STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

PORTLAND
CUMBERLAND COUNTY
INTERSTATE 295
OVER
VERANDA STREET

INTERSTATE 295
FEDERAL AID PROJECT NO. NHPP-2174(500)
PROJECT LENGTH 0.050 mi. I-295
PROJECT LENGTH 0.208 mi. VERANDA ST.
BRIDGE NO. 5933

SPECIFICATIONS

Design: Load and Resistance Factor Design per AASHTO LRFD Bridge Design Specifications, Eighth Edition 2017.

DESIGN LOADING

Live Load ..... HL - 93 Modified for Strength 1

TRAFFIC DATA

	I-295 NB	I-295 SB	Veranda St.
Current (2019) AADT	27,320	26,230	15,390
Future (2039) AADT	32,780	31,480	16,930
DHV - % of AADT	12%	13%	10%
Design Hour Volume	3934	4092	1693
Heavy Trucks (% of AADT)	6%	8%	2%
Heavy Trucks (% of DHV)	3%	4%	0.5%
Directional Distribution (% of DHV)	100%	100%	60%
18 kip Equivalent P 2.0	2573	3083	113
18 kip Equivalent P 2.5	2452	2937	108
Design Speed (mph)	50	50	35

MATERIALS

Concrete:
- Permanent Barrier ..... Class "LP"
- Precast Approach Slabs and Sleeper Slabs ..... Class "P"
- All Other ..... Class "A"

Reinforcing Steel:
- Plain Reinforcing Steel ..... ASTM A 615, Grade 60
- Stainless Reinforcing Steel ..... ASTM A 955, Grade 75

Structural Steel:
- All Material (except as noted) ..... ASTM A 709, Grade 50 (metallized)
- High Strength Bolts ..... ASTM F 3125, Grade A325, Type 1 (galvanized)

BASIC DESIGN STRESSES

Concrete, Class "A" ..... f 'c = 4,000 psi
Concrete, Class "LP" ..... f 'c = 5,000 psi
Concrete, Class "P" ..... f 'c = 4,000 psi
Plain Reinforcing Steel ..... f y = 60,000 psi
Stainless Reinforcing Steel ..... f y = 75,000 psi
Structural Steel:
- ASTM A 709, Grade 50 ..... F y = 50,000 psi
- ASTM F 3125, Grade A325, Type 1 ..... F u = 120,000 psi

LIST OF DRAWINGS

Title Sheet 1
Estimated Quantities 2-3
General Notes 4
General Plans 5-9
Profiles 10-15
Boring Location Plan 16
Interpretive Subsurface Profiles 17-18
Boring Logs 19-23
Geometric & Curbing Plans 24-29
Signing & Striping Plans 30-34
Proposed Sign Summary 35
Intersection Grading Plans 36-39
Typical Sections 40-43
Underdrained Soil Filter Details 44
Geofoam Layout Plans 45-52
Foam Concrete Distribution Slab 53
Cross Sections 54-139
Maintenance of Traffic 140-153
Signal Plans 154-158
Lighting Plans 159-161
Bridge General Plan 162
Suggested Construction Sequence 163-164
Construction Sections 165-172
Abutment Demolition Limits 173
Foundation Plan 174
Micropile Details 175
Abutment No. 1 176-182
Abutment No. 2 183-189
Abutment Connection Details 190-194
Bearing Details 195-196
Framing Plan 197
Structural Steel Details 198-199
Transverse Section 200
Superstructure Plan 201
Transverse Section Reinforcing 202
Superstructure Plan Reinforcing 203
Superstructure Details 204-205
Approach Slab No. 1 206-207
Approach Slab No. 2 208-209
Approach Slab Reinforcing 210
Barrier Details 209-212
Reinforcing Schedules 213-215
Right of Way Map 216-219
Utility Details 220
Water Main Replacement W1-W6
Open Space OS-1

UTILITIES

Central Maine Power	Firstlight
City of Portland	Portland Water District
Consolidated Communications	Unitil

MAINTENANCE OF TRAFFIC

I-295 - Maintain all lanes of traffic for the duration of the project except for one weekend closure and periodic nightly lane closures.

Veranda Street - Maintain two way traffic for the duration of the project except for a five day closure and periodic daily lane closures controlled by flaggers.

PROJECT LOCATION:	I-295 over Veranda Street located 0.42 miles southeast of Martin's Point Bridge, Latitude 43°41'09" N, Longitude 70°15'08" W
PROGRAM AREA:	Bridge
OUTLINE OF WORK:	Bridge Replacement

HNTB

WIN 021745.00

NHPP-2174(500)

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

APPROVED

		DATE
COMMISSIONER:		4-17-2020
CHIEF ENGINEER:	Jaye Vail Taylor	4-16-2020

STATE OF MAINE · TIMOTHY R. COTE No. 10671 · LICENSED PROFESSIONAL ENGINEER

SIGNATURE		
P.E. NUMBER	10671	
DATE	3/2/2020	

PROJECT INFORMATION

PROGRAM	BRIDGE
PROJECT MANAGER	DEVAN EATON
DESIGNER	TIM COTE
CONSULTANT	HNTB
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	

PORTLAND
VERANDA STREET BRIDGE

TITLE SHEET

SHEET NUMBER
1
OF 220

Date:3/2/2020 Username: Division: Filename:001_Title.dgn

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
201.23	Removing Single Tree Top Only	9	EA
201.24	Removing Stump	9	EA
202.19	Removing Existing Bridge (620 CY, 288 Tons)	1	LS
202.15	Removing Existing Manhole or Catch Basin	17	EA
202.202	Removing Pavement Surface	7,200	SY
203.20	Common Excavation	14,500	CY
203.24	Common Borrow	3,050	CY
203.25	Granular Borrow	4,180	CY
203.4339	Geofoam Lightweight Fill	9,100	CY
203.4539	Leveling Sand	580	CY
206.082	Structural Earth Excavation - Major Structures, Plan Quantity	1,550	CY
304.10	Aggregate Subbase Course-Gravel	9,950	CY
403.207	Hot Mix Asphalt, 19.0 mm Nominal Maximum Size	430	TON
403.2081	Hot Mix Asphalt - 12.5 mm Nominal Maximum Size (Polymer Modified)	1,565	TON
403.209	Hot Mix Asphalt, 9.5 mm Nominal Maximum Size (sidewalks, drives, islands, and incidentals)	460	TON
403.211	Hot Mix Asphalt, 9.5 mm Nominal Maximum Size (Shimming)	50	TON
403.213	Hot Mix Asphalt, 12.5 mm Nominal Maximum Size (Base and Intermediate Base course)	1,700	TON
403.2131	Hot Mix Asphalt, 12.5 mm Nominal Maximum Size (Base and Intermediate Base course, Polymer Modified)	1,315	TON
409.15	Bituminous Tack Coat, Applied	1,497	GAL
461.131	Temporary Pavement	290	TON
501.222	Micropiles	2,320	LF
501.2221	Abandoned Micropiles	210	LF
501.231	Dynamic Loading Test	4	EA
501.2331	Micropile Verification Load Test	2	EA
501.2341	Micropile Proof Load Test	2	EA
501.50	Steel H-beam Piles 89 lb/ft, delivered	3,850	LF
501.501	Steel H-beam Piles 89 lb/ft, in place	3,850	LF
501.804	Drilling Equipment Mobilization - Micropiles	1	LS
501.90	Pile Tips	35	EA
501.91	Pile Splices	111	EA
501.92	Pile Driving Equipment Mobilization	1	LS
502.219	Structural Concrete, Abutments and Retaining Walls (1,293 CY)	1	LS
502.26	Structural Concrete Roadway and Sidewalk Slab on Steel Bridges (280 CY)	1	LS
503.12	Reinforcing Steel, Fabricated and Delivered	28,000	LB
503.13	Reinforcing Steel, Placing	28,000	LB
503.17	Mechanical/Welded Splice	1,062	EA
503.26	Stainless Steel Reinforcement, Fabricated and Delivered	231,000	LB
503.27	Stainless Steel Reinforcement, Placing	231,000	LB
504.702	Structural steel fabricated and delivered, welded (194,000 lbs)	1	LS
504.71	Structural steel erection (194,000 lbs)	1	LS
505.08	Shear Connectors (4,644 EA)	1	LS
506.9104	Thermal Spray Coating (Shop Applied) (194,000 lbs)	1	LS
508.14	High Performance Waterproofing Membrane (780 SY)	1	LS
515.21	Protective Coating for Concrete Surfaces (1,200 SY)	1	LS
519.60	Expansion Device - Asphaltic Plug Joint	102	LF
520.223	Armorless Bridge Joint	1	LS
523.52	Bearing Installation	24	EA
523.5401	Laminated Elastomeric Bearings, Fixed	12	EA
523.5402	Laminated Elastomeric Bearings, Expansion	12	EA
524.301	Temporary Structural Support	1	LS
524.302	Lateral Slide	1	LS
524.303	Temporary Structural Support, Abutments	1	LS
524.40	Protective Shield - Steel Girders (920 SY)	1	LS
526.301	Temporary Concrete Barrier, Type I (1,280 LF)	1	LS
526.306	Temporary Concrete Barrier, To Remain (300 LF)	1	LS
526.3311	Single Slope Concrete Traffic Barrier (330 LF)	1	LS
526.502	Precast Concrete Median Barrier (210 LF)	1	LS
527.34	Work Zone Crash Cushions	5	UNIT
534.7601	Precast Approach Slab (190 CY)	1	LS
534.7611	Precast Sleeper Slab (40 CY)	1	LS
602.302	Lightweight Foam Concrete Fill (3,060 CY)	1	LS
602.303	Lightweight Foam Concrete Distribution Slab (800 CY)	1	LS
603.151	12 inch Corrugated Metal Pipe	8	LF
603.155	12 inch Reinforced Concrete Pipe Class III	72	LF
603.159	12 inch Culvert Pipe Option III	225	LF
603.169	15 inch Culvert Pipe Option III	69	LF
603.175	18 inch Reinforced Concrete Pipe Class III	48	LF
603.179	18 inch Culvert Pipe Option III	230	LF
603.195	24 inch Reinforced Concrete Pipe Class III	44	LF
603.199	24 inch Culvert Pipe Option III	10	LF
603.209	30 inch Culvert Pipe Option III	180	LF
604.071	Catch Basin Type AI-P	18	EA
604.072	Catch Basin Type AI-C	2	EA
604.076	60" Catch Basin Type AI-C	4	EA
604.0761	60" Catch Basin Type AI-P	3	EA
604.0771	72" Catch Basin Type AI-P	2	EA
604.091	Catch Basin Type BI-P	7	EA
604.15	Manhole	2	EA
604.16	Altering Catch Basin to Manhole	1	EA
604.164	Rebuilding Catch Basin	1	EA
604.18	Adjusting Manhole or Catch Basin to Grade	12	EA

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
604.221	18 Inch Storm Water Check Valve	2	EA
604.223	30 Inch Storm Water Check Valve	1	EA
604.2402	Behind Curb Catch Basin	5	EA
604.2403	Catch Basin Inlet Assembly	2	EA
604.2491	Catch Basin Type F7	1	EA
605.09	6 inch Underdrain Type B	1,750	LF
605.11	12 inch Underdrain Type C	790	LF
605.12	15 inch Underdrain Type C	45	LF
605.13	18 inch Underdrain Type C	120	LF
605.15	24 inch Underdrain Type C	350	LF
605.17	30 inch Underdrain Type C	130	LF
606.1301	31" W-Beam Guardrail - Mid-Way Splice (Steel Post, 8" Offset Blocks, Single Faced)	1,400	LF
606.1307	Bridge Transition (Asymmetrical) - Type I	4	EA
606.1309	31" W-Beam Guardrail - Mid-Way Splice (8' Steel Post, 8" Offset Blocks, Single Faced)	180	LF
606.2593	Anchorage Assembly - Mid-Way Splice	1	EA
606.353	Reflectorized Flexible Guardrail Marker	1	EA
606.356	Underdrain Delineator Post	6	EA
607.173	Chain Link Fence - 6 foot - PVC Coated	480	LF
607.35	Bracing Assembly Chain Link Fence - PVC Coated	10	EA
608.08	Reinforced Concrete Sidewalk	140	SY
608.26	Curb Ramp Detectable Warning Field	230	SF
609.11	Vertical Curb Type I	2,600	LF
609.12	Vertical Curb Type I - Circular	220	LF
609.23	Terminal Curb Type I	73	EA
609.31	Curb Type 3	600	LF
609.38	Reset Curb Type I	550	LF
610.08	Plain Riprap	34	CY
610.18	Stone Ditch Protection	35	CY
613.319	Erosion Control Blanket	6,350	SY
615.07	Loam	1,020	CY
615.086	Loam/Compost	200	CY
615.27	Underdrained Soil Filter	1	LS
618.13	Seeding Method Number 1	25	UNIT
618.14	Seeding Method Number 2	99	UNIT
618.143	Special Seeding - Wetland Seed Mix - Moist	8	UNIT
618.143	Special Seeding - Wildflower Polinators	10	UNIT
619.12	Mulch	131	UNIT
619.13	Bark Mulch	25	CY
619.14	Erosion Control Mix	50	CY
620.58	Erosion Control Geotextile	170	SY
620.6012	HDPE Geomembrane	4,300	SY
620.66	Drainage Geocomposite	810	SY
621.019	Evergreen Tree 2' - 3' A	36	EA
621.02	Evergreen Tree 2' - 3' B	12	EA
621.025	Evergreen Tree 3' - 4' A	6	EA
621.026	Evergreen Tree 3' - 4' B	12	EA
621.027	Evergreen Tree 3' - 4' C	12	EA
621.032	Evergreen Tree 4' - 5' B	12	EA
621.033	Evergreen Tree 4' - 5' C	12	EA
621.038	Evergreen Tree 5' - 6' B	40	EA
621.039	Evergreen Tree 5' - 6' C	20	EA
621.044	Evergreen Tree 6' - 8' B	18	EA
621.110	Small Decid. Tr. 3' - 4' A	35	EA
621.111	Small Decid. Tr. 3' - 4' B	36	EA
621.112	Small Decid. Tr. 4' - 5' A	40	EA
621.1121	Small Decid. Tr. 4' - 5' B	36	EA
621.12	Small Decid. Tr. 5' - 6' A	24	EA
621.121	Small Decid. Tr. 5' - 6' B	12	EA
621.178	Med. Decid. Tr. 6' - 8' A	12	EA
621.179	Med. Decid. Tr. 6' - 8' B	24	EA
621.18	Med. Decid. Tr. 6' - 8' C	7	EA
621.186	Med. Decid. Tr. 8' - 10' C	24	EA
621.195	Med. Decid Tr. 1 3/4"-2" A	3	EA
621.197	Med. DecidTr. 1 3/4"-2" C	10	EA
621.389	Dw. Everg. 15"-18" GP. A	36	EA
621.424	Evergr. Shrub 4' - 5' B	8	EA
621.450	Evergr. Shrub 5' - 6' A	50	EA
621.451	Evergr. Shrub 5' -6' B	36	EA
621.5351	Deciduous Shrubs 15"-18" GP A	24	EA
621.54	Deciduous Shrubs 18"-24" GP A	54	EA
621.546	Deciduous Shrubs 2'-3' GP A	24	EA
621.554	Deciduous Shrubs 3'-4' GP C	12	EA
621.558	Deciduous Shrubs 4'-5' GP A	50	EA
621.80	Establishment Period Bond	1	LS
626.11	Precast Concrete Junction Box	22	EA
626.21	Metallic Conduit	80	LF
626.22	Non-metallic Conduit	2,150	LF
626.251	Non-Metallic Under Pavement Conduit (Schedule 80 or greater rating)	150	LF
626.31	18 inch Diameter Foundation	8	EA
626.332	30-inch Diameter, greater than 8-feet long, and all 36-inch and 42-inch Diameter foundations	18	CY
626.333	48-inch Diameter, 54-inch Diameter, 60-inch Diameter Foundations	20	CY
626.35	Controller Cabinet Foundation	1	EA
626.36	Remove or Modify Concrete Foundation	2	EA
627.733	4" White or Yellow Painted Pavement Marking Line	9,500	LF
627.744	6" White or Yellow Painted Pavement Marking Line	6400	LF

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO. 5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON		BY	DATE
DESIGN-DETAILED	EDD		CDH	2/20
CHECKED-REVIEWED	RWH		LZD	2/20
DESIGN2-DETAILED2				
DESIGN3-DETAILED3				
REVISIONS 1				
REVISIONS 2				
REVISIONS 3				
REVISIONS 4				
FIELD CHANGES				

SIGNATURE

P.E. NUMBER

DATE

VERANDA ST. BRIDGE
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

ESTIMATED QUANTITIES

SHEET NUMBER
2
OF 220

Filename: ...\002_Estimated Quantities.dgn Division: BRIDGE Username: Devon.C.Eaton Date:4/22/2020

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
627.75	White or Yellow Pavement & Curb Marking	2,350	SF
627.77	Removing Existing Pavement Marking	1,400	SF
627.78	Temporary Pavement Marking Line, White or Yellow	8,400	LF
629.05	Hand Labor, Straight Time	200	HR
631.1	Air Compressor (including operator)	60	HR
631.11	Air Tool (including operator)	60	HR
631.12	All Purpose Excavator (including operator)	200	HR
631.14	Grader (including operator)	60	HR
631.172	Truck-large (including operator)	200	HR
631.22	Front End Loader (including operator)	60	HR
631.32	Culvert Cleaner (including operators)	30	HR
634.16	Highway Lighting	1	LS
634.2042	LED Luminaires	10	EA
634.21	Conventional Light Standard	8	EA
639.18	Field Office, Type A	1	EA
643.62	Rectangular Rapid Flashing Beacon	4	EA
643.71	Traffic Signal Modification: Veranda St./Marine Hospital Road	1	LS
643.72	Temporary Traffic Signal at: Route 9/Lunt Road	1	LS
643.77	Dynamic Speed Feedback Signs	1	EA
643.80	Traffic Signals at: Veranda St./Wordsworth/On Ramp/Off Ramp	1	LS
643.83	Video Detection System Veranda St./Wordsworth/On Ramp/Off Ramp	1	LS
643.90	Interconnect Wire Between: 12 - Strand Fiber Optic Cable (2000 LF)	1	LS
643.91	Mast Arm Pole 45' Mast Arm	1	EA
643.92	Pedestal Pole	8	EA
643.93	Strain Pole (Stub Pole)	1	EA
643.94	Dual Purpose Pole - 55' Mast Arm and Luminaire Arm	1	EA
645.103	Demount Guide Sign	28	EA
645.106	Demount Regulatory, Warning, Confirmation and Route Marker Assembly Sign	79	EA
645.108	Demount Pole	44	EA
645.113	Reinstall Guide Sign	26	EA
645.116	Reinstall Regulatory, Warning, Confirmation and Route Marker Assembly Sign	31	EA
645.118	Reinstall Pole	17	EA
645.292	Regulatory, Warning, Confirmation and Route Marker Assembly Signs Type II	120	SF
652.30	Flashing Arrow	3	EA
652.312	Type III Barricades	21	EA
652.313	Temporary Pedestrian Barricade, ADA Compliant	350	LF
652.33	Drum	310	EA
652.34	Cone	100	EA
652.35	Construction Signs	1,550	SF
652.361	Maintenance Of Traffic Control Devices (885 CD)	1	LS
652.38	Flaggers	7,100	HR
652.381	Traffic Officer	400	HR
652.41	Portable-Changeable Message Sign	11	EA
656.75	Temporary Soil Erosion and Water Pollution Control	1	LS
659.10	Mobilization	1	LS
660.21	On-The-Job Training	1000	HR
803.01	Test Pits	12	EA

CITY OF PORTLAND

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
202.15	Removing Existing Manhole or Catch Basin	7	EA
203.20	Common Excavation	1,150	CY
603.159	12 inch Culvert Pipe Option III	45	LF
604.244	Catch Basin Type F4	2	EA
615.07	Loam	150	CY
618.14	Seeding Method Number 2	24	UNIT
619.12	Mulch	24	UNIT
626.11	Precast Concrete Junction Box	8	EA
626.22	Non-metallic Conduit	750	LF

CENTRAL MAINE POWER

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
910.301	Special Work - Utility Conduit - Concrete Duct Bank	1	LS

PORTLAND WATER DISTRICT

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
203.25	Granular Borrow	CY	300
625.01	Water Line System - Temporary	LS	1
629.05	Hand Labor, Straight Time	HR	10
631.12	All Purpose Excavator (including operator)	HR	10
631.172	Truck-large (including operator)	HR	10
631.22	Front End Loader (including operator)	HR	10
652.38	Flaggers	HR	1,500
652.381	Traffic Officer	HR	100
653.22	2" Extruded Polystyrene Insulation	SF	240
812.162	Adjust Sewer Manhole to Grade	EA	11
822.3225	6" CL 52 DI Pipe Push On Joint	LF	50
822.3405	8" CL 52 DI Pipe Push On Joint	LF	230
822.3605	12" CL 52 DI Pipe Push On Joint	LF	1,675
823.31	12" Gate Valve	EA	4
823.3101	12" Gate Valve MJ Cut-In	EA	1
823.3250	8" Gate Valve MJ Cut-In	EA	1
823.325	8" Gate Valve	EA	7
823.3254	8" Gate Valve - Insertion	EA	1
823.3310	6" Gate Valve MJ Cut-In	EA	2
823.341	Air Release Valve - 1"	EA	4
824.30	Fire Hydrant	EA	3
824.31	Remove Fire Hydrant	EA	2
825.335	1-in Copper Service - Short Side	EA	2
825.4341	1-in Copper Service - Long Side	EA	9
825.55	Reconnect 2" Copper Service	EA	1

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO. 5933

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EDD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

VERANDA ST. BRIDGE
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

ESTIMATED QUANTITIES

SHEET NUMBER

3

OF 220

Filename: ...\003_Estimated Quantities 2.dgn Division: BRIDGE Username: Devon.C.Eaton Date:4/22/2020

GENERAL CONSTRUCTION NOTES

1. All utility facilities shall be adjusted by the respective utilities unless otherwise noted.

2. The location of utilities shown are approximate and should be verified in the field by the Contractor.

3. During construction, I-295 and Veranda Street may be closed to traffic for the time periods specified in the Special Provisions.

4. For easements, construction limits and right of way lines, refer to Right of Way Maps.

5. Seeding Method No. 1 shall be utilized on all lawn and developed areas. Seeding Method No. 2 shall be utilized on all other areas, including the Open Space, unless otherwise noted or directed.

6. Place a 24 in. wide strip of Temporary Erosion Control Blanket on the sideslopes along the top of riprap and behind the wingwalls.

7. Two Reflectorized Flexible Guardrail Markers shall be installed at each guardrail end.

8. Clearing limits shall be 10 feet beyond and parallel to the construction slope lines or as shown on the Plans unless otherwise authorized by the Resident.

9. All clearing shall be considered incidental to the Contract and no separate payment will be made. The actual lines for clearing shall be established in the field by the Contractor as indicated on the Plans and approved by the Resident.

10. Single trees and stump removal within the clearing limits as shown on the plans, shall be considered clearing. Single trees and stumps outside of the clearing limits shown on the plans shall be paid for under Items 201.23 & 201.24.

11. Loam shall be placed to a nominal depth of 4 inches in lawn areas and 2 inches in all other areas, including the Open Space, unless otherwise noted or directed by the Resident.

12. At the connection of proposed and existing guardrail, a 9'-4.5" section of rail shall be used and the proposed guardrail height shall transition to meet the existing guardrail height over 25 feet. Payment shall be made under Item 606.1301.

13. A MASH Compliant guardrail end treatment shall be installed concurrently with the placement of each section of end beam guardrail.

14. Extended Use Erosion Control Blankets, seeded gutters, riprap downspouts, and other gutters lined with Stone Ditch Protection shall be constructed after paving and shoulder work is completed, where it is apparent that runoff will cause continual erosion. Payment will be made under the appropriate Contract Items.

15. Protective Coating for Concrete Surfaces shall be applied to the following areas:

All exposed surfaces of concrete barriers.
Fascias down to the drip notch.
All exposed surfaces of Concrete Transition Barriers.
Face of breastwalls to one foot below roadway grade
Backwall top and roadway face and back side to one foot below top of the roadway.
Wingwalls top face and roadway face to one foot below final grade.

16. Erosion Control Mix may be substituted in those areas normally receiving loam and seed as directed by the Resident. Placement shall be in accordance with Standard Specifications Section 619, Mulch. Payment will be made under Item Number 619.14, Erosion Control Mix.

17. Project information referred to below may be accessed at the following MaineDOT web address: http://www.maine.gov/mdot/contractors/.

18. The existing bridge plans may be accessed at the MaineDOT web address. The plans are reproductions of the original drawings as prepared for the construction of the bridge. It is very unlikely that the plans will show any construction field changes or any alterations which may have been made to the bridge during its life span.

19. The project geotechnical report titled: Geotechnical Design Report for the Replacement of I-295 over Veranda Street may be accessed at the MaineDOT web address.

20. Geotechnical information furnished or referred to in this Plan set is for the use of the Bidders and the Contractor. No assurance is given that the information or interpretations will be representative of actual subsurface conditions at the construction site. MaineDOT will not be responsible for the Bidder's or Contractor's interpretations 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 boring locations.

21. The existing bridge shall be removed by and become the property of the Contractor. Bridge removal shall be to the limits shown on the Plans. The steel portions of the existing bridge are coated with a lead-based paint system. The Contractor is responsible for the containment, proper management and disposal of all lead-contaminated hazardous waste generated by the process of demolishing the bridge. The Contractor is responsible for implementing appropriate OSHA mandated personal protection standards related to this process. Once the existing bridge is removed, the Contractor is solely responsible for the care, custody and control of the components of the existing bridge and any hazardous waste generated as a result of the storage, recycling or disposal of the bridge components, including lead-coated steel. The Contractor shall recycle or reuse the steel in accordance with the Maine Department of Environmental Protection's "Maine Hazardous Waste Management Regulations," Chapter 850. A copy of this regulation is available at MaineDOT's offices on Child Street in Augusta. Payment for all labor, materials, equipment and other costs required to remove and dispose of the existing bridge will be considered incidental to the bridge removal Pay Item.

22. The Contractor shall submit a Bridge Demolition Plan to the Resident at least 30 business days prior to the start of demolition work. This plan shall outline the methods and equipment to be used to remove and dispose of all materials included in the existing bridge. No work related to the removal of the bridge shall be undertaken by the Contractor until the MaineDOT has reviewed the Bridge Demolition Plan for appropriateness and completeness. Payment for all work necessary for developing, submitting and finalizing the Demolition Plan will be considered incidental to the bridge removal pay item.

23. Quantities included for pay items measured and paid for by Lump Sum are estimated quantities and are provided by MaineDOT 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 MaineDOT 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.

24. No existing drainage shall be abandoned, removed, or plugged without prior approval of the Resident.

25. Any necessary cutting of existing pipes to fit in areas of proposed catch basins will not be paid for separately and will be considered incidental to Standard Specifications Section 604 Manholes, Inlets, and Catch Basins.

26. Any necessary cutting of existing catch basins to allow for proposed pipe connections will not be paid for separately and will be considered incidental to Standard Specifications Section 603 Pipe Culverts and Storm Drains or SP Section 605 Underdrains.

27. Existing culverts and catch basins will be cleaned as directed by the Resident under the appropriate pay items.

28. Existing culverts to be removed that are beyond the limits of subgrade or proposed culvert excavation shall be paid for under item 203.20 Common Excavation.

29. Residential paved entrances shall be constructed with 2 inches of hot mix asphalt and 12 inches of aggregate subbase course gravel.

30. Commercial paved entrances shall be constructed with 3 inches of hot mix asphalt and 11 inches of aggregate subbase course gravel.

31. Driveways at Sta. 107+34, 109+21, and 109+53 shall have final locations and orientations of turnarounds determined in the field by the Resident.

32. All paved walkways to be constructed with 2 inches of hot mix asphalt and 12 inches of aggregate subbase course gravel, unless otherwise noted on the Plans or directed by the Resident.

33. Where called for on the Plans, where new pavement joins existing pavement, the existing pavement shall be sawcut along a smooth line to a neat, even, vertical joint as directed by the Resident. Broken or raveled edges will not be permitted. All work necessary for the preparation of this joint will be considered incidental to the related contract items.

34. In order to maintain access to the entrances at Sta. 103+52 Lt. and 106+42 Lt., Common Excavation, Aggregate Subbase Course - Gravel, Loam, Seeding Method No. 1, and Temporary Pavement is anticipated. Payment shall be made using appropriate contract items.

35. Where called for on the plans, all temporary driveways shall be constructed with: 2" hot mix asphalt and 12" aggregate subbase course gravel. All temporary roadways shall be constructed with: 4" hot mix asphalt and 12" aggregate subbase course gravel. Upon project completion, all temporary facilities shall be removed and reestablished to their existing condition, unless within the limits of proposed construction.

36. The Contractor shall place temporary pavement ramps at the transition between existing pavement grade and proposed base pavement on I-295. See Special Provision 461 Temporary Pavement for additional information.

37. Prior to the placement of surface pavement on I-295, the Contractor shall shim the portions of the roadway, within the limits of the existing bridge, to compensate for post-construction settlement occurring between the original bridge abutments and piers.

38. Type I Terminal Curbs vary in length. All Type I Terminal Curbs shall be measured for payment under Item 609.23 Terminal Curb Type I per Each, regardless of length.

39. Existing non-circular Type I Curb in good condition shall be reset as directed by the Resident. Quantities have assumed 25% of the existing non-circular Type I Curb to be Reset Curb Type I.

40. Payment for removing and resetting existing fence for contractor access shall be incidental to related contract items.

41. Earthwork Quantities were developed based on the following sequencing:

I-295 is raised and widened requiring 3050 CY of Common Borrow

Veranda Street and I-295 Ramps are realigned resulting in 7100 CY of surplus material with approximately 4850 CY being reusable excavation and 2250 CY of waste.

Open Space is rough graded based on grading plan. Resulting in 1150 CY of Common Borrow being required which shall come from available reusable excavation from Veranda Street or I-295 Ramps. For the Open Space, stockpiled material placed in its final location shall be paid for as 203.20 Common Excavation.

42. The Department plans to install and operate two time lapse cameras to document construction of the project. To support these efforts the Contractor shall install, maintain, and remove two 40-foot-tall temporary utility poles at the approximate locations shown on the plans. The Contractor shall supply the Department with access and equipment (e.g. bucket truck or lift) necessary for the installation, maintenance and removal of the cameras and associated equipment. The Contractor shall also be responsible for providing electrical and Internet (minimum 10 Mbps) service at each pole location. The Contractor shall be responsible for the installation of temporary barrier or other measures necessary to maintain the safe passage of traffic near the pole, and to prevent the pole from being struck or damaged by equipment during construction. This work will not be measured for payment separately, but shall be incidental to the related contract items. Time lapse cameras will be provided, installed, and operated by others.

43. Temporary adjustments will be made to existing traffic signal timing along the detour routes during the Interstate 295 and Veranda Street closure period. These adjustments will be made by the Department. The Contractor shall assist the Department with access (lane closures) and equipment (boom truck or similar) as necessary to complete these adjustments. This work will not be measured for payment separately, but shall be incidental to the related contract items.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EUD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

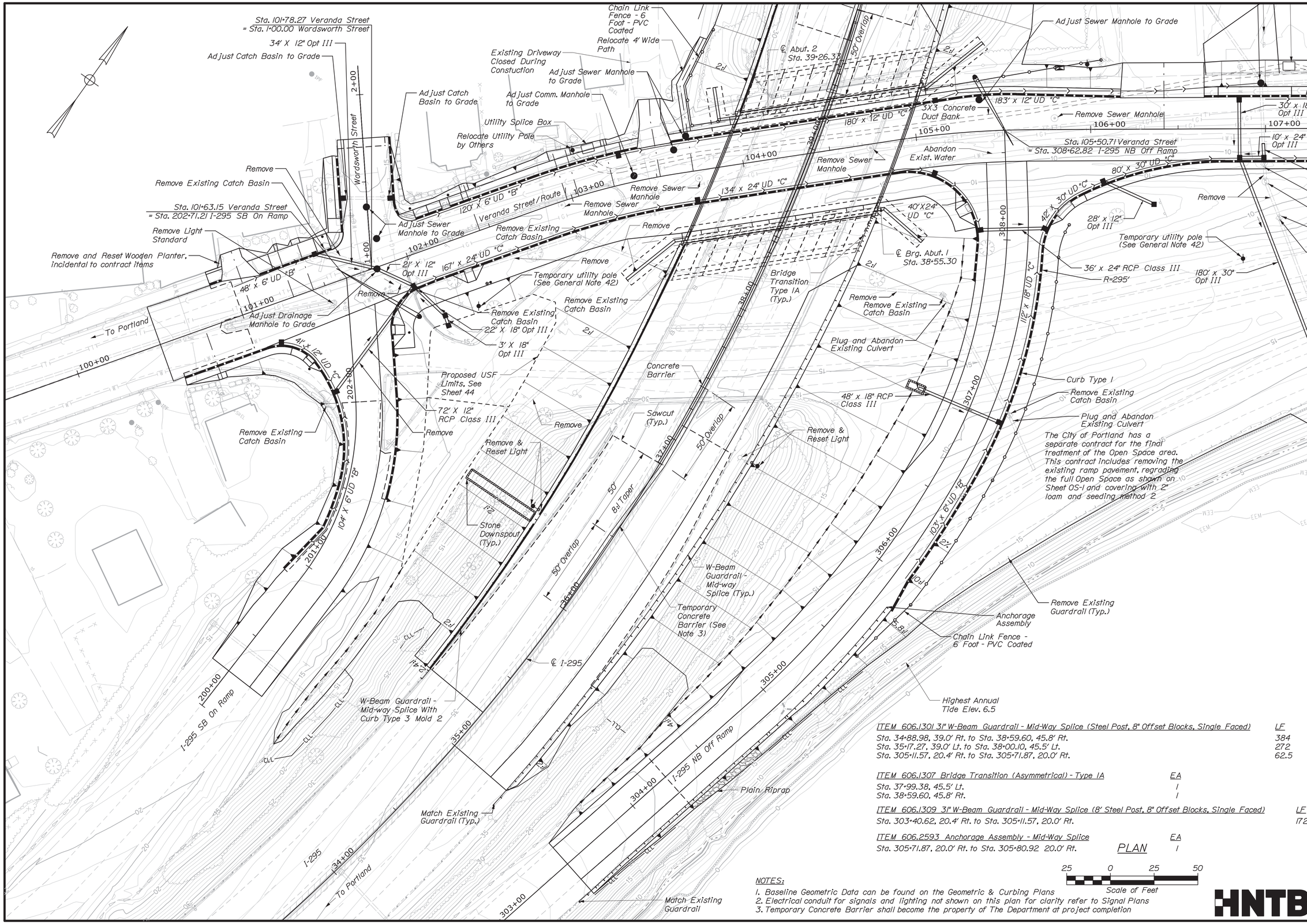
DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

GENERAL NOTES

SHEET NUMBER
4
OF 220

Filename: 004_GeneralNotes.dgn Division: Username: Date:3/29/2020



ITEM 606.1301 31" W-Beam Guardrail - Mid-Way Splice (Steel Post, 8" Offset Blocks, Single Faced) — LF

Sta. 34+88.98, 39.0' Rt. to Sta. 38+59.60, 45.8' Rt.	384
Sta. 35+17.27, 39.0' Lt. to Sta. 38+00.10, 45.5' Lt.	272
Sta. 305+11.57, 20.4' Rt. to Sta. 305+71.87, 20.0' Rt.	62.5

ITEM 606.1307 Bridge Transition (Asymmetrical) - Type IA — EA

Sta. 37+99.38, 45.5' Lt.	1
Sta. 38+59.60, 45.8' Rt.	1

ITEM 606.1309 31" W-Beam Guardrail - Mid-Way Splice (8' Steel Post, 8" Offset Blocks, Single Faced) — LF

Sta. 303+40.62, 20.4' Rt. to Sta. 305+11.57, 20.0' Rt.	172

ITEM 606.2593 Anchorage Assembly - Mid-Way Splice — EA

Sta. 305+71.87, 20.0' Rt. to Sta. 305+80.92 20.0' Rt.	1

PLAN

NOTES:

1. Baseline Geometric Data can be found on the Geometric & Curbing Plans
2. Electrical conduit for signals and lighting not shown on this plan for clarity refer to Signal Plans
3. Temporary Concrete Barrier shall become the property of The Department at project completion

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EDD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

GENERAL PLAN 1

SHEET NUMBER

5

OF 220

Filename: 005_BDPlan_01.dgn Division: Username: Date:3/3/2020

PLAN

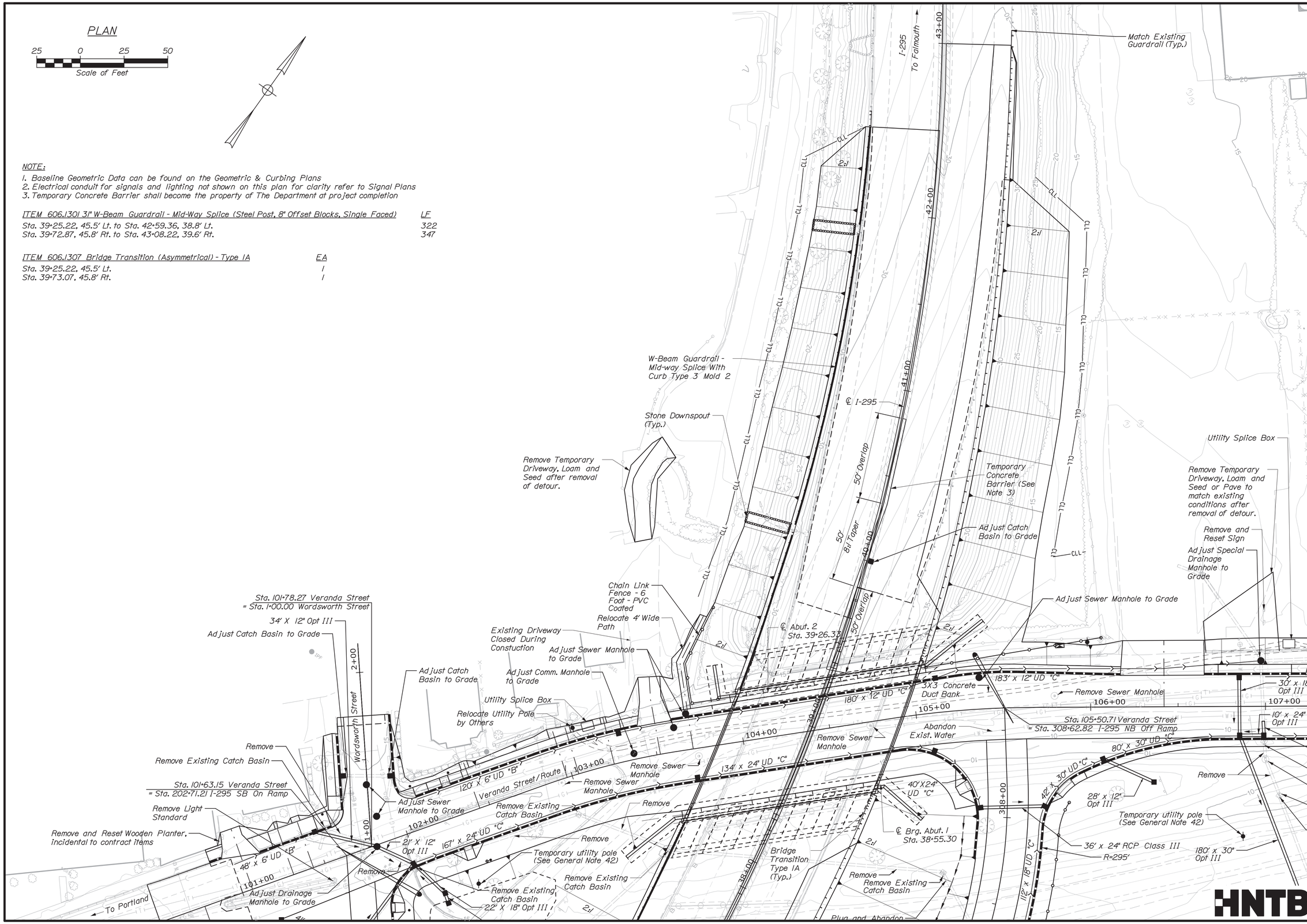
25 0 25 50
Scale of Feet

NOTE:

1. Baseline Geometric Data can be found on the Geometric & Curbing Plans
2. Electrical conduit for signals and lighting not shown on this plan for clarity refer to Signal Plans
3. Temporary Concrete Barrier shall become the property of The Department at project completion

ITEM 606.1301 31" W-Beam Guardrail - Mid-Way Splice (Steel Post, 8" Offset Blocks, Single Faced)	LF
Sta. 39+25.22, 45.5' Lt. to Sta. 42+59.36, 38.8' Lt.	322
Sta. 39+72.87, 45.8' Rt. to Sta. 43+08.22, 39.6' Rt.	347

ITEM 606.1307 Bridge Transition (Asymmetrical) - Type IA	EA
Sta. 39+25.22, 45.5' Lt.	1
Sta. 39+73.07, 45.8' Rt.	1



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	EDD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER VERANDA STREET

PORTLAND CUMBERLAND COUNTY

GENERAL PLAN 2

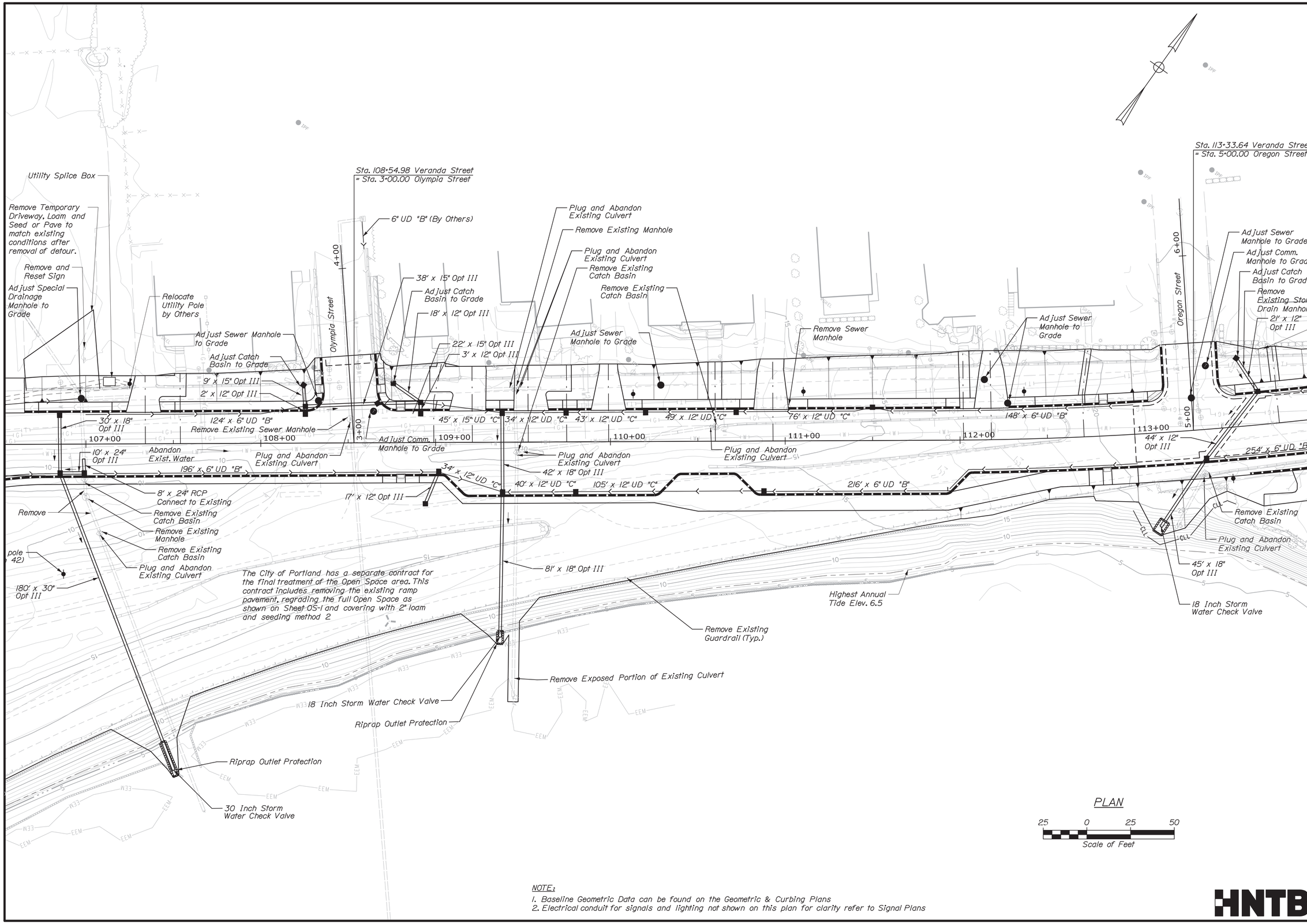
SHEET NUMBER

6

OF 220

Filename: 006_BDPlan_02.dgn Division: Username: Date:3/3/2020

Filename: 007_BDPlan_03.dgn
Division:
Username:
Date:3/3/2020



NOTE:
1. Baseline Geometric Data can be found on the Geometric & Curbing Plans
2. Electrical conduit for signals and lighting not shown on this plan for clarity refer to Signal Plans

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EDD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

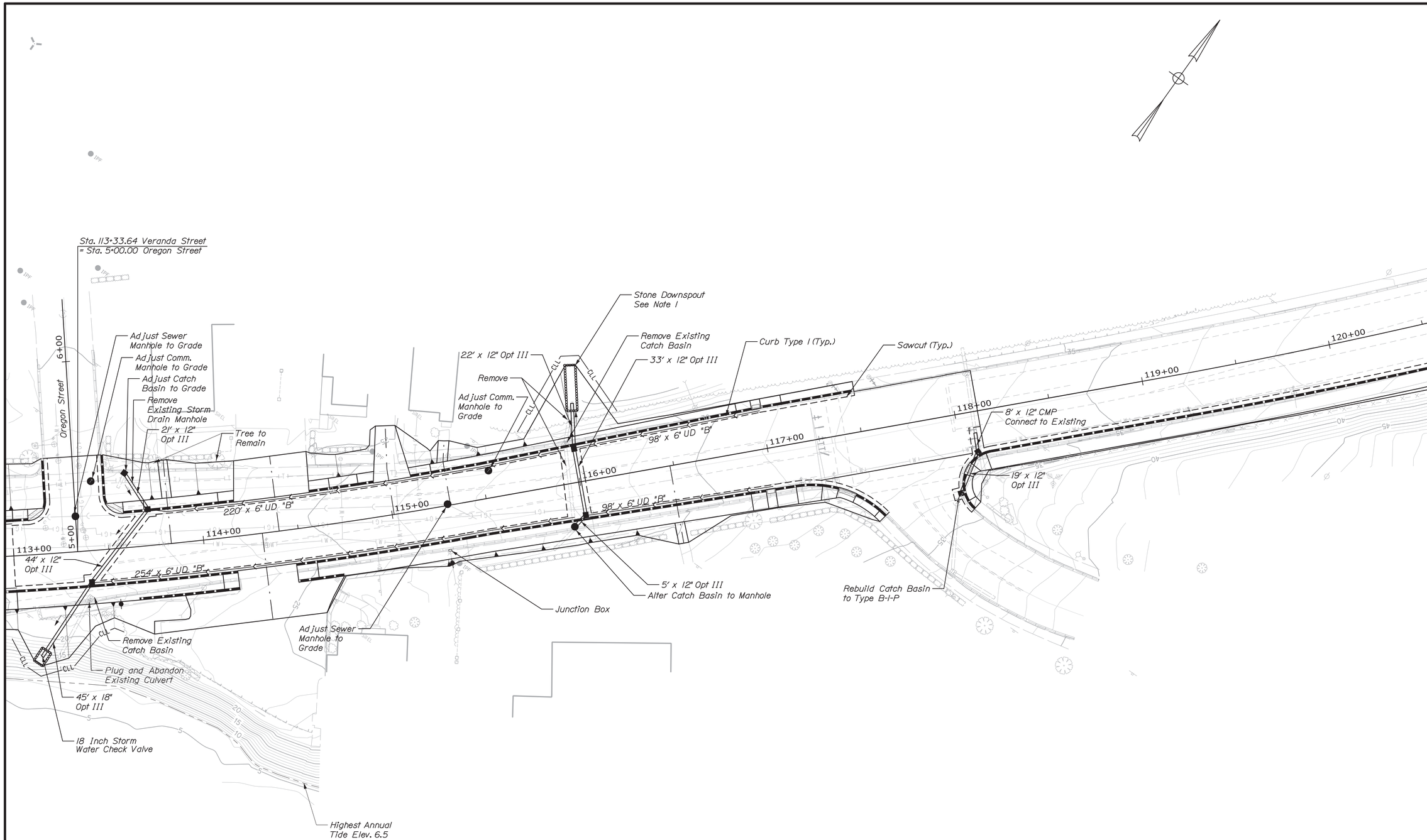
P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

GENERAL PLAN 3

SHEET NUMBER
7
OF 220



NOTES:

1. Limits of Work at This Drainage Outfall Are Approximate. Actual Limits of Clearing, Riprap, and Fill Shall be Confirmed by the Resident
2. Baseline Geometric Data can be found on the Geometric & Curbing Plans
3. Electrical conduit for signals and lighting not shown on this plan for clarity refer to Signal Plans

PLAN

25 0 25 50
Scale of Feet

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

SIGNATURE

P.E. NUMBER

DATE

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EDD	CDH	2\20
CHECKED-REVIEWED	RWH	LZD	2\20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

GENERAL PLAN 4

SHEET NUMBER

8

OF 220

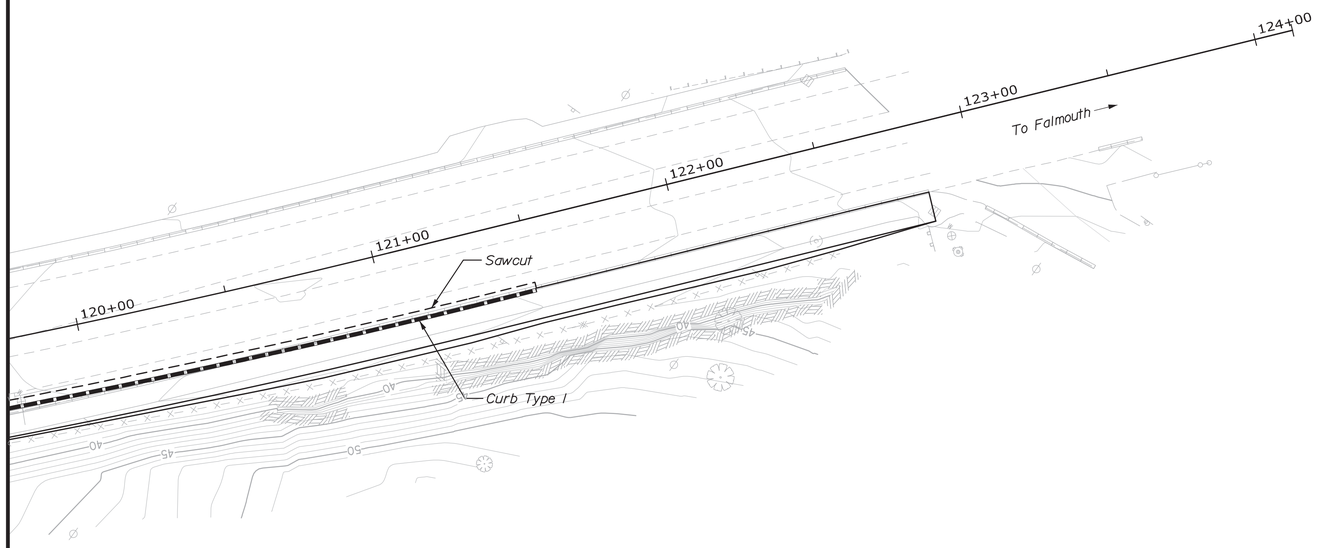
Date:3/3/2020

Username:

Division:

Filename: 008_BDPlan_04.dgn

Filename: 009_BDPlan_05.dgn Division: Username: Date:3/3/2020



NOTE:
Baseline Geometric Data can be found on the Geometric & Curbing Plans

PLAN

25 0 25 50
Scale of Feet

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN
021745.00

BRIDGE NO.5933 BRIDGE PLANS

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	EDD	CDH	2\20
CHECKED-REVIEWED	RWH	LZD	2\20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS: 1			
REVISIONS: 2			
REVISIONS: 3			
REVISIONS: 4			
FIELD CHANGES			

SIGNATURE

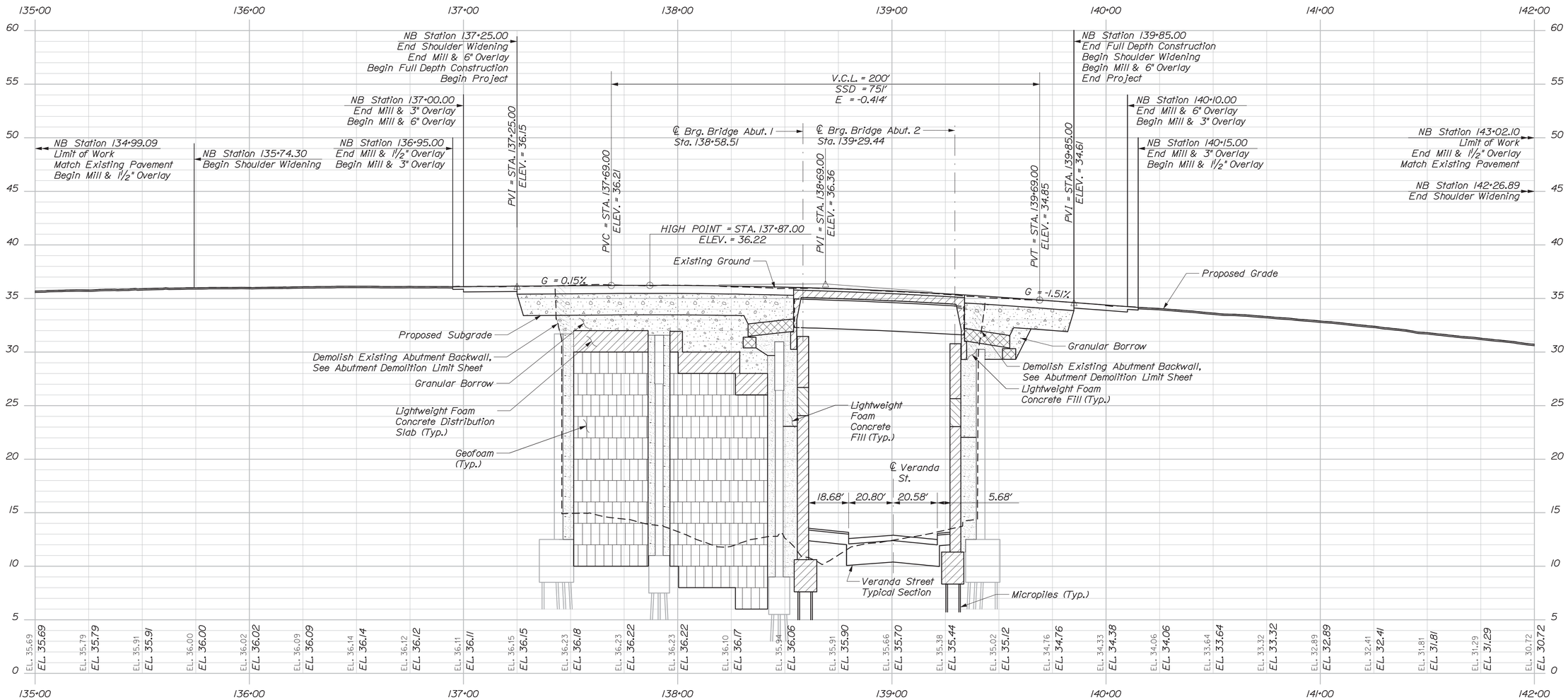
P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

GENERAL PLAN 5

SHEET NUMBER
9
OF 220



NB PROFILE

Horiz. 25 0 25 50

Vert. 5 0 5 10

Scale of Feet

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EJD	CDH	2\20
CHECKED-REVIEWED	RWH	LZD	2\20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

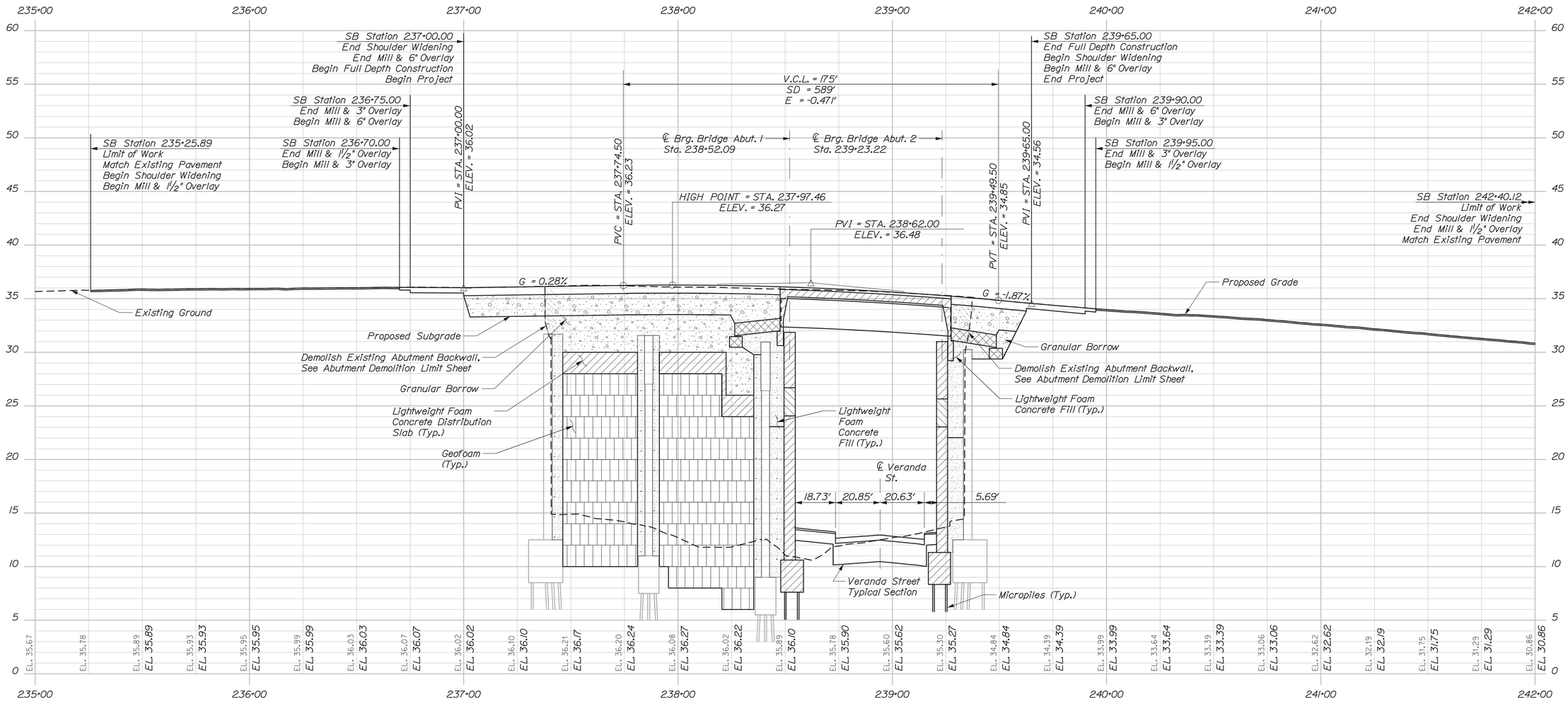
PROFILE
I-295 NORTHBOUND

SHEET NUMBER

10

OF 220

Filename: 010_I-295 Profile.dgn Division: Username: Date:3/3/2020



SB PROFILE

Horiz. 25 0 25 50

Vert. 5 0 5 10

Scale of Feet

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	EDD	CDH	2\20
CHECKED-REVIEWED	RWH	LZD	2\20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

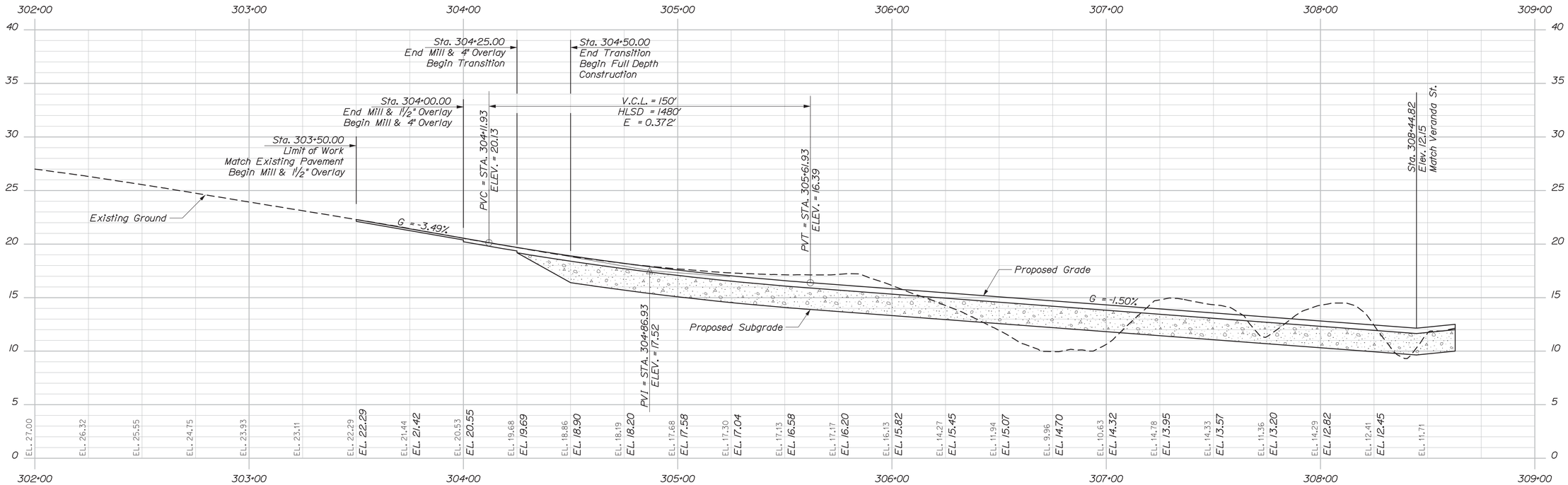
PROFILE
I-295 SOUTHBOUND

SHEET NUMBER

11

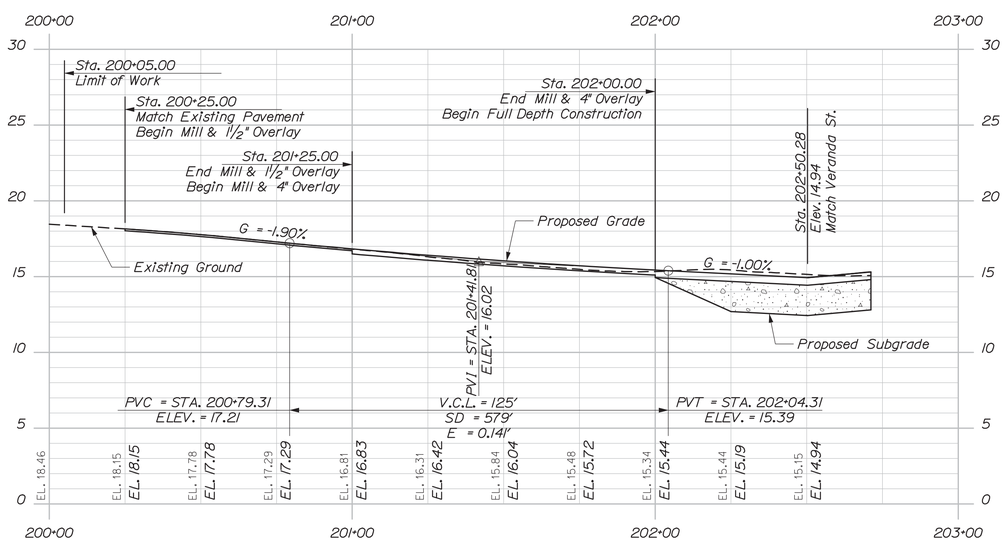
OF 220

Filename: 011_I-295 Profile_2.dgn Division: Username: Date:3/3/2020



I-295 NB OFF RAMP PROFILE

Horiz. 25 0 25 50
Vert. 5 0 5 10
Scale of Feet



I-295 SB ON RAMP PROFILE

Horiz. 25 0 25 50
Vert. 5 0 5 10
Scale of Feet

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EOD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

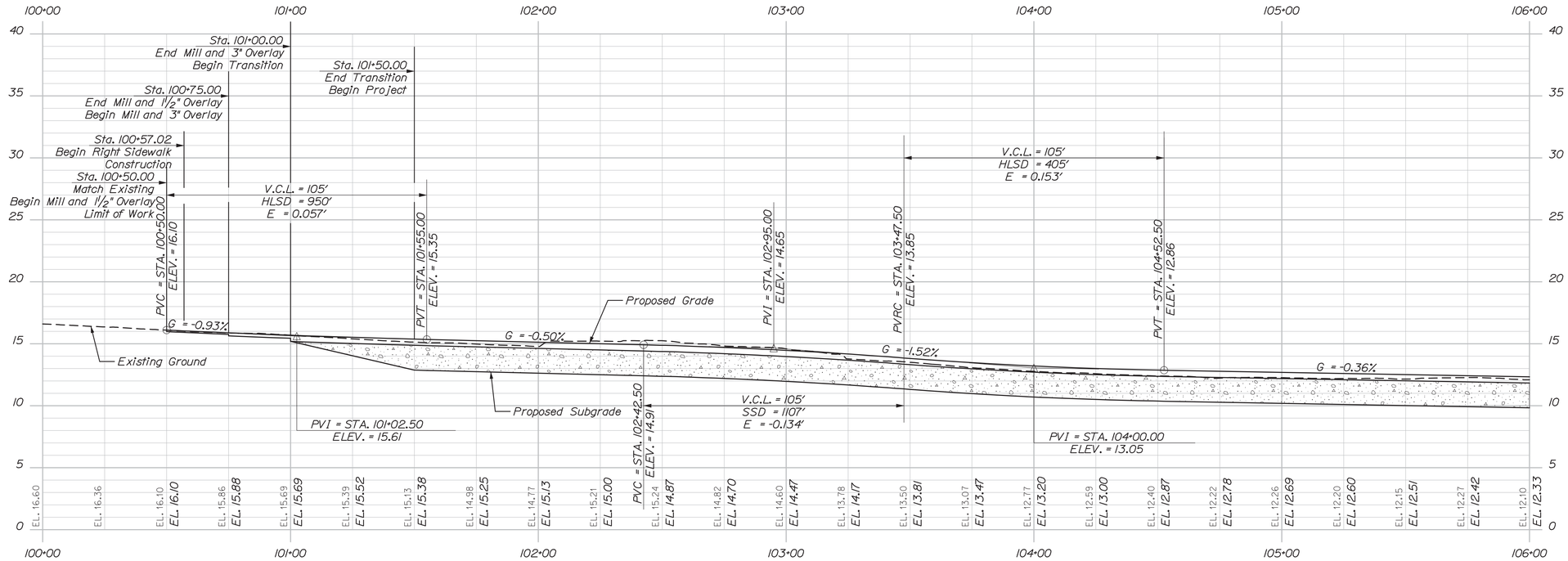
INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

PROFILE
I-295 RAMPS

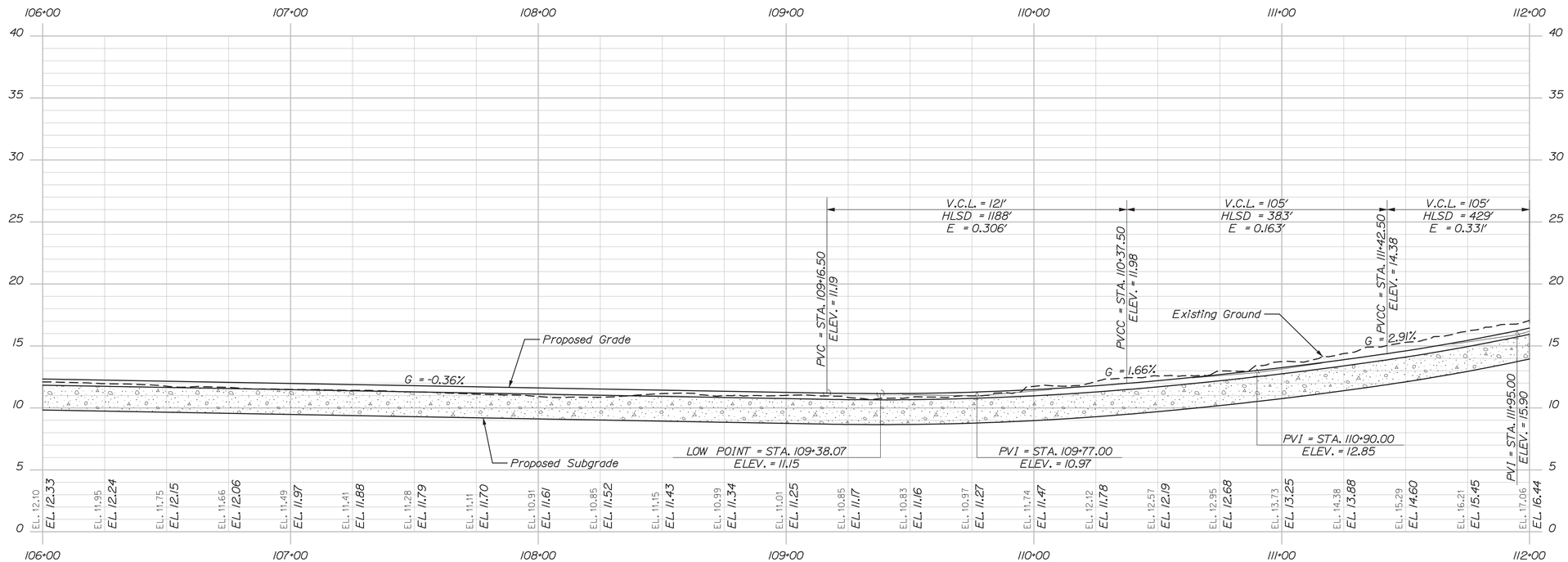
SHEET NUMBER
12
OF 220

HNTB

Filename: 012_I-295 Ramp Profiles.dgn Division: Username: Date:3/3/2020



PROFILE



PROFILE

Horiz. 25 0 25 50

Vert. 5 0 5 10

Scale of Feet

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EDD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

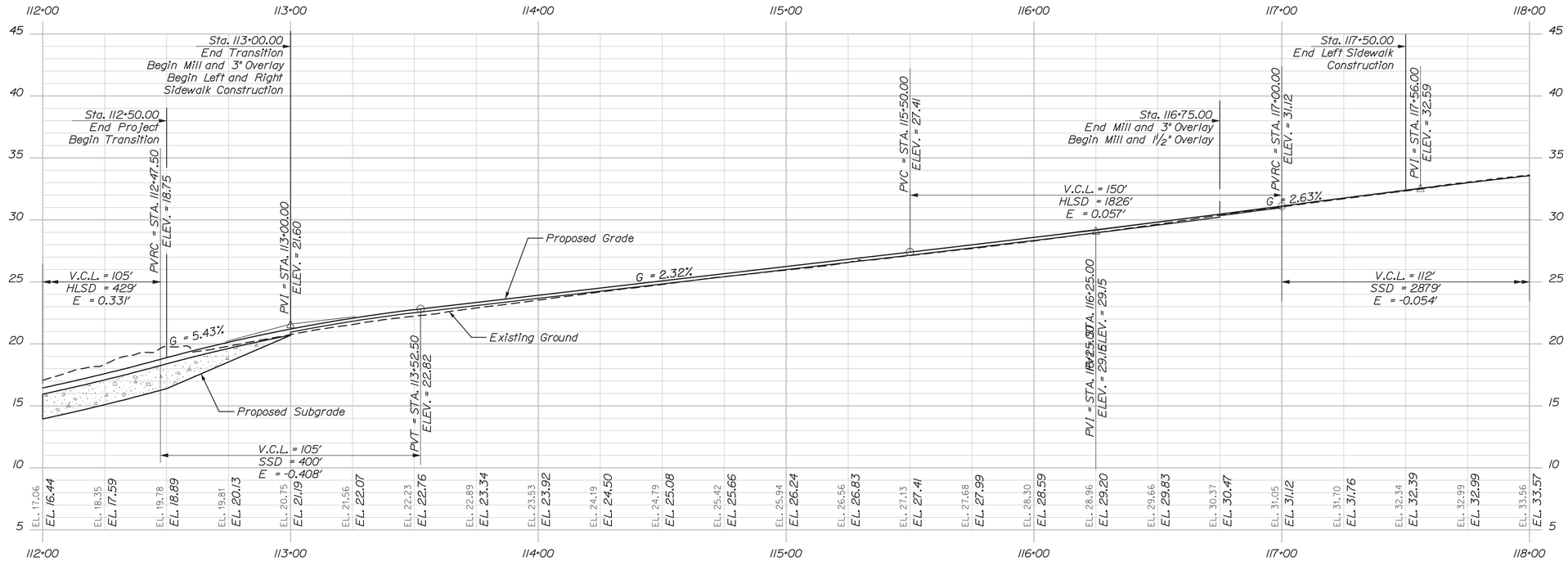
PROFILE
VERANDA STREET 1

SHEET NUMBER

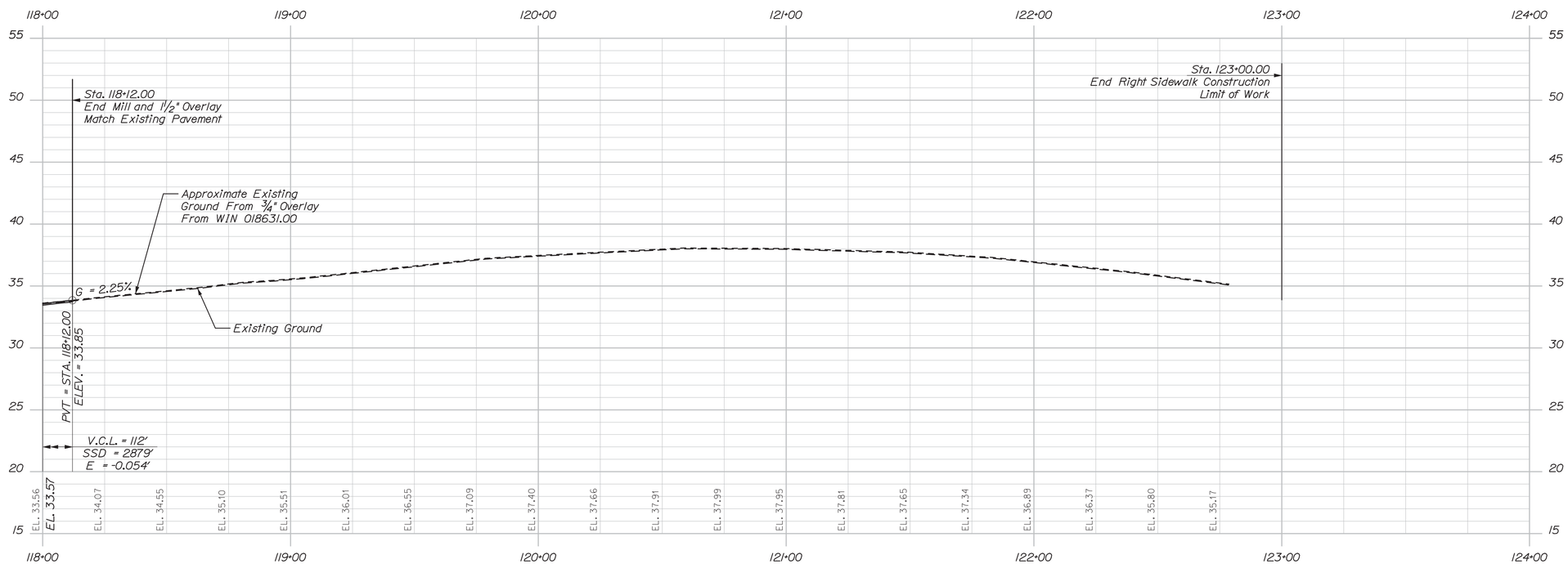
13

OF 220

Filename: 013_Profile_Veranda_01.dgn Division: Username: Date:3/3/2020



PROFILE



PROFILE

Horiz. 25 0 25 50

Vert. 5 0 5 10

Scale of Feet

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EOD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

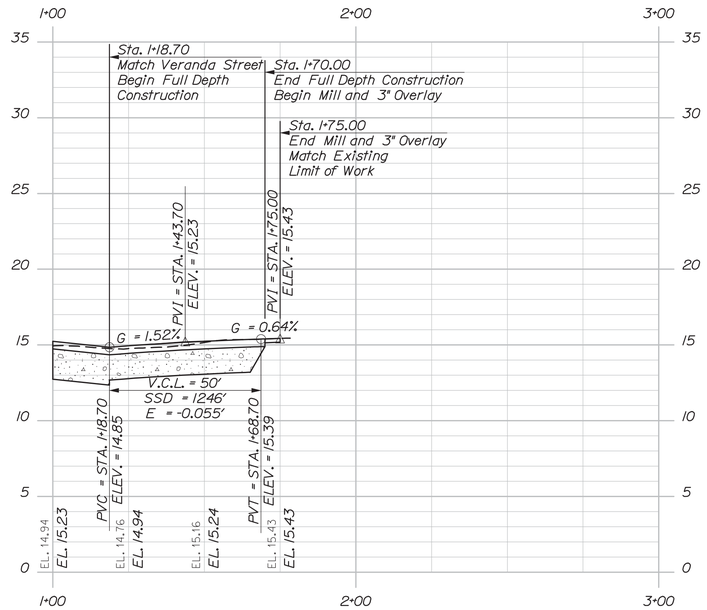
PROFILE
VERANDA STREET 2

SHEET NUMBER

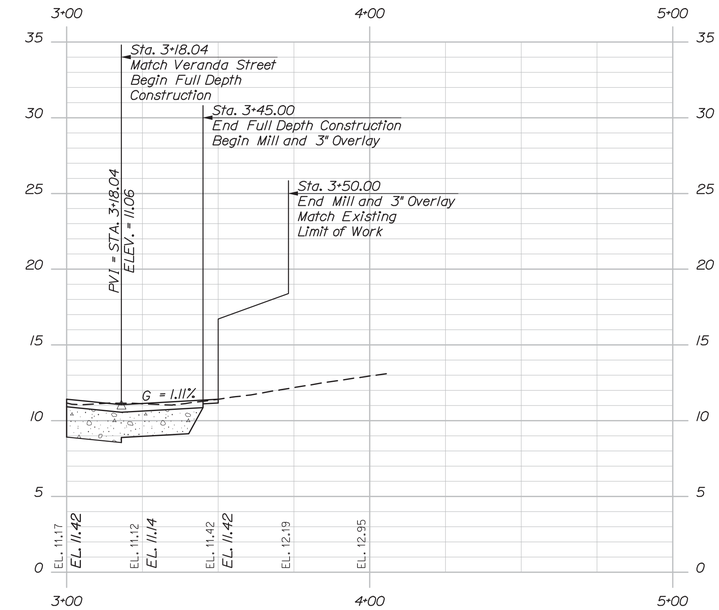
14

OF 220

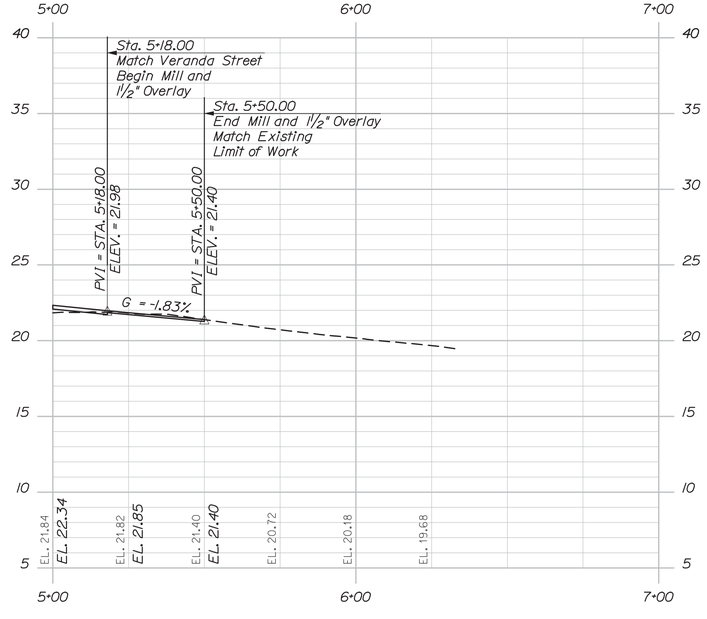
Filename: 014_Profile_Veranda_02.dgn Division: Username: Date:3/3/2020



WORDSWORTH STREET PROFILE



OLYMPIA STREET PROFILE



OREGON STREET PROFILE

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

SIGNATURE

P.E. NUMBER

DATE

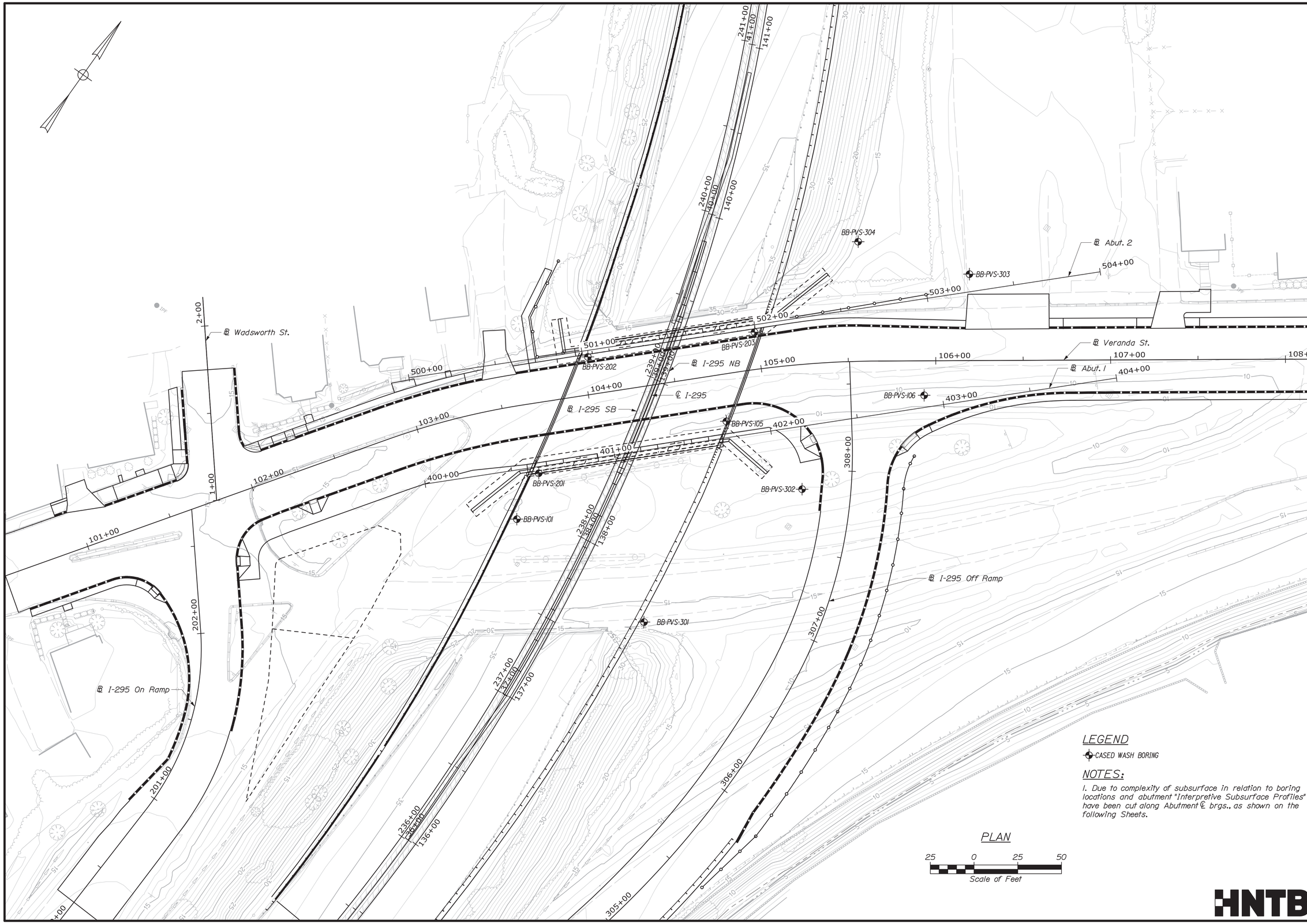
PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	EDD	CDH	2\20
CHECKED-REVIEWED	RWH	LZD	2\20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

PROFILE
SIDE ROADS

SHEET NUMBER
15
OF 220

Filename: 015_Profile_Sideroads.dgn Division: Username: Date:3/3/2020



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	HJW	PEB	2/20
CHECKED-REVIEWED	KEB	JMB	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

BORING LOCATION PLAN

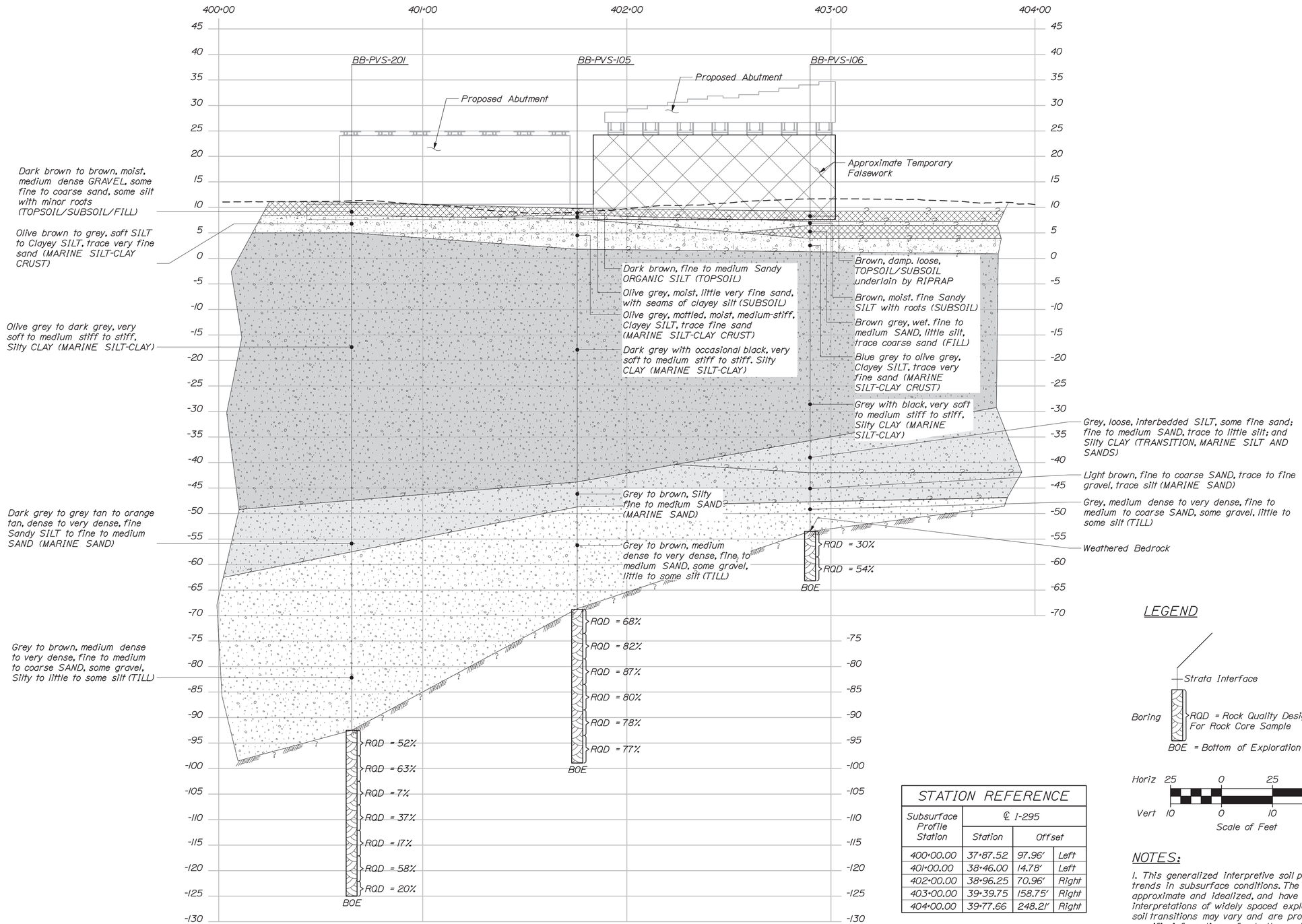
SHEET NUMBER

16

OF 220

HNTB

Filename: 016_Boring Location Plan.dgn Division: Username: Date:3/3/2020



PROFILE
(Along ℄ Abut. 1), Looking Upstation I-295

STATION REFERENCE			
Subsurface Profile Station	℄ I-295		
	Station	Offset	
400+00.00	37+87.52	97.96'	Left
401+00.00	38+46.00	14.78'	Left
402+00.00	38+96.25	70.96'	Right
403+00.00	39+39.75	158.75'	Right
404+00.00	39+77.66	248.21'	Right

LEGEND

Strata Interface

Boring — RQD = Rock Quality Designation For Rock Core Sample

BOE = Bottom of Exploration

Horiz 25 0 25 50

Vert 10 0 10 20

Scale of Feet

NOTES:

1. This generalized interpretive soil profile is intended to convey trends in subsurface conditions. The boundaries between strata are approximate and idealized, and have been developed by interpretations of widely spaced explorations and samples. Actual soil transitions may vary and are probably more erratic. For more specific information refer to the exploration logs.

2. Abutment linework shown screened for clarity.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	HJW	PEB	2/20
CHECKED-REVIEWED	KEB	JMB	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER VERANDA STREET
PORTLAND CUMBERLAND COUNTY

INTERPRETIVE SUBSURFACE PROFILE ALONG ABUT. 1

SHEET NUMBER

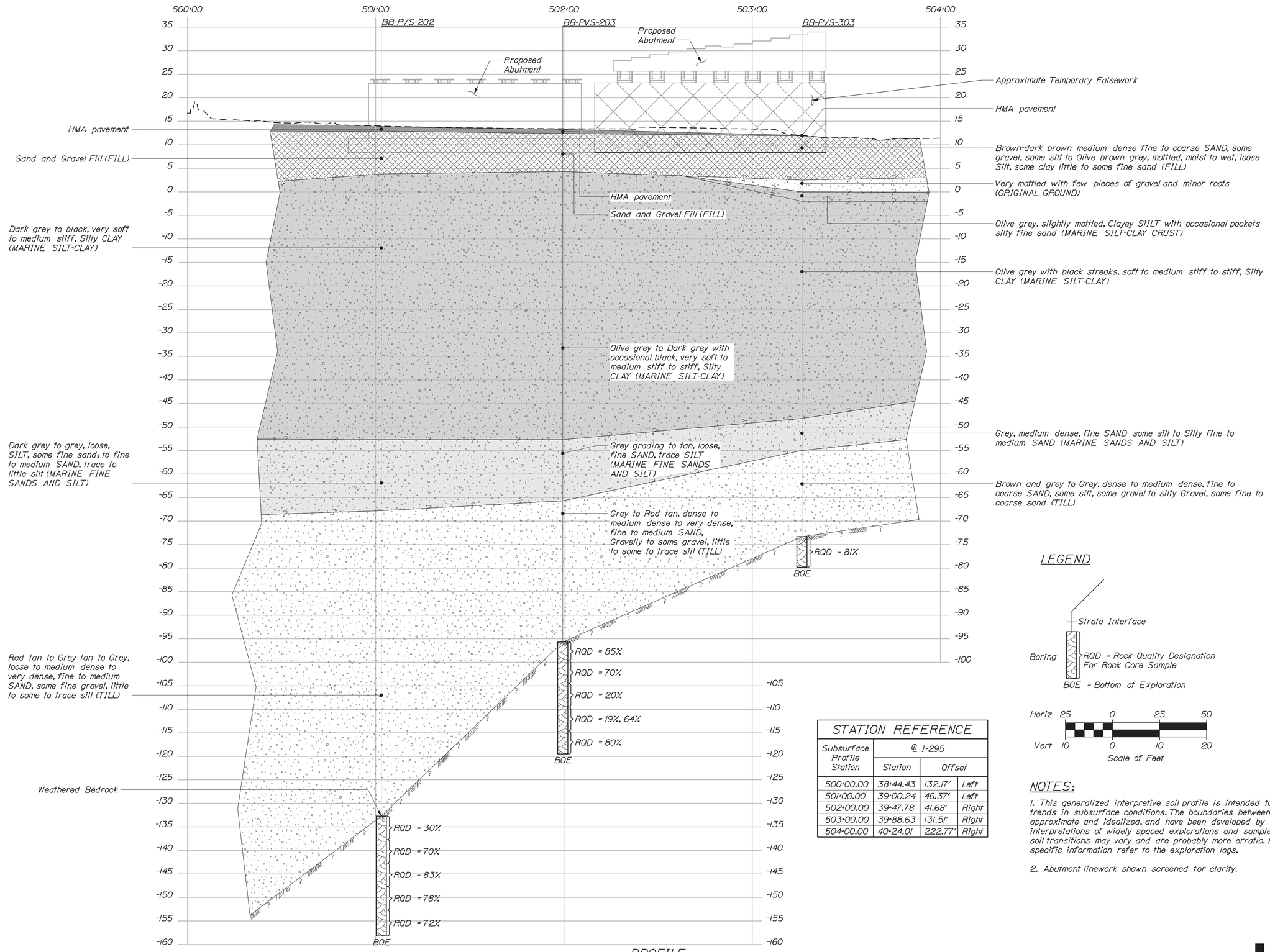
17

OF 220

Date:3/3/2020

Username:

Filename: 017_Interpretive Subsurface Profile A1.dgn Division:



PROFILE
(Along ℄ Abut. 2), Looking Upstation I-295

STATION REFERENCE			
Subsurface Profile Station	℄ I-295		
	Station	Offset	
500+00.00	38+44.43	132.17'	Left
501+00.00	39+00.24	46.37'	Left
502+00.00	39+47.78	41.68'	Right
503+00.00	39+88.63	131.51'	Right
504+00.00	40+24.01	222.77'	Right

LEGEND

Strata Interface

Boring — RQD = Rock Quality Designation For Rock Core Sample

BOE = Bottom of Exploration

Horiz 25 0 25 50

Vert 10 0 10 20

Scale of Feet

NOTES:

1. This generalized interpretive soil profile is intended to convey trends in subsurface conditions. The boundaries between strata are approximate and idealized, and have been developed by interpretations of widely spaced explorations and samples. Actual soil transitions may vary and are probably more erratic. For more specific information refer to the exploration logs.

2. Abutment linework shown screened for clarity.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	D. EATON	
DESIGN-DETAILED	HJW	PEB 2/20
CHECKED-REVIEWED	KEB	JMB 2/20
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

INTERPRETIVE SUBSURFACE PROFILE ALONG ABUT. 2

SHEET NUMBER
18
OF 220

Filename: 018_Interpretive Subsurface Profile A2.dgn Division: Username: Date:3/3/2020

Date:3/3/2020

Username:

Division:

Filename: 019_Boring Logs 1.dgn

Maine Department of Transportation
Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Bridge #5933
I-295 over Veranda Street
Location: Portland, ME

Boring No.: BB-PVS-101
WIN: 21745.00

Driller:	New England Boring Contractors	Elevation (ft.)	10.8 ft	Auger ID/OD:	SSA (--/4.5")
Operator:	Schaefer / Titus	Datum:	NAVD88	Sampler:	standard split-spoon
Logged By:	Schonewald	Rig Type:	Mobile Drill B-53 ATV	Hammer Wt./Fall:	140 lbs / 30 inches
Date Start/Finish:	7/26/18; 1205-7/27/18; 1510	Drilling Method:	cased wash boring	Core Barrel:	n/a
Boring Location:	N 310609.0, E 1016701.2	Casing ID/OD:	HW (4/4.5") NW (3/3.5")	Water Level*:	below 6 ft BGS
Hammer Efficiency Factor: 0.60		Hammer Type:	Automatic ☐ Hydraulic ☐ Rope & Cathead ☒		

Definitions:
D = Split Spoon Sample
MD = Unsuccessful Split Spoon Sample Attempt
U = Thin Wall Tube Sample
MU = Unsuccessful Thin Wall Tube Sample Attempt
V = Field Vane Shear Test, PP = Pocket Penetrometer
MV = Unsuccessful Field Vane Shear Test Attempt
R = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
WOH = Weight of 140 lb. Hammer
WOR/C = Weight of Rods or Casing
WO1P = Weight of One Person
S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf)
$S_{u(lab)}$ = Lab Vane Undrained Shear Strength (psf)
q_p = Unconfined Compressive Strength (ksf)
N-uncorrected = Raw Field SPT N-value
Hammer Efficiency Factor = Rig Specific Annual Calibration Value
N_{60} = SPT N-uncorrected Corrected for Hammer Efficiency
N_{60} = (Hammer Efficiency Factor/60%)*N-uncorrected
T_v = Pocket Torvane Shear Strength (psf)
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./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N60	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class
0							SSA	10.1		ASPHALT -0.7	
	1D	24/19	2.0 - 4.0	2-3-4-5	7	7				Olive brown, moist, medium stiff, Silt- Clay Fill (FILL)	
5	2D	24/22	4.0 - 6.0	2-2-3-4	5	5				Olive brown, moist, medium stiff, Silt- Clay Fill (FILL)	
	3D	24/19	6.0 - 8.0	2-3-3-4	6	6	PUSH HW			Olive brown, moist, medium stiff, Silt- Clay Fill (FILL)	
								3.4		7.4 (3D cont'd): Possible transition to native MARINE SILT-CLAY CRUST at 7.4 ft.	
	4D	24/21	8.0 - 10.0	1-2-3-3	5	5				Olive brown, slightly mottled, medium stiff, Clayey SILT, with few pockets, partings, and inclusions of silty fine sand. (MARINE SILT-CLAY CRUST)	
10	5D	24/21	10.0 - 12.0	1-2-2-3	4	4				Soft, olive brown, slightly mottled, Clayey SILT grading to olive grey, Clayey SILT. (MARINE SILT-CLAY CRUST)	
								-1.2		12.0	
15	6D	24/24	15.0 - 17.0	WOH/18"-2	--					Dark olive grey with black, very soft, Silty CLAY. (MARINE SILT-CLAY)	
20	7D V1	24/10	20.0 - 22.0 20.6 - 21.0	push thru vane Su=647/112 psf						Dark grey, medium stiff, Silty CLAY. (MARINE SILT-CLAY) V1: 14.5 / 2.5 ft-lbs (55 mm x 110 mm vane raw torque readings)	GTX#473553 WC=50% LL=45 PL=22 PI=23
	V2		21.6 - 22.0	Su=915/156 psf						V2: 20.5 / 3.5 ft-lbs (55 mm x 110 mm vane raw torque readings)	
25	U1	12/12	25.0 - 26.0	HYD PUSH						Sampler not extend past 26 ft; saved sample.	
	8D	24/24	26.0 - 28.0	WOH/12"-1-2	1	1				Dark grey with occasional black, Silty CLAY. (MARINE SILT-CLAY) Sandy gravel observed in top of sample.	
30	9D V3	24/24	30.0 - 32.0 30.6 - 31.0	push thru vane Su=1,027/179 psf						Dark grey with occasional black, medium stiff to stiff, Silty CLAY. (MARINE SILT-CLAY) V3: 23 / 4 ft-lbs (55 mm x 110 mm vane raw torque readings)	
	V4		31.6 - 32.0	Su=982/179 psf						V4: 22 / 4 ft-lbs (55 mm x 110 mm vane raw torque readings)	
35	U2	24/24	35.0 - 37.0	HYD PUSH						Dark grey with black, Silty CLAY; bottom of sample blocky break, gritty. (MARINE SILT-CLAY)	GTX#IP-6 CONSOL (Cv, C?) GTX#473547 WC=39% LL=40 PL=20 PI=20
40	10D V5	24/24	40.0 - 42.0 40.6 - 41.0	push thru vane Su=1,139/179 psf						Dark grey with black, stiff, Silty CLAY, trace very fine Sand. (MARINE SILT-CLAY) V5: 25.5 / 4 ft-lbs (55 mm x 110 mm vane raw torque readings)	
	V6		41.6 - 42.0	Su=1,362/268 psf						V6: 30.5 / 6 ft-lbs (55 mm x 110 mm vane raw torque readings)	
45	11D V7	24/24	45.0 - 47.0 45.6 - 46.0	push thru vane Su=1,340/223 psf						Dark grey with occasional black, stiff, Silty CLAY. (MARINE SILT-CLAY) V7: 30 / 5 ft-lbs (55 mm x 110 mm vane raw torque readings)	
	V8		46.6 - 47.0	Su=1,362/246 psf						V8: 30.5 / 5.5 ft-lbs (55 mm x 110 mm vane raw torque readings)	
50	12D V9	24/24	50.0 - 52.0 50.6 - 51.0	push thru vane Su=1,496/290 psf						Dark grey with occasional black, Silty CLAY with three 1-inch seams fine sandy silt in lower part of the sample. (MARINE SILT-CLAY) V9: 33.5 / 6.5 ft-lbs (55 mm x 110 mm vane raw torque readings)	
	V10		51.6 - 52.0	Su=1,496/223 psf						V10: 33.5 / 5 ft-lbs (55 mm x 110 mm vane raw torque readings)	
							--	-41.4		52.2	
							78				
							90				
55	13D	24/15	55.0 - 57.0	18-17-16-14	33	33	98			Brown, dense, fine to medium SAND, little to some silt; silt content varies in layers. (MARINE SAND)	
							92				
							85				
							102	-47.7		58.5	
							135				
60	14D	24/11	60.0 - 62.0	20-28-16-14	44	44	RC			Grey, dense, fine to medium SAND, some silt, some fine gravel, trace coarse sand. (TILL)	
65											
70											
75											

Remarks:

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.

Page 1 of 2

Boring No.: BB-PVS-101

Maine Department of Transportation
Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Bridge #5933
I-295 over Veranda Street
Location: Portland, ME

Boring No.: BB-PVS-101
WIN: 21745.00

Driller:	New England Boring Contractors	Elevation (ft.)	10.8 ft	Auger ID/OD:	SSA (--/4.5")
Operator:	Schaefer / Titus	Datum:	NAVD88	Sampler:	standard split-spoon
Logged By:	Schonewald	Rig Type:	Mobile Drill B-53 ATV	Hammer Wt./Fall:	140 lbs / 30 inches
Date Start/Finish:	7/26/18; 1205-7/27/18; 1510	Drilling Method:	cased wash boring	Core Barrel:	n/a
Boring Location:	N 310609.0, E 1016701.2	Casing ID/OD:	HW (4/4.5") NW (3/3.5")	Water Level*:	below 6 ft BGS
Hammer Efficiency Factor: 0.60		Hammer Type:	Automatic ☐ Hydraulic ☐ Rope & Cathead ☒		

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N60	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class
75											
80											
								-72.6		83.4 Bottom of Exploration at 83.4 feet below ground surface. Roller cone refusal.	
85											
90											
95											
100											

Remarks:

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.

