stonewall
Baseline
Monument
Iron Rod Found
Replacement Pin Set
Fill Line
Retaining Wall
Traverse Point
Pipe Found

STATE OF MAINE
REGISTRY OF DEEDS
COUNTY
RECEIVED
at h m M and recorded in
Plan Book , Page
Attest: REGISTER

THIS PLAN WAS PREPARED IN CONNECTION WITH THE DEPARTMENT'S ACQUISITION OF REAL PROPERTY FOR TRANSPORTATION PURPOSES. IT CANNOT BE USED TO ESTABLISH LEGAL BOUNDARIES BETWEEN ABUTTING PROPERTY OWNERS.
25 0 25 50 75 100
Scale of Feet



ITEM	TECH		CHECKED	
	EXISTING	CONDITION	PLAN	
	FINAL	RIGHT OF WAY		
AREAS				

TOWN OF
SCARBOROUGH
259 U.S. ROUTE 1
SCARBOROUGH, ME. 04074
RIGHT OF WAY MAP

REVISIONS				PLAN FILED IN PLAN BOOK				PAGE				COUNTY RECORD			
NO.	DATE	DESCRIPTION	BY	NO.	GRANTOR	INSTRUMENT	DATE	BOOK	PAGE	NO.	GRANTOR	INSTRUMENT	DATE	BOOK	PAGE

WIN 019426.00 & 019426.10

EASTERN TRAIL CONNECTOR SCARBOROUGH TO SOUTH PORTLAND SCARBOROUGH CUMBERLAND COUNTY FED. AID PROJ. NO. AC-STP-1942(600)X & CMAQ-1942(610)		
JANUARY 2019	RIGHT-OF-WAY MAP	
SCALE 1" = 25'	SHEET 4 OF 12	

SHEET NUMBER
61
OF 69

Town, County, State
Approx. Property Lines
Existing Right of Way
Limits of Wrought Portion
Control Of Access
New Right of Way
New Easement
New Temporary Rights
New R/W Within Existing R/W

New R/W Along Existing R/W

Building
Trees
Water Edge
Ledge
Fence
Sign

Clearing Limit Line
Conifer
Deciduous
Bush Line
Rock/Boulder
Flag Pole
Stockade
Barb Wire
Well
Mailbox

PLAN LEGEND

Existing
Proposed

Sanitary Sewer
Telephone Line
Electric Line
Water Line
Underdrain Line
Gas Line
Guardrail
Culvert

Traveled Way
Ditch
Catch Basin
Manhole
Sewer Manhole
Utility Pole
Fire Hydrant
Curbing

Cut Line
Stonewall
Baseline
Monument
Iron Rod Found
Replacement Pin Set

Fill Line
Retaining Wall
Traverse Point
Pipe Found

STATE OF MAINE
REGISTRY OF DEEDS

COUNTY
RECEIVED
at h m M and recorded in
Plan Book , Page
Attest: REGISTER

THIS PLAN WAS PREPARED IN CONNECTION WITH THE DEPARTMENT'S ACQUISITION OF REAL PROPERTY FOR TRANSPORTATION PURPOSES. IT CANNOT BE USED TO ESTABLISH LEGAL BOUNDARIES BETWEEN ABUTTING PROPERTY OWNERS.

250 0 25 50 75 100

Scale of Feet

The plan view shows a proposed road alignment with stationing from 168+00 to 175+00. It includes various easements: TRAIL EASEMENT, CONST & MAINT EASEMENT (141 S.F.), and CENTRAL MAINE POWER EASEMENT (2210/424 & 2954/72). Key features include POLE 11 SECTION 152, POLE 12 SECTION 152, POLE 13 SECTION 152, and POLE 14 SECTION 152. Three curve data blocks are provided:

CURVE DATA #29
PI = 171+28.23
D = 28°38'52.4"
Δ = 31°57'45.1" Rt.
R = 200.00'
L = 111.57'
T = 57.28'
E = 8.04'

CURVE DATA #30
PI = 172+02.25
D = 38°11'49.9"
Δ = 14°58'56.9" Lt.
R = 150.00'
L = 39.22'
T = 19.72'
E = 1.29'

CURVE DATA #31
PI = 173+25.39
D = 19°05'54.9"
Δ = 10°52'30.3" Rt.
R = 300.00'
L = 56.94'
T = 28.56'
E = 1.36'

Other labels include: PC = STA. 170+70.95, PRC = STA. 171+82.52, PT = STA. 172+21.75, PC = STA. 172+96.83, PT = STA. 173+53.77, PC = STA. 175+77.98, and WIN 019426.00 & 019426.01.

ITEM	TECH	CHECKED			
		EXISTING	CONDITION	PLAN	
EXISTING					
FINAL					
RIGHT OF WAY					
AREAS					

TOWN OF
SCARBOROUGH
259 U.S. ROUTE 1
SCARBOROUGH, ME. 04074
RIGHT OF WAY MAP

REVISIONS				PLAN FILED IN PLAN BOOK				PAGE COUNTY RECORD			
NO.	DATE	DESCRIPTION	BY	NO.	GRANTOR	INSTRUMENT	DATE	BOOK	PAGE		

EASTERN TRAIL CONNECTOR SCARBOROUGH TO SOUTH PORTLAND SCARBOROUGH CUMBERLAND COUNTY FED. AID PROJ. NO. AC-STP-1942(600)X & CMAQ-1942(610)		
JANRUARY 2019 SCALE 1" = 25'	RIGHT-OF-WAY MAP SHEET 11 OF 12	

SHEET NUMBER
68
OF 69