Page 2 of 2

Boring No.: BB-PVS-101

Maine Department of Transportation
Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Bridge #5933
I-295 over Veranda Street
Location: Portland, ME

Boring No.: BB-PVS-105
WIN: 21745.00

Driller:	New England Boring Contractors	Elevation (ft.)	9.8 ft	Auger ID/OD:	SSA (--/4.5")
Operator:	Schaefer / Titus	Datum:	NAVD88	Sampler:	standard split-spoon
Logged By:	Schonewald	Rig Type:	Mobile Drill B-53 ATV	Hammer Wt./Fall:	140 lbs / 30 inches
Date Start/Finish:	7/19/18; 1015-7/24/18; 1405	Drilling Method:	cased wash boring	Core Barrel:	NQ2 (wireline)
Boring Location:	N 310724.1, E 1016766.4	Casing ID/OD:	HW (4/4.5") NW (3/3.5")	Water Level*:	below 6 ft BGS
Hammer Efficiency Factor: 0.60		Hammer Type:	Automatic ☐ Hydraulic ☐ Rope & Cathead ☒		

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N60	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class
0	1D	24/17	0.0 - 2.0	1-1-2-4	3	3	SSA			Dark brown, fine to medium Sandy ORGANIC SILT (TOPSOIL); changing at 1.3 ft to:	
								8.5		1.3 (1D) Olive grey, moist, SILT, little very fine sand, with 2 seams clayey silt. (SUBSOIL)	GTX#-n/a Resistivity, pH
								7.8		2.0	
	2D	24/21	2.0 - 4.0	2-2-3-2	5	5				Olive grey, mottled, moist, medium stiff, Clayey SILT, trace fine sand as partings and one 1-inch seam olive grey, silty fine sand. (MARINE SILT-CLAY CRUST)	
	3D	24/16	4.0 - 6.0	1-1-1/12"	2	2				Olive grey, slightly mottled to 5 ft, moist, soft, Clayey SILT grading to Silty CLAY with occasional partings silty fine sand. (MARINE SILT-CLAY CRUST)	GTX#-n/a Resistivity, pH Sulfates, Chlorides
5											
	4D	24/24	6.0 - 8.0	WOH/18"-1	--		PUSH HW			Olive grey, wet (saturated), very soft, Silty CLAY, trace very fine sand, with few pockets of olive brown, fine sandy silt. (MARINE SILT-CLAY)	
								1.8		8.0	
	5D	24/24	8.0 - 10.0	WOH/24"	--					Dark grey with occasional black, very soft, Silty CLAY. (MARINE SILT-CLAY)	
10	6D	24/24	10.0 - 12.0	WOH/18"-1	--					Dark grey with occasional black, very soft, Silty CLAY. (MARINE SILT-CLAY)	
15	7D V1	24/24	15.0 - 17.0 15.6 - 16.0	push thru vane Su= 714/ 124 psf						Dark grey with occasional black, medium stiff, Silty CLAY. (MARINE SILT-CLAY) V1: 26 / 4.5 ft-lbs (65 mm x 130 mm vane raw torque readings)	GTX#473554 WC=43% LL=48 PL=23 PI=25
	V2		16.6 - 17.0	Su= 700/ 110 psf						V2: 25.5 / 4 ft-lbs (65 mm x 130 mm vane raw torque readings)	
20	MU	24/0	20.0 - 22.0	HYD PUSH						Collect split-spoon sample from 20 to 22 ft; Dark grey with occasional black, Silty CLAY; sandy partings not observed. (MARINE SILT-CLAY)	
25	U1	24/24	25.0 - 27.0	HYD PUSH						Dark grey, Silty CLAY. (MARINE SILT- CLAY)	GTX#IP-5 CONSOL (Cv, C?) GTX#473548 WC=41% LL=41 PL=25 PI=16
30	8D V3	24/24	30.0 - 32.0 30.6 - 31.0	push thru vane Su= 934/ 206 psf						Dark grey, medium stiff to stiff, Silty CLAY. (MARINE SILT- CLAY) V3: 34 / 7.5 ft-lbs (65 mm x 130 mm vane raw torque readings)	
	V4		31.6 - 32.0	Su=1,044/192 psf						V4: 38 / 7 ft-lbs (65 mm x 130 mm vane raw torque readings)	
35	U2	24/24	35.0 - 37.0	HYD PUSH						Dark grey, Silty CLAY. (MARINE SILT-CLAY)	
40	9D V5	24/24	40.0 - 42.0 40.6 - 41.0	push thru vane Su=1,167/192 psf						Dark grey with black, stiff, Silty CLAY. (MARINE SILT-CLAY) V5: 42.5 / 7 ft-lbs (65 mm x 130 mm vane raw torque readings)	
	V6		41.6 - 42.0	Su=1,140/137 psf						V6: 41.5 / 5 ft-lbs (65 mm x 130 mm vane raw torque readings)	
45	U3	24/22	45.0 - 47.0	HYD PUSH						Dark grey, Silty CLAY, trace very fine sand (possibly shell fragments). (MARINE SILT-CLAY)	
50	10D V7	24/24	50.0 - 52.0 50.6 - 51.0	push thru vane Su=1,563/313 psf						Dark grey with black, stiff, Silty CLAY, trace very fine sand, with two partings and one 1/8-inch seam fine sandy silt. (MARINE SILT-CLAY) V7: 35 / 7 ft-lbs (55 mm x 110 mm vane raw torque readings) Unable to push past 51.0 ft.	
	MV		51.0 - 51.0								
								-44.2		54.0	
							58				
55	11D	24/16	55.0 - 57.0	5-7-14-21	21	21	RC			Grey, Silty fine SAND grading to fine to medium SAND, little silt; changing at 56 ft to Brown, fine to medium SAND, trace to little silt. (MARINE SAND)	
								-48.7		58.5	
60	12D	24/11	60.0 - 62.0	12-28-28-18	56	56				Brown, very dense, fine to medium SAND, some gravel, little to some silt, trace coarse sand. (TILL) 60.5 ft: Telescope NW (3-inch) casing.	
65	13D	24/8	65.0 - 67.0	7-41-19-19	60	60				Tan with 2-inch layer rust, very dense, fine to coarse SAND, little to some silt, little gravel. Dark grey, Silty fine to medium SAND in tip of spoon. (TILL) (blowing sands; controlled with head of water)	
70	14D	24/11	70.0 - 72.0	13-14-10-7	24	24	18			Grey, medium dense, fine to medium SAND, some silt, little fine gravel, trace coarse sand. (TILL)	
							25				
							28				
							65				
							58				
75											

Remarks:
Moved approximately 10 ft south of plan location to avoid water main.

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.

Page 1 of 2

Boring No.: BB-PVS-105

Maine Department of Transportation
Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Bridge #5933
I-295 over Veranda Street
Location: Portland, ME

Boring No.: BB-PVS-105
WIN: 21745.00

Driller:	New England Boring Contractors	Elevation (ft.)	9.8 ft	Auger ID/OD:	SSA (--/4.5")
Operator:	Schaefer / Titus	Datum:	NAVD88	Sampler:	standard split-spoon
Logged By:	Schonewald	Rig Type:	Mobile Drill B-53 ATV	Hammer Wt./Fall:	140 lbs / 30 inches
Date Start/Finish:	7/19/18; 1015-7/24/18; 1405	Drilling Method:	cased wash boring	Core Barrel:	NQ2 (wireline)
Boring Location:	N 310724.1, E 1016766.4	Casing ID/OD:	HW (4/4.5") NW (3/3.5")	Water Level*:	below 6 ft BGS
Hammer Efficiency Factor: 0.60		Hammer Type:	Automatic ☐ Hydraulic ☐ Rope & Cathead ☒		

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N60	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class
75	15D	24/12	75.0 - 77.0	47-18-19-20	37	37	64			Grey, dense, fine to medium SAND, some silt, little to some fine gravel, trace coarse sand. (TILL)	
							62				
							72				
							65/7"	-68.8		78.6	
80	R1	56/56	79.0 - 83.7	RQD: 38" = 68% sample 79.5-79.9			NQ2			Top of Bedrock at Elev. -68.8 ft. R1: Bedrock: Medium grey, aphanitic to fine grained, PHYLLITE, with remnant bedding visible (varies from high to low angle; occasionally highly undulating), occasional healed fractures, and numerous calcsilicate veins (typically cross-bedding and cross-healed fractures), hard, typically fresh. Low-angle and moderately dipping, close to moderately spaced breaks; undulating, rough, shiny, fresh to discolored, and open, with occasional mud infilling. (ELIOT FORMATION) Core times: 2:35/ 2:00/ 2:15/ 2:30/ - min:sec/ft ROCK QUALITY = FAIR	GTX# n/a qp=-- broke before loaded
	R2	60/60	83.7 - 88.7	RQD: 49" = 82%						R2: Similar to R1. 3:10/ 2:15/ 2:05/ 1:55/ 2:10 min:sec/ft ROCK QUALITY = GOOD	
85											
	R3	60/60	88.7 - 93.7	RQD: 52" = 87%						R3: Similar to R1. Core times: 3:45/ 2:35/ 2:10/ 1:50/ 2:15 min:sec/ft ROCK QUALITY = GOOD	GTX# n/a qp=121 ksf
				sample 89.3-89.9							
90											
	R4	60/60	93.7 - 98.7	RQD: 48" = 80%						R4: Similar to R1. Core times: 2:20/ 2:05/ 2:10/ 1:55/ 2:15 min:sec/ft ROCK QUALITY = GOOD	
95											
	R5	60/60	98.7 - 103.7	RQD: 47" = 78%						R5: Similar to R1. Core times: 2:40/ 2:20/ 2:30/ 2:20/ 2:00 min:sec/ft ROCK QUALITY = GOOD	GTX# n/a qp=655 ksf
				sample 98.9-99.4							
100											
	R6	60/60	103.7 - 108.7	RQD: 46" = 77%						R6: Similar to R1. Core times: 2:05/ 1:55/ 1:55/ 2:10/ 2:10 min:sec/ft ROCK QUALITY = GOOD	
105											
								-98.9		108.7 Bottom of Exploration at 108.7 feet below ground surface.	
110											
115											
120											
125											

Remarks:

Moved approximately 10 ft south of plan location to avoid water main.

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.

Page 2 of 2

Boring No.: BB-PVS-105

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

BRIDGE PLANS

WIN 021745.00

BRIDGE NO.5933

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EDD	CDH	2\20
CHECKED-REVIEWED	RWH	LZD	2\20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

BORING LOGS 1

SHEET NUMBER

19

OF 220

Date:3/3/2020

Username:

Division:

Filename: 020_Boring Logs 2.dgn

Maine Department of Transportation
Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Bridge #5933 I-295 over Veranda Street Location: Portland, ME		Boring No.:	BB-PVS-106
		WIN:	21745.00
Driller: New England Boring Contractors	Elevation (ft.) 9.3 ft	Auger ID/OD:	SSA (--/4.5")
Operator: Schaefer / Titus	Datum: NAVD88	Sampler:	standard split-spoon
Logged By: Schonewald	Rig Type: Mobile Drill B-53 ATV	Hammer Wt./Fall:	140 lbs / 30 inches
Date Start/Finish: 7/24/18: 1430-7/26/18: 1050	Drilling Method: cased wash boring	Core Barrel:	NQ2 (wireline)
Boring Location: N 310801.8, E 1016850.0	Casing ID/OD: HW (4/4.5") NW (3/3.5")	Water Level*:	below 6 ft BGS
Hammer Efficiency Factor: 0.60	Hammer Type: Automatic ☐ Hydraulic ☐ Rope & Cathead ☒		

Definitions:
D = Split Spoon Sample; MD = Unsuccessful Split Spoon Sample Attempt; U = Thin Wall Tube Sample; MU = Unsuccessful Thin Wall Tube Sample Attempt; V = Field Vane Shear Test, PP = Pocket Penetrometer; MV = Unsuccessful Field Vane Shear Test Attempt
R = Rock Core Sample; SSA = Solid Stem Auger; HSA = Hollow Stem Auger; RC = Roller Cone; WOH = Weight of 140 lb. Hammer; WOR/C = Weight of Rods or Casing; WO1P = Weight of One Person
S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf); $S_{u(lab)}$ = Lab Vane Undrained Shear Strength (psf); q_p = Unconfined Compressive Strength (ksf); N-uncorrected = Raw Field SPT N-value; Hammer Efficiency Factor = Rig Specific Annual Calibration Value; N_{60} = SPT N-uncorrected Corrected for Hammer Efficiency; N_{60} = (Hammer Efficiency Factor/60%)*N-uncorrected
T_v = Pocket Torvane Shear Strength (psf); 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./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N60	Casing Blows	Elevation (ft.)	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class
0	1D	24/10	0.0 - 2.0	1-3-3-16	6	6	SSA		Brown, damp, loose, TOPSOIL/SUBSOIL underlain by RIPRAP.	
2	2D	24/14	2.0 - 4.0	1-1-1-2	2	2		7.3 / 6.5	2.0 Brown, moist, fine Sandy SILT with roots (SUBSOIL); changing at 2.8 ft to: 2.8 (2D) Brown grey, wet, fine to medium SAND, little silt, trace coarse sand. (FILL) Brown, wet, fine to medium SAND, trace to little silt, trace coarse sand (FILL); changing at 5.4 ft to:	
4	3D	24/15	4.0 - 6.0	2-2-1-1	3	3		3.9	5.4 (3D) Blue grey, Clayey SILT, trace very fine sand. (MARINE SILT-CLAY CRUST) Olive grey, soft, slightly mottled, Clayey SILT. (MARINE SILT-CLAY CRUST)	
6	4D	24/12	6.0 - 8.0	1-1-1-2	2	2	PUSH HW			
8	5D	24/24	8.0 - 10.0	WOH/18"-2	--			1.3	8.0 Olive grey, very soft, Silty CLAY, trace very fine Sand as partings. (MARINE SILT-CLAY)	
10	6D	24/24	10.0 - 12.0	WOH/18"-2	--				Olive grey grading to grey with occasional black, very soft, Silty CLAY. (MARINE SILT-CLAY)	
15	7D	24/24	15.0 - 17.0	WOH/18"-2	--				Grey with occasional black, very soft, Silty CLAY. (MARINE SILT-CLAY)	
20	8D V1	24/24	20.0 - 22.0	push thru vane Su=804/156 psf					Grey with occasional black, medium stiff to stiff, Silty CLAY. (MARINE SILT-CLAY) V1: 18 / 3.5 ft-lbs (55 mm x 110 mm vane raw torque readings) V2: 23 / 5 ft-lbs (55 mm x 110 mm vane raw torque readings)	
	V2		20.6 - 21.0 21.6 - 22.0	Su=1,027/223 psf						
25	U1	24/24	25.0 - 27.0	HYD PUSH					Grey with black, Silty CLAY. (MARINE SILT-CLAY)	
30	9D V3	24/24	30.0 - 32.0	push thru vane Su=1,206/223 psf					Dark grey with black, stiff, Silty CLAY. (MARINE SILT-CLAY) V3: 27 / 5 ft-lbs (55 mm x 110 mm vane raw torque readings) V4: 27 / 5 ft-lbs (55 mm x 110 mm vane raw torque readings)	
	V4		30.6 - 31.0 31.6 - 32.0	Su=1,206/223 psf						
35	10D V5	24/24	35.0 - 37.0	push thru vane Su=1,250/201 psf					Dark grey with occasional black, stiff, Silty CLAY; possible shell fragments. (MARINE SILT-CLAY) V5: 28 / 4.5 ft-lbs (55 mm x 110 mm vane raw torque readings) V6: 25 / 4 ft-lbs (55 mm x 110 mm vane raw torque readings)	
	V6		35.6 - 36.0 36.6 - 37.0	Su=1,116/179 psf						
40	11D V7	24/24	40.0 - 42.0	push thru vane Su=1,340/268 psf					Grey with occasional black, stiff, Silty CLAY. (MARINE SILT-CLAY) V7: 30 / 6 ft-lbs (55 mm x 110 mm vane raw torque readings) V8: 32 / 6 ft-lbs (55 mm x 110 mm vane raw torque readings)	
	V8		40.6 - 41.0 41.6 - 42.0	Su=1,429/268 psf						
45	12D	24/22	45.0 - 47.0	7-3-5-15	8	8	60	-35.7	44.7 ft: More difficult to push casing. 45.0 Grey, loose, interbedded SILT, some fine sand; fine to medium SAND, trace to little silt; and Silty CLAY. (INTERBEDDED MARINE SILT AND SANDS (TRANSITION))	
46							58			
47							67			
48							65			
49							65			
50	13D	24/14	50.0 - 52.0	9-12-13-24	25	25	15		Grey grading to rust, fine to medium SAND, little to some silt; changing at 51.3 ft to: 50.5 ft: Telescope NW (3-inch) casing.	
51							27	-42.0	51.3 (13D) Light brown, fine to coarse SAND, trace to little fine gravel, trace silt. (MARINE SAND)	
52							55			
53							60			
54							48			
55							RC		55 ft: Casing refusal; roller cone ahead; break through at 57 ft.	
56							RC			
57	14D	24/8	57.0 - 59.0	7-8-6-8	14	14	27	-47.7	57.0 Grey, medium dense, fine to coarse SAND, some fine gravel, little to some silt. (TILL)	
58							15			
59							18			
60	15D	24/11	60.0 - 62.0	19-8-7-9	15	15	RC		Grey, medium dense, fine to medium SAND, some fine gravel, little to some silt, trace coarse sand. (TILL)	
62.8	R1	60/60	62.8 - 67.8	RQD: 21" = 30%			NQ2	-53.2 -53.5	62.5 62.5 ft: Possible weathered rock. 62.8 Top of Bedrock at Elev. -62.8 ft. R1: Bedrock: Grey, aphanitic to fine grained, PHYLLITE, with remnant bedding visible (undulating, typically moderately dipping), occasional healed fractures, and numerous calcsilicate veins, hard, typically fresh. Moderately dipping, typically close breaks; undulating, rough, shiny, fresh to discolored, and open. Highly fractured 64.8 to 65.3 ft. (ELIOT FORMATION) Core times: 3:10/ 2:25/ 2:10/ 1:55/ 2:25 ROCK QUALITY = POOR R2: Similar to R1. Open fracture 68.8 to 69.0 ft. Core times: 3:35/ 3:05/ 2:15/ 2:00/ - ROCK QUALITY = FAIR	GTX# n/a qp=412 ksf
				sample 62.9-63.3						
67.8	R2	56/55	67.8 - 72.5	RQD: 30" = 54%						
72.5								-63.2	72.5 Bottom of Exploration at 72.5 feet below ground surface.	

Remarks:

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.

Page 1 of 1

Boring No.: BB-PVS-106

Maine Department of Transportation
Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Bridge #5933 I-295 over Veranda Street Location: Portland, ME		Boring No.:	BB-PVS-201
		WIN:	21745.00
Driller: New England Boring Contractors	Elevation (ft.) 11.0 ft	Auger ID/OD:	SSA (--/4.5")
Operator: Schaefer / Titus	Datum: NAVD88	Sampler:	standard split-spoon
Logged By: Schonewald	Rig Type: Mobile Drill B-53 ATV (NEBC #D-19)	Hammer Wt./Fall:	140 lbs / 30 inches
Date Start/Finish: 9/11/18: 1005 - 9/14/18: 1330	Drilling Method: cased wash boring	Core Barrel:	NQ2 (wireline)
Boring Location: N 310637.7, E 1016696.2	Casing ID/OD: HW (4/4.5") NW (3/3.5")	Water Level*:	1.2 ft (open)
Hammer Efficiency Factor: 0.712	Hammer Type: Automatic ☒ Hydraulic ☐ Rope & Cathead ☐		

Definitions:
D = Split Spoon Sample; MD = Unsuccessful Split Spoon Sample Attempt; U = Thin Wall Tube Sample; MU = Unsuccessful Thin Wall Tube Sample Attempt; V = Field Vane Shear Test, PP = Pocket Penetrometer; MV = Unsuccessful Field Vane Shear Test Attempt
R = Rock Core Sample; SSA = Solid Stem Auger; HSA = Hollow Stem Auger; RC = Roller Cone; WOH = Weight of 140 lb. Hammer; WOR/C = Weight of Rods or Casing; WO1P = Weight of One Person
S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf); $S_{u(lab)}$ = Lab Vane Undrained Shear Strength (psf); q_p = Unconfined Compressive Strength (ksf); N-uncorrected = Raw Field SPT N-value; Hammer Efficiency Factor = Rig Specific Annual Calibration Value; N_{60} = SPT N-uncorrected Corrected for Hammer Efficiency; N_{60} = (Hammer Efficiency Factor/60%)*N-uncorrected
T_v = Pocket Torvane Shear Strength (psf); 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./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N60	Casing Blows	Elevation (ft.)	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class
0	1D	24/7	0.0 - 2.0	3-5-6-4	11	13	SSA		Dark brown grading to brown, moist, medium dense, GRAVEL, some fine to coarse sand, some silt with minor roots. (TOPSOIL/SUBSOIL/FILL)	
2	2D	24/18	2.0 - 4.0	WOH-3-8-5	11	13		8.4	Upper 2 inches of sample: Brown, wet, fine to coarse SAND, trace Silt. (FILL) Changing at 2.6 ft to: 2.6 (2D) Olive brown, SILT, some clay, trace to little fine sand with highly mottled fine sandy zone from 3.0 to 3.4 ft; grading to Clayey SILT, trace very fine sand at 3.5 ft. (MARINE SILT-CLAY CRUST) Olive brown grading to grey, soft, Clayey SILT, trace very fine sand with layers of fine sandy silt. (MARINE SILT- CLAY CRUST)	
4	3D	24/21	4.0 - 6.0	WOH-2-2-1	4	5	PUSH HW			
6	4D	24/12	6.0 - 8.0	WOR/12"-WOH/12"	--			5.0	6.0 Olive grey, very soft, Silty CLAY, trace very fine sand. (MARINE SILT-CLAY)	GTX#473561 HYDROMETER A-7-6(23) CL -#200=99.5%
8	5D	24/24	8.0 - 10.0	WOR/12"-WOH/12"	--				Dark olive grey with occasional black, very soft, Silty CLAY. (MARINE SILT-CLAY)	GTX#473555 WC=48% LL=42 PL=21 PI=21
10	6D	24/24	10.0 - 12.0	WOR-WOH/18"	--				Dark olive grey with occasional black, very soft, Silty CLAY, trace very fine sand. (MARINE SILT-CLAY)	GTX#473562 HYDROMETER A-7-6(25) CL -#200=99.4% GTX#473556 WC=41% LL=44 PL=21 PI=23
15	7D V1	24/20	15.0 - 17.0	push thru vane Su=581/67 psf					Dark grey with black, medium stiff, Silty CLAY. (MARINE SILT-CLAY) V1: 13 / 1.5 ft-lbs (55 mm x 110 mm vane raw torque readings) V2: 14 / 2 ft-lbs (55 mm x 110 mm vane raw torque readings)	GTX#473557 WC=45% LL=47 PL=23 PI=24
	V2		15.6 - 16.0 16.6 - 17.0	Su=625/89 psf						
20	8D V3	24/24	20.0 - 22.0	push thru vane Su=893/112 psf					Dark grey with occasional black, medium stiff, Silty CLAY. (MARINE SILT-CLAY) V3: 20 / 2.5 ft-lbs (55 mm x 110 mm vane raw torque readings) V4: 15 / 2 ft-lbs (55 mm x 110 mm vane raw torque readings)	GTX#473558 WC=45% LL=43 PL=22 PI=21
	V4		20.6 - 21.0 21.6 - 22.0	Su=670/89 psf						
25	U1	24/23	25.0 - 27.0	HYD PUSH					Dark grey, Silty CLAY. (MARINE SILT-CLAY)	GTX#IP-1 CONSOL (Cv, C?) GTX#473549 WC=44% LL=43 PL=25 PI=18
30	9D V5	24/24	30.0 - 32.0	push thru vane Su=804/112 psf					Dark grey, medium stiff to stiff, Silty CLAY. (MARINE SILT- CLAY) V5: 18 / 2.5 ft-lbs (55 mm x 110 mm vane raw torque readings) V6: 22.5 / 4 ft-lbs (55 mm x 110 mm vane raw torque readings)	GTX#473559 WC=44% LL=45 PL=23 PI=22
	V6		30.6 - 31.0 31.6 - 32.0	Su=1,005/179 psf						
35	U2	24/24	35.0 - 37.0	HYD PUSH					Dark grey, Silty CLAY. (MARINE SILT- CLAY)	GTX#IP-2 CONSOL (Cv, C?) GTX#473550 WC=41% LL=42 PL=25 PI=17
40	10D V7	24/24	40.0 - 42.0	push thru vane Su=737/45 psf					Dark grey with black, medium stiff, Silty CLAY with few shell fragments. (MARINE SILT-CLAY) V7: 16.5 / 1 ft-lbs (55 mm x 110 mm vane raw torque readings) V8: 18 / 1.5 ft-lbs (55 mm x 110 mm vane raw torque readings)	GTX#473560 WC=38% LL=38 PL=18 PI=20
	V8		40.6 - 41.0 41.6 - 42.0	Su=804/67 psf						
45	U3	24/24	45.0 - 47.0	HYD PUSH					Dark grey with black, Silty CLAY. (MARINE SILT-CLAY)	GTX#IP-3 CONSOL (Cv, C?) GTX#473551 WC=39% LL=41 PL=23 PI=18
50	11D V9	24/24	50.0 - 52.0	push thru vane Su=982/134 psf					Dark grey with occasional black, medium stiff to stiff, Silty CLAY. (MARINE SILT-CLAY) V9: 22 / 3 ft-lbs (55 mm x 110 mm vane raw torque readings) V10: 25 / 3 ft-lbs (55 mm x 110 mm vane raw torque readings)	
	V10		50.6 - 51.0 51.6 - 52.0	Su=1,116/134 psf						
55	U4	24/23	55.0 - 57.0	HYD PUSH					Dark grey, Silty CLAY. (MARINE SILT-CLAY)	GTX#IP-4 CONSOL (Cv, C?) GTX#473552 WC=34% LL=38 PL=20 PI=18
58							--	-47.4	58.4 58.4 ft: Unable to push HW casing past 58.4 ft; likely stratum change.	
59							56			
60	12D	24/21	60.0 - 62.0	7-11-20-24	31	37	54		Dark grey, dense, fine Sandy SILT, grading to fine SAND, some silt. (MARINE FINE SANDS AND SILT)	
61							49			
62							50			
63							50			
64							62			
65	13D	22/10	65.5 - 67.3	20-33-38-50/4"	71	84	RC		Grey tan grading to orange tan, very dense, fine to medium SAND, little silt, trace coarse sand. (MARINE FINE SANDS AND SILT)	
68.5								-57.5	68.5	
70	14D	24/13	70.0 - 72.0	31-28-25-21	53	63			Grey, very dense, fine to coarse SAND, some silt, little fine gravel. (TILL) 70.5 ft: Telescope NW (3-inch) casing.	
74	15D	24/12	74.0 - 76.0	25-31-48-66	79	94	20		Grey, very dense, fine to medium SAND, some silt, little fine gravel, trace coarse sand. (TILL)	

Remarks:

NEBC Rig #D-19 automatic hammer calibrated on 7/3/2018.

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.

Page 1 of 2

Boring No.: BB-PVS-201

Maine Department of Transportation
Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Bridge #5933 I-295 over Veranda Street Location: Portland, ME		Boring No.:	BB-PVS-201
		WIN:	21745.00
Driller: New England Boring Contractors	Elevation (ft.) 11.0 ft	Auger ID/OD:	SSA (--/4.5")
Operator: Schaefer / Titus	Datum: NAVD88	Sampler:	standard split-spoon
Logged By: Schonewald	Rig Type: Mobile Drill B-53 ATV (NEBC #D-19)	Hammer Wt./Fall:	140 lbs / 30 inches
Date Start/Finish: 9/11/18: 1005 - 9/14/18: 1330	Drilling Method: cased wash boring	Core Barrel:	NQ2 (wireline)
Boring Location: N 310637.7, E 1016696.2	Casing ID/OD: HW (4/4.5") NW (3/3.5")	Water Level*:	1.2 ft (open)
Hammer Efficiency Factor: 0.712	Hammer Type: Automatic ☒ Hydraulic ☐ Rope & Cathead ☐		

Definitions:
D = Split Spoon Sample; MD = Unsuccessful Split Spoon Sample Attempt; U = Thin Wall Tube Sample; MU = Unsuccessful Thin Wall Tube Sample Attempt; V = Field Vane Shear Test, PP = Pocket Penetrometer; MV = Unsuccessful Field Vane Shear Test Attempt
R = Rock Core Sample; SSA = Solid Stem Auger; HSA = Hollow Stem Auger; RC = Roller Cone; WOH = Weight of 140 lb. Hammer; WOR/C = Weight of Rods or Casing; WO1P = Weight of One Person
S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf); $S_{u(lab)}$ = Lab Vane Undrained Shear Strength (psf); q_p = Unconfined Compressive Strength (ksf); N-uncorrected = Raw Field SPT N-value; Hammer Efficiency Factor = Rig Specific Annual Calibration Value; N_{60} = SPT N-uncorrected Corrected for Hammer Efficiency; N_{60} = (Hammer Efficiency Factor/60%)*N-uncorrected
T_v = Pocket Torvane Shear Strength (psf); 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./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N60	Casing Blows	Elevation (ft.)	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class
75							27			
76							56			
77							54			
78							49			
79	16D	24/14	79.0 - 81.0	14-14-26-23	40	47	26		Grey, dense, Silty fine to medium SAND, some gravel, trace coarse sand. (TILL)	
80							43			
81							82			
82							84			
83							63			
84							--		84.2 ft: Roller cone refusal; telescope NW casing. 84.4 ft: NW casing refusal; commence coring; pop through boulder at 85.4 ft.	
85							31			
86							42			
87							37			
88							64			
89	17D	24/21	89.0 - 91.0	39-45-39-36	84	100	59		Grey, very dense, Silty fine to coarse SAND, some fine gravel. (TILL)	
90							69			
91							89			
92							92			
93							90			
94							RC			
99.5	18D	24/24	99.5 - 101.5	WOH/12"-10-8	10	12	12		Grey, medium dense, fine to medium Sandy SILT, some gravel, trace coarse sand; apparent plasticity. (TILL)	
100.5							15			
101.5							14			
102.5							21			
103.5	R1	60/56	103.5 - 108.5	RQD: 31"=52%			-- NQ2	-92.5	103.3 ft: Roller cone refusal; drive NW casing to 103.5 ft. 103.5 Top of Bedrock at Elev. -92.5 ft. R1: Bedrock: Light green grey, aphanitic to fine grained, PHYLLITE with highly undulating, typically low angle remnant bedding; appears as though calcsilicate veins have weathered, hard, slightly to moderately weathered. Typically low angle, close, breaks: undulating, rough, typically discolored to decomposed, and open with mud infilling; shiny. Highly fractured (very close spacing) from 104.3 to 104.9 and 106.8 to 107.6 ft. (ELIOT FORMATION) Core times: 2:35/ 1:55/ 1:40/ 1:40/ 1:45 min:sec/ft ROCK QUALITY = FAIR R2 (108.5-111.5 ft): Similar to R1, except typically fresh with occasional high angle calcsilicate veins; close to moderately spaced breaks, fresh to discolored.	
108.5	R2	60/58	108.5 - 113.5	RQD: 38"=63% smpl 108.6-109.1					R2A (111.5 to 113.5): Similar to R1, except less visible bedding and more high angle calcsilicate veins; very close to close breaks Core times (R2 and R2A): 1:40/ 1:35/ 1:40/ 1:35/ 1:35 min:sec/ft ROCK QUALITY = FAIR	GTX# n/a qp=700 ksf
113.5	R3	55/51	113.5 - 118.1	RQD: 4"=7%					R3: Similar to R2A, except low to high angle breaks. Core times: 1:40/ 2:15/ 2:55/ 2:10/ -- min:sec/ft ROCK QUALITY = VERY POOR	
118.1	R4	60/54	118.1 - 123.1	RQD: 22"=37%					R4 (118.1-120.4 ft): Similar to R2A, except low to high angle breaks. (Appears that most material lost in this zone (open and/or decomposed fractures)). R4A (120.4-123.1 ft): Similar to R2A, except significant calcsilicate veins (some weathered); close to moderately spaced, typically low angle breaks. Core times (R4 and R4A): 1:25/ 3:05/ 2:40/ 2:15/ 2:45 min:sec/ft ROCK QUALITY = POOR	GTX# n/a qp=930 ksf
				smpl 120.9-121.6						
123.1	R5	60/60	123.1 - 128.1	RQD: 10"=17%					R5: Similar to R4A. Highly fractured and decomposed from 123.3 to 124.6 ft; near vertical break along significant calcsilicate vein from 124.6 to 126.9 ft. Core times: 1:40/ 1:30/ 1:35/ 1:55/ 2:40 min:sec/ft ROCK QUALITY = VERY POOR	
128.1	R6	60/60	128.1 - 133.1	RQD: 35"=58% smpl 128.2-129.1					R6: Similar to R4A. Start of near vertical fracture along calcsilicate vein at 132.5 ft. Core times: 1:55/ 1:40/ 2:00/ 1:45/ 1:30 min:sec/ft ROCK QUALITY = FAIR	GTX# n/a qp=903 ksf
133.1	R7	35/35	133.1 - 136.0	RQD: 7"=20%					R7: Similar to R4A, except very close breaks from 133.1 to 134.0 and 135.0 to 135.5 ft. Core times: 1:55/ 1:20/ -- min:sec/ft ROCK QUALITY = VERY POOR	
136.0								-125.0	136.0 Bottom of Exploration at 136.0 feet below ground surface.	

Remarks:

NEBC Rig #D-19 automatic hammer calibrated on 7/3/2018.

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.

Page 2 of 2

Boring No.: BB-PVS-201

Maine Department of Transportation
Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Bridge #5933 I-295 over Veranda Street Location: Portland, ME		Boring No.:	BB-PVS-202
		WIN:	21745.00
Driller: New England Boring Contractors	Elevation (ft.) 13.8 ft	Auger ID/OD:	n/a (vac excavation to 7.5 ft)
Operator: Schaefer / Titus	Datum: NAVD88	Sampler:	standard split-spoon
Logged By: Schonewald	Rig Type: Mobile Drill B-53 truck (NEBC #B-24)	Hammer Wt./Fall:	140 lbs / 30 inches
Date Start/Finish: 10/11/18: 1155 - 10/23/18: 1500	Drilling Method: cased wash boring	Core Barrel:	NQ2 (wireline)
Boring Location: N 310708.2, E 1016680.5	Casing ID/OD: HW (4/4.5") NW (3/3.5")	Water Level*:	7.5 ft (open)
Hammer Efficiency Factor: 0.937	Hammer Type: Automatic ☒ Hydraulic ☐ Rope & Cathead ☐		

Definitions:
D = Split Spoon Sample; MD = Unsuccessful Split Spoon Sample Attempt; U = Thin Wall Tube Sample; MU = Unsuccessful Thin Wall Tube Sample Attempt; V = Field Vane Shear Test, PP = Pocket Penetrometer; MV = Unsuccessful Field Vane Shear Test Attempt
R = Rock Core Sample; SSA = Solid Stem Auger; HSA = Hollow Stem Auger; RC = Roller Cone; WOH = Weight of 140 lb. Hammer; WOR/C = Weight of Rods or Casing; WO1P = Weight of One Person
S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf); $S_{u(lab)}$ = Lab Vane Undrained Shear Strength (psf); q_p = Unconfined Compressive Strength (ksf); N-uncorrected = Raw Field SPT N-value; Hammer Efficiency Factor = Rig Specific Annual Calibration Value; N_{60} = SPT N-uncorrected Corrected for Hammer Efficiency; N_{60} = (Hammer Efficiency Factor/60%)*N-uncorrected
T_v = Pocket Torvane Shear Strength (psf); 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./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N60	Casing Blows	Elevation (ft.)	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class
0							VAC	12.9	0.9 ft HMA 0.9 0.9 to 7.5 ft: Sand and Gravel Fill throughout vacuum excavation depth. (FILL)	
8							--			
9							--			
10							PUSH HW	3.8	10.0	
15	1D	24/24	15.0 - 17.0	WOR-WOH/18"	--				Dark grey black, very soft, Silty CLAY. (MARINE SILT-CLAY)	GTX#489632 WC=47% LL=47 PL=24 PI=23
20	2D V1	24/24	20.0 - 22.0	push thru vane Su=737/89 psf					Dark grey black, medium stiff, Silty CLAY. (MARINE SILT-CLAY) V1: 16.5 / 2 ft-lbs (55 mm x 110 mm vane raw torque readings) V2: 16.5 / 2 ft-lbs (55 mm x 110 mm vane raw torque readings)	GTX#489633 WC=44% LL=48 PL=24 PI=24
	V2		20.6 - 21.0 21.6 - 22.0	Su=737/89 psf						
25	3D V3	24/17	25.0 - 27.0	push thru vane Su=759/112 psf					Dark grey with occasional black, medium stiff, Silty CLAY. (MARINE SILT-CLAY) V3: 17 / 2.5 ft-lbs (55 mm x 110 mm vane raw torque readings) V4: 16 / 2.5 ft-lbs (55 mm x 110 mm vane raw torque readings)	GTX#489634 WC=43% LL=43 PL=23 PI=20
	V4		25.6 - 26.0 26.6 - 27.0	Su=714/112 psf						
30	MU	24/6	30.0 - 32.0	HYD PUSH					MU: Sample extruded and jarred. Dark grey with occasional black, Silty CLAY. (MARINE SILT-CLAY)	
33	U1	24/11	33.0 - 35.0	HYD PUSH					Dark grey, Silty CLAY. (MARINE SILT- CLAY)	GTX#IP-9 CONSOL (Cv, C?) GTX#489628 WC=42% LL=41 PL=25 PI=16
35	4D V5	24/22	35.0 - 37.0	push thru vane Su=938/112 psf					Dark grey, medium stiff, Silty CLAY. (MARINE SILT-CLAY) V5: 21 / 2.5 ft-lbs (55 mm x 110 mm vane raw torque readings) V6: 18.5 / 2 ft-lbs (55 mm x 110 mm vane raw torque readings) 37.7 ft: Casing fetches-up; shell fragments in wash water; possible ancient clam bed.	
	V6		35.6 - 36.0 36.6 - 37.0	Su=826/89 psf						
38							46			
39							47			
40	5D V7	24/24	40.0 - 42.0	push thru vane Su=826/67 psf			PUSH HW		Dark grey, medium stiff, Silty CLAY; minor shell fragments. (MARINE SILT-CLAY) V7: 18.5 / 1.5 ft-lbs (55 mm x 110 mm vane raw torque readings); gritty layers noted. V8: 20 / 1.5 ft-lbs (55 mm x 110 mm vane raw torque readings)	GTX#489635 WC=41% LL=40 PL=24 PI=16
	V8		40.6 - 41.0 41.6 - 42.0	Su=893/67 psf						
45	U2	24/24	45.0 - 47.0	HYD PUSH					Dark grey black, Silty CLAY with shell fragments. (MARINE SILT-CLAY)	
50	6D V9	24/24	50.0 - 52.0	push thru vane Su=1,094/22 psf					Dark grey black, medium stiff to stiff, Silty CLAY. (MARINE SILT-CLAY) V9: 24.5 / 0.5 ft-lbs (55 mm x 110 mm vane raw torque readings) V10: 20.5 / 0.5 ft-lbs (55 mm x 110 mm vane raw torque readings)	
	V10		50.6 - 51.0 51.6 - 52.0	Su=915/22 psf						
55	7D V11	24/24	55.0 - 57.0	push thru vane Su=843/45 psf					Dark grey, medium stiff, Silty CLAY. (MARINE SILT-CLAY) V11: 19 / 1 ft-lbs (55 mm x 110 mm vane raw torque readings) V12: 19.5 / 1 ft-lbs (55 mm x 110 mm vane raw torque readings)	
	V12		55.6 - 56.0 56.6 - 57.0	Su=871/45 psf						
60	8D V13	24/24	60.0 - 62.0	push thru vane Su=982/89 psf					Dark grey, medium stiff to stiff, Silty CLAY. (MARINE SILT-CLAY) V13: 22 / 2 ft-lbs (55 mm x 110 mm vane raw torque readings) V14: 23 / 2 ft-lbs (55 mm x 110 mm vane raw torque readings) 62.0 ft: Casing fetches-up.	
	V14		60.6 - 61.0 61.6 - 62.0	Su=1,027/89 psf						
62							61			
63							59			
64							57			
65	9D V15	24/24	65.0 - 67.0	(VANE/18")-WOR Su=1,429/134 psf			34		Dark grey black, stiff, Silty CLAY with occasional fine sandy silt seams and one concretion; changing at 66.5 ft to: V15: Tu=32 / Tr=3 ft-lbs (55 mm x 110 mm vane raw torque readings) MV: Unable to push past 66.3 ft.	
66	MV		65.6 - 66.0				50	-52.7	66.5 (9D) Dark grey, SILT, some fine sand. (MARINE FINE SANDS AND SILT)	
67							48			
68							45			
69							45			
70	10D	24/11	70.0 - 72.0	2-3-4-4	7	11	36		Grey, loose, fine to medium SAND, with varying amounts of silt (trace to some). (MARINE FINE SANDS AND SILT)	
71							48			
72							47			
73							51			
74							43			

Remarks:

NEBC Rig #B-24 automatic hammer calibrated on 7/3/2018.
Successfully vacuum excavate to 7.5 ft BGS; terminated at observed groundwater.

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.

Page 1 of 3

Boring No.: BB-PVS-202

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

BRIDGE PLANS

WIN 021745.00

BRIDGE NO.5933

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EDD	CDH	2\20
CHECKED-REVIEWED	RWH	LZD	2\20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

PORTLAND

INTERSTATE 295 OVER VERANDA STREET

CUMBERLAND COUNTY

BORING LOGS 2

SHEET NUMBER

Date:3/3/2020

Username:

Division:

Filename: 021_Boring Logs 3.dgn

Maine Department of Transportation — Soil/Rock Exploration Log — US CUSTOMARY UNITS

Project: Bridge #5933 I-295 over Veranda Street	Location: Portland, ME	Boring No.:	BB-PVS-202
		WIN:	21745.00
Driller: New England Boring Contractors	Elevation (ft.): 13.8 ft	Auger ID/OD:	n/a (vac excavation to 7.5 ft)
Operator: Schaefer / Titus	Datum: NAVD88	Sampler:	standard split-spoon
Logged By: Schonewald	Rig Type: Mobile Drill B-53 truck (NEBC #B-24)	Hammer Wt./Fall:	140 lbs / 30 inches
Date Start/Finish: 10/11/18; 1155 - 10/23/18; 1500	Drilling Method: cased wash boring	Core Barrel:	NQ2 (wireline)
Boring Location: N 310708.2, E 1016680.5	Casing ID/OD: HW (4/4.5") NW (3/3.5")	Water Level*:	7.5 ft (open)
Hammer Efficiency Factor: 0.937	Hammer Type: Automatic ☒ Hydraulic ☐ Rope & Cathead ☐		

Definitions:
D = Split Spoon Sample
MD = Unsuccessful Split Spoon Sample Attempt
U = Thin Wall Tube Sample
MU = Unsuccessful Thin Wall Tube Sample Attempt
V = Field Vane Shear Test, PP = Pocket Penetrometer
MV = Unsuccessful Field Vane Shear Test Attempt
R = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
WOH = Weight of 140 lb. Hammer
WOR/C = Weight of Rods or Casing
WO1P = Weight of One Person
S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf)
$S_{u(lab)}$ = Lab Vane Undrained Shear Strength (psf)
q_p = Unconfined Compressive Strength (ksf)
N-uncorrected = Raw Field SPT N-value
Hammer Efficiency Factor = Rig Specific Annual Calibration Value
N_{60} = SPT N-uncorrected Corrected for Hammer Efficiency
N_{60} = (Hammer Efficiency Factor/60%)*N-uncorrected
T_v = Pocket Torvane Shear Strength (psf)
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./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N60	Casing Blows	Elevation (ft.)	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class
75	11D	24/18	75.0 - 77.0	3-3-3-3	6	9	47		Grey, loose, fine to medium SAND, trace to little silt. (MARINE FINE SANDS AND SILT)	
							48			
							48			
							60			
							62			
80	12D	24/12	80.0 - 82.0	4-9-23-26	32	50	51		Grey tan, fine to medium SAND, trace to little silt. (MARINE FINE SANDS AND SILT) Changing at 81.6 ft to:	
							131	-67.8	81.6 (12D) Red tan, fine to medium SAND, some fine gravel, little to some silt, trace coarse sand. (TILL)	
							157			
							161			
							158			
85							RC		85.5 ft: Telescope NW (3-inch) casing.	
	13D	24/13	86.0 - 88.0	8-6-7-9	13	20	RC		Grey tan, medium dense, fine to medium SAND, little to some silt, trace fine gravel, trace coarse sand with one 1/2- inch seam rust fine sand, trace silt and zones of fine to medium sand, trace to little silt. (TILL)	GTX#489646 GRAIN SIZE A-2-4(0) SM -#200=19.7%
90	14D	24/11	90.0 - 92.0	19-34-37-18	71	111	48		Tan grey, very dense, Gravelly fine to coarse SAND, little silt. (TILL)	
							57			
							54			
							52			
							120			
95	15D	3/3	95.0 - 95.3	50/3"	--		RC		Grey, fine to medium SAND, some silt, some fine gravel, trace coarse sand. (TILL)	
100	16D	24/15	100.0 - 102.0	41-45-51-62	96	150	54		Grey, very dense, Gravelly fine to coarse SAND, some silt. (TILL)	
							57			
							114		102.5 to 145.5 ft: Loosely nested cobbles and boulders.	
							92			
							RC			
105							RC			
	17D	24/13	106.0 - 108.0	26-27-23-20	50	78	40		Grey, dense, fine to medium SAND, some gravel, some silt, trace coarse sand. (TILL)	
							44			
							68			
							RC			
110							38			
							44			
							RC			
							RC			
							RC			
115	18D	24/22	115.0 - 117.0	2-3-4-8	7	11	PUSH		Grey, loose, Silty fine to medium SAND, little fine gravel (rounded), trace coarse sand. (TILL)	GTX#489647 GRAIN SIZE A-4(0) SM -#200=43.2%
							RC			
							RC			
							RC			
120							14			
							21			
							22			
							22			
							26			
125							RC		Cobble/boulder at 125.6 ft.	
							RC			
							RC		Cobble/boulder at 127.5 ft.	
							RC		Cobble/boulder at 128.5 ft.	
							RC			
130	19D	24/18	130.0 - 132.0	17-21-24-33	45	70	RC		Grey, dense, Silty fine to medium SAND, little to some gravel (rounded), trace coarse sand. (TILL)	
135										
140	20D	24/24	140.0 - 142.0	14-9-12-7	21	33			Grey, dense, fine to medium Sandy SILT, little gravel (rounded), trace coarse sand; apparent plasticity. (TILL)	
145								-131.7	145.5	
								-132.7	146.5 Top of Bedrock at Elev. -132.7 ft.	
	R1	60/60	147.0 - 152.0	RQD: 18"=30%			NQ2		R1: Medium grey, aphanitic to fine grained, PHYLLITE with low angle relic bedding, numerous weathered calcsilicate veins, and cracks; hard, slightly weathered. Low angle, very close to close breaks; undulating, rough, typically discolored to decomposed, and open with mud infilling. (ELIOT FORMATION)	
150										

Remarks:

NEBC Rig #B-24 automatic hammer calibrated on 7/3/2018.
Successfully vacuum excavate to 7.5 ft BGS; terminated at observed groundwater.

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.

Page 2 of 3

Boring No.: BB-PVS-202

Maine Department of Transportation — Soil/Rock Exploration Log — US CUSTOMARY UNITS

Project: Bridge #5933 I-295 over Veranda Street	Location: Portland, ME	Boring No.:	BB-PVS-202
		WIN:	21745.00
Driller: New England Boring Contractors	Elevation (ft.): 13.8 ft	Auger ID/OD:	n/a (vac excavation to 7.5 ft)
Operator: Schaefer / Titus	Datum: NAVD88	Sampler:	standard split-spoon
Logged By: Schonewald	Rig Type: Mobile Drill B-53 truck (NEBC #B-24)	Hammer Wt./Fall:	140 lbs / 30 inches
Date Start/Finish: 10/11/18; 1155 - 10/23/18; 1500	Drilling Method: cased wash boring	Core Barrel:	NQ2 (wireline)
Boring Location: N 310708.2, E 1016680.5	Casing ID/OD: HW (4/4.5") NW (3/3.5")	Water Level*:	7.5 ft (open)
Hammer Efficiency Factor: 0.937	Hammer Type: Automatic ☒ Hydraulic ☐ Rope & Cathead ☐		

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N60	Casing Blows	Elevation (ft.)	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class
150									Core times: 2:45/ 2:25/ 2:45/ 2:05/ 2:00 min:sec/ ft. ROCK QUALITY = POOR	
				smpl 151.4-151.9						GTX# n/a qp=877 ksf
	R2	60/60	152.0 - 157.0	RQD: 42"=70%					R2: Medium grey grading to brownish grey, aphanitic to fine grained. PHYLLITE with highly undulating, typically moderately dipping relic bedding and numerous fresh, cross bedding calcsilicate veins; hard, fresh. Low angle to moderately dipping, close to moderately spaced, breaks; undulating, rough, typically fresh, and open with mud infilling typical; shiny. (ELIOT FORMATION) Core times: 2:25/ 1:50/ 2:00/ 2:05/ 1:45 min:sec/ ft. ROCK QUALITY = FAIR	
				smpl 153.5-154.0						GTX# n/a qp=1,269 ksf
155										
	R3	60/60	157.0 - 162.0	RQD: 50"=83% smpl 157.2-157.6					R3: Similar to R2, except brownish-grey and moderately spaced breaks. Core times: 2:00/ 1:40/ 1:25/ 1:30/ 1:25 min:sec/ft. ROCK QUALITY = GOOD	GTX# n/a qp=894 ksf
160										
	R4	60/60	162.0 - 167.0	RQD: 47"=78%					R4: Similar to R3. Core times: 2:40/ 1:55/ 1:45/ 2:00/ 2:15 min:sec/ft. ROCK QUALITY = GOOD	
165										
	R5	60/59	167.0 - 172.0	RQD: 43"=72%					R5: Similar to R3, except grading to m. grey. Open fracture with mud infilling at 168.1 ft. Core times: 2:30/ 2:15/ 1:30/ 1:50/ 1:30 min:sec/ft. ROCK QUALITY = FAIR	
170										
								-158.2	172.0 Bottom of Exploration at 172.0 feet below ground surface.	
175										

Remarks:

NEBC Rig #B-24 automatic hammer calibrated on 7/3/2018.
Successfully vacuum excavate to 7.5 ft BGS; terminated at observed groundwater.

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.

Page 3 of 3

Boring No.: BB-PVS-202

Maine Department of Transportation — Soil/Rock Exploration Log — US CUSTOMARY UNITS

Project: Bridge #5933 I-295 over Veranda Street	Location: Portland, ME	Boring No.:	BB-PVS-203
		WIN:	21745.00
Driller: New England Boring Contractors	Elevation (ft.): 13.3 ft	Auger ID/OD:	n/a (vac excavation to 7.5 ft)
Operator: Schaefer / Titus	Datum: NAVD88	Sampler:	standard split-spoon
Logged By: Schonewald	Rig Type: Mobile Drill B-53 truck (NEBC #B-24)	Hammer Wt./Fall:	140 lbs / 30 inches
Date Start/Finish: 10/3/18; 0810 - 10/11/18; 1145	Drilling Method: cased wash boring	Core Barrel:	NQ2 (wireline)
Boring Location: N 310775.0, E 1016750.0	Casing ID/OD: HW (4/4.5") NW (3/3.5")	Water Level*:	7.3 ft (open)
Hammer Efficiency Factor: 0.937	Hammer Type: Automatic ☒ Hydraulic ☐ Rope & Cathead ☐		

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N60	Casing Blows	Elevation (ft.)	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class
0							VAC	12.4	0.9 ft HMA 0.9 0.9 to 7.5 ft: vacuum excavation; predominately sand and gravel fill.	
5										
							--			
							PUSH	4.3	9.0	
10	1D	24/16	10.0 - 12.0	WOH/24"	--				Olive grey with occasional black, very soft, Silty CLAY. (MARINE SILT-CLAY)	GTX#489636 WC=44% LL=40 PL=20 PI=20
15	2D	24/24	15.0 - 17.0	WOH/24"	--				Olive grey black, very soft, Silty CLAY. (MARINE SILT-CLAY)	GTX#489637 WC=44% LL=45 PL=25 PI=20
20	3D V1	24/24	20.0 - 22.0 20.6 - 21.0	push thru vane Su=915/156 psf					Olive grey black, medium stiff, Silty CLAY. (MARINE SILT-CLAY) V1: 20.5 / 3.5 ft-lbs (55 mm x 110 mm vane raw torque readings)	
	V2		21.6 - 22.0	Su=781/134 psf					V2: 15 / 3 ft-lbs (55 mm x 110 mm vane raw torque readings)	
25	U1	24/19	25.0 - 27.0	HYD PUSH					Dark grey, Silty CLAY. (MARINE SILT-CLAY)	GTX#IP-10 CONSOL (Cv, C?) GTX#489629 WC=38% LL=42 PL=24 PI=18
30	4D V3	24/24	30.0 - 32.0 30.6 - 31.0	push thru vane Su=915/112 psf					Dark grey black, medium stiff, Silty CLAY. (MARINE SILT-CLAY) V3: 20.5 / 2.5 ft-lbs (55 mm x 110 mm vane raw torque readings)	
	V4		31.6 - 32.0	Su=982/112 psf					V4: 22 / 2.5 ft-lbs (55 mm x 110 mm vane raw torque readings)	
35	5D V5	24/24	35.0 - 37.0 35.6 - 36.0	push thru vane Su=893/134 psf					Dark grey, medium stiff, Silty CLAY. (MARINE SILT-CLAY) V5: 20 / 3 ft-lbs (55 mm x 110 mm vane raw torque readings)	
	V6		36.6 - 37.0	Su=960/134 psf					V6: 21.5 / 3 ft-lbs (55 mm x 110 mm vane raw torque readings)	
40	U2	24/16	40.0 - 42.0	HYD PUSH					Dark grey, Silty CLAY. (MARINE SILT-CLAY)	GTX#IP-7 CONSOL (Cv, C?) GTX#489630 WC=39% LL=40 PL=24 PI=16
45	6D V7	24/24	45.0 - 47.0 45.6 - 46.0	push thru vane Su=759/45 psf					Dark grey black, medium stiff, Silty CLAY, with nodules throughout and occasional shell fragments. (MARINE SILT-CLAY) V7: 17 / 1 ft-lbs (55 mm x 110 mm vane raw torque readings)	
	V8		46.6 - 47.0	Su=737/22 psf					V8: 16.5 / 0.5 ft-lbs (55 mm x 110 mm vane raw torque readings)	
50	U3	24/24	50.0 - 52.0	HYD PUSH					Dark grey black, Silty CLAY. (MARINE SILT-CLAY)	GTX#IP-8 CONSOL (Cv, C?) GTX#489631 WC=37% LL=37 PL=22 PI=15
55	7D V9	24/24	55.0 - 57.0 55.6 - 56.0	push thru vane Su=915/89 psf					Dark grey black, medium stiff, Silty CLAY. (MARINE SILT-CLAY) V9: 20.5 / 2 ft-lbs (55 mm x 110 mm vane raw torque readings)	
	V10		56.6 - 57.0	Su=848/67 psf					V10: 19 / 1.5 ft-lbs (55 mm x 110 mm vane raw torque readings)	
60	8D V11	24/24	60.0 - 62.0 60.6 - 61.0	push thru vane Su=982/89 psf					Dark grey black, medium stiff to stiff, Silty CLAY with one 1-inch layer silty fine sand. V11: 22 / 2 ft-lbs (55 mm x 110 mm vane raw torque readings)	
	V12		61.6 - 62.0	Su=1,183/156 psf					V12: 26.5 / 3.5 ft-lbs (55 mm x 110 mm vane raw torque readings)	
65	9D V13	24/24	65.0 - 67.0 65.6 - 66.0	(VANE/12")-6-3 Su=1,340/313 psf			--		Dark grey, Silty CLAY; changing at 66.1 ft to: V13: 30 / 7 ft-lbs (55 mm x 110 mm vane raw torque readings)	
	MV		66.0				82	-52.7	66.0 MV: Unable to push past 66.0 ft. (9D) Grey, SILT, some fine sand grading to Silty fine SAND. (MARINE FINE SANDS AND SILT)	
							63			
							62			
							68			
70	10D	24/9	70.0 - 72.0	5-4-2-2	6	9	71		Grey, loose, fine SAND, trace to little silt. (MARINE FINE SANDS AND SILT)	
							65			
							66			
							72			
							75			
75										

Remarks:

NEBC Rig #B-24 automatic hammer calibrated on 7/3/2018.
Crown of corrugated metal pipe encountered at approximately 6 ft BGS in first vacuum excavation; move approximately 1.5 ft westerly and retry.
Successfully vacuum excavate to 7.5 ft BGS; terminated at observed groundwater.

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.

Page 1 of 2

Boring No.: BB-PVS-203

Maine Department of Transportation — Soil/Rock Exploration Log — US CUSTOMARY UNITS

Project: Bridge #5933 I-295 over Veranda Street	Location: Portland, ME	Boring No.:	BB-PVS-203
		WIN:	21745.00
Driller: New England Boring Contractors	Elevation (ft.): 13.3 ft	Auger ID/OD:	n/a (vac excavation to 7.5 ft)
Operator: Schaefer / Titus	Datum: NAVD88	Sampler:	standard split-spoon
Logged By: Schonewald	Rig Type: Mobile Drill B-53 truck (NEBC #B-24)	Hammer Wt./Fall:	140 lbs / 30 inches
Date Start/Finish: 10/3/18; 0810 - 10/11/18; 1145	Drilling Method: cased wash boring	Core Barrel:	NQ2 (wireline)
Boring Location: N 310775.0, E 1016750.0	Casing ID/OD: HW (4/4.5") NW (3/3.5")	Water Level*:	7.3 ft (open)
Hammer Efficiency Factor: 0.937	Hammer Type: Automatic ☒ Hydraulic ☐ Rope & Cathead ☐		

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N60	Casing Blows	Elevation (ft.)	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class
75	11D	24/8	75.0 - 77.0	HAMMER ERROR	--		--		Grey grading to tan, fine SAND, trace silt. (MARINE FINE SANDS AND SILT)	
							66			
							58			
							115	-65.7	79.0	
							RC			
80	MD	4/0	80.0 - 80.3	90/4"	--		RC		80.5 ft: Telescope NW (3-inch) casing.	
	12D	24/8	81.0 - 83.0	30-27-23-34	50	78	--		Grey to grey tan, dense, Gravelly fine to coarse SAND, little silt. (TILL)	
							--			
							28			
							37			
85	13D	24/10	85.0 - 87.0	14-7-10-10	17	27	7		Tan to red tan, medium dense, fine to medium SAND, little to some gravel, little silt, trace coarse sand. (TILL) Changing at 86.4 ft to: (13D) Grey, fine to medium SAND, some silt, little to some fine gravel, trace coarse sand. (TILL)	
							9			
							21			
							31			
							19			
90	14D	24/11	90.0 - 92.0	6-7-7-11	14	22	15		Grey, medium dense, fine to medium SAND, little to some fine gravel, little to some silt, trace coarse sand. (TILL)	
							10			
							19			
							30			
							62			
95	15D	24/14	95.0 - 97.0	20-22-24-19	46	72	--		Grey, dense, fine to medium SAND, little to some fine gravel, little to some silt, trace coarse sand. (TILL)	
							--			
							--			
							--			
							--			
100	16D	24/13	100.0 - 102.0	22-27-22-18	49	77	--		Grey, dense, fine to medium SAND, some silt, some gravel, trace coarse sand. (TILL)	
							19			
							30			
							84			
							129			
105	17D	24/13	105.0 - 107.0	65-35-32-45	67	105	RC		Grey, very dense, fine to medium SAND, some silt, little to some gravel, trace coarse sand. (TILL)	
	R1	48/48	109.0 - 113.0	RQD: 41"=85%			NQ2	-95.7	109.0 Top of Bedrock at Elev. -95.7 ft. R1: Medium grey, aphanitic to fine grained, PHYLLITE with low angle relic bedding and occasional thin, cross-bedding calcsilicate veins; hard, fresh. Low angle, close breaks; undulating, rough, typically fresh, and open with mud infilling typical; shiny. (ELIOT FORMATION) Core times: 2:25/ 3:30/ 2:45/ 1:55 min:sec/ft. ROCK QUALITY = GOOD	
110										
				smpl 111.1-111.8						GTX# n/a qp=2,177 ksf
	R2	57/57	113.0 - 117.8	RQD: 40"=70%					R2: Medium grey, aphanitic to fine grained, PHYLLITE with moderately dipping and high angle relic bedding, numerous calcsilicate veins (thicker veins typically weathered), and occasional high angle cracks; hard, typically fresh. Moderately dipping, close breaks; undulating, rough, typically fresh, and open with mud infilling typical; shiny. (ELIOT FORMATION) Core times: 1:55/ 2:05/ 1:50/ 2:00/ -- min:sec/ft. ROCK QUALITY = FAIR	
115										
				smpl 116.4-116.8						GTX# n/a qp=1,290 ksf
	R3	60/48	117.8 - 122.8	RQD: 12"=20%					R3: Similar to R2, except typically slightly to highly weathered. Where slightly weathered: close, low angle breaks. One 1-inch wide, mud infilled break at 123.3 ft. Highly weathered and fractured below 124.9 ft. Core times: 2:05/ 1:55/ 2:10/ 2:40/ 3:10 min:sec/ft. ROCK QUALITY = VERY POOR	
120										
	R4	21/18	122.8 - 124.6	RQD: 4"=19%					R4 (122.8 to 124.6 ft): Similar rock to R3; moderately weathered and highly fractured. ROCK QUALITY = VERY POOR	
	R4A	39/39	124.6 - 127.9	RQD: 25"=64%					R4A (124.6 to 127.8 ft): Similar to R2. ROCK QUALITY = FAIR R4 AND R4A core times: 2:30/ 2:45/ 1:45/ 1:35/ 1:40 min:sec/ft.	
125				smpl 125.0-125.5						GTX# n/a qp=1,678 ksf
	R5	60/60	127.8 - 132.8	RQD: 48"=80%					R5: Similar to R2; notable fracture from 130.1 to 130.2 ft. Core times: 1:35/ 1:35/ 1:30/ 1:30/ 2:05 min:sec/ft. ROCK QUALITY = GOOD	
130										
								-119.5	132.8 Bottom of Exploration at 132.8 feet below ground surface.	
135										
140										
145										
150										

Remarks:

NEBC Rig #B-24 automatic hammer calibrated on 7/3/2018.
Crown of corrugated metal pipe encountered at approximately 6 ft BGS in first vacuum excavation; move approximately 1.5 ft westerly and retry.
Successfully vacuum excavate to 7.5 ft BGS; terminated at observed groundwater.

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.

Page 2 of 2

Boring No.: BB-PVS-203

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON		
	BY	DATE	
DESIGN-DETAILED	EDD	CDH	2\20
CHECKED-REVIEWED	RWH	LZD	2\20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER VERANDA STREET

PORTLAND CUMBERLAND COUNTY

BORING LOGS 3

SHEET NUMBER

21

OF 220

Filename: 022_Boring Logs 4.dgn   Division: Username: Date:3/3/2020

Maine Department of Transportation
Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Bridge #5933
I-295 over Veranda Street
Location: Portland, ME

Boring No.: BB-PVS-301
WIN: 21745.00

Driller: New England Boring Contractors	Elevation (ft.) 15.1	Auger ID/OD: SSA (--/4.5")	
Operator: Enos/Maynard	Datum: NAVD88	Sampler: standard split-spoon	
Logged By: Schonewald	Rig Type: Mobile Drill B-53 (NEBC ATV Rig 23)	Hammer Wt./Fall: 140 lbs / 30 inches	
Date Start/Finish: 7/18/19; 1125-1610	Drilling Method: cased wash boring	Core Barrel: not applicable	
Boring Location: N 310603, E 1016795	Casing ID/OD: HW (4/4.5") NW (3/3.5")	Water Level*: 11 ft +/- (Sample 6D)	
Hammer Efficiency Factor: .842	Hammer Type: Automatic ☒ Hydraulic ☐ Rope & Cathead ☐		

Definitions:
D = Split Spoon Sample; MD = Unsuccessful Split Spoon Sample Attempt; U = Thin Wall Tube Sample; MU = Unsuccessful Thin Wall Tube Sample Attempt; V = Field Vane Shear Test, PP = Pocket Penetrometer; MV = Unsuccessful Field Vane Shear Test Attempt
R = Rock Core Sample; SSA = Solid Stem Auger; HSA = Hollow Stem Auger; RC = Roller Cone; WOH = Weight of 140lb. Hammer; WOR/C = Weight of Rods or Casing; WO1P = Weight of One Person
S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf); $S_{u(lab)}$ = Lab Vane Undrained Shear Strength (psf); q_p = Unconfined Compressive Strength (ksf); N-uncorrected = Raw Field SPT N-value; Hammer Efficiency Factor = Rig Specific Annual Calibration Value; N_{60} = SPT N-uncorrected Corrected for Hammer Efficiency; N_{60} = (Hammer Efficiency Factor/60%)*N-uncorrected
T_v = Pocket Torvane Shear Strength (psf); WC = Water Content, percent; LL = Liquid Limit; PL = Plastic Limit; PI = Plasticity Index; G = Grain Size Analysis; C = Consolidation Test

Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N60	Casing Blows
1D	24/6	0.0 - 2.0	4-9-10-10	19	27	SSA
2D	24/10	2.0 - 4.0	8-9-8-9	17	24	
3D	24/16	4.0 - 6.0	3-7-10-9	17	24	
4D	24/17	6.0 - 8.0	7-11-13-13	24	34	
5D	24/20	8.0 - 10.0	14-19-14-13	33	46	
6D	24/20	10.0 - 12.0	4-3-2-2	5	7	25
						25
						18
						20
7D	24/12	14.0 - 16.0	1-3-9-4	3"dia	4	HW RC
1U	24/19	19.0 - 21.0	HYD PUSH			
8D	24/24	20.8 - 22.8	WOH/12"-2-3	2	3	
9D V1	24/24	24.0 - 26.0 / 24.6 - 25.0	(VANE/12")-WOH-2 Su=1,607/89 psf	--		
2U	24/24	26.5 - 28.5	HYD PUSH			
10D	24/24	28.5 - 30.5	2-6-3-5	9	13	
11D	24/16	34.0 - 36.0	6-10-12-9	22	31	

Elevation (ft.)	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class
	Brown TOPSOIL with organics; one piece large gravel in tip of spoon.	
	Tan, damp, medium dense, fine to medium SAND, trace coarse sand, trace fine gravel, trace silt. GRANULAR FILL	
	Tan, damp, medium dense, fine to coarse SAND, trace fine gravel, trace silt, with one 5-inch layer silty fine to medium sand, trace coarse sand. GRANULAR FILL	GTX#519173 WASH SIEVE A-1-b(1) -#200=5.5% GTX#519345 WC=4.8%
	Tan, damp, medium dense, fine to medium SAND, trace coarse sand, trace fine gravel, trace silt. GRANULAR FILL	
	Tan, damp to moist, dense, fine to medium SAND, trace to little silt, trace coarse sand, trace fine gravel. GRANULAR FILL	
	Tan-brown, moist to wet, loose, fine to medium SAND, trace to little silt, trace coarse sand, trace fine gravel. GRANULAR FILL	GTX#519174 WASH SIEVE A-2-4(0) -#200=10.5% GTX#519345 WC=18.5%
2.1	---13.0--- MV: Unable to push vane deeper than 14.0 ft. Tan-brown, fine to coarse SAND, little silt, little fine gravel; over a 3-inch layer olive brown, SILT, some clay; over a 7-inch layer (7D) brown-black, Silty fine to coarse SAND, some gravel with strong organic odor. MISCELLANEOUS FILL	
-0.3	---15.4--- Organic silt noted in wash water at approximately 17 feet.	
-2.9	---18.0--- Olive grey, Clayey SILT. MARINE SILT-CLAY CRUST (Piston sampler not fully extend.)	GTX#IP-11 CONSOL (Cv, C?)
	Dark olive grey, Clayey SILT to Silty CLAY. MARINE SILT-CLAY CRUST to MARINE SILT-CLAY WITH SAND SEAMS	GTX#519169 WC=34% LL=42 PL=22 PI=20
-6.7	---21.8--- Olive grey, stiff, Silty CLAY, with one 1/4-inch seam fine Sandy SILT and few concretions at approx. 25 ft. MARINE SILT-CLAY WITH SAND SEAMS V1: 36 / 2 ft-lbs (55 mm x 110 mm vane raw torque readings) MV: Unable to push vane deeper than 25.0 ft.	
	Olive brown grey, Silty CLAY; sand on bottom of sample. MARINE SILT-CLAY WITH SAND SEAMS	GTX#IP-12 CONSOL (Cv, C?) GTX#519170 WC=32% LL=38 PL=19 PI=19
	MV: Unable to push vane deeper than 28.5 ft. Olive grey, Silty CLAY, with multiple layers and seams fine Sandy SILT. MARINE SILT-CLAY WITH SAND SEAMS Changing at 29.3 ft to:	
-14.2	---29.3--- Brown, fine Sandy SILT with one 3-inch layer fine sand, little to some silt.	
-17.4	---32.5--- Brown, medium dense, fine to medium SAND, little silt, trace coarse sand, trace fine gravel, with one 2-inch seam fine sandy silt. TILL	
	38.3 ft: Gravel layer noted. 38.5 ft: Grinding on hard layer. Slowly advance roller cone to refusal at 41.6 ft.	
-26.5	---41.6--- Bottom of Exploration at 41.6 feet below ground surface.	

Remarks:
NEBC ATV Rig 23 automatic hammer calibrated on 7/8/2019.

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.

Page 1 of 1
Boring No.: BB-PVS-301

Maine Department of Transportation
Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Bridge #5933
I-295 over Veranda Street
Location: Portland, ME

Boring No.: BB-PVS-302
WIN: 21745.00

Driller: New England Boring Contractors	Elevation (ft.) 13.7	Auger ID/OD: SSA (--/4.5")	
Operator: Enos/Maynard	Datum: NAVD88	Sampler: standard split-spoon	
Logged By: Schonewald	Rig Type: Mobile Drill B-53 (NEBC ATV Rig 23)	Hammer Wt./Fall: 140 lbs / 30 inches	
Date Start/Finish: 7/17/19; 1525- 7/18/19; 1110	Drilling Method: cased wash boring	Core Barrel: NQ2	
Boring Location: N 310718, E 1016824	Casing ID/OD: HW (4/4.5") NW (3/3.5")	Water Level*: 9 ft (open)	
Hammer Efficiency Factor: .842	Hammer Type: Automatic ☒ Hydraulic ☐ Rope & Cathead ☐		

Definitions: (as above)

Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N60	Casing Blows
1D	24/14	0.0 - 2.0	3-4-6-7	10	14	SSA
2D	24/12	2.0 - 4.0	5-5-5-7	10	14	
3D	24/14	4.0 - 6.0	6-6-8-16	14	20	
4D	24/19	6.0 - 8.0	16-14-11-10	25	35	
5D	24/19	8.0 - 10.0	4-3-2-3	5	7	15
						21
6D	24/7	10.0 - 12.0	4-5-6-3	11	15	21
						31
						33
						39
7D	24/22	14.0 - 16.0	1-2-2-3	4	6	HW RC
8D	24/24	19.0 - 21.0	WOR-1/18"	--		
9D V1	24/24	24.0 - 26.0	push thru vane Su= 558/ 45 psf			
V2		24.6 - 25.0 / 25.6 - 26.0	Su= 781/ 112 psf			
10D V3	24/24	29.0 - 31.0	push thru vane Su= 848/ 89 psf			
V4		29.6 - 30.0 / 30.6 - 31.0	Su= 938/ 134 psf			
11D V5	24/24	34.0 - 36.0	push thru vane Su=1,205/223 psf			
V6		34.6 - 35.0 / 35.6 - 36.0	Su=1,340/268 psf			
12D	24/20	39.0 - 41.0	(vane)-4-4-9	8	11	
13D	24/9	44.0 - 46.0	4-10-11-12	21	29	
R1	60/60	49.4 - 54.4	RQD: 35" = 58%			NQ2

Elevation (ft.)	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class
	6-inch layer TOPSOIL with organics, underlain by 1D: Light brown, damp, loose, fine to coarse SAND, little to some silt, little gravel. GRANULAR FILL	
	Brown, damp, loose, fine to coarse SAND, little silt, trace to little fine gravel. GRANULAR FILL	GTX#519175 WASH SIEVE A-2-4(0) -#200=10.9% GTX#519345 WC=6.1%
	Light brown-tan, damp, medium dense, fine to medium SAND, trace to little silt, trace gravel, trace coarse sand. GRANULAR FILL	
	Light brown-tan, damp to moist, medium dense, fine to medium SAND, trace to little silt, trace coarse sand, trace gravel. GRANULAR FILL	
	Light brown, moist to wet, loose, fine to medium SAND, trace to little silt, trace coarse sand, trace gravel. GRANULAR FILL	
	Light brown, medium dense, fine to medium SAND, little silt, trace gravel, trace coarse sand. GRANULAR FILL Changing at 11.6 ft to:	
2.1	---11.6--- 6D: Dark grey brown, fine to medium SAND, some silt, trace to little gravel, trace coarse sand, with minor organics. ORIGINAL GROUND	
0.7	---13.0--- Olive brown grey, slightly mottled, soft, SILT, some clay to Clayey SILT. MARINE SILT-CLAY CRUST	GTX#519153 WC=35% LL=45 PL=22 PI=23
	Olive brown, Clayey SILT grading to olive grey with occasional black streaks, Silty CLAY. MARINE SILT-CLAY CRUST grading to MARINE SILT-CLAY	
-6.3	---20.0--- Dark grey black, medium stiff, Silty CLAY with occasional seams of find sandy silt. MARINE SILT-CLAY V1: 12.5 / 1 ft-lbs (55 mm x 110 mm vane raw torque readings) V2: 17.5 / 2.5 ft-lbs (55 mm x 110 mm vane raw torque readings)	GTX#519154 WC=35% LL=37 PL=19 PI=18
	Dark olive grey with occasional black streaks, medium stiff, Silty CLAY. MARINE SILT-CLAY V3: 19 / 2 ft-lbs (55 mm x 110 mm vane raw torque readings) V4: 21 / 35 ft-lbs (55 mm x 110 mm vane raw torque readings)	
	Dark grey with occasional black streaks, stiff, Silty CLAY. MARINE SILT- CLAY V5: 27 / 5 ft-lbs (55 mm x 110 mm vane raw torque readings) V6: 30 / 6 ft-lbs (55 mm x 110 mm vane raw torque readings)	GTX#519155 WC=30% LL=36 PL=20 PI=16
	Unable to push vane deeper than 39.4 ft. Dark grey black, Silty CLAY, MARINE SILT-CLAY Grading through grey, SILT, some clay, some fine sand to:	
-26.7	---40.4--- Grading at 40.4 ft to 12D: Brown, fine Sandy SILT; with brown, fine sand trace silt in tip of spoon. MARINE SANDS AND SILT	
	Brown, medium dense, fine to medium SAND, trace silt, trace coarse sand; with siltier material in tip of spoon. MARINE SANDS AND SILT	
-33.6	---47.3--- Top of Bedrock at Elev. -33.6 ft. 47.3 ft: Grinding on hard layer. Slowly advance roller cone to refusal at 49.4 ft. Set NW casing for rock coring. R1: Bedrock: Grey, aphanitic to fine grained, PHYLLITE with moderately dipping remnant bedding and calcsilicate veins; hard, typically fresh. Low angle to moderately dipping, closely spaced breaks; undulating, rough, typically fresh, and open with occasional mud infilling; somewhat shiny. (ELIOT FORMATION) Core times: 3:10/ 2:50/ 2:45/ 2:50/ 3:10 min:sec/ft. ROCK QUALITY = FAIR	
-40.7	---54.4--- Bottom of Exploration at 54.4 feet below ground surface.	

Remarks:
NEBC ATV Rig 23 automatic hammer calibrated on 7/8/2019.

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.

Page 1 of 1
Boring No.: BB-PVS-302

Maine Department of Transportation
Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Bridge #5933
I-295 over Veranda Street
Location: Portland, ME

Boring No.: BB-PVS-303
WIN: 21745.00

Driller: New England Boring Contractors	Elevation (ft.) 12.0	Auger ID/OD: SSA (--/4.5")	
Operator: Enos/Maynard	Datum: NAVD88	Sampler: standard split-spoon	
Logged By: Schonewald	Rig Type: Mobile Drill B-53 (NEBC ATV Rig 23)	Hammer Wt./Fall: 140 lbs / 30 inches	
Date Start/Finish: 7/16/19; 1415- 7/17/19; 1430	Drilling Method: cased wash boring	Core Barrel: NQ2	
Boring Location: N 310873, E 1016831	Casing ID/OD: HW (4/4.5") NW (3/3.5")	Water Level*: 8.4 ft (open)	
Hammer Efficiency Factor: .842	Hammer Type: Automatic ☒ Hydraulic ☐ Rope & Cathead ☐		

Definitions: (as above)

Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N60	Casing Blows
1D	24/10	0.0 - 2.0	4-8-6-5	14	20	SSA
2D	24/17	2.0 - 4.0	1-1-1-2	2	3	
3D	24/17	4.0 - 6.0	1-2-3-2	5	7	
4D	24/19	6.0 - 8.0	3-4-4-4	8	11	
5D	24/24	8.0 - 10.0	WOH/12"-1-2	1	1	
6D	24/24	10.0 - 12.0	WOH/24"	--		HW RC
7D V1	24/24	14.0 - 16.0	push thru vane Su= 491/ 0 psf			
V2		14.6 - 15.0 / 15.6 - 16.0	Su= 536/ 67 psf			
8D V3	24/11	19.0 - 21.0	push thru vane Su= 580/ 89 psf			
V4		19.6 - 20.0 / 20.6 - 21.0	Su= 670/ 112 psf			
9D V5	24/24	24.0 - 26.0	push thru vane Su= 714/ 45 psf			
V6		24.6 - 25.0 / 25.6 - 26.0	Su= 804/ 134 psf			
10D V7	24/24	29.0 - 31.0	push thru vane Su= 960/ 179 psf			
V8		29.6 - 30.0 / 30.6 - 31.0	Su=1,072/179 psf			
11D V9	24/24	34.0 - 36.0	push thru vane Su=1,072/201 psf			
V10		34.6 - 35.0 / 35.6 - 36.0	Su=1,027/201 psf			
12D V11	24/24	39.0 - 41.0	push thru vane Su= 826/ 179 psf			
V12		39.6 - 40.0 / 40.6 - 41.0	Su= 848/ 134 psf			
13D V13	24/24	44.0 - 46.0	push thru vane Su=1,250/201 psf			
V14		44.6 - 45.0 / 45.6 - 46.0	Su=1,116/156 psf			
14D V15	24/24	49.0 - 51.0	push thru vane Su=1,027/179 psf			
V16		49.6 - 50.0 / 50.6 - 51.0	Su=1,027/156 psf			
15D V17	24/24	54.0 - 56.0	(vane/12")-1-3 Su=1,295/201 psf	--		
MV		54.6 - 55.0				
16D V18	24/17	59.0 - 61.0	(vane/12")-8-11 Su=1,563/246 psf	--		
MV		59.6 - 60.0				
17D	24/14	64.0 - 66.0	3-12-12-15	24	34	
18D	24/11	69.0 - 71.0	14-17-17-17	34	48	
19D	24/12	74.0 - 76.0	19-12-11-12	23	32	

Elevation (ft.)	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class
	1 inch HMA (parking lot) underlain by Brown-dark brown, damp, medium dense, fine to coarse SAND, some gravel, some silt. GRANULAR FILL	
	Grey brown, damp to moist, very loose, fine Sandy SILT, trace medium to coarse sand. FILL	
	Olive grey, mottled, moist, loose, SILT, trace fine sand. FILL	GTX#519172 MATL PASSING #200 -#200=95.3%
	Olive brown grey, mottled, moist, loose, SILT, some fine sand grading to SILT, some clay, little to some fine sand; appears reworked. FILL	GTX#519156 WC=25% LL=31 PL=19 PI=12
	Olive brown grey, mottled, wet, SILT, some clay to Clayey SILT; appears reworked. FILL	
2.5	---9.5--- Bottom 6 inches of sample (5D) very mottled with few pieces of gravel and minor roots. ORIGINAL GROUND	
2.0	---10.0--- Olive grey, slightly mottled, Clayey SILT with occasional pockets silty fine sand. MARINE SILT-CLAY CRUST	GTX#519157 WC=43% LL=40 PL=22 PI=18
-2.0	---14.0--- Olive grey with occasional black streaks, soft to medium stiff, Silty CLAY with few partings fine sandy silt. MARINE SILT-CLAY V1: 11 / 0 ft-lbs (55 mm x 110 mm vane raw torque readings) V2: 12 / 1.5 ft-lbs (55 mm x 110 mm vane raw torque readings)	GTX#519158 WC=44% LL=44 PL=23 PI=21
	Olive grey with occasional black streaks, medium stiff, Silty CLAY. MARINE SILT-CLAY V3: 13 / 2 ft-lbs (55 mm x 110 mm vane raw torque readings) V4: 15 / 2.5 ft-lbs (55 mm x 110 mm vane raw torque readings)	
	Olive grey, medium stiff, Silty CLAY. MARINE SILT-CLAY V5: 16 / 1 ft-lbs (55 mm x 110 mm vane raw torque readings) V6: 18 / 3 ft-lbs (55 mm x 110 mm vane raw torque readings)	GTX#519159 WC=42% LL=45 PL=22 PI=23
	Olive grey, medium stiff to stiff, Silty CLAY. MARINE SILT-CLAY V7: 21.5 / 4 ft-lbs (55 mm x 110 mm vane raw torque readings) V8: 24 / 4 ft-lbs (55 mm x 110 mm vane raw torque readings)	
	Olive grey, stiff, Silty CLAY. MARINE SILT-CLAY V9: 24 / 4.5 ft-lbs (55 mm x 110 mm vane raw torque readings) V10: 23 / 4.5 ft-lbs (55 mm x 110 mm vane raw torque readings)	GTX#519160 WC=40% LL=49 PL=22 PI=27
	Dark grey black, medium stiff, Silty CLAY. MARINE SILT-CLAY V11: 18.5 / 4 ft-lbs (55 mm x 110 mm vane raw torque readings) V12: 19 / 3 ft-lbs (55 mm x 110 mm vane raw torque readings)	
	Olive grey with occasional black streaks, stiff, Silty CLAY. MARINE SILT- CLAY V13: 28 / 4.5 ft-lbs (55 mm x 110 mm vane raw torque readings) V14: 25 / 3.5 ft-lbs (55 mm x 110 mm vane raw torque readings)	GTX#519161 WC=40% LL=43 PL=22 PI=21
	Olive grey with occasional black streaks, stiff, Silty CLAY. MARINE SILT- CLAY V15: 23 / 4 ft-lbs (55 mm x 110 mm vane raw torque readings) V16: 23 / 3.5 ft-lbs (55 mm x 110 mm vane raw torque readings)	
	Dark grey black, stiff, Silty CLAY with occasional partings and one 1/2-inch seam silty fine sand. MARINE SILT-CLAY V17: 29 / 4.5 ft-lbs (55 mm x 110 mm vane raw torque readings) MV: Unable to push vane deeper than 55.4 ft.	GTX#519162 WC=30% LL=34 PL=18 PI=16
	Dark grey black, Silty CLAY with multiple seams and layers fine sandy silt. MARINE SILT-CLAY Changing at 60.2 ft to: V18: 35 / 5.5 ft-lbs; multiple sand seams noted. (55 mm x 110 mm vane raw torque readings) MV: Unable to push vane deeper than 60.0 ft.	
-48.2	---60.2--- 16D: Grey, fine SAND, some silt. MARINE SANDS AND SILT	
	Grey, medium dense, Silty fine to medium SAND. MARINE SANDS AND SILT	GTX#519172 MATL PASSING #200 -#200=22.9% GTX#519345 WC=18.3%
-55.0	---67.0--- Brown with grey and rust layers, dense, fine to coarse SAND, little to some silt; silt content variable in layers. TILL	
	Grey, medium dense, fine to medium SAND, little to some silt, little fine gravel, trace coarse sand. TILL	

Remarks:
NEBC ATV Rig 23 automatic hammer calibrated on 7/8/2019.

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.

Page 1 of 2
Boring No.: BB-PVS-303

Maine Department of Transportation
Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Bridge #5933
I-295 over Veranda Street
Location: Portland, ME

Boring No.: BB-PVS-303
WIN: 21745.00

Driller: New England Boring Contractors	Elevation (ft.) 12.0	Auger ID/OD: SSA (--/4.5")	
Operator: Enos/Maynard	Datum: NAVD88	Sampler: standard split-spoon	
Logged By: Schonewald	Rig Type: Mobile Drill B-53 (NEBC ATV Rig 23)	Hammer Wt./Fall: 140 lbs / 30 inches	
Date Start/Finish: 7/16/19; 1415- 7/17/19; 1430	Drilling Method: cased wash boring	Core Barrel: NQ2	
Boring Location: N 310873, E 1016831	Casing ID/OD: HW (4/4.5") NW (3/3.5")	Water Level*: 8.4 ft (open)	
Hammer Efficiency Factor: .842	Hammer Type: Automatic ☒ Hydraulic ☐ Rope & Cathead ☐		

Definitions: (as above)

Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in.) Shear Strength (psf) or RQD (%)	N-uncorrected	N60	Casing Blows
20D	24/2	79.0 - 81.0	20-22-22-17	44	62	
21D	15/2	84.0 - 85.3	24-28-70/3"	--		
R1	58/58	87.0 - 91.8	RQD: 47" = 81%			NQ2

Elevation (ft.)	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class
	(limited sample) Grey, dense, fine to coarse SAND, some silt, some gravel. TILL	
	Grey, Silty GRAVEL, some fine to coarse sand; crushed rock in tip of spoon.	
-73.3	---85.3--- Top of Bedrock at Elev. -73.3 ft. 85.3 ft: Grinding on hard layer. Slowly advance roller cone to refusal at 87.0 ft. Set NW casing for rock coring. R1: Bedrock: Grey, aphanitic to fine grained, PHYLLITE with moderately dipping remnant bedding and calcsilicate veins; hard, typically fresh. Moderately dipping, moderately spaced breaks; undulating, rough, typically fresh, and open with occasional infilling; somewhat shiny. (ELIOT FORMATION) Core times: 3:30/ 4:15/ 3:50/ 4:05/ - min:sec/ft. ROCK QUALITY = GOOD	
-79.8	---91.8--- Bottom of Exploration at 91.8 feet below ground surface.	

Remarks:
NEBC ATV Rig 23 automatic hammer calibrated on 7/8/2019.

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.

Page 2 of 2
Boring No.: BB-PVS-303

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
NHPP-2174(500)
WIN 021745.00
BRIDGE PLANS
BRIDGE NO.5933

SIGNATURE
P.E. NUMBER
DATE

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EDD	CDH	2\20
CHECKED-REVIEWED	RWH	LZD	2\20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

INTERSTATE 295 OVER VERANDA STREET
PORTLAND CUMBERLAND COUNTY

BORING LOGS 4

SHEET NUMBER
22
OF 220

Date:3/3/2020

Username:

Division:

Filename: 023_Boring Logs 5.dgn

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Bridge #5933
I-295 over Veranda Street
Location: Portland, ME

Boring No.: BB-PVS-304
WIN: 21745.00

Driller:	New England Boring Contractors	Elevation (ft.)	14.4	Auger ID/OD:	SSA (--/4.5")
Operator:	Enos/Maynard	Datum:	NAVD88	Sampler:	standard split-spoon
Logged By:	Schonewald	Rig Type:	Mobile Drill B-53 (NEBC ATV Rig 23)	Hammer Wt./Fall:	140 lbs / 30 inches
Date Start/Finish:	7/11/19; 1015- 7/16/19; 1405	Drilling Method:	cased wash boring	Core Barrel:	NQ2
Boring Location:	N 310852, E 1016768	Casing ID/OD:	HW (4/4.5") NW (3/3.5")	Water Level*:	5.5 ft (open)
Hammer Efficiency Factor: 0.842		Hammer Type:	Automatic ☒ Hydraulic ☐ Rope & Cathead ☐		

Definitions:
D = Split Spoon Sample
MD = Unsuccessful Split Spoon Sample Attempt
U = Thin Wall Tube Sample
MU = Unsuccessful Thin Wall Tube Sample Attempt
V = Field Vane Shear Test, PP = Pocket Penetrometer
MV = Unsuccessful Field Vane Shear Test Attempt
R = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
WOH = Weight of 140lb. Hammer
WOR/C = Weight of Rods or Casing
WO1P = Weight of One Person
S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf)
$S_{u(lab)}$ = Lab Vane Undrained Shear Strength (psf)
q_p = Unconfined Compressive Strength (ksf)
N-uncorrected = Raw Field SPT N-value
Hammer Efficiency Factor = Rig Specific Annual Calibration Value
N_{60} = SPT N-uncorrected Corrected for Hammer Efficiency
N_{60} = (Hammer Efficiency Factor/60%)*N-uncorrected
T_v = Pocket Torvane Shear Strength (psf)
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./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in. Shear Strength (psf) or RQD (%)	N-uncorrected	N60	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class
0							SSA				
	1D	24/18	2.0 - 4.0	80-43-17-14	60	84				Brown, damp, Silty Urban Fill including brick and concrete. MISCELLANEOUS FILL	
	2D	7/3	4.0 - 4.6	71-50/1"	-					Brown, damp, Silty fine to coarse SAND, some gravel (concrete). MISCELLANEOUS FILL	
5	3D	24/10	5.0 - 7.0	4-8-64-7	72	101	--			White/red/brown, wet, Silty Urban Fill including brick and concrete. MISCELLANEOUS FILL	
							--	7.4		7.0	
	4D	24/20	7.0 - 9.0	1/24"	-		HW PUSH			Olive grey, Clayey SILT, with multiple layers silty fine sand. MARINE SILT-CLAY CRUST	
10	5D	24/24	9.0 - 11.0	WOH/18"-1	-					Olive grey, Clayey SILT, with multiple layers silty fine sand. MARINE SILT-CLAY CRUST	GTX#519163 WC=33% LL=28 PL=18 PI=10
								1.9		12.5	
15	6D V1	24/24	14.0 - 16.0 14.6 - 15.0	push thru vane Su= 491/ 22 psf			HW RC			Olive grey, soft to medium stiff, Silty CLAY. MARINE SILT-CLAY V1: 11 / 0.5 ft-lbs (55 mm x 110 mm vane raw torque readings)	
	V2		15.6 - 16.0	Su= 536/ 45 psf						V2: 12 / 1 ft-lbs (55 mm x 110 mm vane raw torque readings)	
20	7D V3	24/20	19.0 - 21.0 19.6 - 20.0	push thru vane Su= 625/ 45 psf						Dark olive grey with occasional black streaks, medium stiff, Silty CLAY. MARINE SILT-CLAY V3: 14 / 1 ft-lbs (55 mm x 110 mm vane raw torque readings)	GTX#519164 WC=45% LL=49 PL=23 PI=26
	V4		20.6 - 21.0	Su= 692/ 45 psf						V4: 15.5 / 1 ft-lbs (55 mm x 110 mm vane raw torque readings)	
25	8D V5	24/24	24.0 - 26.0 24.6 - 25.0	push thru vane Su= 536/ 67 psf						Dark olive grey with occasional black streaks, medium stiff, Silty CLAY. MARINE SILT-CLAY V5: 12 / 1.5 ft-lbs (55 mm x 110 mm vane raw torque readings)	
	V6		25.6 - 26.0	Su= 670/ 45 psf						V6: 15 / 1 ft-lbs (55 mm x 110 mm vane raw torque readings)	
30	9D V7	24/24	29.0 - 31.0 29.6 - 30.0	push thru vane Su= 781/ 67 psf						Dark olive grey with occasional black streaks, medium stiff, Silty CLAY. MARINE SILT-CLAY V7: 17.5 / 1.5 ft-lbs (55 mm x 110 mm vane raw torque readings)	GTX#519165 WC=41% LL=46 PL=22 PI=24
	V8		30.6 - 31.0	Su= 781/ 67 psf						V8: 17.5 / 1.5 ft-lbs (55 mm x 110 mm vane raw torque readings)	
35	10D V9	24/24	34.0 - 36.0 34.6 - 35.0	push thru vane Su= 871/ 89 psf						Dark olive grey with occasional black streaks, medium stiff, Silty CLAY. MARINE SILT-CLAY V9: 19.5 / 2 ft-lbs (55 mm x 110 mm vane raw torque readings)	
	V10		35.6 - 36.0	Su= 915/ 89 psf						V10: 20.5 / 2 ft-lbs (55 mm x 110 mm vane raw torque readings)	
40	11D V11	24/24	39.0 - 41.0 39.6 - 40.0	push thru vane Su= 804/ 134 psf						Dark olive grey with occasional black streaks, medium stiff, Silty CLAY. MARINE SILT-CLAY V11: 18 / 3 ft-lbs (55 mm x 110 mm vane raw torque readings)	GTX#519166 WC=40% LL=43 PL=21 PI=22
	V12		40.6 - 41.0	Su= 893/ 112 psf						V12: 20 / 2.5 ft-lbs (55 mm x 110 mm vane raw torque readings)	
45	12D V13	24/24	44.0 - 46.0 44.6 - 45.0	push thru vane Su= 714/ 45 psf						Dark grey black, medium stiff, Silty CLAY. MARINE SILT-CLAY V13: 16 / 1 ft-lbs (55 mm x 110 mm vane raw torque readings)	
	V14		45.6 - 46.0	Su= 692/ 22 psf						V14: 15.5 / 0.5 ft-lbs (55 mm x 110 mm vane raw torque readings)	
50	13D V15	24/24	49.0 - 51.0 49.6 - 50.0	push thru vane Su= 982/ 45 psf						Dark olive grey with occasional black streaks, medium stiff, Silty CLAY. MARINE SILT-CLAY V15: 22 / 1 ft-lbs (55 mm x 110 mm vane raw torque readings)	GTX#519167 WC=37% LL=43 PL=21 PI=22
	V16		50.6 - 51.0	Su= 960/ 45 psf						V16: 21.5 / 1 ft-lbs (55 mm x 110 mm vane raw torque readings)	
55	MD V17	24/0	54.0 - 56.0 54.6 - 55.0	push thru vane Su= 781/ 67 psf						Possibly pushed a concretion. V17: 17.5 / 1.5 ft-lbs; concretion noted (55 mm x 110 mm vane raw torque readings)	
	V18		55.6 - 56.0	Su= 938/ 89 psf						V18: 21 / 2 ft-lbs (55 mm x 110 mm vane raw torque readings)	
60	14D V19	24/23	59.0 - 61.0 59.6 - 60.0	push thru vane Su=1,139/112 psf						Dark grey black, stiff, Silty CLAY with nodules throughout and occasional concretions. MARINE SILT-CLAY V19: 25.5 / 2.5 ft-lbs (55 mm x 110 mm vane raw torque readings)	GTX#519168 WC=38% LL=35 PL=19 PI=16
	V20		60.6 - 61.0	Su=1,161/ 89 psf						V20: 26 / 2 ft-lbs (55 mm x 110 mm vane raw torque readings)	
65	15D V21	24/20	64.0 - 66.0 64.6 - 65.0	(vane/12")-9-10 Su=1,585/313 psf	--					Dark grey black, stiff, Silty CLAY with nodules and concretions. MARINE SILT-CLAY Changing at 65.3 ft to: V18: 35.5 / 7 ft-lbs (55 mm x 110 mm vane raw torque readings) Unable to push vane deeper than 65.0 ft.	
	MV							-50.9		65.3 15D: Grey, fine SAND, trace to little silt. MARINE SANDS AND SILT	
70	16D	24/14	69.0 - 71.0	8-11-16-13	27	38				Dark grey, medium dense, tight, fine to medium SAND, trace to little silt. MARINE SANDS AND SILT	
75	17D	24/13	74.0 - 76.0	7-13-21-14	34	48				Dark grey, dense, tight, fine to medium SAND, trace to little silt. MARINE SANDS AND SILT	

Remarks:

NEBC ATV Rig 23 automatic hammer calibrated on 7/8/2019.

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.

Page 1 of 2

Boring No.: BB-PVS-304

Maine Department of Transportation

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: Bridge #5933
I-295 over Veranda Street
Location: Portland, ME

Boring No.: BB-PVS-304
WIN: 21745.00

Driller:	New England Boring Contractors	Elevation (ft.)	14.4	Auger ID/OD:	SSA (--/4.5")
Operator:	Enos/Maynard	Datum:	NAVD88	Sampler:	standard split-spoon
Logged By:	Schonewald	Rig Type:	Mobile Drill B-53 (NEBC ATV Rig 23)	Hammer Wt./Fall:	140 lbs / 30 inches
Date Start/Finish:	7/11/19; 1015- 7/16/19; 1405	Drilling Method:	cased wash boring	Core Barrel:	NQ2
Boring Location:	N 310852, E 1016768	Casing ID/OD:	HW (4/4.5") NW (3/3.5")	Water Level*:	5.5 ft (open)
Hammer Efficiency Factor: 0.842		Hammer Type:	Automatic ☒ Hydraulic ☐ Rope & Cathead ☐		

Definitions:
D = Split Spoon Sample
MD = Unsuccessful Split Spoon Sample Attempt
U = Thin Wall Tube Sample
MU = Unsuccessful Thin Wall Tube Sample Attempt
V = Field Vane Shear Test, PP = Pocket Penetrometer
MV = Unsuccessful Field Vane Shear Test Attempt
R = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
WOH = Weight of 140lb. Hammer
WOR/C = Weight of Rods or Casing
WO1P = Weight of One Person
S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf)
$S_{u(lab)}$ = Lab Vane Undrained Shear Strength (psf)
q_p = Unconfined Compressive Strength (ksf)
N-uncorrected = Raw Field SPT N-value
Hammer Efficiency Factor = Rig Specific Annual Calibration Value
N_{60} = SPT N-uncorrected Corrected for Hammer Efficiency
N_{60} = (Hammer Efficiency Factor/60%)*N-uncorrected
T_v = Pocket Torvane Shear Strength (psf)
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./Rec. (in.)	Sample Depth (ft.)	Blows (/6 in. Shear Strength (psf) or RQD (%)	N-uncorrected	N60	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class
75											
80	18D	24/9	79.0 - 81.0	15-15-14-19	29	41				Dark grey, medium dense, tight, fine to medium SAND, trace to little silt. MARINE SANDS AND SILT Changing at 80.5 ft to:	
								-66.1		80.5 18D: Brown, fine to coarse SAND, some fine gravel, little silt. MARINE SAND	
85	19D	24/14	84.0 - 86.0	17-61-41-26	102	143				Brown, fine to coarse SAND, some fine gravel, little silt. MARINE SAND Changing at 85 ft to:	
								-70.6		85.0 19D: Brown tan, Gravelly fine to coarse SAND, some silt. TILL	
90	20D	24/10	89.0 - 91.0	16-13-23-16	36	51				Grey, dense, fine to coarse SAND, some gravel, some silt. TILL	
							NW RC			92.9 ft: Roller cone refusal; flush borehole; set NW casing. 94.0 ft: NW refusal; wash out; attempt core run. 95.5 ft: Pop through boulder; continue test boring.	
100	21D	24/15	99.0 - 101.0	23-27-24-22	51	72				Grey, very dense, fine to coarse SAND, some fine gravel, some silt. TILL	
105	22D	24/22	104.0 - 106.0	62-34-44-54	78	109				Grey, very dense, fine to coarse SAND, some fine gravel, some silt. TILL	
115	23D	24/16	114.0 - 116.0	69-92-86-106	178	250				Grey, very dense, tight, Silty fine to medium SAND, trace to little fine gravel, trace coarse sand with one 4-inch layer fine to coarse sandy gravel, some silt. TILL	
120								-105.8		119.8 ft: Weathered rock based on drilling behavior and wash water. 120.2 Top of Bedrock at Elev. -105.8 ft. 120.2 ft: Grinding on hard layer. Slowly advance roller cone to refusal at 123.2 ft.	
	R1	60/60	123.2 - 128.2	RQD: 39" = 65%			NQ2			R1: Bedrock: Grey, aphanitic to fine grained, PHYLLITE with moderately dipping remnant bedding, calcsilicate veins, and healed cracks (cross bedding); hard, typically fresh. Moderately dipping, close to moderately spaced breaks; undulating, rough, typically fresh, and open with occasional infilling (sand, mud); somewhat shiny. (ELIOT FORMATION) Core times: 7:45/ 5:05/ 5:10/ 5:20/ 5:15 min:sec/ft. ROCK QUALITY = FAIR	
								-113.8		128.2 Bottom of Exploration at 128.2 feet below ground surface.	
150											

Remarks:

NEBC ATV Rig 23 automatic hammer calibrated on 7/8/2019.

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.

Page 2 of 2

Boring No.: BB-PVS-304

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

BRIDGE NO.5933
WIN 021745.00
BRIDGE PLANS

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	EDD	CDH	2\20
CHECKED-REVIEWED	RWH	LZD	2\20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

BORING LOGS 5

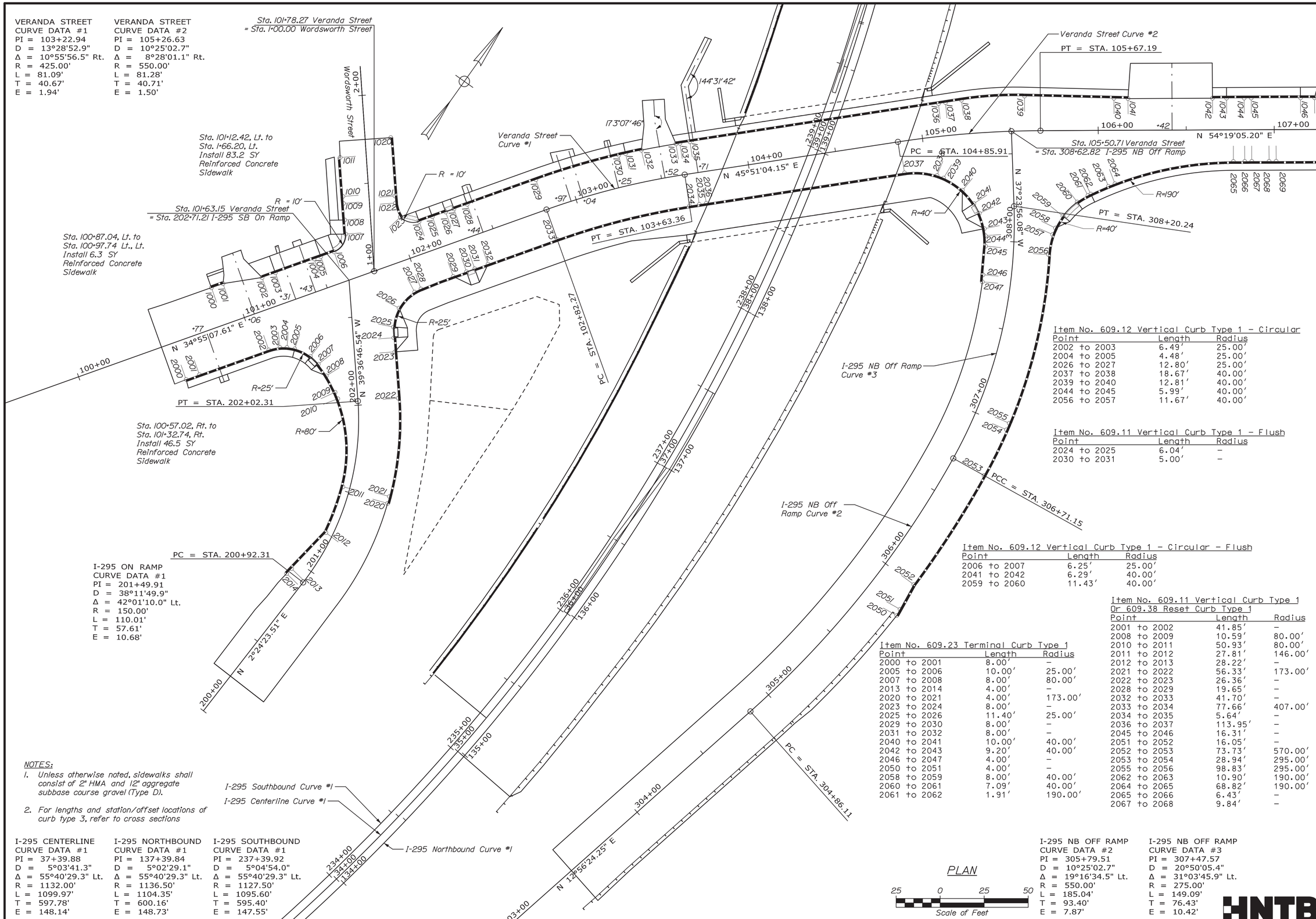
SHEET NUMBER

23

OF 220

VERANDA STREET
CURVE DATA #1
PI = 103+22.94
D = 13°28'52.9"
Δ = 10°55'56.5" Rt.
R = 425.00'
L = 81.09'
T = 40.67'
E = 1.94'

VERANDA STREET
CURVE DATA #2
PI = 105+26.63
D = 10°25'02.7"
Δ = 8°28'01.1" Rt.
R = 550.00'
L = 81.28'
T = 40.71'
E = 1.50'



Item No. 609.12 Vertical Curb Type 1 - Circular

Point	Length	Radius
2002 to 2003	6.49'	25.00'
2004 to 2005	4.48'	25.00'
2026 to 2027	12.80'	25.00'
2037 to 2038	18.67'	40.00'
2039 to 2040	12.81'	40.00'
2044 to 2045	5.99'	40.00'
2056 to 2057	11.67'	40.00'

Item No. 609.11 Vertical Curb Type 1 - Flush

Point	Length	Radius
2024 to 2025	6.04'	-
2030 to 2031	5.00'	-

Item No. 609.12 Vertical Curb Type 1 - Circular - Flush

Point	Length	Radius
2006 to 2007	6.25'	25.00'
2041 to 2042	6.29'	40.00'
2059 to 2060	11.43'	40.00'

Item No. 609.23 Terminal Curb Type 1

Point	Length	Radius
2000 to 2001	8.00'	-
2005 to 2006	10.00'	25.00'
2007 to 2008	8.00'	80.00'
2013 to 2014	4.00'	-
2020 to 2021	4.00'	173.00'
2023 to 2024	8.00'	-
2025 to 2026	11.40'	25.00'
2029 to 2030	8.00'	-
2031 to 2032	8.00'	-
2040 to 2041	10.00'	40.00'
2042 to 2043	9.20'	40.00'
2046 to 2047	4.00'	-
2050 to 2051	4.00'	-
2058 to 2059	8.00'	40.00'
2060 to 2061	7.09'	40.00'
2061 to 2062	1.91'	190.00'

Item No. 609.11 Vertical Curb Type 1
Or 609.38 Reset Curb Type 1

Point	Length	Radius
2001 to 2002	41.85'	-
2008 to 2009	10.59'	80.00'
2010 to 2011	50.93'	80.00'
2011 to 2012	27.81'	146.00'
2012 to 2013	28.22'	-
2021 to 2022	56.33'	173.00'
2022 to 2023	26.36'	-
2028 to 2029	19.65'	-
2032 to 2033	41.70'	-
2033 to 2034	77.66'	407.00'
2034 to 2035	5.64'	-
2036 to 2037	113.95'	-
2045 to 2046	16.31'	-
2051 to 2052	16.05'	-
2052 to 2053	73.73'	570.00'
2053 to 2054	28.94'	295.00'
2055 to 2056	98.83'	295.00'
2062 to 2063	10.90'	190.00'
2064 to 2065	68.82'	190.00'
2065 to 2066	6.43'	-
2067 to 2068	9.84'	-

NOTES:

1. Unless otherwise noted, sidewalks shall consist of 2" HMA and 12" aggregate subbase course gravel (Type D).
2. For lengths and station/offset locations of curb type 3, refer to cross sections

I-295 CENTERLINE
CURVE DATA #1
PI = 37+39.88
D = 5°03'41.3"
Δ = 55°40'29.3" Lt.
R = 1132.00'
L = 1099.97'
T = 597.78'
E = 148.14'

I-295 NORTHBOUND
CURVE DATA #1
PI = 137+39.84
D = 5°02'29.1"
Δ = 55°40'29.3" Lt.
R = 1136.50'
L = 1104.35'
T = 600.16'
E = 148.73'

I-295 SOUTHBOUND
CURVE DATA #1
PI = 237+39.92
D = 5°04'54.0"
Δ = 55°40'29.3" Lt.
R = 1127.50'
L = 1095.60'
T = 595.40'
E = 147.55'

PLAN

25 0 25 50
Scale of Feet

I-295 NB OFF RAMP
CURVE DATA #2
PI = 305+79.51
D = 10°25'02.7"
Δ = 19°16'34.5" Lt.
R = 550.00'
L = 185.04'
T = 93.40'
E = 7.87'

I-295 NB OFF RAMP
CURVE DATA #3
PI = 307+47.57
D = 20°50'05.4"
Δ = 31°03'45.9" Lt.
R = 275.00'
L = 149.09'
T = 76.43'
E = 10.42'

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN
021745.00

BRIDGE PLANS

BRIDGE NO.5933

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EDD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

GEOMETRIC &
CURBING PLAN 1

SHEET NUMBER
24
OF 220

Filename: 024_Geometric Plan_01.dgn Division: Username: Date:3/3/2020

I-295 CENTERLINE CURVE DATA #1	I-295 NORTHBOUND CURVE DATA #1	I-295 SOUTHBOUND CURVE DATA #1
PI = 37+39.88	PI = 137+39.84	PI = 237+39.92
D = 5°03'41.3"	D = 5°02'29.1"	D = 5°04'54.0"
Δ = 55°40'29.3" Lt.	Δ = 55°40'29.3" Lt.	Δ = 55°40'29.3" Lt.
R = 1132.00'	R = 1136.50'	R = 1127.50'
L = 1099.97'	L = 1104.35'	L = 1095.60'
T = 597.78'	T = 600.16'	T = 595.40'
E = 148.14'	E = 148.73'	E = 147.55'

I-295 CENTERLINE CURVE DATA #2	I-295 NORTHBOUND CURVE DATA #2	I-295 SOUTHBOUND CURVE DATA #2
PI = 43+63.96	PI = 143+66.24	PI = 243+61.68
D = 3°23'25.0"	D = 3°22'52.6"	D = 3°23'57.6"
Δ = 8°15'00.0" Lt.	Δ = 8°15'00.0" Lt.	Δ = 8°15'00.0" Lt.
R = 1690.00'	R = 1694.50'	R = 1685.50'
L = 243.34'	L = 243.99'	L = 242.69'
T = 121.88'	T = 122.21'	T = 121.56'
E = 4.39'	E = 4.40'	E = 4.38'

Item No. 609.11 Vertical Curb Type 1 Or 609.38 Reset Curb Type 1

Point	Length	Radius
1003 to 1004	23.39'	-
1008 to 1009	9.43'	-
1010 to 1011	22.16'	-
1020 to 1021	33.24'	-
1028 to 1029	41.44'	-
1029 to 1030	49.09'	443.00'
1035 to 1036	142.86'	-
1037 to 1038	9.15'	-
1038 to 1039	36.00'	203.45'
1039 to 1040	50.78'	-
1043 to 1044	10.00'	-
1045 to 1046	28.00'	-

Item No. 609.12 Vertical Curb Type 1 - Circular - Flush

Point	Length	Radius
1006 to 1007	12.96'	10.00'
1023 to 1024	11.55'	10.00'

Item No. 609.11 Vertical Curb Type 1 - Flush

Point	Length	Radius
1026 to 1027	5.00'	-

Item No. 609.23 Terminal Curb Type 1

Point	Length	Radius
1000 to 1001	7.00'	-
1002 to 1003	8.00'	-
1005 to 1006	8.00'	-
1007 to 1008	8.00'	-
1022 to 1023	8.43'	16.00'
1024 to 1025	8.00'	-
1025 to 1026	8.00'	-
1027 to 1028	8.00'	-
1031 to 1032	9.20'	443.00'
1033 to 1034	2.24'	443.00'
1034 to 1035	5.76'	-
1040 to 1041	8.00'	-
1042 to 1043	8.00'	-
1046 to 1047	8.00'	-

PLAN

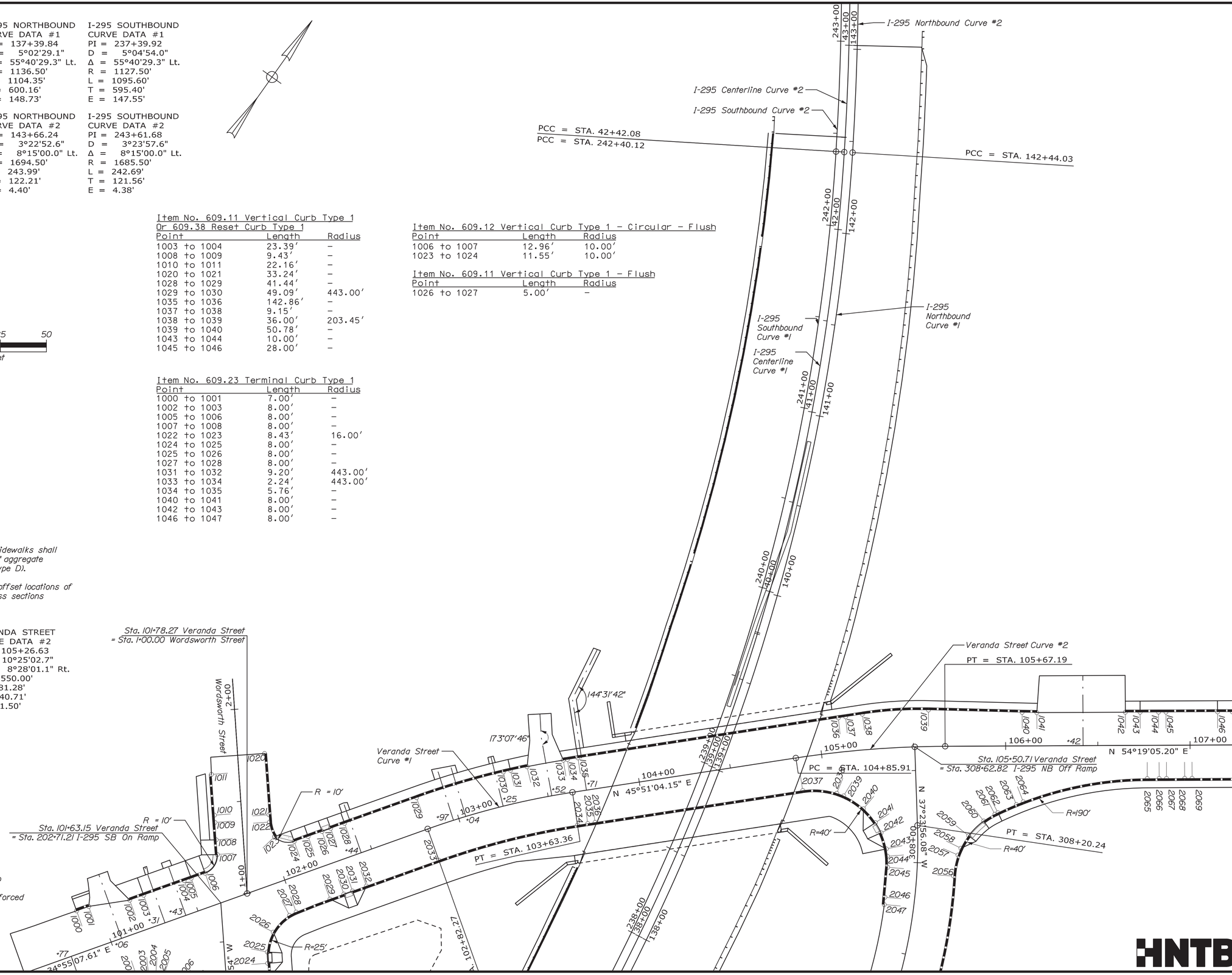
25 0 25 50

Scale of Feet

NOTES:

1. Unless otherwise noted, sidewalks shall consist of 2" HMA and 12" aggregate subbase course gravel (Type D).
2. For lengths and station/offset locations of curb type 3, refer to cross sections

VERANDA STREET CURVE DATA #1	VERANDA STREET CURVE DATA #2
PI = 103+22.94	PI = 105+26.63
D = 13°28'52.9"	D = 10°25'02.7"
Δ = 10°55'56.5" Rt.	Δ = 8°28'01.1" Rt.
R = 425.00'	R = 550.00'
L = 81.09'	L = 81.28'
T = 40.67'	T = 40.71'
E = 1.94'	E = 1.50'



HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	EDD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

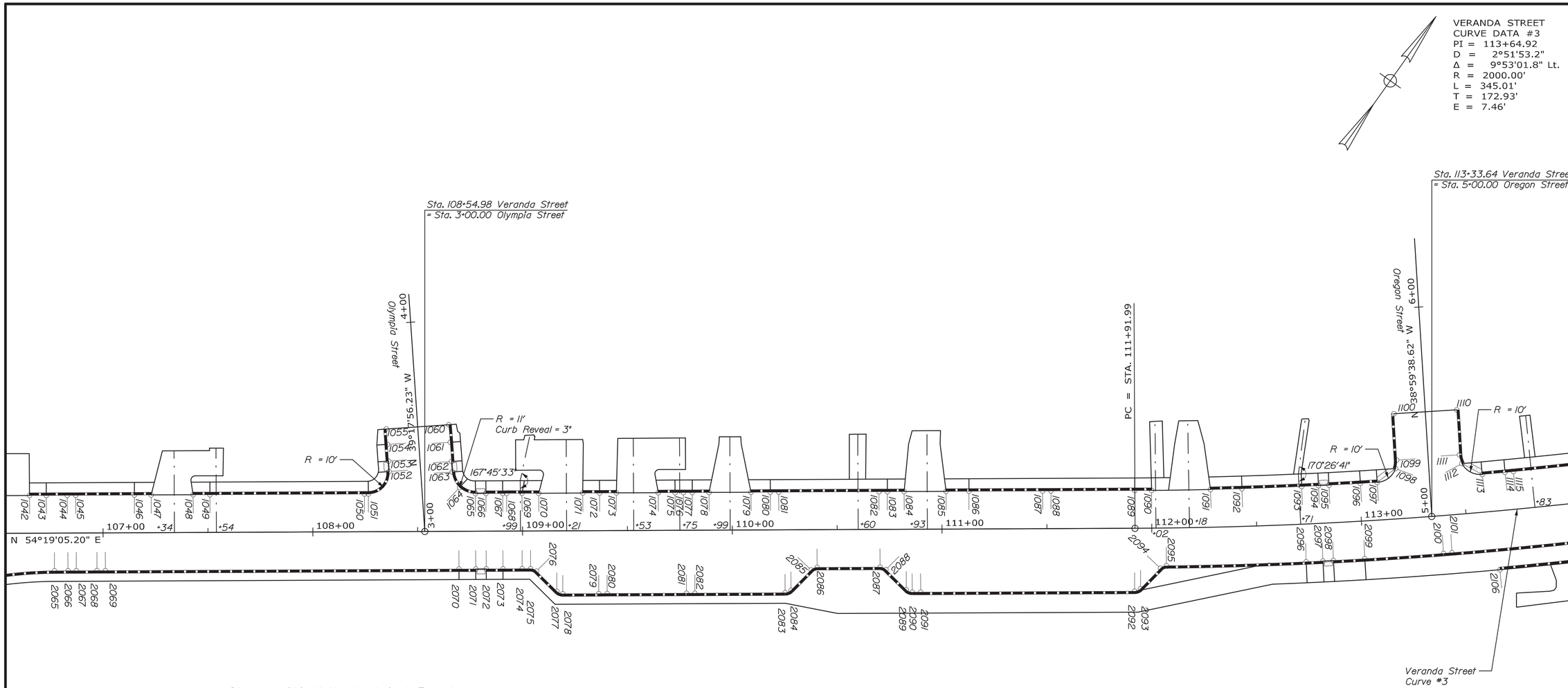
GEOMETRIC & CURBING PLAN 2

SHEET NUMBER

25

OF 220

Filename: 025_Geometric Plan_02.dgn Division: Username: Date:3/3/2020



Item No. 609.11 Vertical Curb Type 1
Or 609.38 Reset Curb Type 1

Point	Length	Radius
1049 to 1050	73.67′	–
1054 to 1055	7.36′	–
1060 to 1061	8.39′	–
1068 to 1069	7.30′	–
1076 to 1077	4.22′	–
1081 to 1082	47.80′	–
1086 to 1087	35.10′	–
1088 to 1089	39.99′	–
1092 to 1093	28.53′	1982.00′
1099 to 1100	22.16′	–
1110 to 1111	21.51′	–
2069 to 2070	168.60′	–
2073 to 2074	9.13′	–
2076 to 2077	13.66′	–
2078 to 2079	17.15′	–
2080 to 2081	37.84′	–
2082 to 2083	43.01′	–
2084 to 2085	13.66′	–
2086 to 2087	30.00′	–
2088 to 2089	13.66′	–
2091 to 2092	102.04′	–
2093 to 2094	13.58′	–
2095 to 2096	66.65′	2018.00′
2099 to 2100	37.65′	2018.00′

Item No. 609.23 Terminal Curb Type 1

Point	Length	Radius
1048 to 1049	8.00′	–
1051 to 1052	16.34′	10.00′
1053 to 1054	8.00′	–
1061 to 1062	9.20′	–
1063 to 1064	8.29′	11.00′
1064 to 1065	8.29′	11.00′
1066 to 1067	8.00′	–
1069 to 1070	8.00′	–
1071 to 1072	8.00′	–
1072 to 1073	8.00′	–
1074 to 1075	8.00′	–
1077 to 1078	8.00′	–
1079 to 1080	9.20′	–
1083 to 1084	8.00′	–
1085 to 1086	10.90′	–
1089 to 1090	8.01′	1982.00′
1091 to 1092	15.00′	1982.00′
1093 to 1094	8.00′	1982.00′
1095 to 1096	15.00′	1982.00′
1096 to 1097	8.00′	1982.00′
1098 to 1099	4.10′	10.00′
1111 to 1112	4.35′	10.00′
1113 to 1114	10.90′	1982.00′
2070 to 2071	8.00′	–
2072 to 2073	8.00′	–
2096 to 2097	8.00′	2018.00′
2098 to 2099	15.00′	2018.00′

Item No. 609.12 Vertical Curb Type 1 – Circular

Point	Length	Radius
2075 to 2076	3.14′	4.00′
2077 to 2078	3.14′	4.00′
2083 to 2084	3.14′	4.00′
2085 to 2086	3.14′	4.00′
2087 to 2088	3.14′	4.00′
2089 to 2090	3.14′	4.00′
2092 to 2093	3.17′	4.00′
2094 to 2095	3.14′	4.00′

Item No. 609.12 Vertical Curb Type 1 – Circular – Flush

Point	Length	Radius
1097 to 1098	11.62′	10.00′
1112 to 1113	11.62′	10.00′

Item No. 609.11 Vertical Curb Type 1 – Flush

Point	Length	Radius
1052 to 1053	5.00′	–
1062 to 1063	5.00′	–
1065 to 1066	5.00′	–
1094 to 1095	5.00′	1982.00′
2071 to 2072	5.00′	–
2097 to 2098	5.00′	2018.00′

NOTE:
1. Unless otherwise noted, sidewalks shall consist of 2" HMA and 12" aggregate subbase course gravel (Type D).

PLAN

25 0 25 50
Scale of Feet

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON	DATE	BY
DESIGN-DETAILED	EDD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

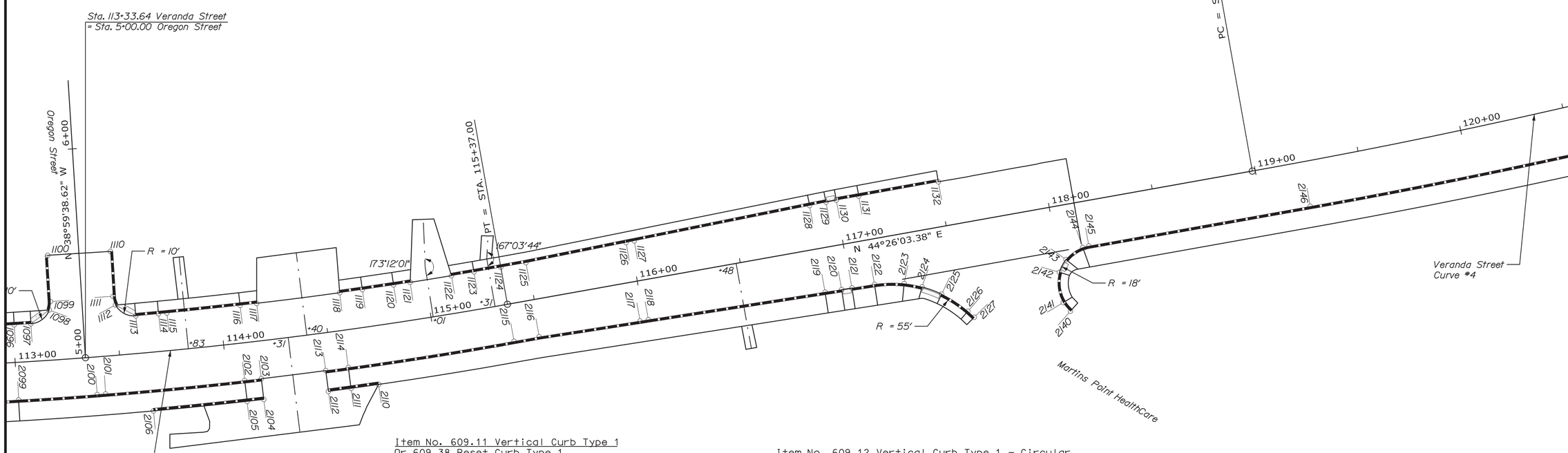
GEOMETRIC &
CURBING PLAN 3

SHEET NUMBER
26
OF 220

Date:3/3/2020
Username:
Division:
Filename: 026_Geometric Plan_03.dgn

VERANDA STREET
CURVE DATA #3
PI = 113+64.92
D = 2°51'53.2"
Δ = 9°53'01.8" Lt.
R = 2000.00'
L = 345.01'
T = 172.93'
E = 7.46'

VERANDA STREET
CURVE DATA #4
PI = 120+02.10
D = 1°47'25.8"
Δ = 3°42'20.6" Lt.
R = 3200.00'
L = 206.97'
T = 103.52'
E = 1.67'



Item No. 609.11 Vertical Curb Type 1
Or 609.38 Reset Curb Type 1

Point	Length	Radius
1115 to 1116	35.20'	1982.00'
1119 to 1120	15.10'	1982.00'
1123 to 1124	13.03'	1982.00'
1124 to 1125	12.19'	-
1125 to 1126	48.80'	-
1127 to 1128	85.48'	-
1131 to 1132	38.66'	-
2101 to 2102	66.81'	2018.00'
2106 to 2105	45.00'	2028.00'
2111 to 2110	13.31'	2028.00'
2114 to 2115	80.19'	2018.00'
2115 to 2116	12.19'	-
2116 to 2117	48.80'	-
2118 to 2119	85.48'	-
2145 to 2146	107.50'	-
2146 to 2147	206.17'	3187.75'

Item No. 609.12 Vertical Curb Type 1 - Circular - Flush

Point	Length	Radius
2124 to 2125	10.00'	55.00'
2142 to 2143	6.92'	18.00'

Item No. 609.11 Vertical Curb Type 1 - Flush

Point	Length	Radius
1129 to 1130	5.00'	-
2120 to 2121	5.00'	-

Item No. 609.12 Vertical Curb Type 1 - Circular

Point	Length	Radius
2122 to 2123	14.22'	55.00'
2126 to 2127	4.17'	55.00'
2140 to 2141	5.39'	18.00'
2144 to 2145	3.00'	18.00'

Item No. 609.23 Terminal Curb Type 1

Point	Length	Radius
1116 to 1117	8.00'	1982.00'
1118 to 1119	10.90'	1982.00'
1120 to 1121	8.00'	1982.00'
1122 to 1123	10.90'	1982.00'
1128 to 1129	8.00'	-
1130 to 1131	10.90'	-
2102 to 2103	8.00'	2018.00'
2104 to 2105	8.00'	2028.00'
2111 to 2112	10.90'	2028.00'
2113 to 2114	10.90'	2018.00'
2119 to 2120	8.00'	-
2121 to 2122	10.90'	-
2123 to 2124	8.68'	55.00'
2125 to 2126	15.00'	55.00'
2141 to 2142	15.00'	18.00'
2143 to 2144	9.98'	18.00'

NOTE:
1. Unless otherwise noted, sidewalks shall consist of 2" HMA and 12" aggregate subbase course gravel (Type D).

PLAN

25 0 25 50
Scale of Feet

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	D. EATON	
DESIGN-DETAILED	EOD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

GEOMETRIC &
CURBING PLAN 4

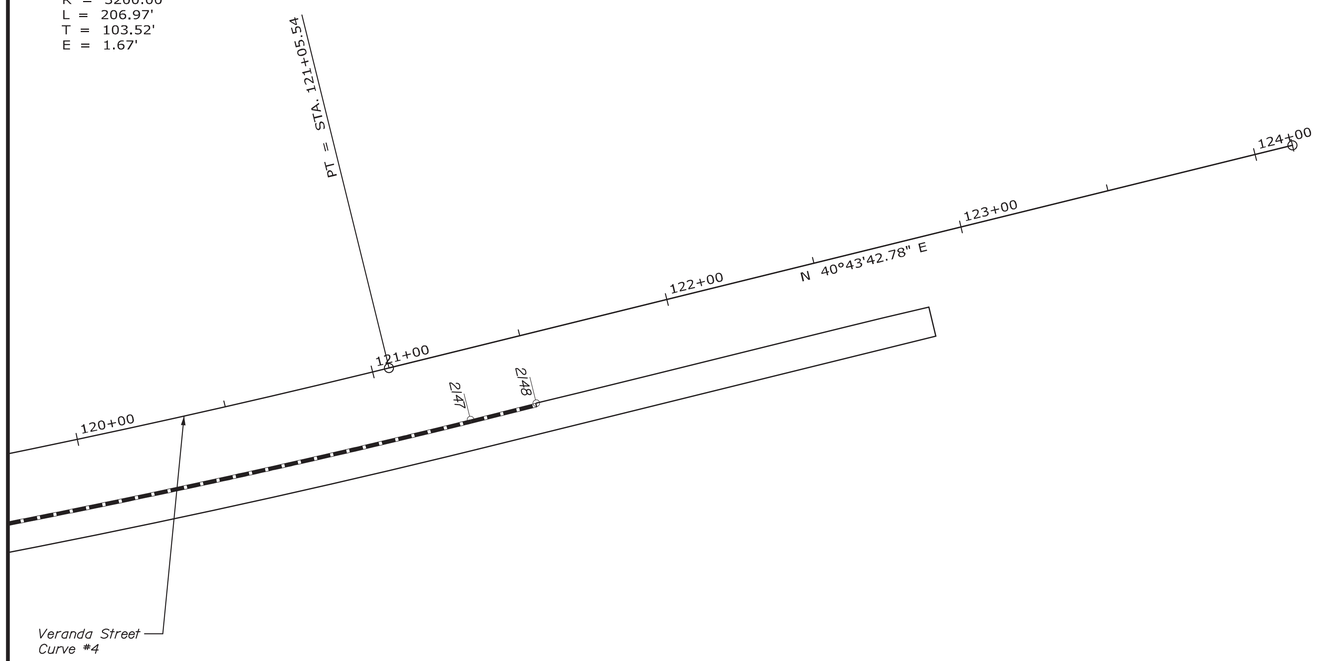
SHEET NUMBER
27
OF 220

Date:3/3/2020
Username:
Division:
Filename: 027_Geometric Plan_04.dgn

Item No. 609.11 Vertical Curb Type 1
Or 609.38 Reset Curb Type 1

Point	Length	Radius
2147 to 2148	22.39'	-

VERANDA STREET
CURVE DATA #4
PI = 120+02.10
D = 1°47'25.8"
Δ = 3°42'20.6" Lt.
R = 3200.00'
L = 206.97'
T = 103.52'
E = 1.67'



NOTE:
1. Unless otherwise noted, sidewalks shall consist of 2" HMA and 12" aggregate subbase course gravel (Type D).

PLAN

25 0 25 50
Scale of Feet

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EJD	BY	DATE
CHECKED-REVIEWED	RWH	CDH	2\20
DESIGN2-DETAILED2		LZD	2\20
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

GEOMETRIC &
CURBING PLAN 5

SHEET NUMBER
28
OF 220

Filename: 028_Geometric Plan_05.dgn Division: Username: Date:3/3/2020

CONTROL POINTS FOR CURBING - VERANDA ST.

POINT	STATION	OFFSET	X-COORD	Y-COORD
1000	100+88.04	22.26' LT.	1016485.180	310456.954
1001	100+95.04	22.26' LT.	1016489.188	310462.693
1002	101+17.13	18.00' LT.	1016505.322	310478.368
1003	101+25.13	18.00' LT.	1016509.901	310484.928
1004	101+48.52	18.00' LT.	1016523.292	310504.109
1005	101+52.52	18.00' LT.	1016525.581	310507.389
1006	101+60.52	18.00' LT.	1016530.161	310513.949
1007	101+70.15	25.29' LT.	1016529.696	310526.011
1008	101+72.28	33.00' LT.	1016524.593	310532.176
1009	101+74.80	42.09' LT.	1016518.580	310539.442
1010	101+75.86	45.94' LT.	1016516.034	310542.518
1011	101+81.77	67.29' LT.	1016501.906	310559.588
1020	102+12.67	68.23' LT.	1016518.826	310585.460
1021	102+03.83	36.19' LT.	1016540.040	310559.871
1022	102+02.77	32.33' LT.	1016542.592	310556.792
1023	102+02.72	24.00' LT.	1016549.397	310551.986
1024	102+11.83	18.00' LT.	1016559.529	310556.019
1025	102+19.83	18.00' LT.	1016564.109	310562.578
1026	102+27.83	18.00' LT.	1016568.688	310569.138
1027	102+32.83	18.00' LT.	1016571.550	310573.238
1028	102+40.83	18.00' LT.	1016576.129	310579.797
1029	102+82.27	18.00' LT.	1016599.849	310613.776
1030	103+29.36	18.00' LT.	1016630.118	310652.389
1031	103+33.19	18.00' LT.	1016632.755	310655.385
1032	103+42.03	18.00' LT.	1016638.971	310662.179
1033	103+61.21	18.00' LT.	1016652.931	310676.499
1034	103+63.36	18.00' LT.	1016654.533	310678.063
1035	103+69.12	18.00' LT.	1016658.667	310682.076
1036	105+11.14	18.60' LT.	1016761.176	310781.584
1037	105+15.00	18.80' LT.	1016764.046	310784.370
1038	105+23.83	19.35' LT.	1016770.613	310790.745
1039	105+58.56	19.79' LT.	1016798.526	310813.412
1040	106+09.00	18.23' LT.	1016840.617	310841.812
1041	106+17.00	18.00' LT.	1016847.248	310846.287
1042	106+65.00	18.00' LT.	1016886.237	310874.285
1043	106+73.00	18.00' LT.	1016892.735	310878.951
1044	106+83.00	18.00' LT.	1016900.858	310884.784
1045	106+87.00	18.00' LT.	1016904.107	310887.117
1046	107+15.00	18.00' LT.	1016926.850	310903.449
1047	107+23.00	18.00' LT.	1016933.348	310908.115
1048	107+43.00	18.00' LT.	1016949.594	310919.781
1049	107+51.00	18.00' LT.	1016956.092	310924.447
1050	108+24.67	18.00' LT.	1017015.935	310967.420
1051	108+26.55	18.00' LT.	1017017.462	310968.517
1052	108+36.54	28.63' LT.	1017019.372	310982.976
1053	108+36.22	33.62' LT.	1017016.205	310986.845
1054	108+35.72	41.60' LT.	1017011.138	310993.036
1055	108+35.25	48.95' LT.	1017006.474	310998.735
1060	108+65.03	50.84' LT.	1017029.565	311017.634
1061	108+65.72	42.48' LT.	1017035.001	311011.246
1062	108+66.30	33.30' LT.	1017040.828	311004.127
1063	108+66.62	28.31' LT.	1017043.995	311000.258
1064	108+70.07	20.98' LT.	1017051.070	310996.319
1065	108+77.60	18.00' LT.	1017058.923	310998.290
1066	108+82.60	18.00' LT.	1017062.985	311001.206
1067	108+90.60	18.00' LT.	1017069.483	311005.873
1068	108+92.48	18.00' LT.	1017071.012	311006.970
1069	108+99.78	18.00' LT.	1017076.942	311011.229
1070	109+07.78	18.00' LT.	1017083.441	311015.895
1071	109+28.78	18.00' LT.	1017100.498	311028.144
1072	109+36.78	18.00' LT.	1017106.996	311032.811
1073	109+44.78	18.00' LT.	1017113.494	311037.477
1074	109+64.78	18.00' LT.	1017129.740	311049.143
1075	109+72.78	18.00' LT.	1017136.238	311053.809
1076	109+76.78	18.00' LT.	1017139.487	311056.142
1077	109+81.00	18.00' LT.	1017142.914	311058.603
1078	109+89.00	18.00' LT.	1017149.412	311063.269
1079	110+09.00	18.00' LT.	1017165.657	311074.935
1080	110+18.20	18.00' LT.	1017173.130	311080.301
1081	110+22.20	18.00' LT.	1017176.379	311082.634
1082	110+70.00	18.00' LT.	1017215.206	311110.515
1083	110+74.00	18.00' LT.	1017218.455	311112.848
1084	110+82.00	18.00' LT.	1017224.953	311117.514
1085	111+02.00	18.00' LT.	1017241.198	311129.180
1086	111+48.00	18.00' LT.	1017278.562	311156.011
1087	111+12.90	18.00' LT.	1017250.052	311135.538
1088	111+52.00	18.00' LT.	1017281.811	311158.344
1089	111+91.99	18.00' LT.	1017314.291	311181.668
1090	112+00.07	18.00' LT.	1017320.791	311186.355
1091	112+28.40	18.00' LT.	1017343.413	311202.985
1092	112+43.54	18.00' LT.	1017355.402	311212.000
1093	112+72.33	18.00' LT.	1017378.011	311229.393
1094	112+80.40	18.00' LT.	1017384.307	311234.239
1095	112+85.44	18.00' LT.	1017388.231	311237.427
1096	113+00.58	18.00' LT.	1017399.958	311246.781
1097	113+08.65	18.00' LT.	1017406.183	311251.805
1098	113+17.94	24.00' LT.	1017409.519	311262.260
1099	113+18.79	27.98' LT.	1017407.651	311265.876
1100	113+18.98	50.14' LT.	1017393.751	311283.130

CONTROL POINTS FOR CURBING - VERANDA ST.

POINT	STATION	OFFSET	X-COORD	Y-COORD
1110	113+49.74	49.74' LT.	1017417.068	311302.008
1111	113+49.23	28.23' LT.	1017430.560	311285.257
1112	113+50.08	24.00' LT.	1017433.936	311282.567
1113	113+59.37	18.00' LT.	1017444.823	311283.942
1114	113+70.37	18.00' LT.	1017453.095	311291.041
1115	113+74.40	18.00' LT.	1017456.121	311293.657
1116	114+09.93	18.00' LT.	1017482.520	311316.945
1117	114+18.00	18.00' LT.	1017488.462	311322.302
1118	114+58.36	18.00' LT.	1017517.841	311349.446
1119	114+69.36	18.00' LT.	1017525.752	311356.945
1120	114+84.60	18.00' LT.	1017536.642	311367.405
1121	114+92.67	18.00' LT.	1017542.379	311372.981
1122	115+12.85	18.00' LT.	1017556.623	311387.020
1123	115+23.85	18.00' LT.	1017564.326	311394.732
1124	115+37.00	18.00' LT.	1017573.477	311404.004
1125	115+49.19	18.00' LT.	1017582.013	311412.710
1126	115+97.98	19.07' LT.	1017615.405	311448.301
1127	116+01.98	19.16' LT.	1017618.142	311451.218
1128	116+87.44	21.04' LT.	1017676.629	311513.558
1129	116+95.44	21.22' LT.	1017682.103	311519.392
1130	117+00.44	21.32' LT.	1017685.531	311523.032
1131	117+11.34	21.32' LT.	1017693.161	311530.817
1132	117+50.00	21.32' LT.	1017720.223	311558.426
2000	100+57.02	22.00' RT.	1016503.715	310406.187
2001	100+65.02	22.00' RT.	1016508.294	310412.747
2002	101+06.87	22.00' RT.	1016532.250	310447.062
2003	101+13.29	22.84' RT.	1016536.613	310451.847
2004	101+17.06	24.17' RT.	1016539.861	310454.174
2005	101+20.97	26.35' RT.	1016543.887	310456.129
2006	101+27.90	33.47' RT.	1016553.690	310457.734
2007	101+30.60	39.09' RT.	1016559.843	310456.731
2008	101+32.69	46.81' RT.	1016567.369	310454.026
2009	101+34.26	57.28' RT.	1016576.851	310449.320
2010	101+34.49	61.28' RT.	1016580.263	310447.220
2011	101+20.37	109.32' RT.	1016611.576	310408.146
2012	101+02.50	130.57' RT.	1016618.768	310381.328
2013	100+77.26	143.20' RT.	1016614.679	310353.406
2014	100+73.68	144.97' RT.	1016614.079	310349.451
2020	101+41.15	126.74' RT.	1016637.755	310415.211
2021	101+43.42	123.44' RT.	1016636.351	310418.961
2022	101+66.94	72.53' RT.	1016608.069	310467.391
2023	101+73.97	47.12' RT.	1016591.259	310487.701
2024	101+76.11	39.41' RT.	1016586.158	310493.864
2025	101+77.95	33.60' RT.	1016582.446	310498.706
2026	101+84.59	24.52' RT.	1016578.807	310509.346
2027	101+95.96	18.94' RT.	1016580.741	310521.861
2028	101+99.93	18.47' RT.	1016582.619	310525.388
2029	102+19.57	18.00' RT.	1016593.477	310541.756
2030	102+27.57	18.00' RT.	1016598.056	310548.316
2031	102+32.57	18.00' RT.	1016600.918	310552.415
2032	102+40.57	18.00' RT.	1016605.498	310558.975
2033	102+82.27	18.00' RT.	1016629.368	310593.169
2034	103+63.36	18.00' RT.	1016679.608	310652.232
2035	103+69.00	18.00' RT.	1016683.655	310656.160
2036	103+73.00	18.00' RT.	1016686.525	310658.946
2037	104+86.98	18.00' RT.	1016768.287	310738.315
2038	105+05.75	21.93' RT.	1016784.183	310747.788
2039	105+09.45	23.77' RT.	1016788.057	310748.786
2040	105+19.94	31.74' RT.	1016800.796	310749.343
2041	105+26.19	39.82' RT.	1016810.480	310746.958
2042	105+29.04	45.53' RT.	1016816.155	310744.251
2043	105+31.46	54.44' RT.	1016823.525	310738.777
2044	105+31.82	58.43' RT.	1016826.300	310735.898
2045	105+31.51	64.41' RT.	1016829.884	310731.105
2046	105+28.47	80.51' RT.	1016838.100	310717.010
2047	105+27.69	84.45' RT.	1016840.114	310713.554
2050	104+44.44	265.69' RT.	1016910.305	310530.978
2051	104+46.88	262.52' RT.	1016909.850	310534.953
2052	104+56.68	249.81' RT.	1016908.023	310550.901
2053	105+16.22	194.10' RT.	1016904.642	310624.504
2054	105+38.28	169.21' RT.	1016900.042	310653.070
2055	105+40.82	165.63' RT.	1016899.188	310656.975
2056	105+71.48	70.36' RT.	1016861.813	310747.962
2057	105+73.92	58.99' RT.	1016857.163	310758.619
2058	105+75.50	55.32' RT.	1016856.308	310762.525
2059	105+79.73	48.54' RT.	1016855.785	310770.495

CONTROL POINTS FOR CURBING - VERANDA ST.

POINT	STATION	OFFSET	X-COORD	Y-COORD
2060	105+87.90	40.61' RT.	1016857.794	310781.706
2061	105+93.97	36.97' RT.	1016860.606	310788.199
2062	105+95.70	36.15' RT.	1016861.528	310789.877
2063	106+05.69	31.78' RT.	1016867.097	310799.251
2064	106+09.41	30.33' RT.	1016869.274	310802.607
2065	106+76.74	18.00' RT.	1016916.767	310851.888
2066	106+83.16	18.00' RT.	1016921.987	310855.636
2067	106+87.16	18.00' RT.	1016925.236	310857.969
2068	106+97.00	18.00' RT.	1016933.228	310863.708
2069	107+01.00	18.00' RT.	1016936.477	310866.041
2070	108+69.60	18.00' RT.	1017073.423	310964.382
2071	108+77.60	18.00' RT.	1017079.922	310969.048
2072	108+82.60	18.00' RT.	1017083.983	310971.965
2073	108+90.60	18.00' RT.	1017090.481	310976.631
2074	108+99.73	18.00' RT.	1017097.900	310981.959
2075	109+03.73	18.00' RT.	1017101.149	310984.292
2076	109+06.56	19.17' RT.	1017104.130	310984.990
2077	109+16.22	28.83' RT.	1017117.607	310982.779
2078	109+19.05	30.00' RT.	1017120.588	310983.477
2079	109+36.20	30.00' RT.	1017134.522	310993.478
2080	109+40.20	30.00' RT.	1017137.771	310995.811
2081	109+78.03	30.00' RT.	1017168.503	311017.884
2082	109+82.03	30.00' RT.	1017171.752	311020.217
2083	110+25.05	30.00' RT.	1017206.688	311045.305
2084	110+27.87	28.83' RT.	1017208.302	311047.906
2085	110+37.53	19.17' RT.	1017210.513	311061.383
2086	110+40.36	18.00' RT.	1017212.128	311063.984
2087	110+70.36	18.00' RT.	1017236.496	311081.483
2088	110+73.19	19.17' RT.	1017239.476	311082.181
2089	110+82.84	28.83' RT.	1017252.953	311079.970
2090	110+85.67	30.00' RT.	1017255.934	311080.668
2091	110+89.67	30.00' RT.	1017259.183	311083.001
2092	111+91.71	30.00' RT.	1017342.064	311142.517
2093	111+94.52	28.81' RT.	1017343.682	311145.148
2094	112+03.97	19.17' RT.	1017345.781	311158.560
2095	112+06.77	18.00' RT.	1017347.376	311161.174
2096	112+72.83	18.00' RT.	1017400.567	311201.331
2097	112+80.76	18.00' RT.	1017406.862	311206.269
2098	112+85.71	18.00' RT.	1017410.786	311209.367
2099	113+00.58	18.00' RT.	1017422.512	311218.722
2100	113+37.89	18.00' RT.	1017451.632	311242.579
2101	113+41.85	18.00' RT.	1017454.700	311245.146
2102	114+08.07	18.00' RT.	1017505.180	311288.910
2103	114+16.00	18.00' RT.	1017511.127	311294.261
2104	114+16.00	28.00' RT.	1017517.831	311286.842
2105	114+08.11	28.00' RT.	1017511.884	311281.490
2106	113+63.73	28.00' RT.	1017478.046	311251.827
2110	114+70.60	28.00' RT.	1017558.396	311324.513
2111	114+57.47	28.00' RT.	1017548.739	311315.357
2112	114+46.72	28.00' RT.	1017540.785	311307.904
2113	114+46.72	18.00' RT.	1017533.968	311315.220
2114	114+57.53	18.00' RT.	1017541.922	311322.673
2115	115+37.00	18.00' RT.	1017599.183	311378.800
2116	115+49.19	18.00' RT.	1017607.719	311387.507
2117	115+97.98	19.07' RT.	1017642.644	311421.595
2118	116+01.98	19.16' RT.	1017645.506	311424.389
2119	116+87.44	21.04' RT.	1017706.679	311484.096
2120	116+95.44	21.22' RT.	1017712.404	311489.684
2121	117+00.44	21.33' RT.	1017715.982	311493.176
2122	117+11.34	21.57' RT.	1017723.782	311500.790
2123	117+25.35	23.70' RT.	1017735.119	311509.302
2124	117+33.47	26.75' RT.	1017742.981	311512.963
2125	117+42.09	31.79' RT.	1017752.615	311515.589
2126	117+52.96	42.06' RT.	1017767.558	311516.169
2127	117+55.45	45.40' RT.	1017771.684	311515.606
2140	118+01.25	50.64' RT.	1017807.490	311544.634
2141	117+98.59	45.98' RT.	1017802.296	311546.003
2142	117+99.29	31.42' RT.	1017792.400	311556.696
2143	118+03.50	25.98' RT.	1017791.456	311563.511
2144	118+12.40	21.75' RT.	1017794.663	311572.824
2145	118+15.38	21.50' RT.	1017796.576	311575.131
2146	119+22.71	21.59' RT.	1017871.833	311651.889
2147	121+27.61	23.00' RT.	1018011.313	311803.672
2148	121+50.00	22.90' RT.	1018025.843	311820.705

PLAN

25 0 25 50

Scale of Feet

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	EOD	CDH	2\20
CHECKED-REVIEWED	RWH	LZD	2\20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

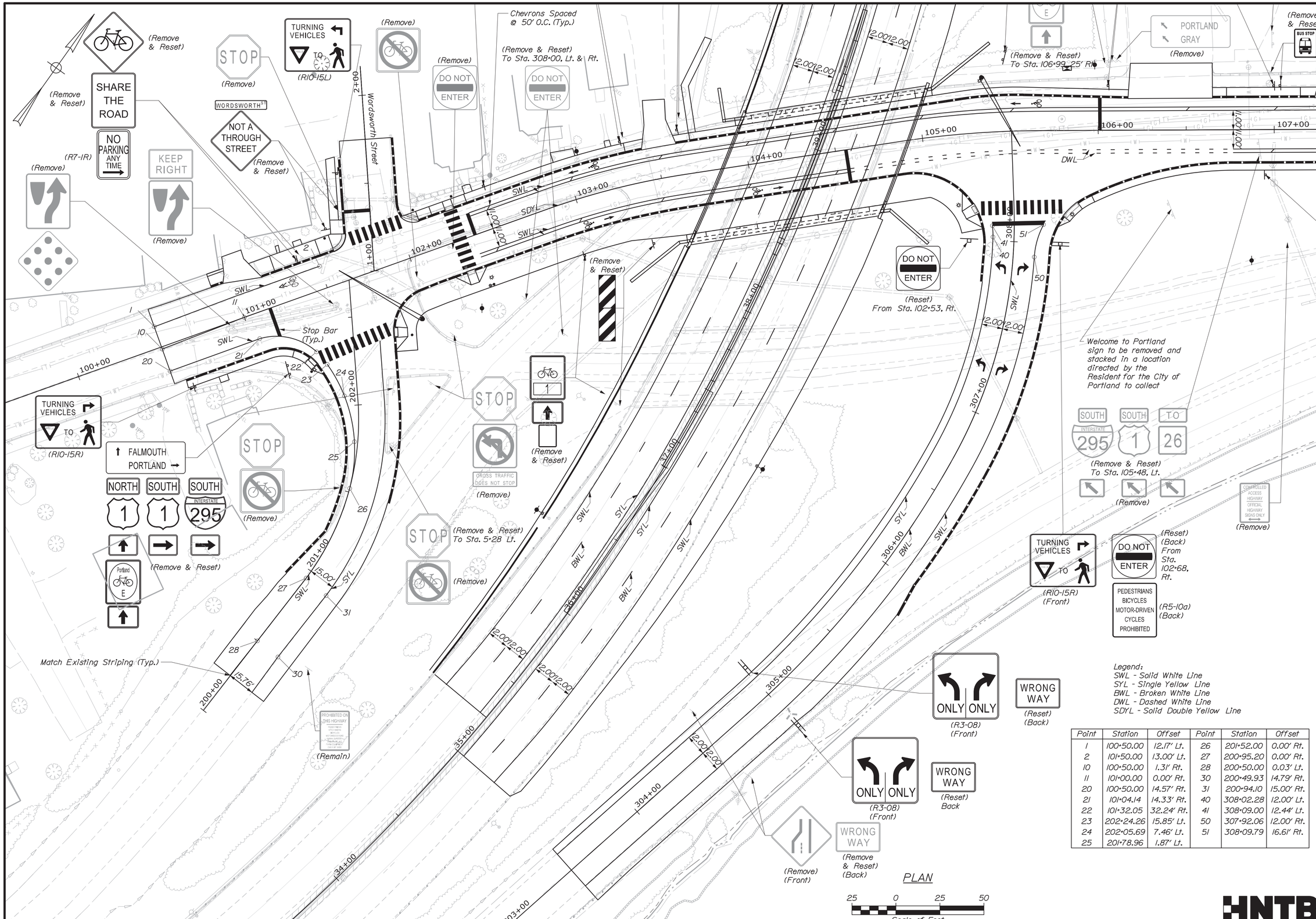
GEOMETRIC & CURBING PLAN 6

SHEET NUMBER

29

OF 220

Filename: 029_Geometric Plan_06.dgn Division: Username: Date:3/3/2020



Legend:
SWL - Solid White Line
SYL - Single Yellow Line
BWL - Broken White Line
DWL - Dashed White Line
SDYL - Solid Double Yellow Line

Point	Station	Offset	Point	Station	Offset
1	100+50.00	12.17' Lt.	26	201+52.00	0.00' Rt.
2	101+50.00	13.00' Lt.	27	200+95.20	0.00' Rt.
10	100+50.00	1.31' Rt.	28	200+50.00	0.03' Lt.
11	101+00.00	0.00' Rt.	30	200+49.93	14.79' Rt.
20	100+50.00	14.57' Rt.	31	200+94.10	15.00' Rt.
21	101+04.14	14.33' Rt.	40	308+02.28	12.00' Lt.
22	101+32.05	32.24' Rt.	41	308+09.00	12.44' Lt.
23	202+24.26	15.85' Lt.	50	307+92.06	12.00' Rt.
24	202+05.69	7.46' Lt.	51	308+09.79	16.61' Rt.
25	201+78.96	1.87' Lt.			

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	EDD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

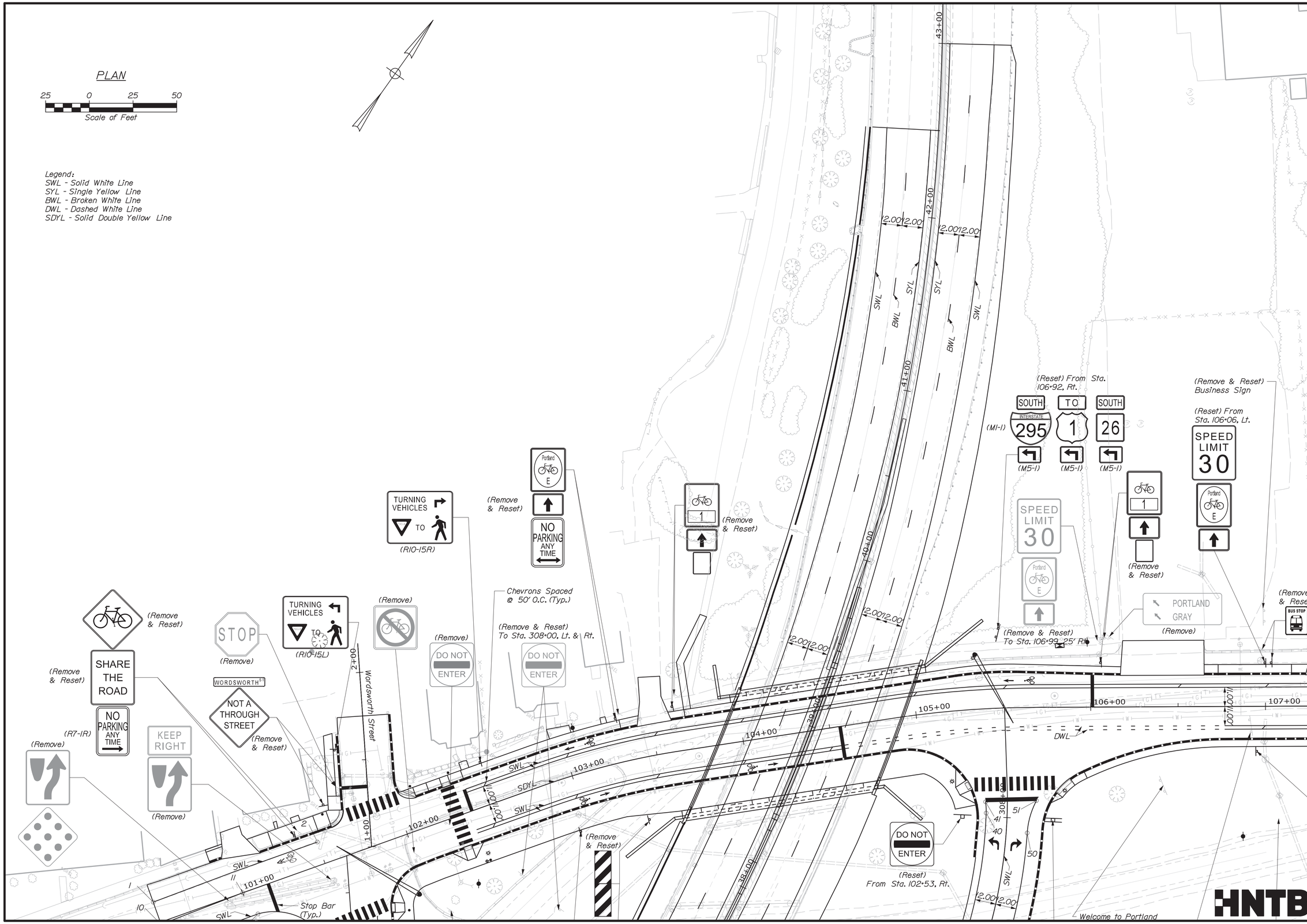
DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

SIGNING & STRIPING PLAN 1

SHEET NUMBER
30
OF 220

Filename: 030_Signing and Striping Plan_01.dgn Division: Username: Date:3/3/2020



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	EDD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER VERANDA STREET
CUMBERLAND COUNTY
PORTLAND

SIGNING & STRIPING PLAN 2

SHEET NUMBER
31
OF 220

Filename: 031_Signing and Striping Plan_02.dgn Division: Username: Date:3/3/2020

Legend:
SWL - Solid White Line
SYL - Single Yellow Line
BWL - Broken White Line
DWL - Dashed White Line
SDYL - Solid Double Yellow Line

(Remove & Reset) Business Sign

(Reset) From Sta. 106+06, Lt.

SPEED LIMIT 30

Portland E

OLYMPIA ST

STOP

(Remove & Reset)

JCT (Reset) From Sta. 108+80, Rt.

INTERSTATE 295

(Remove & Reset)

BUS STOP

Stop Bar (Typ.)

4+00

Olympia Street

(Remove)

CONTROLLED ACCESS HIGHWAY OFFICIAL HIGHWAY SIGNS ONLY

(Remove)

Chevrons Spaced @ 50' O.C. (Typ.)

(Remove)

Rectangular Rapid Flashing Beacon (Typ.)

OREGON ST (Remove & Reset)

STOP

(Remove Existing) (Reset) From Sta. 201+78 RT. (Front)

(Remove Existing) (R5-2) (Back)

6+00

Oregon Street

5+00

107+00 108+00 109+00 110+00 111+00 112+00 113+00

SWL DWL SDYL

100'

20.00'

20.00' 22.00' (Typ.)

SWL (Typ.)

STOP (Remove)

SPEED LIMIT 35 (R2-1)

CONTROLLED ACCESS HIGHWAY OFFICIAL HIGHWAY SIGNS ONLY (Remove)

1

(Remove & Reset)

CONTROLLED ACCESS HIGHWAY OFFICIAL HIGHWAY SIGNS ONLY (Remove)

ONE WAY (Remove)

STOP (Remove)

ONE WAY DO NOT ENTER (Remove)

JCT INTERSTATE 295 (Remove and Reset) To Sta. 107+65, Rt.

WII-2 & WI6-7p Mounted on Rectangular Rapid Flashing Beacon assembly.

ONE WAY (Remove)

DO NOT ENTER (Remove) (Back)

(Remove & Reset) (Front) Portland E

SINGLE LANE TRAFFIC

NO PARKING THIS SIDE OF STREET (Remove)

WII-2 & WI6-7p Mounted on Rectangular Rapid Flashing Beacon assembly.

Demount Pole

(Remove and Reset) (Front)

DO NOT ENTER (Remove) (Back)

CONTROLLED ACCESS HIGHWAY OFFICIAL HIGHWAY SIGNS ONLY (Remove)

PLAN

25 0 25 50
Scale of Feet

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EOD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

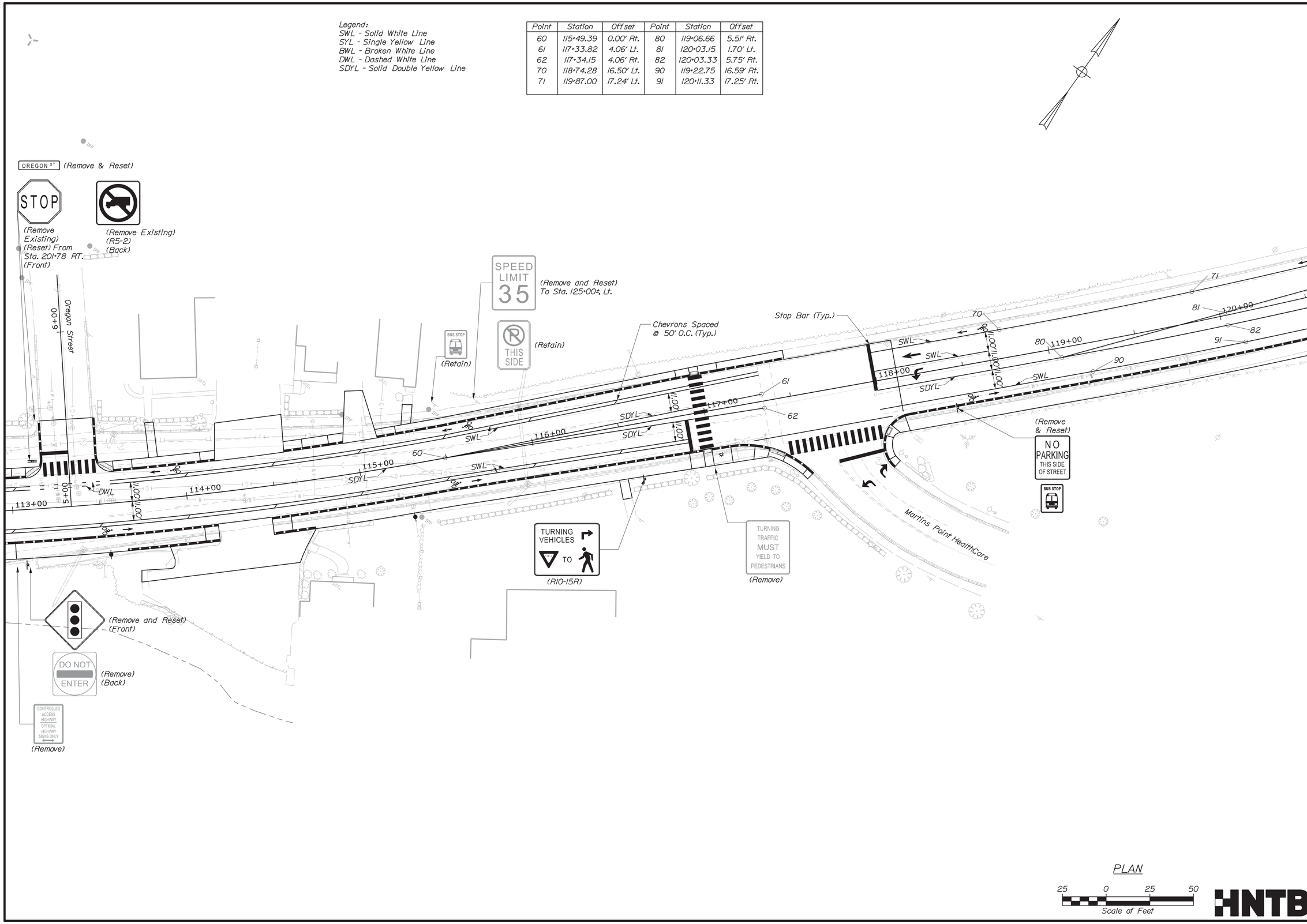
SIGNING & STRIPING PLAN 3

SHEET NUMBER
32
OF 220

Filename: 032_Signing and Striping Plan_03.dgn Division: Username: Date:3/3/2020

Legend:
SWL - Solid White Line
SYL - Single Yellow Line
BWL - Broken White Line
DWL - Dashed White Line
SDYL - Solid Double Yellow Line

Point	Station	Offset	Point	Station	Offset
60	115+49.39	0.00' Rt.	80	119+06.66	5.51' Rt.
61	117+33.82	4.06' Lt.	81	120+03.15	1.70' Lt.
62	117+34.15	4.06' Rt.	82	120+03.33	5.75' Rt.
70	118+74.28	16.50' Lt.	90	119+22.75	16.59' Rt.
71	119+87.00	17.24' Lt.	91	120+11.33	17.25' Rt.



PLAN

25 0 25 50
Scale of Feet

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EOD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

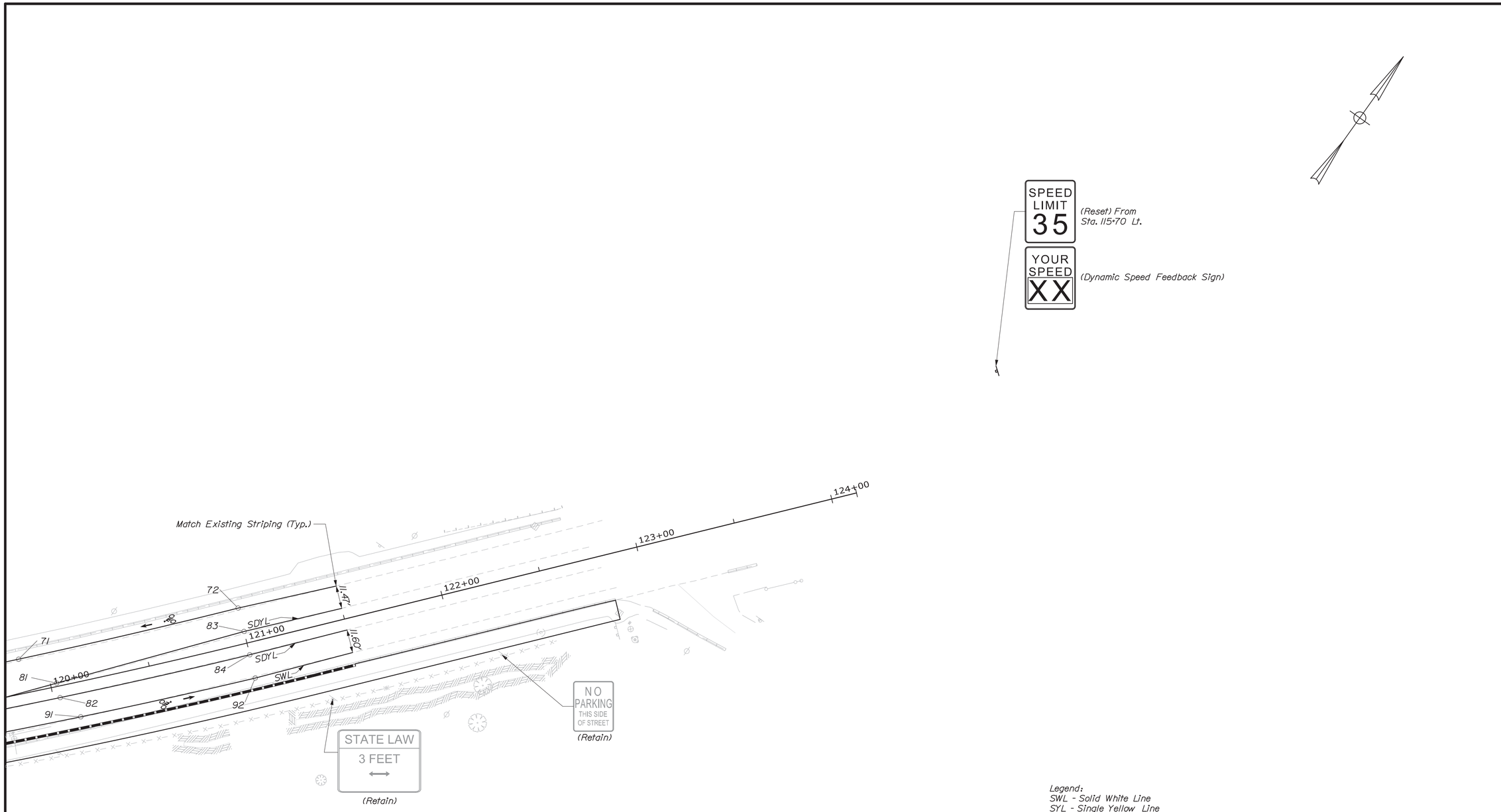
DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

SIGNING & STRIPING PLAN 4

SHEET NUMBER
33
OF 220

Date:3/3/2020
Username:
Division:
Filename: 033_Signing and Striping Plan_04.dgn



Legend:
SWL - Solid White Line
SYL - Single Yellow Line
BWL - Broken White Line
DWL - Dashed White Line
SDYL - Solid Double Yellow Line

Point	Station	Offset
72	120+99.90	18.04' Lt.
83	121+00.00	6.00 Lt.
84	121+00.00	5.98' Rt.
92	120+99.90	17.88' Rt.

PLAN

25 0 25 50
Scale of Feet

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933 BRIDGE PLANS

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	EDD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS: 1			
REVISIONS: 2			
REVISIONS: 3			
REVISIONS: 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

SIGNING & STRIPING PLAN 5

SHEET NUMBER
34
OF 220

Filename: 034_Signing and Striping Plan_05.dgn Division: Username: Date:3/3/2020

PROPOSED SIGN SUMMARY

ITEM NUMBER	IDENTIFI-CATION NUMBER	SIZE OF SIGN		TEXT	TEXT DIMENSIONS (INCHES)				NUMBER OF SIGNS REQUIRED	COLOR		TOTAL AREA IN SQUARE FEET	POST
		WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR.			BACK-GROUND	LEGEND BORDER		
645.292	R2-1	24"	30"		TEXT DIMENSIONS SHALL CONFORM TO "STANDARD HIGHWAY SIGNS"				1	COLORS SHALL CONFORM TO "STANDARD HIGHWAY SIGNS"		5.00 (5.00)	METAL POST
645.292	R3-8	30"	30"						2			6.25 (12.50)	WOOD POST
645.292	R5-2	24"	24"						1			4.00 (4.00)	METAL POST
645.292	R5-10a	30"	36"						1			7.50 (7.50)	WOOD POST
645.292	R7-1R	12"	18"						1			1.50 (1.50)	METAL POST
645.292	R10-3eL	9"	15"						6			0.94 (6.56)	MOUNT ABOVE APS PUSH BUTTON
645.292	R10-3eR	9"	15"						6			0.94 (6.56)	MOUNT ABOVE APS PUSH BUTTON
645.292	R10-15L	30"	30"						1			6.25 (6.25)	METAL POST
645.292	R10-15R	30"	30"						4			6.25 (25.00)	WOOD POST
645.292	M1-1	30"	24"						1			5.00 (5.00)	WOOD POST
645.292	M5-1	21"	15"						3			2.19 (6.56)	WOOD POST
643.62	W11-2	30"	30"						4			6.25 (25.00)	RRFB ASSEMBLY
643.62	W16-7p	24"	12"						4			2.00 (8.00)	RRFB ASSEMBLY
643.77	-	24"	30"						1			5.00 (5.00)	WOOD POST

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EDD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

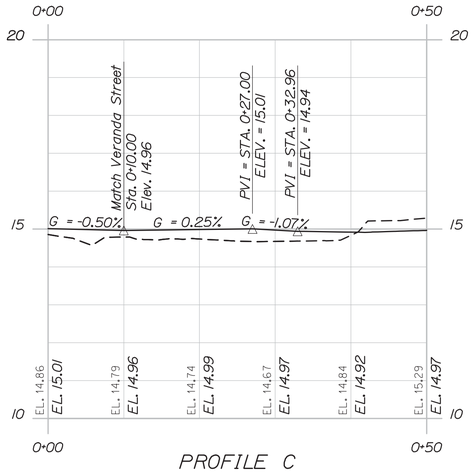
SIGN SUMMARY

SHEET NUMBER

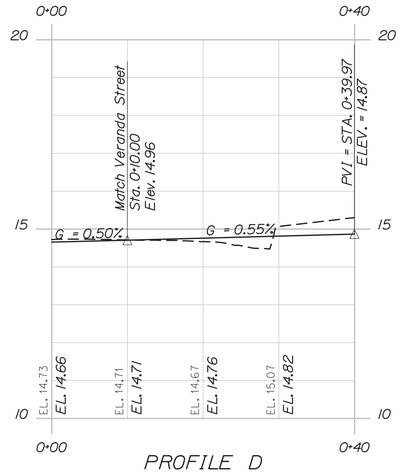
35

OF 220

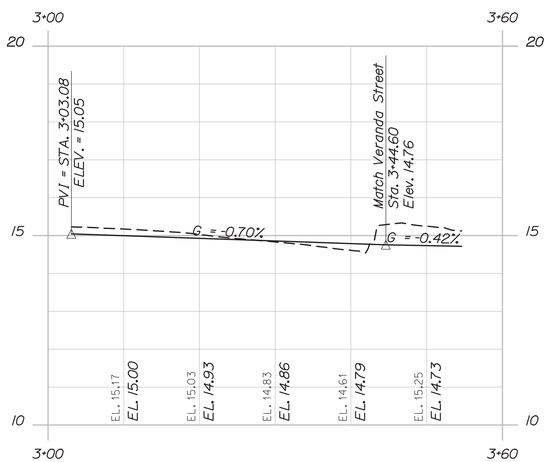
Filename: 035_Signing_Summary.dgn Division: Username: Date:3/3/2020



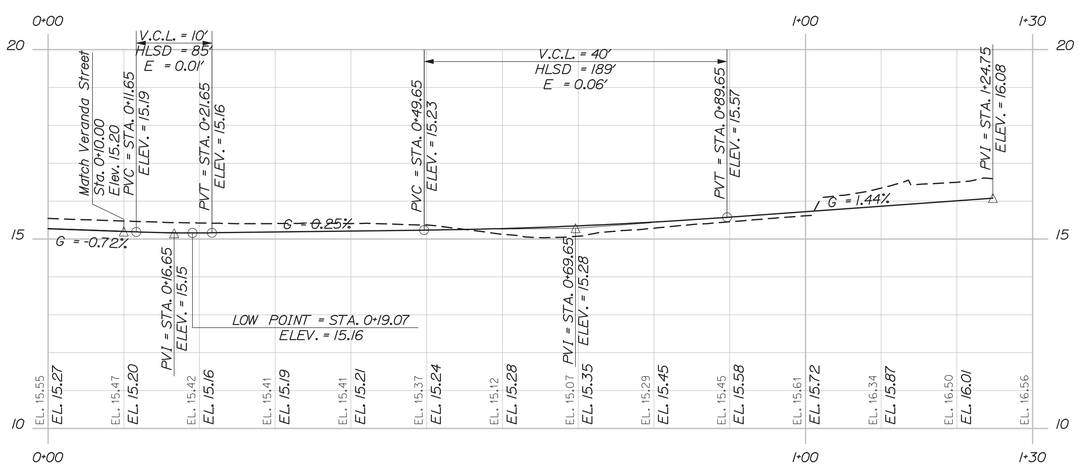
PROFILE C



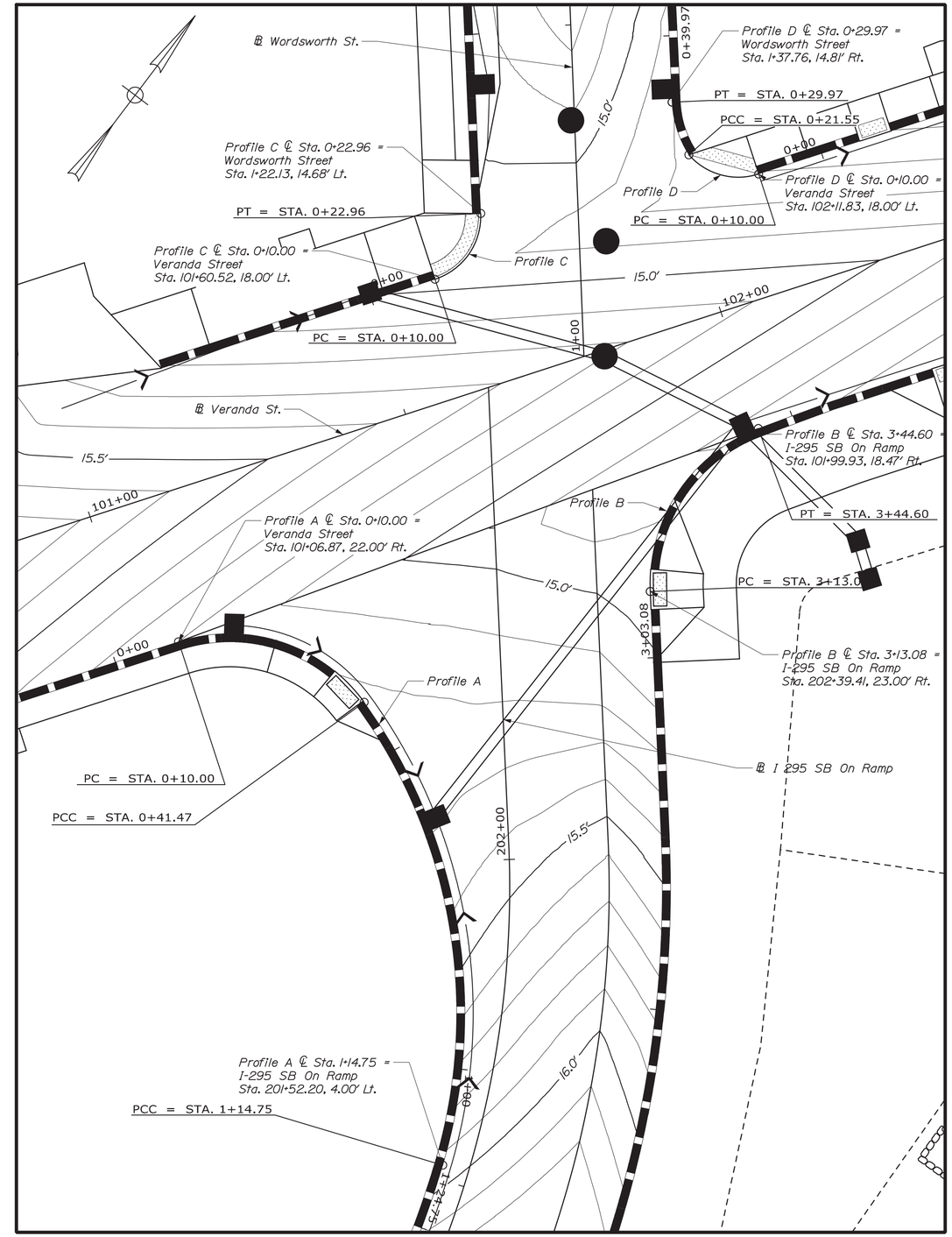
PROFILE D



PROFILE B



PROFILE A



Horiz. 10 0 10 20
Vert. 2 0 2 4
Scale of Feet

INTERSECTION OF I 295 SB ON RAMP/
VERANDA STREET/ WORDSWORTH STREET

Note: Contours are shown at 0.1 foot intervals

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	D. EATON	
DESIGN-DETAILED	EOD	2/20
CHECKED-REVIEWED	RWH	2/20
DESIGN2-DETAILED2	LZD	
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

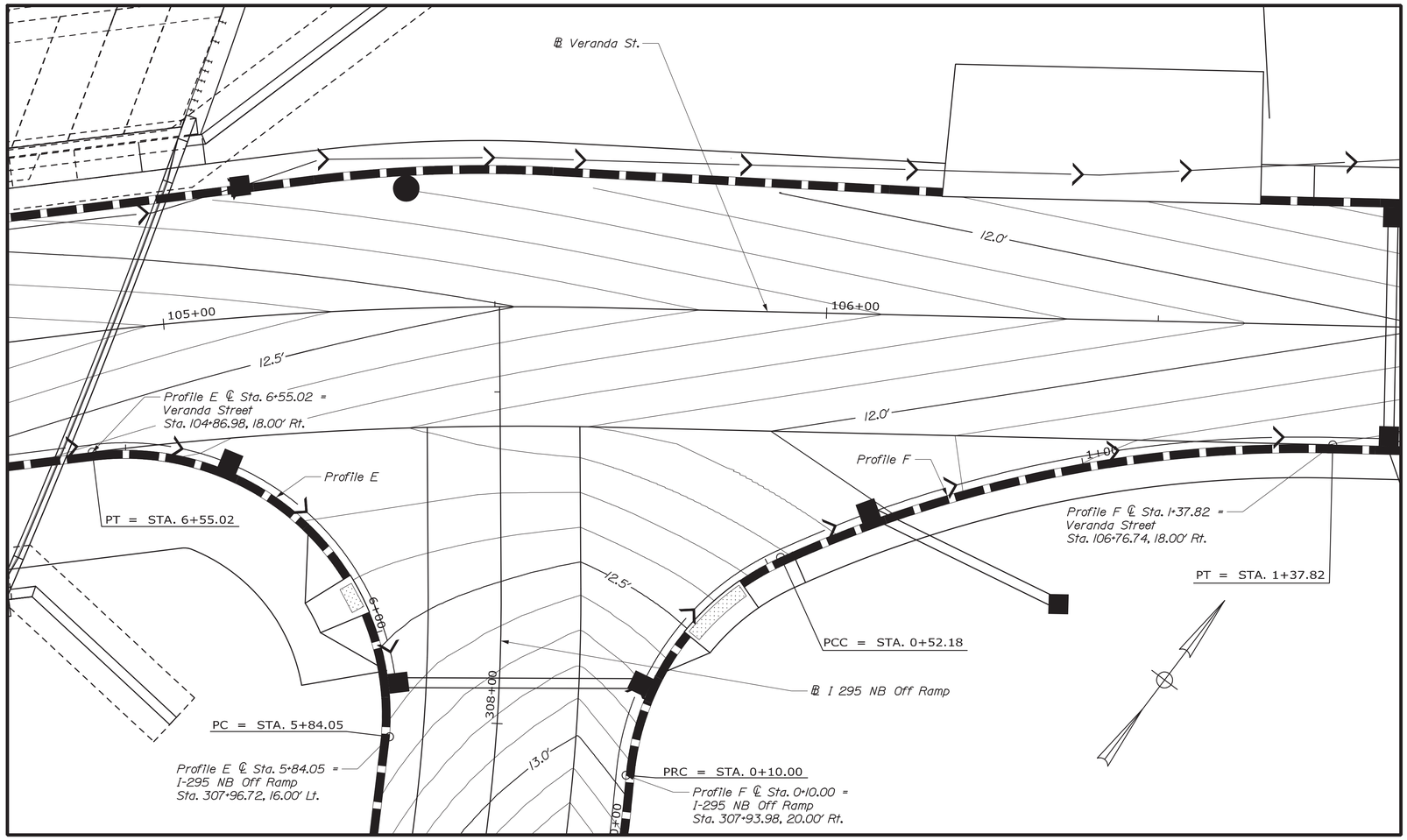
DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

INTERSECTION GRADING PLAN
I-295 SB ON RAMP

SHEET NUMBER
36
OF 220

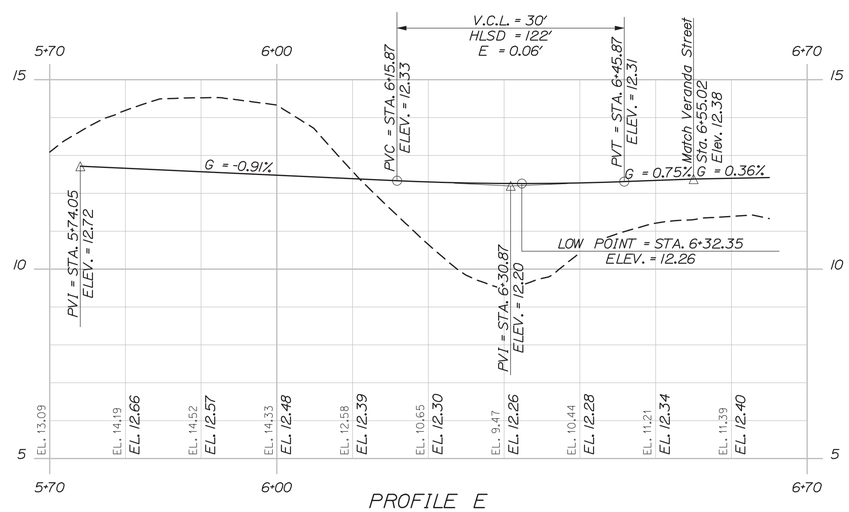
Date:3/3/2020
Division:
Username:
Filename: 036_GradingPlan_01.dgn



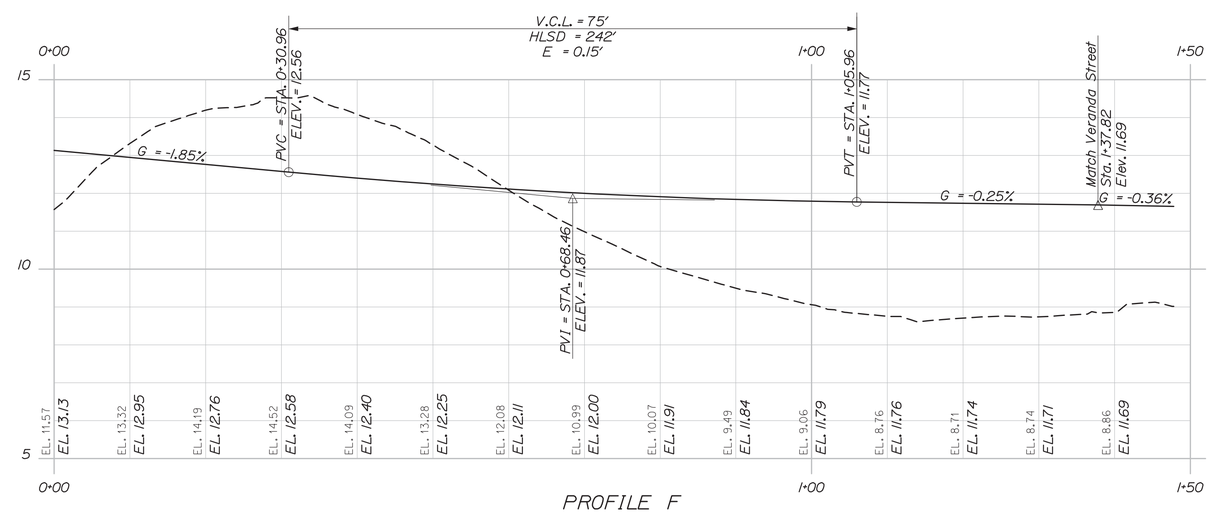
INTERSECTION OF I 295 NB OFF RAMP/
VERANDA STREET

Note: Contours are shown at 0.1 foot intervals.

Horiz. 10 0 10 20
Vert. 2 0 2 4
Scale of Feet



PROFILE E



PROFILE F

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	EOD	CDH	2\20
CHECKED-REVIEWED	RWH	LZD	2\20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

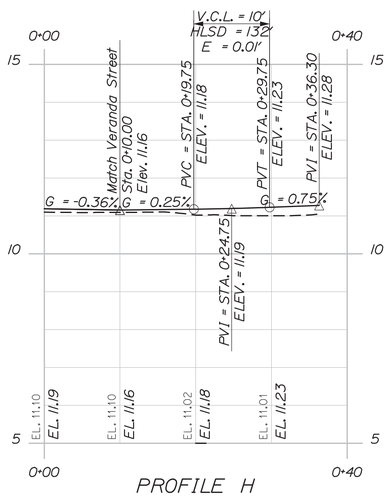
DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

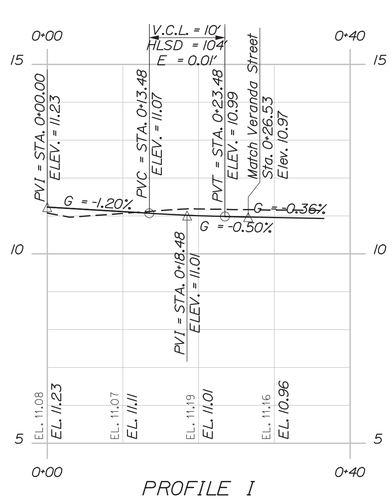
INTERSECTION GRADING PLAN
I-295 NB OFF RAMP

SHEET NUMBER
37
OF 220

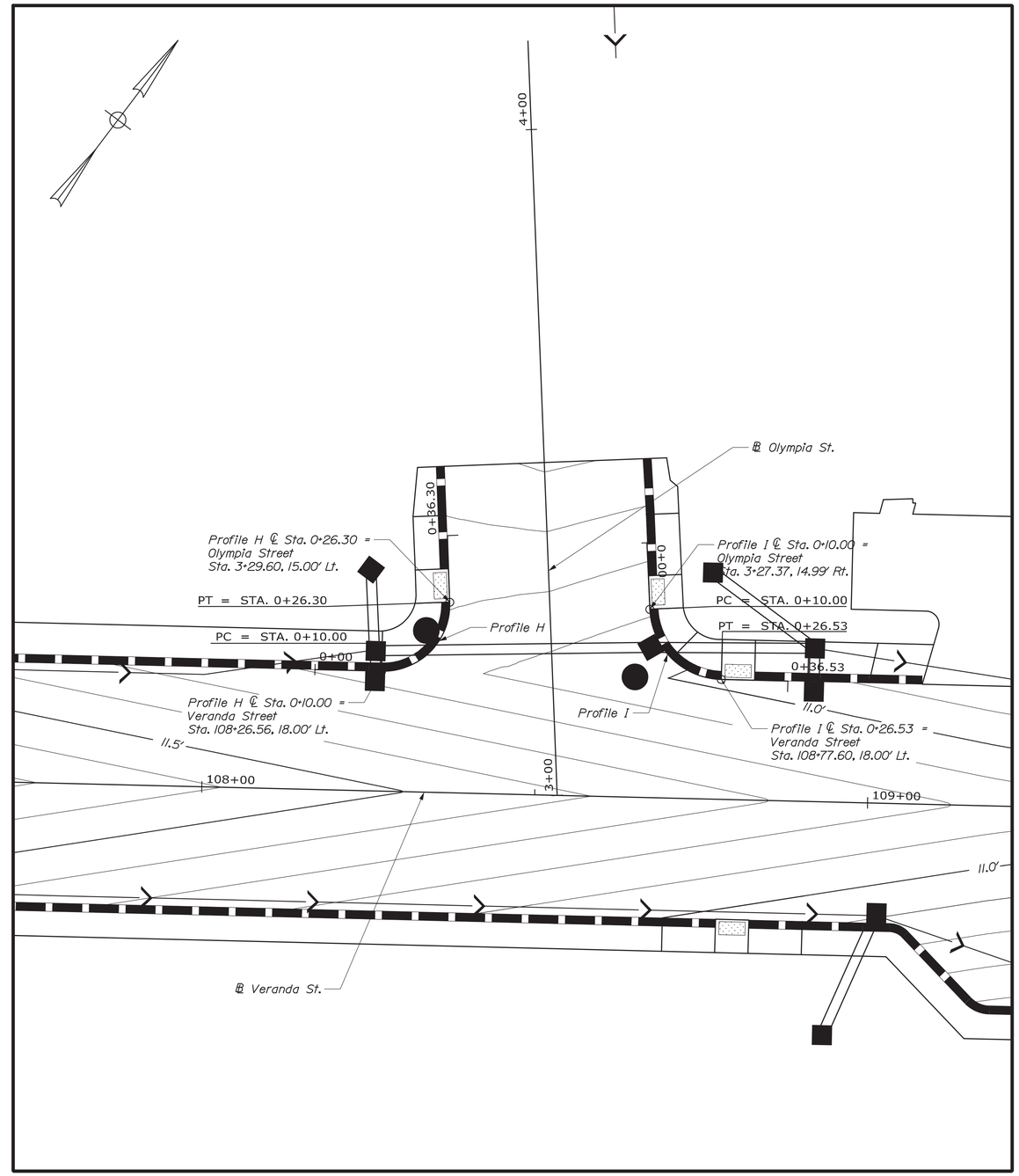
Filename: 037_GradingPlan_02.dgn Division: Username: Date:3/3/2020



PROFILE H



PROFILE I



INTERSECTION OF OLYMPIA STREET/
VERANDA STREET

Note: Contours are shown at 0.1 foot intervals

Horiz. 10 0 10 20
Vert. 2 0 2 4
Scale of Feet

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	D. EATON	
DESIGN-DETAILED	EOD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

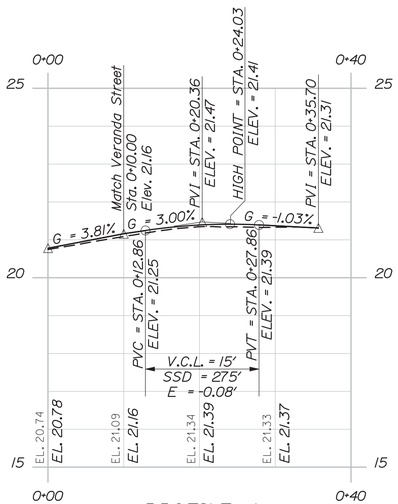
DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

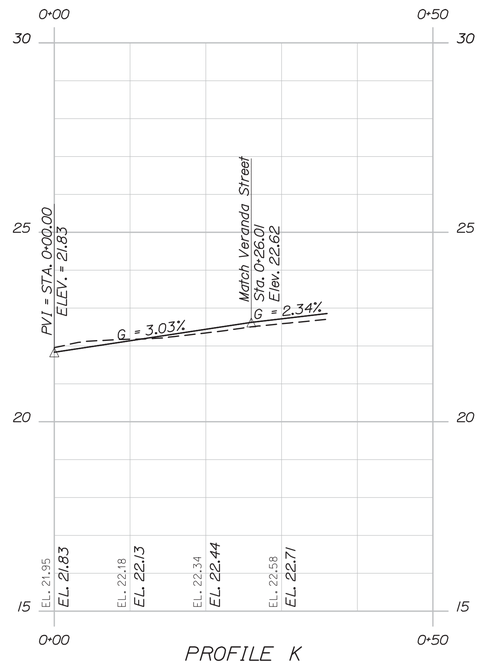
INTERSECTION GRADING PLAN
OLYMPIA STREET

SHEET NUMBER
38
OF 220

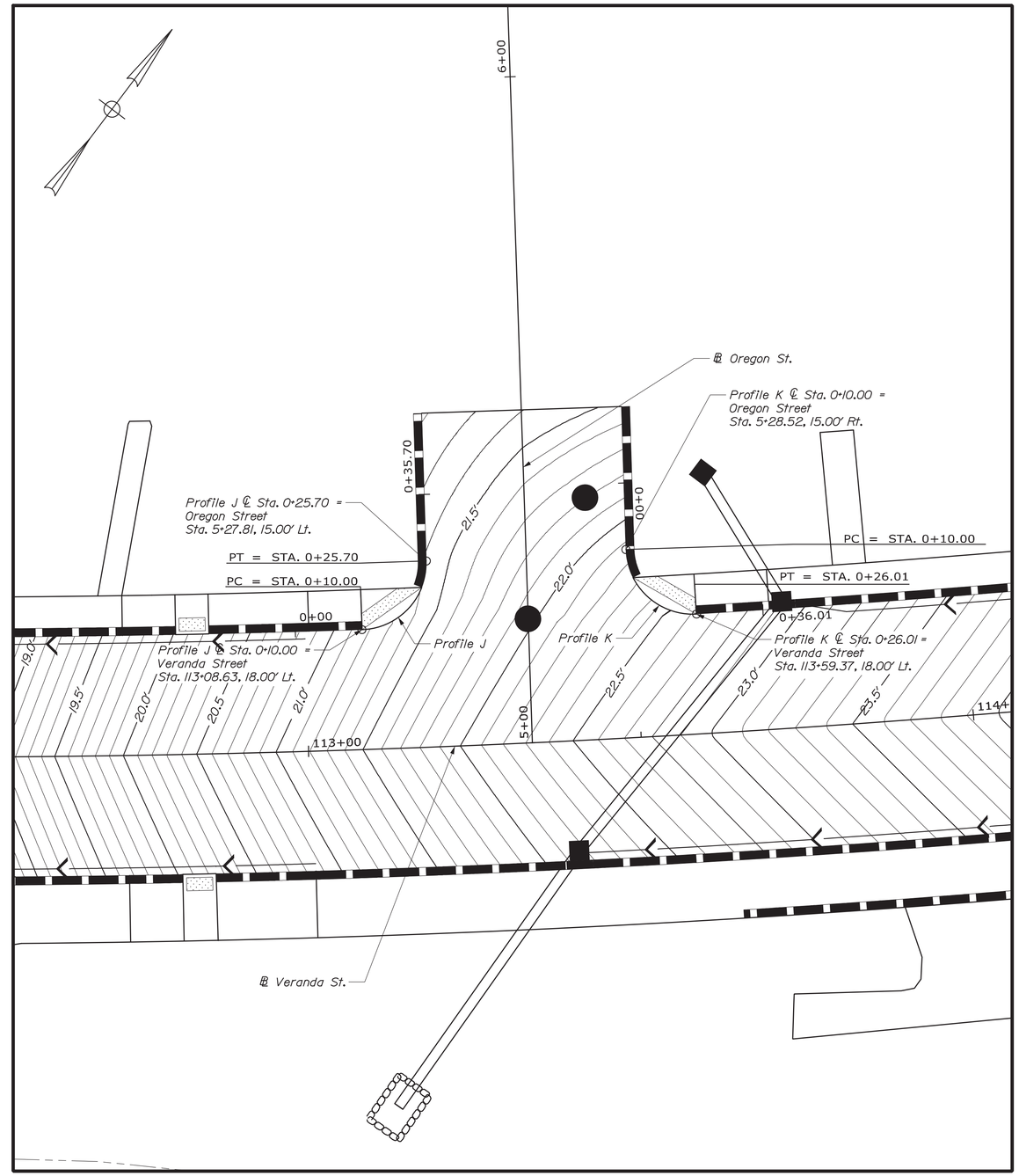
Filename: 038_GradingPlan_03.dgn Division: Username: Date:3/3/2020



PROFILE J



PROFILE K



INTERSECTION OF OREGON STREET/
VERANDA STREET

Note: Contours are shown at 0.1 foot intervals

Horiz. 10 0 10 20
Vert. 2 0 2 4
Scale of Feet

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EOD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

INTERSECTION GRADING PLAN
OREGON STREET

SHEET NUMBER

39

OF 220

Filename: 039_GradingPlan_04.dgn Division: Username: Date:3/3/2020

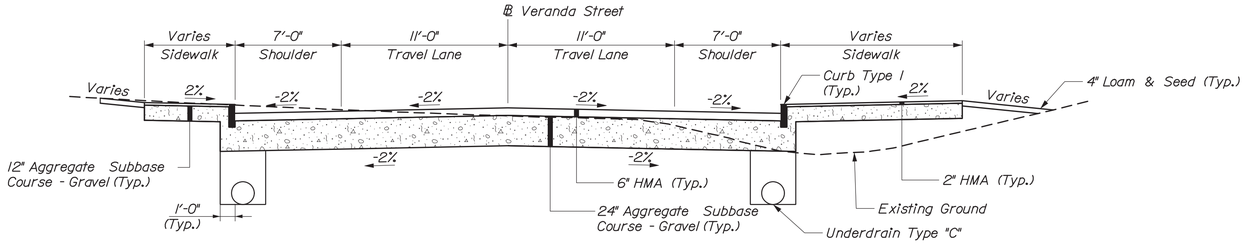
NOTES:

1. The pavement, base and subbase depths as shown on the plans are intended to be nominal.

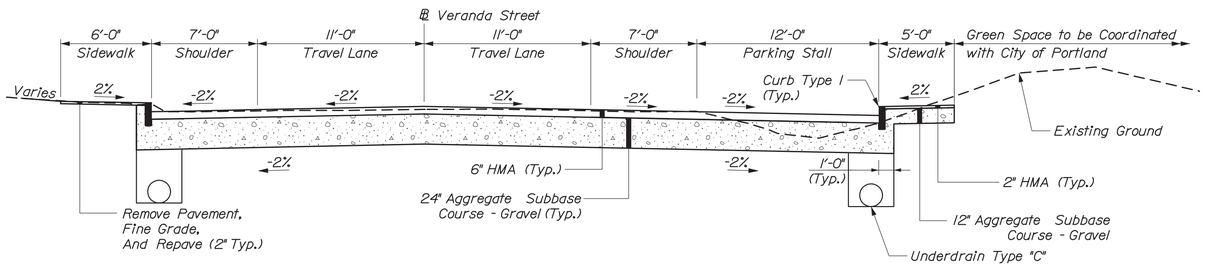
2. When superelevation exceeds the slope of the low side shoulder, the low side shoulder's pavement shall have the same cross slope as the travel way.

3. Crowns for both normal and superelevation sections for all courses of subbase and pavement shall be straight, unless otherwise noted on the plans.

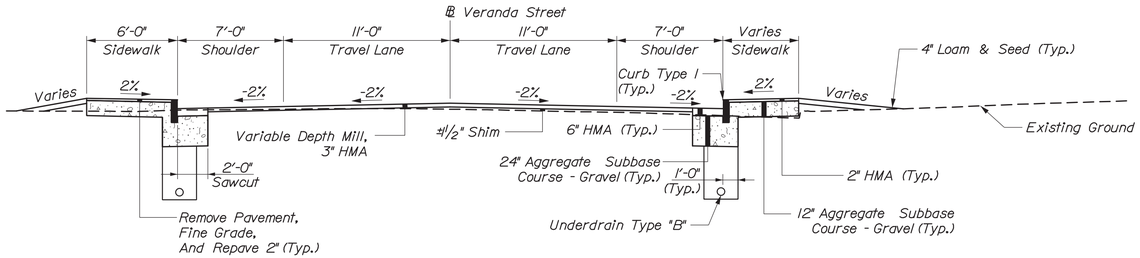
4. The algebraic difference between shoulder and travel lane cross slopes "rollover" shall not exceed 8%.



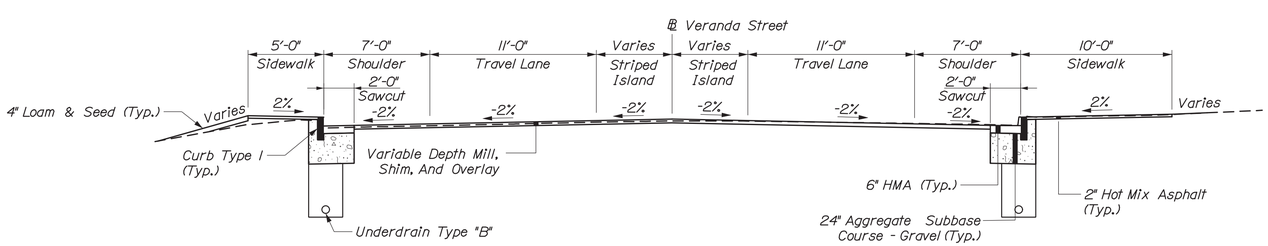
VERANDA STREET - FULL DEPTH CONSTRUCTION



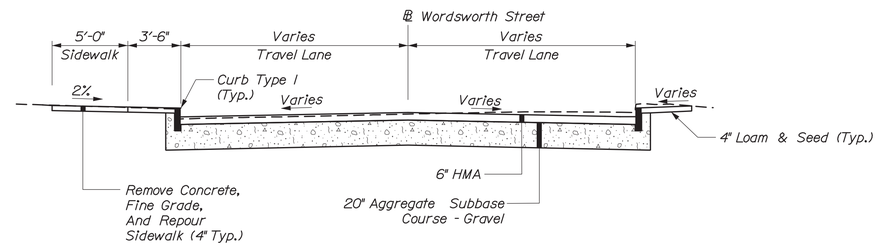
VERANDA STREET - FULL DEPTH WITH PARKING STALL



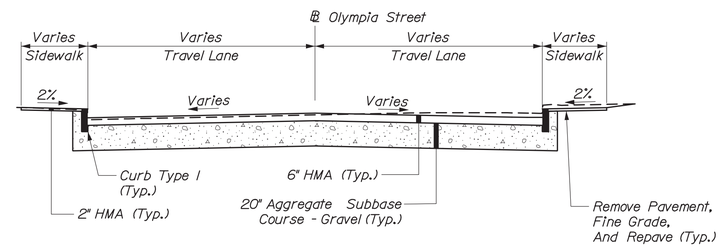
VERANDA STREET - MILL AND OVERLAY



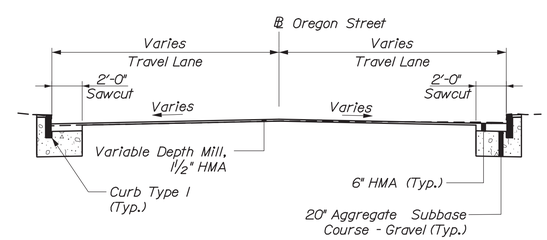
VERANDA STREET - 3 LANE SECTION



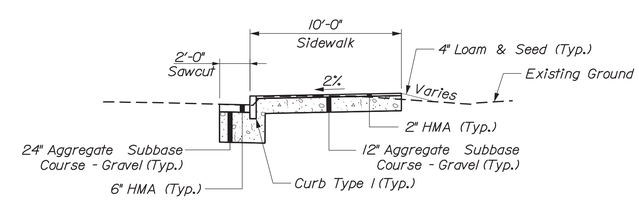
WORDSWORTH STREET



OLYMPIA STREET



OREGON STREET



VERANDA STREET - PATH WIDENING

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	EDD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

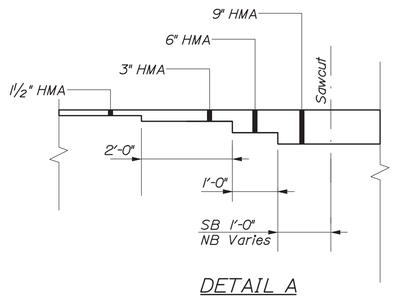
TYPICAL SECTION
VERANDA AND SIDE ROADS

SHEET NUMBER

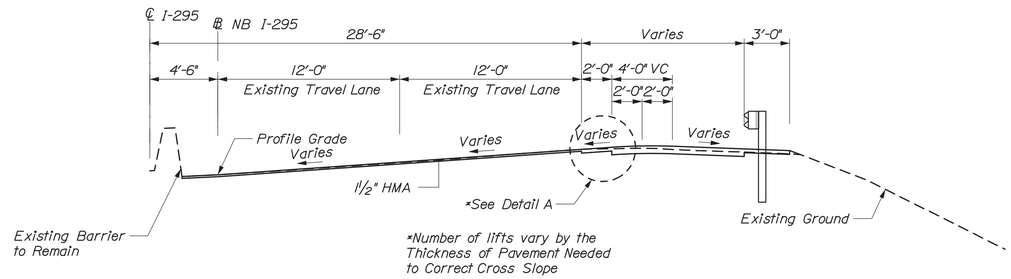
40

OF 220

Filename: 040_Typ_01.dgn Division: Username: Date:3/3/2020

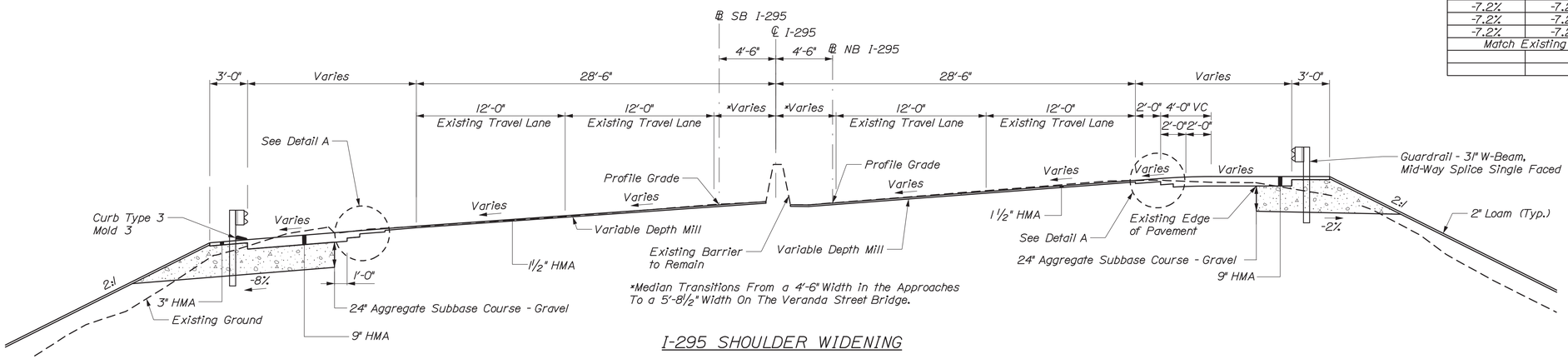


DETAIL A

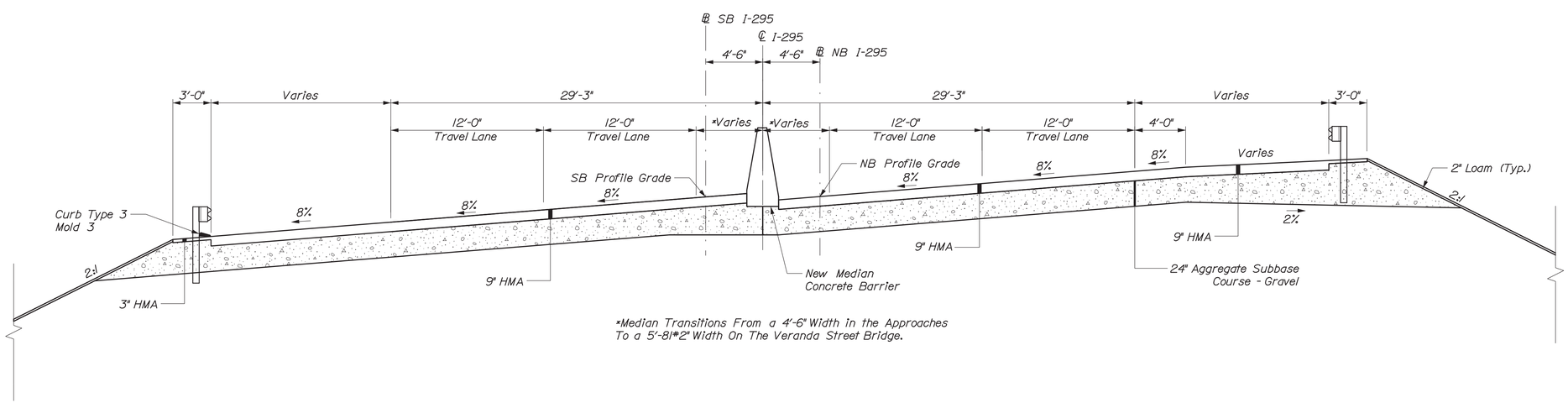


I-295 NB SHOULDER SLOPE CORRECTION

I 295 Superelevation Table				
SB Shoulder	SB Travelway	Station	NB Travelway	NB Shoulder
		35+00.00	Match Existing	
Match Existing		35+25.00	7.6%	-4.9%
-8.7%	-8.0%	35+50.00	7.6%	-4.0%
-8.0%	-8.0%	35+75.00	7.6%	-3.0%
-8.0%	-8.0%	36+00.00	7.6%	-2.0%
-7.5%	-7.5%	36+25.00	7.6%	-1.0%
-7.5%	-7.5%	36+50.00	7.8%	0.0%
-7.5%	-7.5%	36+75.00	8.0%	1.0%
-7.5%	-7.5%	37+00.00	8.0%	2.0%
-8.0%	-8.0%	37+25.00	8.0%	3.0%
-8.0%	-8.0%	37+50.00	8.0%	4.0%
-8.0%	-8.0%	37+75.00	8.0%	5.0%
-8.0%	-8.0%	38+00.00	8.0%	6.0%
-8.0%	-8.0%	38+25.00	8.0%	7.0%
-8.0%	-8.0%	38+50.00	8.0%	8.0%
		-		
-8.0%	-8.0%	39+50.00	8.0%	8.0%
-7.5%	-7.5%	39+75.00	8.0%	8.0%
-7.5%	-7.5%	40+00.00	7.5%	7.0%
-7.5%	-7.5%	40+25.00	7.0%	6.0%
-7.5%	-7.5%	40+50.00	7.0%	5.0%
-7.5%	-7.5%	40+75.00	7.0%	4.0%
-7.2%	-7.2%	41+00.00	7.0%	3.0%
-7.2%	-7.2%	41+25.00	7.3%	2.0%
-7.2%	-7.2%	41+50.00	7.3%	1.0%
-7.2%	-7.2%	41+75.00	7.3%	0.0%
-7.2%	-7.2%	42+00.00	7.3%	-1.0%
-7.2%	-7.2%	42+25.00	7.3%	-2.0%
Match Existing		42+50.00	6.8%	-3.0%
		42+75.00	6.3%	-4.0%
		43+00.00	Match Existing	



I-295 SHOULDER WIDENING



I-295 FULL DEPTH CONSTRUCTION

NOTES:

1. The pavement, base and subbase depths as shown on the plans are intended to be nominal.

2. When superelevation exceeds the slope of the low side shoulder, the low side shoulder's pavement shall have the same cross slope as the travel way.

3. Crowns for both normal and superelevation sections for all courses of subbase and pavement shall be straight, unless otherwise noted on the plans.

4. The algebraic difference between shoulder and travel lane cross slopes "rollover" shall not exceed 8%. To maintain a shoulder rollover less than 8%, a 4' wide vertical curve shall be constructed between the travel lane slope and shoulder slope as shown on the cross sections.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EOD	COH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

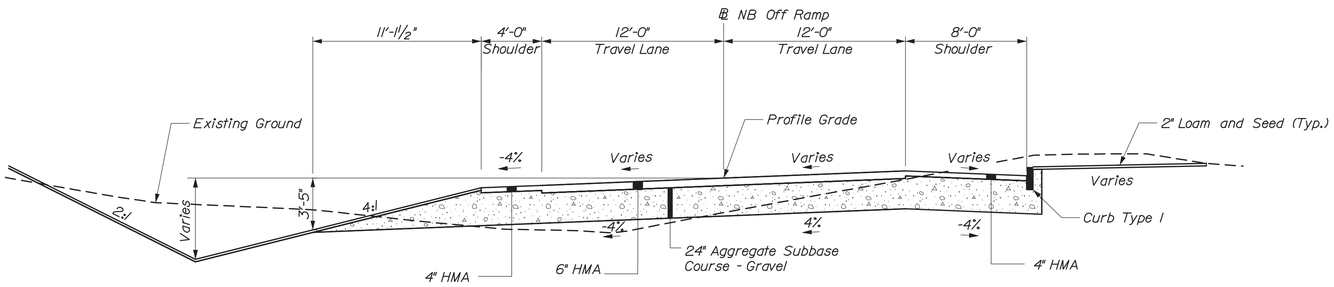
INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

TYPICAL SECTION
I-295

SHEET NUMBER
41
OF 220

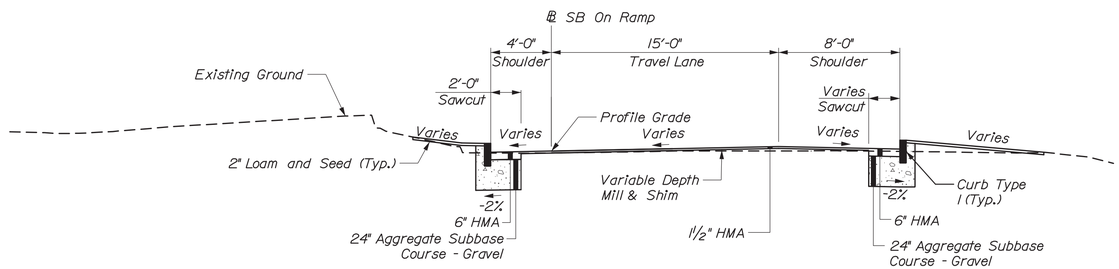
HNTB

Date:3/3/2020
Username:
Division:
Filename: 041_Typ_02.dgn



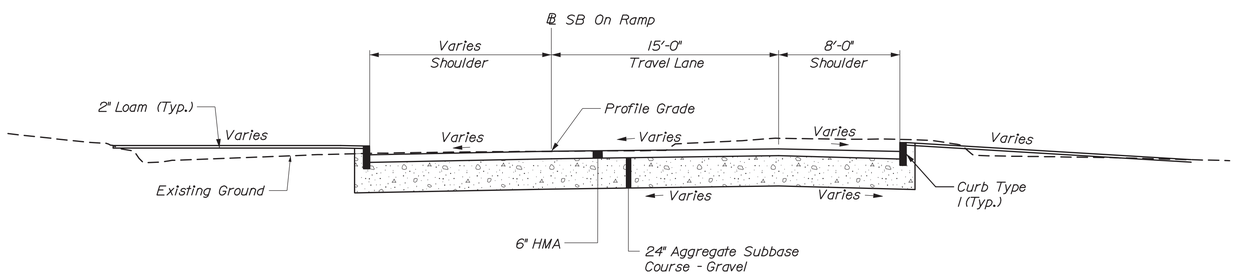
I-295 NB OFF RAMP - FULL CONSTRUCTION

I 295 NB Off Ramp Superelevation Table				
Left Shoulder	Left Travelway	Station	Right Travelway	Right Shoulder
Match Existing		303+50.00	Match Existing	
-4.0%	-0.8%	303+75.00	-1.1%	-4.0%
-4.0%	-1.0%	304+00.00	-1.1%	-4.0%
-4.0%	-1.0%	304+25.00	-0.5%	-4.0%
-4.0%	-1.0%	304+50.00	1.0%	-4.0%
-4.0%	-2.5%	304+75.00	2.5%	-4.0%
-4.0%	-4.0%	305+00.00	4.0%	-4.0%
		-		
-4.0%	-4.0%	306+50.00	4.0%	-2.0%
-4.0%	-3.4%	306+75.00	3.4%	-2.0%
		-		
-4.0%	-3.4%	307+50.00	3.4%	-2.0%
-2.8%	-2.4%	307+75.00	2.4%	-2.0%
-1.6%	-1.4%	308+00.00	1.4%	-2.0%
-0.3%	-0.3%	308+25.00	0.3%	-0.9%



I-295 SB ON RAMP - MILL & OVERLAY

I 295 NB On Ramp Superelevation Table			
Left Shoulder	Station	Travelway	Right Shoulder
Match Existing	200+25.00	Match Existing	Match Existing
-4.0%	200+50.00	2.0%	0.0%
-3.0%	200+75.00	2.0%	-1.0%
-2.0%	201+00.00	2.0%	-2.0%
-2.0%	201+25.00	2.0%	-2.0%
-2.0%	201+50.00	2.0%	-2.0%
-2.0%	201+75.00	2.0%	-2.0%
-1.1%	202+00.00	1.1%	-2.0%
0.1%	202+25.00	-0.1%	-1.4%
0.5%	202+50.00	-0.5%	-0.5%



I-295 SB ON RAMP - FULL DEPTH CONSTRUCTION

NOTES:

1. The pavement, base and subbase depths as shown on the plans are intended to be nominal.

2. When superelevation exceeds the slope of the low side shoulder, the low side shoulder's pavement shall have the same cross slope as the travel way.

3. Crowns for both normal and superelevation sections for all courses of subbase and pavement shall be straight, unless otherwise noted on the plans.

4. The algebraic difference between shoulder and travel lane cross slopes "rollover" shall not exceed 8%. To maintain a shoulder rollover less than 8%, a 4' wide 0.0% break shall be constructed between the travel lane slope and shoulder slope as shown on the cross sections.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

SIGNATURE

P.E. NUMBER

DATE

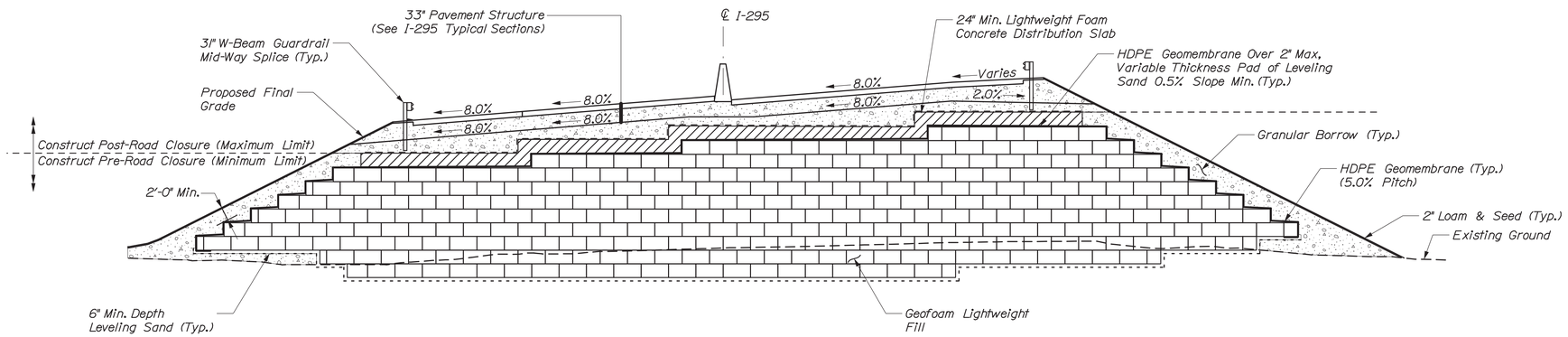
		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EDD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

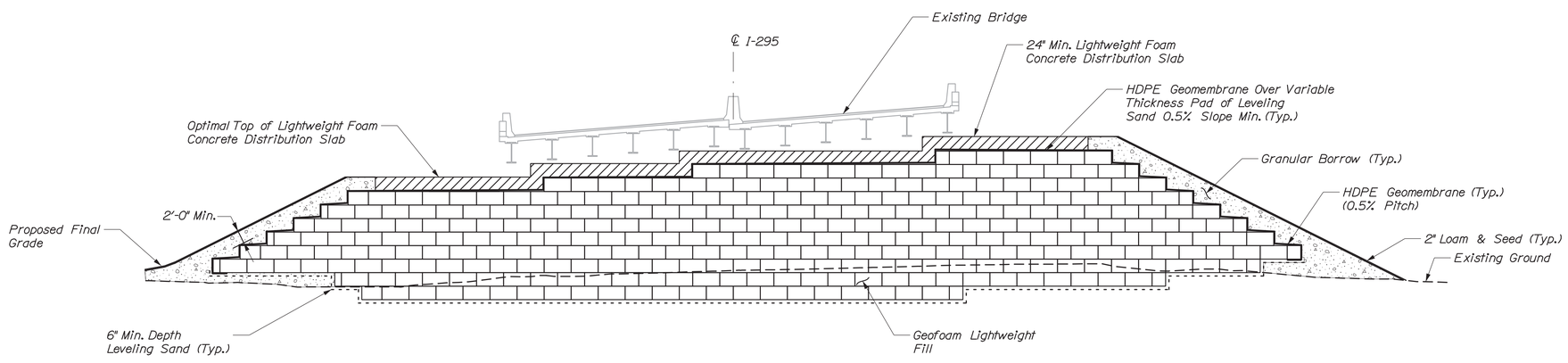
TYPICAL SECTION
I-295 RAMPS

SHEET NUMBER
42
OF 220

Filename: 042_Typ_03.dgn Division: Username: Date:3/3/2020



GEOFOAM TYPICAL SECTION - FINAL



GEOFOAM TYPICAL SECTION - PRE-CLOSURE

NOTES:

1. The Contractor shall be permitted to place a thicker layer of lightweight foam concrete distribution slab during the pre-road closure period to minimize fill placement during the road closure. The top of the lightweight foam concrete distribution slab shall not extend beyond the bottom of the existing bridge girders. Care shall be taken to prohibit adhesion between the foam concrete and the existing bridge girders.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EJD	BY	DATE
CHECKED-REVIEWED	RWH	CDH	2\20
DESIGN2-DETAILED2		LZD	2\20
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

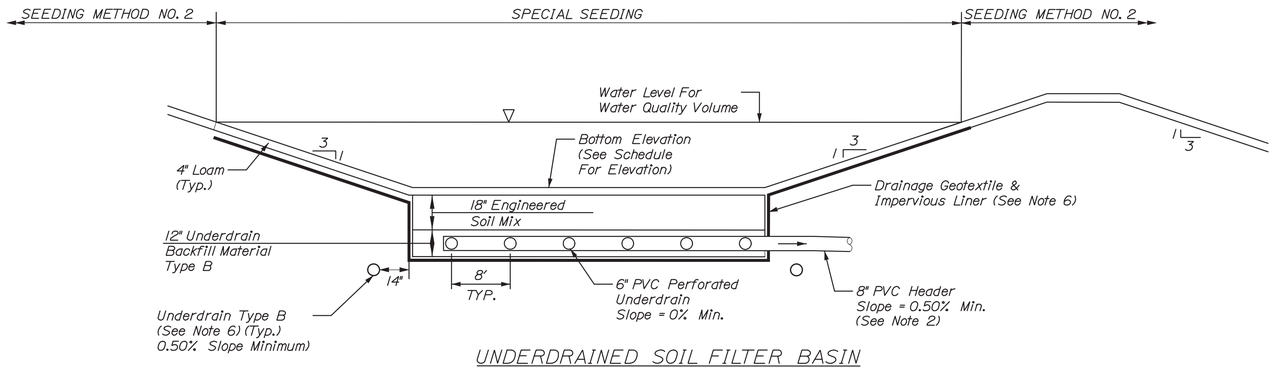
TYPICAL SECTION
GEOFOAM

SHEET NUMBER

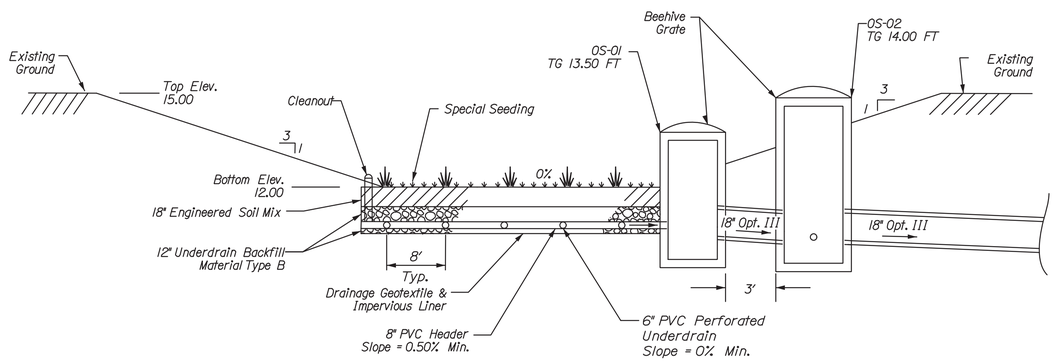
43

OF 220

Filename: 043_Geofoam Typical.dgn Division: Username: Date:3/3/2020



UNDERDRAINED SOIL FILTER BASIN
TYPICAL SECTION
Not To Scale



OUTLET CONTROL DEVICE
Not To Scale

OUTLET CONTROL DEVICE DATA

Structure Id	Box	Rim Elev.	Inv. In	Inv. Out
OS-01	Catch Basin Type B-1-P	13.50 FT	10.00 FT	9.50 FT
OS-02	Catch Basin Type B-1-P	14.00 FT	9.40 FT	9.40 FT

USF BASIN SCHEDULE					
USF Basin	Basin Elevations		Peak Water Surface Elevation		
	Bottom	Top of Embankment	2-year	10-year	25-year
	(feet)	(feet)	(feet)	(feet)	(feet)
#1	12.00	15.00	12.06	13.29	13.66

NOTES:

1. 8" PVC Underdrain Header/Outlet Shall Not Be Slotted. 8" PVC Shall Outlet As Shown On Plans.

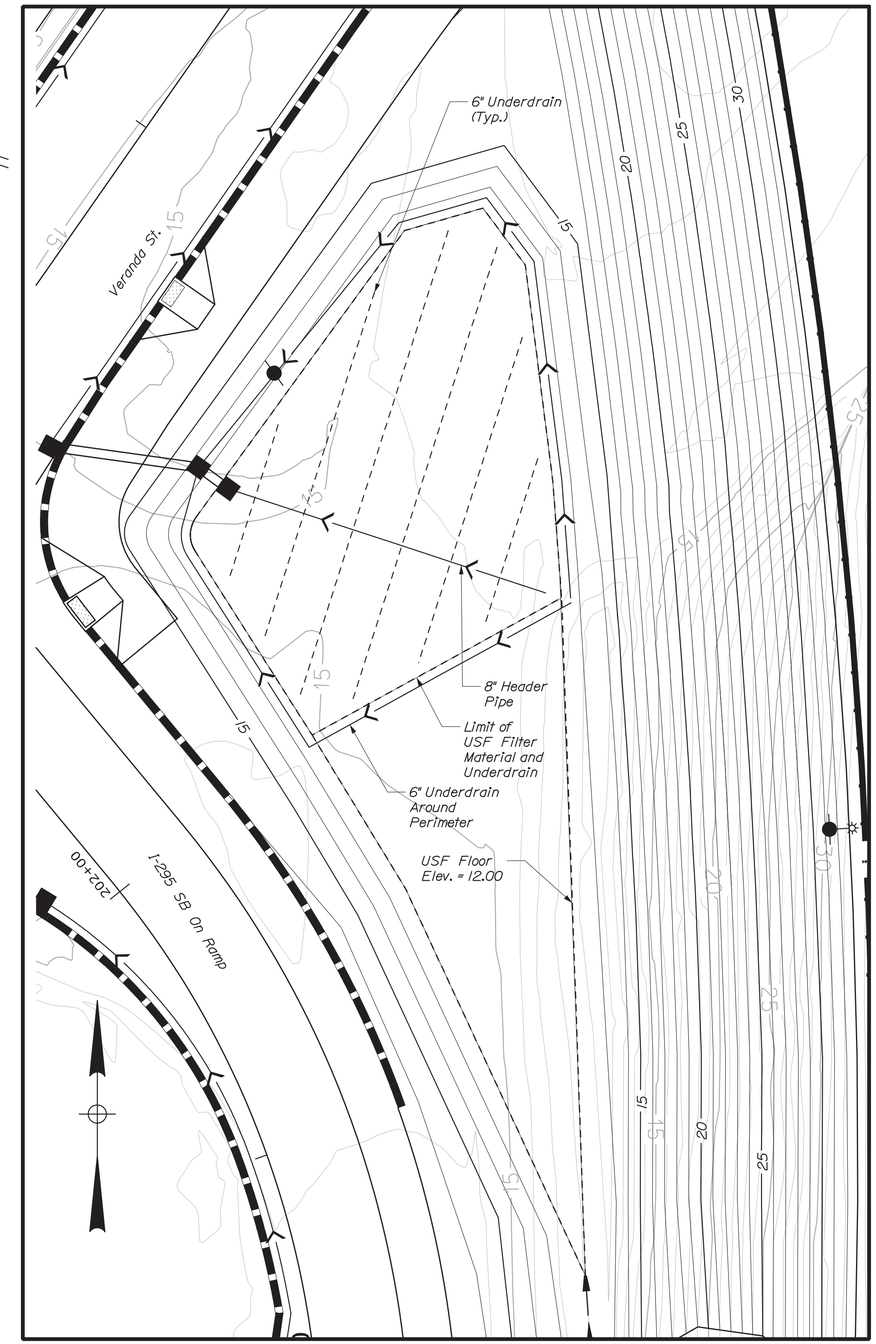
2. Surface of Soil Filter Shall Be Seeded With Special Seed As Specified In Section 618 Of The Specifications. Payment Shall Be Made Under Item 618.143 - Special Seeding.

3. The Underdrained Soil Filter Shall Be Constructed To the Limits And Details Shown On the Plans And Specifications Unless Otherwise Approved By the Resident.

4. The Filter Bed Material Shall Not Be Placed In USF Basins Until The Tributary Drainage Area Is Permanently Stabilized Against Erosion.

5. Erosion Control Blanket Shall Be Provided On All USF Basin Embankment Slopes, Interior, Exterior And On the Surface Of The Soil Filter. Payment Shall Be Incidental To 615.27 Underdrained Soil Filter.

6. An Impervious Liner Shall Be Installed Between Two Layers of Geotextile. Underdrain Type B Shall Be Installed Around The Perimeter of the Impervious Layer.



UNDERDRAINED SOIL FILTER BASIN GRADING
SCALE

12.5 0 12.5 25
Scale of Feet

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EDD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

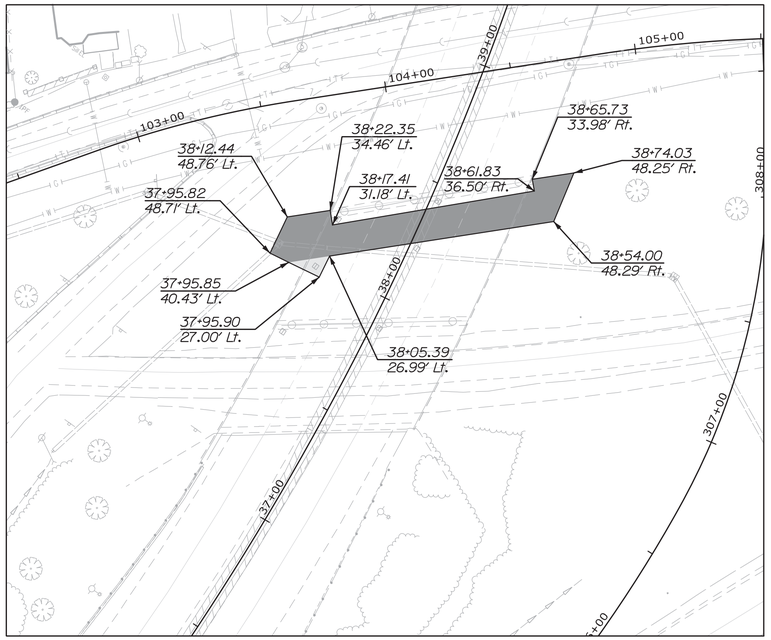
DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

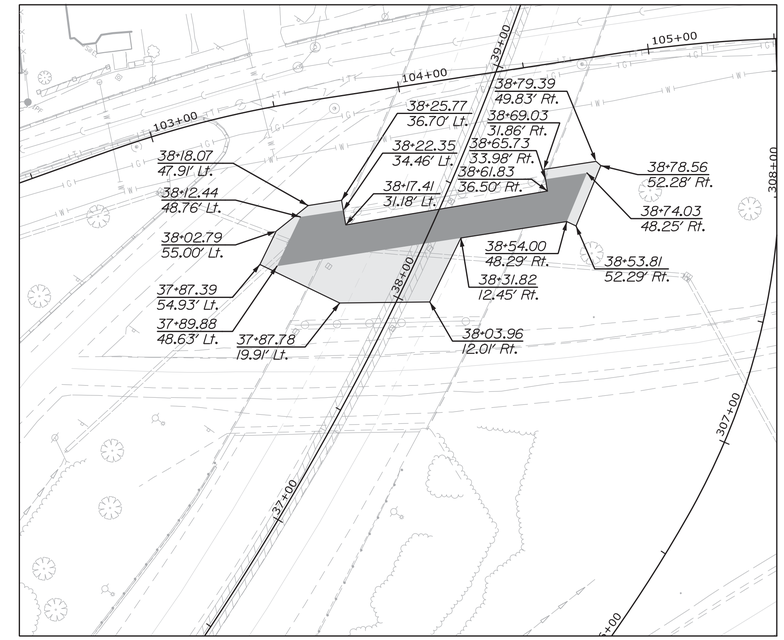
UNDERDRAINED SOIL
FILTER DETAILS

SHEET NUMBER
44
OF 220

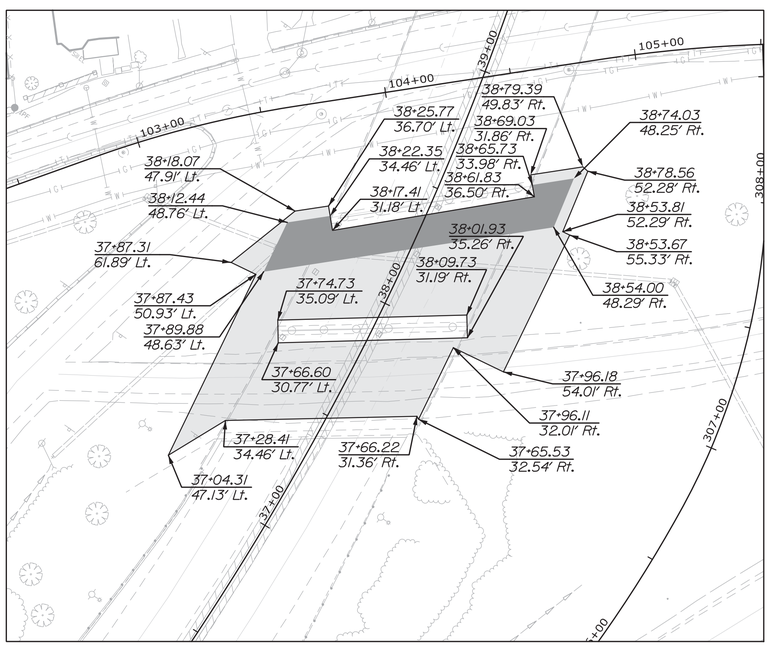
Date:3/3/2020
Username:
Division:
Filename: 044_USF Detail.dgn



LAYER 1
BOTTOM ELEVATION - EL. 6
TOP ELEVATION - EL. 8



LAYER 2
BOTTOM ELEVATION - EL. 8
TOP ELEVATION - EL. 10



LAYER 3
BOTTOM ELEVATION - EL. 10
TOP ELEVATION - EL. 12

LEGEND:

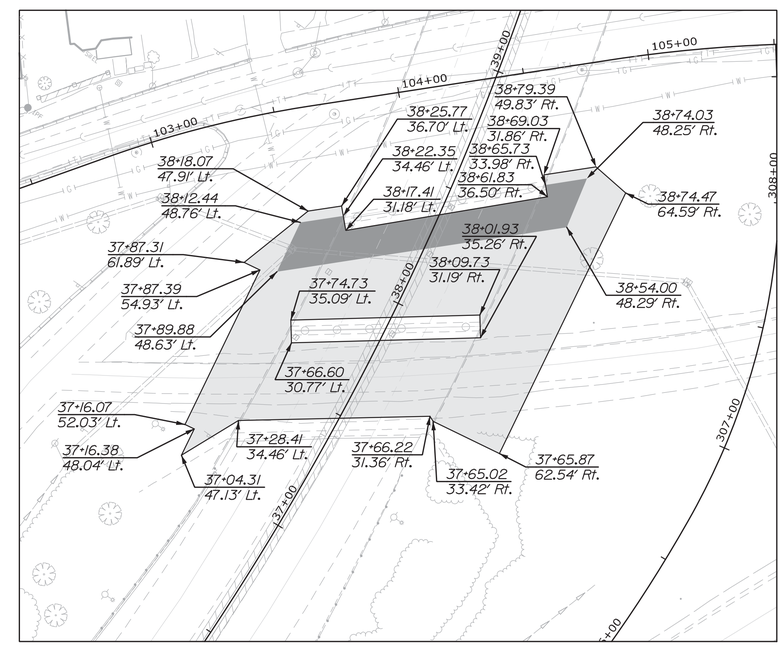
EPS 22 Geofoam

Min. Limits of EPS 39 Geofoam

PLAN

30 0 30 60

Scale of Feet



LAYER 4
BOTTOM ELEVATION - EL. 12
TOP ELEVATION - EL. 14

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EDD	CDH	2\20
CHECKED-REVIEWED	RWH	LZD	2\20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

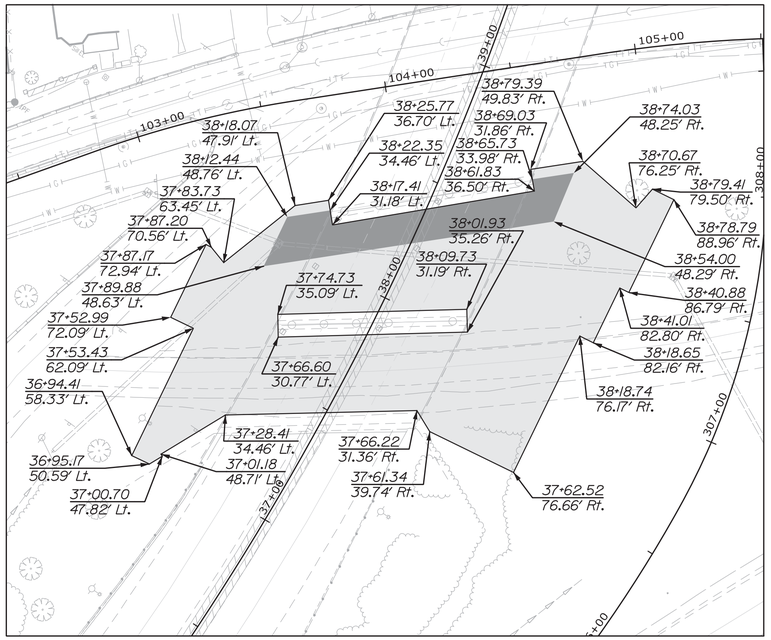
GEOFOAM LAYOUT PLAN
SOUTH APPROACH 1

SHEET NUMBER

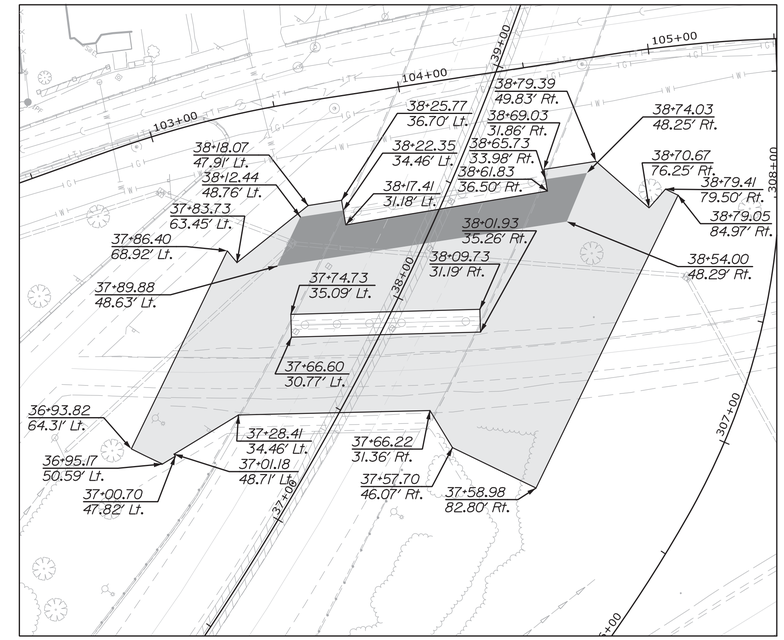
45

OF 220

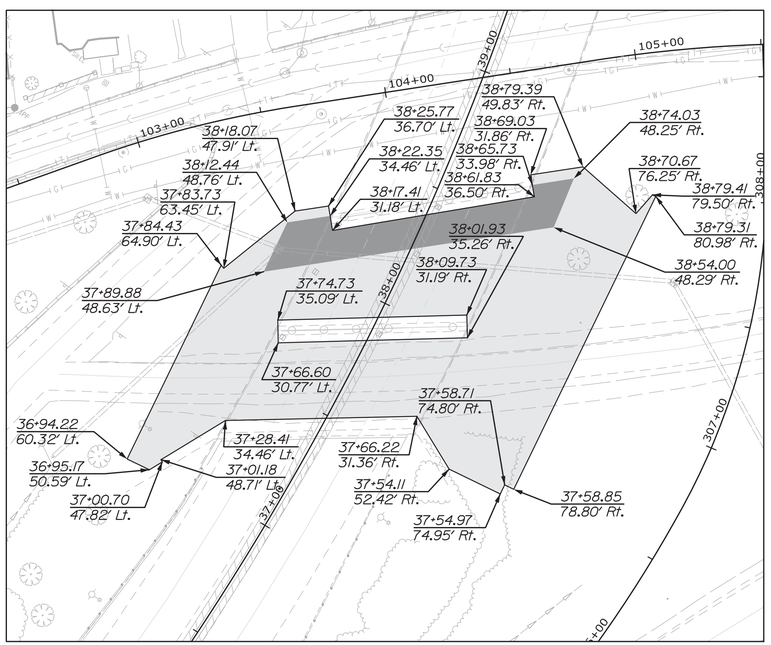
Filename: 045_GDPlan_S01.dgn Division: Username: Date:3/3/2020



LAYER 5
BOTTOM ELEVATION - EL. 14
TOP ELEVATION - EL. 16



LAYER 6
BOTTOM ELEVATION - EL. 16
TOP ELEVATION - EL. 18



LAYER 7
BOTTOM ELEVATION - EL. 18
TOP ELEVATION - EL. 20

LEGEND:

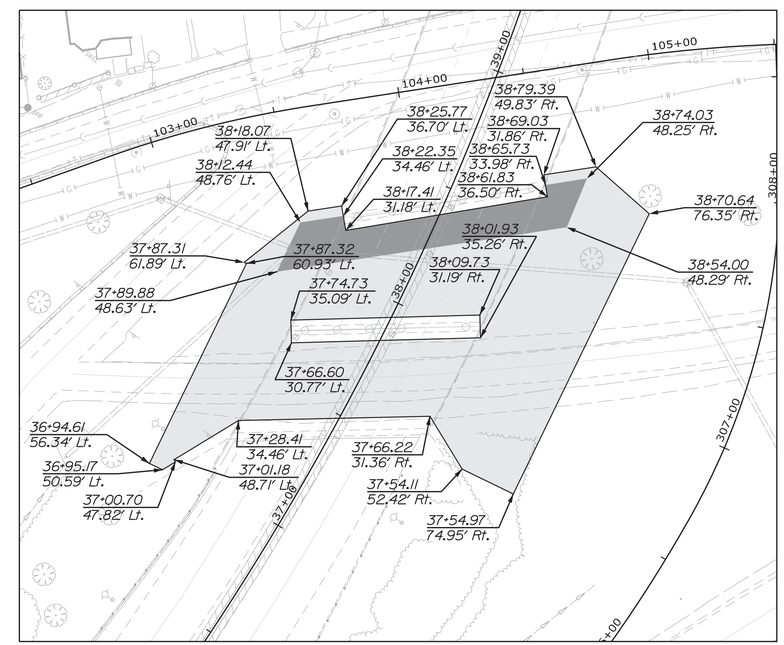
EPS 22 Geofoam

Min. Limits of EPS 39 Geofoam

PLAN

30 0 30 60

Scale of Feet



LAYER 8
BOTTOM ELEVATION - EL. 20
TOP ELEVATION - EL. 22

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EJD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

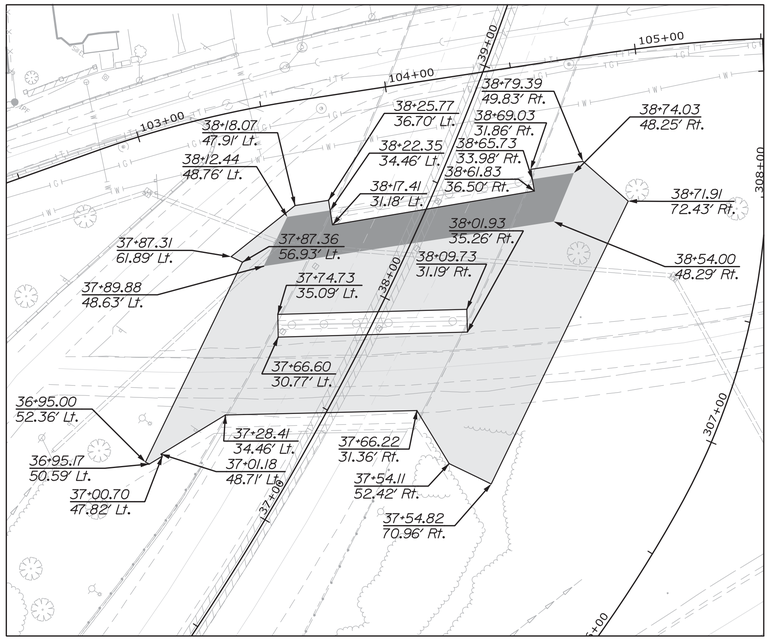
GEOFOAM LAYOUT PLAN
SOUTH APPROACH 2

SHEET NUMBER

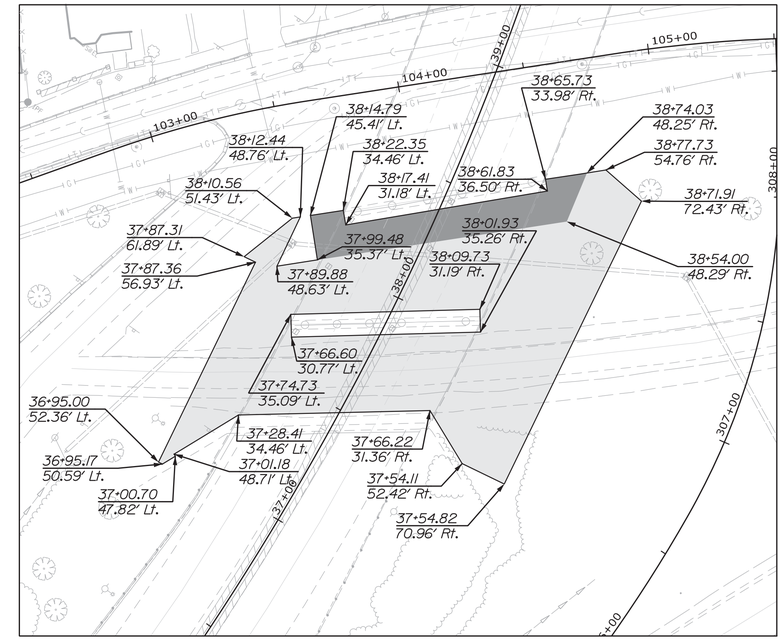
46

OF 220

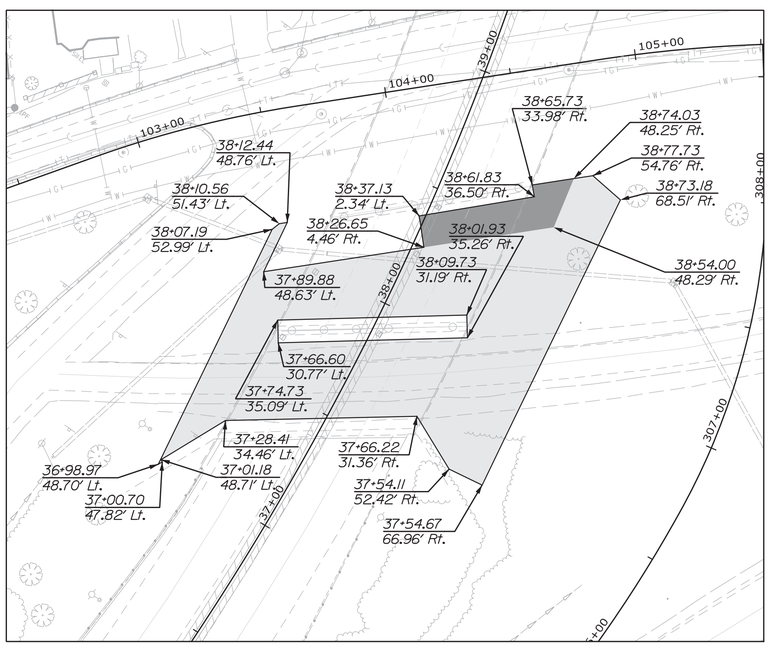
Filename: 046_GDPlan_S02.dgn Division: Username: Date:3/3/2020



LAYER 9
BOTTOM ELEVATION - EL. 22
TOP ELEVATION - EL. 23



LAYER 10
BOTTOM ELEVATION - EL. 23
TOP ELEVATION - EL. 24



LAYER 11
BOTTOM ELEVATION - EL. 24
TOP ELEVATION - EL. 26

LEGEND:

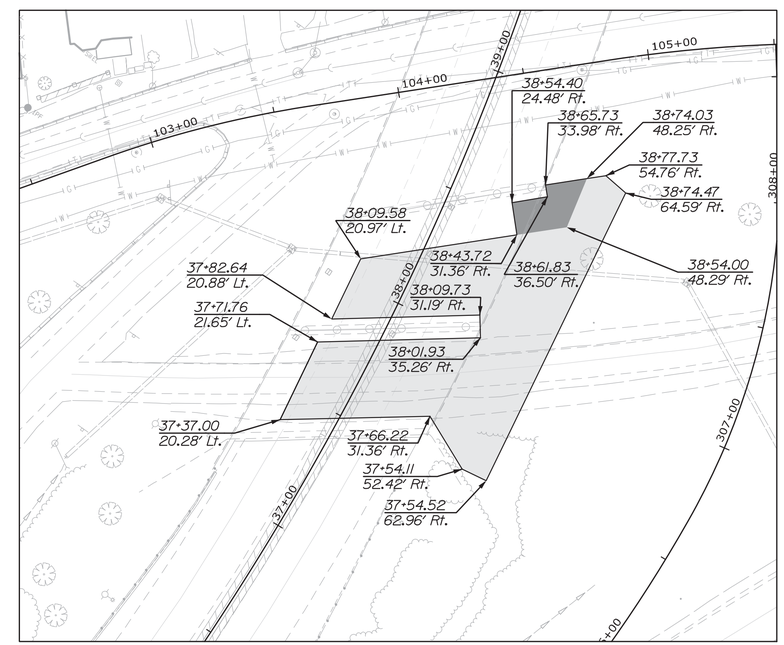
EPS 22 Geofoam

Min. Limits of EPS 39 Geofoam

PLAN

30 0 30 60

Scale of Feet



LAYER 12
BOTTOM ELEVATION - EL. 26
TOP ELEVATION - EL. 28

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EDD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

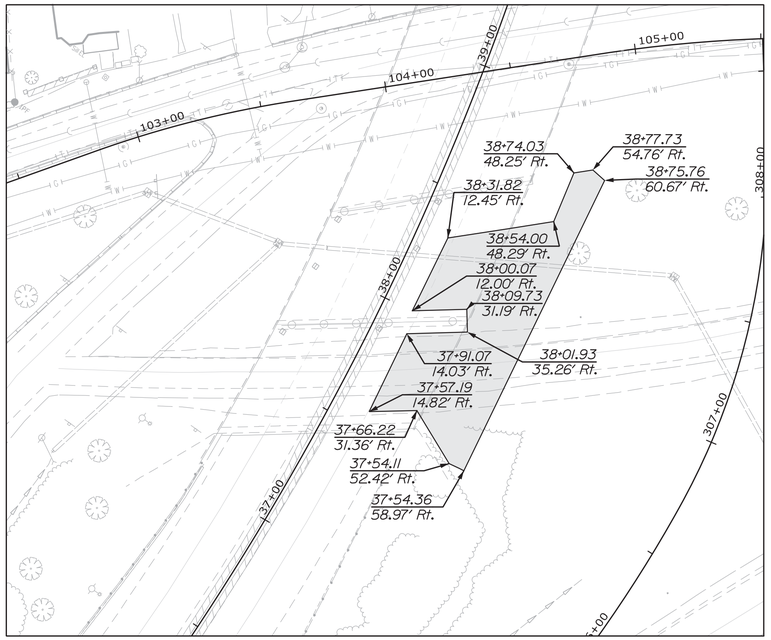
GEOFOAM LAYOUT PLAN
SOUTH APPROACH 3

SHEET NUMBER

47

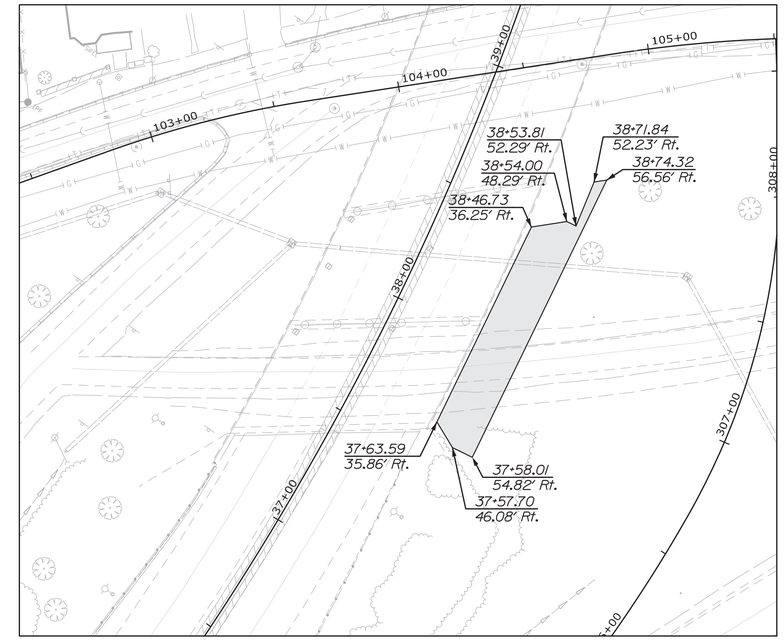
OF 220

Filename: 047_GDPlan_S03.dgn Division: Username: Date:3/3/2020



LAYER 13

BOTTOM ELEVATION - EL. 28
TOP ELEVATION - EL. 30



LAYER 14

BOTTOM ELEVATION - EL. 30
TOP ELEVATION - EL. 32

LEGEND:

EPS 22 Geofoam

Min. Limits of EPS 39 Geofoam

PLAN

30 0 30 60

Scale of Feet

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	EJD	CDH	2\20
CHECKED-REVIEWED	RWH	LZD	2\20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

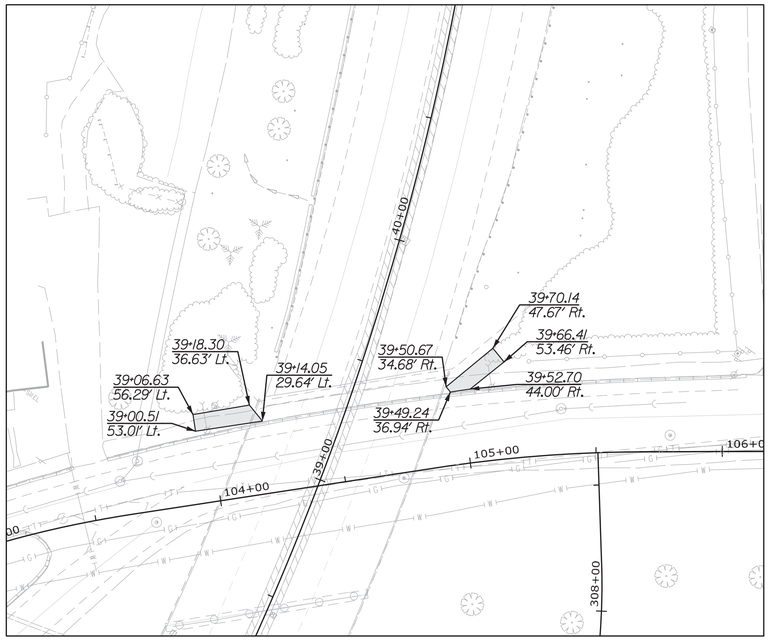
GEOFOAM LAYOUT PLAN
SOUTH APPROACH 4

SHEET NUMBER

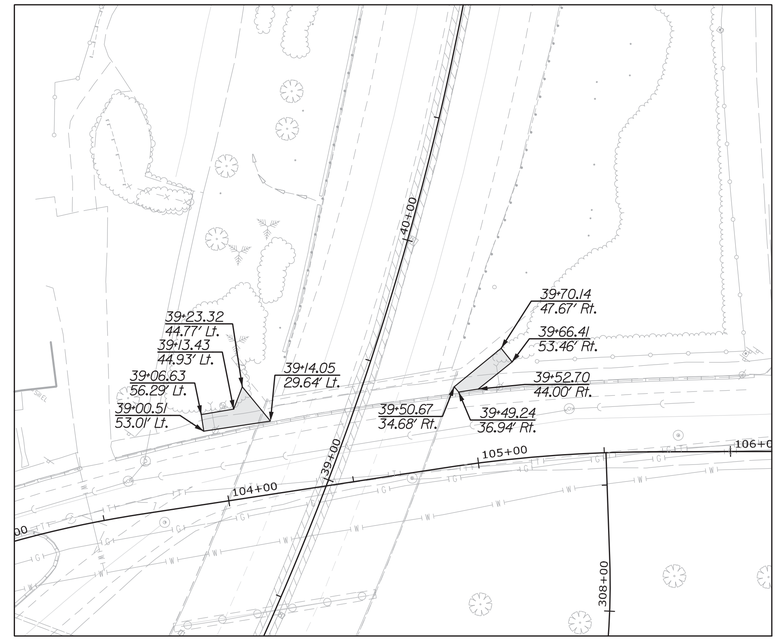
48

OF 220

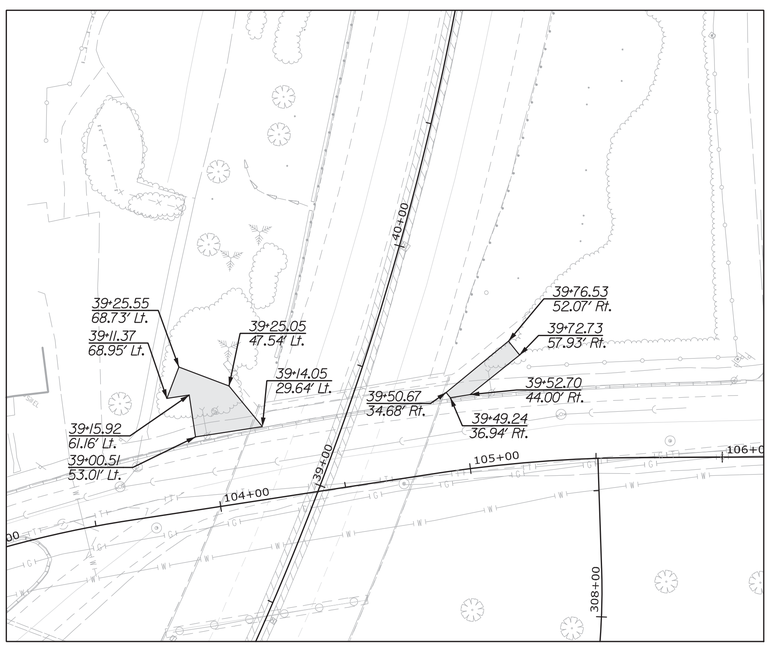
Filename: 048_GDPlan_S04.dgn Division: Username: Date:3/3/2020



LAYER 1
BOTTOM ELEVATION - EL. 10
TOP ELEVATION - EL. 12



LAYER 2
BOTTOM ELEVATION - EL. 12
TOP ELEVATION - EL. 14



LAYER 3
BOTTOM ELEVATION - EL. 14
TOP ELEVATION - EL. 16

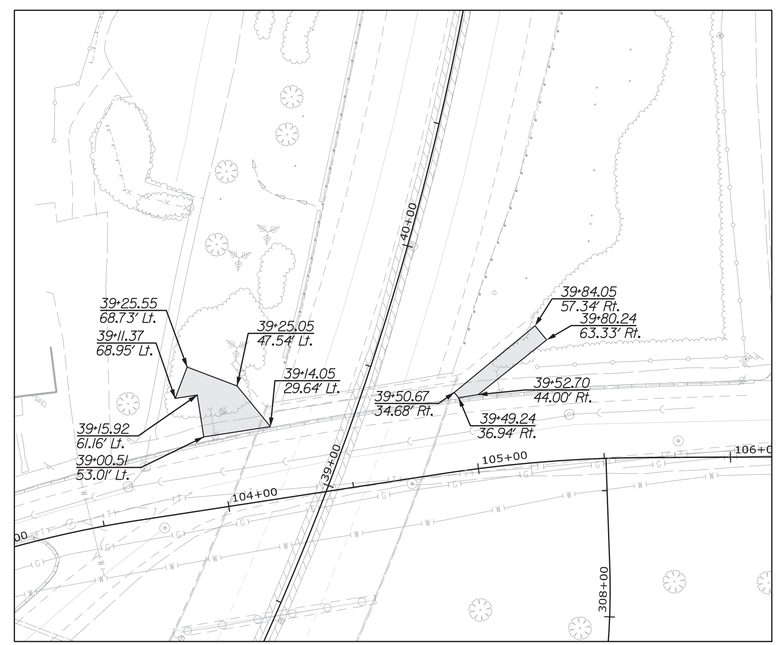
LEGEND:

EPS 22 Geofoam

Min. Limits of EPS 39 Geofoam

PLAN

30 0 30 60
Scale of Feet



LAYER 4
BOTTOM ELEVATION - EL. 16
TOP ELEVATION - EL. 18

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EJD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

GEOFOAM LAYOUT PLAN
NORTH APPROACH 1

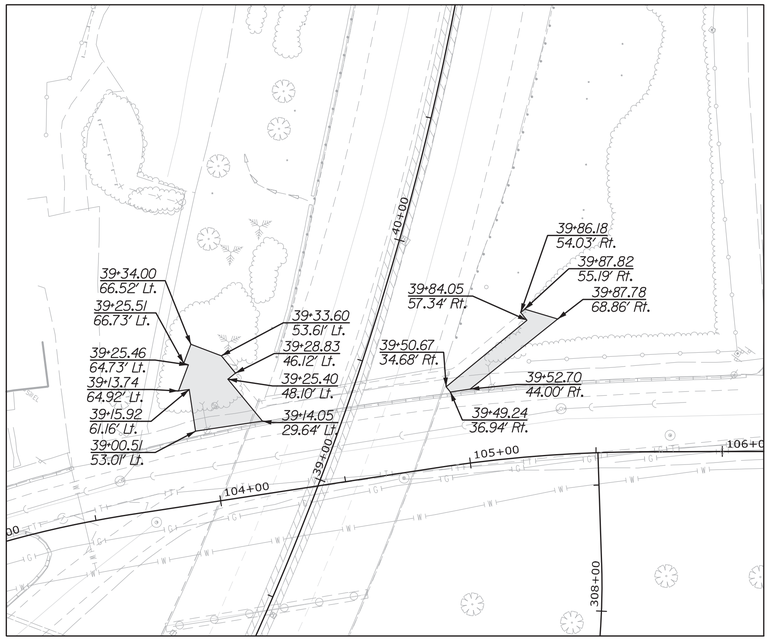
SHEET NUMBER
49
OF 220

Date:3/3/2020

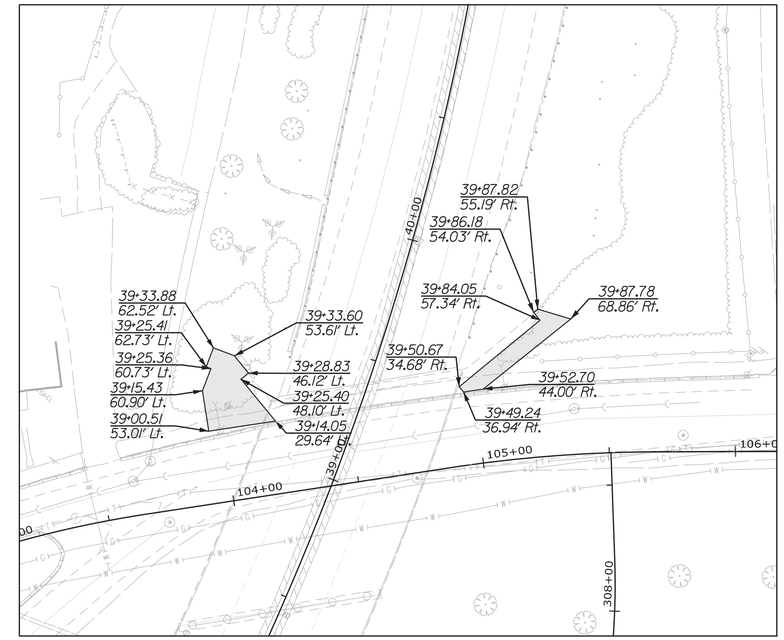
Username:

Division:

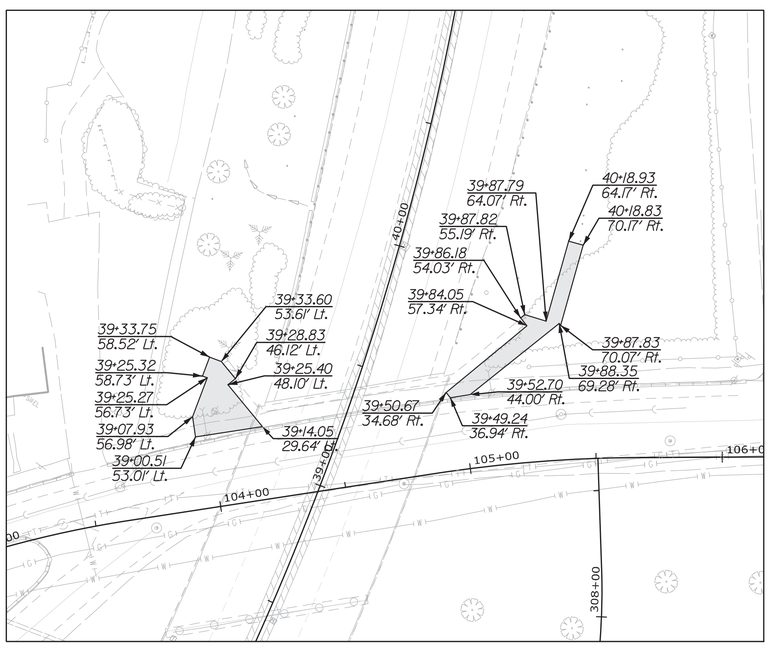
Filename: 049_GDPlan_N01.dgn



LAYER 5
BOTTOM ELEVATION - EL. 18
TOP ELEVATION - EL. 20



LAYER 6
BOTTOM ELEVATION - EL. 20
TOP ELEVATION - EL. 22



LAYER 7
BOTTOM ELEVATION - EL. 22
TOP ELEVATION - EL. 23

LEGEND:

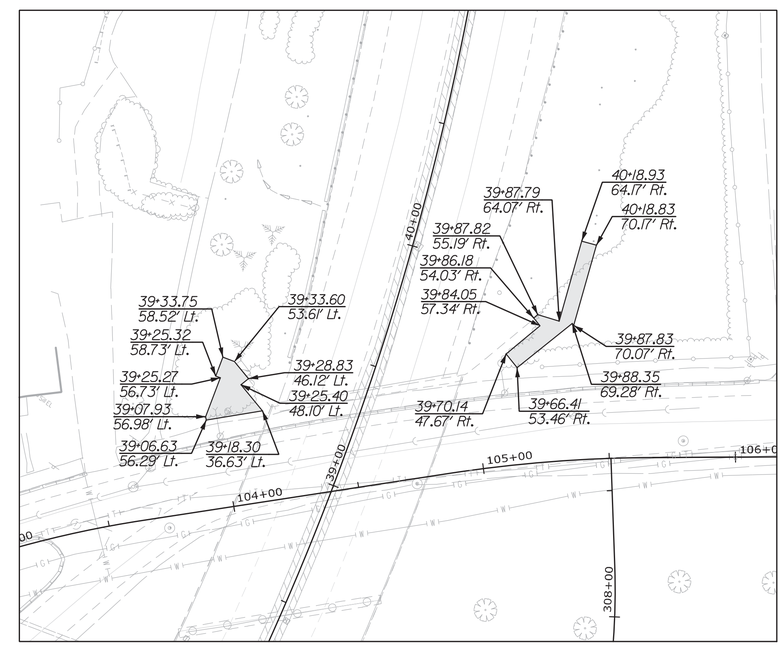
EPS 22 Geofoam

Min. Limits of EPS 39 Geofoam

PLAN

30 0 30 60

Scale of Feet



LAYER 8
BOTTOM ELEVATION - EL. 23
TOP ELEVATION - EL. 24

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EOD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

GEOFOAM LAYOUT PLAN
NORTH APPROACH 2

SHEET NUMBER

50

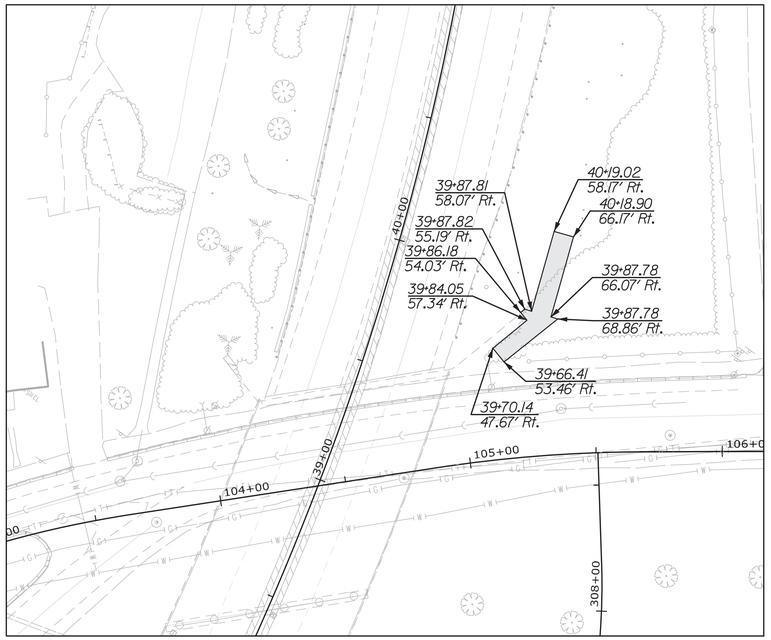
OF 220

Date:3/3/2020

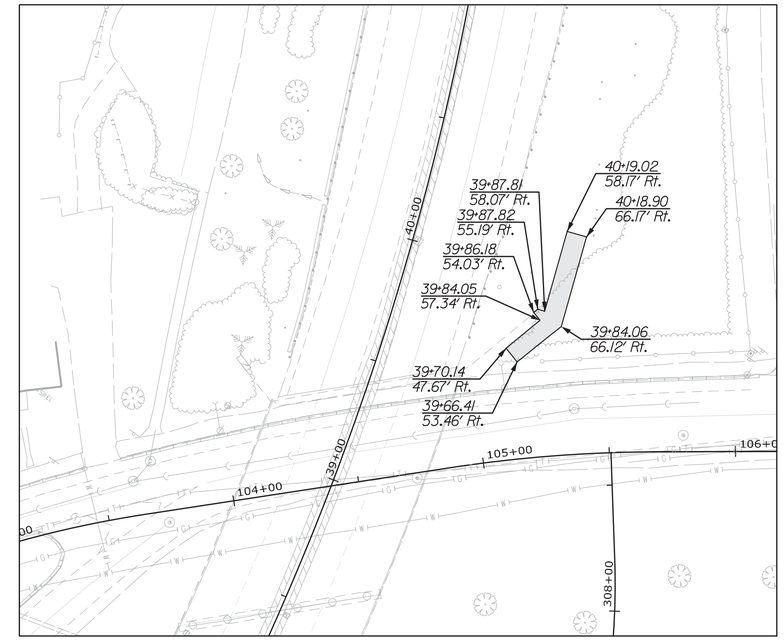
Division:

Username:

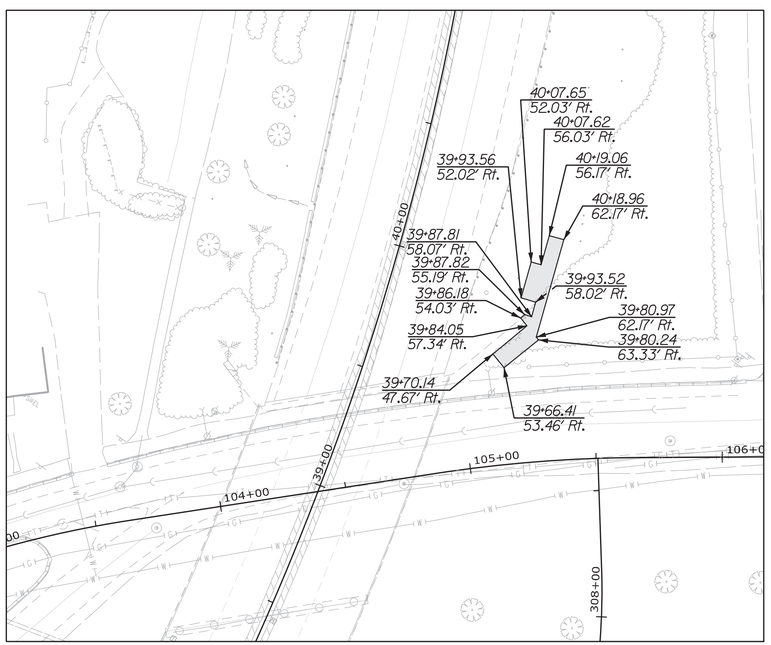
Filename: 050_GDPlan_N02.dgn



LAYER 9
BOTTOM ELEVATION - EL. 24
TOP ELEVATION - EL. 25



LAYER 10
BOTTOM ELEVATION - EL. 25
TOP ELEVATION - EL. 26



LAYER 11
BOTTOM ELEVATION - EL. 26
TOP ELEVATION - EL. 27

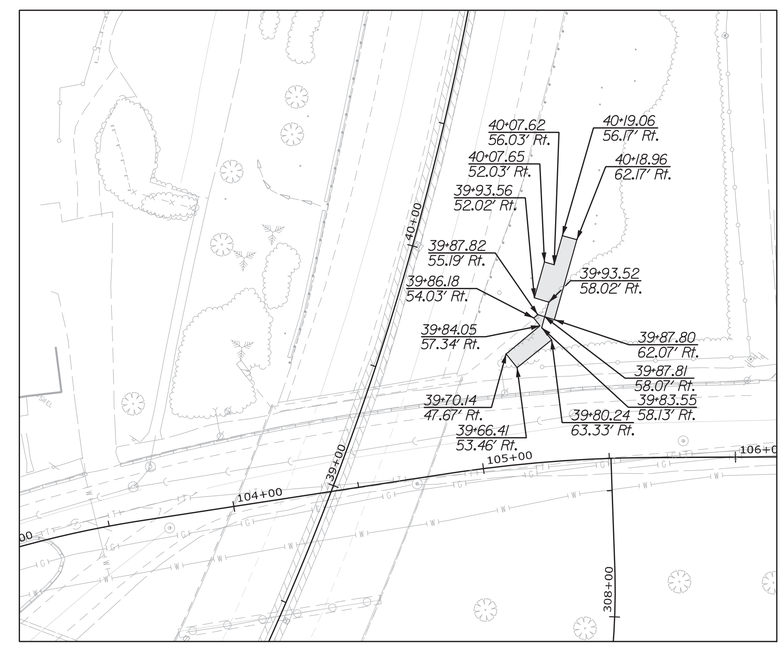
LEGEND:

EPS 22 Geofoam

Min. Limits of EPS 39 Geofoam

PLAN

30 0 30 60
Scale of Feet



LAYER 12
BOTTOM ELEVATION - EL. 27
TOP ELEVATION - EL. 28

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EJD	CDH	2\20
CHECKED-REVIEWED	RWH	LZD	2\20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

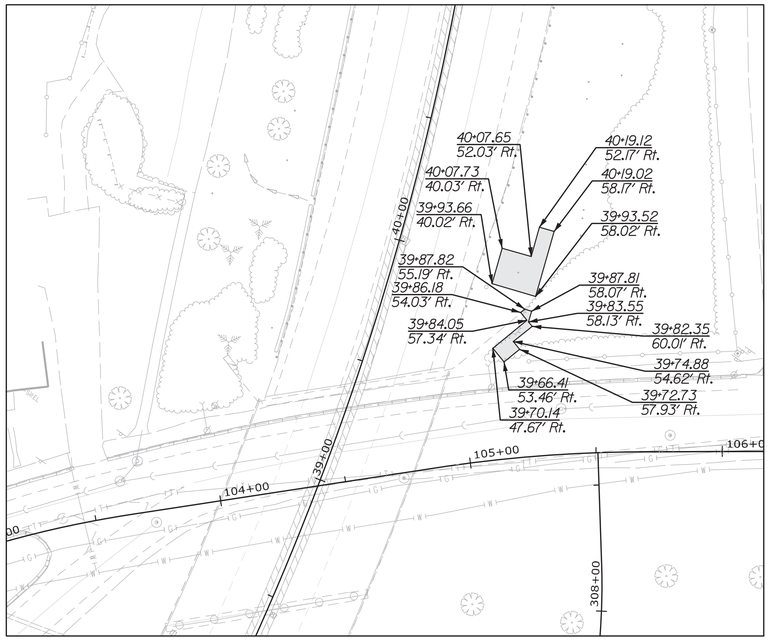
DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

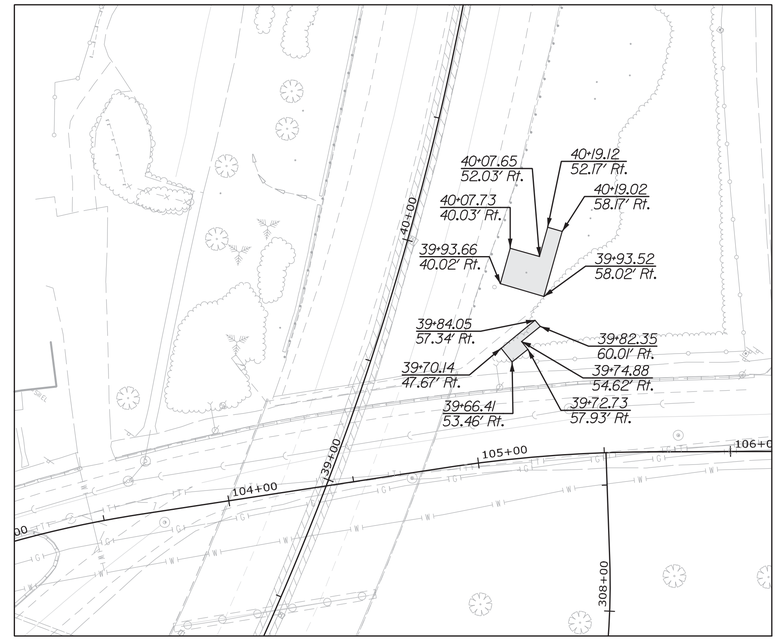
GEOFOAM LAYOUT PLAN
NORTH APPROACH 3

SHEET NUMBER
51
OF 220

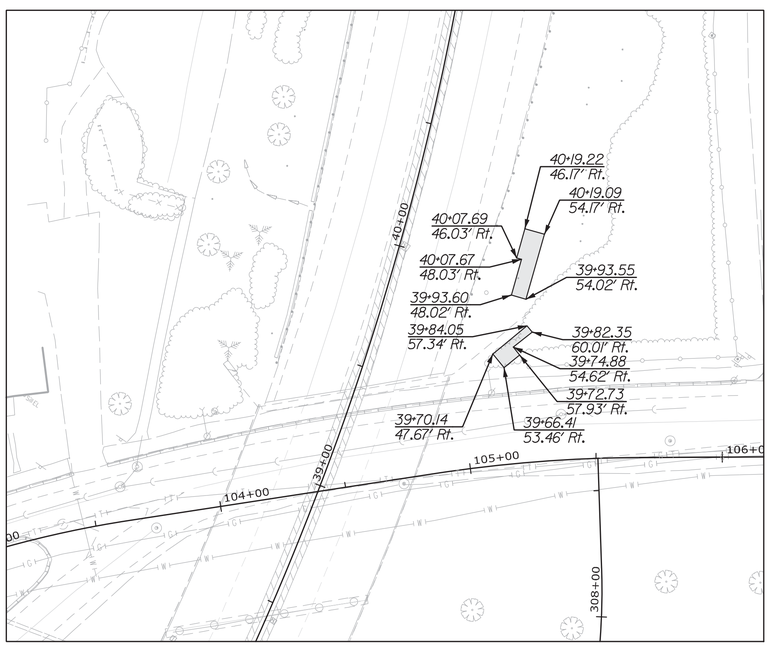
Filename: 051_GDPlan_N03.dgn Division: Username: Date:3/3/2020



LAYER 13
BOTTOM ELEVATION - EL. 28
TOP ELEVATION - EL. 29



LAYER 14
BOTTOM ELEVATION - EL. 29
TOP ELEVATION - EL. 30



LAYER 15
BOTTOM ELEVATION - EL. 30
TOP ELEVATION - EL. 31

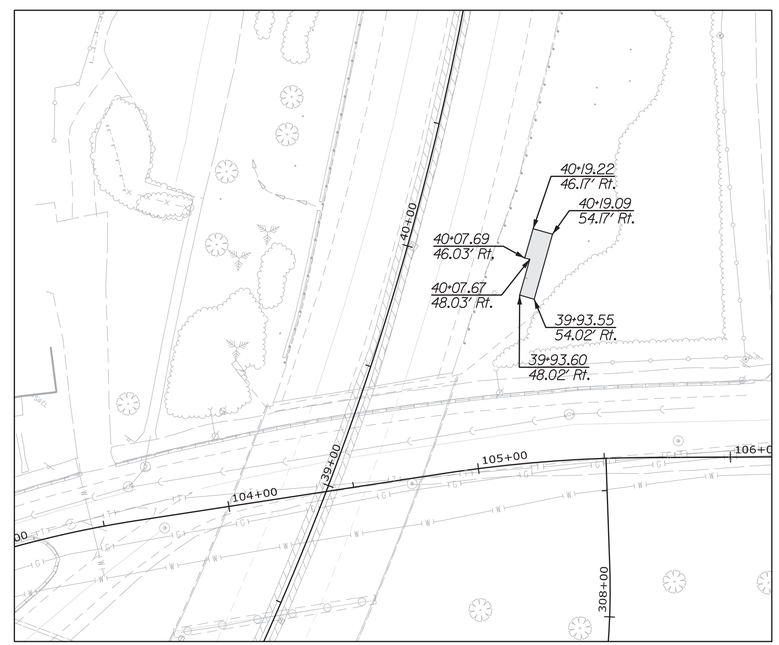
LEGEND:

EPS 22 Geofoam

Min. Limits of EPS 39 Geofoam

PLAN

30 0 30 60
Scale of Feet



LAYER 16
BOTTOM ELEVATION - EL. 31
TOP ELEVATION - EL. 32

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EDD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

GEOFOAM LAYOUT PLAN
NORTH APPROACH 4

SHEET NUMBER
52
OF 220

Date:3/3/2020

Username:

Division:

Filename: 052_GDPlan_N04.dgn

LEGEND

El. XX.XX = Top elevation of Lightweight Foam Concrete Distribution Slab

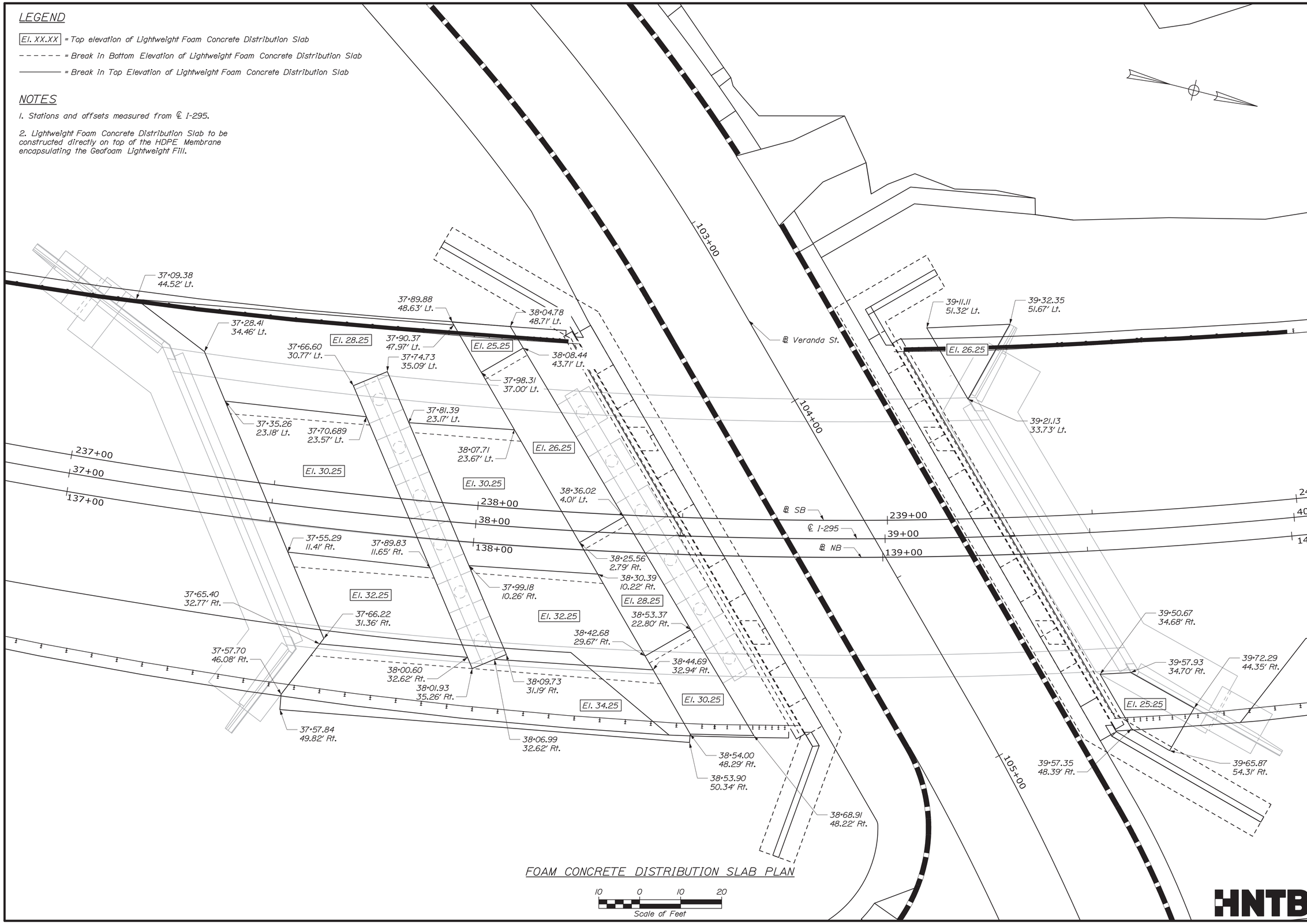
- - - - - - = Break in Bottom Elevation of Lightweight Foam Concrete Distribution Slab

——— = Break in Top Elevation of Lightweight Foam Concrete Distribution Slab

NOTES

1. Stations and offsets measured from ℄ I-295.

2. Lightweight Foam Concrete Distribution Slab to be constructed directly on top of the HDPE Membrane encapsulating the Geofoam Lightweight Fill.



FOAM CONCRETE DISTRIBUTION SLAB PLAN

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	H.J.W	ERB	2\20
CHECKED-REVIEWED	T.J.P	TRC	2\20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS: 1			
REVISIONS: 2			
REVISIONS: 3			
REVISIONS: 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

LIGHTWEIGHT FOAM CONCRETE
DISTRIBUTION SLAB PLAN

SHEET NUMBER

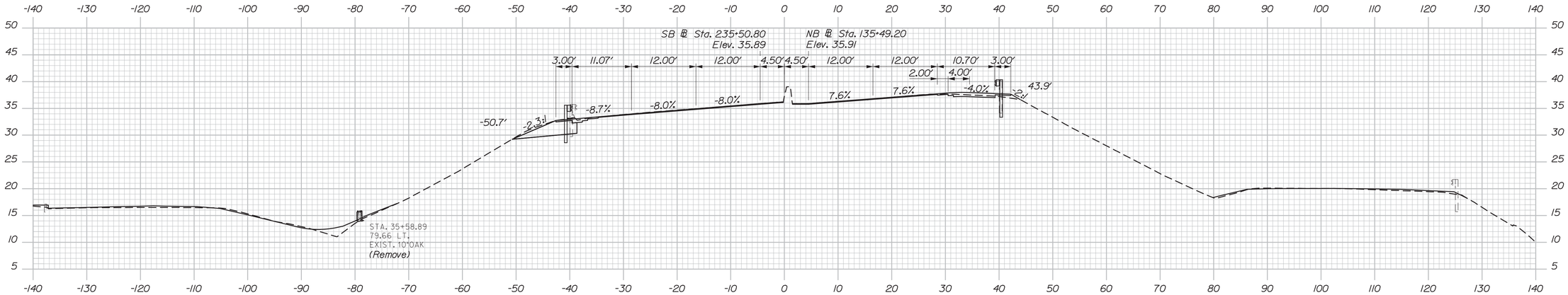
53

OF 220

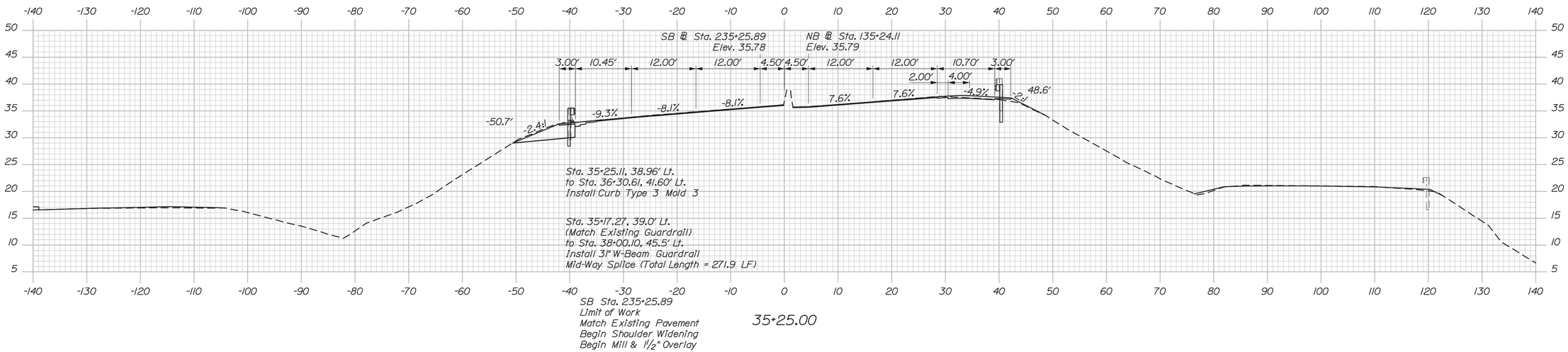
Date:3/3/2020

Username:

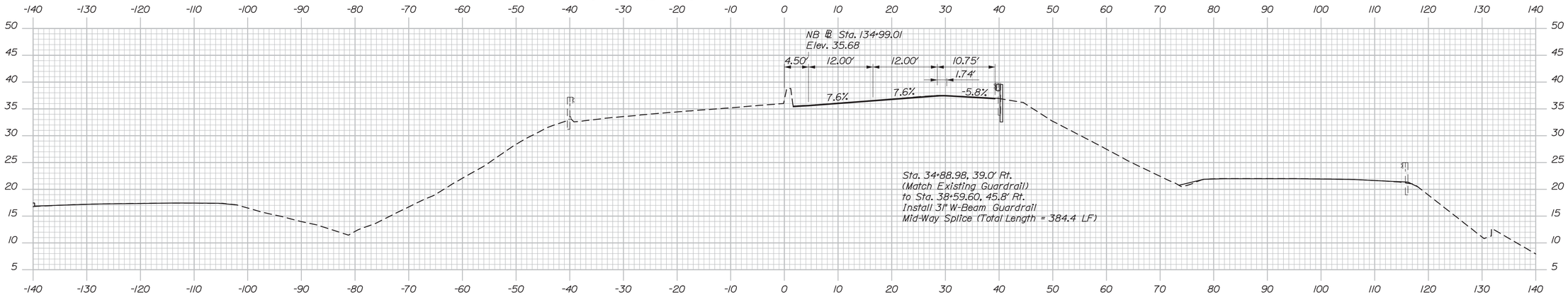
Filename: 053_Foam Concrete Distribution Slab.dgnDivision:



35+50.00



35+25.00



35+00.00

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

SIGNATURE

P.E. NUMBER

DATE

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	EDD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
I 295

SHEET NUMBER
54
OF 220

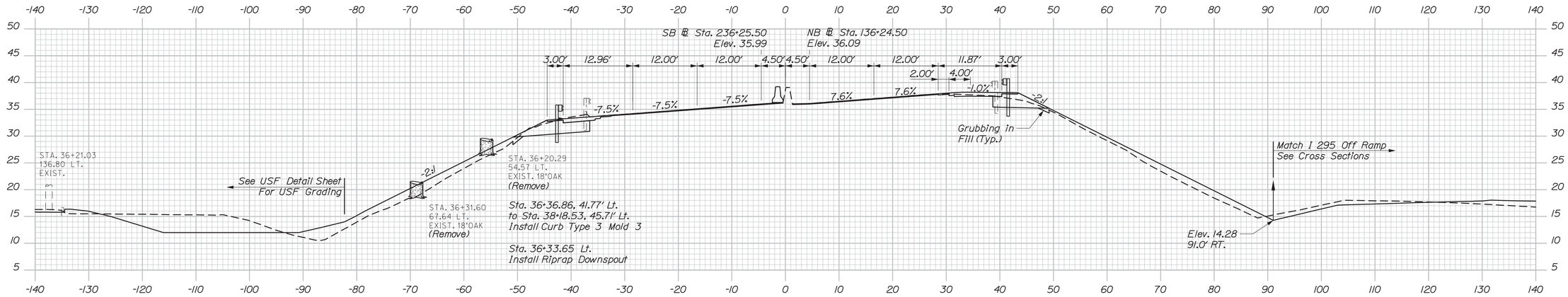
Date:3/3/2020

Username:

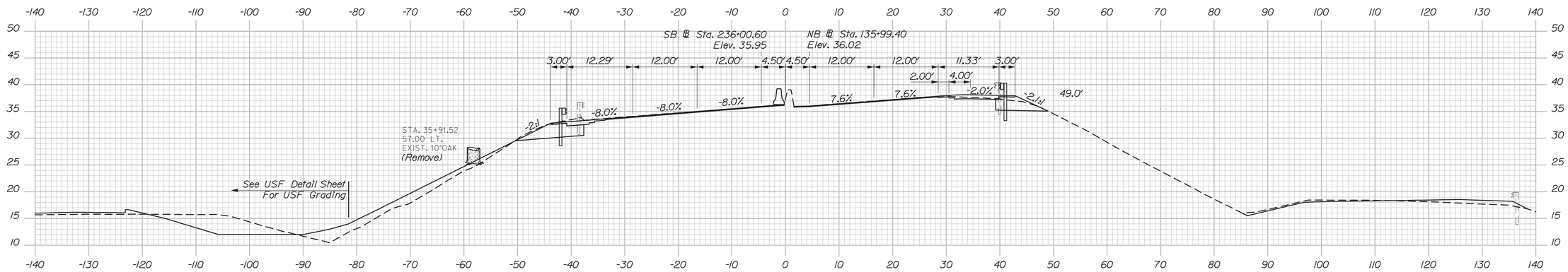
Division:

Filename: Xsect_295.dgn

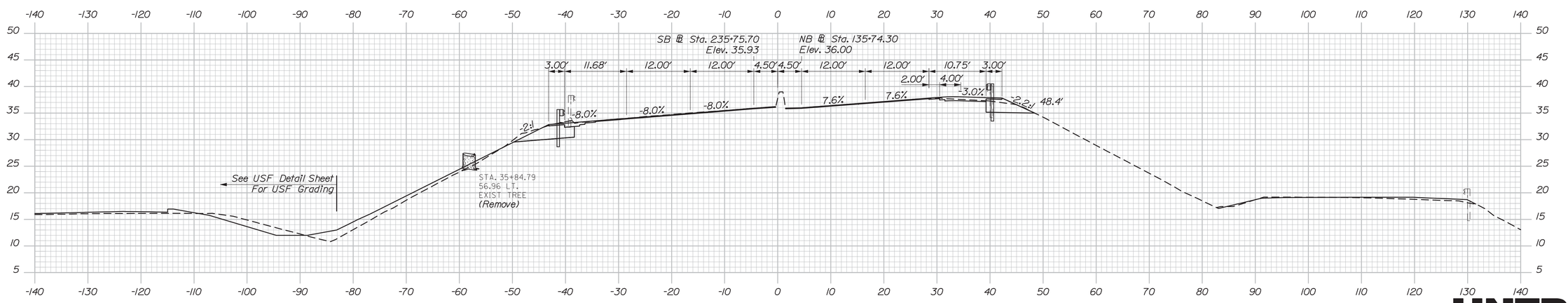
Sta. 35+00.00 to Sta. 35+50.00



36+25.00



36+00.00



35+75.00 NB Sta. 135+74.30
Begin Shoulder Widening

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

SIGNATURE

P.E. NUMBER

DATE

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	EDD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
I 295

SHEET NUMBER
55
OF 220

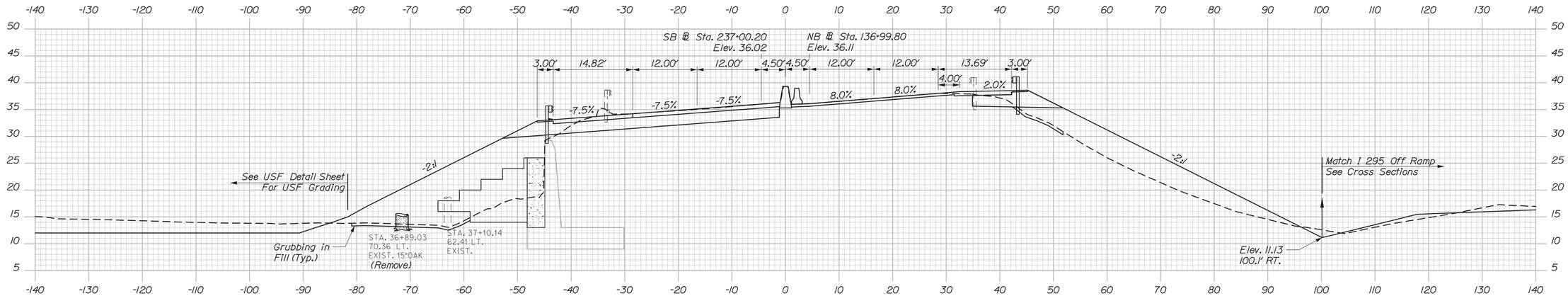
Date:3/3/2020

Username:

Division:

Filename: Xsect_295.dgn

Sta. 35+75.00 to Sta. 36+25.00

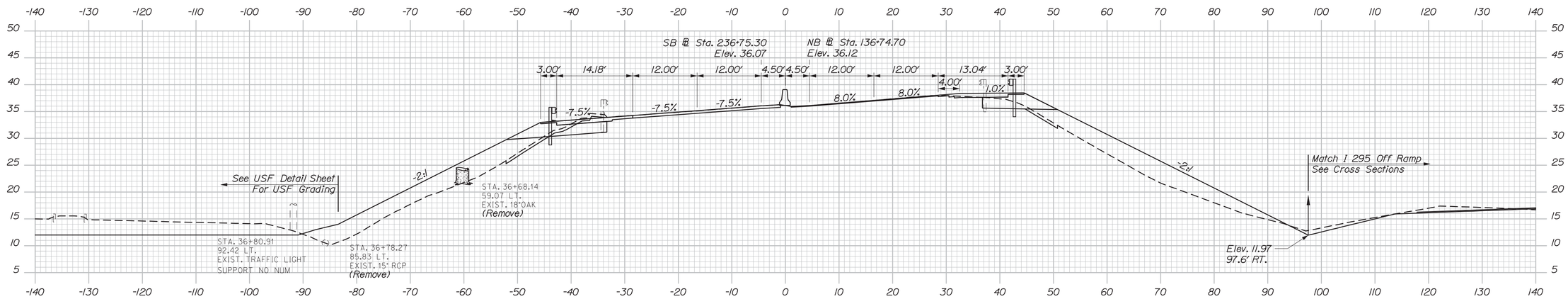


SB Sta. 237+00.00
End Shoulder Widening
End Mill & 6" Overlay
Begin Full Depth Construction

37+00.00

NB Sta. 136+95.00
End Mill & 1½" Overlay
Begin Mill & 3" Overlay

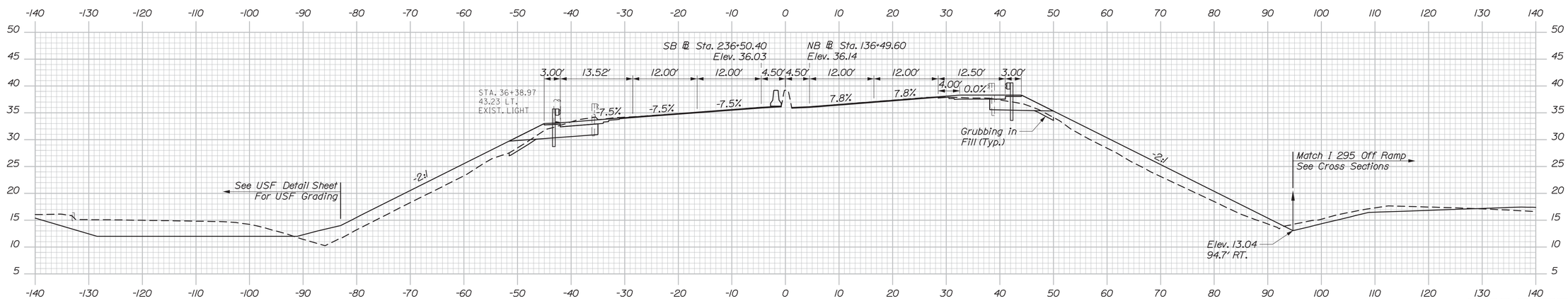
NB Sta. 137+00.00
End Mill & 3" Overlay
Begin Mill & 6" Overlay



SB Sta. 236+75.00
End Mill & 3" Overlay
Begin Mill & 6" Overlay

SB Sta. 236+70.00
End Mill & 1½" Overlay
Begin Mill & 3" Overlay

36+75.00



36+50.00

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	EDD	CDH	2\20
CHECKED-REVIEWED	RWH	LZD	2\20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
I 295

SHEET NUMBER
56
OF 220

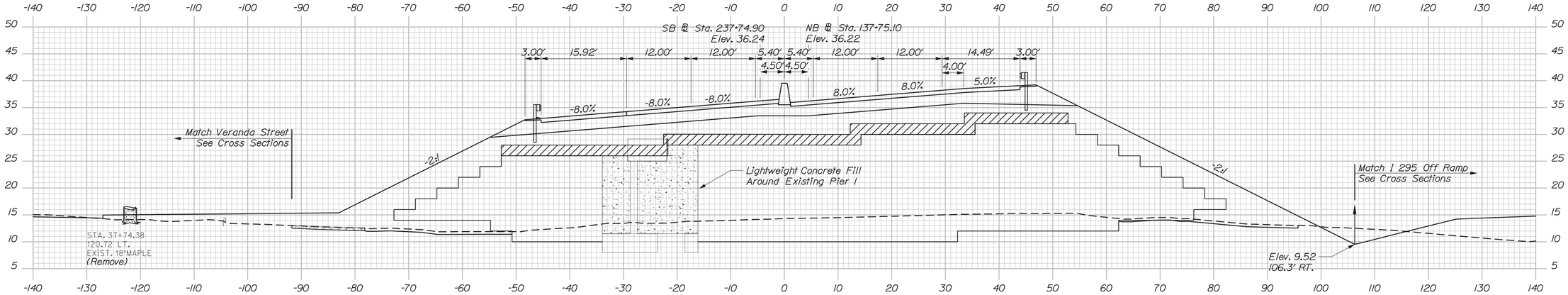
Sta. 36+50.00 to Sta. 37+00.00

Date:3/3/2020

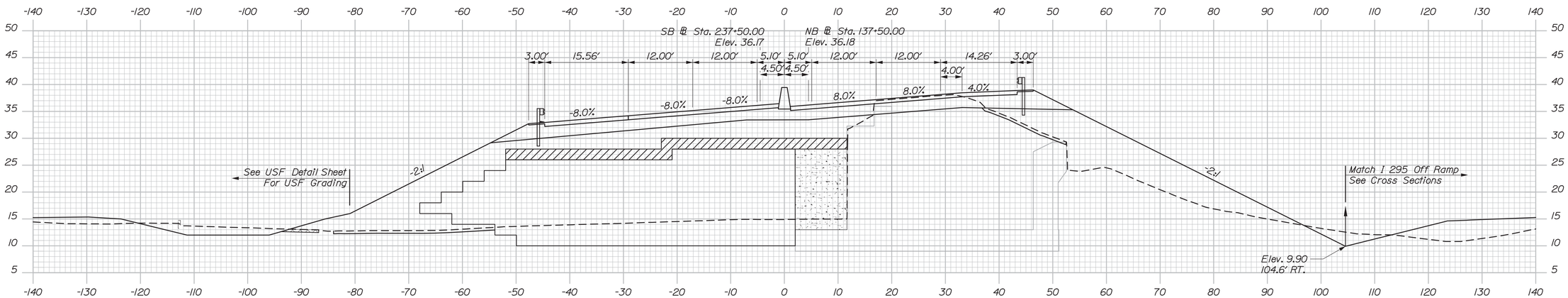
Username:

Division:

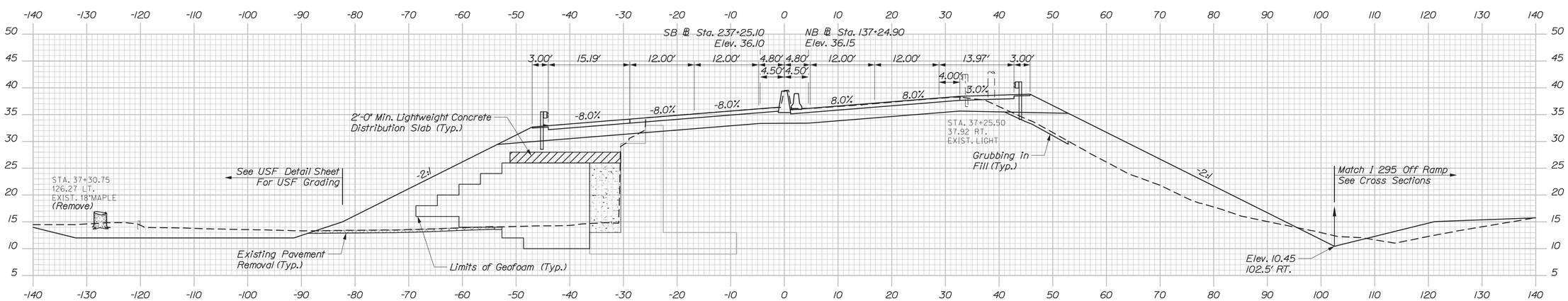
Filename: Xsect_295.dgn



37+75.00



37+50.00



37+25.00

NB Sta. 137+25.00
End Shoulder Widening
End Mill & 6" Overlay
Begin Full Depth Construction

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

	BY	DATE
D. EATON		
DESIGN-DETAILED	EJD	2/20
CHECKED-REVIEWED	RWH	2/20
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		
PROJ. MANAGER		

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
I 295

SHEET NUMBER
57
OF 220

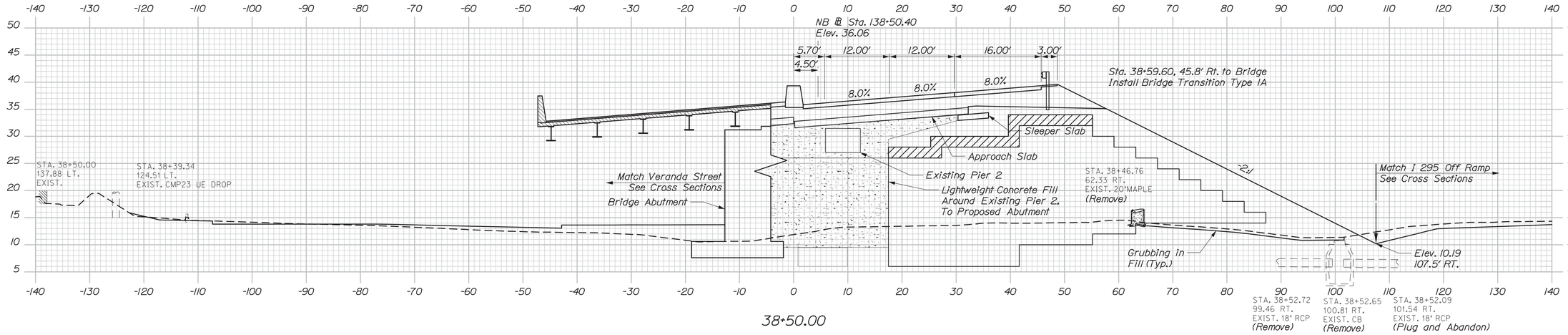
Sta. 37+25.00 to Sta. 37+75.00

Date:3/3/2020

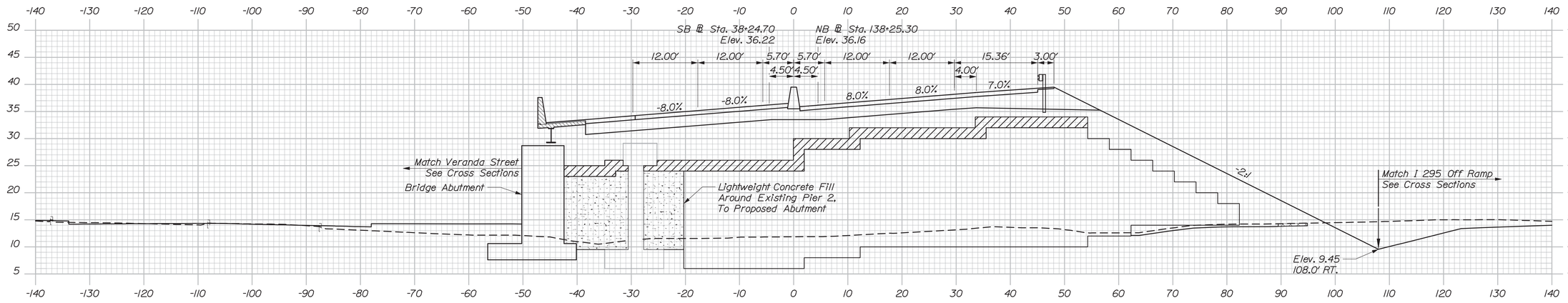
Username:

Division:

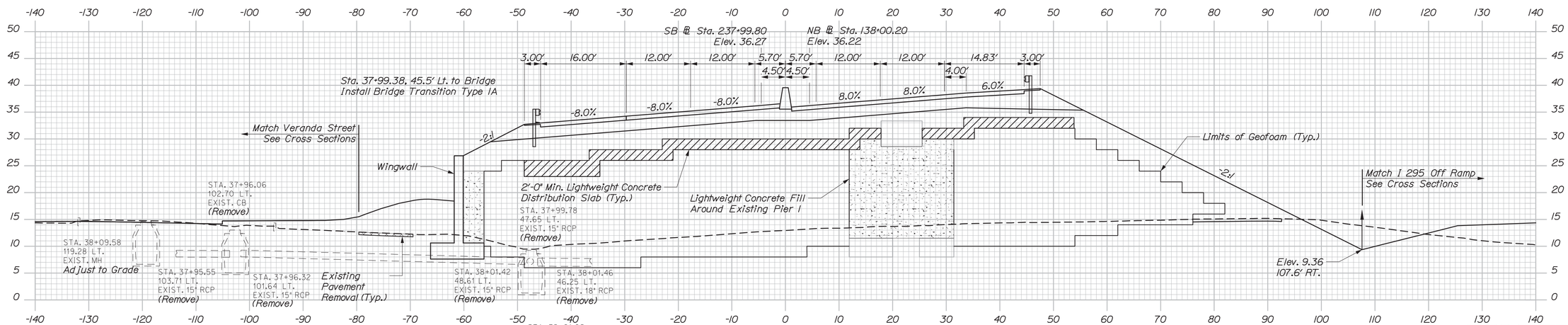
Filename: Xsect_295.dgn



38+50.00



38+25.00



38+00.00

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	D. EATON	
DESIGN-DETAILED	EOD	COH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2	EDZ		
DESIGN3-DETAILED3	EDS		
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
I 295

SHEET NUMBER
58
OF 220

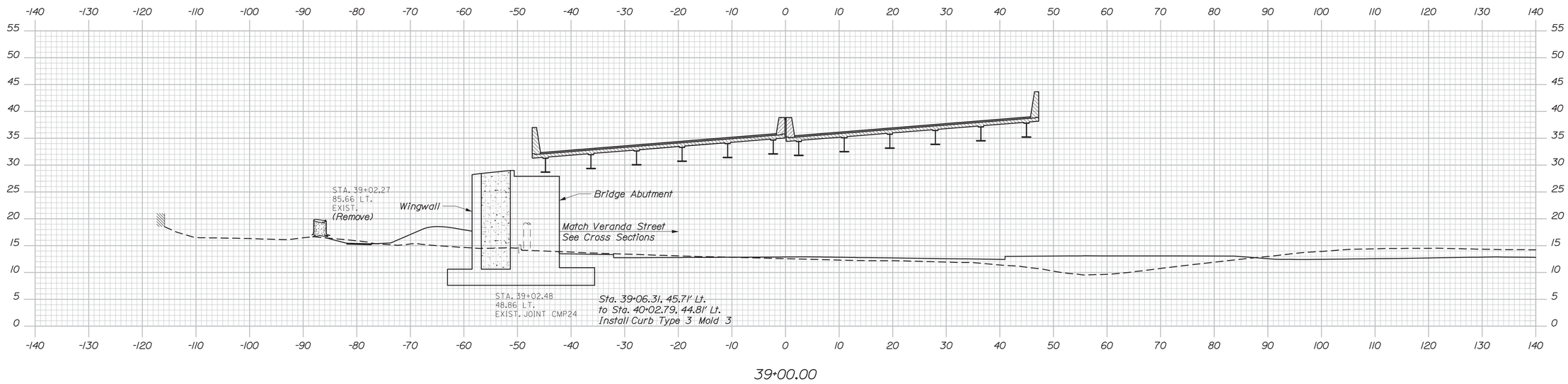
Date:3/3/2020

Username:

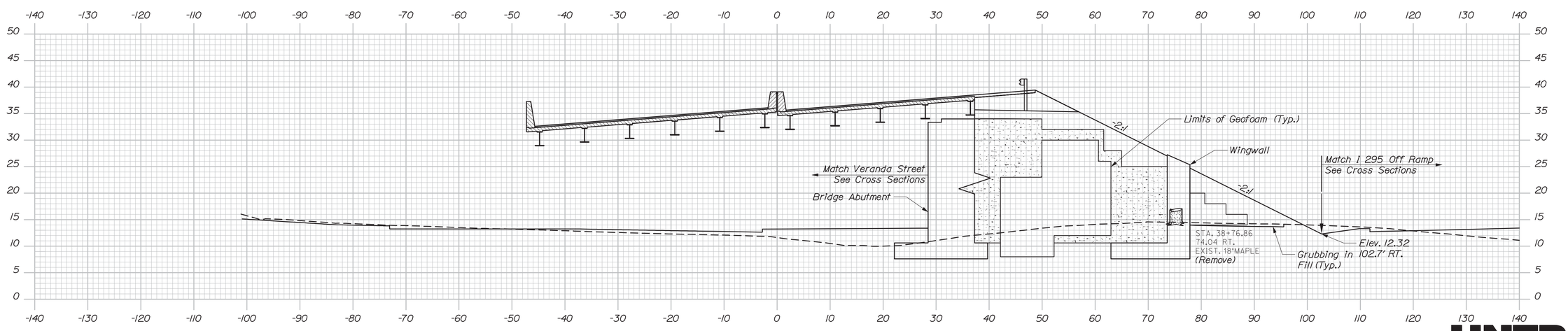
Division:

Filename: Xsect_295.dgn

Sta. 38+00.00 to Sta. 38+50.00



39+00.00



38+75.00

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EDD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
I 295

SHEET NUMBER
59
OF 220

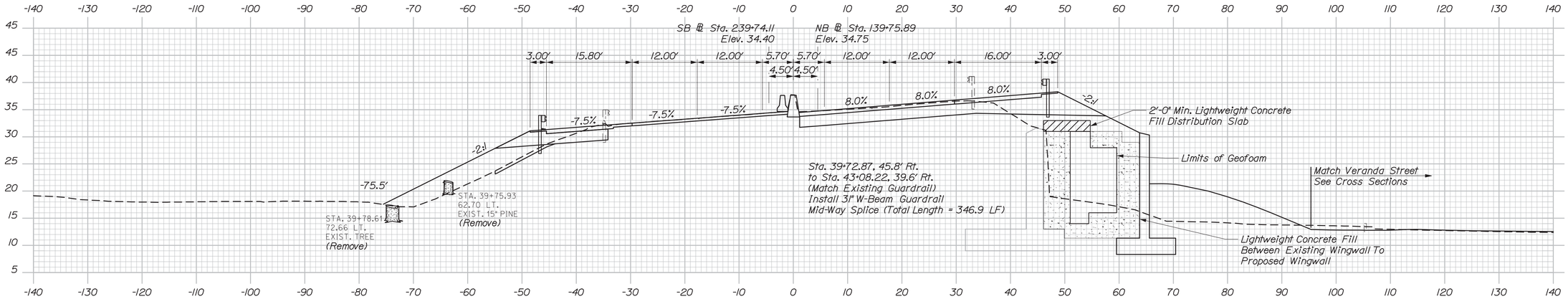
Date:3/3/2020

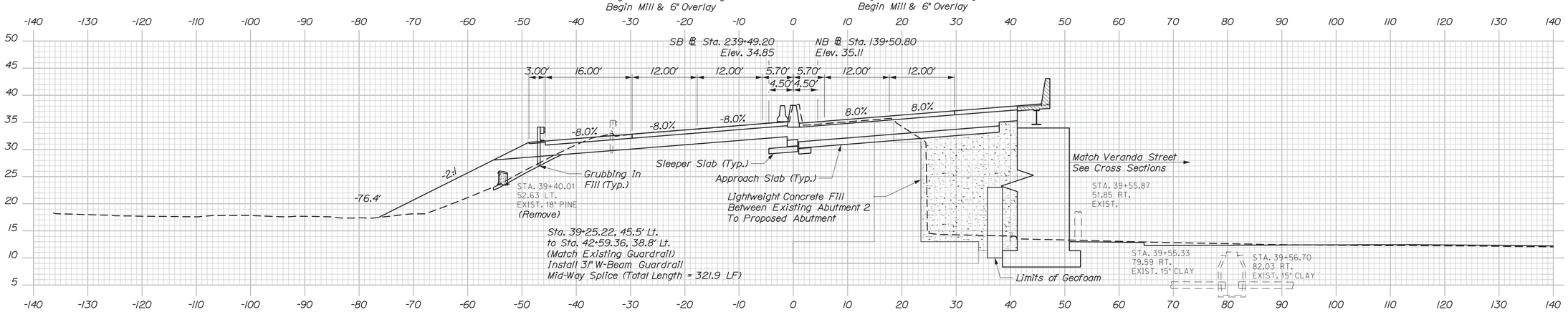
Username:

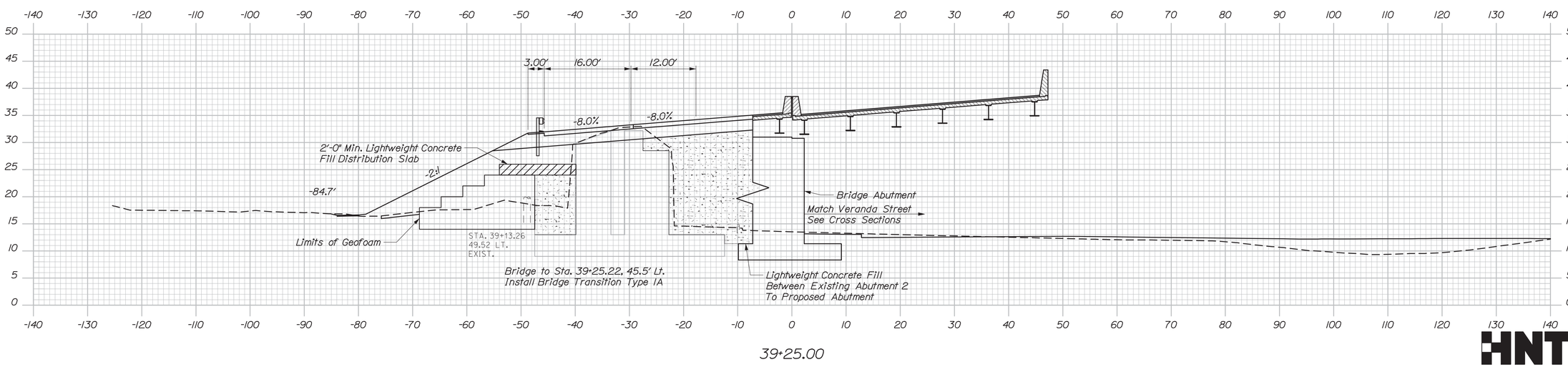
Division:

Filename: Xsect_295.dgn

Sta. 38+75.00 to Sta. 39+00.00







HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	D. EATON	
DESIGN-DETAILED	EOD	2\20
CHECKED-REVIEWED	RWH	2\20
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

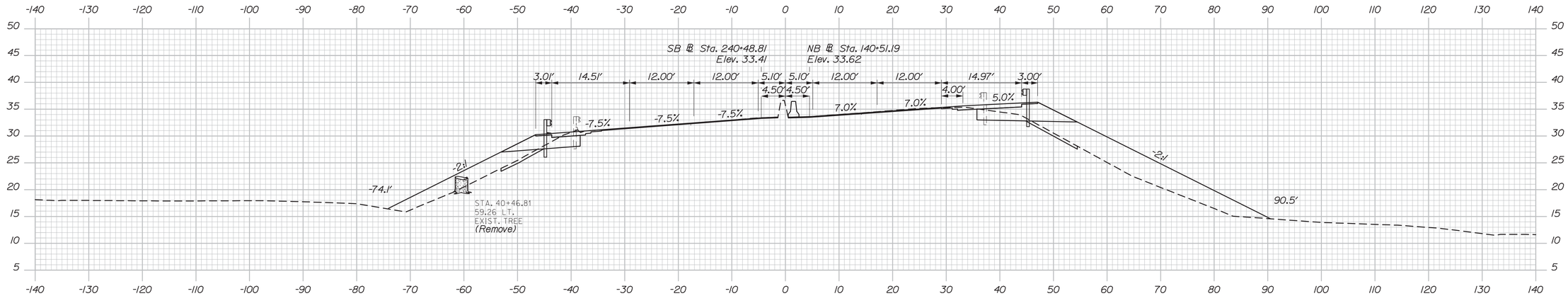
INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
I 295

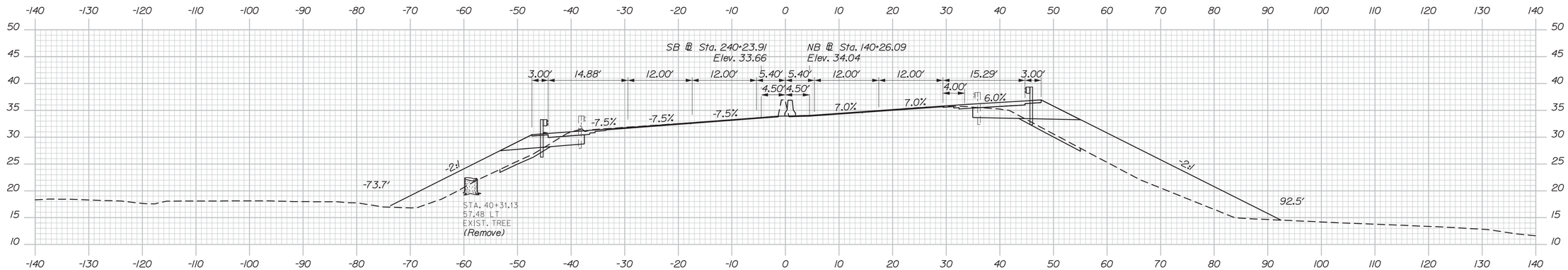
SHEET NUMBER
60
OF 220

Sta. 39+25.00 to Sta. 39+75.00

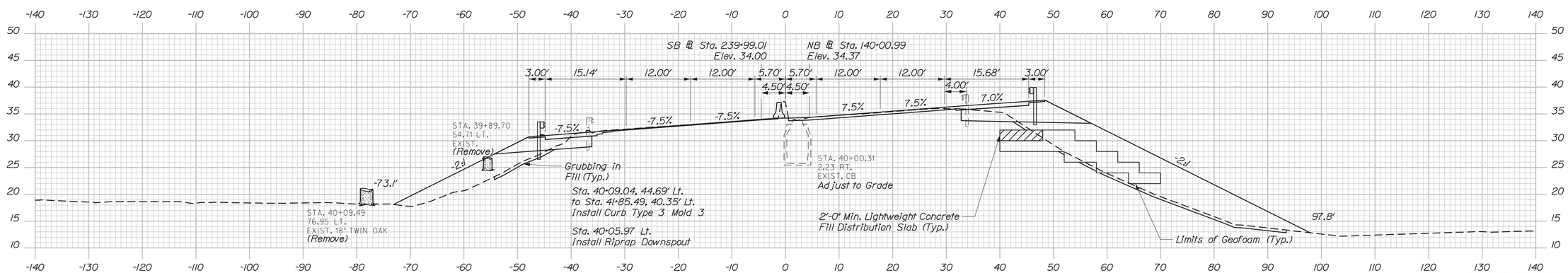
Date:3/3/2020
Username:
Division:
Filename: Xsect_295.dgn



40+50.00



40+25.00



40+00.00

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

SIGNATURE

P.E. NUMBER

DATE

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	EJD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

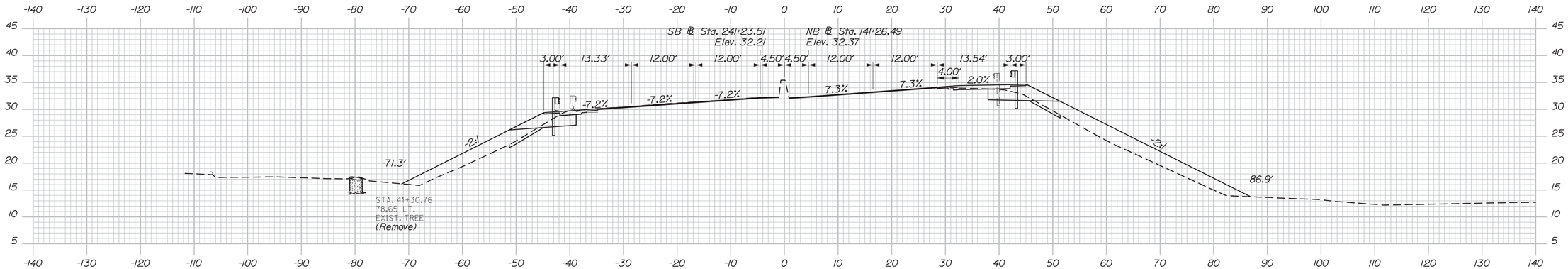
INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
I 295

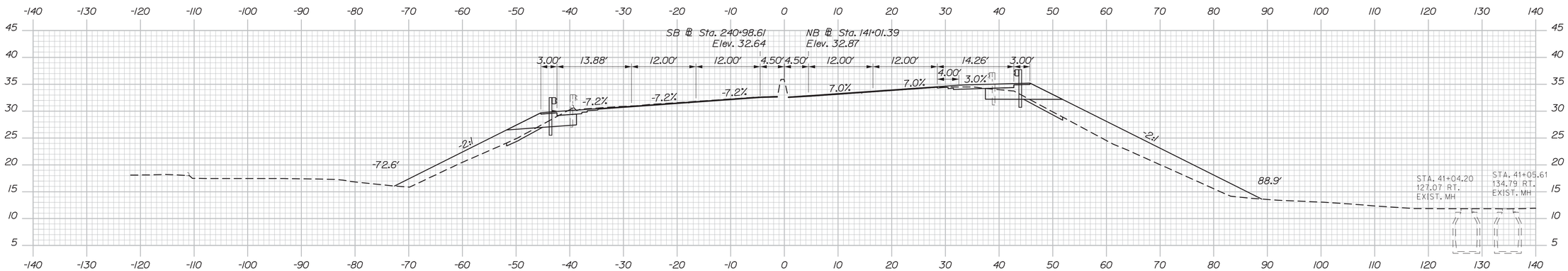
SHEET NUMBER
61
OF 220

Date:3/3/2020
Username:
Division:
Filename: Xsect_295.dgn

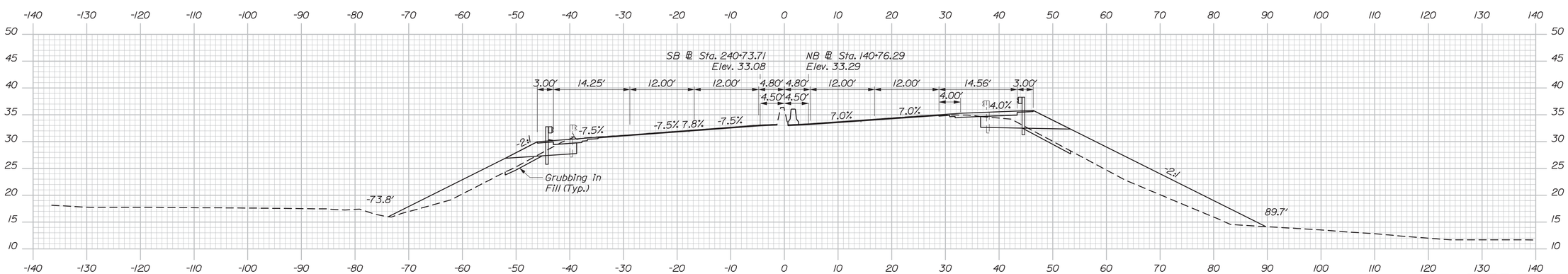
Sta. 40+00.00 to Sta. 40+50.00



41+25.00



41+00.00



40+75.00

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN
021745.00

BRIDGE NO.5933

BRIDGE PLANS

SIGNATURE

P.E. NUMBER

DATE

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	EDD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

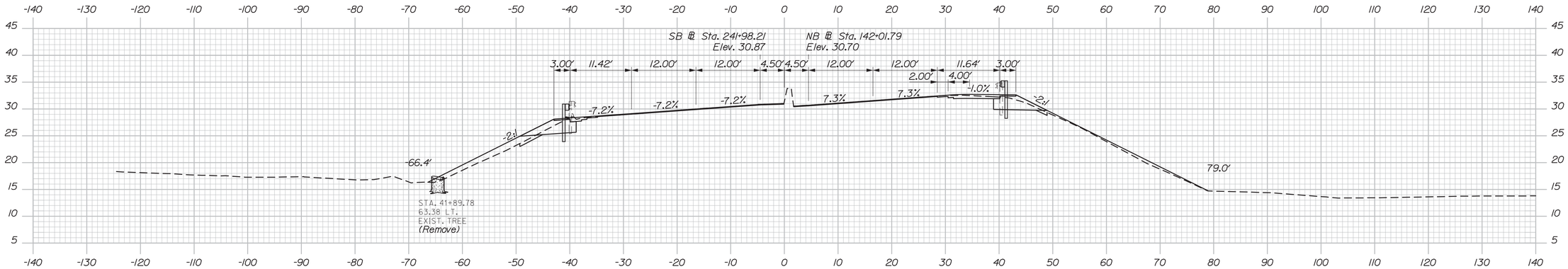
INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
I 295

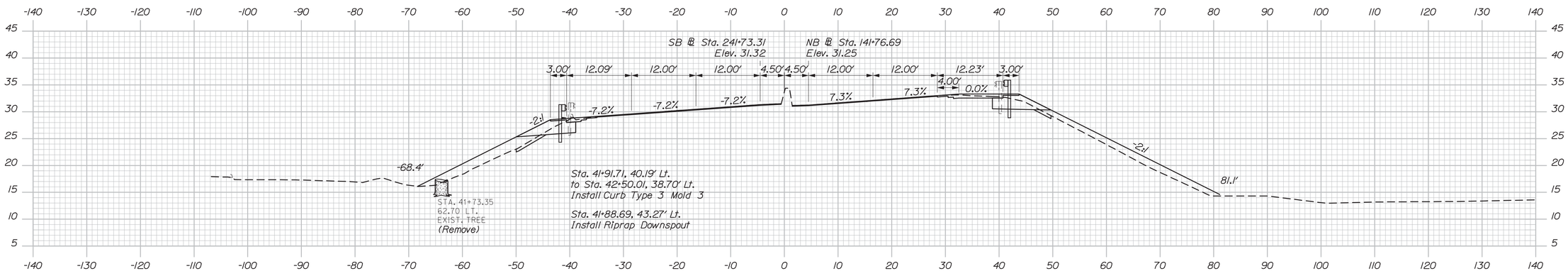
SHEET NUMBER
62
OF 220

Sta. 40+75.00 to Sta. 41+25.00

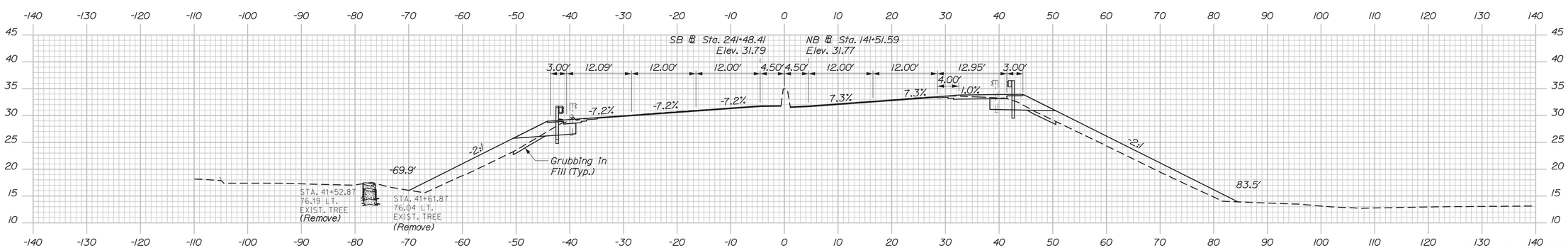
Date:3/3/2020
Username:
Division:
Filename: Xsect_295.dgn



42+00.00



41+75.00



41+50.00

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EDD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
I 295

SHEET NUMBER
63
OF 220

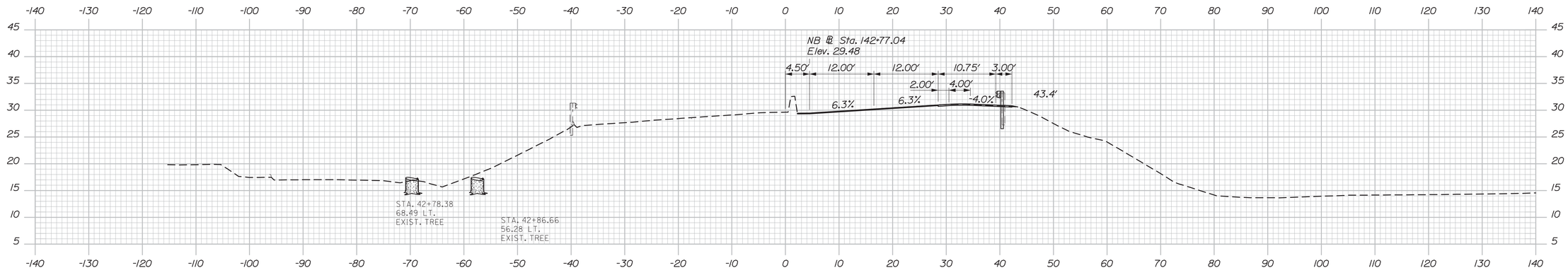
Sta. 41+50.00 to Sta. 42+00.00

Date:3/3/2020

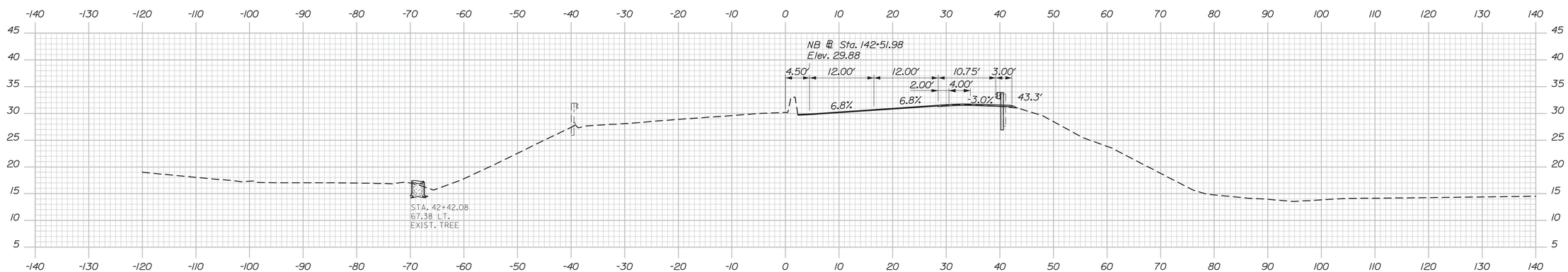
Username:

Division:

Filename: Xsect_295.dgn

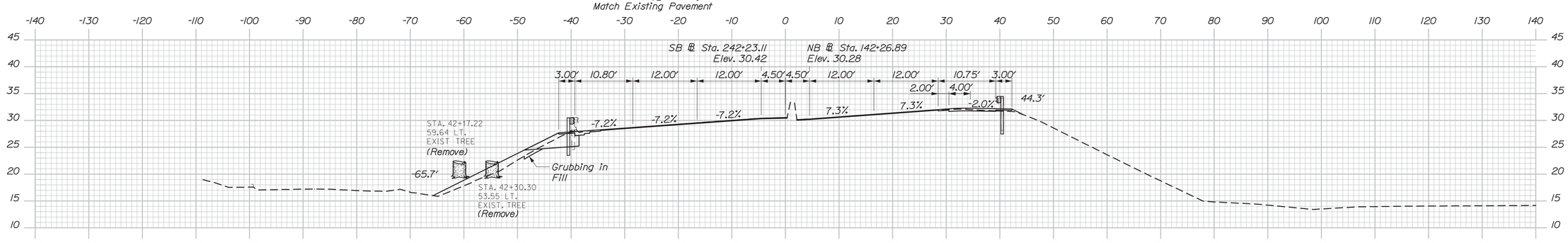


42+75.00



SB Sta. 242+40.12
Limit of Work
End Shoulder Widening
End Mill & 1½" Overlay
Match Existing Pavement

42+50.00



42+25.00

NB Sta. 142+26.89
End Shoulder Widening

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN
021745.00

BRIDGE NO.5933

BRIDGE PLANS

SIGNATURE

P.E. NUMBER

DATE

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	EDD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

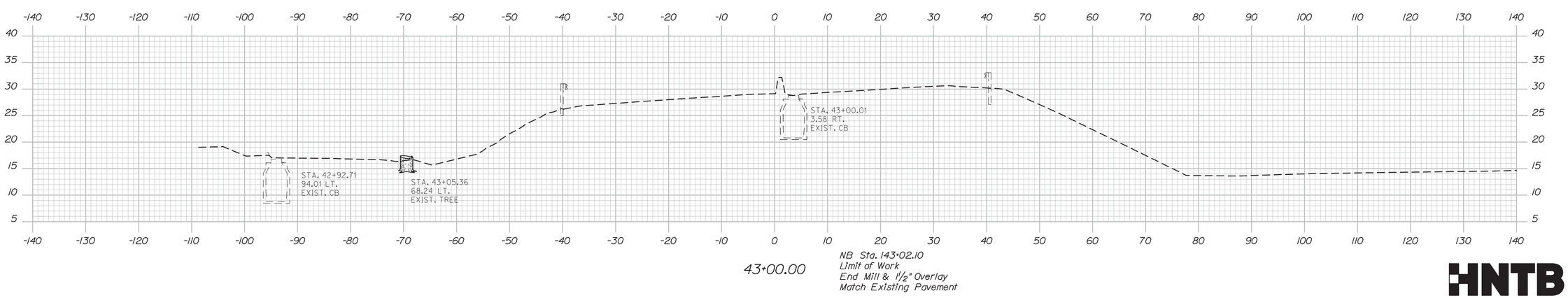
CROSS SECTIONS
I 295

SHEET NUMBER
64
OF 220

Sta. 42+25.00 to Sta. 42+75.00

Date:3/3/2020
Username:
Division:
Filename: Xsect_295.dgn

Filename: Xsect_295.dgn Division: Username: Date:3/3/2020



HNTB

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	EJD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933 BRIDGE PLANS

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

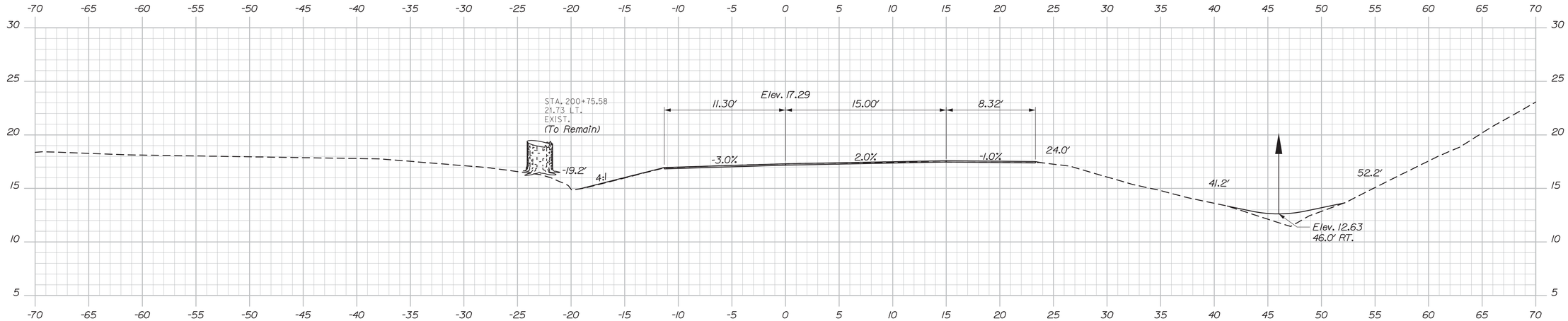
CROSS SECTIONS
I 295

SHEET NUMBER

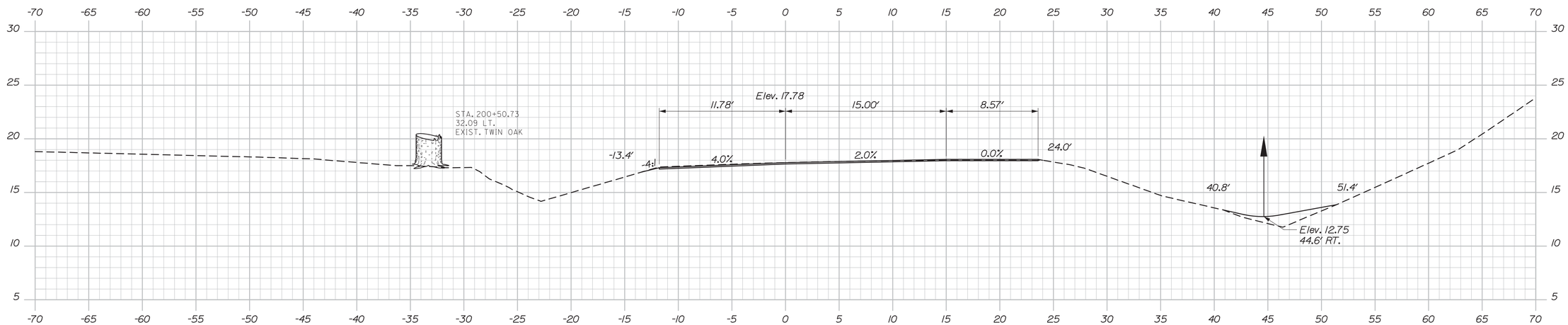
65

OF 220

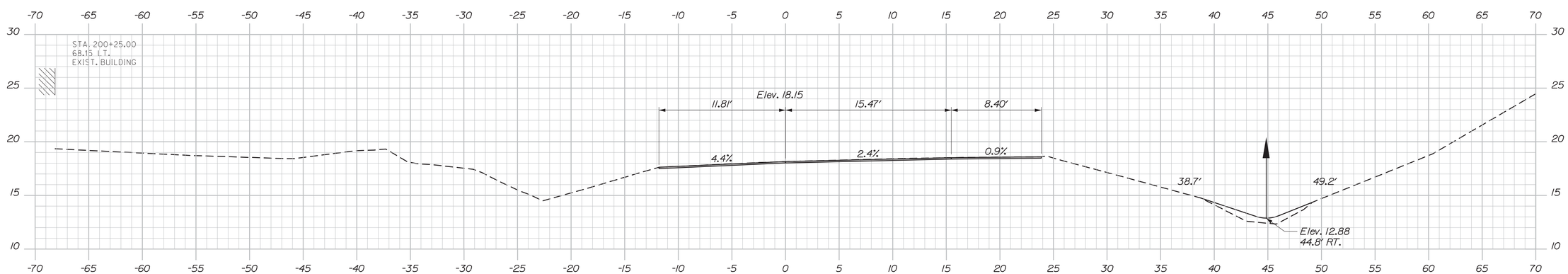
Sta. 43+00.00 to Sta. 43+00.00



200+75.00



200+50.00



200+25.00

Sta. 200+25.00
Match Existing Pavement
Begin Mill & 1½" Overlay

Sta. 200+05.00
Limit of Work

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN
021745.00

BRIDGE NO.5933

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EOD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

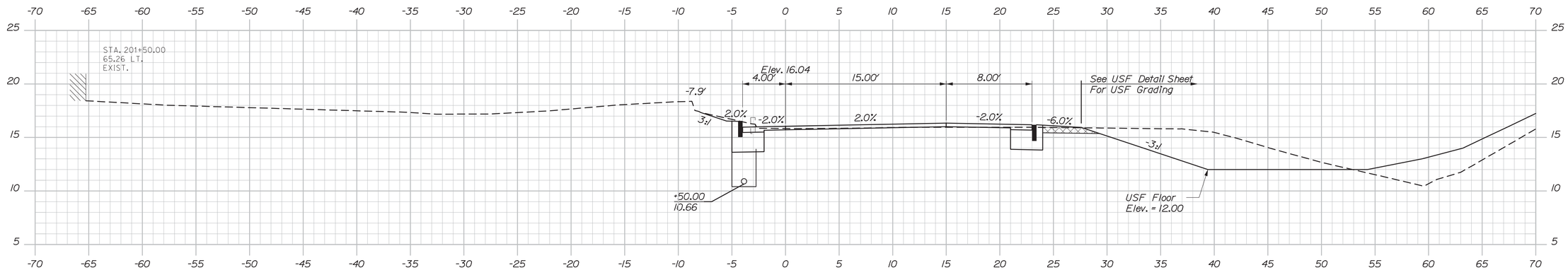
INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
I 295 SB ON RAMP

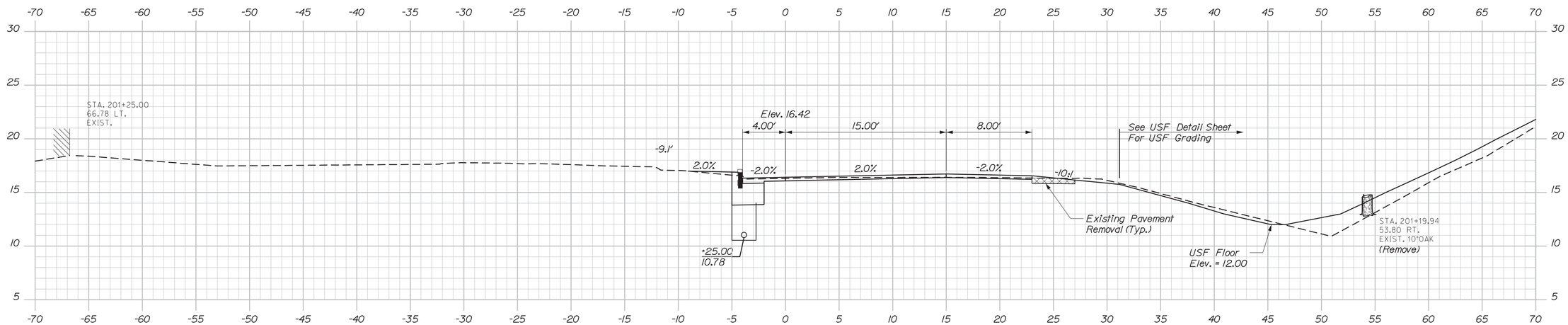
SHEET NUMBER
66
OF 220

Sta. 200+25.00 to Sta. 200+75.00

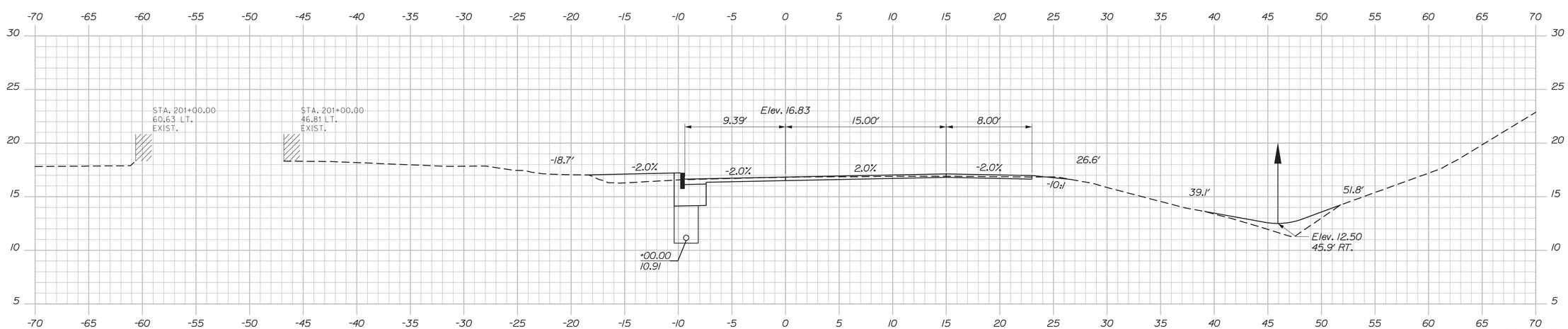
Date:3/3/2020
Username:
Division:
Filename: Xsect_295 On Ramp.dgn



201+50.00



201+25.00



201+00.00

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	EJD	CDH	2\20
CHECKED-REVIEWED	RWH	LZD	2\20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
I 295 SB ON RAMP

SHEET NUMBER
67
OF 220

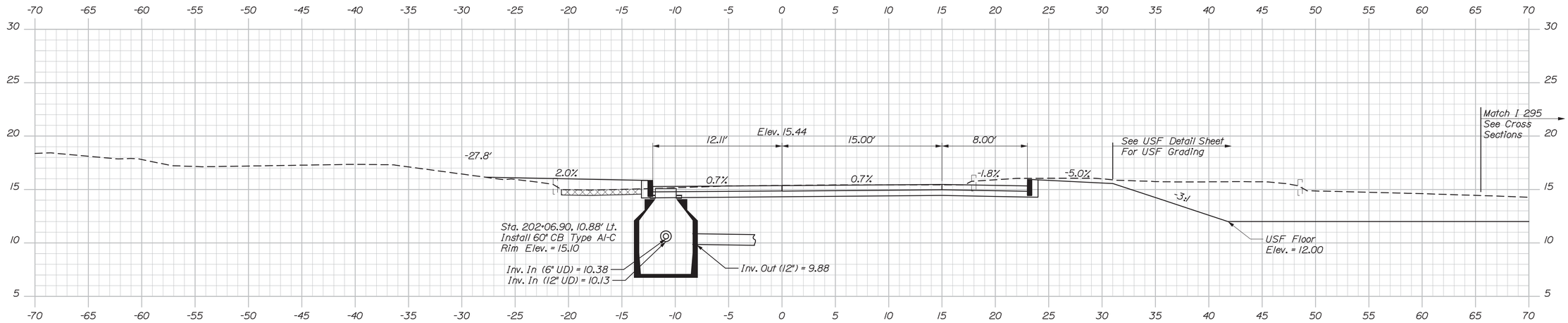
Date:3/3/2020

Username:

Division:

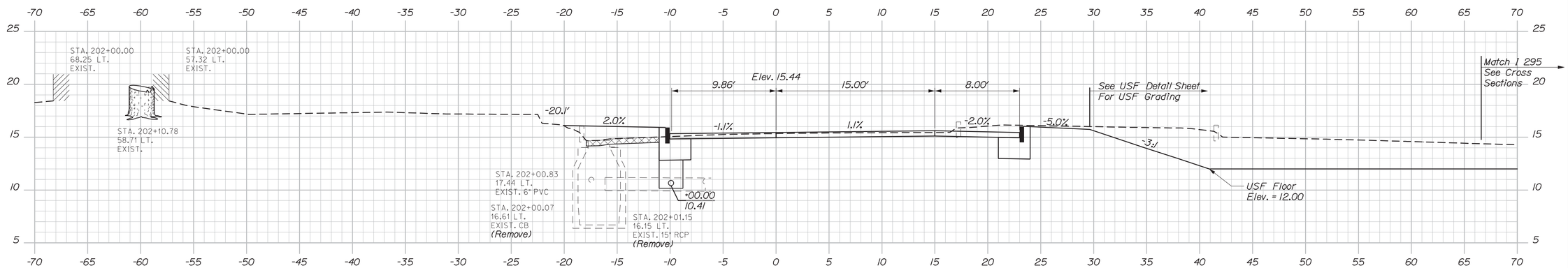
Filename: Xsect_295 On Ramp.dgn

Sta. 201+00.00 to Sta. 201+50.00



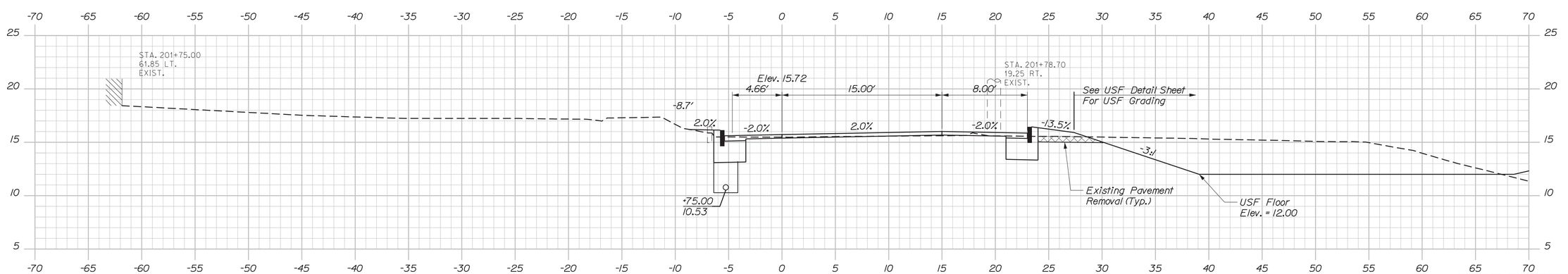
Sta. 202+06.90, 10.88' Lt. to
Sta. 101+97.84, 17.80' Rt.
Install 72' x 12" RCP Class III

202+06.90



202+00.00

Sta. 201+00.00
End Mill & 4" Overlay
Begin Full Depth Construction



201+75.00

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN
021745.00

BRIDGE NO.5933

BRIDGE PLANS

SIGNATURE

P.E. NUMBER

DATE

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	EJD	CDH	2\20
CHECKED-REVIEWED	RWH	LZD	2\20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

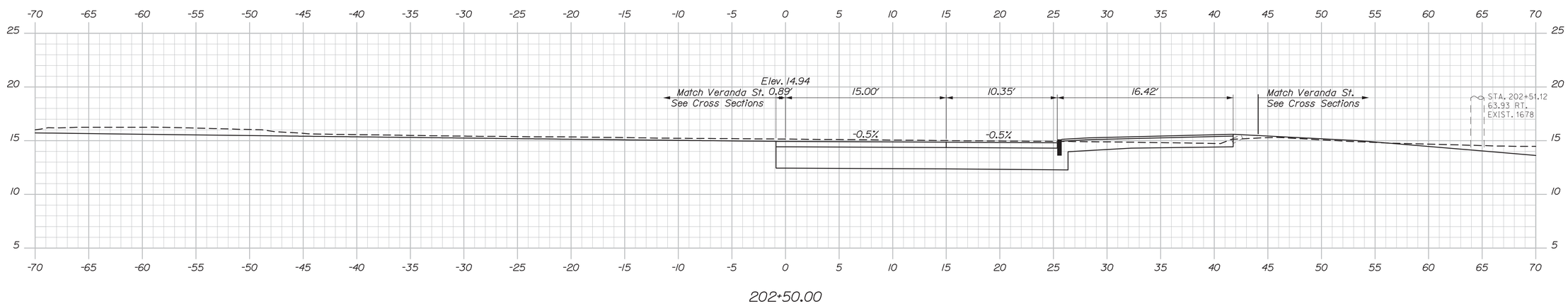
INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

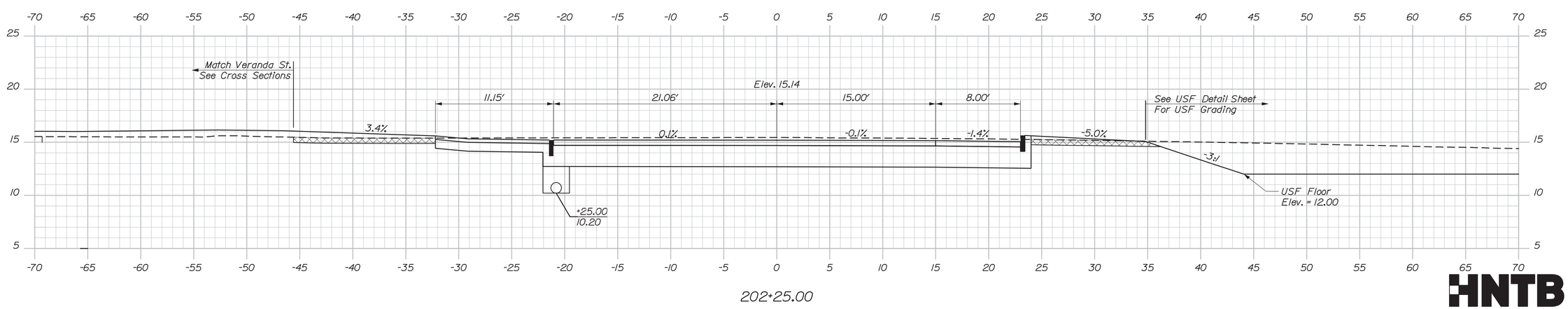
CROSS SECTIONS
I 295 SB ON RAMP

SHEET NUMBER
68
OF 220

Sta. 201+75.00 to Sta. 202+25.00

Date:3/3/2020
Username:
Division:
Filename: Xsect_295 On Ramp.dgn





HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933 BRIDGE PLANS

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	EJD	CDH	2\20
CHECKED-REVIEWED	RWH	LZD	2\20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
I 295 SB ON RAMP

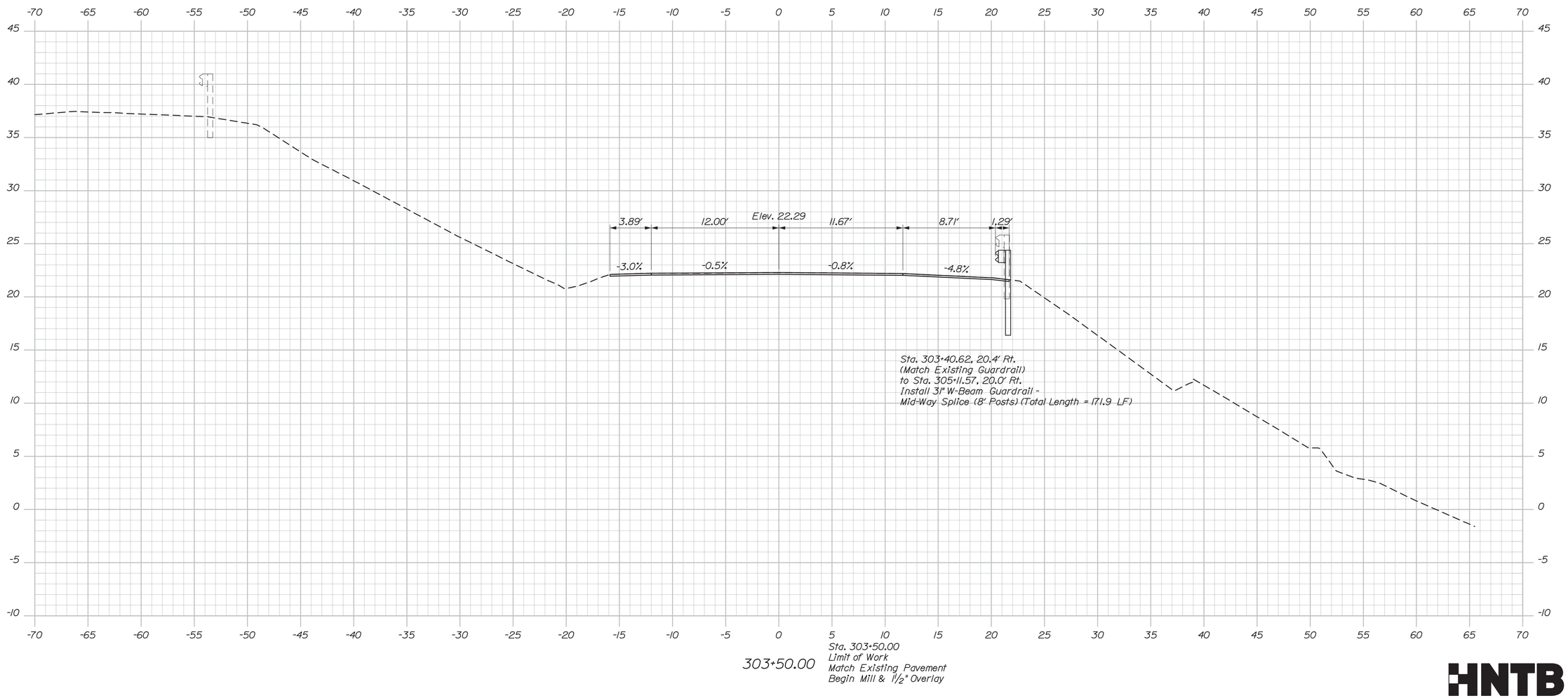
SHEET NUMBER

69

OF 220

Sta. 202+25.00 to Sta. 202+50.00

Filename: Xsect_295 On Ramp.dgn Division: Username: Date:3/3/2020



HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933 BRIDGE PLANS

SIGNATURE

P.E. NUMBER

DATE

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EDD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
I 295 NB OFF RAMP

SHEET NUMBER
70
OF 220

Date:3/3/2020
Username:
Division:
Filename: Xsect_295 Off Ramp.dgn

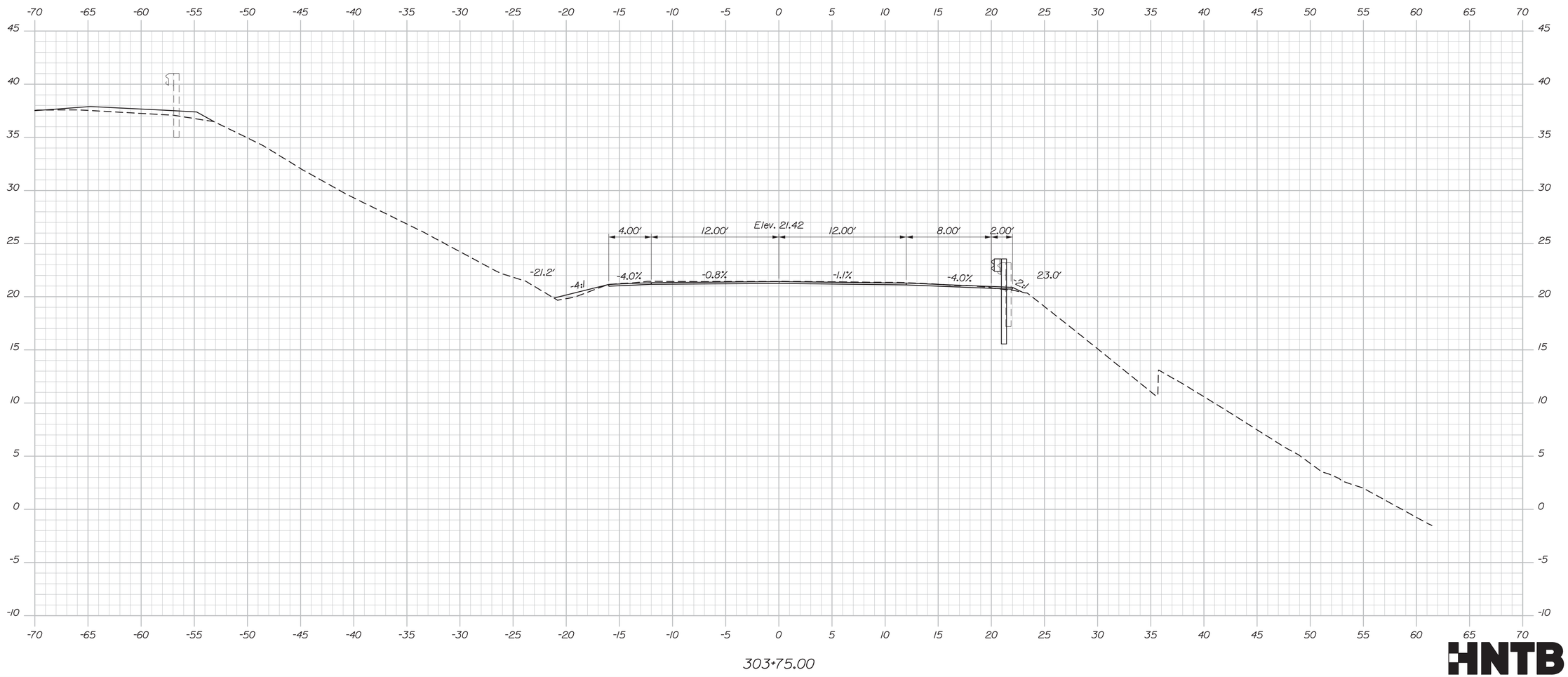
Sta. 303+50.00 to Sta. 303+50.00

Date:3/3/2020

Username:

Division:

Filename: Xsect_295 Off Ramp.dgn



HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	EOD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
I 295 NB OFF RAMP

SHEET NUMBER

71

OF 220

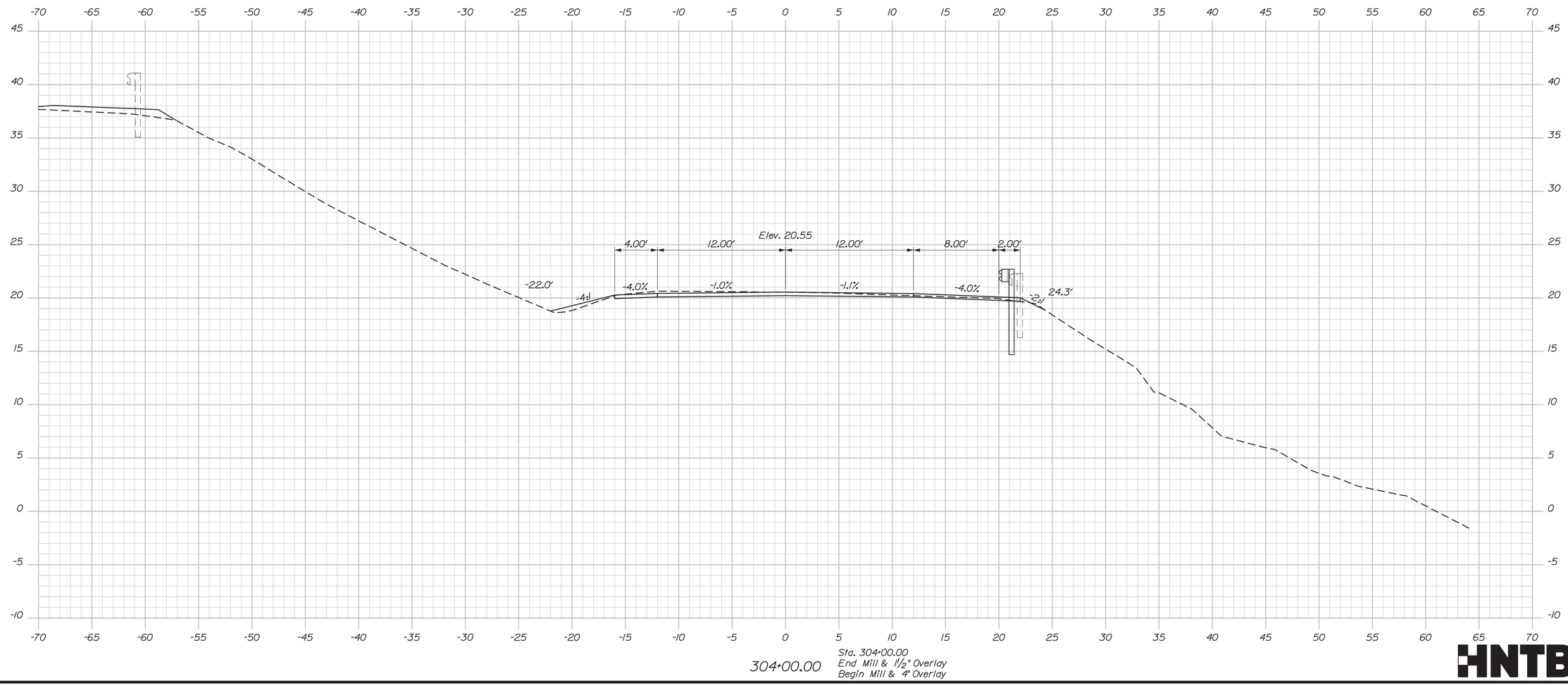
Sta. 303+75.00 to Sta. 303+75.00

Date:3/3/2020

Username:

Division:

Filename: Xsect_295 Off Ramp.dgn



HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	EOD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
I 295 NB OFF RAMP

SHEET NUMBER

72

OF 220

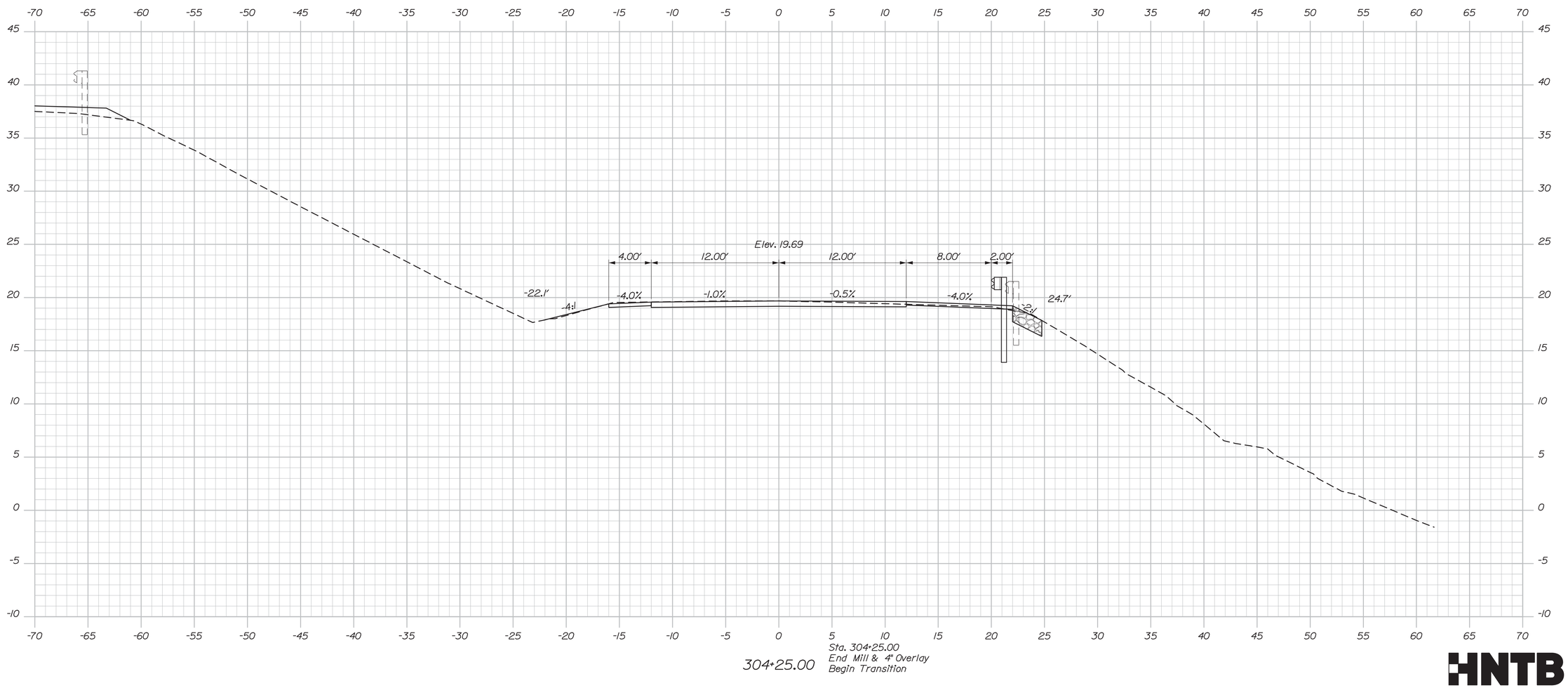
Sta. 304+00.00 to Sta. 304+00.00

Date:3/3/2020

Username:

Division:

Filename: Xsect_295 Off Ramp.dgn



HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EJD	BY	DATE
CHECKED-REVIEWED	RWH	CDH	2\20
DESIGN2-DETAILED2		LZD	2\20
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
I 295 NB OFF RAMP

SHEET NUMBER

73

OF 220

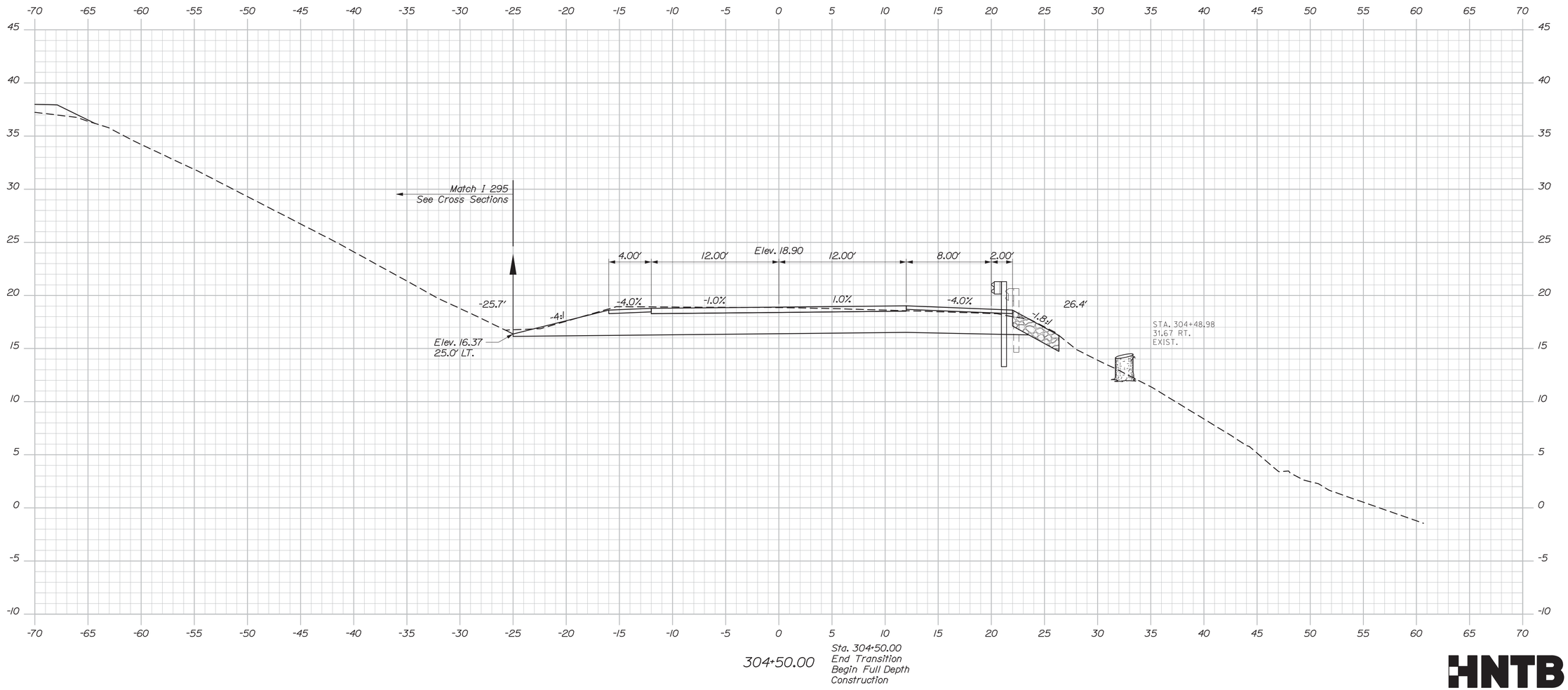
Sta. 304+25.00 to Sta. 304+25.00

Date:3/3/2020

Username:

Division:

Filename: Xsect_295 Off Ramp.dgn



HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN
021745.00

BRIDGE NO.5933

BRIDGE PLANS

SIGNATURE

P.E. NUMBER

DATE

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	END	CDH	2\20
CHECKED-REVIEWED	RWH	LZD	2\20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
I 295 NB OFF RAMP

SHEET NUMBER

74

OF 220

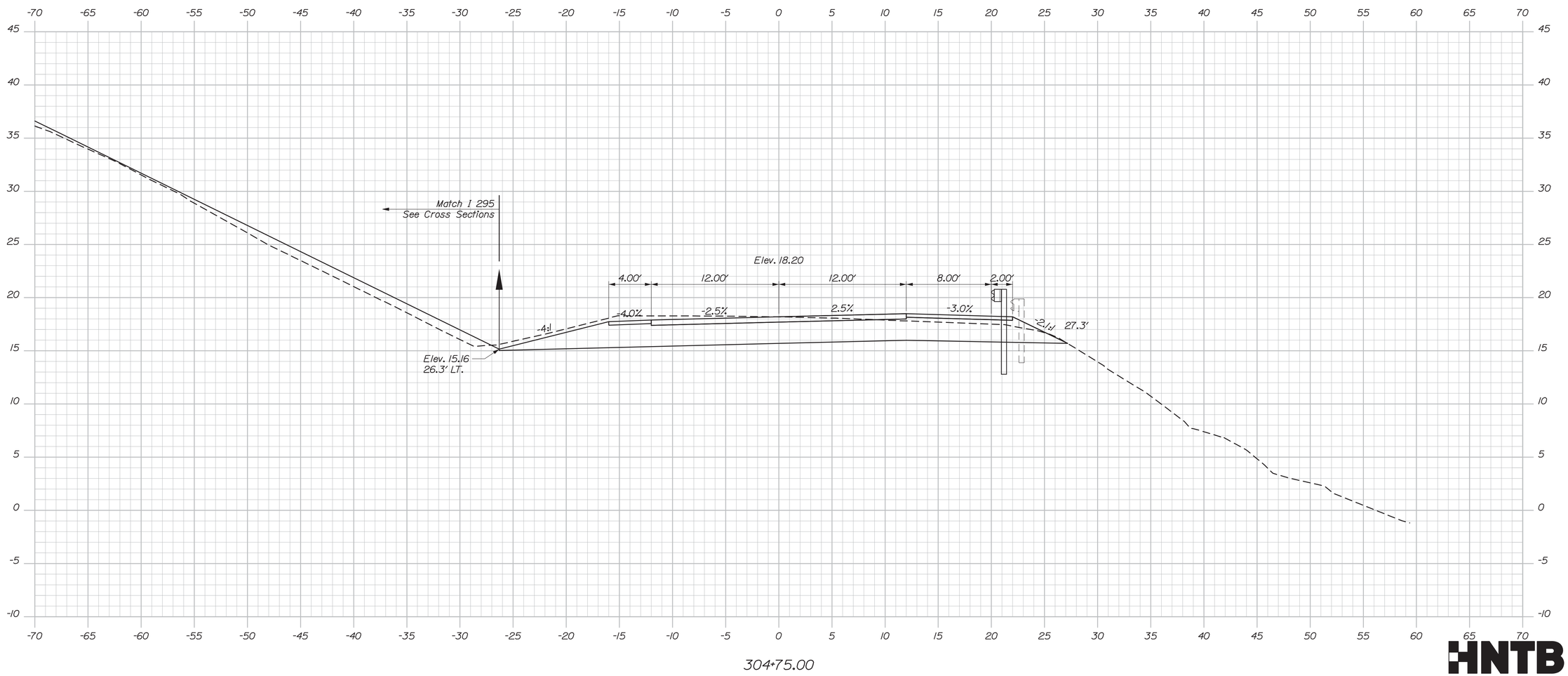
Sta. 304+50.00 to Sta. 304+50.00

Date:3/3/2020

Username:

Division:

Filename: Xsect_295 Off Ramp.dgn



HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN
021745.00

BRIDGE NO.5933

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EDD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
I 295 NB OFF RAMP

SHEET NUMBER

75

OF 220

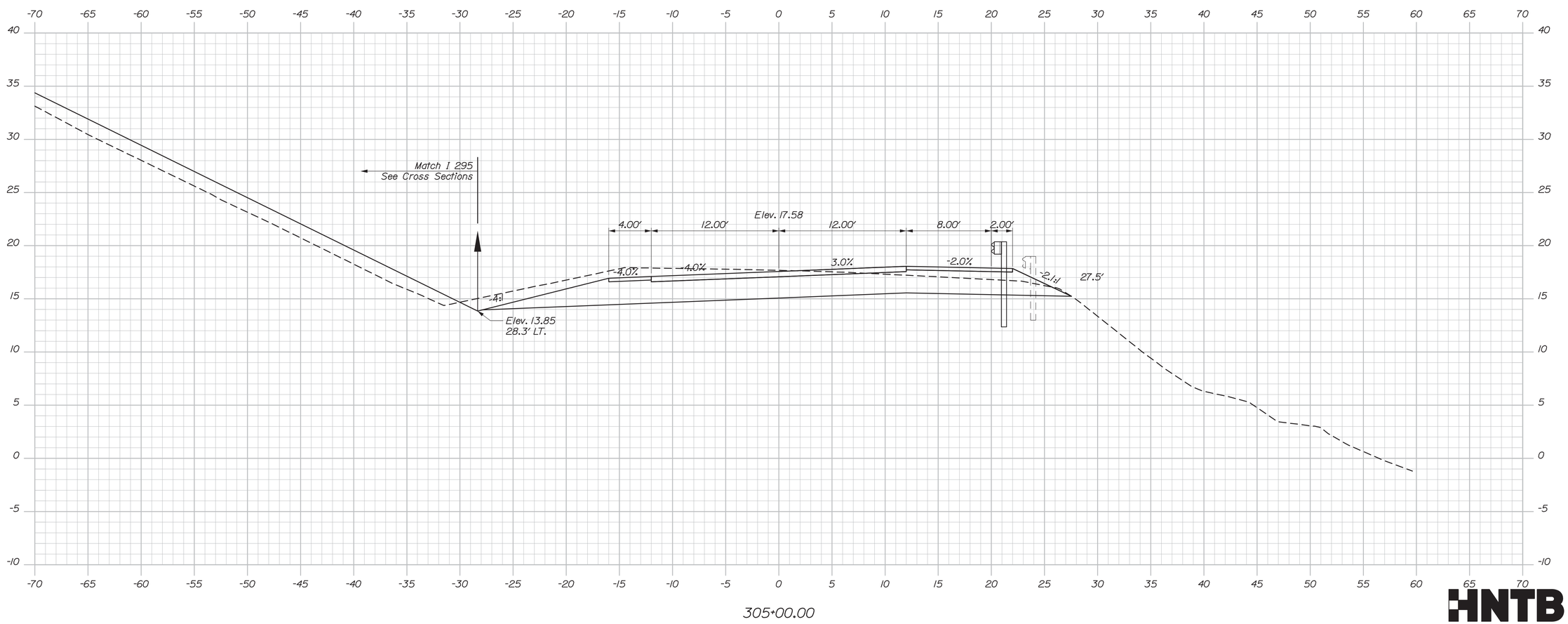
Sta. 304+75.00 to Sta. 304+75.00

Date:3/3/2020

Username:

Division:

Filename: Xsect_295 Off Ramp.dgn



HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933 BRIDGE PLANS

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	EDD	CDH	2\20
CHECKED-REVIEWED	RWH	LZD	2\20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
I 295 NB OFF RAMP

SHEET NUMBER

76

OF 220

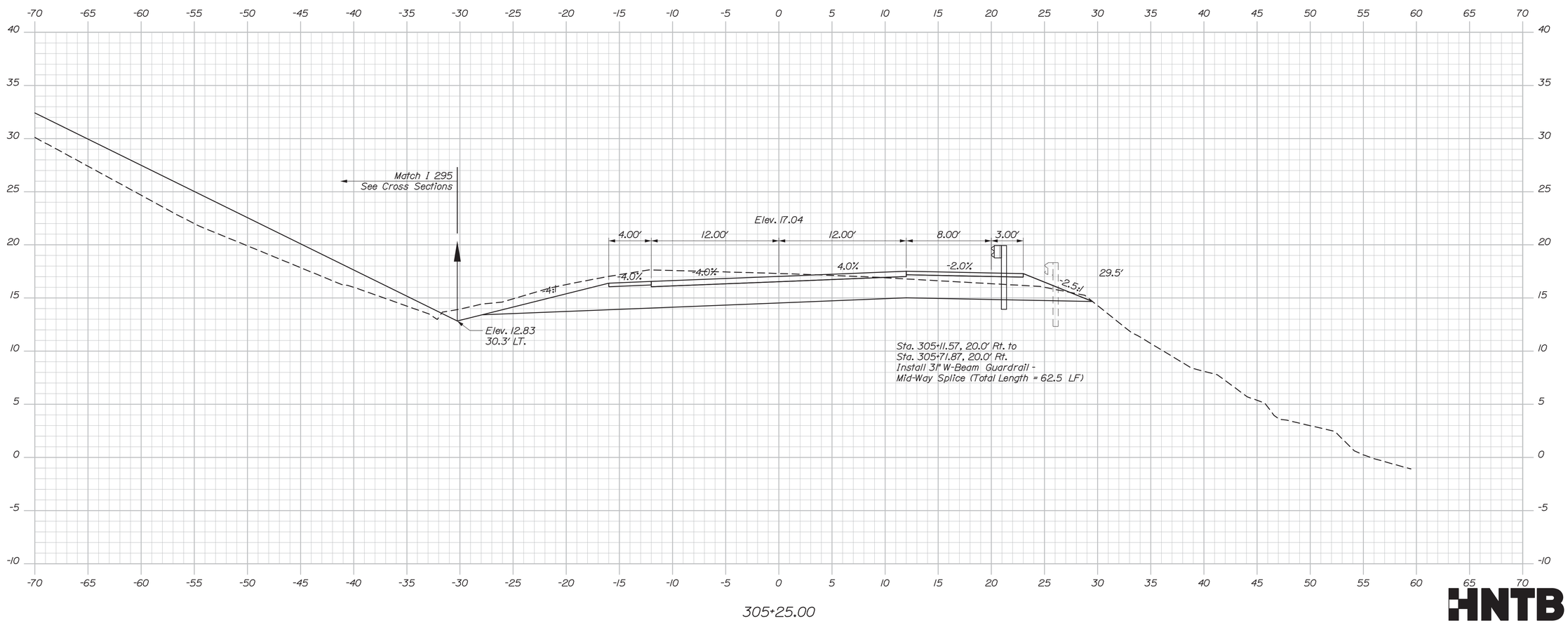
Sta. 305+00.00 to Sta. 305+00.00

Date:3/3/2020

Username:

Division:

Filename: Xsect_295 Off Ramp.dgn



HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN
021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	EOD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
I 295 NB OFF RAMP

SHEET NUMBER

77

OF 220

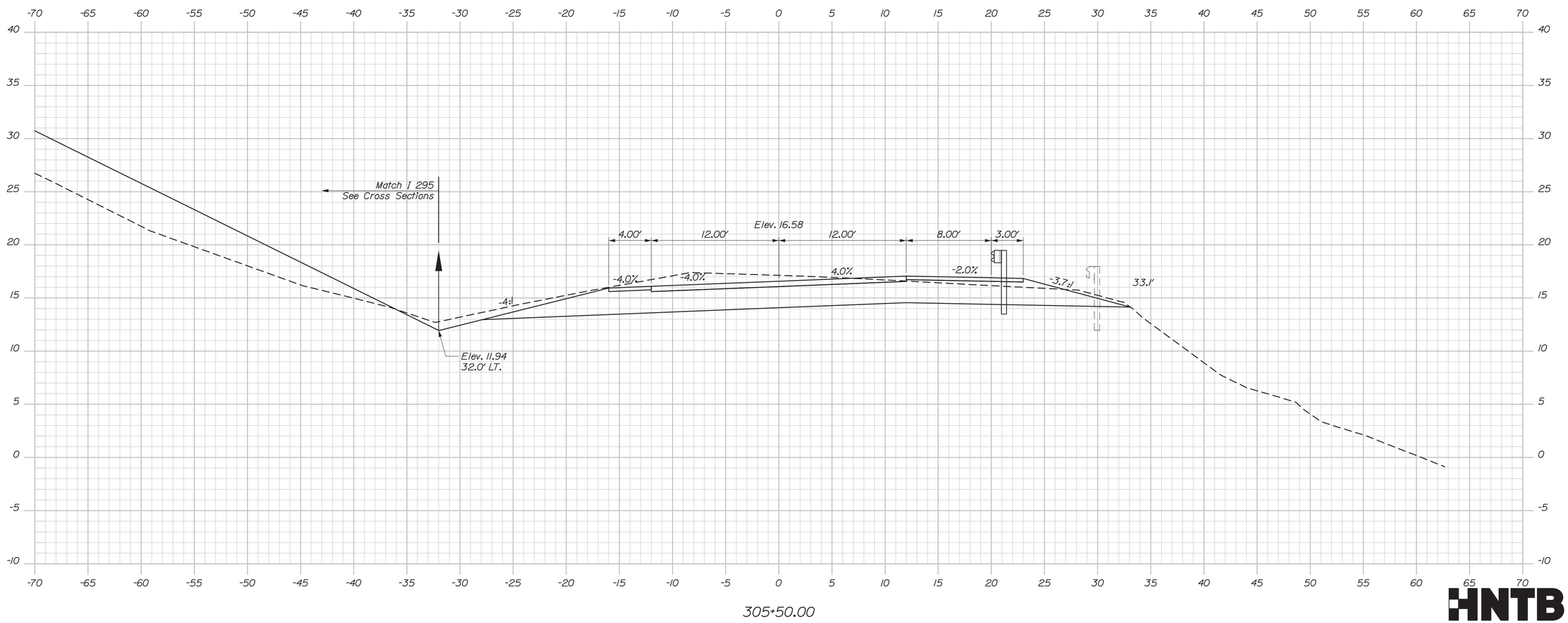
Sta. 305+25.00 to Sta. 305+25.00

Date:3/3/2020

Username:

Division:

Filename: Xsect_295 Off Ramp.dgn



HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933 BRIDGE PLANS

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	EOD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

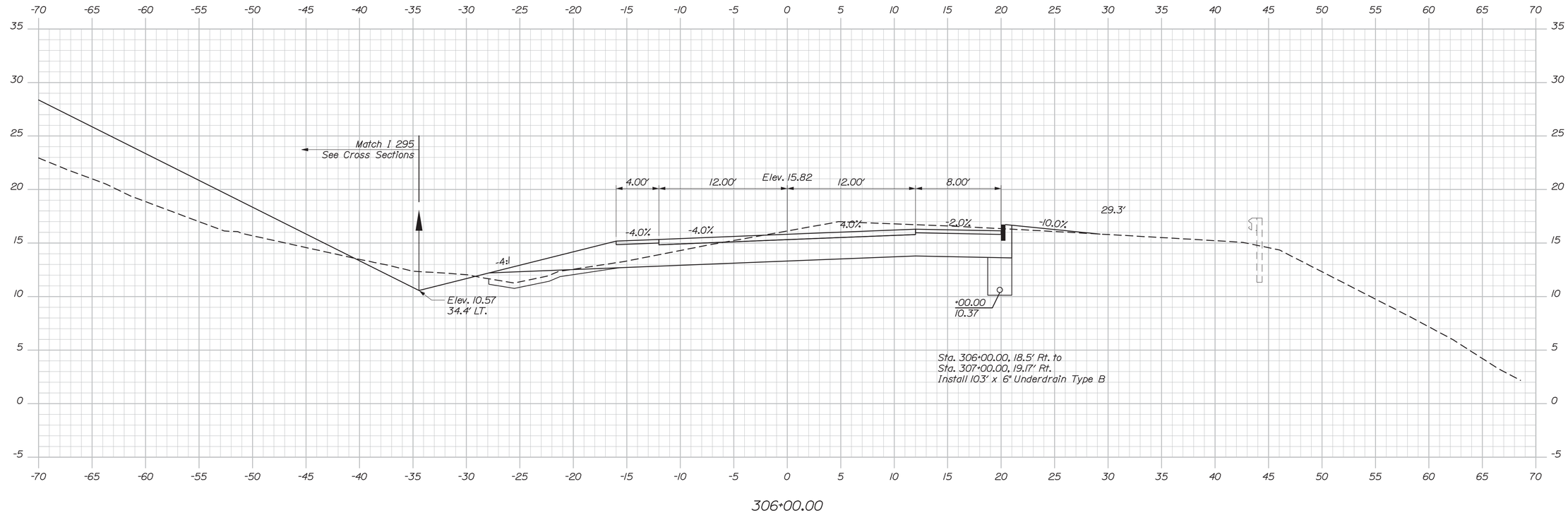
CROSS SECTIONS
I 295 NB OFF RAMP

SHEET NUMBER

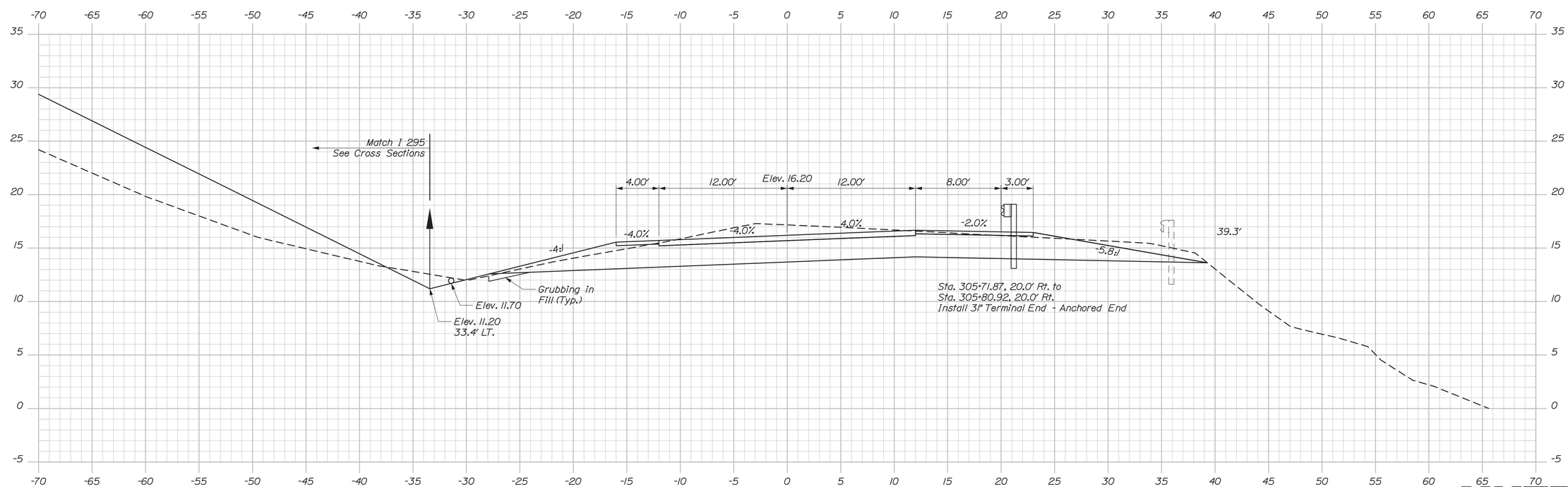
78

OF 220

Sta. 305+50.00 to Sta. 305+50.00



306+00.00



305+75.00

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN
021745.00

BRIDGE NO.5933

BRIDGE PLANS

SIGNATURE

P.E. NUMBER

DATE

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EDD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

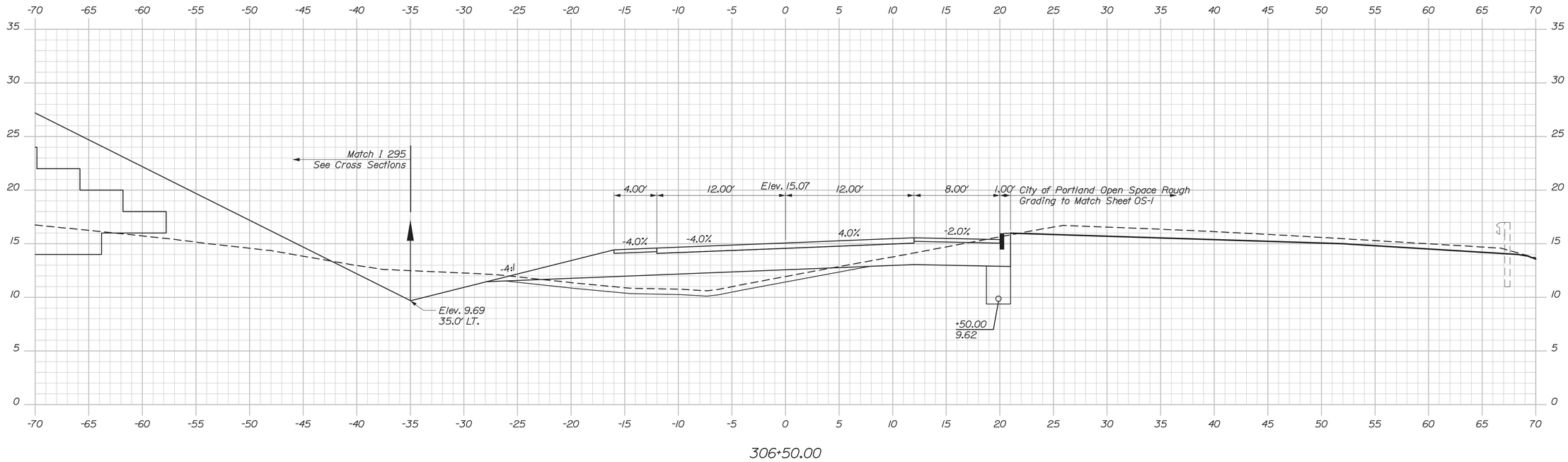
INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
I 295 NB OFF RAMP

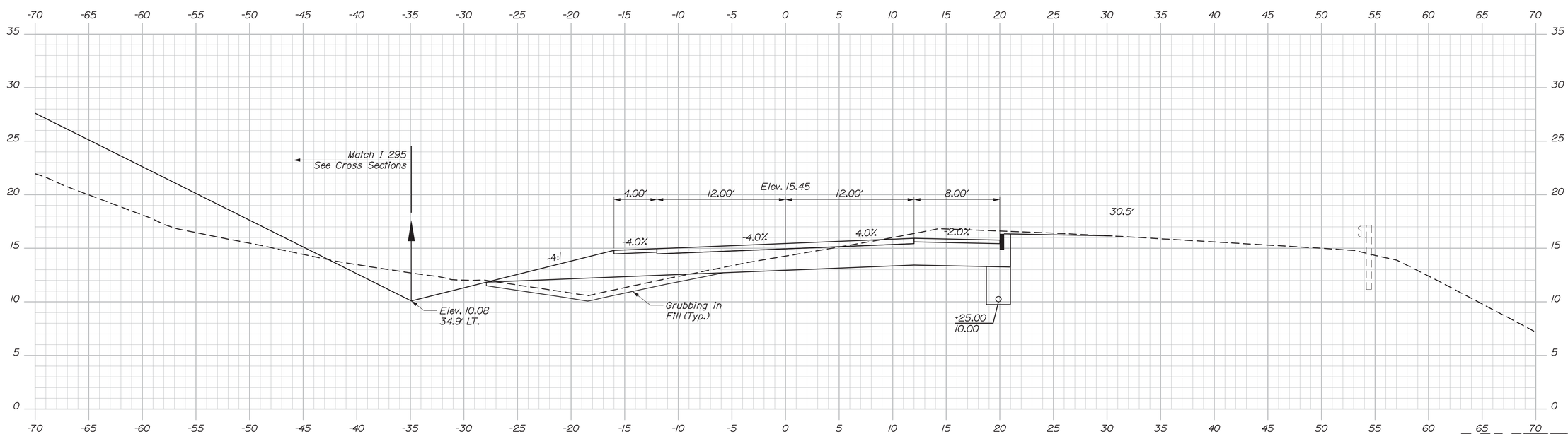
SHEET NUMBER
79
OF 220

Sta. 305+75.00 to Sta. 306+00.00

Date:3/3/2020
Username:
Division:
Filename: Xsect_295 Off Ramp.dgn



306+50.00



306+25.00

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN
021745.00

BRIDGE NO.5933

BRIDGE PLANS

SIGNATURE

P.E. NUMBER

DATE

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EOD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

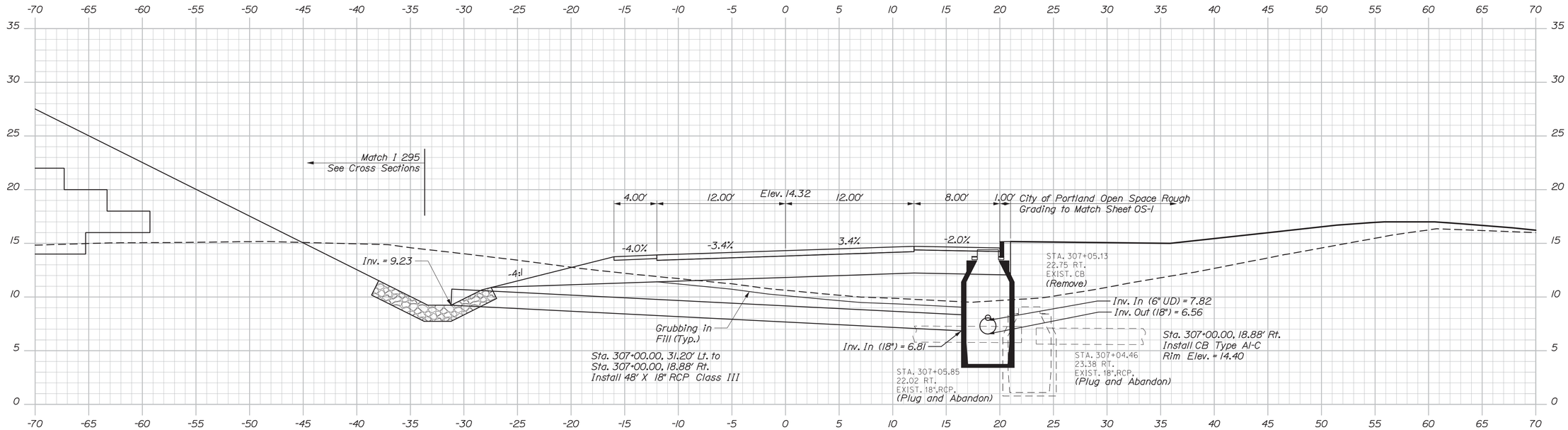
INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
I 295 NB OFF RAMP

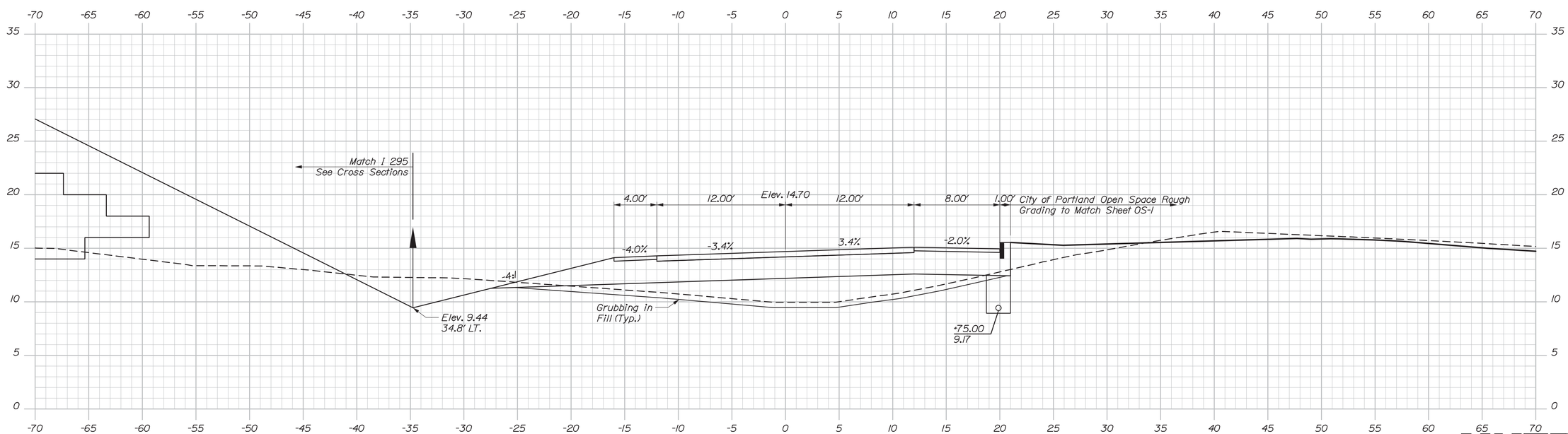
SHEET NUMBER
80
OF 220

Sta. 306+25.00 to Sta. 306+50.00

Date:3/3/2020
Username:
Division:
Filename: Xsect_295 Off Ramp.dgn



307+00.00



306+75.00

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

SIGNATURE

P.E. NUMBER

DATE

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EOD	CDH	2\20
CHECKED-REVIEWED	RWH	LZD	2\20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

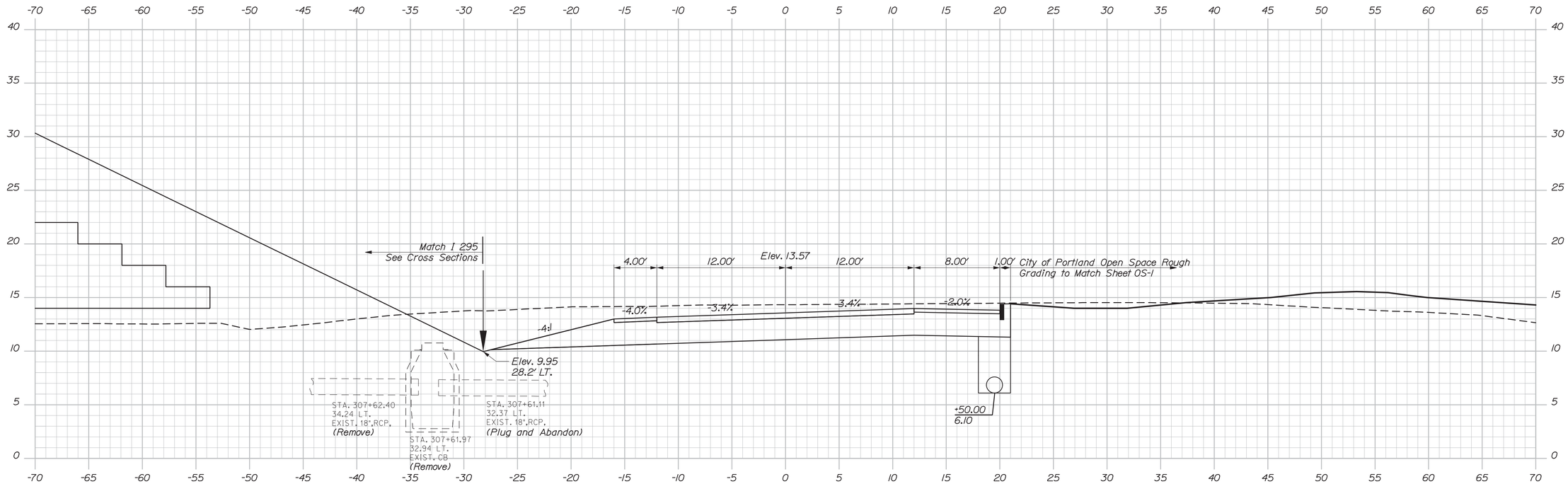
INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
I 295 NB OFF RAMP

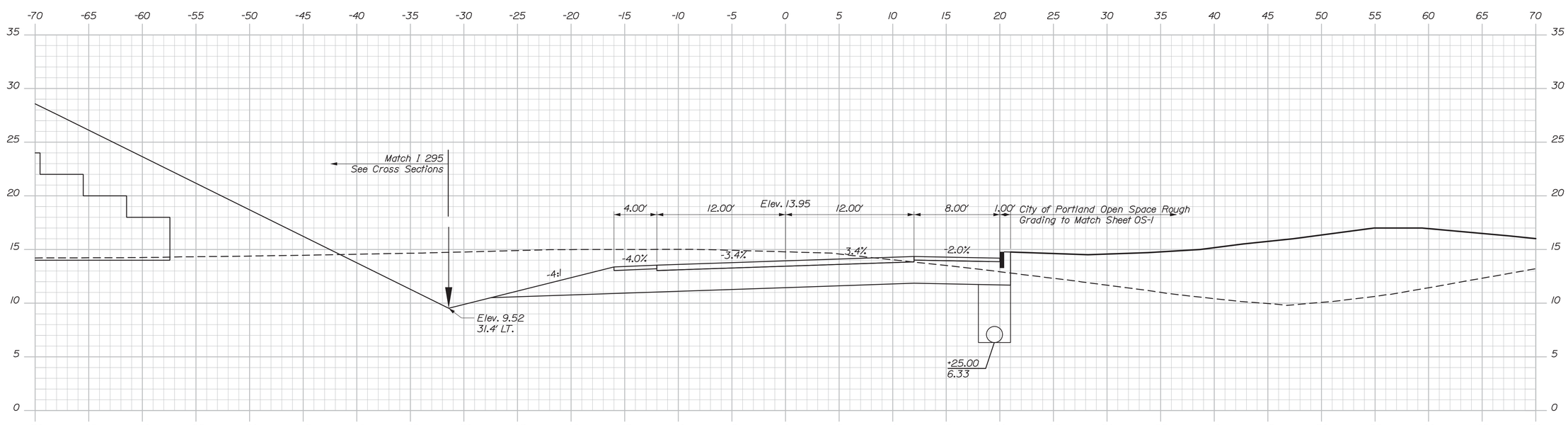
SHEET NUMBER
81
OF 220

Sta. 306+75.00 to Sta. 307+00.00

Date:3/3/2020
Username:
Division:
Filename: Xsect_295 Off Ramp.dgn



307+50.00



307+25.00

Sta. 307+00.00, 18.88' Rt. to
Sta. 308+10.79, 23.85' Rt.
Install 112' X 18" Underdrain Type C

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EDD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

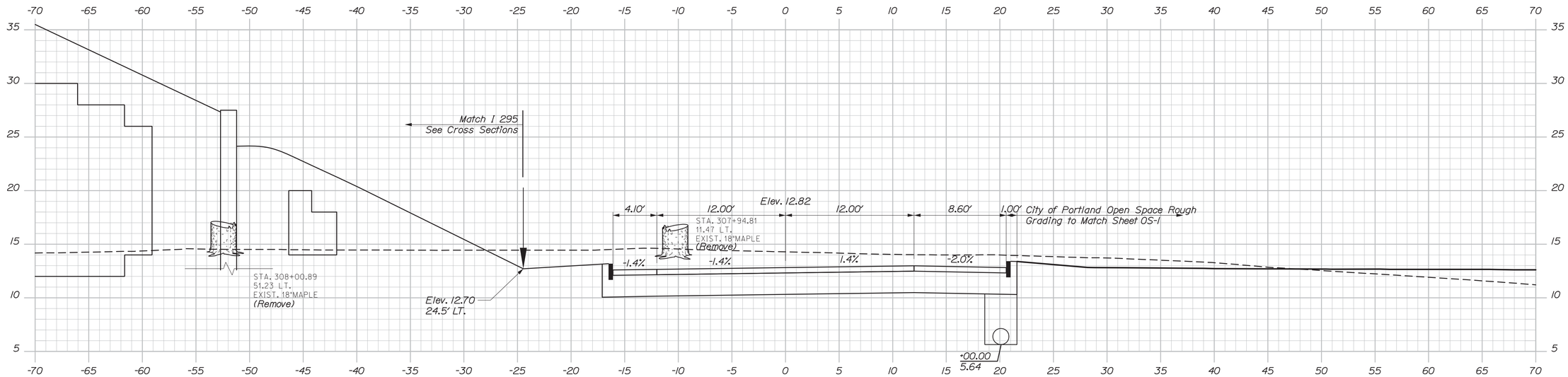
INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
I 295 NB OFF RAMP

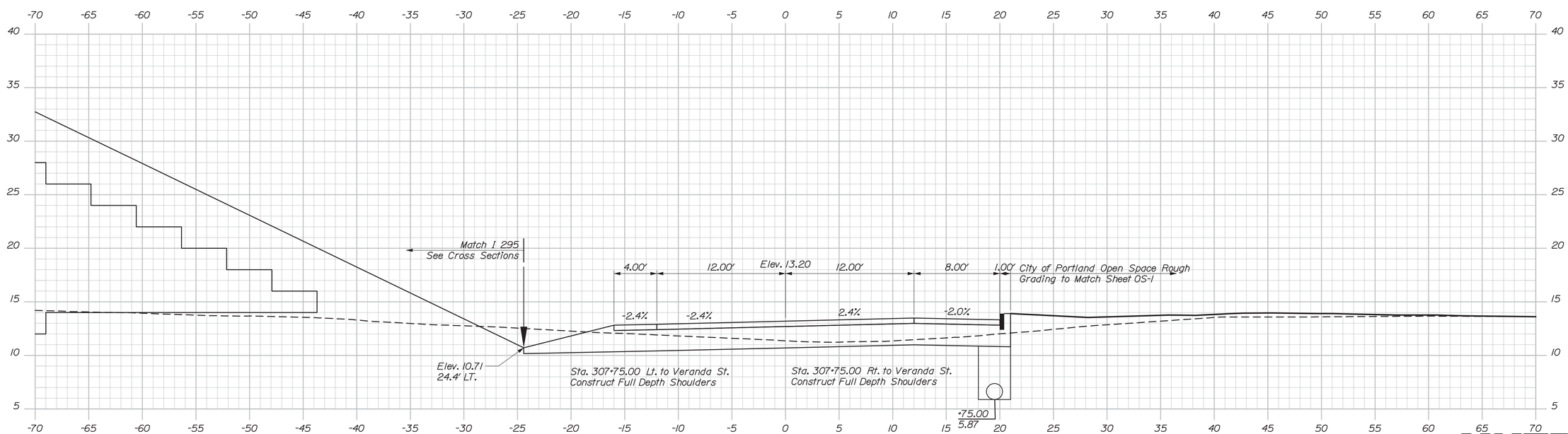
SHEET NUMBER
82
OF 220

Sta. 307+25.00 to Sta. 307+50.00

Date:3/3/2020
Username:
Division:
Filename: Xsect_295 Off Ramp.dgn



308+00.00



307+75.00

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	EOD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
I 295 NB OFF RAMP

SHEET NUMBER
83
OF 220

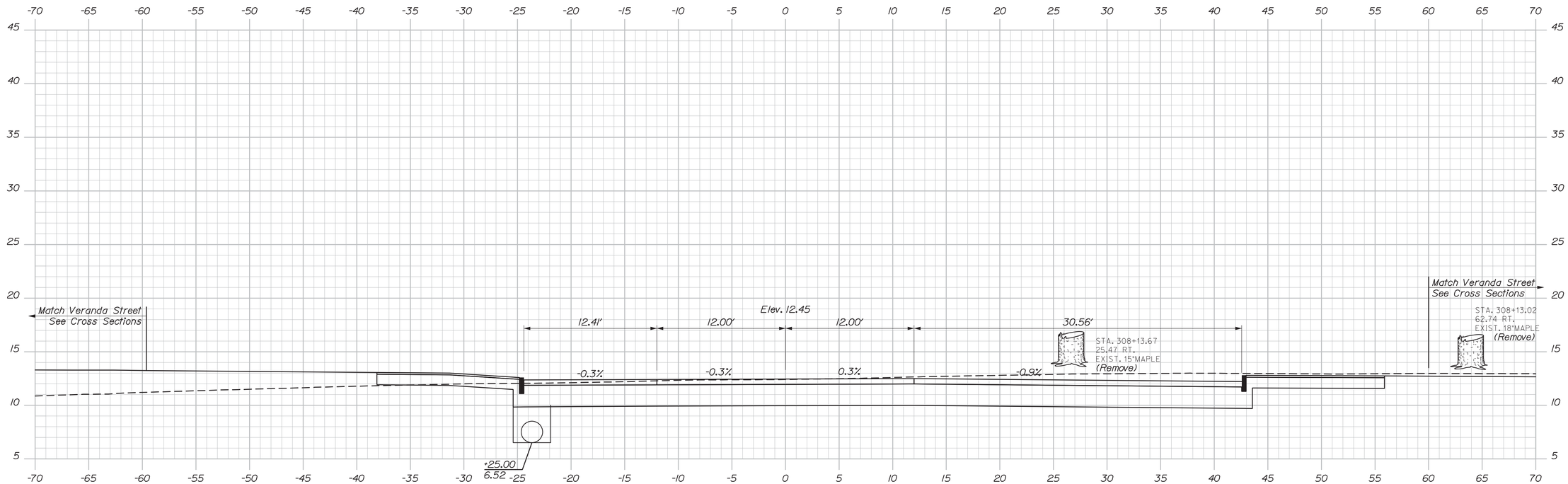
Date:3/3/2020

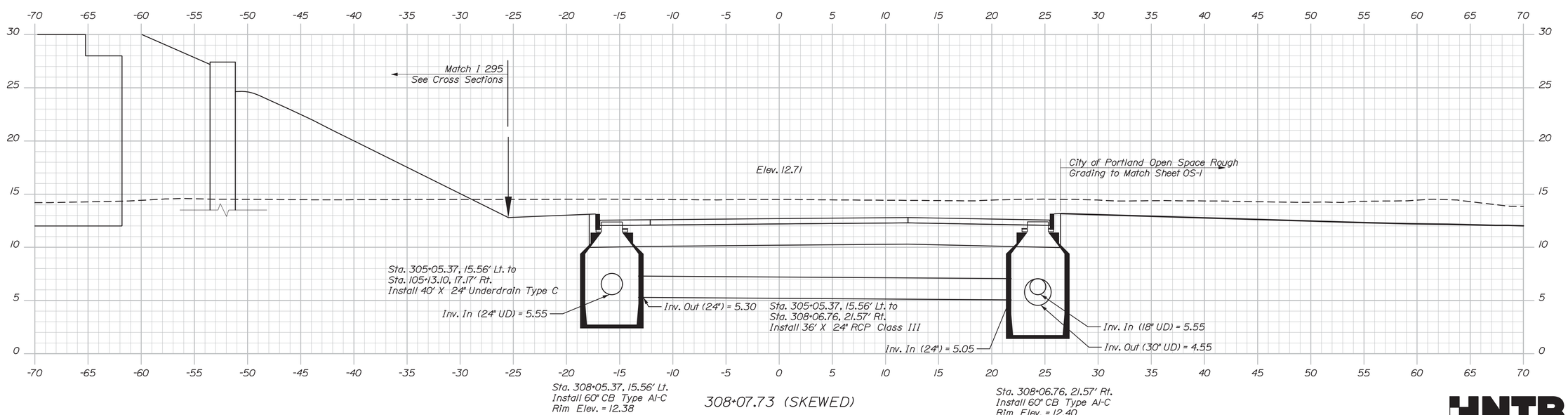
Username:

Division:

Filename: Xsect_295 Off Ramp.dgn

Sta. 307+75.00 to Sta. 308+00.00





HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

SIGNATURE

P.E. NUMBER

DATE

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EDD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

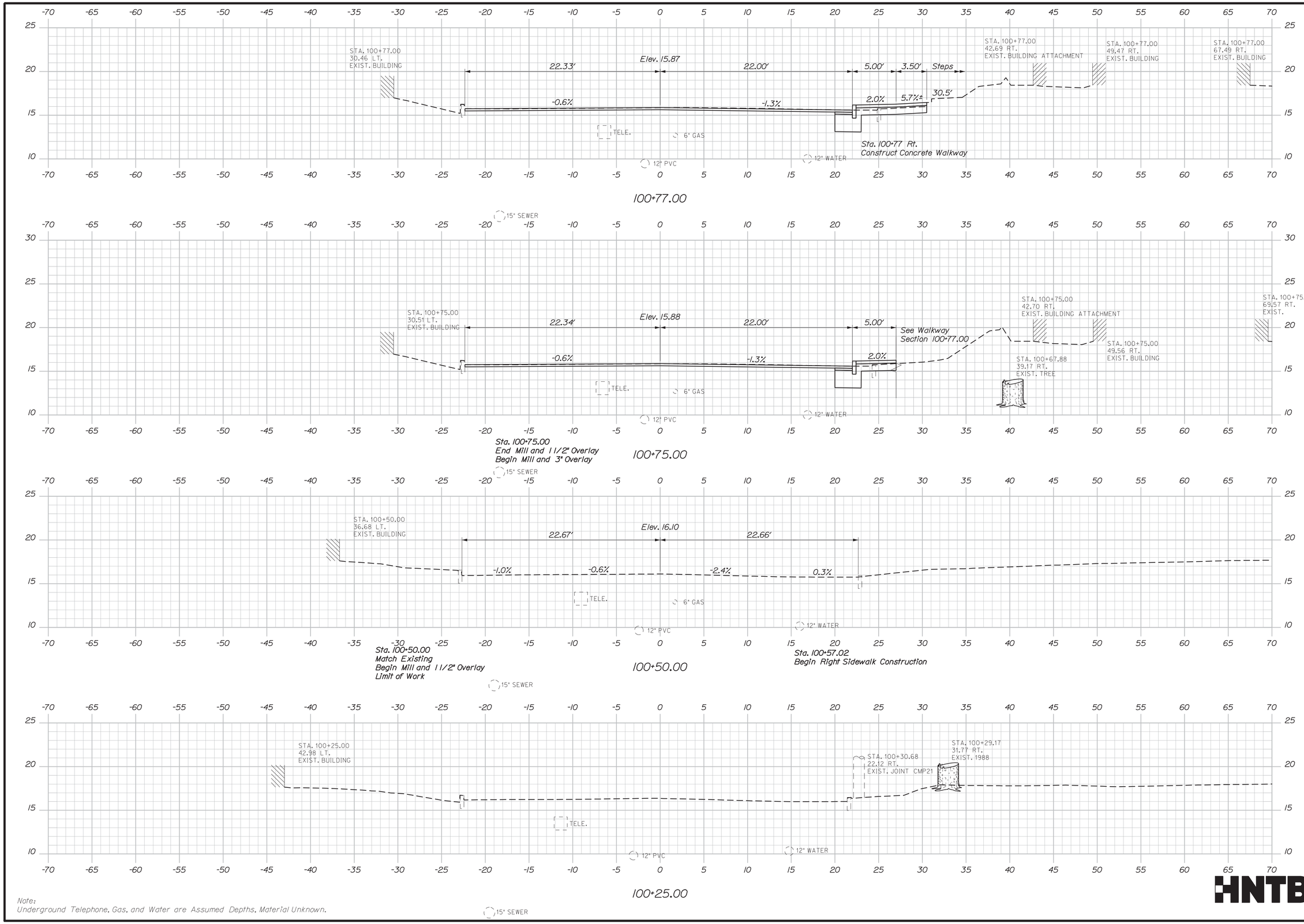
INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
I 295 NB OFF RAMP

SHEET NUMBER
84
OF 220

Sta. 308+25.00 to Sta. 308+35.33

Date:3/3/2020
Username:
Division:
Filename: Xsect_295 Off Ramp.dgn



Note:
Underground Telephone, Gas, and Water are Assumed Depths, Material Unknown.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

SIGNATURE

P.E. NUMBER

DATE

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EOD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

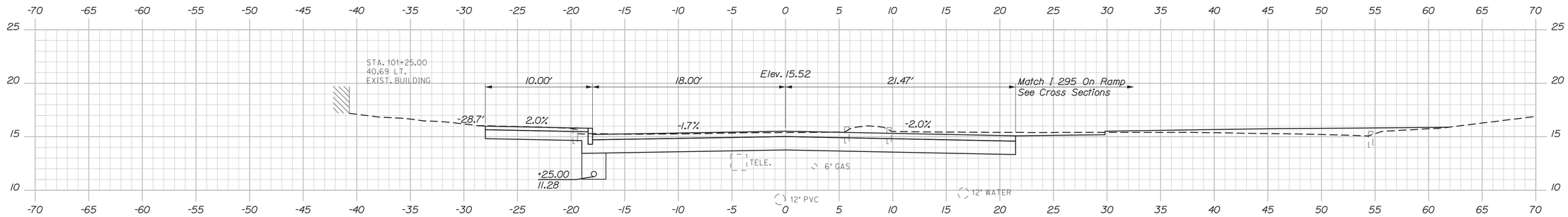
INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
VERANDA STREET

SHEET NUMBER
85
OF 220

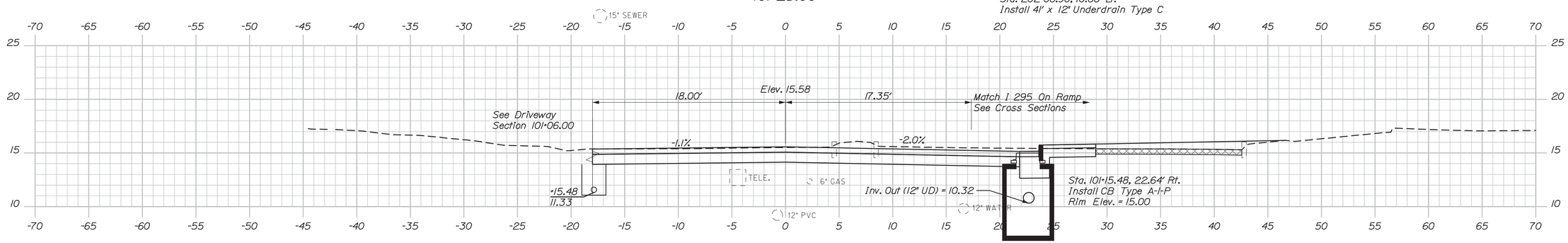
Sta. 100+25.00 to Sta. 100+77.00

Date:3/3/2020
Username:
Division:
Filename: Xsect_Veranda.dgn

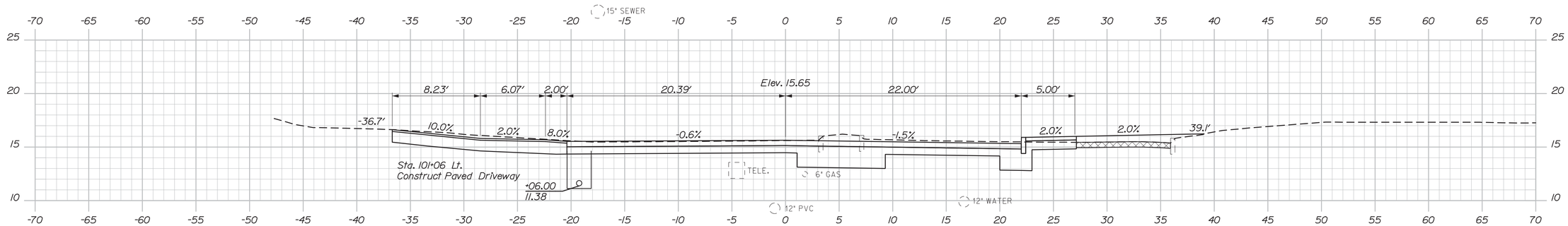


101+25.00

Sta. 101+15.48, 22.64' Rt. to
Sta. 202+06.90, 10.88' Lt.
Install 41' x 12" Underdrain Type C

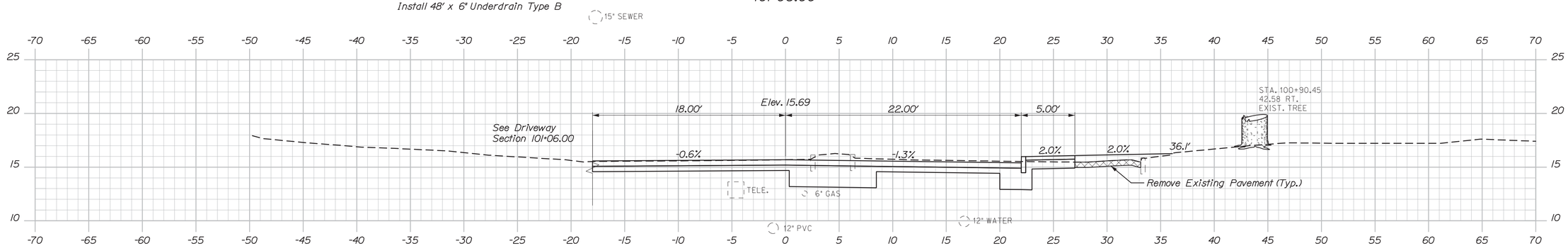


101+15.48



Sta. 101+01.00, 16.88' Lt. to
Sta. 101+50.52, 19.06' Lt.
Install 48' x 6" Underdrain Type B

101+06.00



Sta. 101+00.00
End Mill and 3" Overlay
Begin Transition

101+00.00

15" SEWER

Note:
Underground Telephone, Gas, and Water are Assumed Depths, Material Unknown.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

SIGNATURE

P.E. NUMBER

DATE

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EJD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

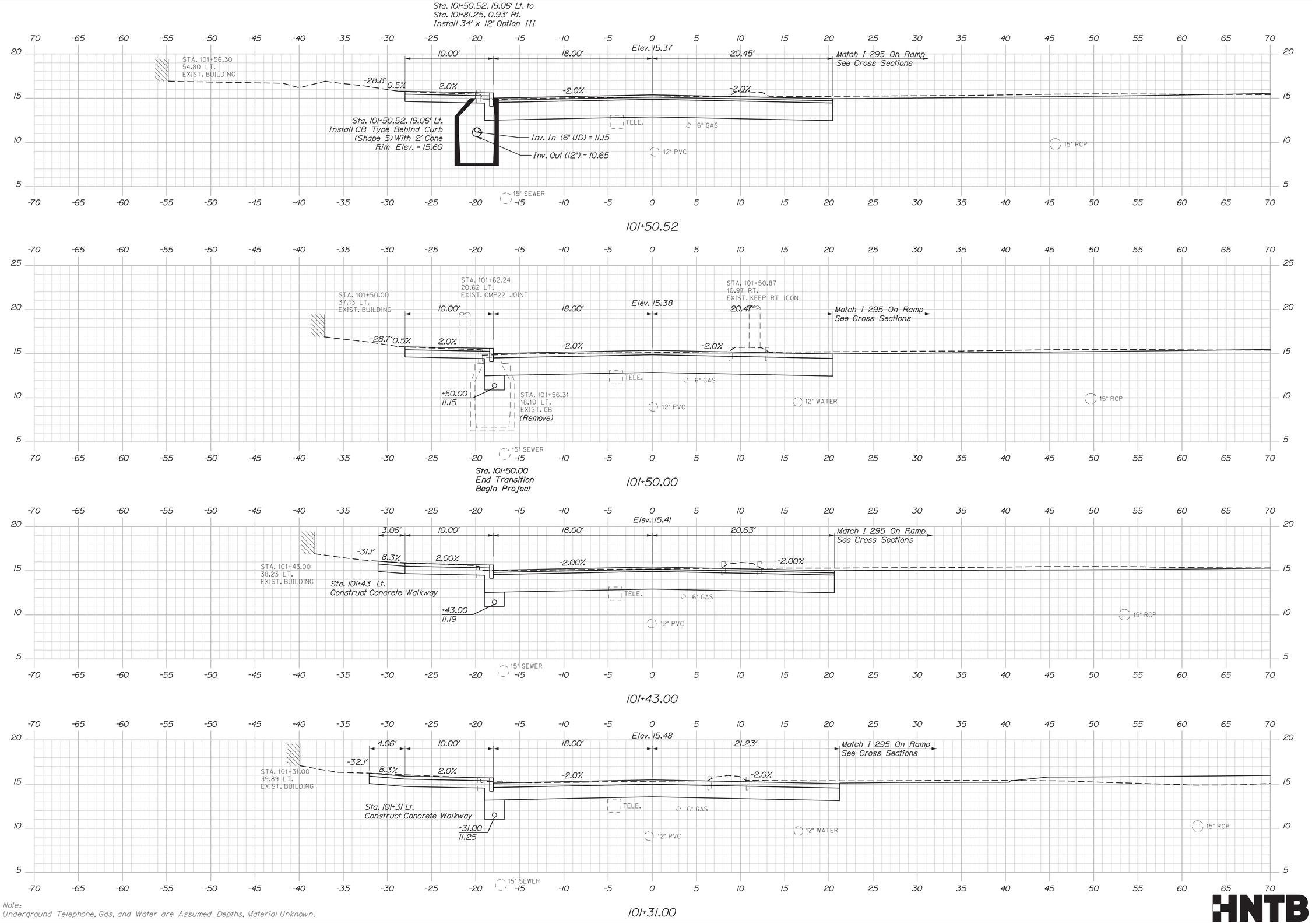
INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
VERANDA STREET

SHEET NUMBER
86
OF 220

Date:3/3/2020
Username:
Division:
Filename: Xsect_Veranda.dgn

Sta. 101+00.00 to Sta. 101+25.00



Note:
Underground Telephone, Gas, and Water are Assumed Depths, Material Unknown.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	EDD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

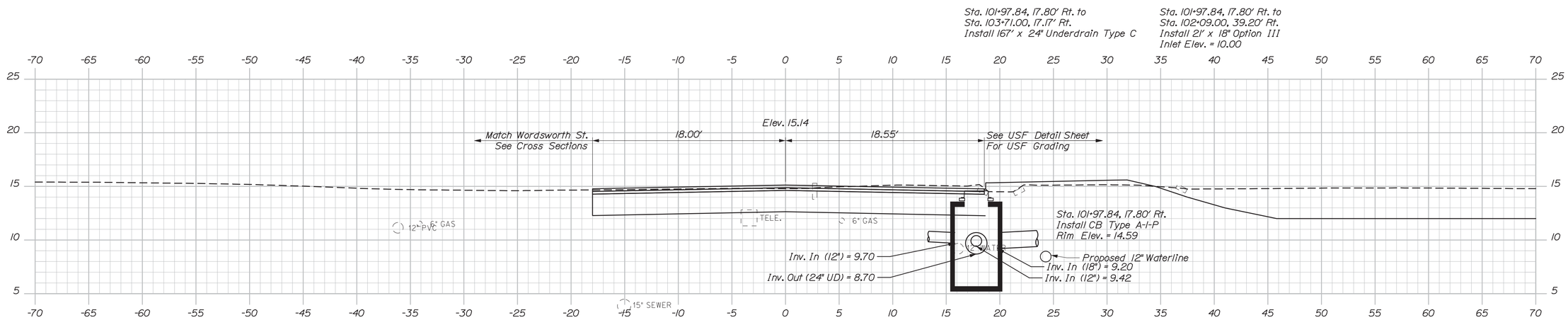
CROSS SECTIONS
VERANDA STREET

SHEET NUMBER
87
OF 220

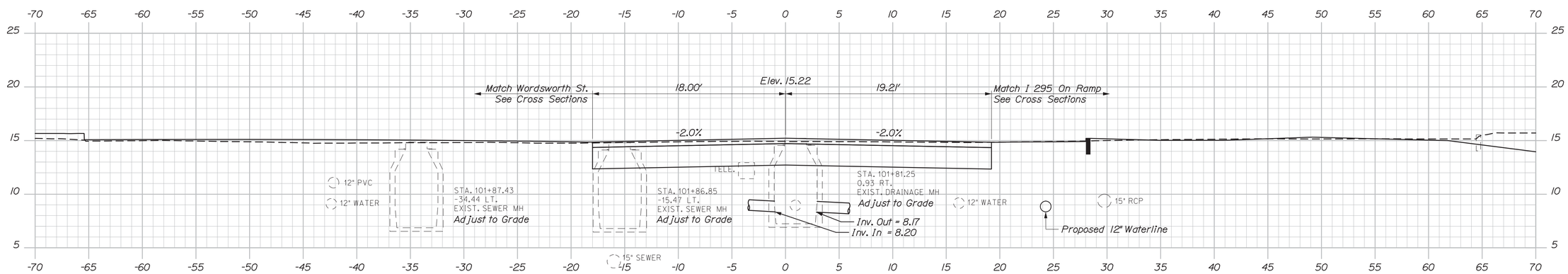
HNTB

Sta. 101+31.00 to Sta. 101+56.30

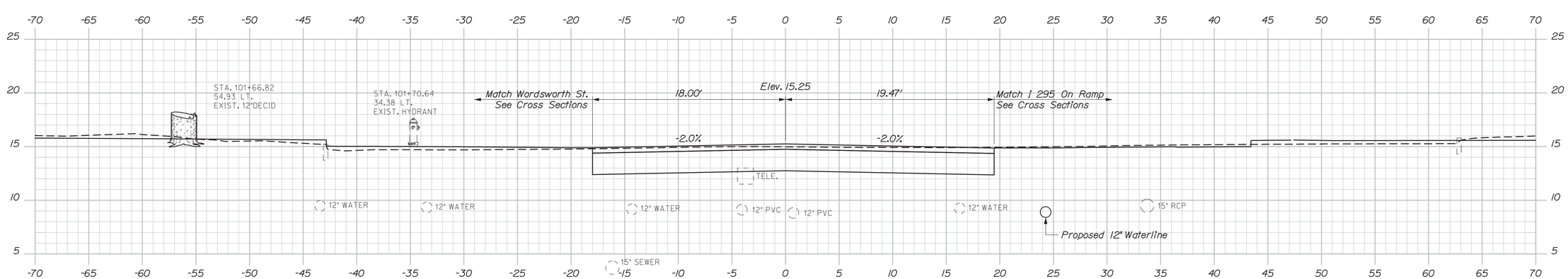
Date:3/3/2020
Username:
Division:
Filename: Xsect_Veranda.dgn



101+97.84



101+81.25



101+75.00

Note:
Underground Telephone, Gas, and Water are Assumed Depths, Material Unknown.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EDD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
VERANDA STREET

SHEET NUMBER

88

OF 220

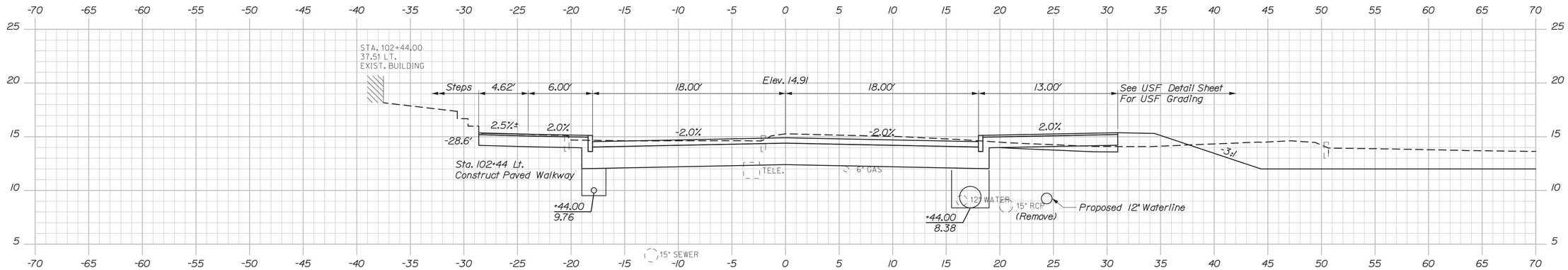
Sta. 101+75.00 to Sta. 101+97.49

Date:3/3/2020

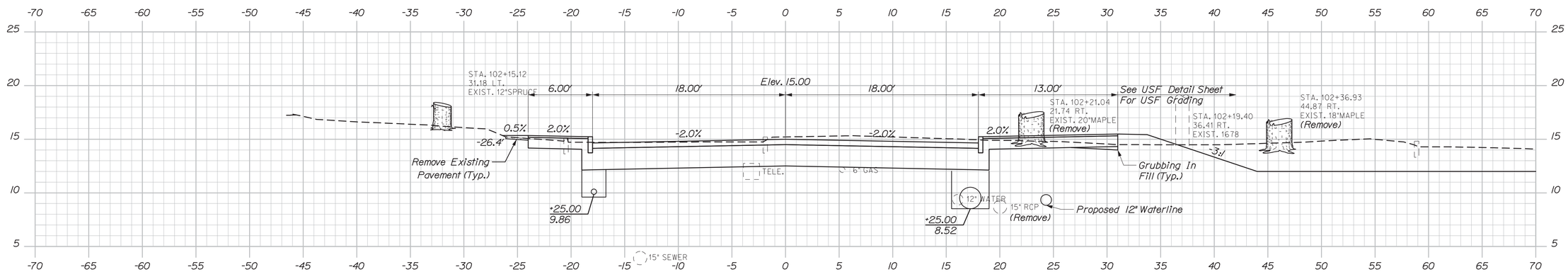
Username:

Division:

Filename: Xsect_Veranda.dgn

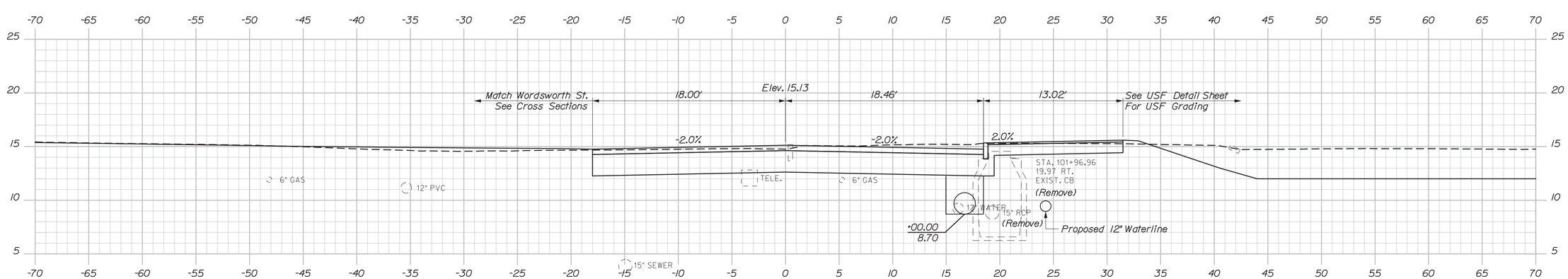


102+44.00



Sta. 102+12.00, 16.88' Lt. to
Sta. 103+31.28, 17.17' Lt.
Install 120' x 6" Underdrain Type B

102+25.00



102+00.00

Note:
Underground Telephone, Gas, and Water are Assumed Depths, Material Unknown.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EDD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
VERANDA STREET

SHEET NUMBER
89
OF 220

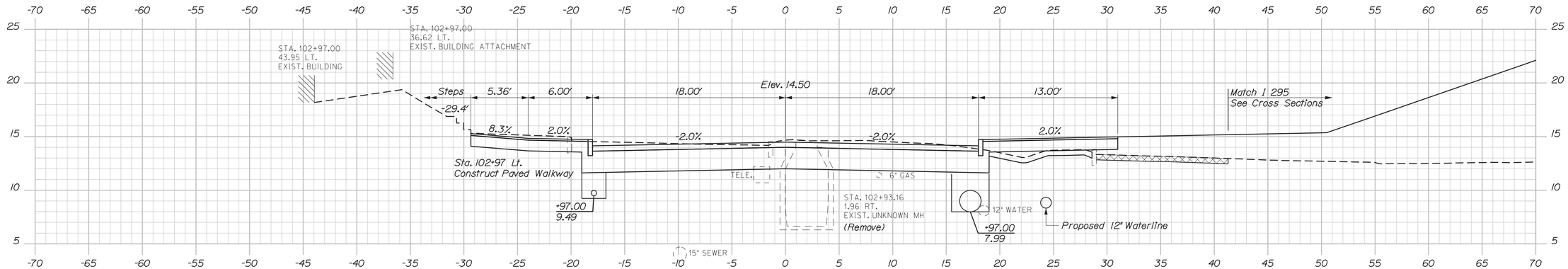
Sta. 102+00.00 to Sta. 102+44.00

Date:3/3/2020

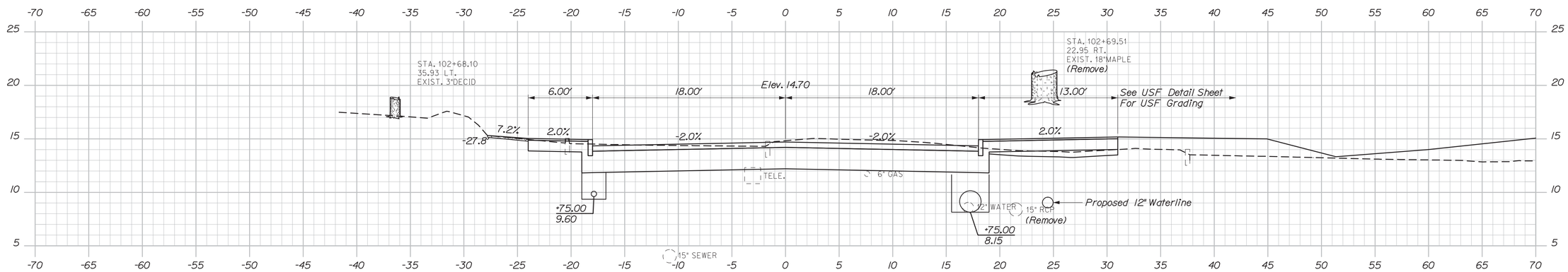
Username:

Division:

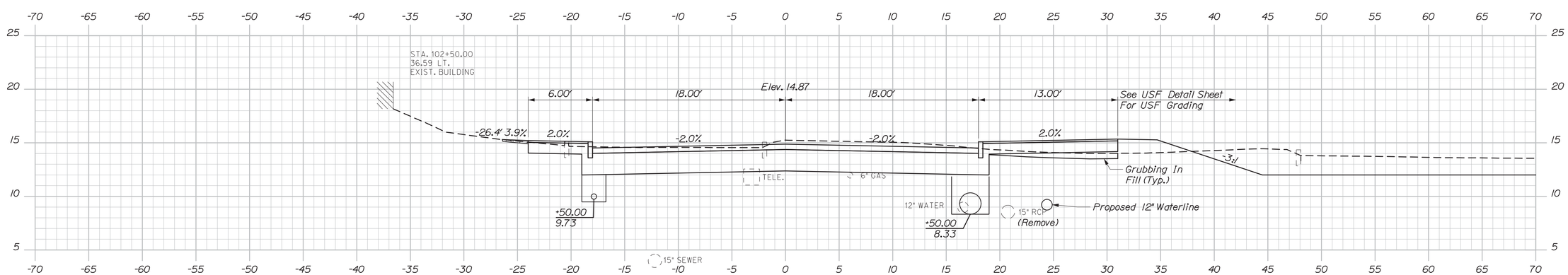
Filename: Xsect_Veranda.dgn



102+97.00



102+75.00



102+50.00

Note:
Underground Telephone, Gas, and Water are Assumed Depths, Material Unknown.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EDD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
VERANDA STREET

SHEET NUMBER
90
OF 220

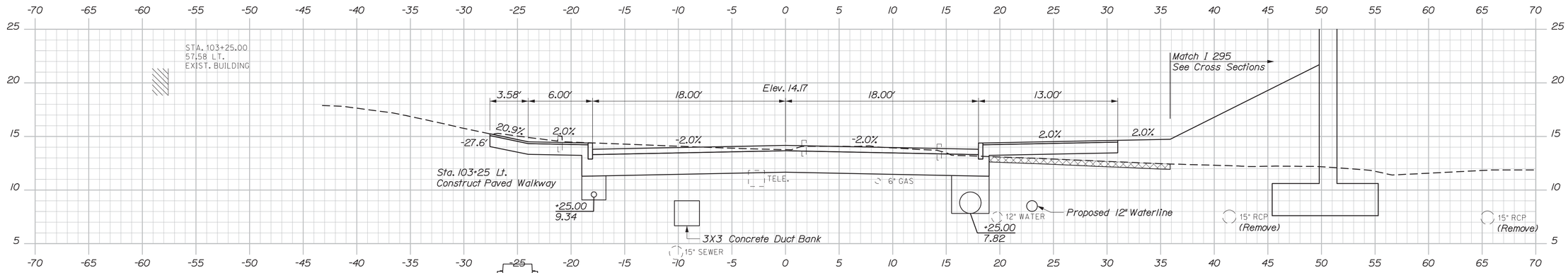
Sta. 102+50.00 to Sta. 102+97.00

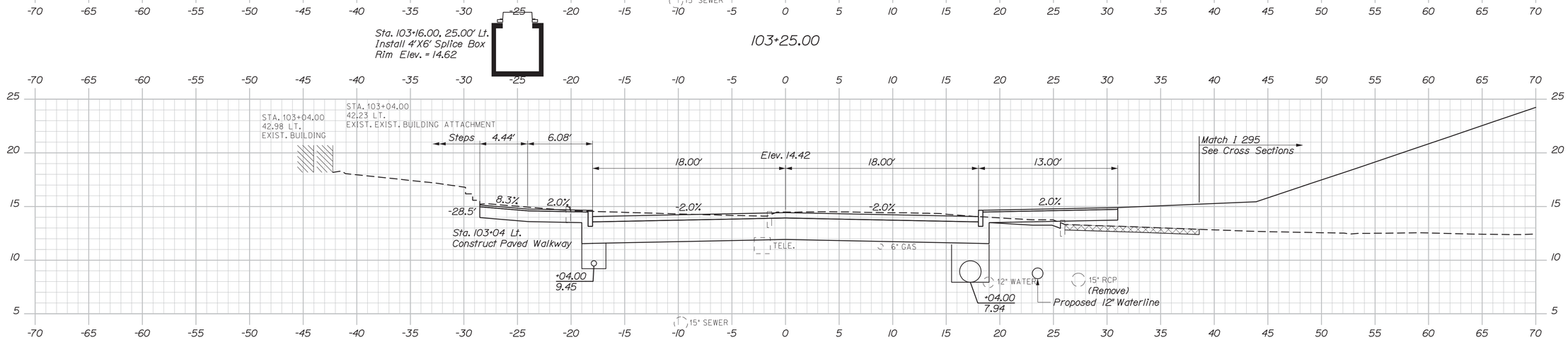
Date:3/3/2020

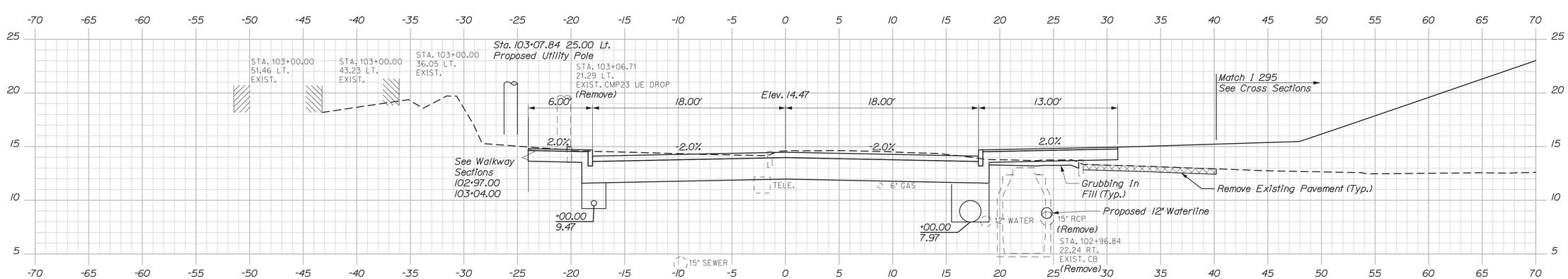
Username:

Division:

Filename: Xsect_Veranda.dgn







Note:
Underground Telephone, Gas, and Water are Assumed Depths, Material Unknown.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EDD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

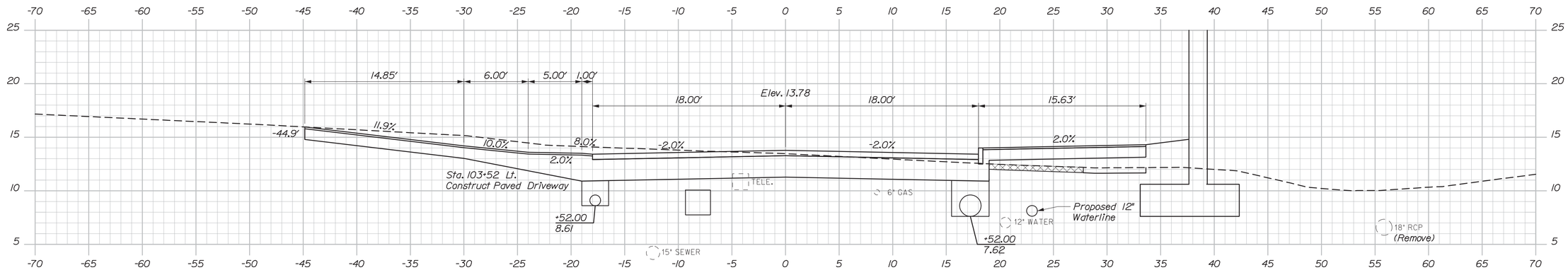
INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
VERANDA STREET

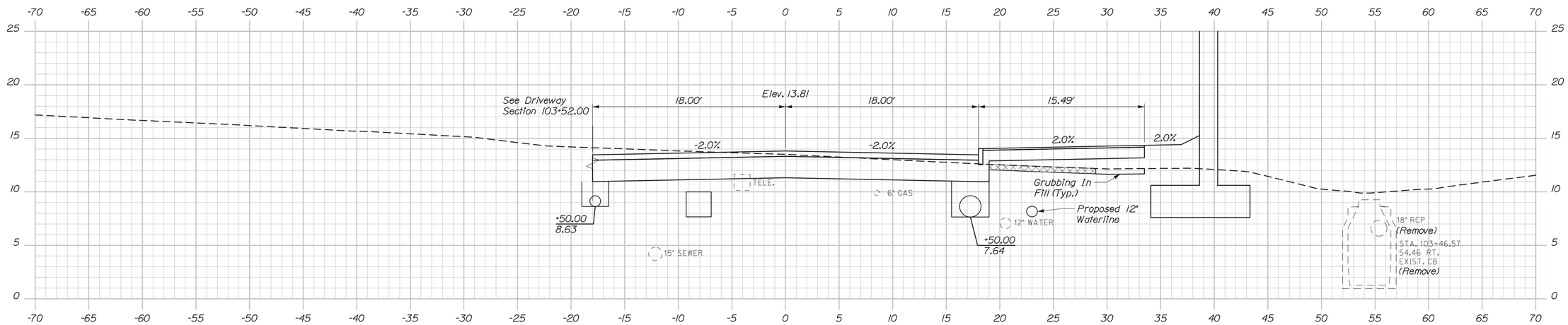
SHEET NUMBER
91
OF 220

Sta. 103+00.00 to Sta. 103+25.00

Date:3/3/2020
Username:
Division:
Filename: Xsect_Veranda.dgn

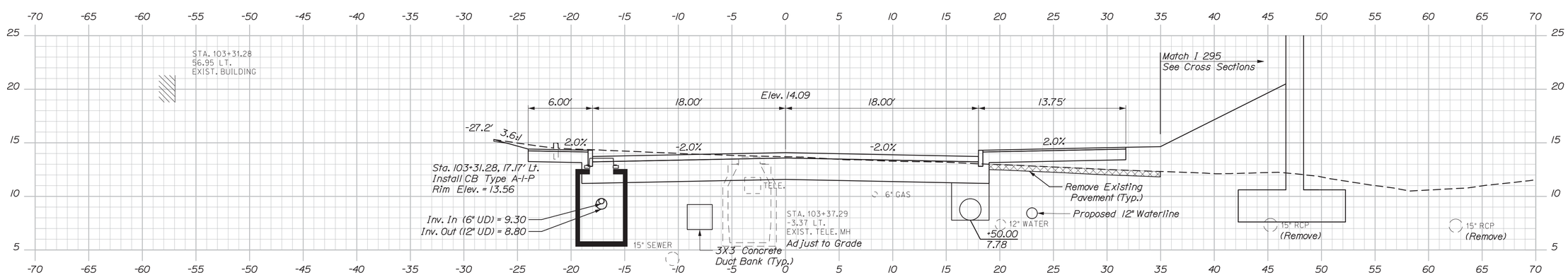


103+52.00



Sta. 103+31.28, 17.17' Lt. to
Sta. 105+13.10, 19.06' Lt.
Install 180' x 12" Underdrain Type C

103+50.00



Note:
Underground Telephone, Gas, and Water are Assumed Depths, Material Unknown.

103+31.28

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EJD	CDH	DATE 2/20
CHECKED-REVIEWED	RWH	LZD	DATE 2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
VERANDA STREET

SHEET NUMBER
92
OF 220

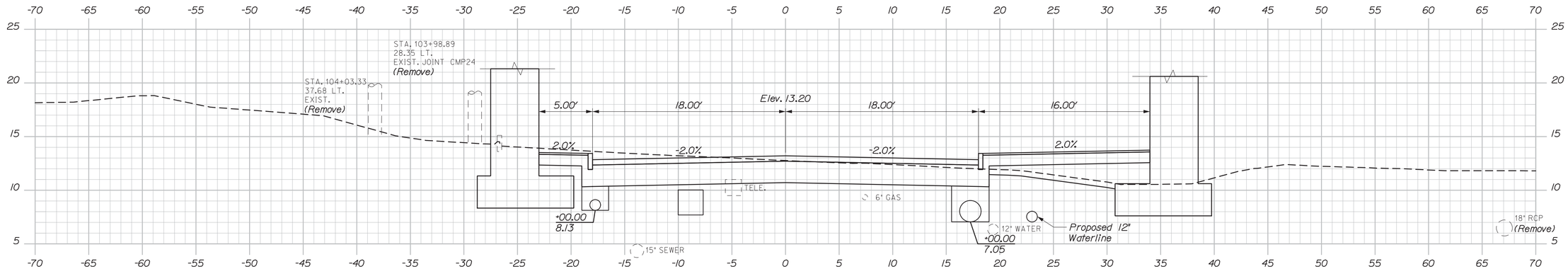
Date:3/3/2020

Username:

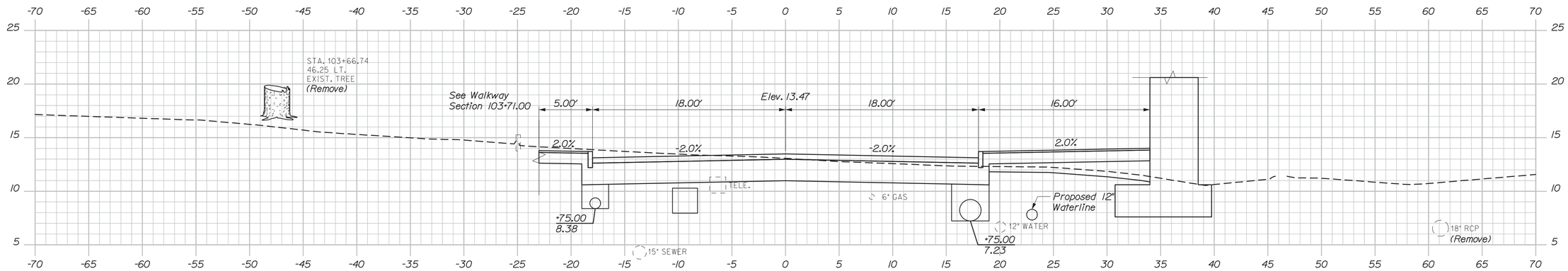
Division:

Filename: Xsect_Veranda.dgn

Sta. 103+31.28 to Sta. 103+52.00

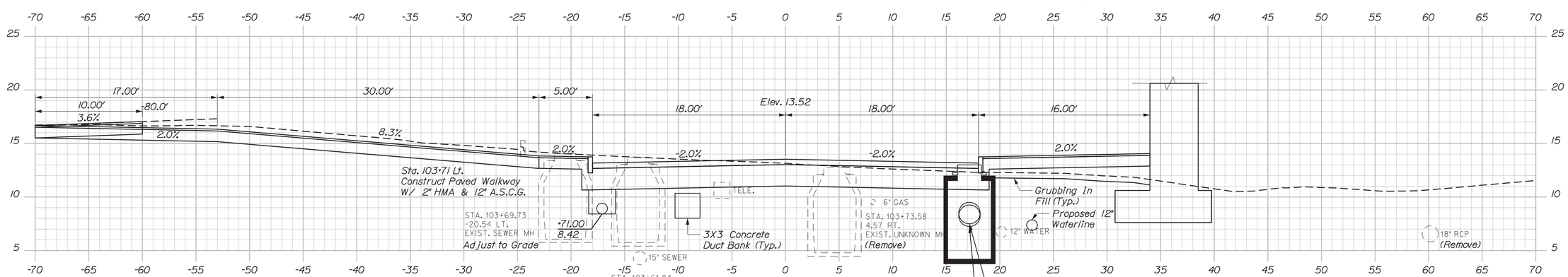


104+00.00



103+75.00

Sta. 103+71.00, 17.17' Rt. to
Sta. 105+08.01, 22.06' Rt.
Install 134' x 24" Underdrain Type C



Sta. 103+71.00, 17.17' Rt.
Install CB Type A-I-P
Rim Elev. = 13.00

103+71.00

Note:
Underground Telephone, Gas, and Water are Assumed Depths, Material Unknown.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EDD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
VERANDA STREET

SHEET NUMBER
93
OF 220

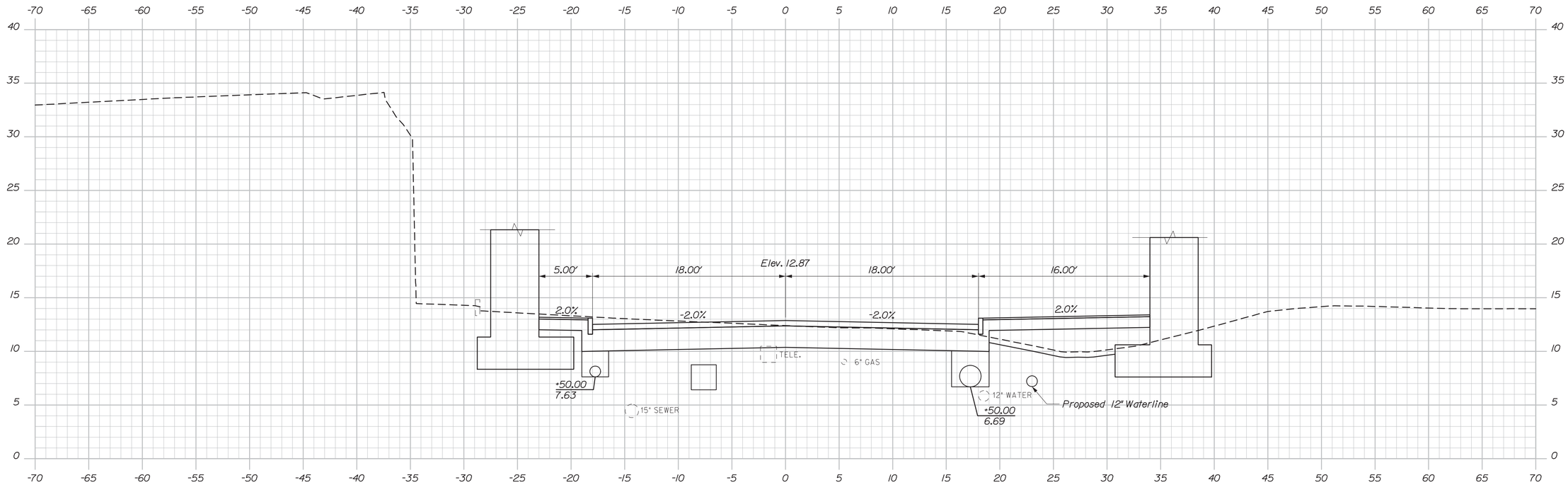
Sta. 103+71.00 to Sta. 104+00.00

Date:3/3/2020

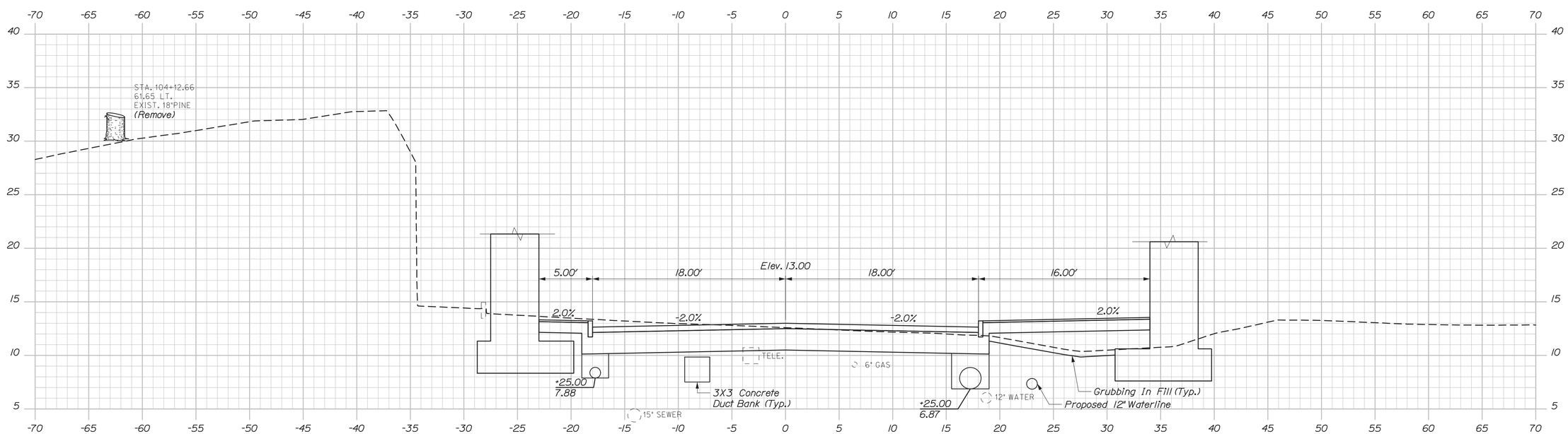
Username:

Division:

Filename: Xsect_Veranda.dgn



104+50.00



104+25.00

Note:
Underground Telephone, Gas, and Water are Assumed Depths, Material Unknown.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

SIGNATURE

P.E. NUMBER

DATE

PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EDD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
VERANDA STREET

SHEET NUMBER
94
OF 220

Sta. 104+25.00 to Sta. 104+50.00

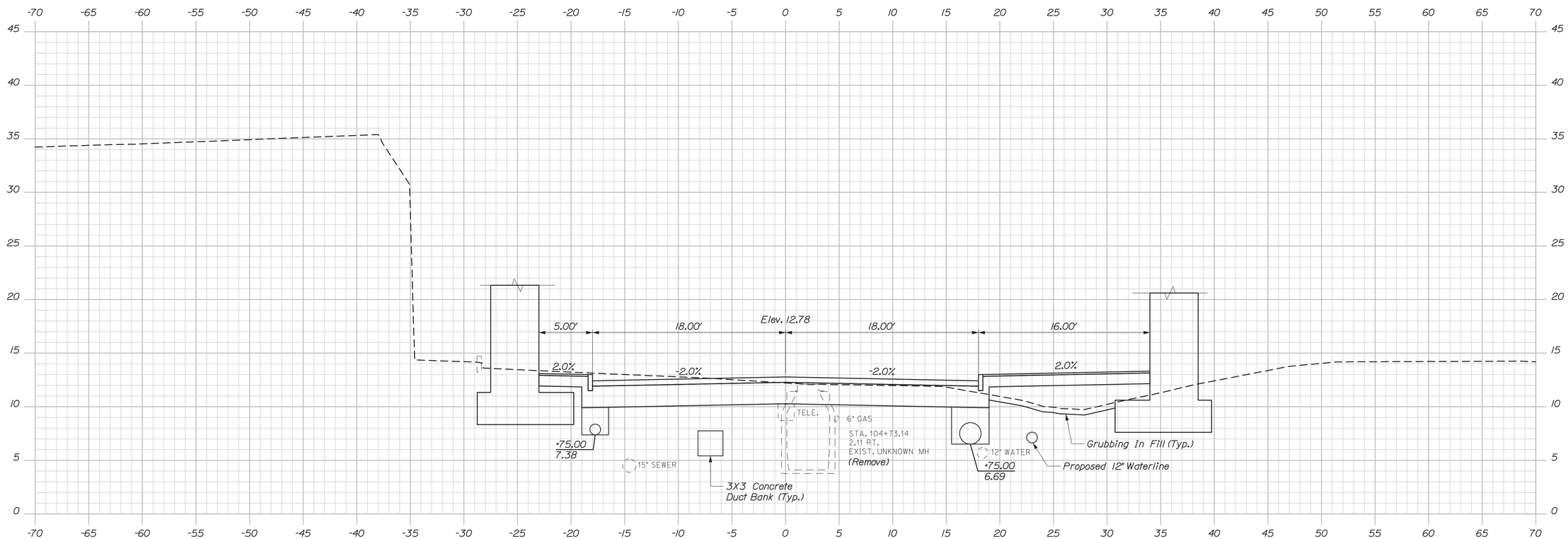
Date:3/3/2020
Username:
Division:
Filename: Xsect_Veranda.dgn

Username:

Date:3/3/2020

Division:

Filename: Xsect_Veranda.dgn



Note:
Underground Telephone, Gas, and Water are Assumed Depths, Material Unknown.

104+75.00

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN
021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	EOD	CDH	2\20
CHECKED-REVIEWED	RWH	LZD	2\20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

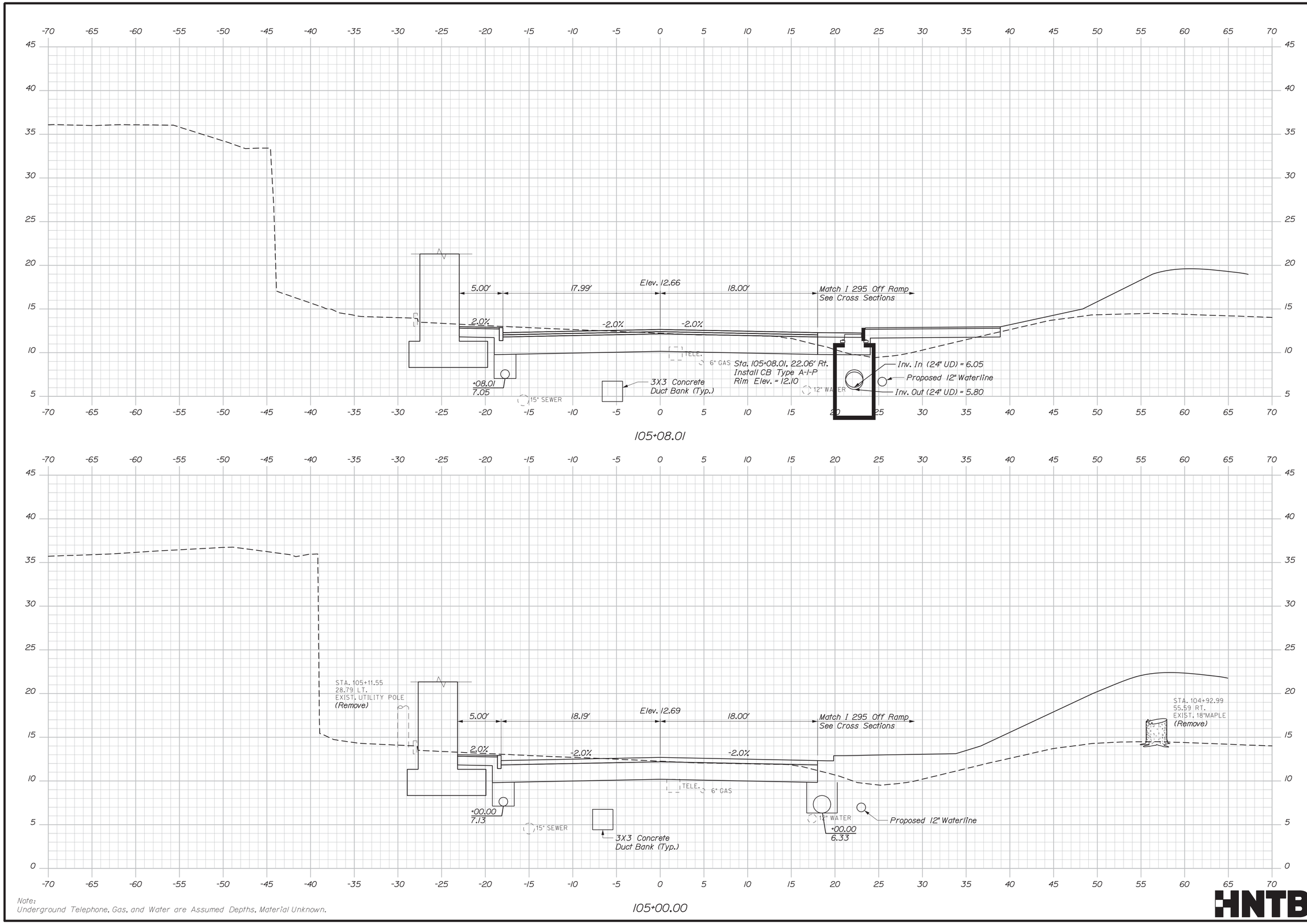
CROSS SECTIONS VERANDA STREET

SHEET NUMBER

95

OF 220

Sta. 104+75.00 to Sta. 104+75.00



Note:
Underground Telephone, Gas, and Water are Assumed Depths, Material Unknown.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

SIGNATURE

P.E. NUMBER

DATE

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	EDD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

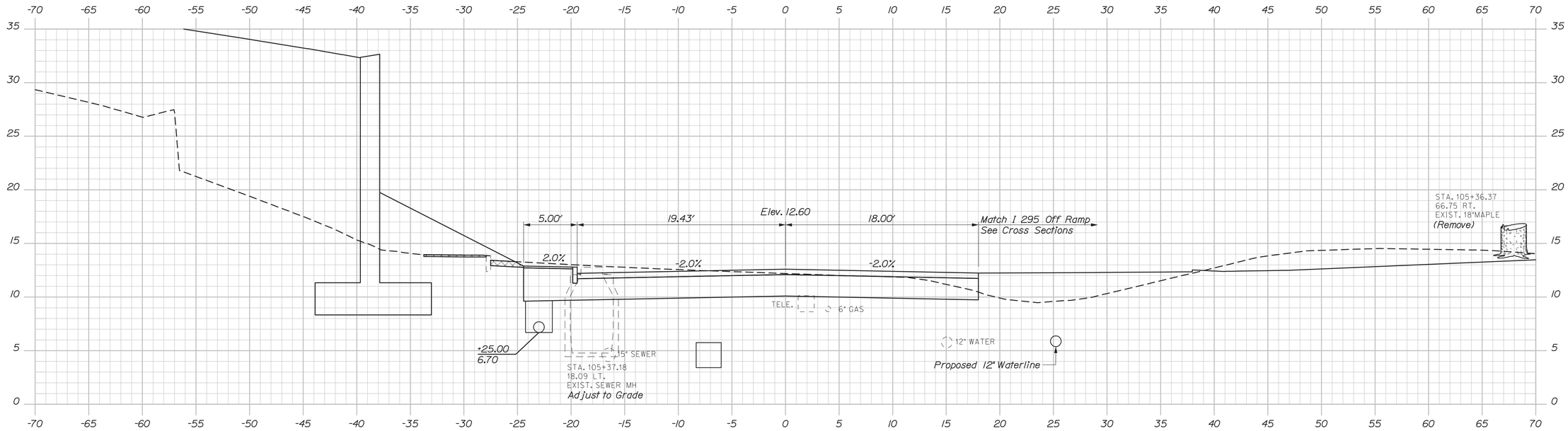
INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
VERANDA STREET

SHEET NUMBER
96
OF 220

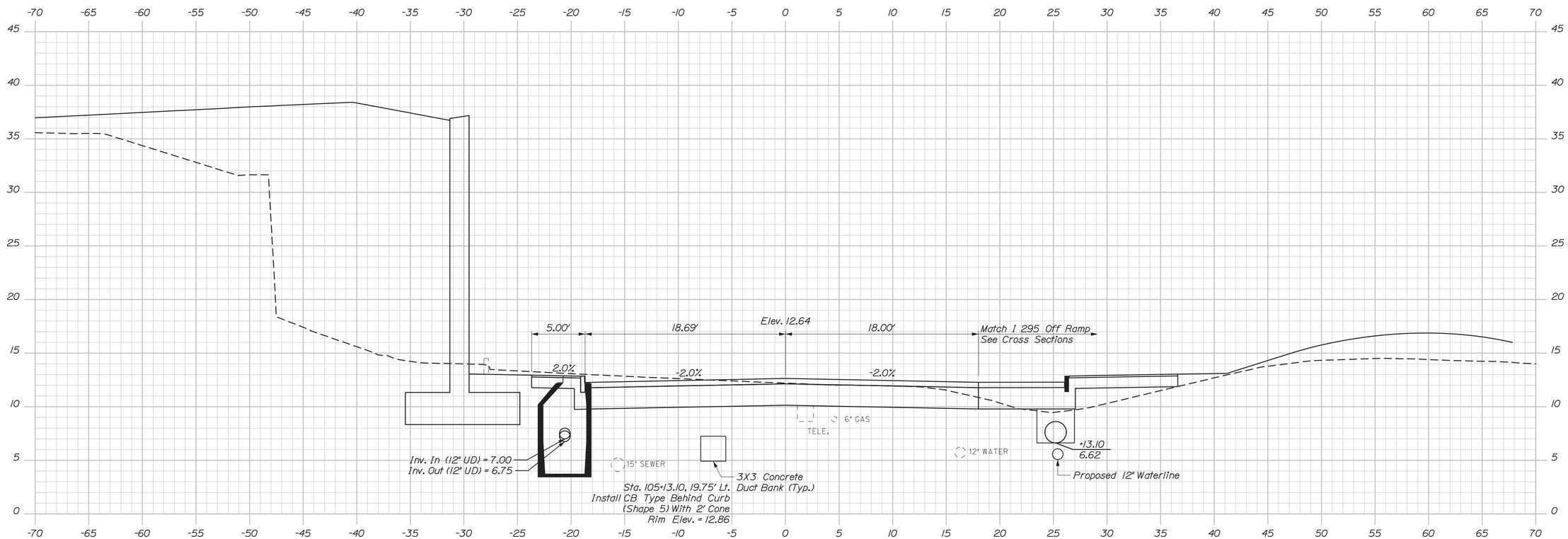
Sta. 105+00.00 to Sta. 105+08.01

Date:3/3/2020
Username:
Division:
Filename: Xsect_Veranda.dgn



Sta. 105+13.10, 19.75' Lt. to
Sta. 106+99.00, 26.00' Lt.
Install 183' x 12" Underdrain Type C

105+25.00



Note:
Underground Telephone, Gas, and Water are Assumed Depths, Material Unknown.

105+13.10

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN
021745.00

BRIDGE NO.5933

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EOD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

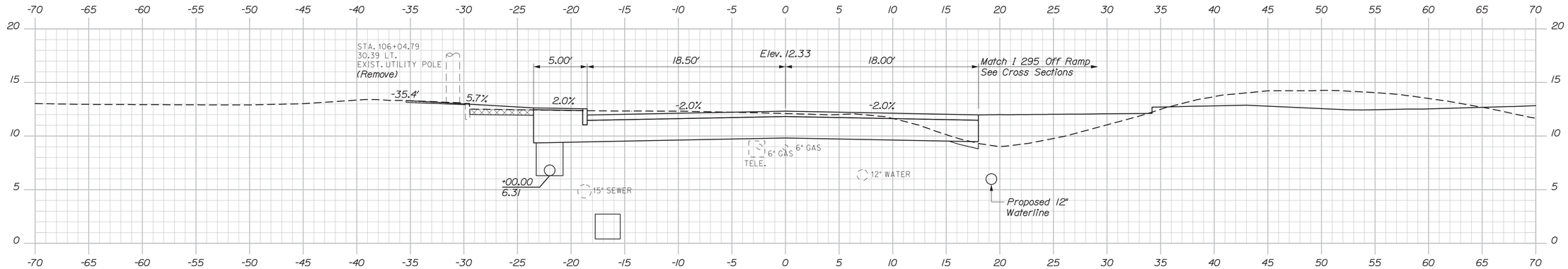
INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
VERANDA STREET

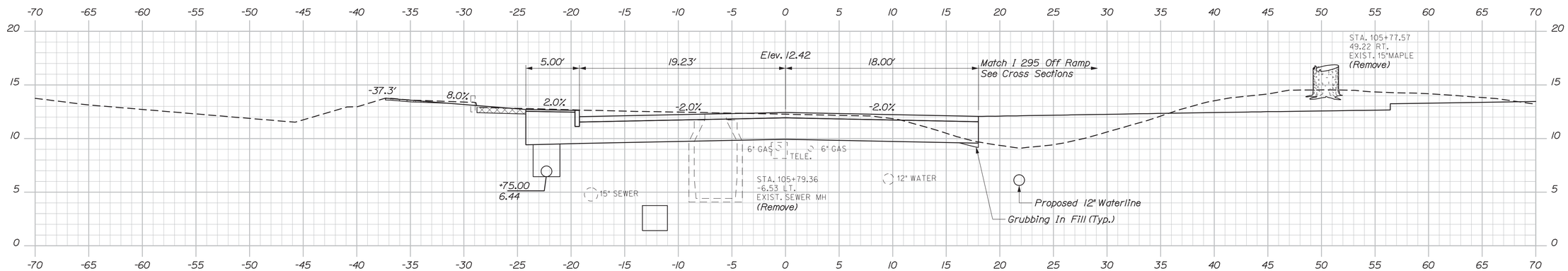
SHEET NUMBER
97
OF 220

Sta. 105+13.10 to Sta. 105+25.00

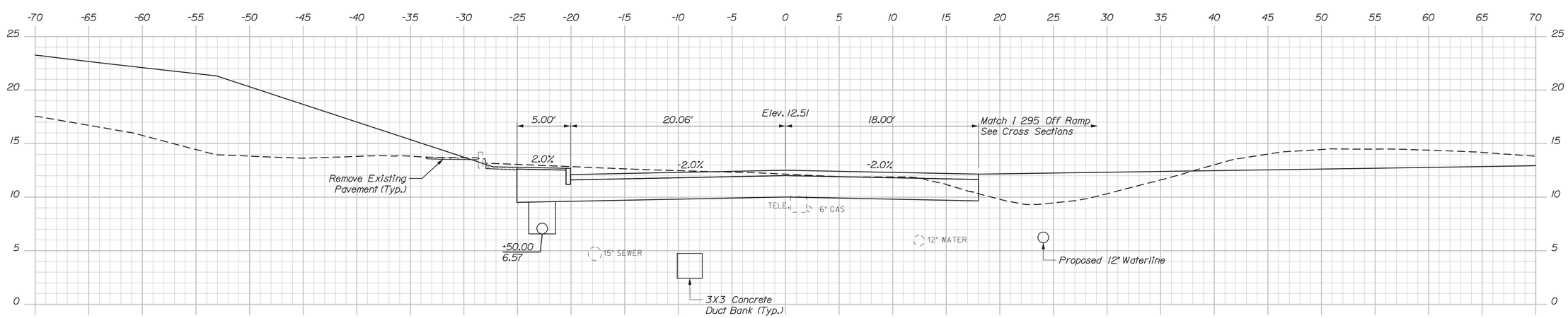
Date:3/3/2020
Username:
Division:
Filename: Xsect_Veranda.dgn



106+00.00



105+75.00



105+50.00

Note:
Underground Telephone, Gas, and Water are Assumed Depths, Material Unknown.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	EJD	CDH	2\20
CHECKED-REVIEWED	RWH	LZD	2\20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
VERANDA STREET

SHEET NUMBER

98

OF 220

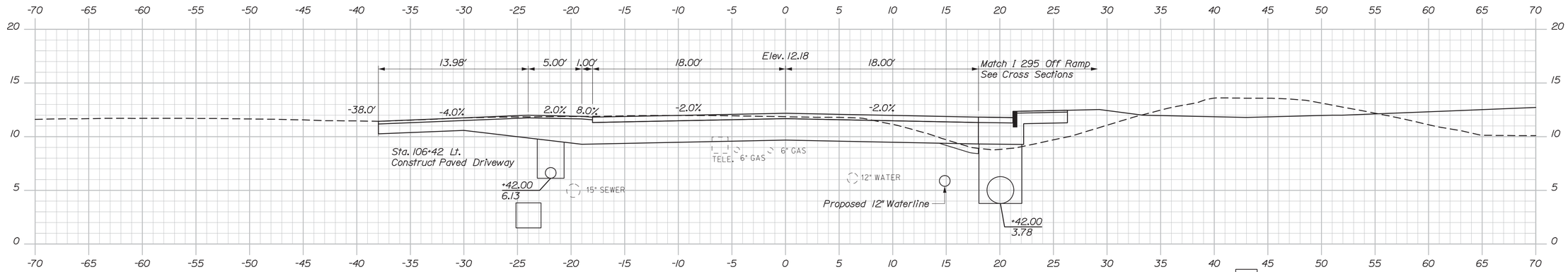
Sta. 105+50.00 to Sta. 106+00.00

Date:3/3/2020

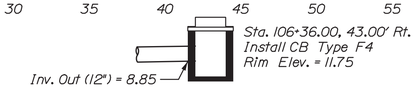
Username:

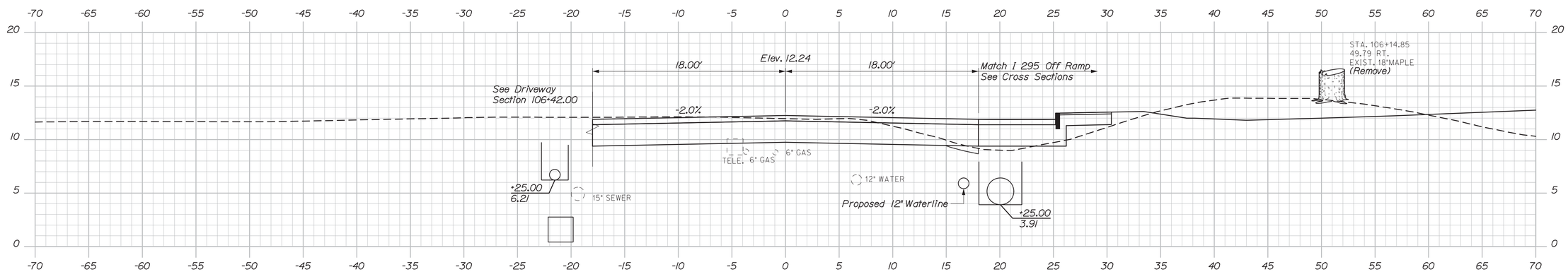
Division:

Filename: Xsect_Veranda.dgn



106+42.00

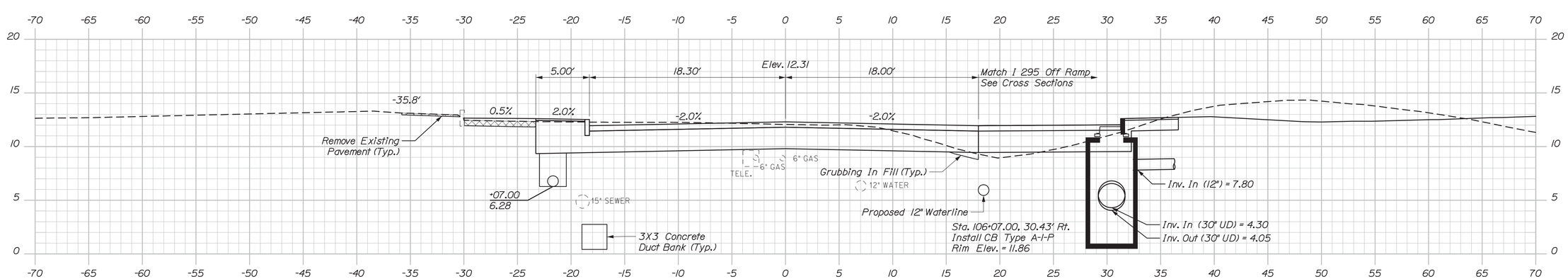




106+25.00

Sta. 106+07.00, 30.43' Rt. to
Sta. 106+85.08, 17.17' Rt.
Install 80' x 30" Underdrain Type C

Sta. 106+07.00, 30.43' Rt. to
Sta. 106+36.00, 43.00' Rt.
Install 28' x 12" Option III



106+07.00

Note:
Underground Telephone, Gas, and Water are Assumed Depths, Material Unknown.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

SIGNATURE

P.E. NUMBER

DATE

PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EDD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

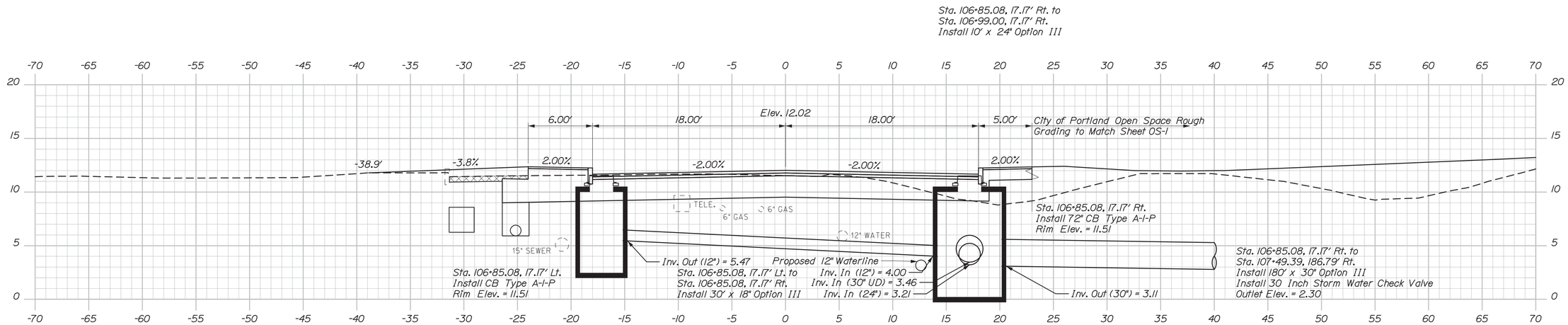
INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
VERANDA STREET

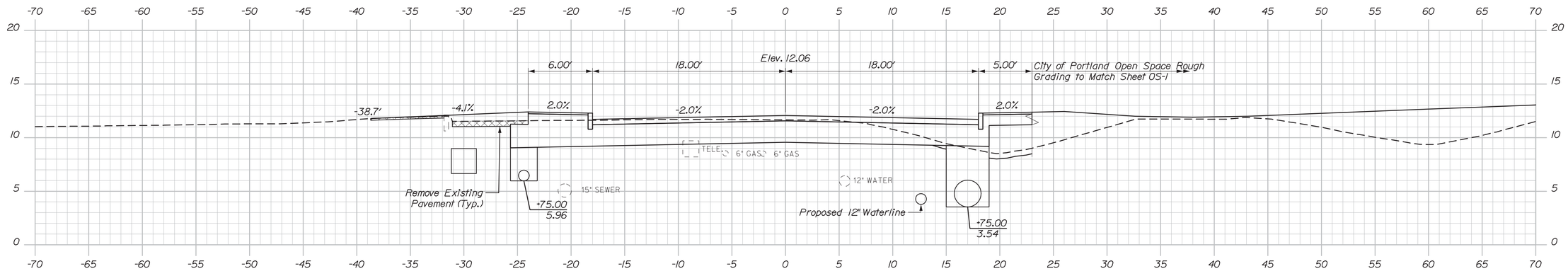
SHEET NUMBER
99
OF 220

Sta. 106+07.00 to Sta. 106+42.00

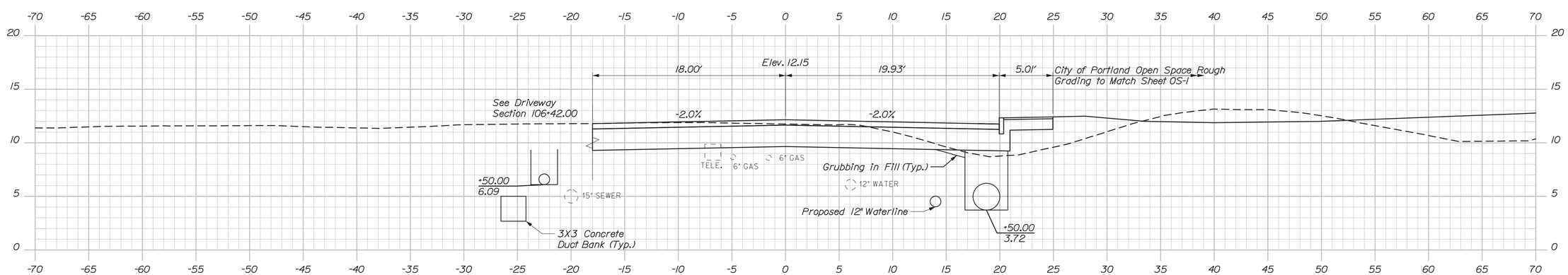
Date:3/3/2020
Username:
Division:
Filename: Xsect_Veranda.dgn



106+85.08



106+75.00



106+50.00

Note:
Underground Telephone, Gas, and Water are Assumed Depths, Material Unknown.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	D. EATON	
DESIGN-DETAILED	EDD	CDH 2/20
CHECKED-REVIEWED	RWH	LZD 2/20
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

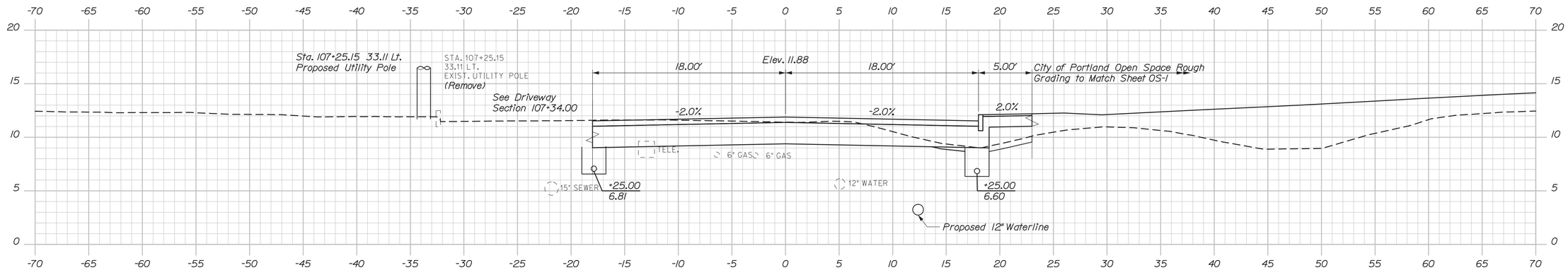
INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

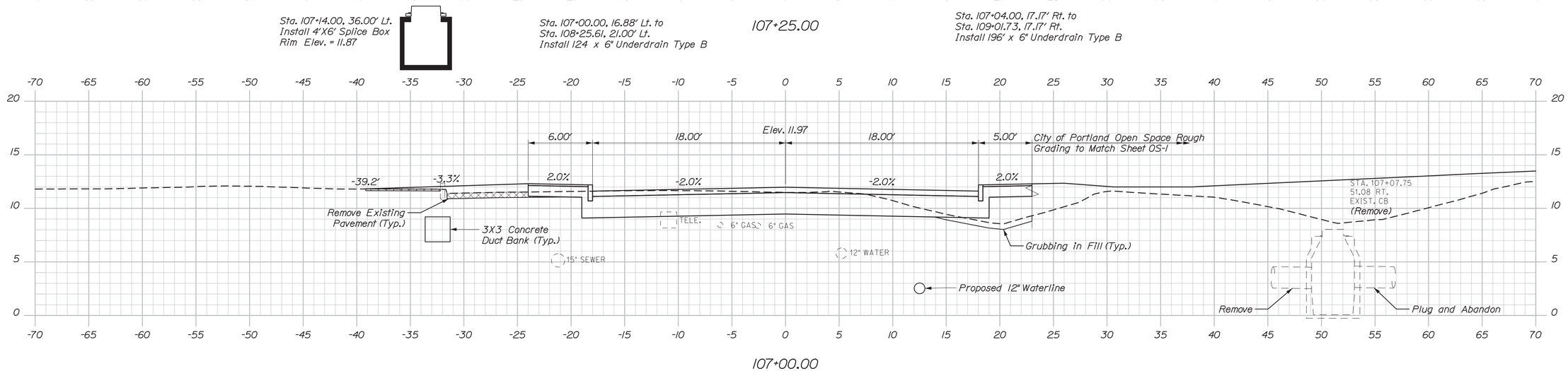
CROSS SECTIONS
VERANDA STREET

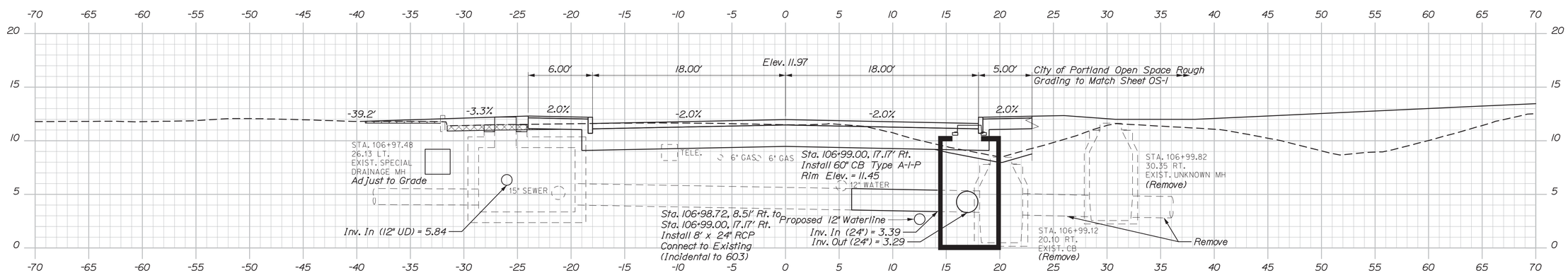
SHEET NUMBER
100
OF 220

Sta. 106+50.00 to Sta. 106+99.00

Date:3/3/2020
Username:
Division:
Filename: Xsect_Veranda.dgn







Note:
Underground Telephone, Gas, and Water are Assumed Depths, Material Unknown.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	EDD	CDH	2\20
CHECKED-REVIEWED	RWH	LZD	2\20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
VERANDA STREET

SHEET NUMBER
101
OF 220

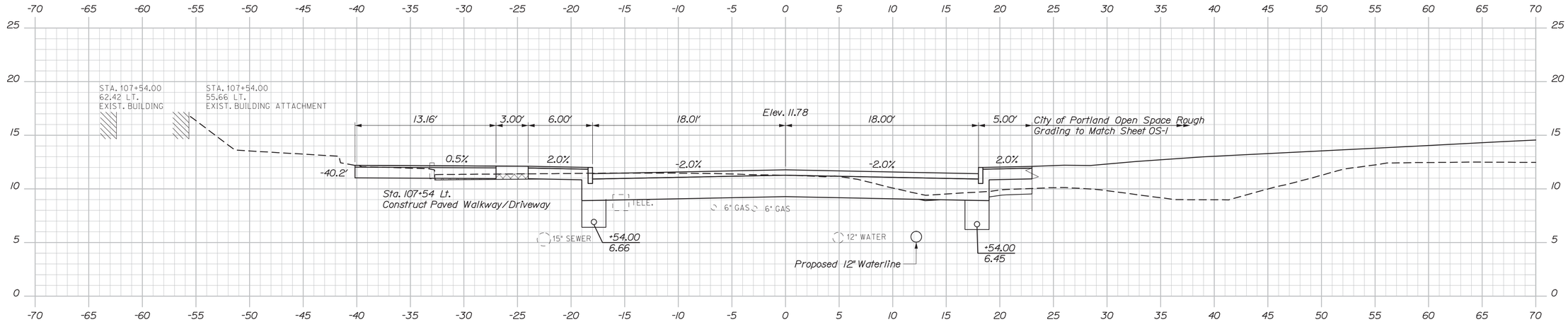
Date:3/3/2020

Username:

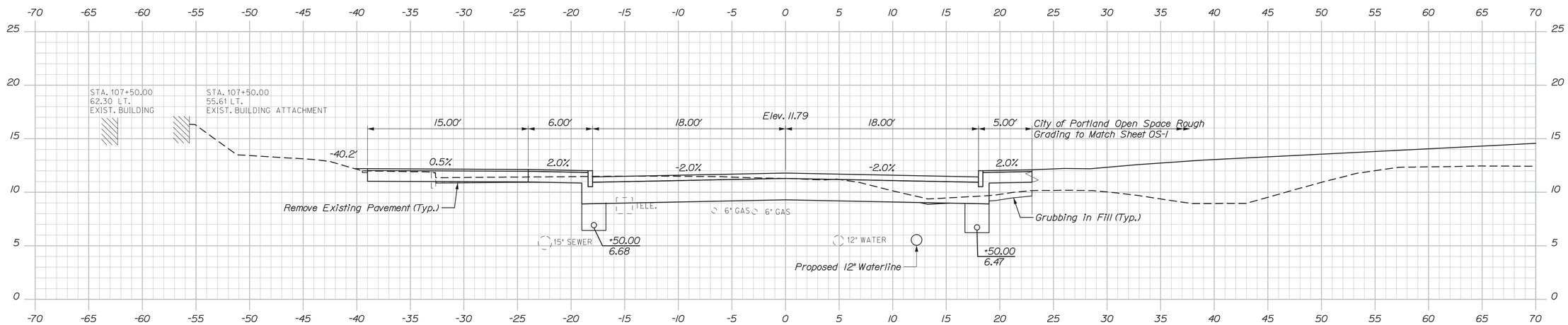
Division:

Filename: Xsect_Veranda.dgn

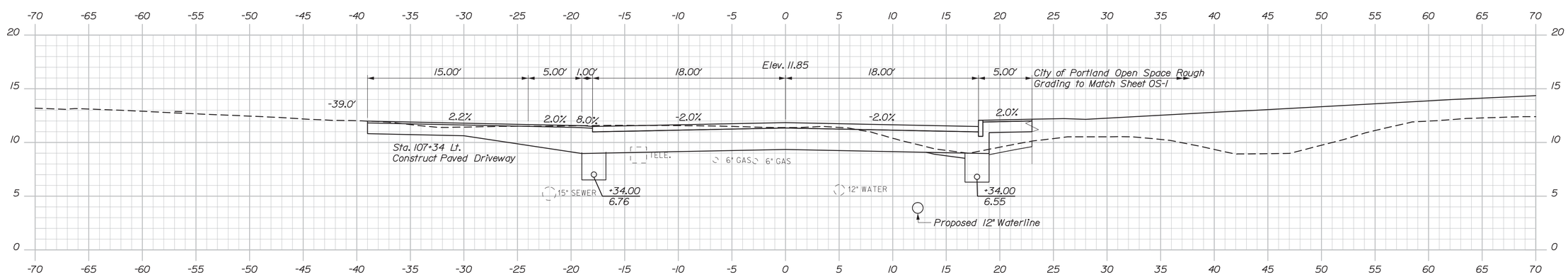
Sta. 107+00.00 to Sta. 107+25.00



107+54.00



107+50.00



107+34.00

Note:
Underground Telephone, Gas, and Water are Assumed Depths, Material Unknown.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EJD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

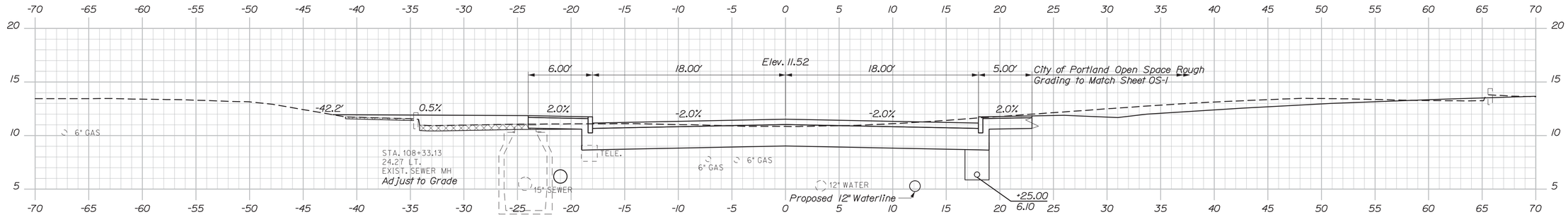
INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
VERANDA STREET

SHEET NUMBER
102
OF 220

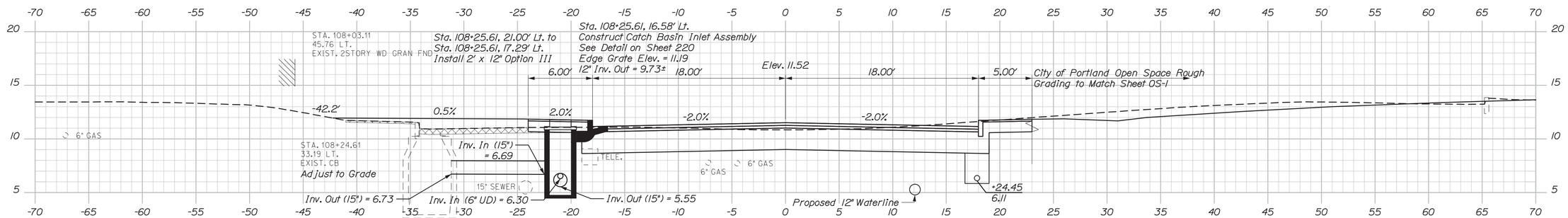
Sta. 107+34.00 to Sta. 107+54.00

Date:3/3/2020
Username:
Division:
Filename: Xsect_Veranda.dgn



Sta. 108+25.61, 21.00' Lt. to
Sta. 108+67.22, 22.73' Lt.
Install 38' x 15" Option III

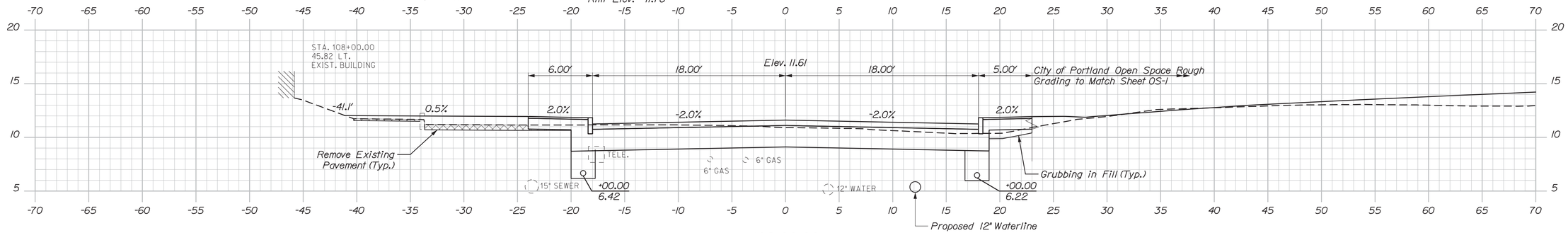
108+25.00



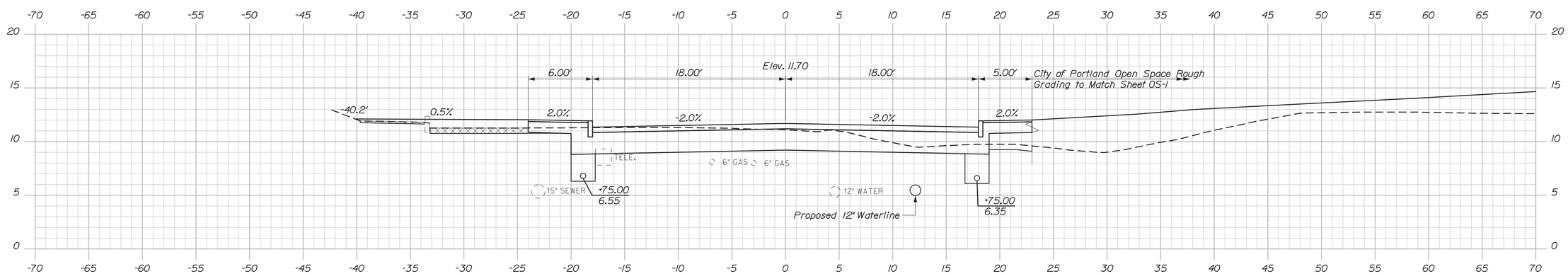
Sta. 108+25.61, 21.00' Lt. to
Sta. 108+24.61, 33.19' Lt.
Install 9' x 15" Option III

Sta. 108+25.61, 21.00' Lt.
Install CB Type F7 With Special
Catch Basin Inlet and Solid Cover
Rim Elev. = 11.78

108+25.61



108+00.00



107+75.00

Note:
Underground Telephone, Gas, and Water are Assumed Depths, Material Unknown.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

	BY	DATE
D. EATON		
PROJ. MANAGER	EJD	2/20
DESIGN-DETAILED	CDH	2/20
CHECKED-REVIEWED	RWH	
DESIGN2-DETAILED2	LZD	
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

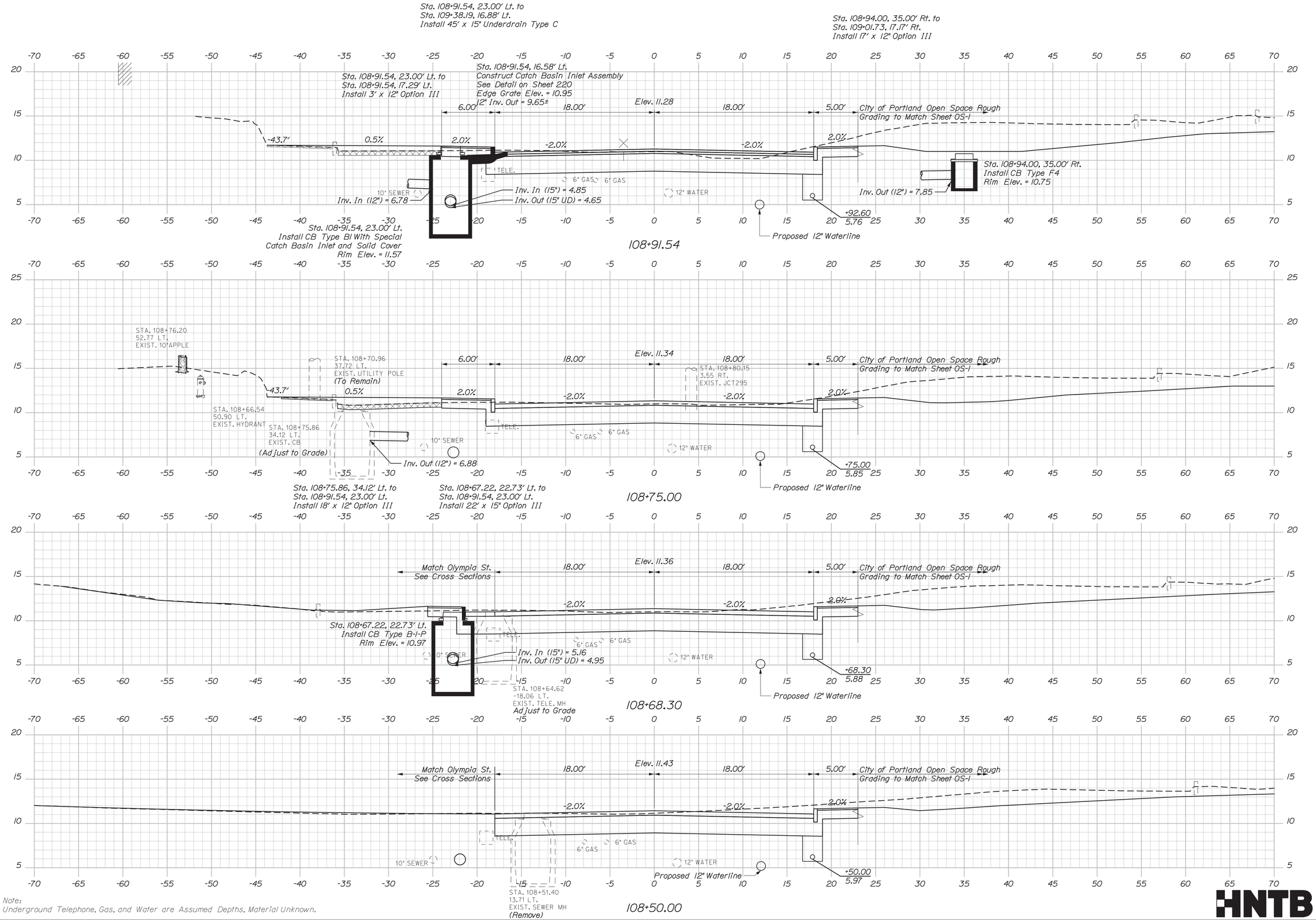
INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
VERANDA STREET

SHEET NUMBER
103
OF 220

Sta. 107+75.00 to Sta. 108+25.00

Date:3/3/2020
Username:
Division:
Filename: Xsect_Veranda.dgn



Note:
Underground Telephone, Gas, and Water are Assumed Depths, Material Unknown.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	EDD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

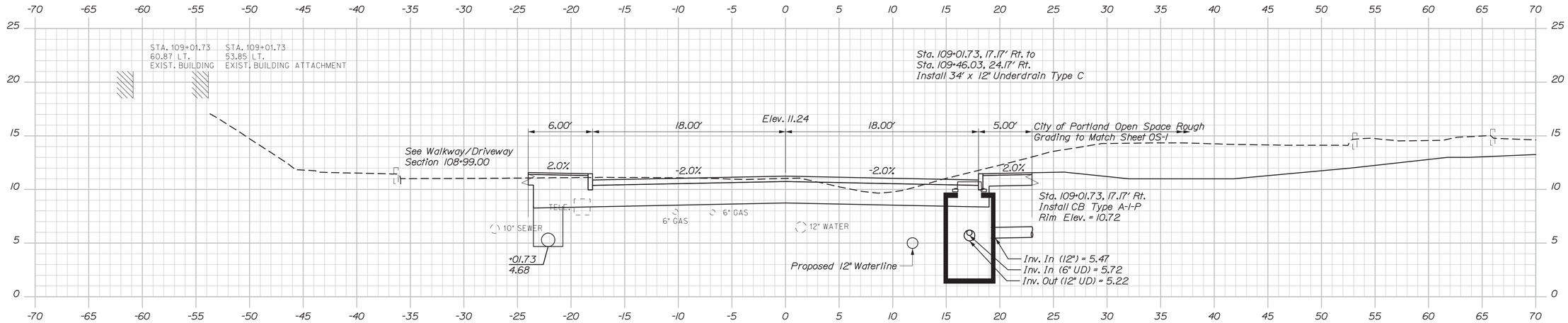
INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
VERANDA STREET

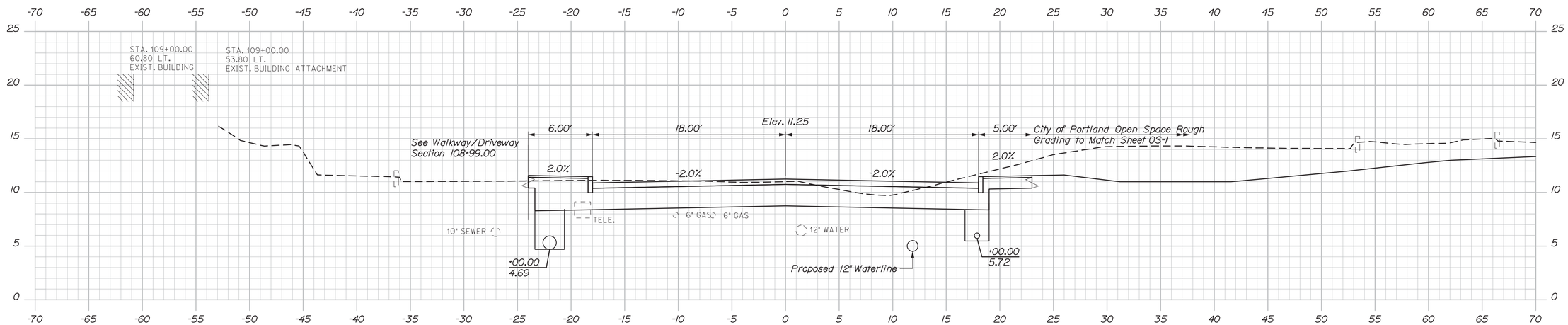
SHEET NUMBER
104
OF 220

Sta. 108+50.00 to Sta. 108+92.60

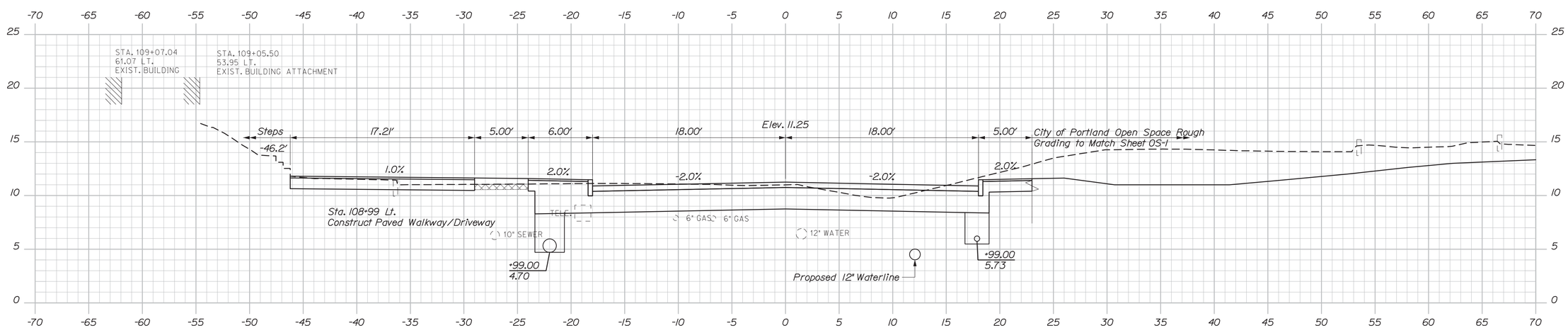
Date:3/3/2020
Username:
Division:
Filename: Xsect_Veranda.dgn



109+01.73



109+00.00



Note:
Underground Telephone, Gas, and Water are Assumed Depths, Material Unknown.

108+99.00

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EOD	COH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

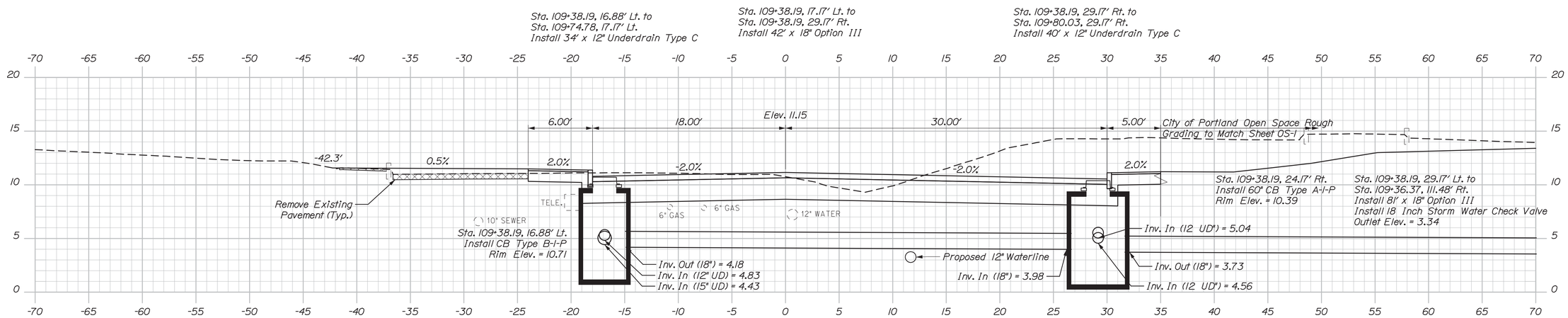
INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
VERANDA STREET

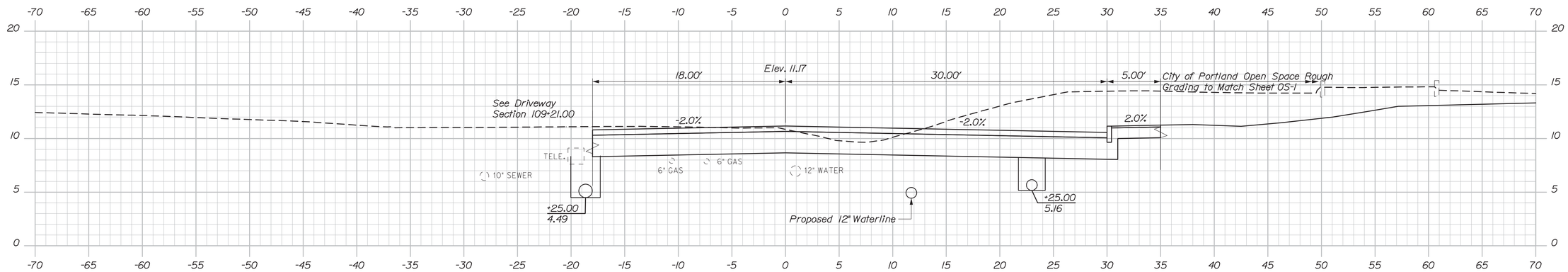
SHEET NUMBER
105
OF 220

Sta. 108+99.00 to Sta. 109+01.73

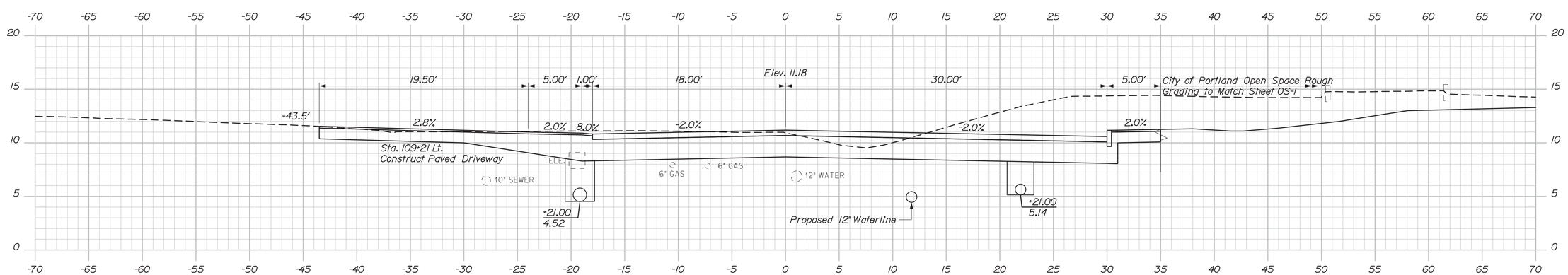
Date:3/3/2020
Username:
Division:
Filename: Xsect_Veranda.dgn



109+38.19



109+25.00



109+21.00

Note:
Underground Telephone, Gas, and Water are Assumed Depths, Material Unknown.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

SIGNATURE

P.E. NUMBER

DATE

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EDD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

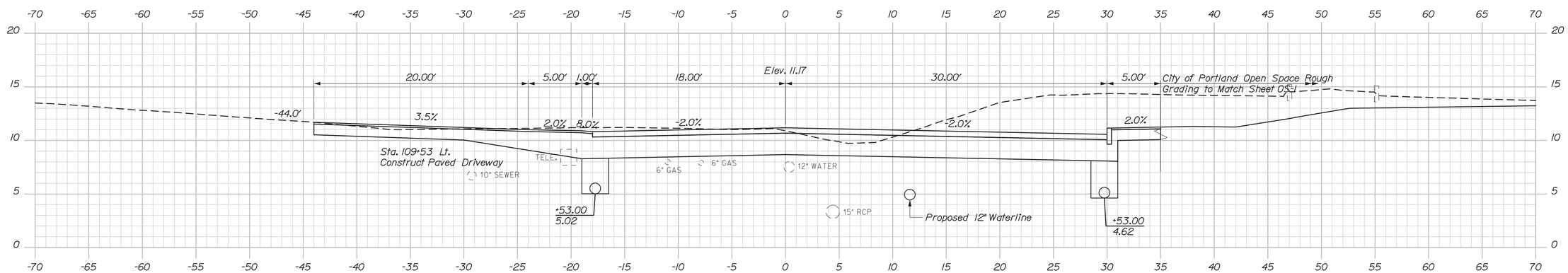
INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
VERANDA STREET

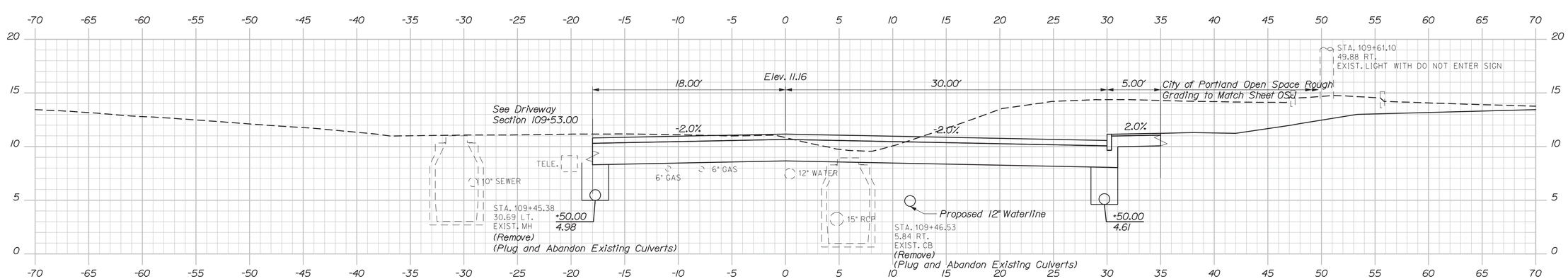
SHEET NUMBER
106
OF 220

Date:3/3/2020
Username:
Division:
Filename: Xsect_Veranda.dgn

Sta. 109+21.00 to Sta. 109+38.19



109+53.00



109+50.00

Note:
Underground Telephone, Gas, and Water are Assumed Depths, Material Unknown.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	EDD	CDH	2\20
CHECKED-REVIEWED	RWH	LZD	2\20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

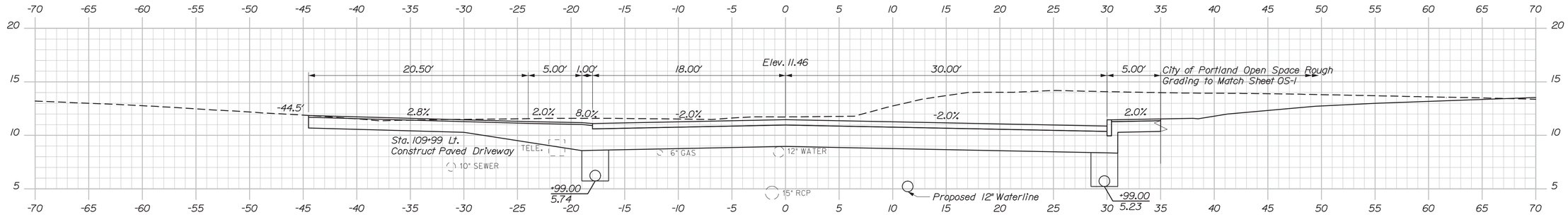
INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
VERANDA STREET

SHEET NUMBER
107
OF 220

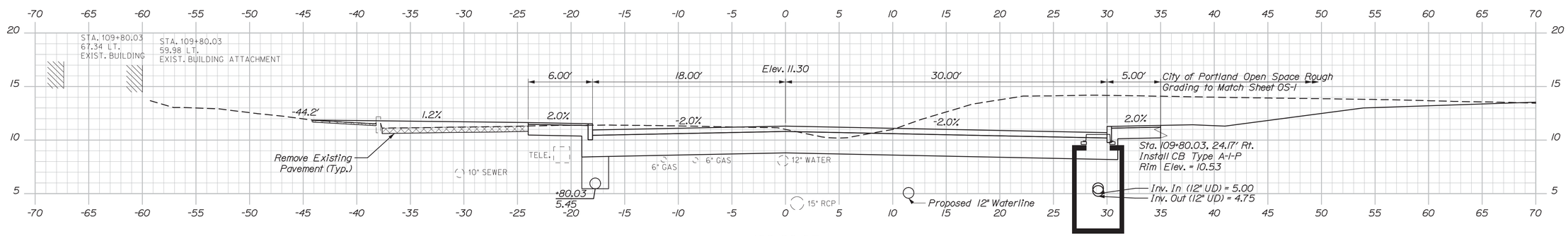
Sta. 109+46.03 to Sta. 109+53.00

Filename: Xsect_Veranda.dgn Division: Username: Date:3/3/2020

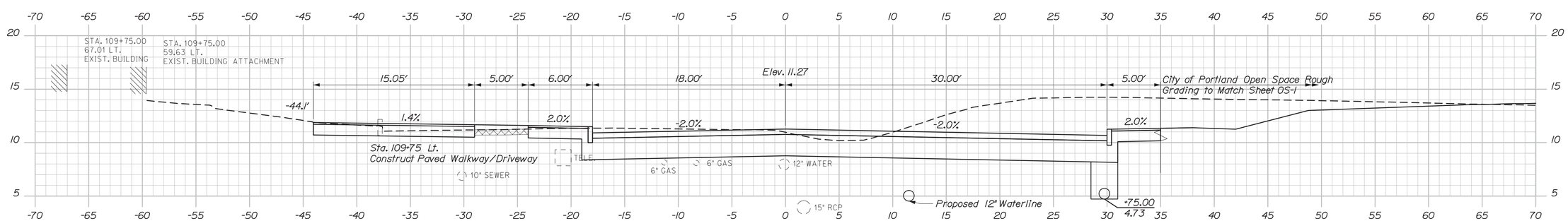


109+99.00

Sta. 109+80.03, 24.17' Rt. to
Sta. 110+87.67, 24.17' Rt.
Install 105' x 12" Underdrain Type C

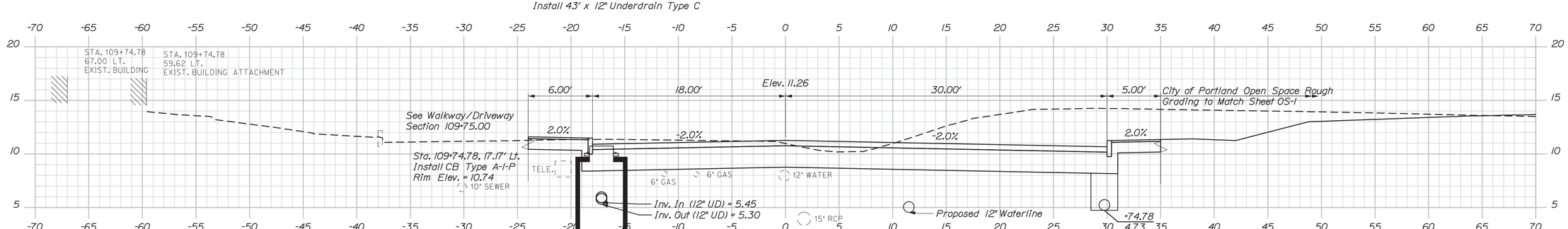


109+80.03



Sta. 109+74.78, 17.17' Lt. to
Sta. 110+20.20, 17.17' Lt.
Install 43' x 12" Underdrain Type C

109+75.00



109+74.78

Note:
Underground Telephone, Gas, and Water are Assumed Depths, Material Unknown.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

SIGNATURE

P.E. NUMBER

DATE

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EDD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

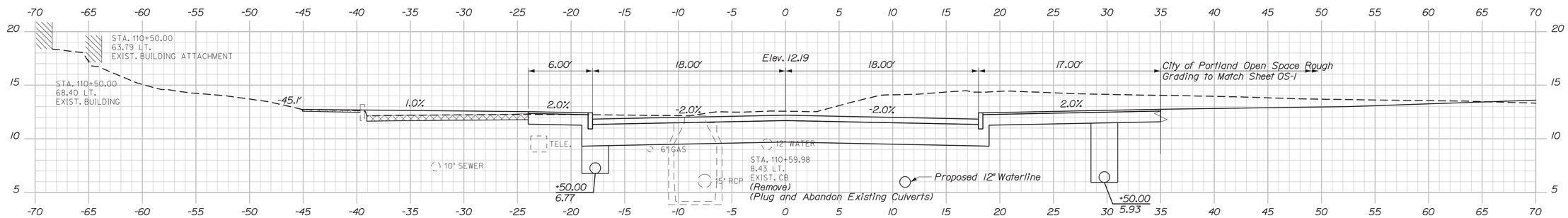
INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
VERANDA STREET

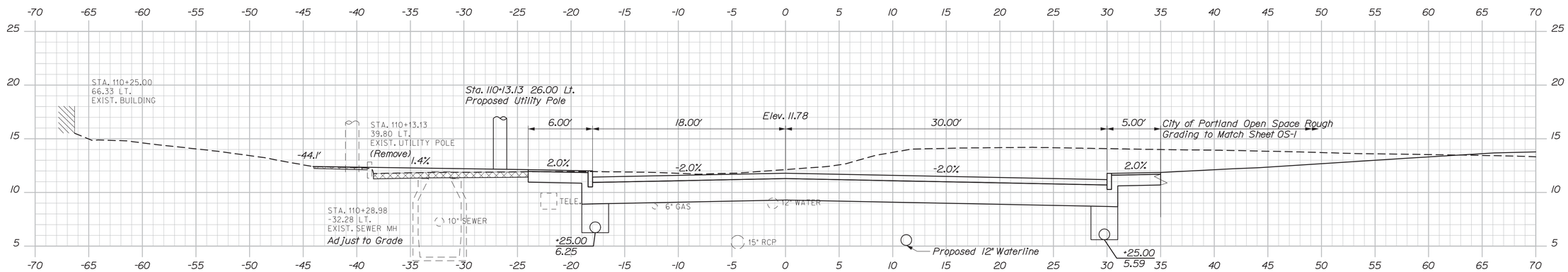
SHEET NUMBER
108
OF 220

Sta. 109+74.78 to Sta. 109+99.00

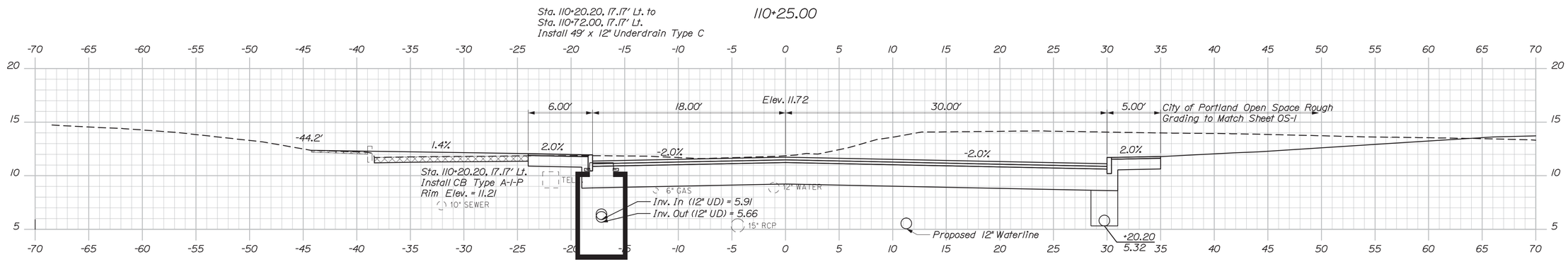
Date:3/3/2020
Username:
Division:
Filename: Xsect_Veranda.dgn



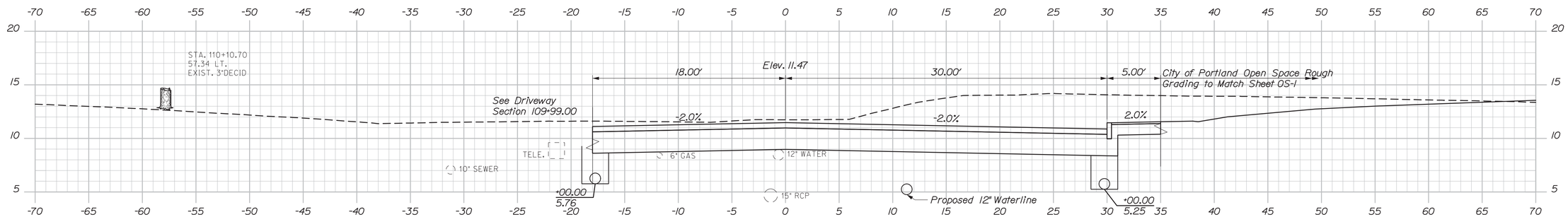
110+50.00



110+25.00



110+20.20



110+00.00

Note:
Underground Telephone, Gas, and Water are Assumed Depths, Material Unknown.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EJD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

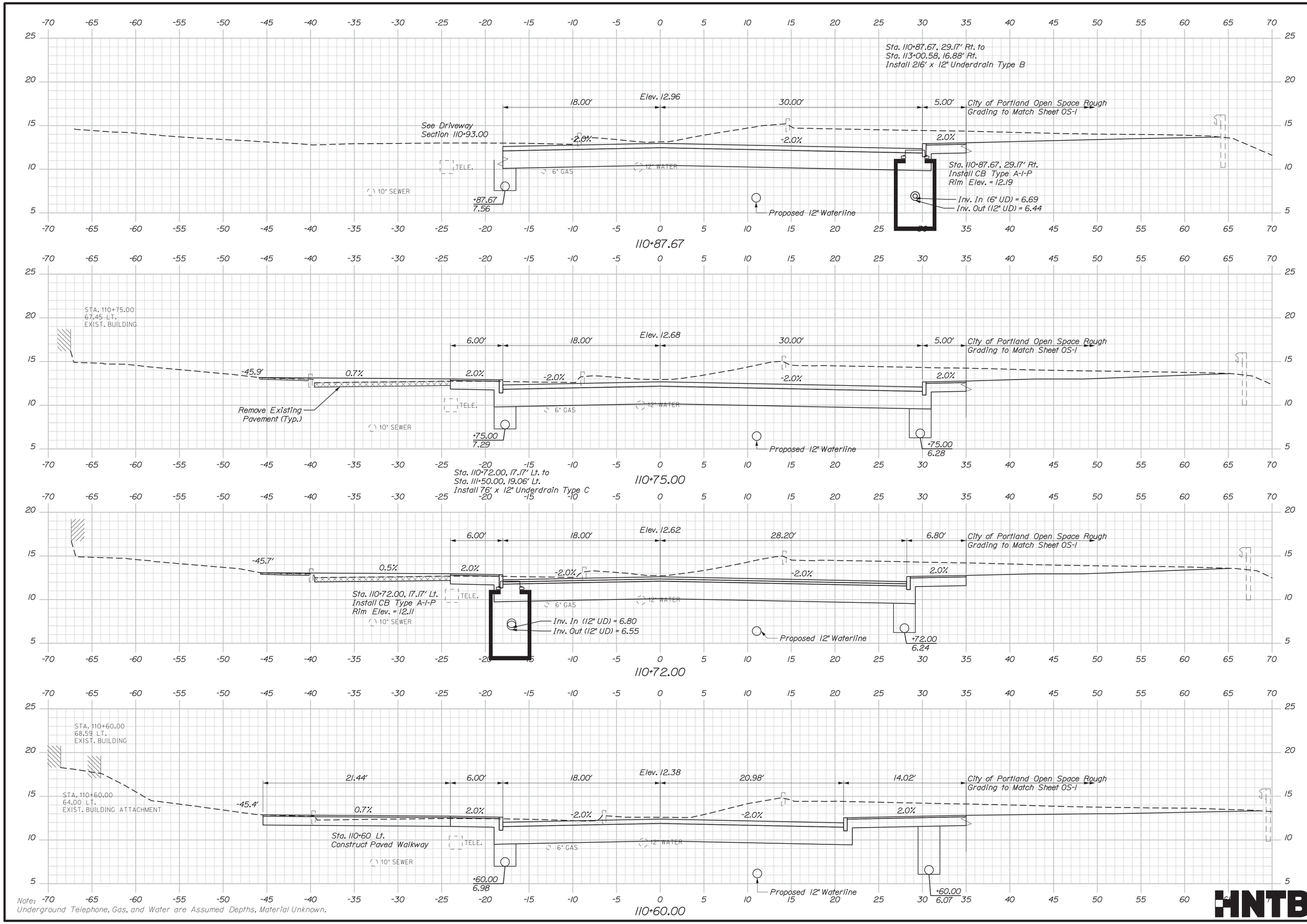
INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
VERANDA STREET

SHEET NUMBER
109
OF 220

Sta. 110+00.00 to Sta. 110+50.00

Date:3/3/2020
Username:
Division:
Filename: Xsect_Veranda.dgn



Note:
Underground Telephone, Gas, and Water are Assumed Depths, Material Unknown.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	D. EATON	
DESIGN-DETAILED	EOD	2/20
CHECKED-REVIEWED	RWH	2/20
DESIGN2-DETAILED2	LED2	
DESIGN3-DETAILED3	LED3	
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

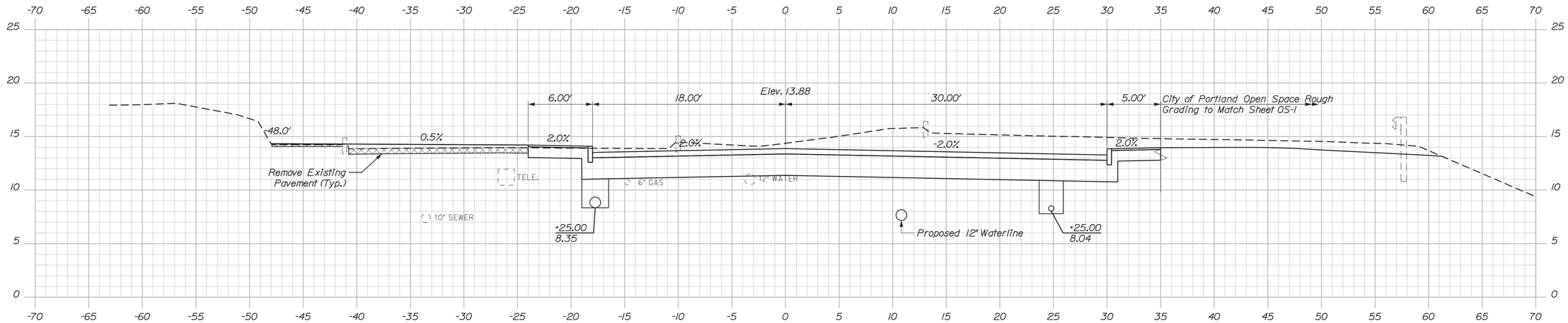
INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
VERANDA STREET

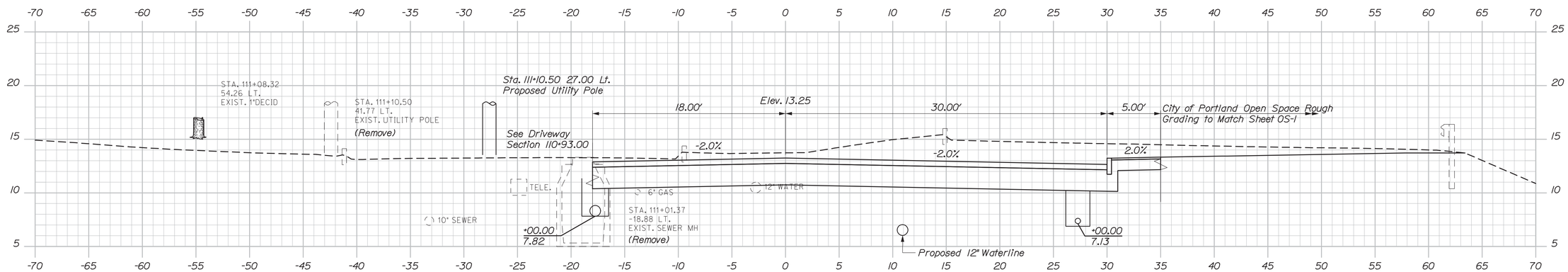
SHEET NUMBER
110
OF 220

Sta. 110+60.00 to Sta. 110+87.67

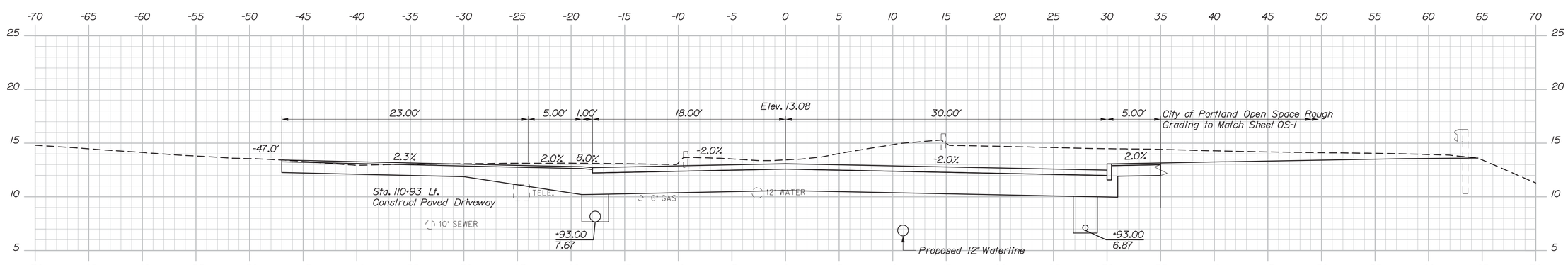
Date:3/3/2020
Username:
Division:
Filename: Xsect_Veranda.dgn



111+25.00



111+00.00



110+93.00

Note:
Underground Telephone, Gas, and Water are Assumed Depths, Material Unknown.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

SIGNATURE

P.E. NUMBER

DATE

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EDD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

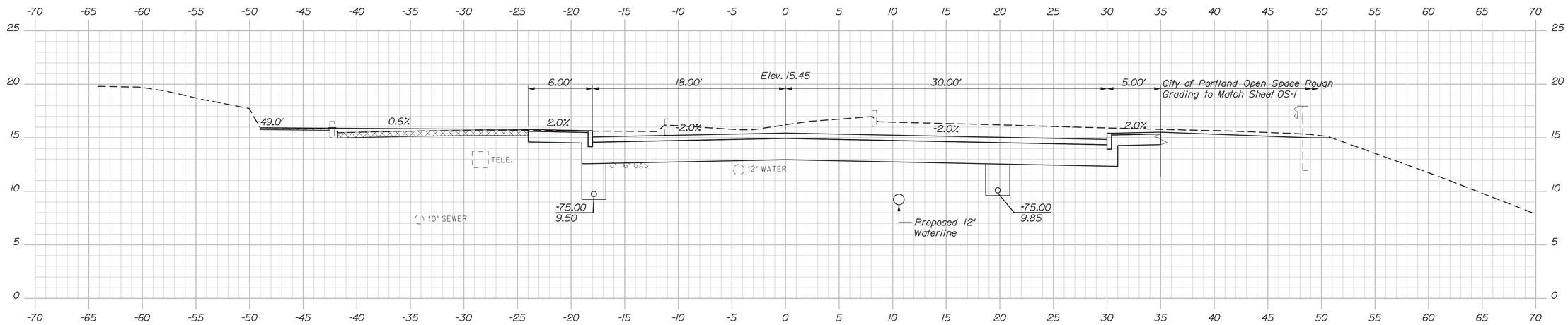
INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
VERANDA STREET

SHEET NUMBER
111
OF 220

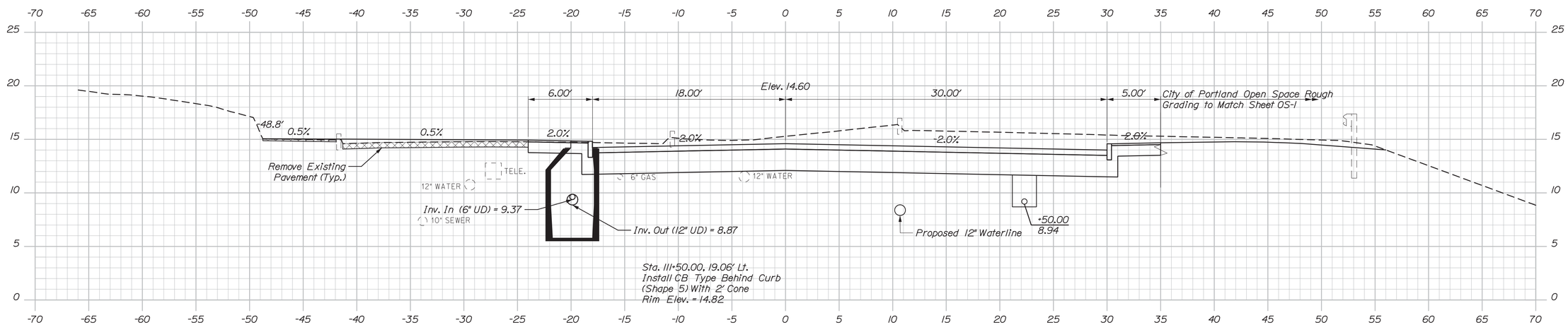
Sta. 110+93.00 to Sta. 111+25.00

Date:3/3/2020
Username:
Division:
Filename: Xsect_Veranda.dgn



Sta. 111+50.00, 19.06' Lt. to
Sta. 113+00.00, 17.17' Lt.
Install 148' x 6" Underdrain Type B

111+75.00



Sta. 111+50.00, 19.06' Lt.
Install CB Type Behind Curb
(Shape 5) With 2' Cone
Rim Elev. = 14.82

111+50.00

Note:
Underground Telephone, Gas, and Water are Assumed Depths, Material Unknown.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933 BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EDD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
VERANDA STREET

SHEET NUMBER
112
OF 220

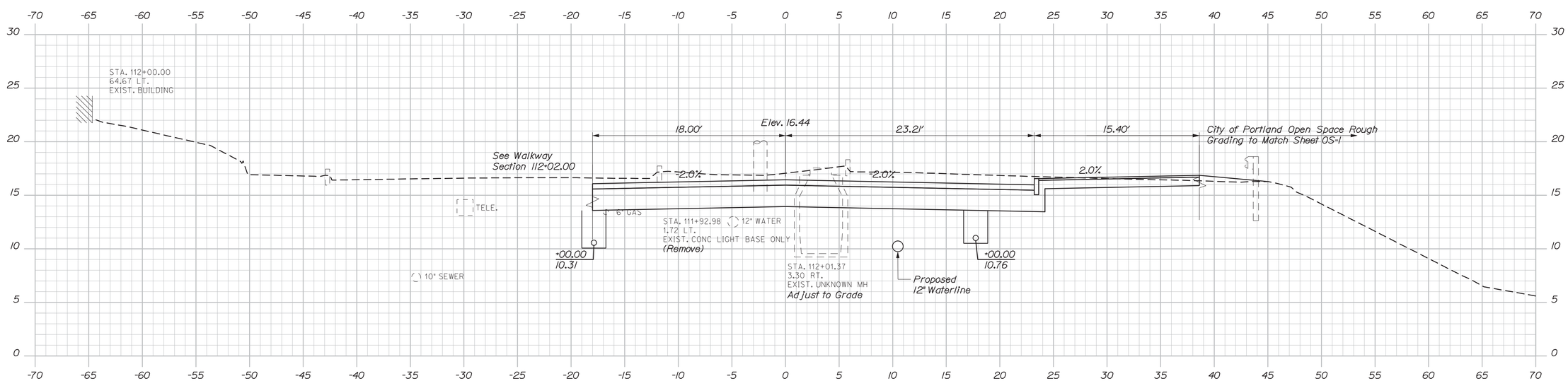
Sta. 111+50.00 to Sta. 111+75.00

Date:3/3/2020
Username:
Division:
Filename: Xsect_Veranda.dgn

Username: Date:3/3/2020

Division:

Filename: Xsect_Veranda.dgn



Note:
Underground Telephone, Gas, and Water are Assumed Depths, Material Unknown.

112+00.00

HNTB

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	EOD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933 BRIDGE PLANS

PORTLAND INTERSTATE 295 OVER VERANDA STREET CUMBERLAND COUNTY

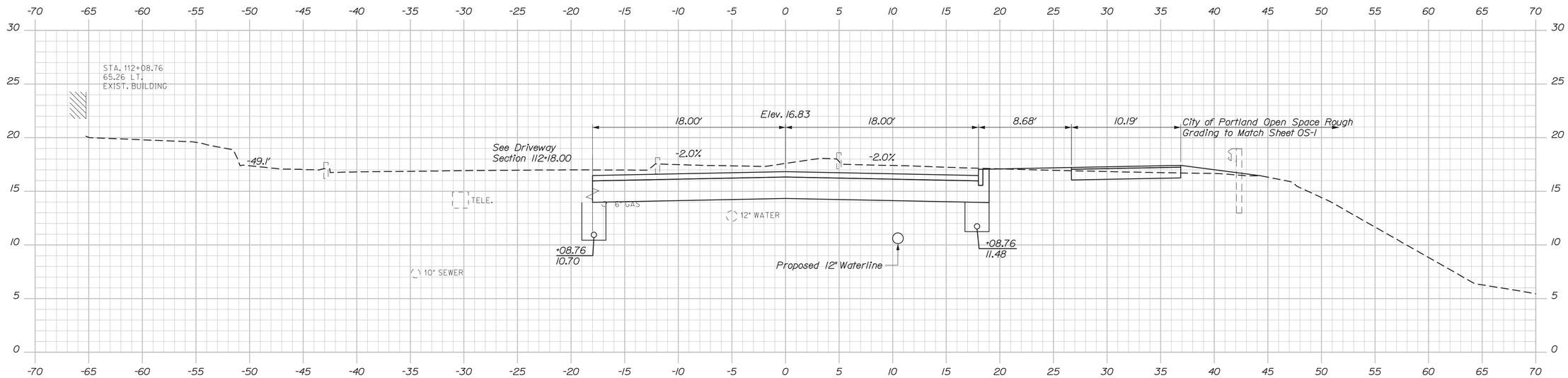
CROSS SECTIONS VERANDA STREET

SHEET NUMBER

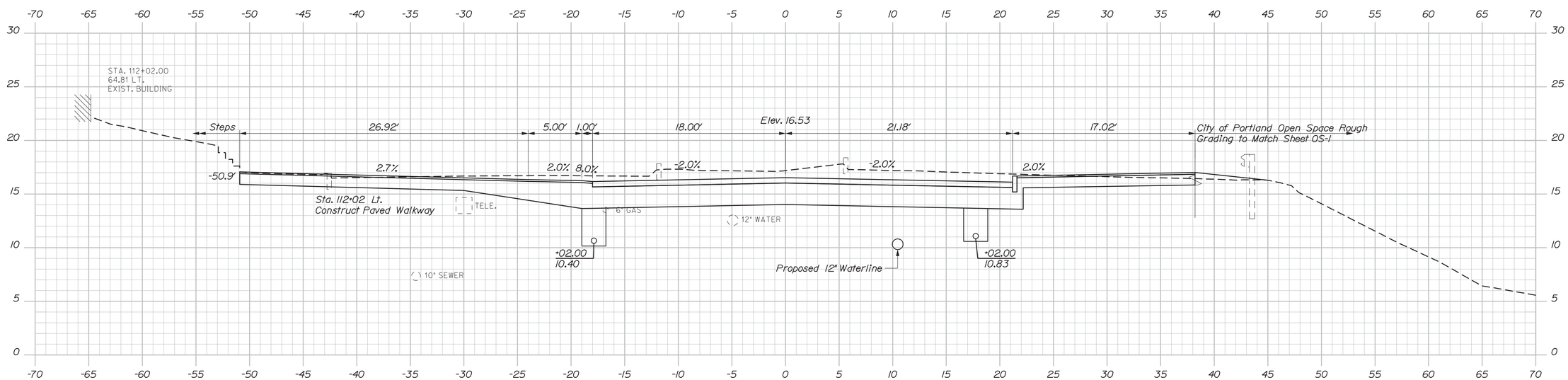
113

OF 220

Sta. 111+89.99 to Sta. 112+00.00



112+08.76



112+02.00

Note:
Underground Telephone, Gas, and Water are Assumed Depths, Material Unknown.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	EOD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

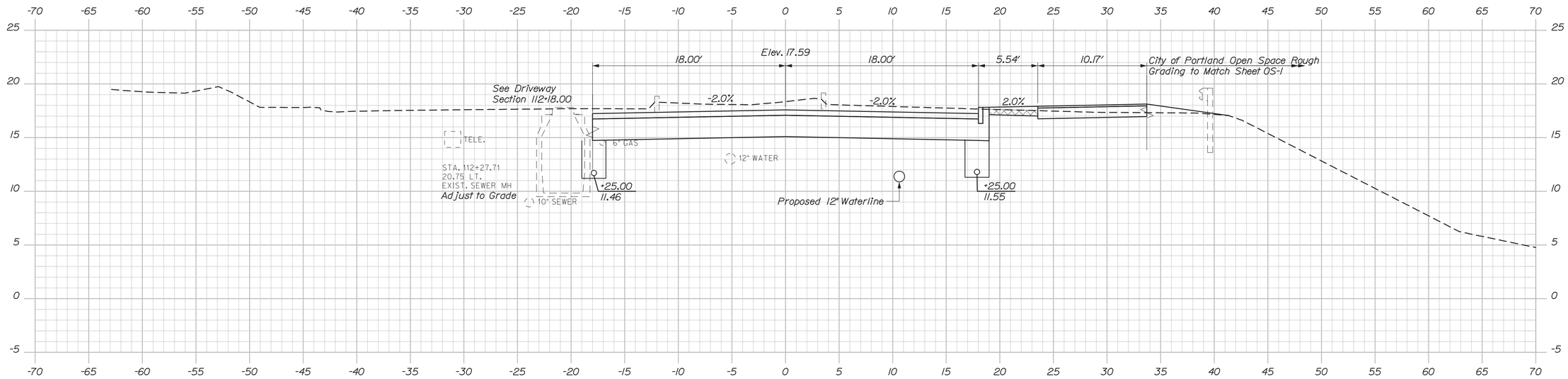
INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
VERANDA STREET

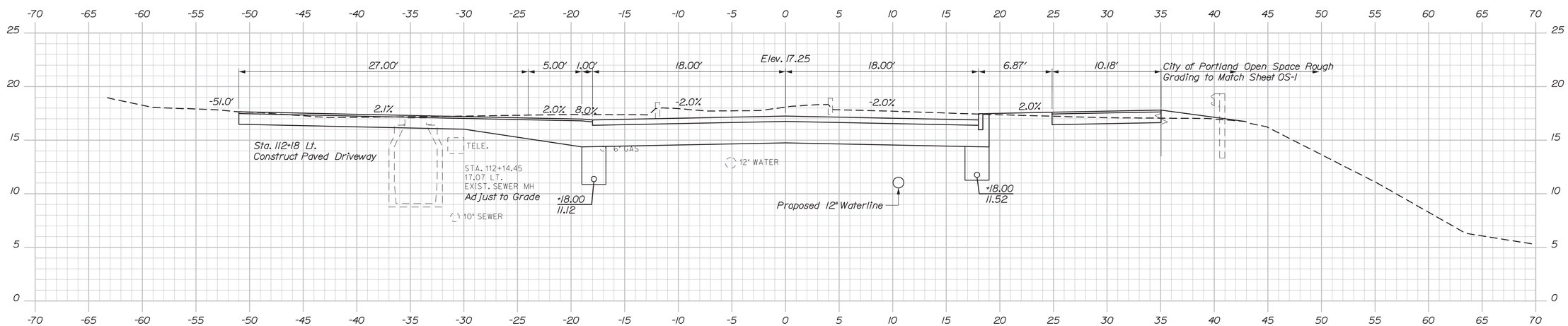
SHEET NUMBER
114
OF 220

Sta. 112+02.00 to Sta. 112+08.76

Date:3/3/2020
Username:
Division:
Filename: Xsect_Veranda.dgn



112+25.00



112+18.00

Note:
Underground Telephone, Gas, and Water are Assumed Depths, Material Unknown.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EOD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

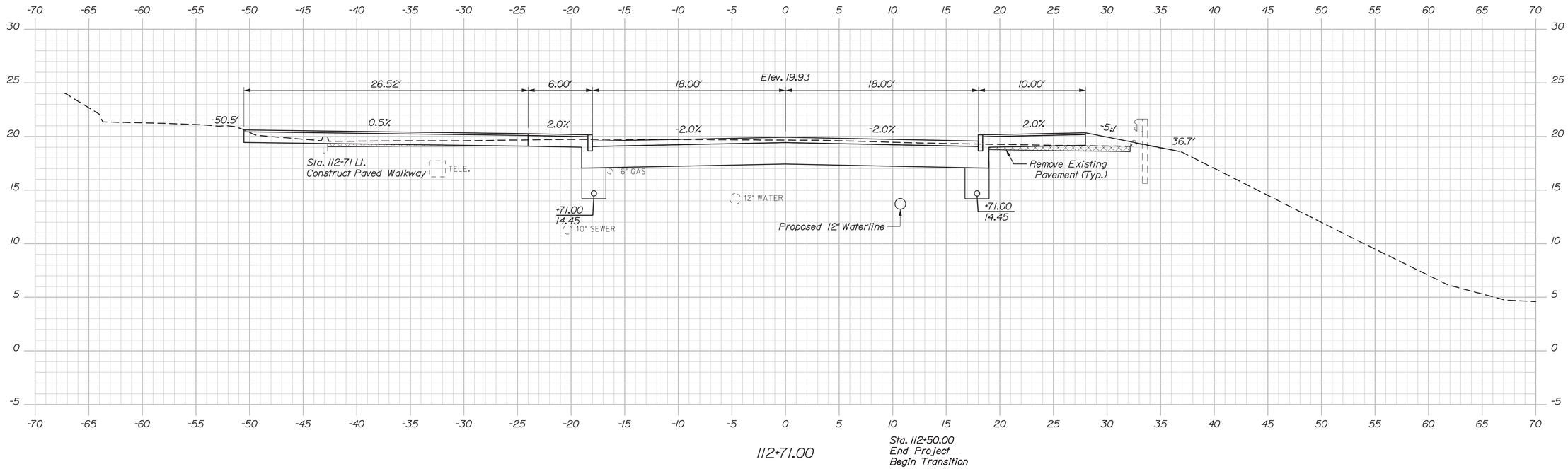
INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

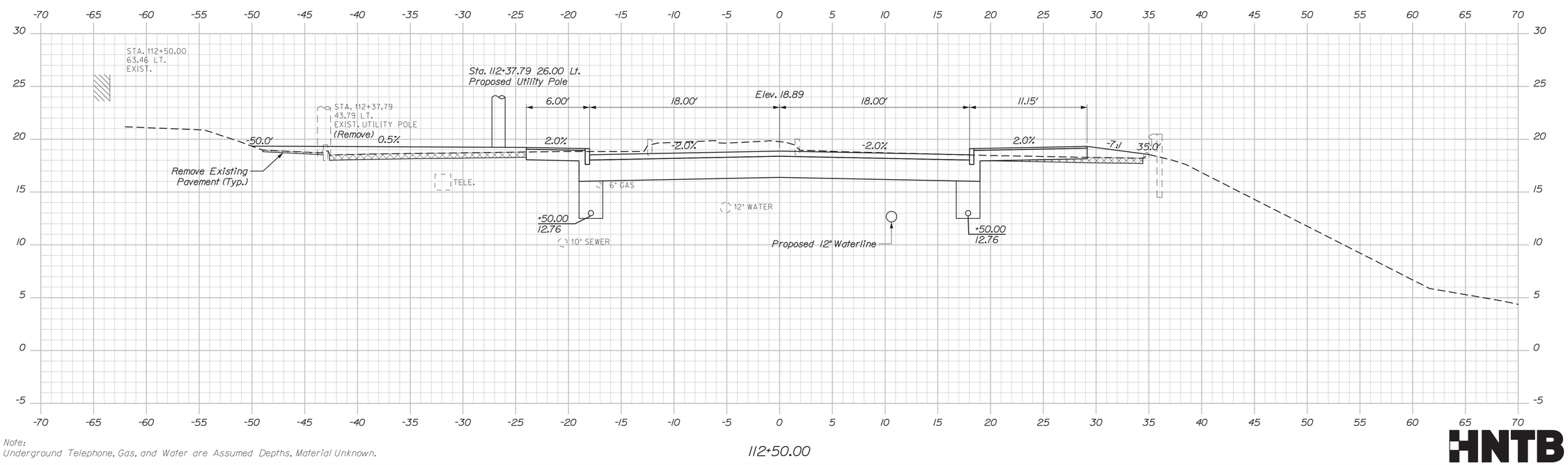
CROSS SECTIONS
VERANDA STREET

SHEET NUMBER
115
OF 220

Sta. 112+18.00 to Sta. 112+25.00

Date:3/3/2020
Username:
Division:
Filename: Xsect_Veranda.dgn





Note:
Underground Telephone, Gas, and Water are Assumed Depths, Material Unknown.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EOD	BY	DATE
CHECKED-REVIEWED	RWH	CDH	2/20
DESIGN2-DETAILED2		LZD	2/20
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

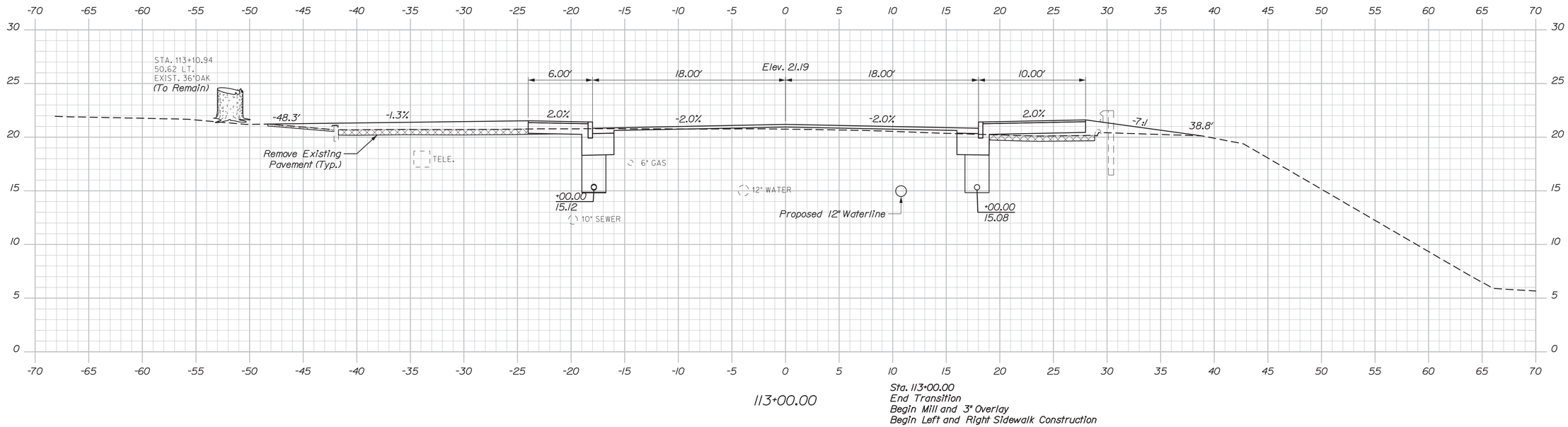
CROSS SECTIONS
VERANDA STREET

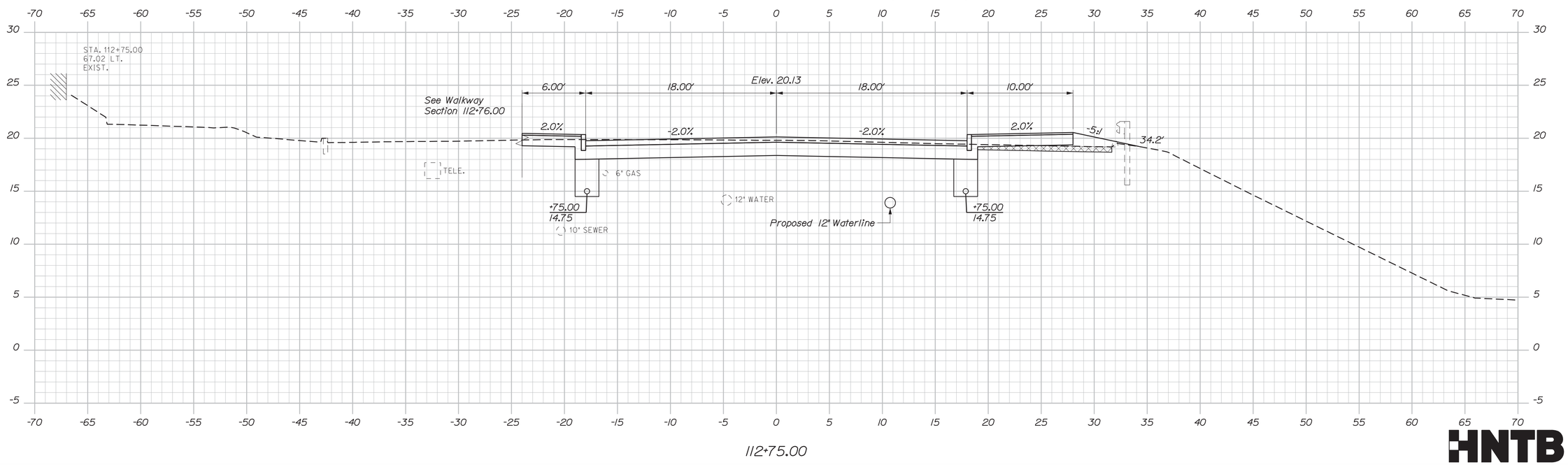
SHEET NUMBER
116
OF 220

HNTB

Sta. 112+50.00 to Sta. 112+71.00

Date:3/3/2020
Username:
Division:
Filename: Xsect_Veranda.dgn





STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EOD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS VERANDA STREET

SHEET NUMBER
117
OF 220

HNTB

Sta. 112+75.00 to Sta. 113+00.00

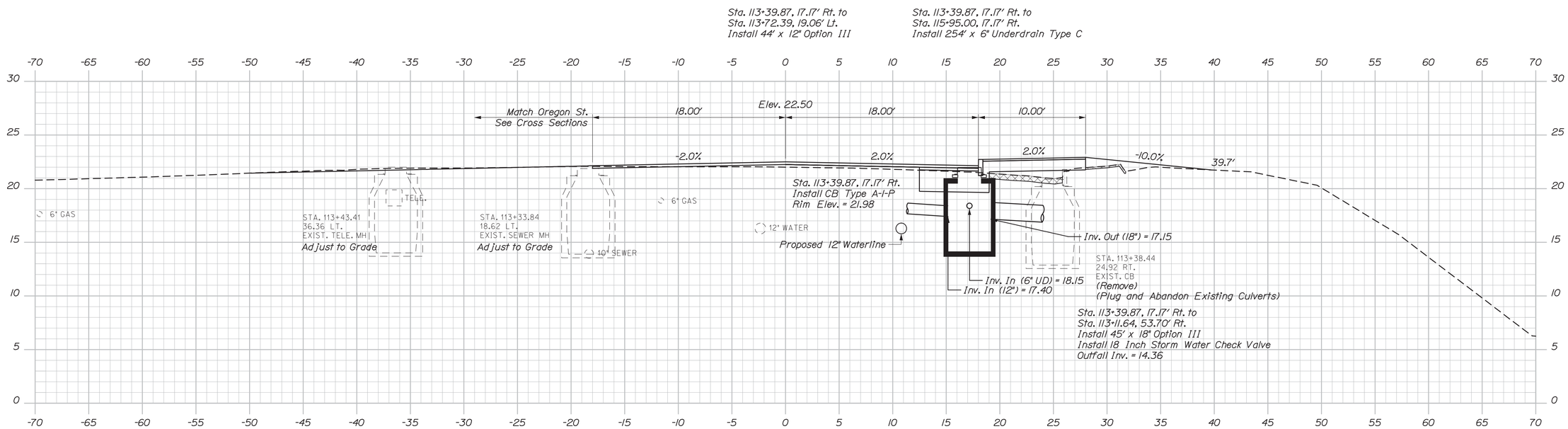
Date:3/3/2020
Username:
Division:
Filename: Xsect_Veranda.dgn

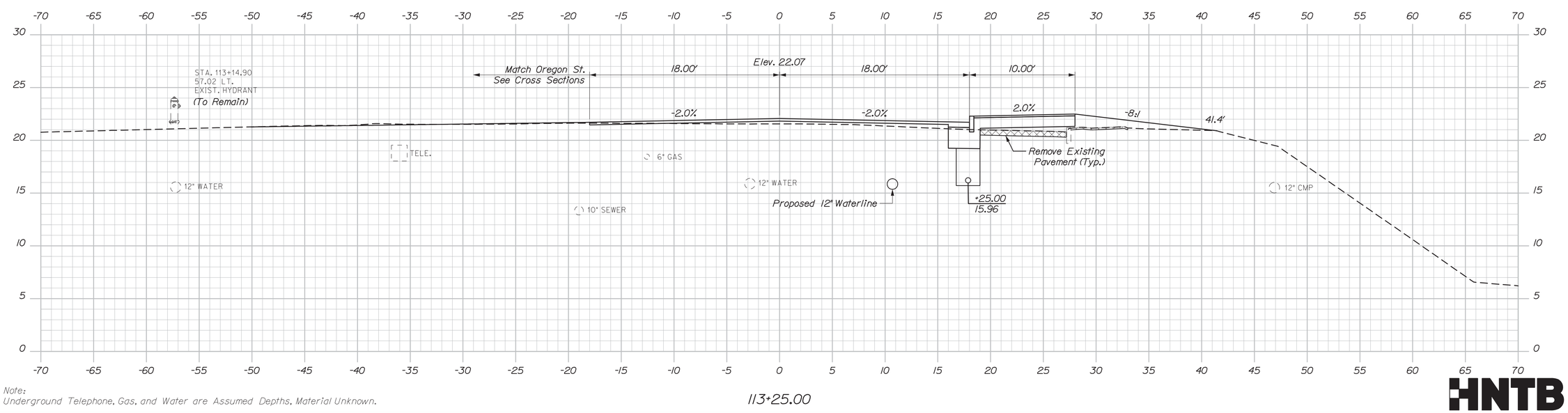
Date:3/3/2020

Username:

Division:

Filename: Xsect_Veranda.dgn





Note:
Underground Telephone, Gas, and Water are Assumed Depths, Material Unknown.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	EOD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

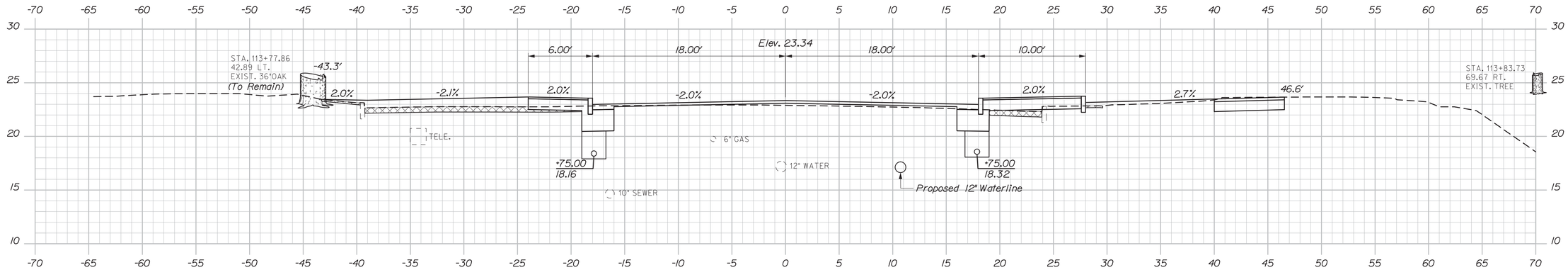
CROSS SECTIONS
VERANDA STREET

SHEET NUMBER

118

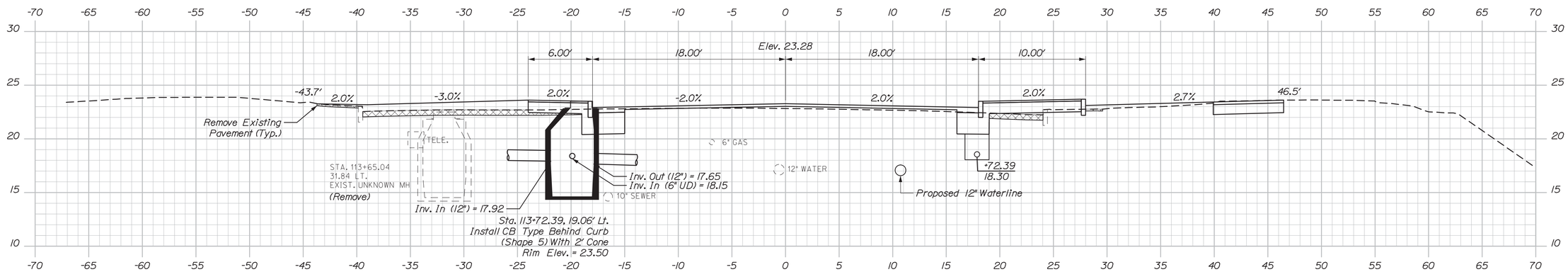
OF 220

Sta. 113+25.00 to Sta. 113+39.87

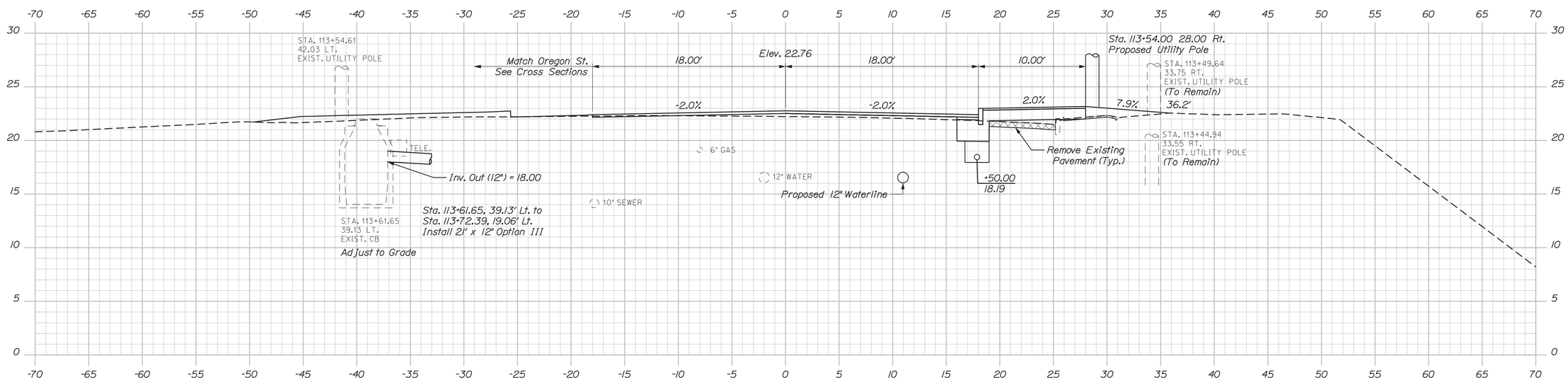


Sta. 113+72.39, 19.06' Lt. to
Sta. 115+95.00, 17.17' Lt.
Install 220' x 6" Underdrain Type B

113+75.00



113+72.39



Note:
Underground Telephone, Gas, and Water are Assumed Depths, Material Unknown.

113+50.00

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	D. EATON	
DESIGN-DETAILED	EOD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

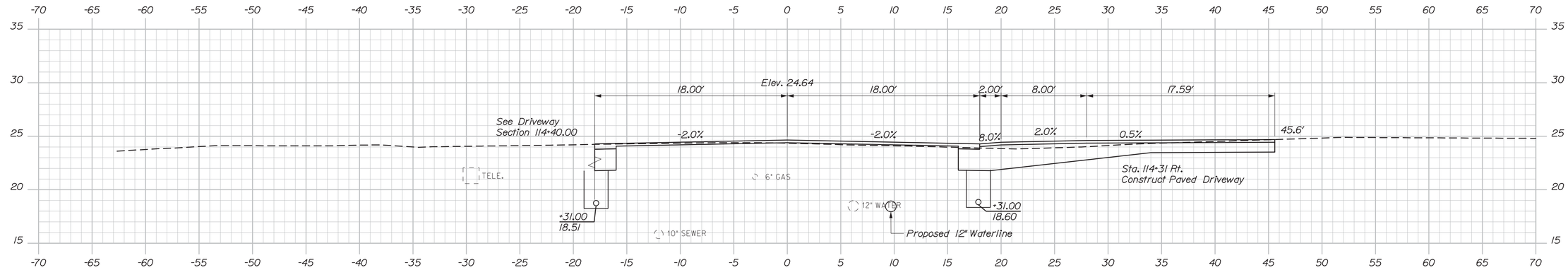
INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
VERANDA STREET

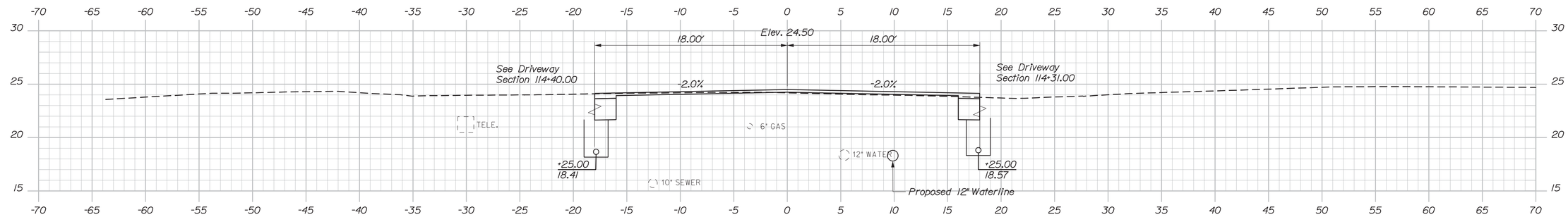
SHEET NUMBER
119
OF 220

Date:3/3/2020
Username:
Division:
Filename: Xsect_Veranda.dgn

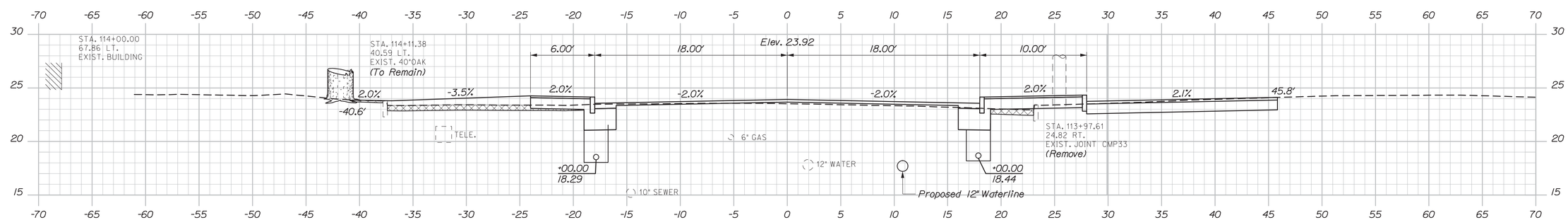
Sta. 113+50.00 to Sta. 113+75.00



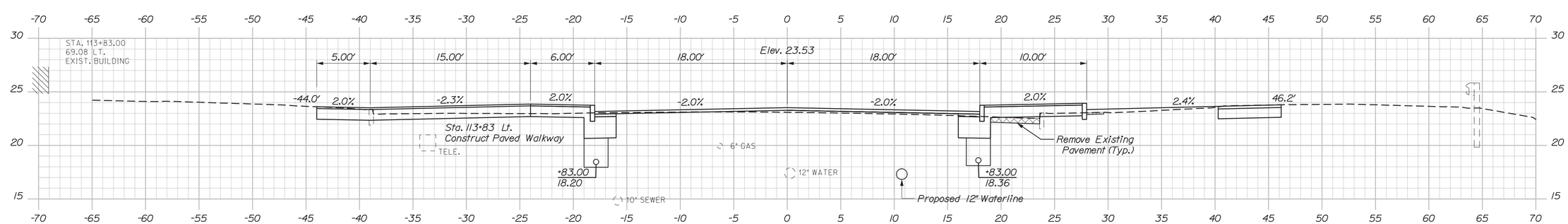
114+31.00



114+25.00



114+00.00



113+83.00

Note:
Underground Telephone, Gas, and Water are Assumed Depths, Material Unknown.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EDD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
VERANDA STREET

SHEET NUMBER
120
OF 220

Sta. 113+83.00 to Sta. 114+31.00

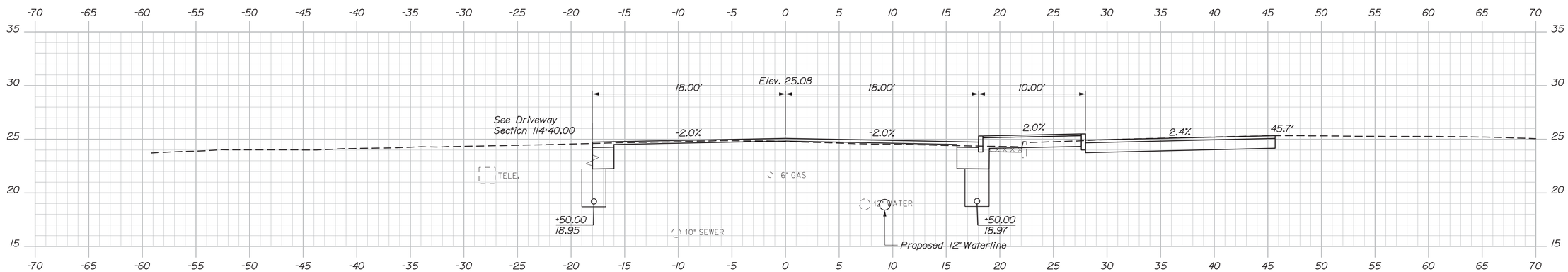
Date:3/3/2020
Username:
Division:
Filename: Xsect_Veranda.dgn

Date:3/3/2020

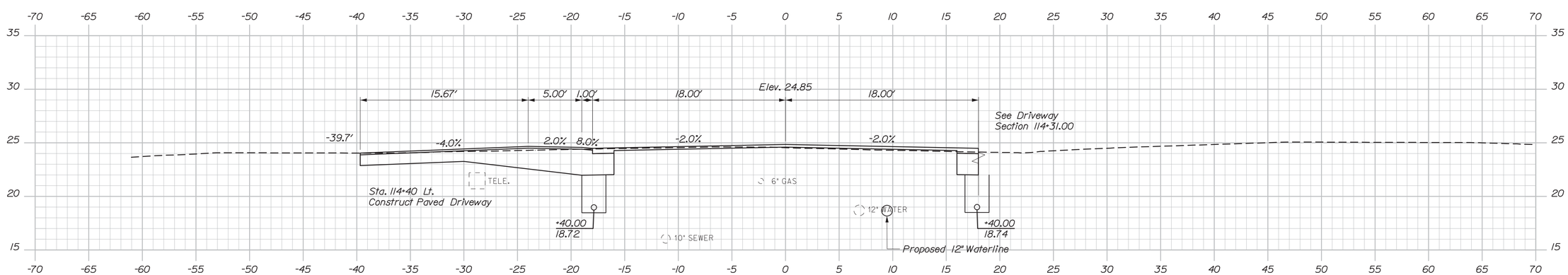
Username:

Division:

Filename: Xsect_Veranda.dgn



114+50.00



114+40.00

Note:
Underground Telephone, Gas, and Water are Assumed Depths, Material Unknown.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN
021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON		BY	DATE
DESIGN-DETAILED	EDD	CDH		2\20
CHECKED-REVIEWED	RWH	LZD		2\20
DESIGN2-DETAILED2				
DESIGN3-DETAILED3				
REVISIONS 1				
REVISIONS 2				
REVISIONS 3				
REVISIONS 4				
FIELD CHANGES				

SIGNATURE

P.E. NUMBER

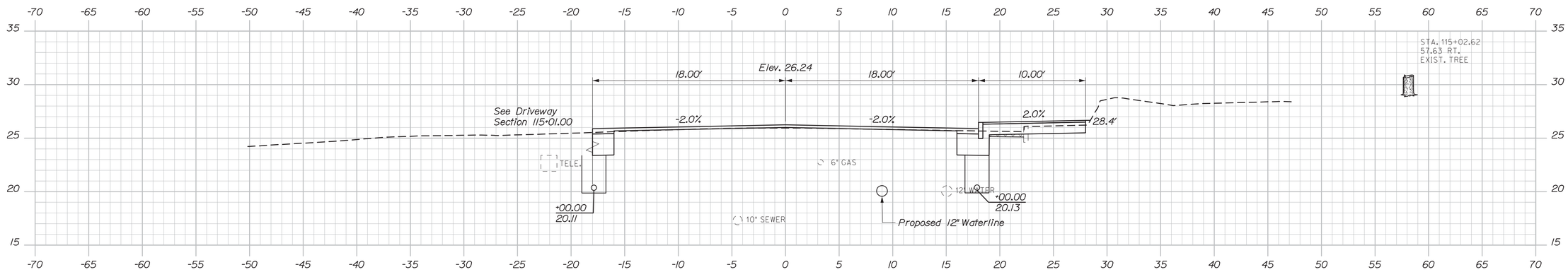
DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

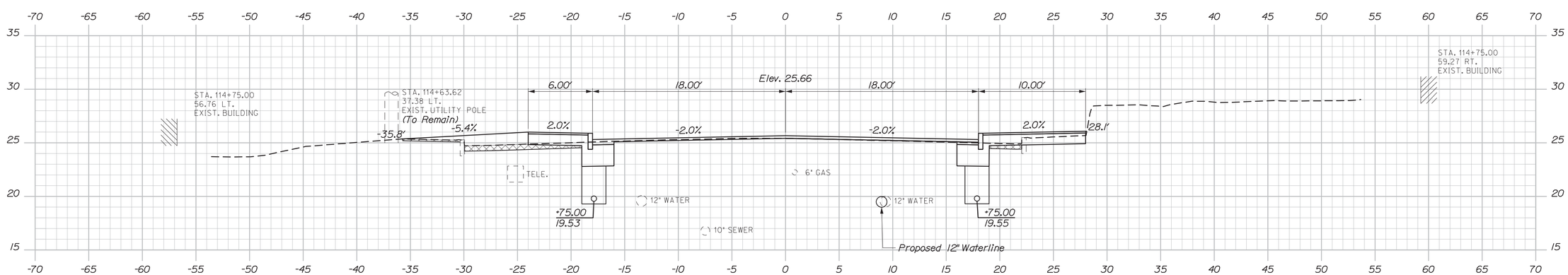
CROSS SECTIONS
VERANDA STREET

SHEET NUMBER
121
OF 220

Sta. 114+40.00 to Sta. 114+59.51



115+00.00



114+75.00

Note:
Underground Telephone, Gas, and Water are Assumed Depths, Material Unknown.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	D. EATON	
DESIGN-DETAILED	EOD	2/20
CHECKED-REVIEWED	RWH	2/20
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

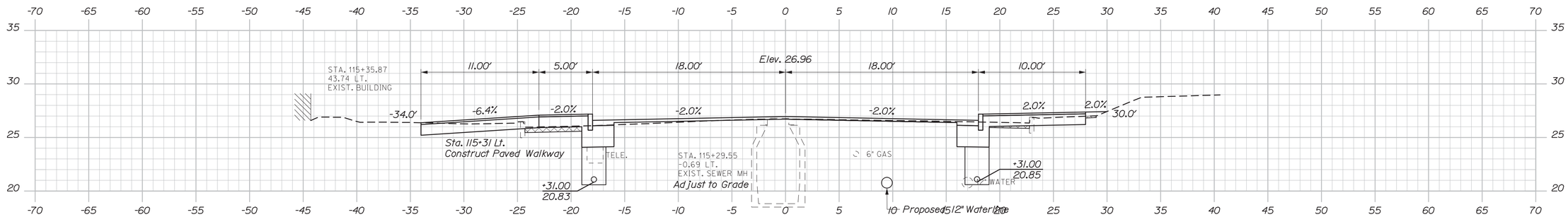
INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
VERANDA STREET

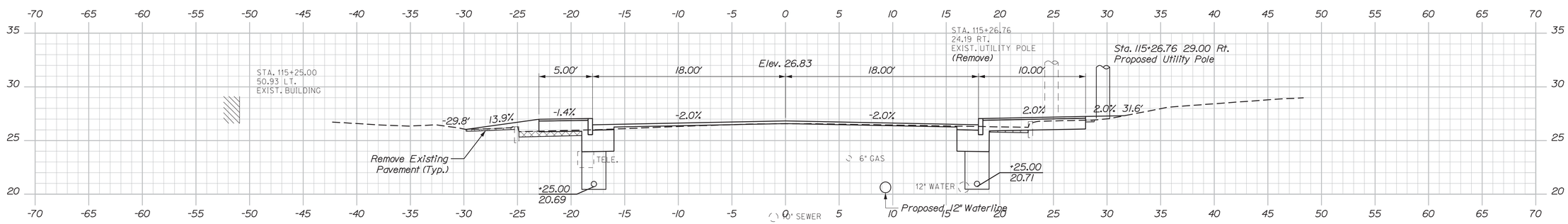
SHEET NUMBER
122
OF 220

Sta. 114+71.38 to Sta. 115+00.00

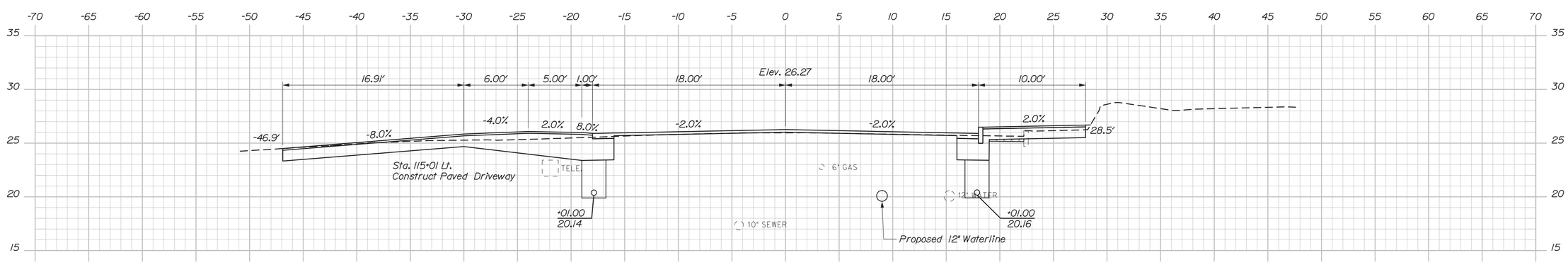
Date:3/3/2020
Username:
Division:
Filename: Xsect_Veranda.dgn



115+31.00



115+25.00



115+01.00

Note:
Underground Telephone, Gas, and Water are Assumed Depths, Material Unknown.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	D. EATON	
DESIGN-DETAILED	EOD	2/20
CHECKED-REVIEWED	RWH	2/20
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
VERANDA STREET

SHEET NUMBER
123
OF 220

Date:3/3/2020

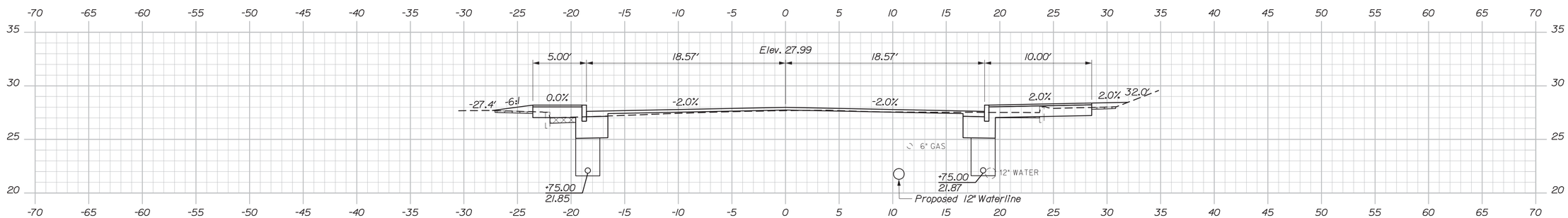
Username:

Division:

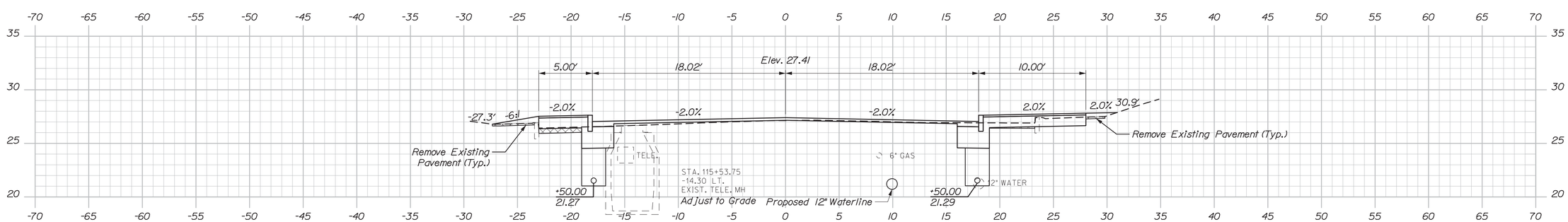
Filename: Xsect_Veranda.dgn

Sta. 115+01.00 to Sta. 115+31.00

Filename: Xsect_Veranda.dgn Division: Username: Date:3/3/2020



115+75.00



115+50.00

Note:
Underground Telephone, Gas, and Water are Assumed Depths, Material Unknown.

HNTB

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	EOD	CDH	2\20
CHECKED-REVIEWED	RWH	LZD	2\20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

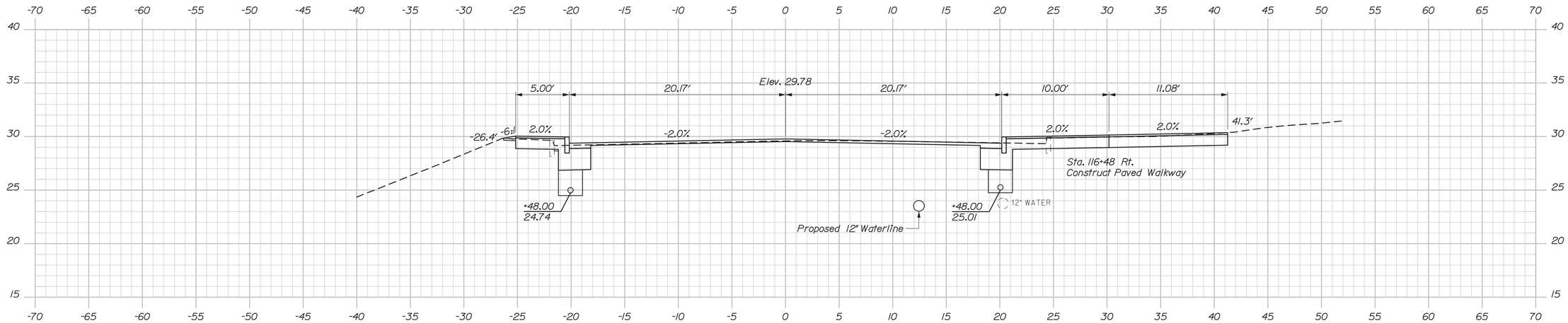
BRIDGE NO.5933 BRIDGE PLANS

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

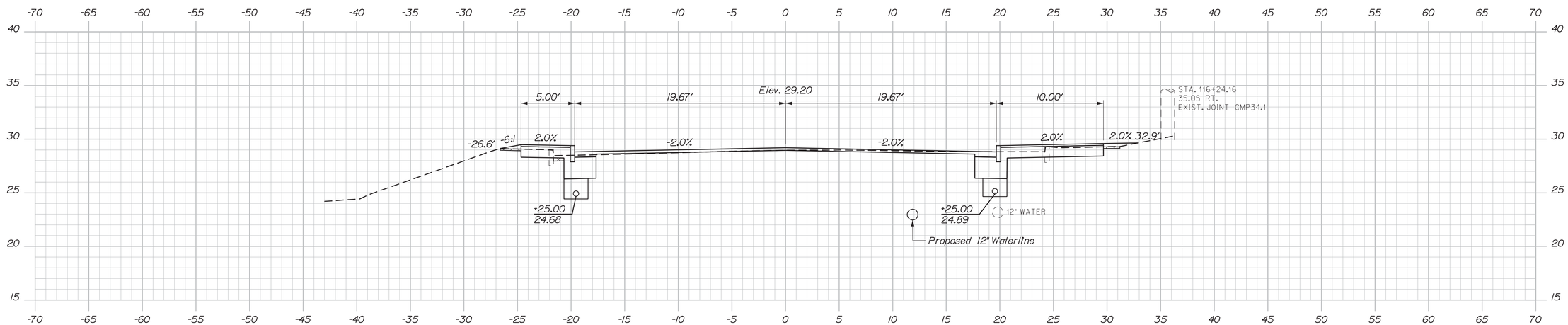
CROSS SECTIONS
VERANDA STREET

SHEET NUMBER
124
OF 220

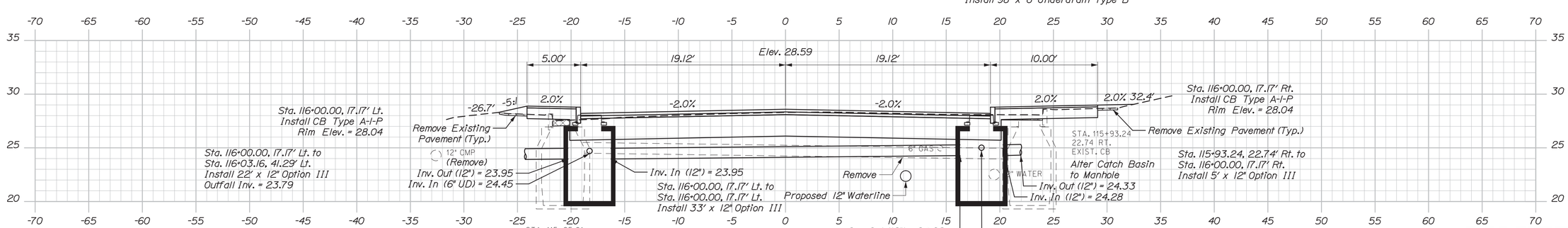
Sta. 115+50.00 to Sta. 115+95.61



116+48.00



116+25.00



116+00.00

Note:
Underground Telephone, Gas, and Water are Assumed Depths, Material Unknown.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

SIGNATURE

P.E. NUMBER

DATE

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EDD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

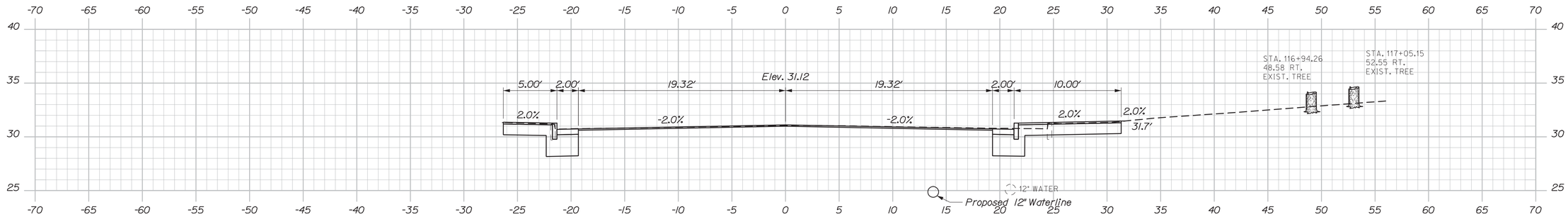
INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
VERANDA STREET

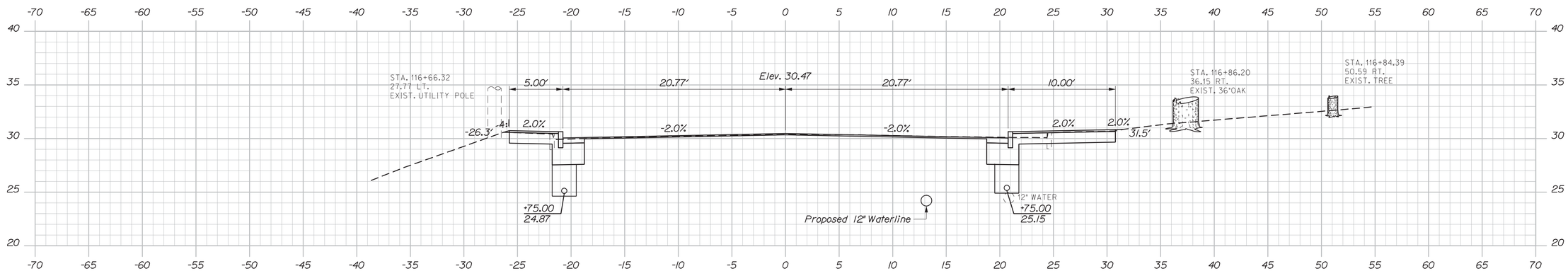
SHEET NUMBER
125
OF 220

Sta. 116+00.00 to Sta. 116+48.00

Date:3/3/2020
Username:
Division:
Filename: Xsect_Veranda.dgn

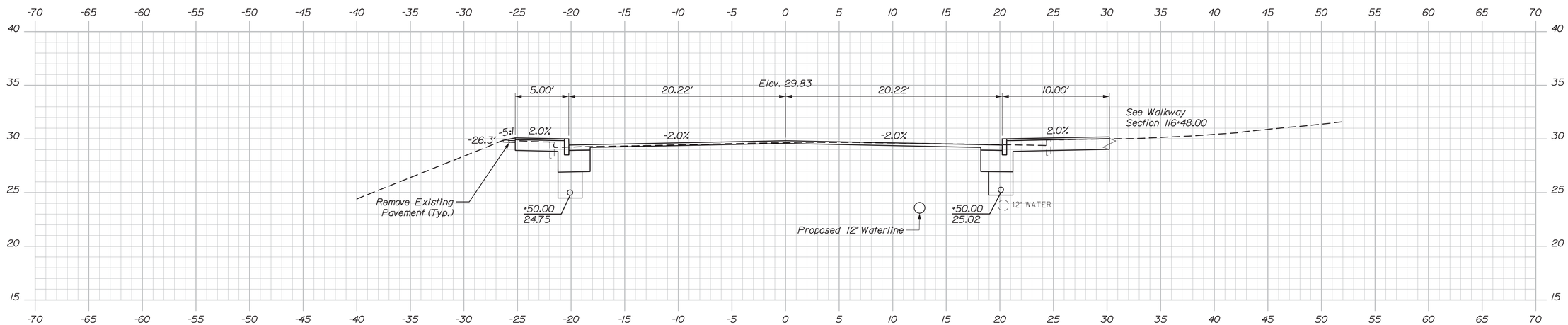


117+00.00



116+75.00

Sta. 116+75.00
End Mill and 3" Overlay
Begin Mill and 1 1/2" Overlay



116+50.00

Note:
Underground Telephone, Gas, and Water are Assumed Depths, Material Unknown.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN
021745.00

BRIDGE NO.5933

BRIDGE PLANS

SIGNATURE

P.E. NUMBER

DATE

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	EDD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

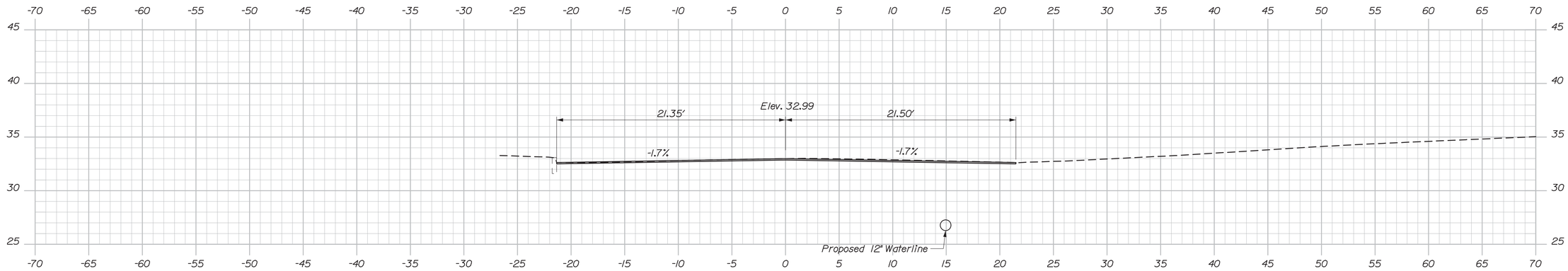
INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS VERANDA STREET

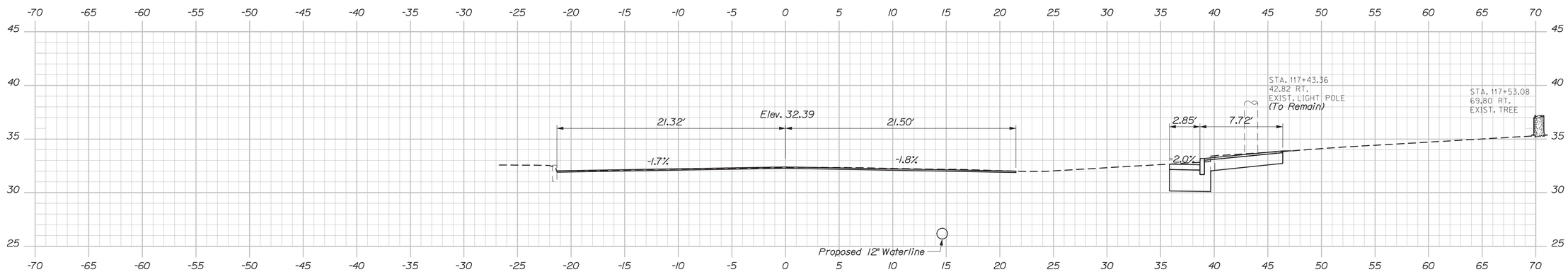
SHEET NUMBER
126
OF 220

Sta. 116+50.00 to Sta. 117+00.00

Date:3/3/2020
Username:
Division:
Filename: Xsect_Veranda.dgn

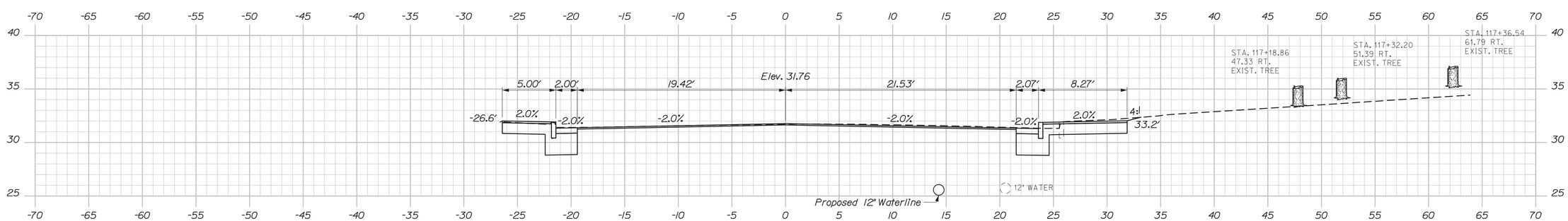


117+75.00



Sta. 117+50.00
End Left Sidewalk Construction

117+50.00



Note:
Underground Telephone, Gas, and Water are Assumed Depths, Material Unknown.

117+25.00

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

SIGNATURE

P.E. NUMBER

DATE

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EOD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

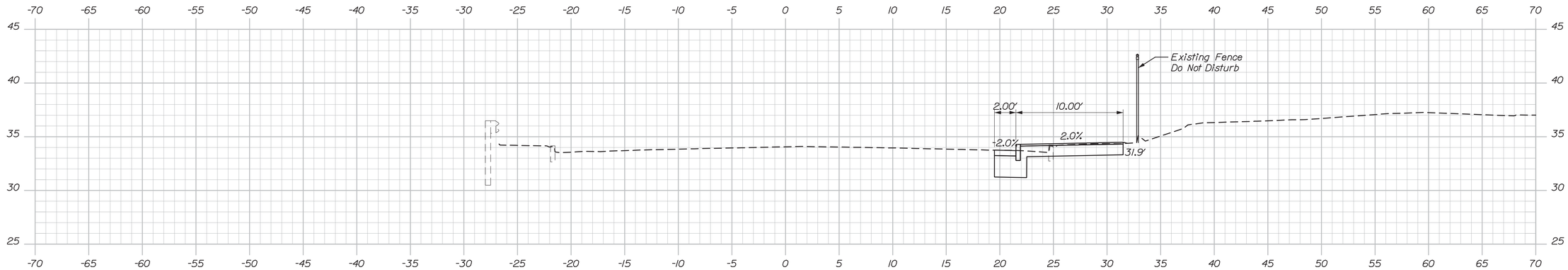
INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS VERANDA STREET

SHEET NUMBER
127
OF 220

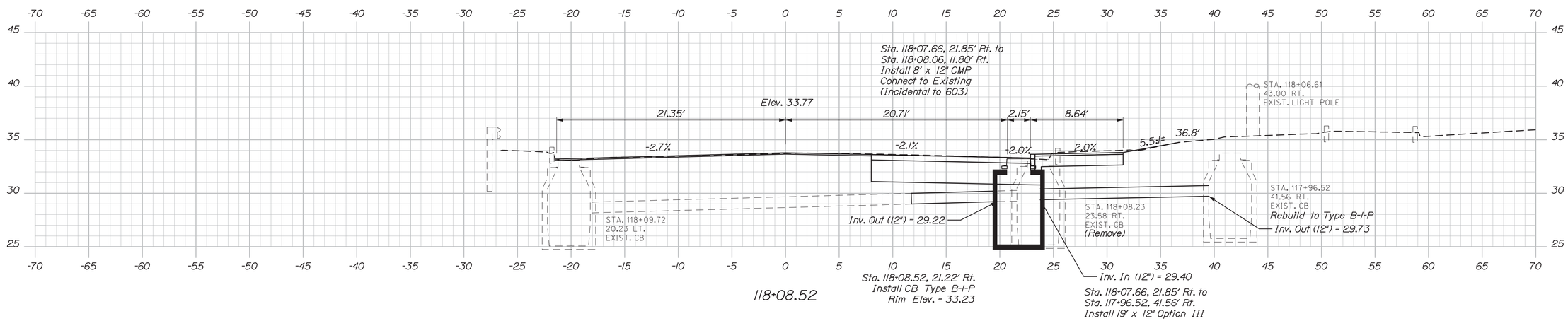
Sta. 117+25.00 to Sta. 117+75.00

Date:3/3/2020
Username:
Division:
Filename: Xsect_Veranda.dgn

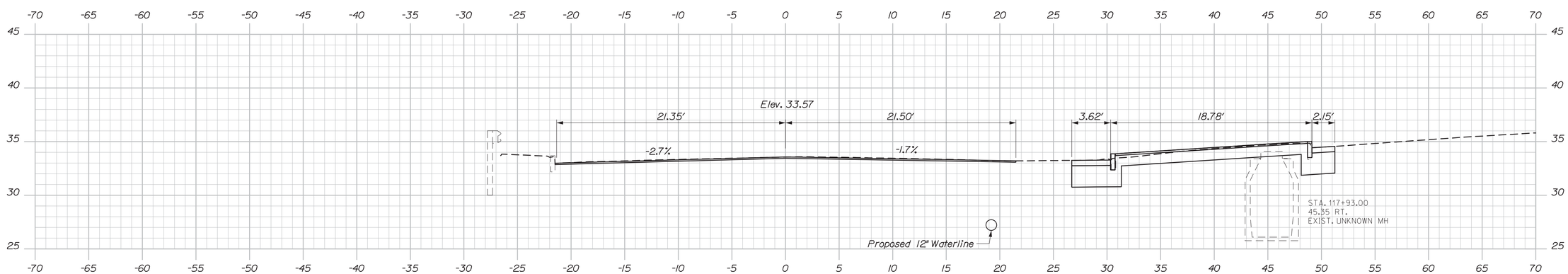


118+25.00

Sta. 118+12.00
End Mill and 1 1/2" Overlay
Match Existing Pavement



118+08.52



118+00.00

Note:
Underground Telephone, Gas, and Water are Assumed Depths, Material Unknown.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

SIGNATURE

P.E. NUMBER

DATE

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	EOD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

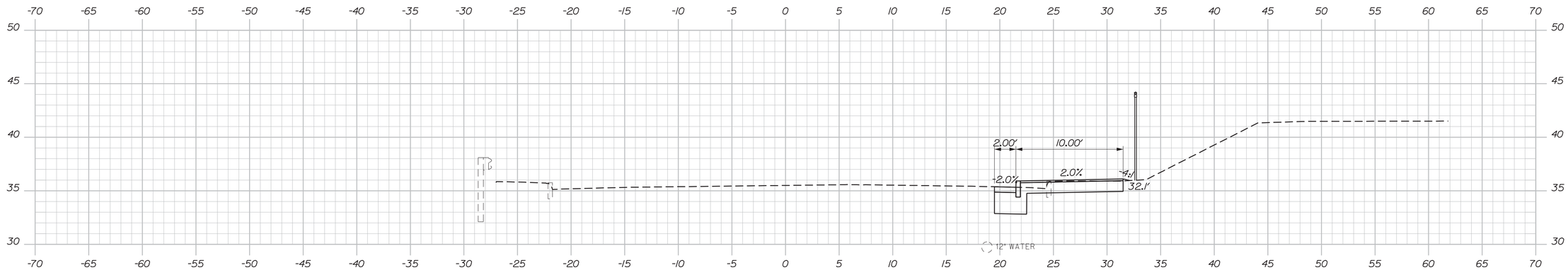
INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
VERANDA STREET

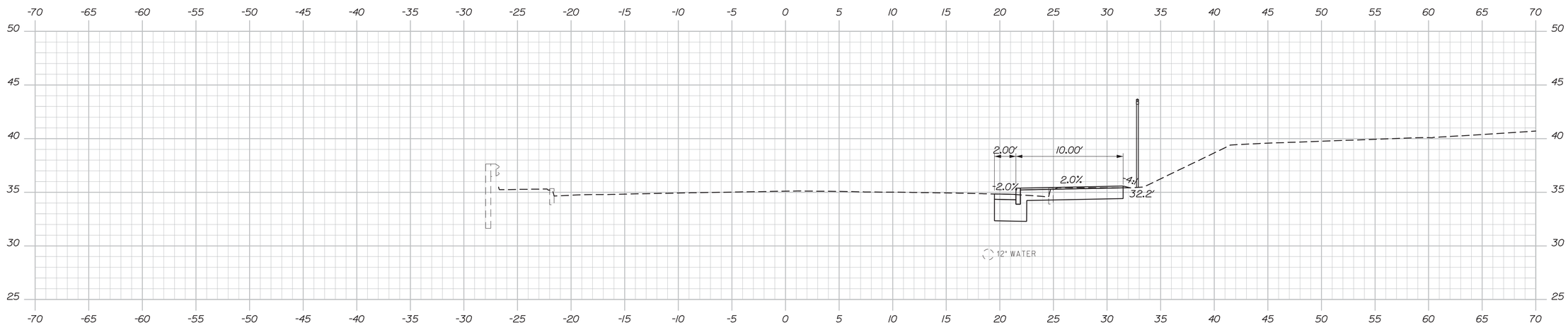
SHEET NUMBER
128
OF 220

Sta. 118+00.00 to Sta. 118+25.00

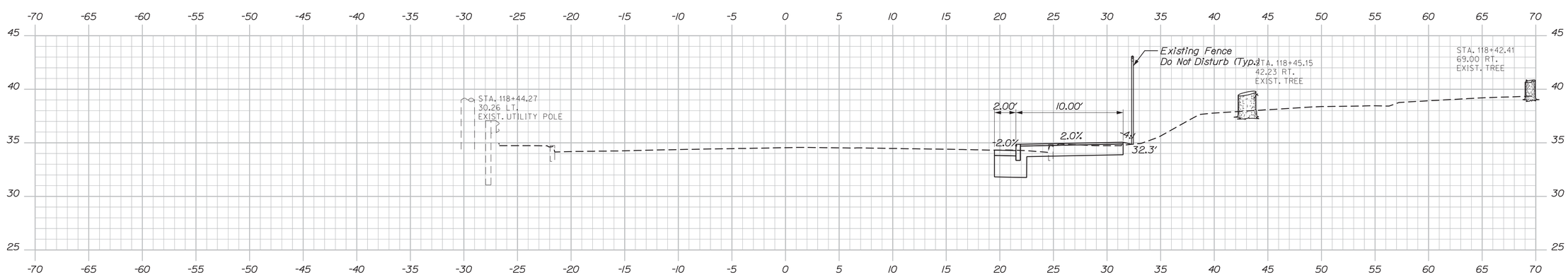
Date:3/3/2020
Username:
Division:
Filename: Xsect_Veranda.dgn



119+00.00



118+75.00



118+50.00

Note:
Underground Telephone, Gas, and Water are Assumed Depths, Material Unknown.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EJD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

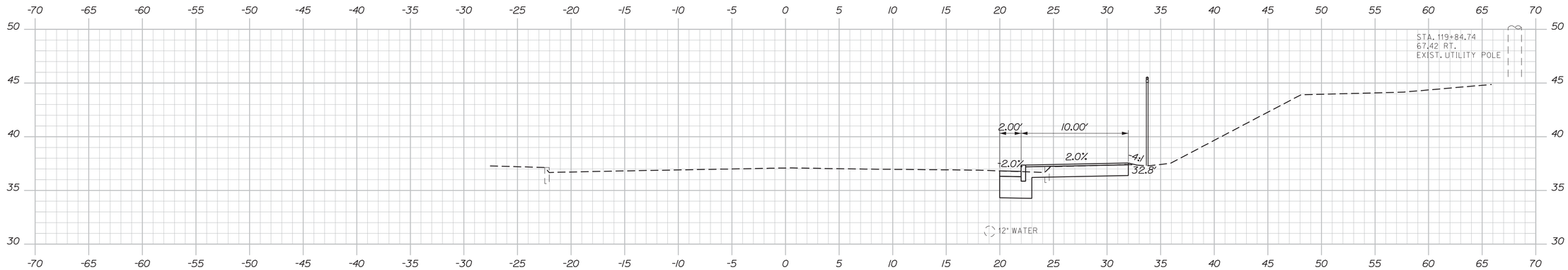
INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
VERANDA STREET

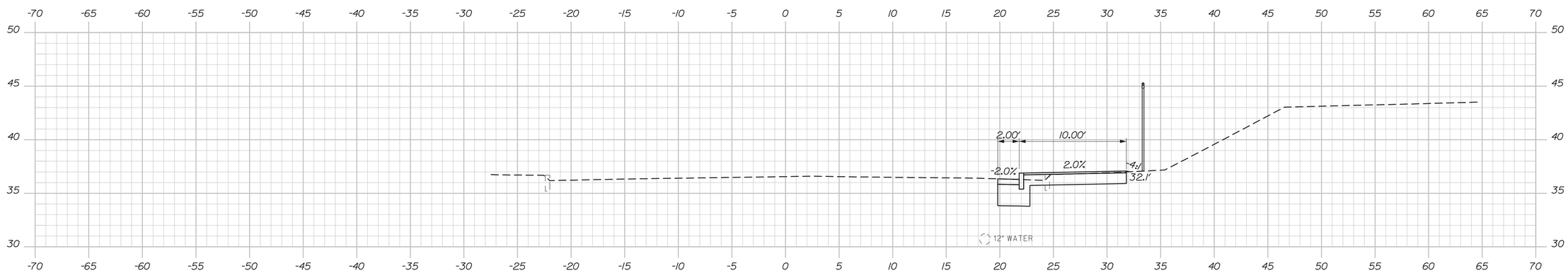
SHEET NUMBER
129
OF 220

Sta. 118+50.00 to Sta. 119+00.00

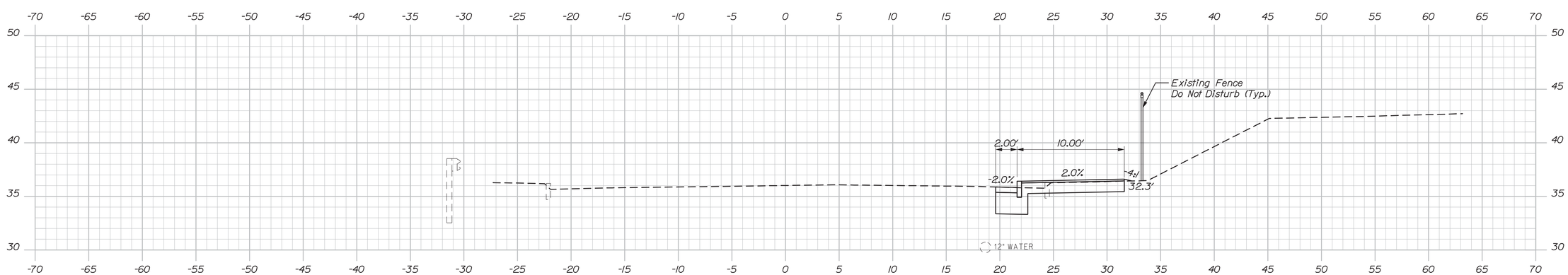
Date:3/3/2020
Username:
Division:
Filename: Xsect_Veranda.dgn



119+75.00



119+50.00



119+25.00

Note:
Underground Telephone, Gas, and Water are Assumed Depths, Material Unknown.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

SIGNATURE

P.E. NUMBER

DATE

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EDD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

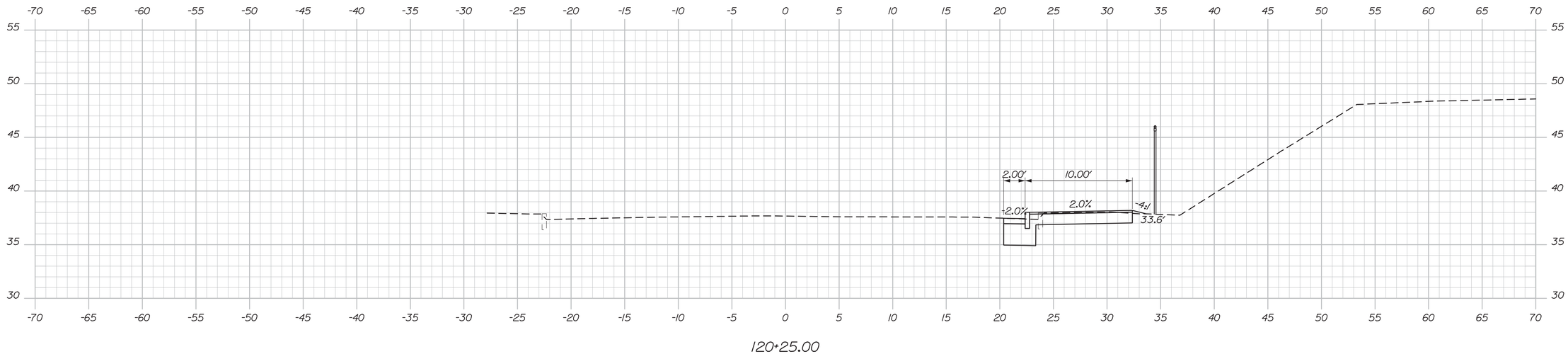
INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
VERANDA STREET

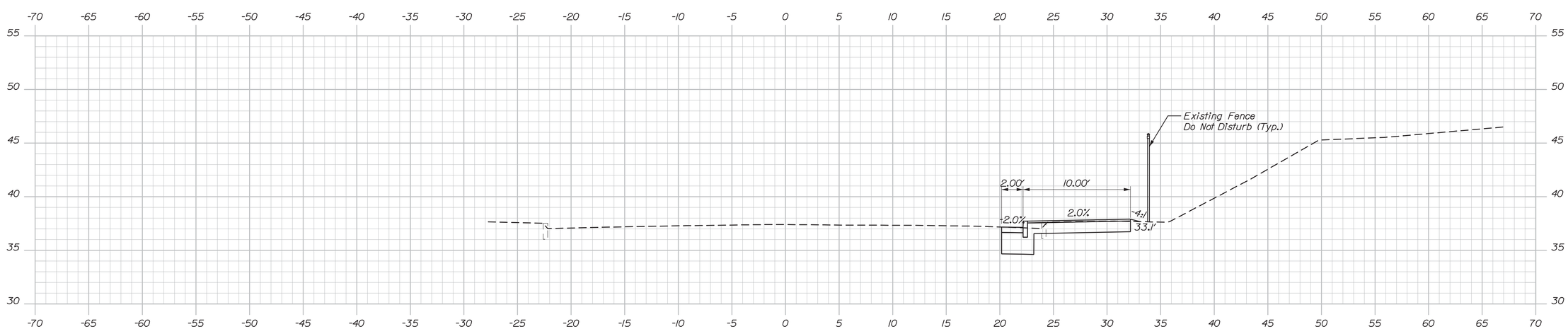
SHEET NUMBER
130
OF 220

Sta. 119+25.00 to Sta. 119+75.00

Date:3/3/2020
Username:
Division:
Filename: Xsect_Veranda.dgn



120+25.00



120+00.00

Note:
Underground Telephone, Gas, and Water are Assumed Depths, Material Unknown.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

			BY	DATE
PROJ. MANAGER	D. EATON	DESIGN-DETAILED	EJD	CDH	2/20
		CHECKED-REVIEWED	RWH	LZD	2/20
		DESIGN2-DETAILED2			
		DESIGN3-DETAILED3			
		REVISIONS 1			
		REVISIONS 2			
		REVISIONS 3			
		REVISIONS 4			
		FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

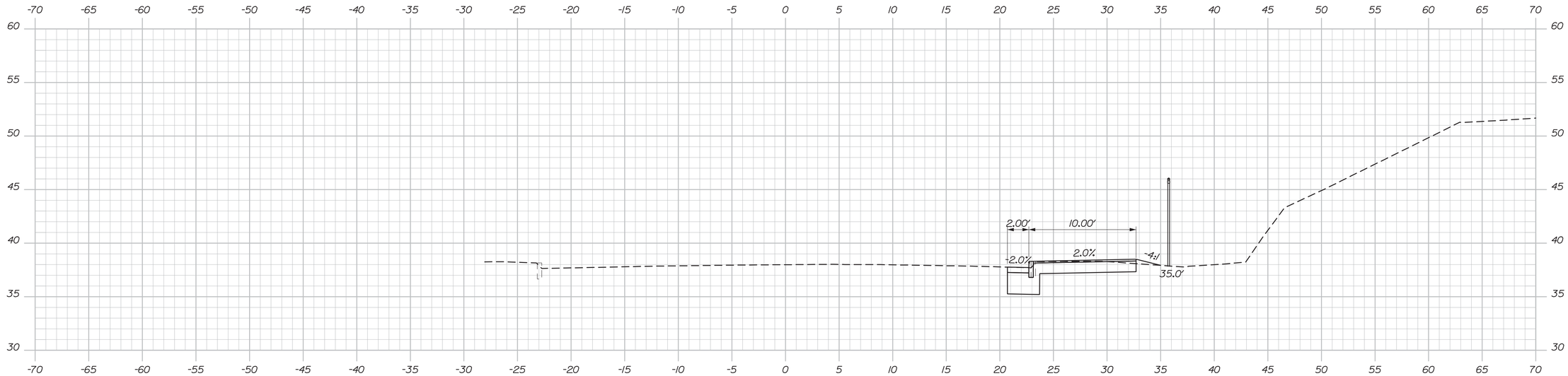
INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
VERANDA STREET

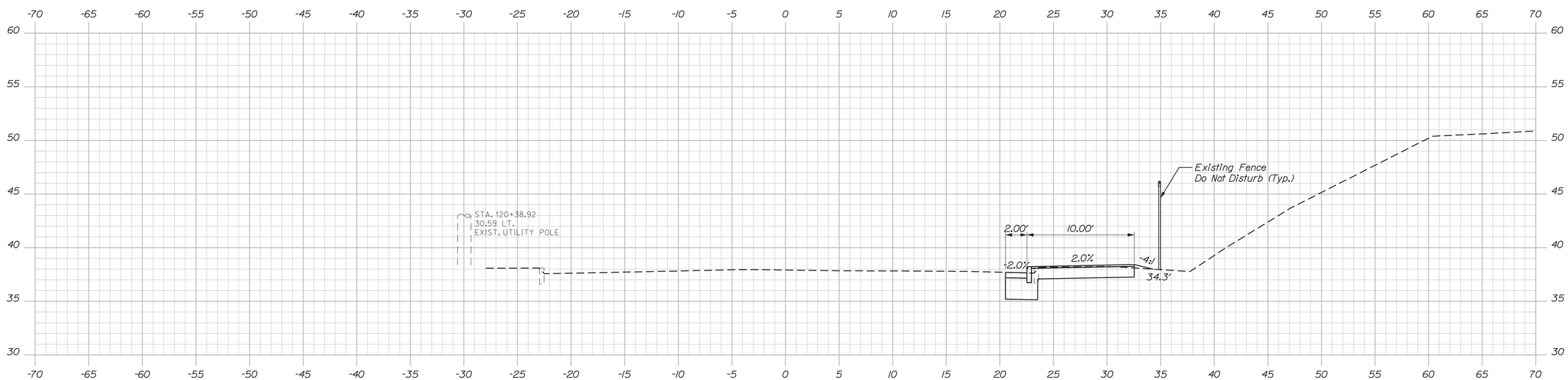
SHEET NUMBER
131
OF 220

Sta. 120+00.00 to Sta. 120+25.00

Date:3/3/2020
Username:
Division:
Filename: Xsect_Veranda.dgn



120+75.00



120+50.00

Note:
Underground Telephone, Gas, and Water are Assumed Depths, Material Unknown.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	EOD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

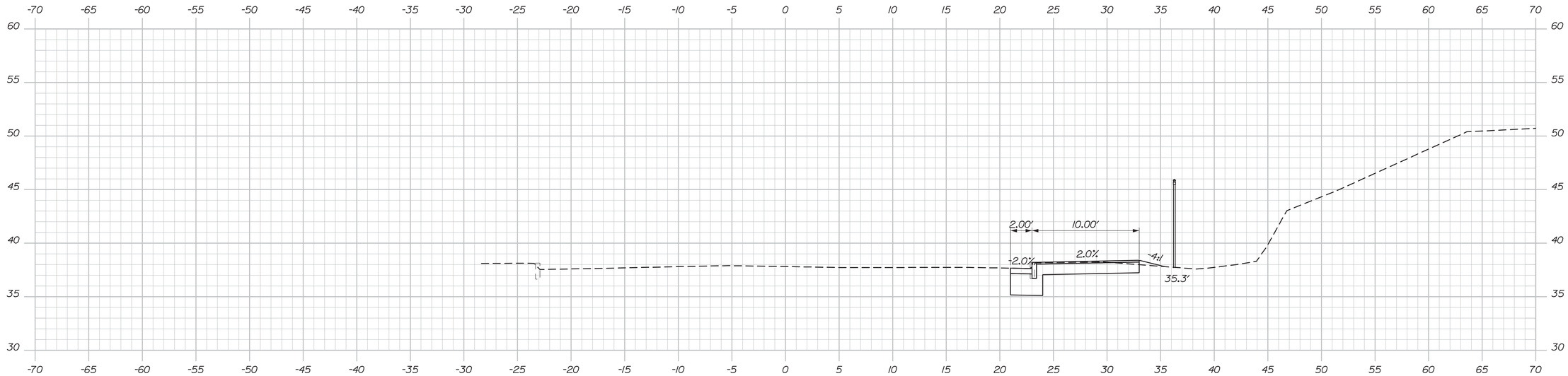
INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
VERANDA STREET

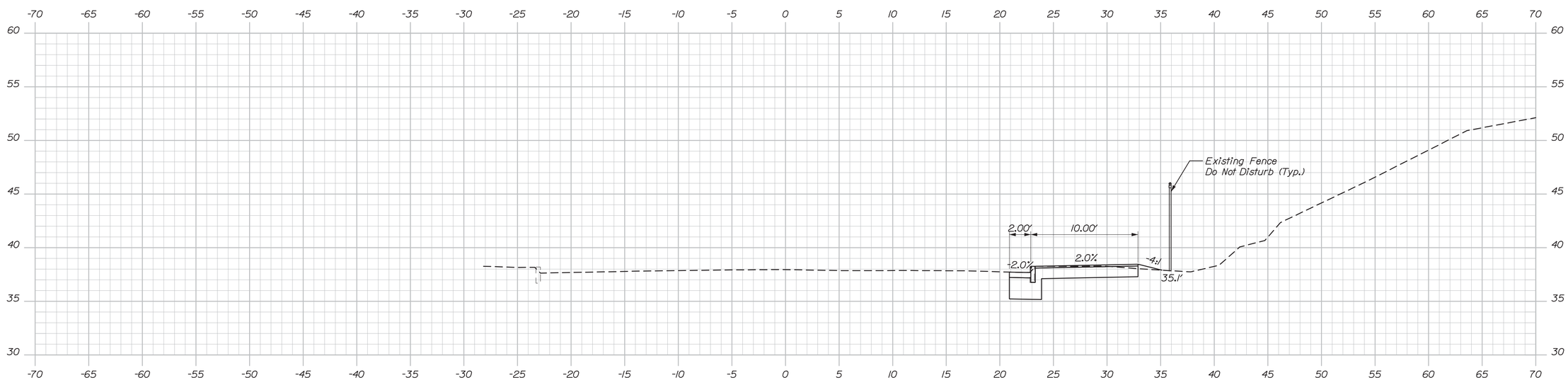
SHEET NUMBER
132
OF 220

Sta. 120+50.00 to Sta. 120+75.00

Date:3/3/2020
Username:
Division:
Filename: Xsect_Veranda.dgn



121+25.00



121+00.00

Note:
Underground Telephone, Gas, and Water are Assumed Depths, Material Unknown.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	EOD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

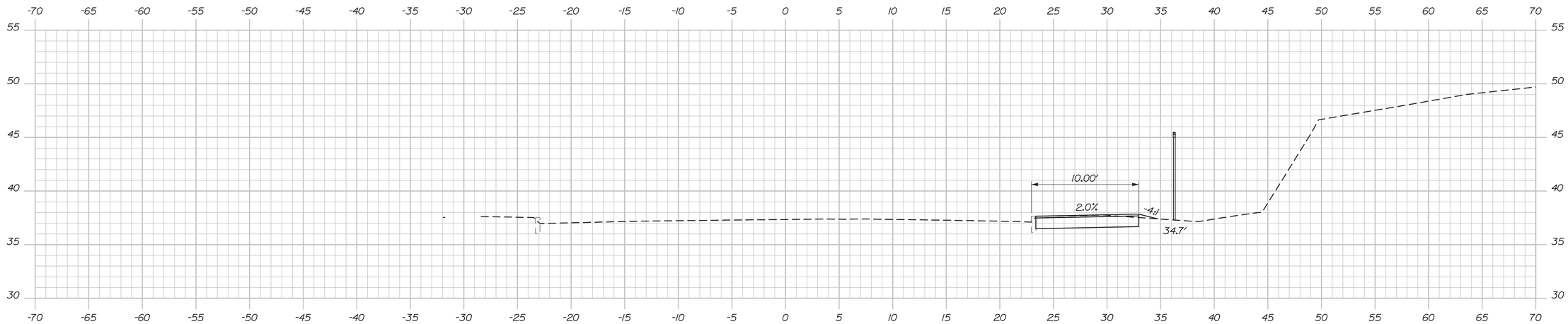
INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
VERANDA STREET

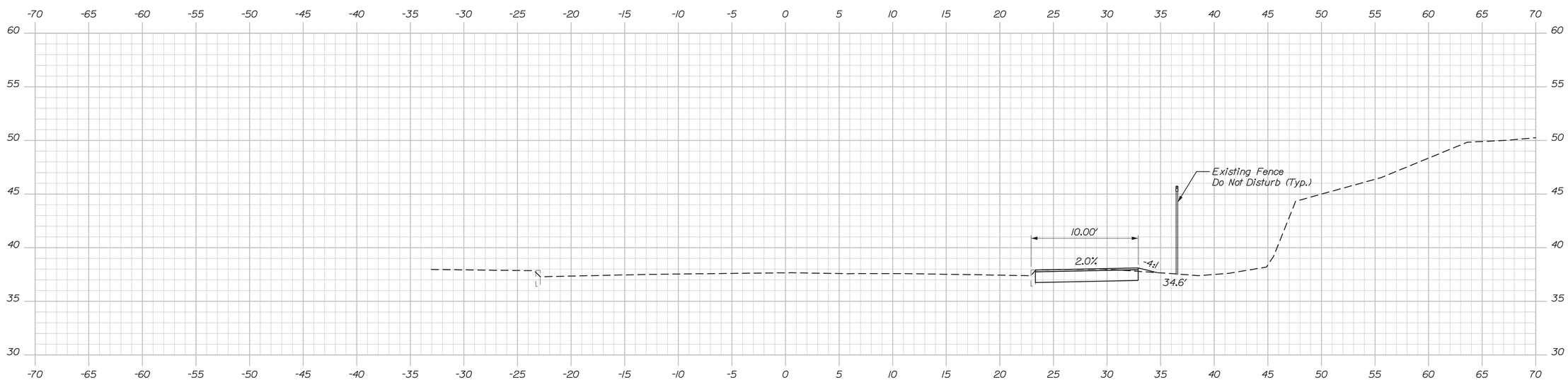
SHEET NUMBER
133
OF 220

Sta. 121+00.00 to Sta. 121+25.00

Date:3/3/2020
Username:
Division:
Filename: Xsect_Veranda.dgn



121+75.00



121+50.00

Note:
Underground Telephone, Gas, and Water are Assumed Depths, Material Unknown.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	EOD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

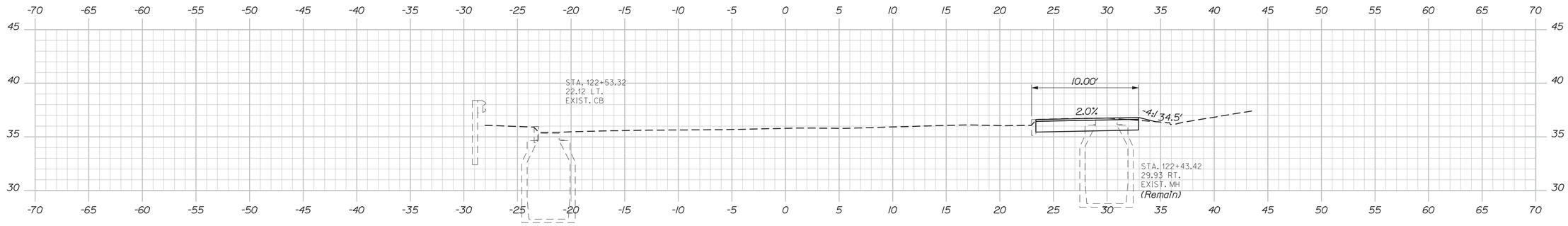
INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
VERANDA STREET

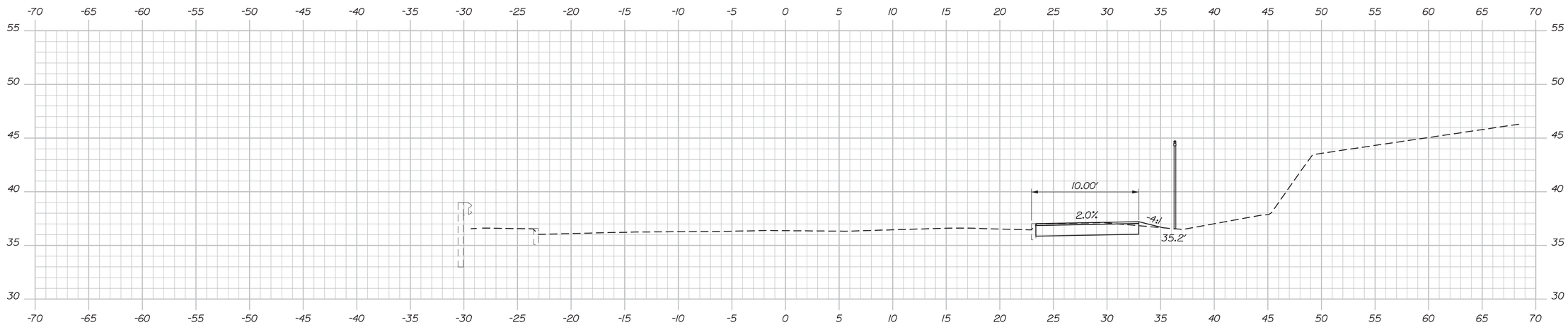
SHEET NUMBER
134
OF 220

Sta. 121+50.00 to Sta. 121+75.00

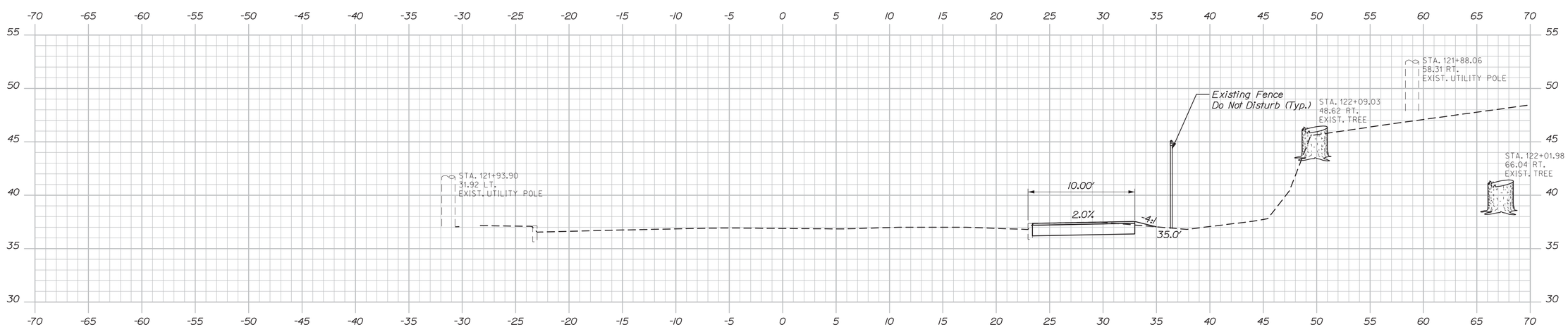
Date:3/3/2020
Username:
Division:
Filename: Xsect_Veranda.dgn



122+50.00



122+25.00



122+00.00

Note:
Underground Telephone, Gas, and Water are Assumed Depths, Material Unknown.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EDD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

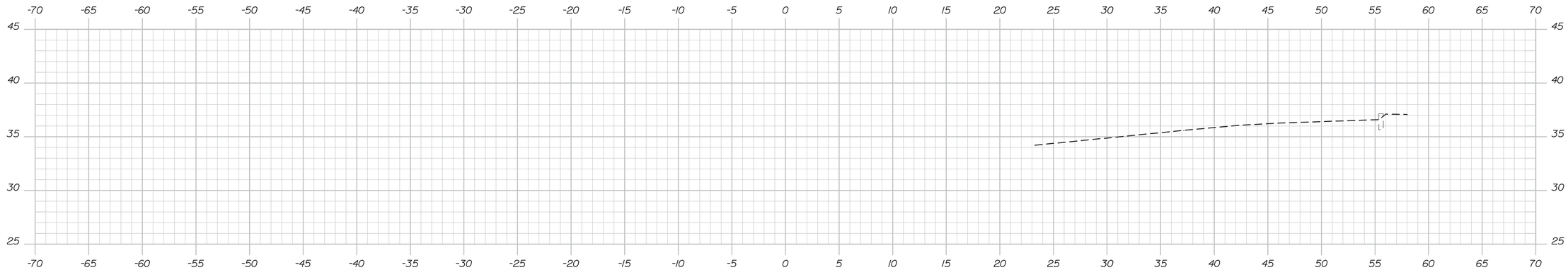
INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
VERANDA STREET

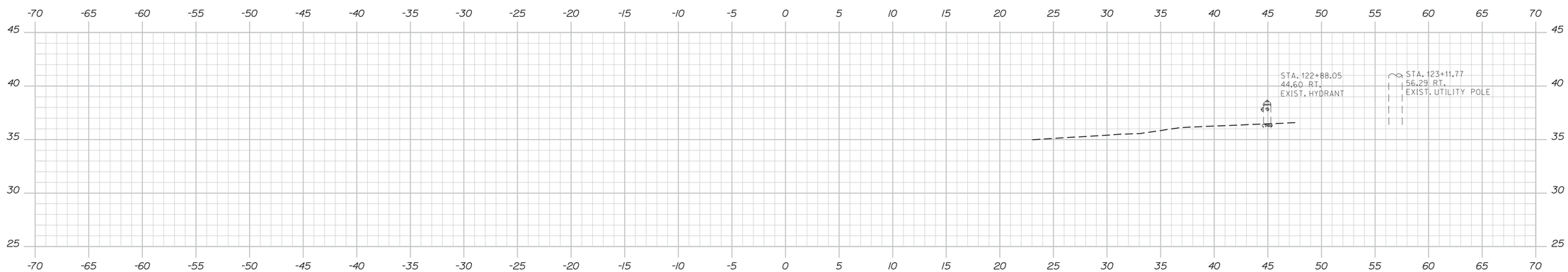
SHEET NUMBER
135
OF 220

Sta. 122+00.00 to Sta. 122+50.00

Date:3/3/2020
Username:
Division:
Filename: Xsect_Veranda.dgn

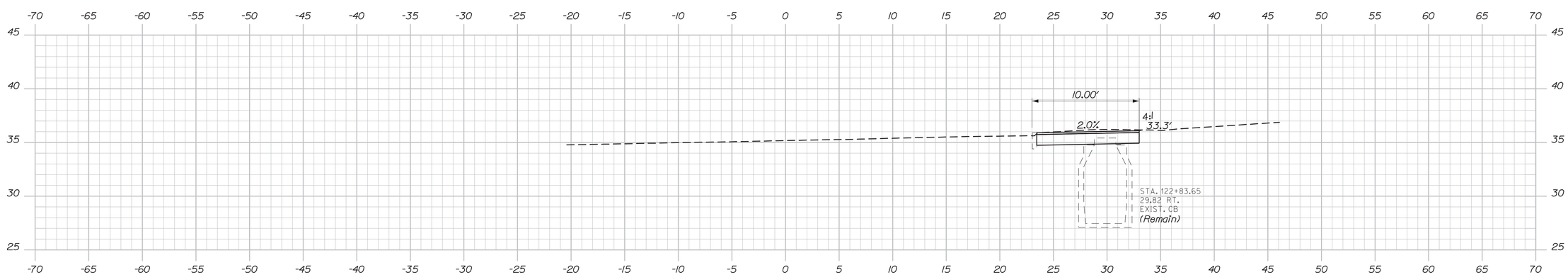


123+25.00



123+00.00

Sta. 123+00.00
End Right Sidewalk Construction
Limit of Work



122+75.00

Note:
Underground Telephone, Gas, and Water are Assumed Depths, Material Unknown.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

SIGNATURE

P.E. NUMBER

DATE

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	EOD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

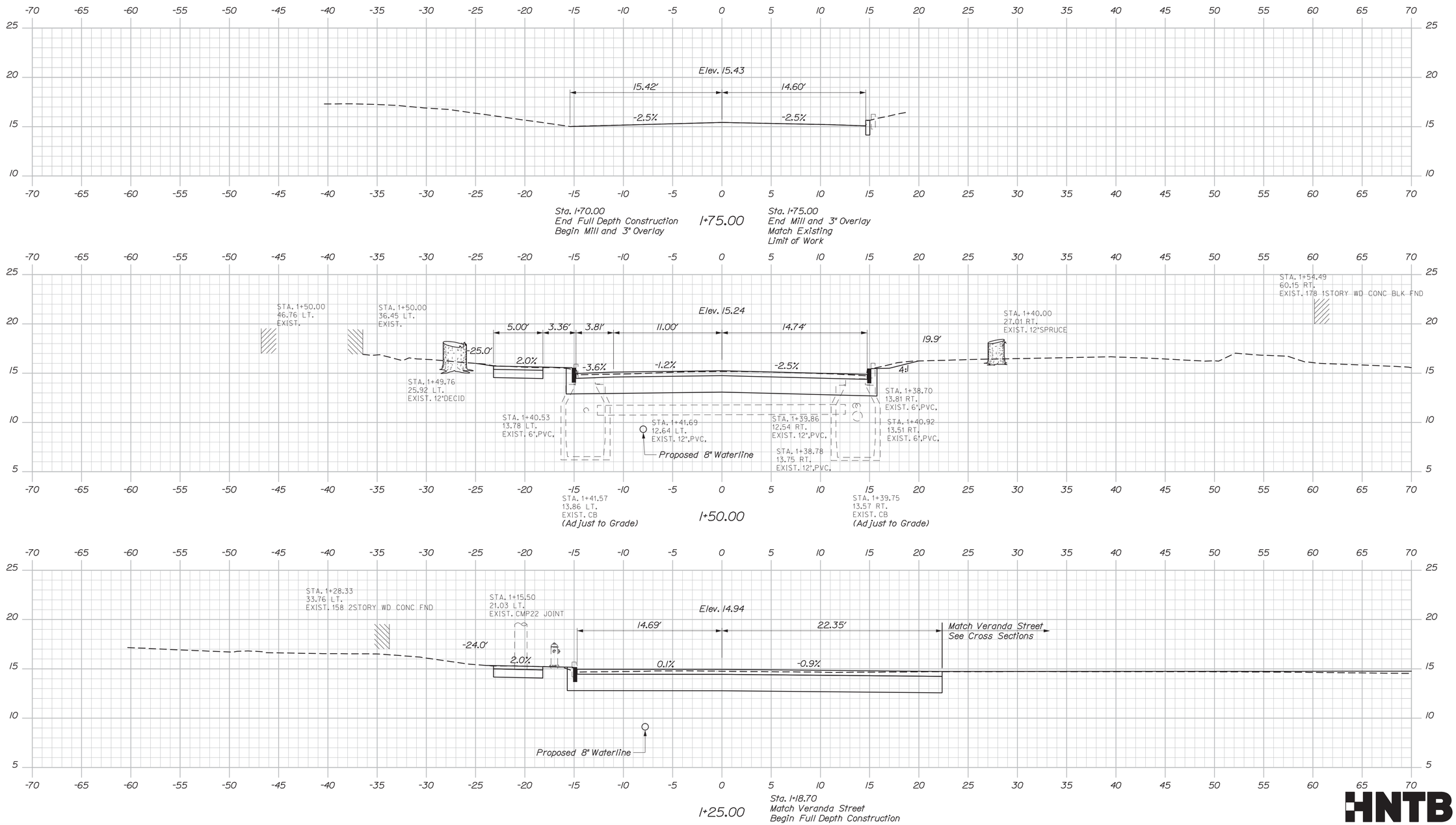
INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
VERANDA STREET

SHEET NUMBER
136
OF 220

Sta. 122+75.00 to Sta. 123+25.00

Date:3/3/2020
Username:
Division:
Filename: Xsect_Veranda.dgn



HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

SIGNATURE

P.E. NUMBER

DATE

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EJD	CDH	2\20
CHECKED-REVIEWED	RWH	LZD	2\20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

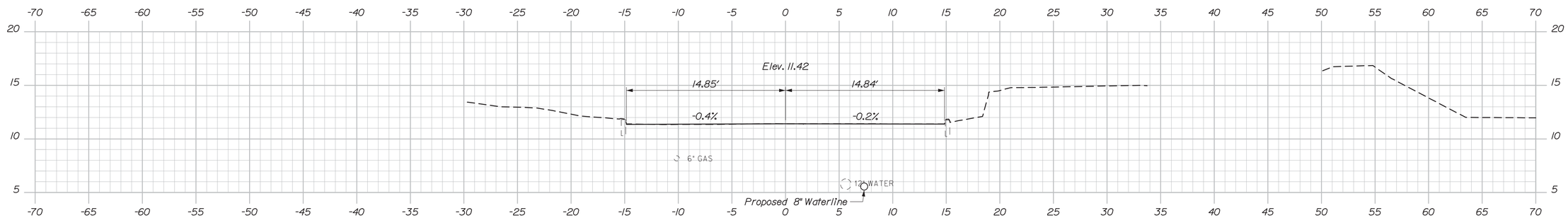
CROSS SECTIONS
WORDSWORTH STREET

SHEET NUMBER
137
OF 220

Date:3/3/2020
Username:
Division:
Filename: Xsect_Sideroads.dgn

Sta. 1+25.00 to Sta. 1+75.00

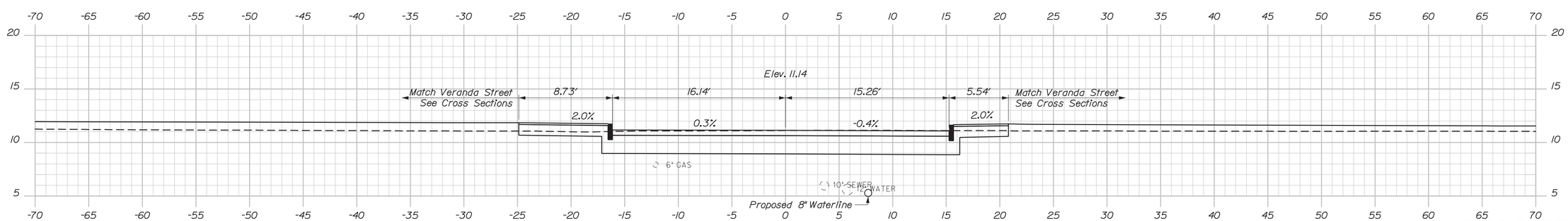
Filename: Xsect_Sideroads.dgn Division: Username: Date:3/3/2020



3+50.00

Sta. 3+50.00
End Mill and 3" Overlay
Match Existing
Limit of Work

Sta. 3+45.00
End Full Depth Construction
Begin Mill and 3" Overlay



3+25.00

Sta. 3+18.04
Match Veranda Street
Begin Full Depth Construction

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN
021745.00

BRIDGE NO.5933 BRIDGE PLANS

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	EOD	CDH	2\20
CHECKED-REVIEWED	RWH	LZD	2\20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

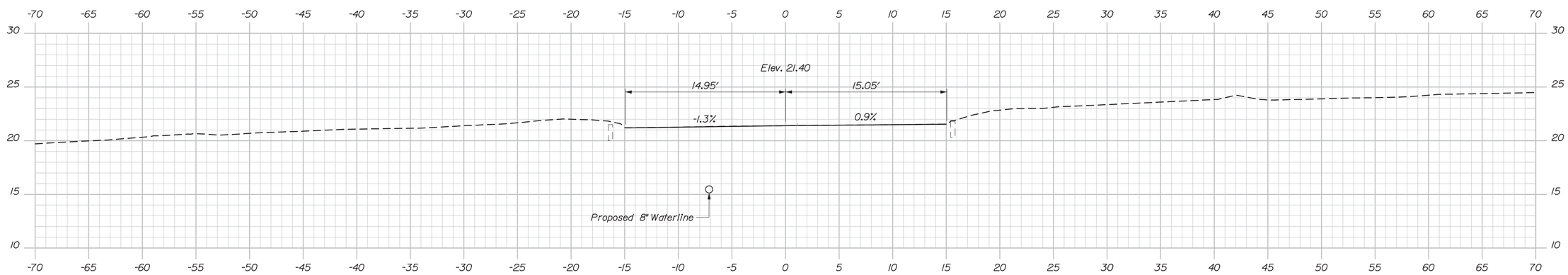
DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
OLYMPIA STREET

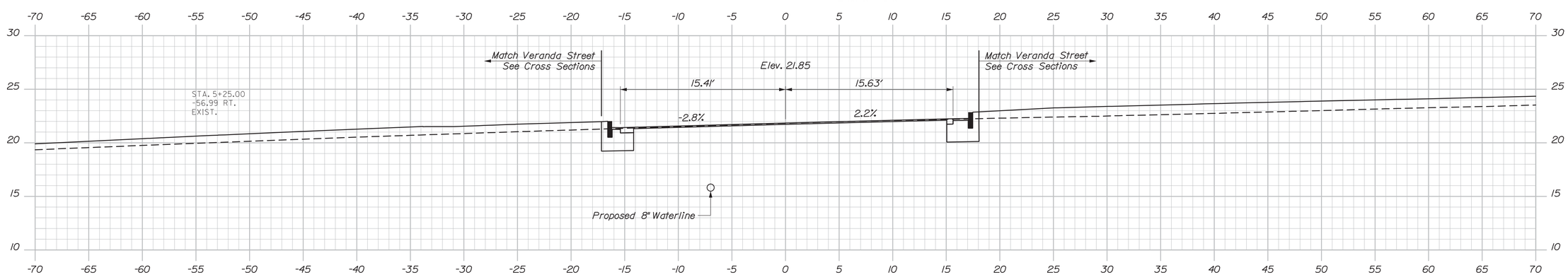
SHEET NUMBER
138
OF 220

Sta. 3+25.00 to Sta. 3+50.00



5+50.00

Sta. 5+50.00
End 1½" Mill & Overlay
Match Existing
Limit of Work



5+25.00

Sta. 5+18.00
Match Veranda Street
Begin Mill and 1½" Overlay

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN
021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	EDD	CDH	2\20
CHECKED-REVIEWED	RWH	LZD	2\20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

CROSS SECTIONS
OREGON STREET

SHEET NUMBER

139

OF 220

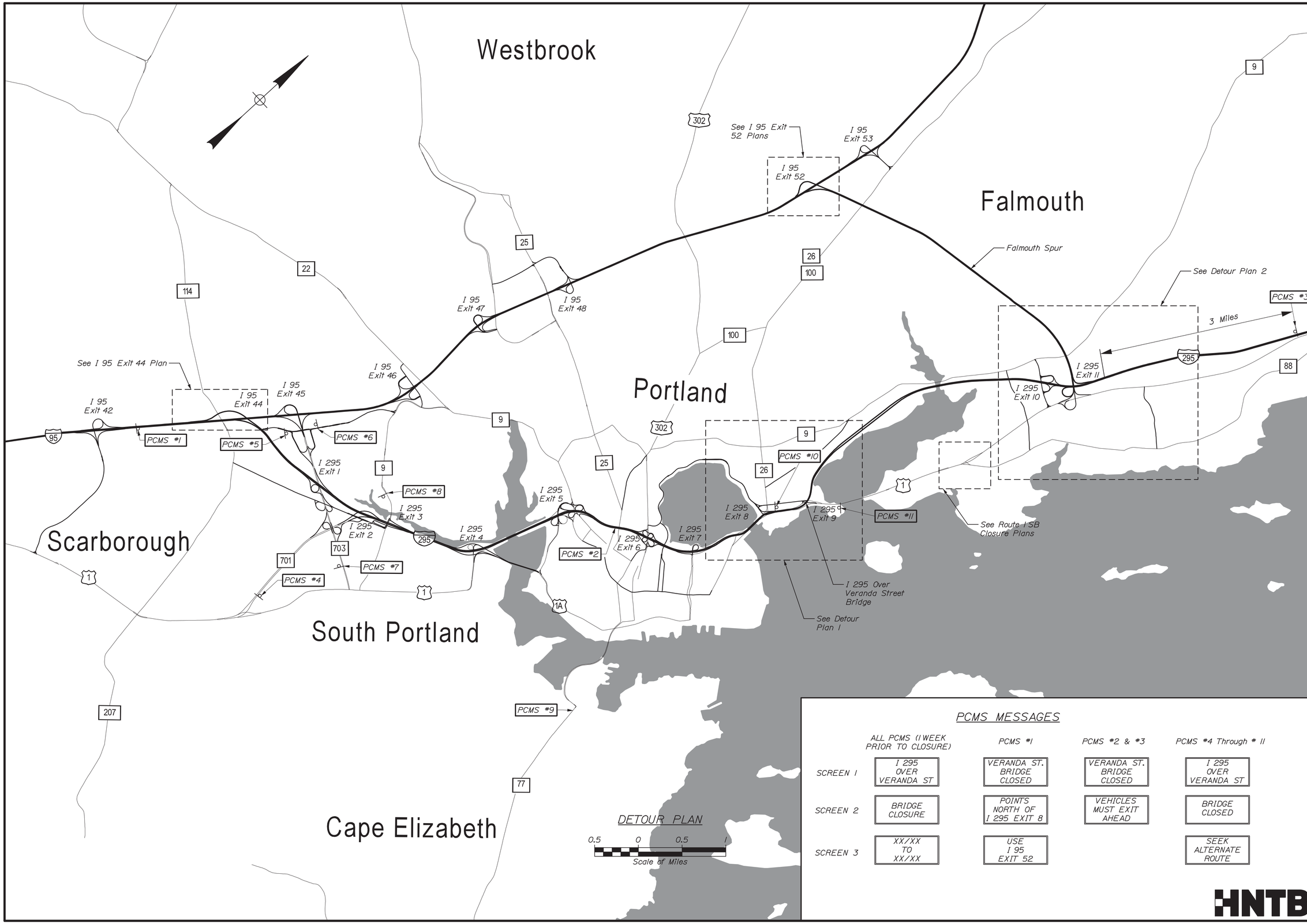
Date:3/3/2020

Username:

Division:

Filename: Xsect_Sideroads.dgn

Sta. 5+25.00 to Sta. 5+50.00



PCMS MESSAGES

	ALL PCMS (1 WEEK PRIOR TO CLOSURE)	PCMS #1	PCMS #2 & #3	PCMS #4 Through # 11
SCREEN 1	I 295 OVER VERANDA ST	VERANDA ST. BRIDGE CLOSED	VERANDA ST. BRIDGE CLOSED	I 295 OVER VERANDA ST
SCREEN 2	BRIDGE CLOSURE	POINTS NORTH OF I 295 EXIT 8	VEHICLES MUST EXIT AHEAD	BRIDGE CLOSED
SCREEN 3	XX/XX TO XX/XX	USE I 95 EXIT 52		SEEK ALTERNATE ROUTE

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

HIGHWAY PLANS

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EDD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER VERANDA STREET
PORTLAND CUMBERLAND COUNTY

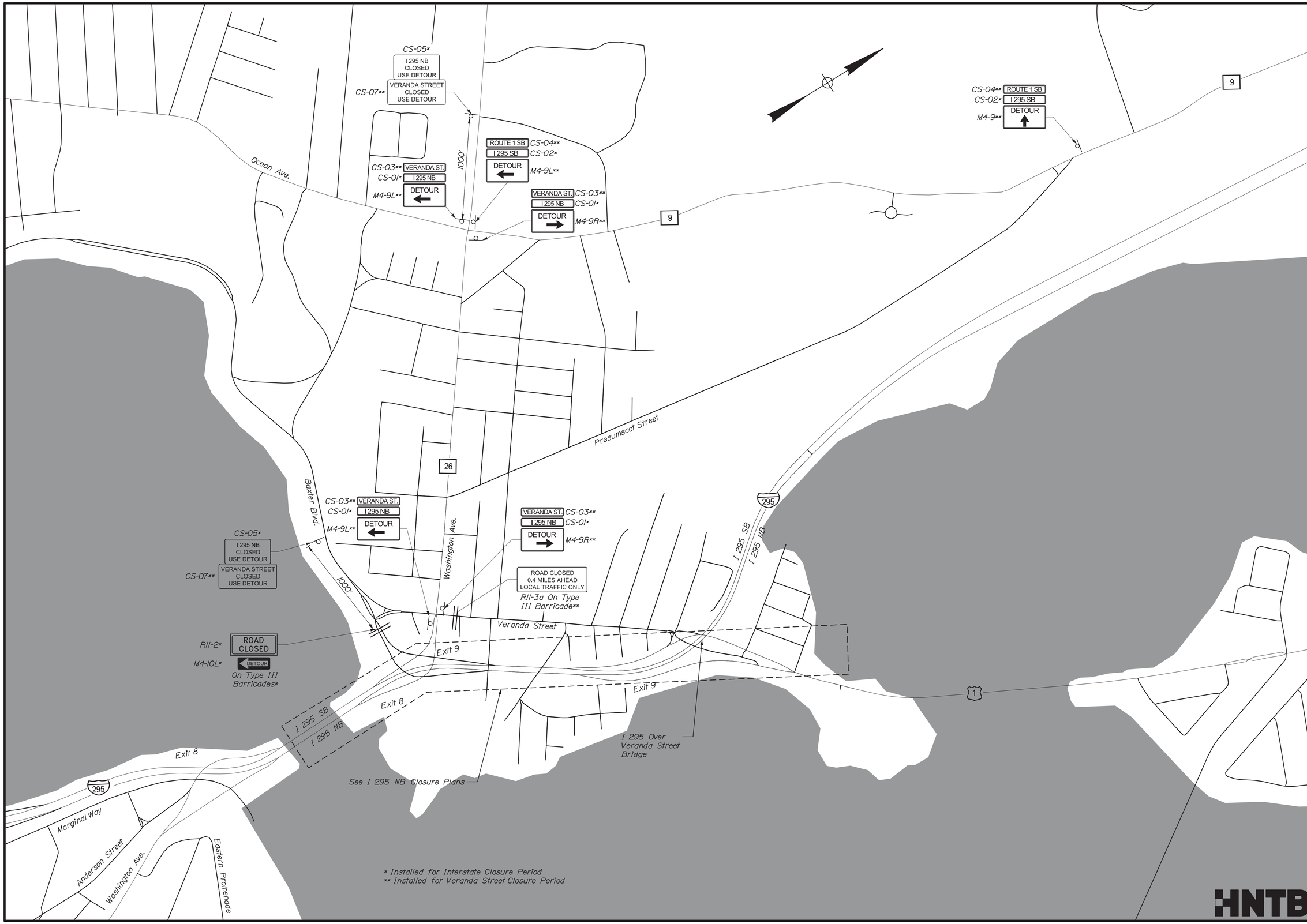
MAINTENANCE OF TRAFFIC OVERVIEW

SHEET NUMBER

140

OF 220

Filename: 140_MOT Overview.dgn Division: Username: Date:3/3/2020



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

HISTORICAL PLANS

SIGNATURE

P.E. NUMBER

DATE

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	EDD	CDH	2\20
CHECKED-REVIEWED	RWH	LZD	2\20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS: 1			
REVISIONS: 2			
REVISIONS: 3			
REVISIONS: 4			
FIELD CHANGES			

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

MAINTENANCE OF TRAFFIC DETOUR PLAN 1

SHEET NUMBER

141

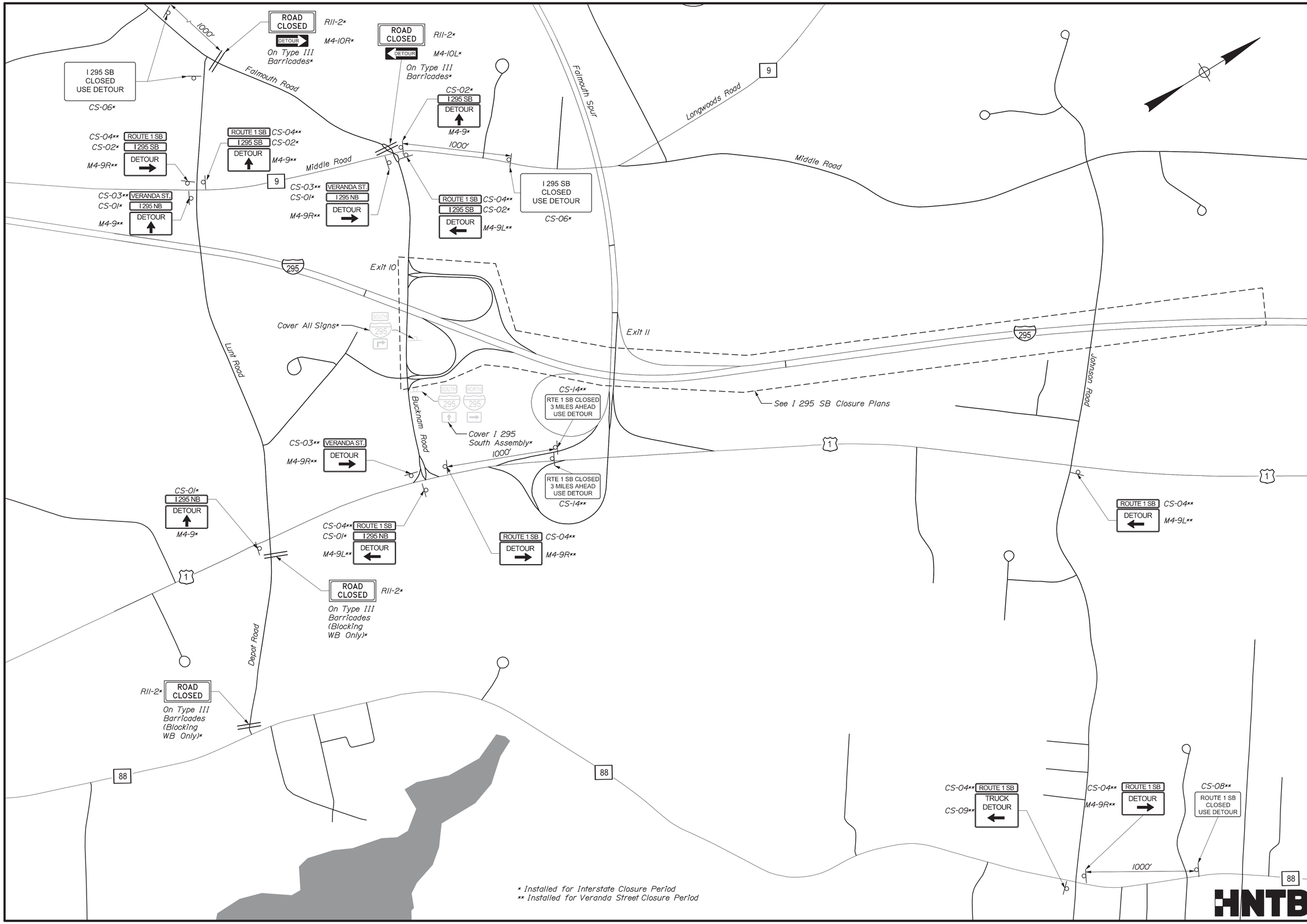
OF 220

Date:3/3/2020

Username:

Division:

Filename: 141_Detour Plan_1.dgn



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

HISTORICAL PLANS

SIGNATURE

P.E. NUMBER

DATE

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	EDD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

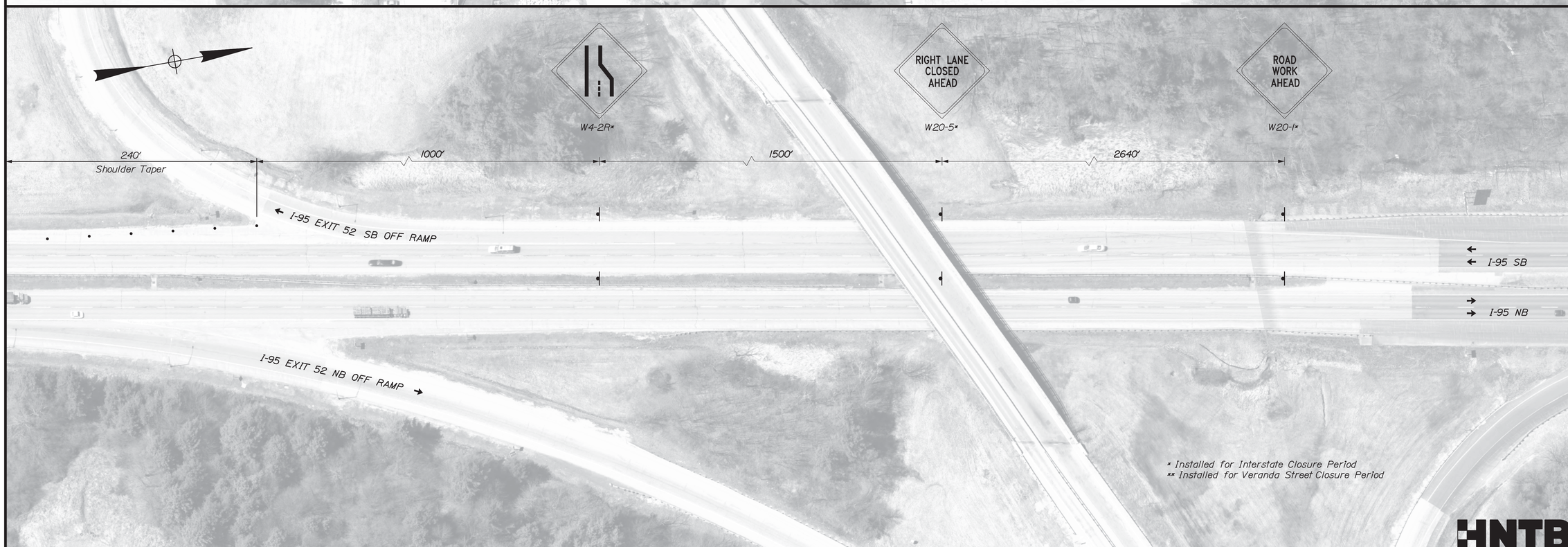
MAINTENANCE OF TRAFFIC
DETOUR PLAN 2

SHEET NUMBER

142

OF 220

Filename: 142_Detour Plan_2.dgn Division: Username: Date:3/3/2020



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EDD	BY	DATE
CHECKED-REVIEWED	RWH	CDH	2\20
DESIGN2-DETAILED2		LZD	2\20
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

MAINTENANCE OF TRAFFIC
I-95 EXIT 52

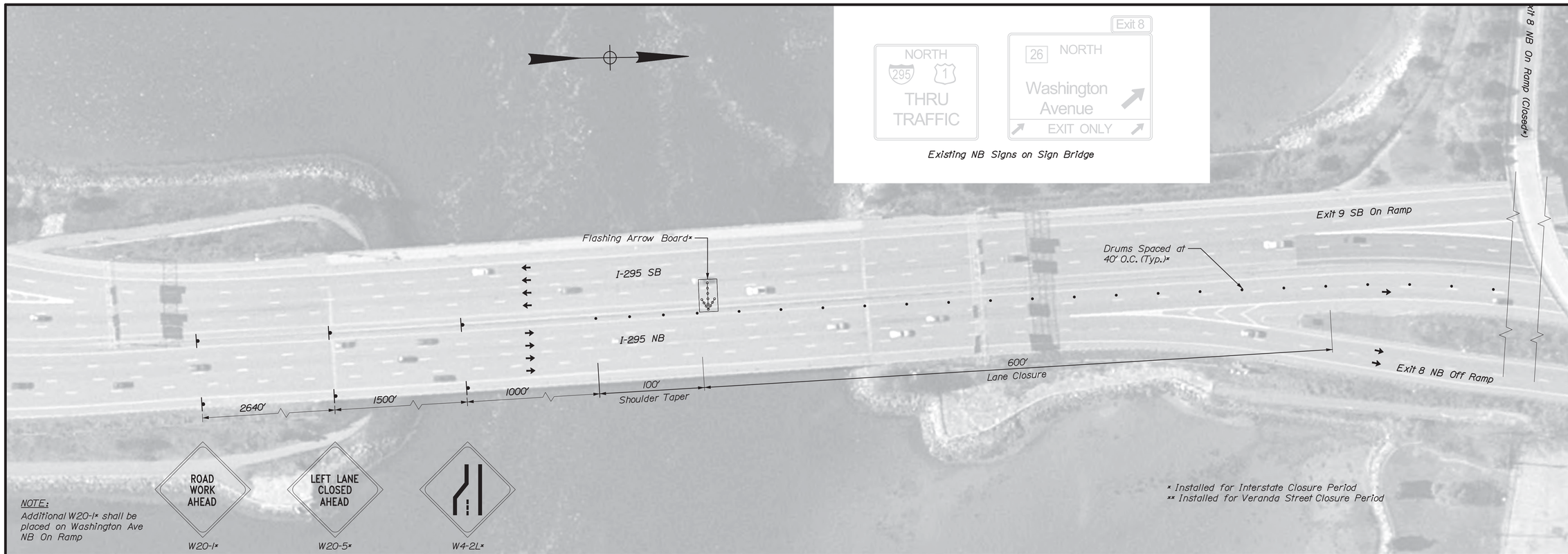
SHEET NUMBER

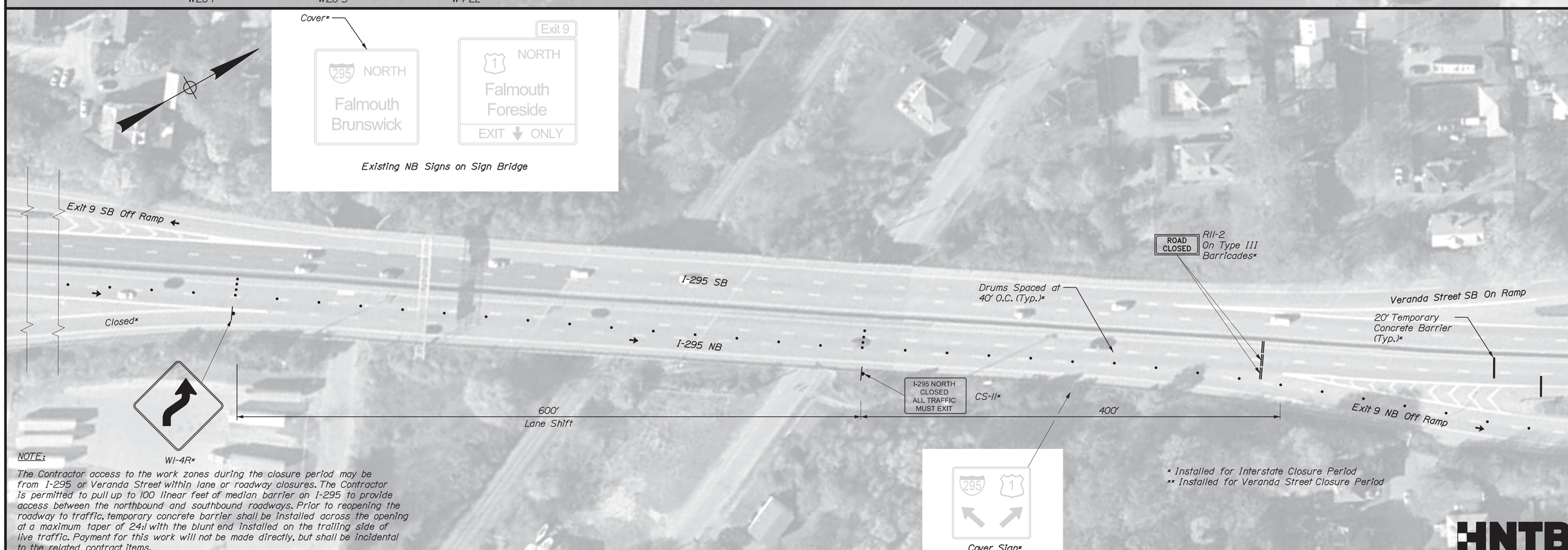
143

OF 220

HNTB

Filename: 143_95Exit 52.dgn Division: Username: Date:3/3/2020





STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

SIGNATURE

P.E. NUMBER

DATE

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EDD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

MAINTENANCE OF TRAFFIC
I-295 NB CLOSURE 1

SHEET NUMBER
144
OF 220

Filename: 144_295NBClosure.dgn
Division:
Username:
Date:3/3/2020

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	EDD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

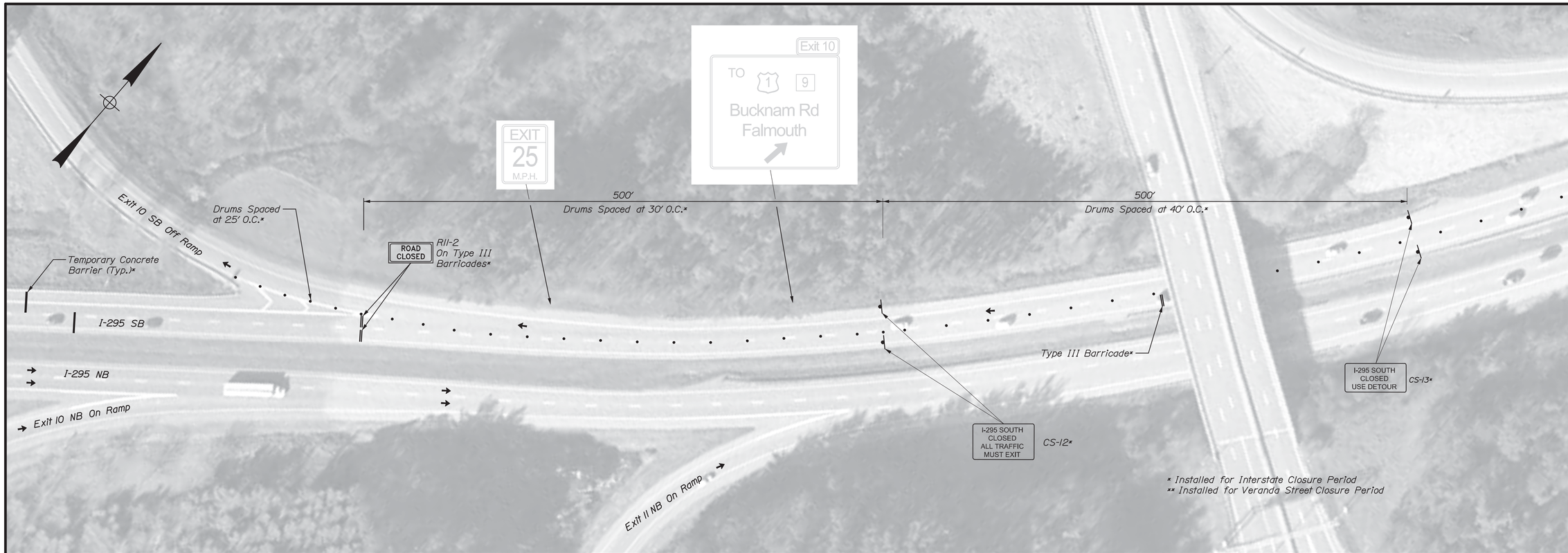
DATE

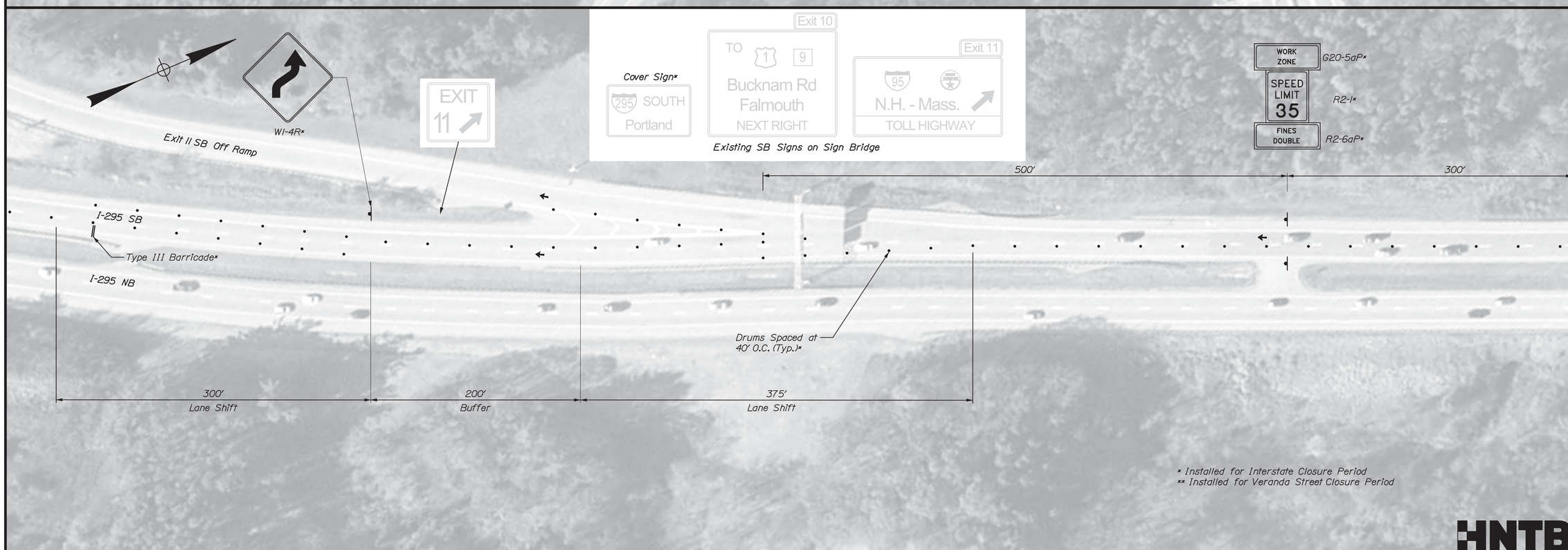
INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

MAINTENANCE OF TRAFFIC
I-295 NB CLOSURE 2

SHEET NUMBER
145
OF 220

Filename: 145_295NBClosure2.dgn Division: Username: Date:3/3/2020





STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EOD	BY	DATE
CHECKED-REVIEWED	RWH	CDH	2\20
DESIGN2-DETAILED2		LZD	2\20
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

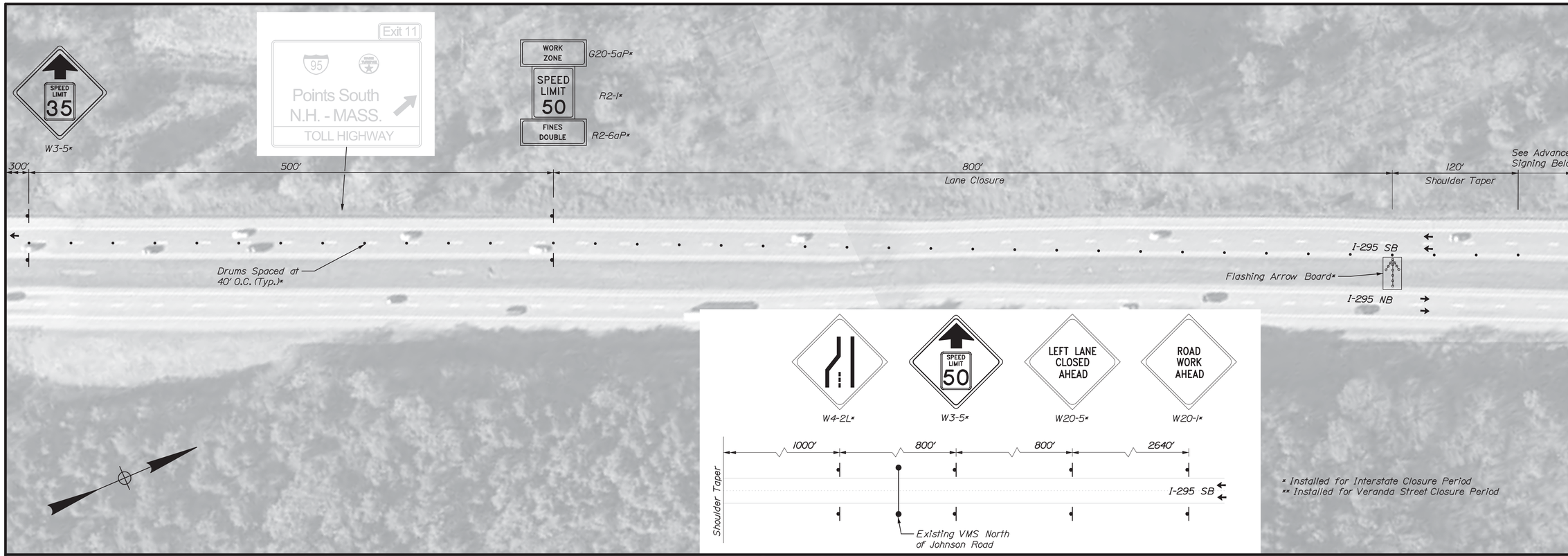
INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

MAINTENANCE OF TRAFFIC
I-295 SB CLOSURE 1

SHEET NUMBER
146
OF 220

HNTB

Filename: 146_295SBClosure1.dgn Division: Username: Date:3/3/2020



HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EDD	BY	DATE
CHECKED-REVIEWED	RWH	CDH	2\20
DESIGN2-DETAILED2		LZD	2\20
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

MAINTENANCE OF TRAFFIC
I-295 SB CLOSURE 2

SHEET NUMBER
147
OF 220

Date:3/3/2020

Username:

Division:

Filename: 147_295SBClosure2.dgn

Filename: 148_RouteIRoute88.dgn Division: Username: Date:3/3/2020

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

BRIDGE NO.5933

WIN 021745.00

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EDD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

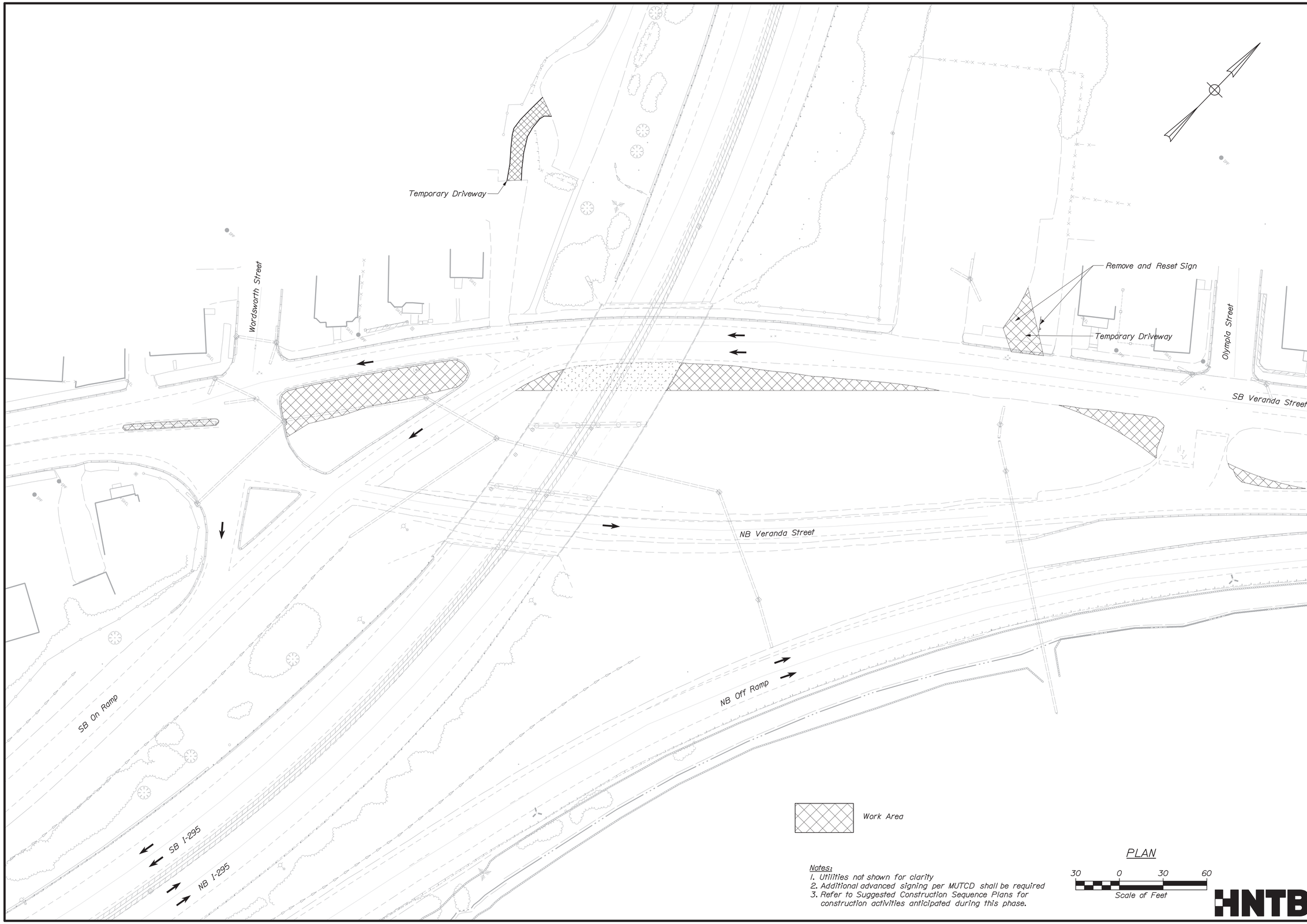
MAINTENANCE OF TRAFFIC
ROUTE 1 SB CLOSURE

SHEET NUMBER

148

OF 220

Filename: 149_MOT_Phase1A.dgn Division: Username: Date:3/3/2020



Notes:
1. Utilities not shown for clarity
2. Additional advanced signing per MUTCD shall be required
3. Refer to Suggested Construction Sequence Plans for construction activities anticipated during this phase.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	EJD	CDH	2\20
CHECKED-REVIEWED	RWH	LZD	2\20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

MAINTENANCE OF TRAFFIC
VERANDA ST PHASE 1A

SHEET NUMBER

149

OF 220

Filename: 150_MOT_PhaseIB.dgn Division: Username: Date:3/3/2020

Wordsworth Street

Temporary Concrete Barrier (Typ.)

Temporary Pedestrian Barricade, ADA Compliant

Crash Cushion (Typ.)

Temp. Sidewalk

SB Veranda Street

Olympia Street

Remove & Reset

STOP

W4-4bP

ONCOMING TRAFFIC DOES NOT STOP

NB Veranda Street

Workzone (Typ.)

NB Off Ramp

SB On Ramp

SB I-295

NB I-295

Work Area

Temporary Pavement

Notes:
1. Utilities not shown for clarity
2. Additional advanced signing per MUTCD shall be required
3. Refer to Suggested Construction Sequence Plans for construction activities anticipated during this phase.

PLAN

30 0 30 60

Scale of Feet

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EOD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

MAINTENANCE OF TRAFFIC
VERANDA ST PHASE 1B

SHEET NUMBER

150

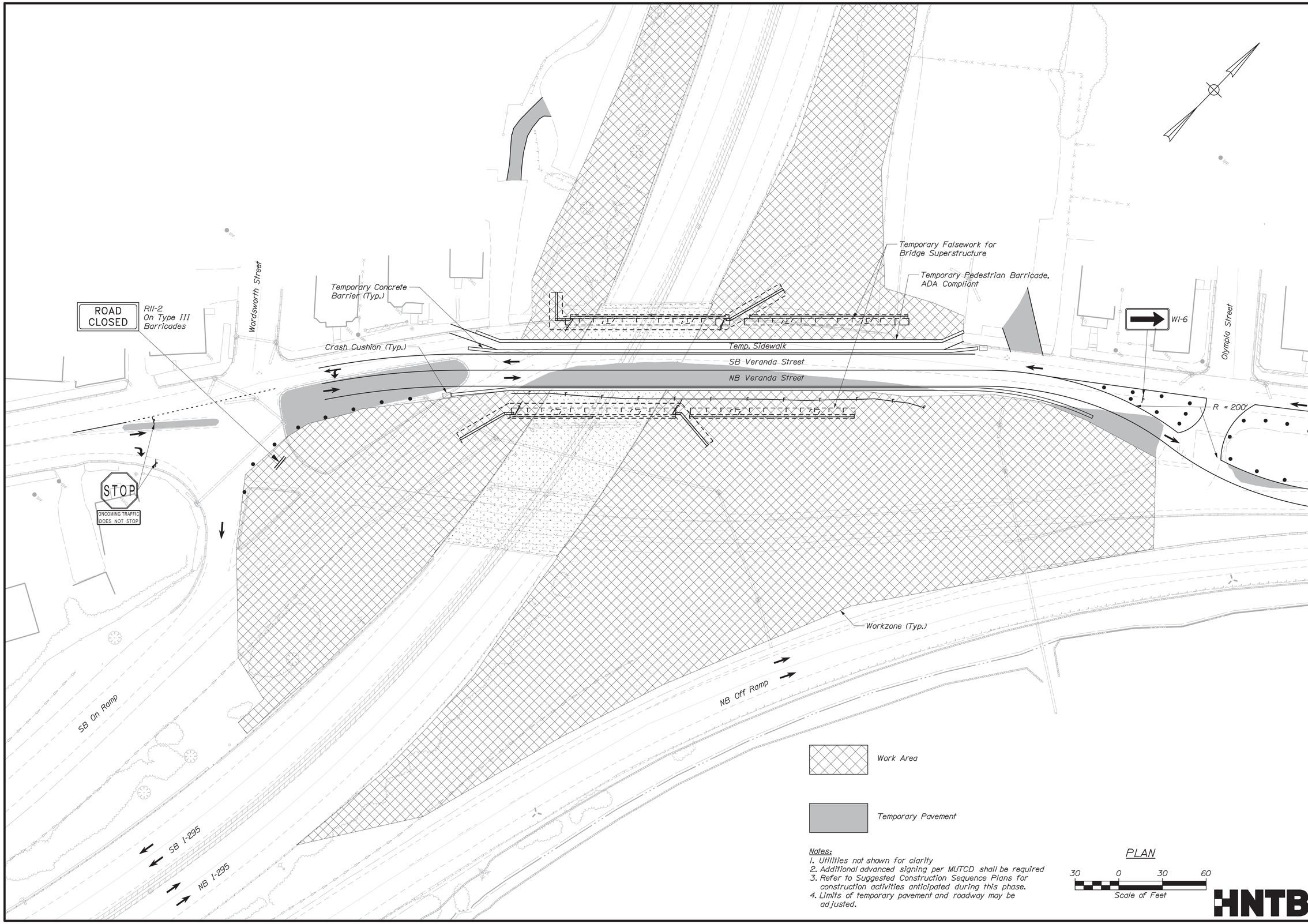
OF 220

Date:3/3/2020

Username:

Division:

Filename: 151_MOT_Phase2.dgn



Notes:
1. Utilities not shown for clarity
2. Additional advanced signing per MUTCD shall be required
3. Refer to Suggested Construction Sequence Plans for construction activities anticipated during this phase.
4. Limits of temporary pavement and roadway may be adjusted.

PLAN

30 0 30 60

Scale of Feet

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EDD	CDH	2\20
CHECKED-REVIEWED	RWH	LZD	2\20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

MAINTENANCE OF TRAFFIC
VERANDA ST PHASE 2

SHEET NUMBER

151

OF 220

DETOUR SIGN SUMMARY

IDENTIFICATION NUMBER	SIZE OF SIGN WIDTH	SIZE OF SIGN HEIGHT	TEXT	TEXT DIMENSIONS (INCHES) LETTER HEIGHT	TEXT DIMENSIONS (INCHES) VERTICAL SPACING	TEXT DIMENSIONS (INCHES) ARROW RTE. MKR.	NUMBER OF SIGNS REQUIRED	COLOR BACK-GROUND	COLOR LEGEND BORDER	AREA IN SQUARE FEET	NOTES
CS-01	30"	12"	I 295 NB	4"C			11	ORANGE	BLACK	2.5 (27.5)	
CS-02	30"	12"	I 295 SB	4"C			8	ORANGE	BLACK	2.5 (20)	
CS-03	30"	12"	VERANDA ST	4"C			7	ORANGE	BLACK	2.5 (17.5)	
CS-04	30"	12"	ROUTE 1 SB	4"C			11	ORANGE	BLACK	2.5 (27.5)	
CS-05	36"	30"	I 295 NB CLOSED USE DETOUR	4"C 4"C 4"C	4" 4"		2	ORANGE	BLACK	7.5 (15)	
CS-06	36"	30"	I 295 SB CLOSED USE DETOUR	4"C 4"C 4"C	4" 4"		6	ORANGE	BLACK	7.5 (45)	
CS-07	48"	30"	VERANDA STREET CLOSED USE DETOUR	4"C 4"C 4"C	4" 4"		2	ORANGE	BLACK	10 (20)	
CS-08	36"	30"	ROUTE 1 SB CLOSED USE DETOUR	4"C 4"C 4"C	4" 4"		1	ORANGE	BLACK	7.5	
CS-09	30"	36"	TRUCK DETOUR ←	4"C 4"C	3"	4.5"X18"	1	ORANGE	BLACK	7.5	
CS-10	30"	36"	TRUCK DETOUR ↑	4"C 4"C	3"	4.5"X12"	1	ORANGE	BLACK	7.5	
CS-11	66"	60"	I-295 NORTH CLOSED ALL TRAFFIC MUST EXIT	8"D 8"D 8"D 8"D	6" 6" 6"		1	ORANGE	BLACK	27.5	
CS-12	66"	60"	I-295 SOUTH CLOSED ALL TRAFFIC MUST EXIT	8"D 8"D 8"D 8"D	6" 6" 6"		2	ORANGE	BLACK	27.5 (55)	
CS-13	66"	42"	I-295 SOUTH CLOSED USE DETOUR	8"D 8"D 8"D	6" 6"		2	ORANGE	BLACK	19.25 (38.5)	
CS-14	54"	30"	RTE 1 SB CLOSED 3 MILES AHEAD USE DETOUR	4"D 4"D 4"D	3" 3"		2	ORANGE	BLACK	11.25 (22.5)	
G20-5aP	48"	24"	WORK ZONE	TEXT DIMENSIONS SHALL CONFORM TO "STANDARD HIGHWAY SIGNS"			4	SHALL CONFORM TO "STANDARD HIGHWAY SIGNS"		8 (32)	
M4-9	30"	24"	DETOUR ↑	↓	↓	↓	9	↓	↓	5 (45)	

IDENTIFICATION NUMBER	SIZE OF SIGN WIDTH	SIZE OF SIGN HEIGHT	TEXT	TEXT DIMENSIONS (INCHES) LETTER HEIGHT	TEXT DIMENSIONS (INCHES) VERTICAL SPACING	TEXT DIMENSIONS (INCHES) ARROW RTE. MKR.	NUMBER OF SIGNS REQUIRED	COLOR BACK-GROUND	COLOR LEGEND BORDER	AREA IN SQUARE FEET	NOTES
M4-9L	30"	24"	DETOUR ←	TEXT DIMENSIONS SHALL CONFORM TO "STANDARD HIGHWAY SIGNS"			7	SHALL CONFORM TO "STANDARD HIGHWAY SIGNS"		5 (35)	
M4-9R	30"	24"	DETOUR →				8			5 (40)	
M4-10L	48"	18"	← DETOUR				5			6 (30)	
M4-10R	48"	18"	DETOUR →				2			6 (12)	
R2-1 (35) (50)	48"	60"	SPEED LIMIT XX				2 2			20 (40) 20 (40)	
R2-6aP	48"	36"	FINES DOUBLE				4			12 (48)	
R3-1	24"	24"	⊘				1			4	
R11-2	48"	30"	ROAD CLOSED				17			10 (170)	
R11-3a (0.4) (1.7)	60"	30"	ROAD CLOSED _.- MILES AHEAD LOCAL TRAFFIC ONLY				1 2			12.5 12.5 (25)	
R11-4	60"	30"	ROAD CLOSED TO THRU TRAFFIC				2			12.5 (25)	
W1-4R	48"	48"	↱				2			16 (32)	
W1-6	48"	24"	→				1			8	
W3-5 (35) (50)	48" 48"	48" 48"	↑ SPEED LIMIT XX				2 2			16 (32) 16 (32)	
W4-2R	48"	48"	⋔				2			16 (48)	
W4-2L	48"	48"	⋔				4			16 (64)	
W4-3	48"	48"	↑↑	↓	↓	↓	1	↓	↓	16	

NOTE:
1. Sign summary includes detour signs only.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EJD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

DETOUR SIGN SUMMARY

SHEET NUMBER
152
OF 220

Filename: 152_Detour_Sign_Summary.dgn Division: Username: Date:3/3/2020

DETOUR SIGN SUMMARY

IDENTIFICATION NUMBER	SIZE OF SIGN		TEXT	TEXT DIMENSIONS (INCHES)				NUMBER OF SIGNS REQUIRED	COLOR			AREA IN SQUARE FEET	NOTES
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING	ARROW	RTE. MKR.		BACK-GROUND	LEGEND	BORDER		
W4-4bP	24"	12"	ONCOMING TRAFFIC DOES NOT STOP	TEXT DIMENSIONS SHALL CONFORM TO "STANDARD HIGHWAY SIGNS"				1	SHALL CONFORM TO "STANDARD HIGHWAY SIGNS"			16	
W20-1	48"	48"	ROAD WORK AHEAD					7				16 (112)	
W20-3 (500) (1000)	48" 48"	48" 48"	ROAD CLOSED XX FT					2 2				16 (32) 16 (32)	
W20-5 (LEFT) (RIGHT)	48" 48"	48" 48"	_ LANE CLOSED AHEAD					4 2				16 (64) 16 (32)	

NOTE:
1. Sign summary includes detour signs only.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	EDD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

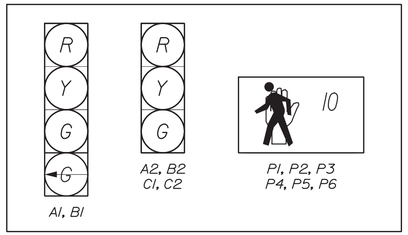
INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

DETOUR SIGN SUMMARY 2

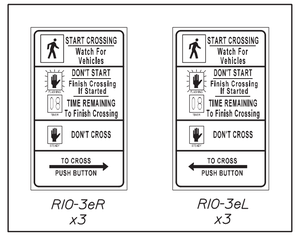
SHEET NUMBER
153
OF 220

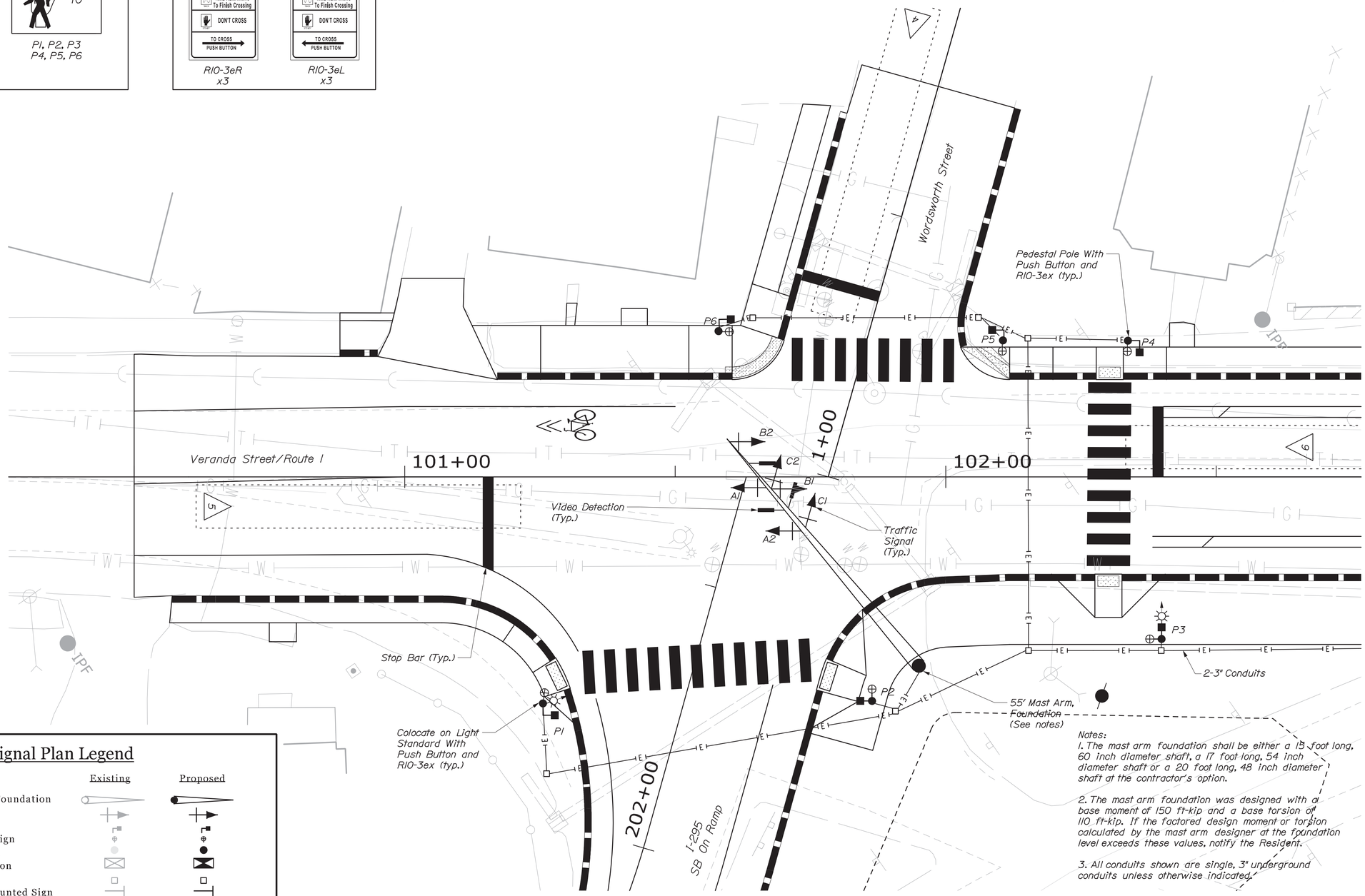
Filename: 153_Detour_Sign_Summary2.dgn Division: Username: Date:3/3/2020

Proposed Signals



Proposed Signs





Notes:

1. The mast arm foundation shall be either a 13 foot long, 60 inch diameter shaft, a 17 foot long, 54 inch diameter shaft or a 20 foot long, 48 inch diameter shaft at the contractor's option.

2. The mast arm foundation was designed with a base moment of 150 ft-kip and a base torsion of 110 ft-kip. If the factored design moment or torsion calculated by the mast arm designer at the foundation level exceeds these values, notify the Resident.

3. All conduits shown are single, 3" underground conduits unless otherwise indicated.

Signal Plan Legend

	Existing	Proposed
Mast Arm & Steel Pole On Foundation		
Signal Head		
Pedestrian Signal Head		
Pedestrian Push Button & Sign		
Pedestal Pole & Foundation		
Control Cabinet & Foundation		
Junction Box		
Mast Arm Or Span Wire Mounted Sign		
Detector Zone		
Video Detector		
3" Underground Conduit	E	E
Interconnect	C	C
Video Dectector	#	#

PLAN

10 0 10 20

Scale of Feet

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	RBM	WAD	2/20
CHECKED-REVIEWED	ARG	DSS	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

SB ON RAMP SIGNAL PLANS

SHEET NUMBER

154

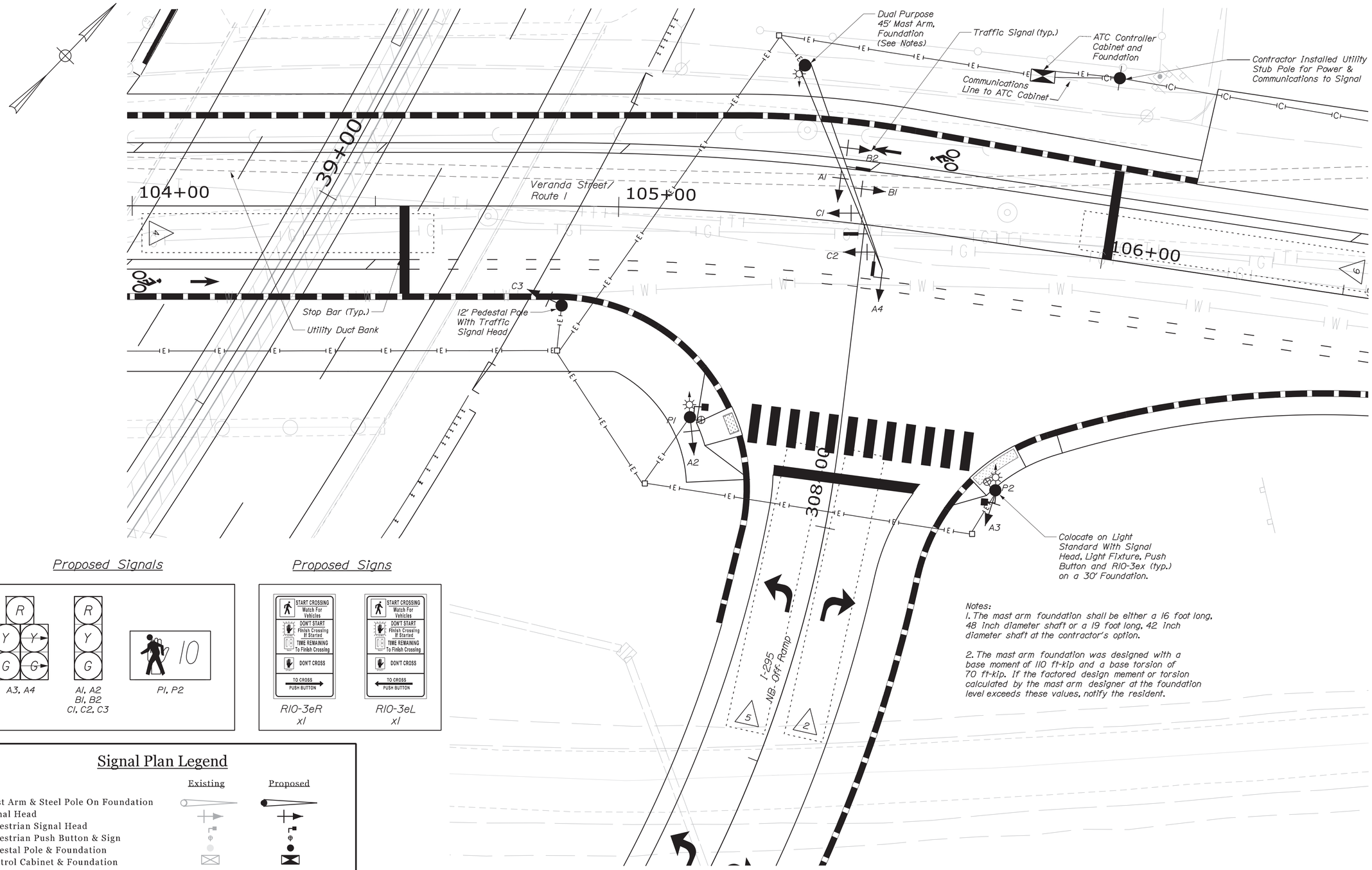
OF 220

Date:3/3/2020

Username:

Division:

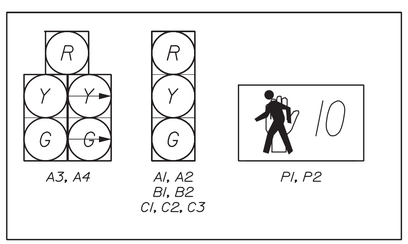
Filename: 154_Signal_SB_On_Ramp.dgn



Notes:
1. The mast arm foundation shall be either a 16 foot long, 48 inch diameter shaft or a 19 foot long, 42 inch diameter shaft at the contractor's option.

2. The mast arm foundation was designed with a base moment of 110 ft-kip and a base torsion of 70 ft-kip. If the factored design mement or torsion calculated by the mast arm designer at the foundation level exceeds these values, notify the resident.

Proposed Signals



Proposed Signs

Signal Plan Legend

	Existing	Proposed
Mast Arm & Steel Pole On Foundation		
Signal Head		
Pedestrian Signal Head		
Pedestrian Push Button & Sign		
Pedestal Pole & Foundation		
Control Cabinet & Foundation		
Junction Box		
Mast Arm Or Span Wire Mounted Sign		
Detector Zone		
Video Detector		
3" Underground Conduit	E I	E I
Interconnect	C I	C I
Video Dectector	#	#

PLAN

10 0 10 20
Scale of Feet

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	RBM	WAD	2/20
CHECKED-REVIEWED	ARC	DSS	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

NB OFF RAMP SIGNAL PLAN

SHEET NUMBER
155
OF 220

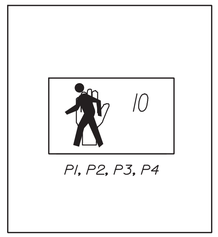
Date:3/3/2020

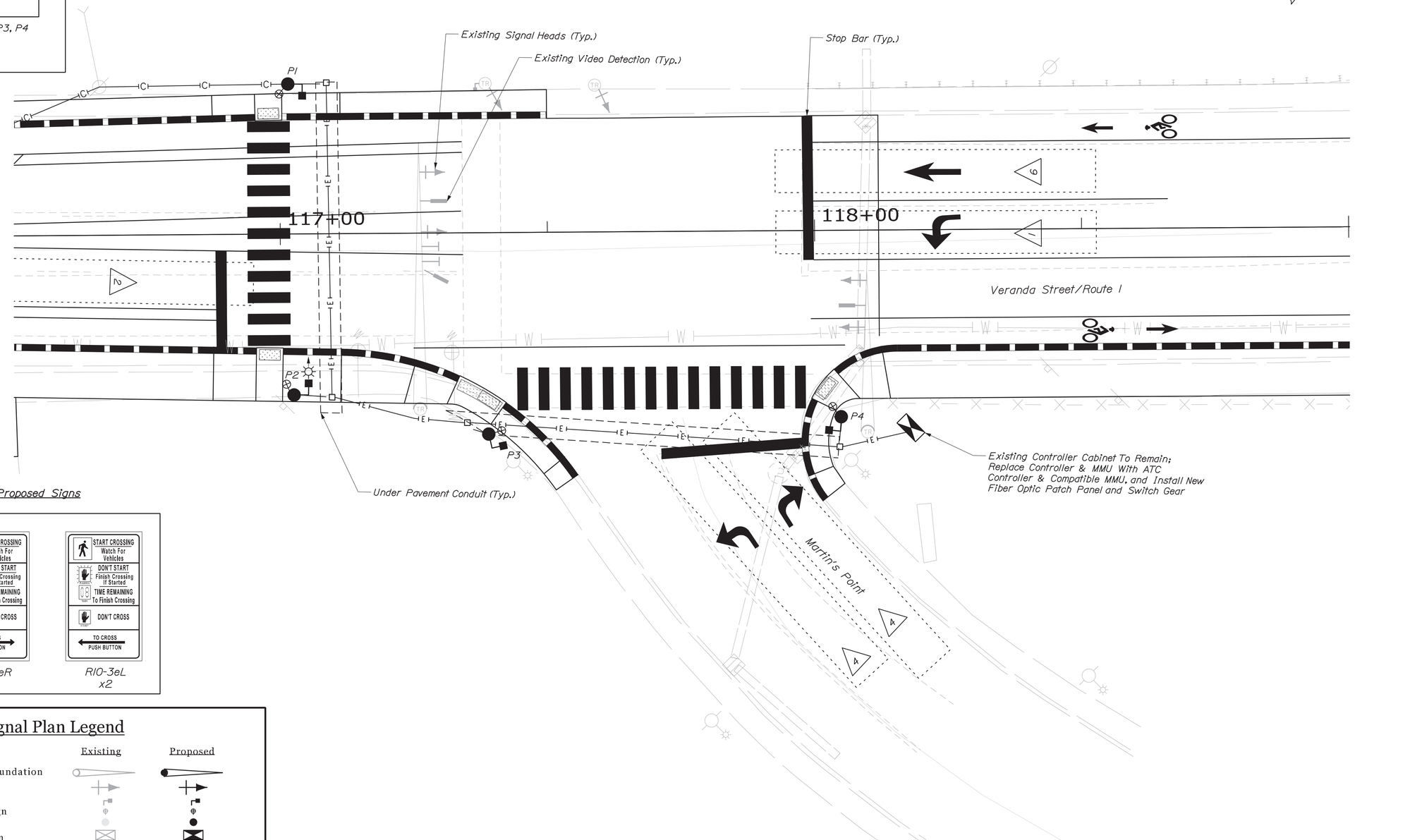
Username:

Division:

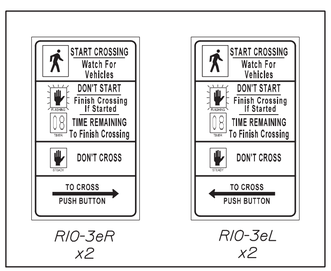
Filename: 155_Signal_NB_Off_Ramp.dgn

Proposed Signals





Proposed Signs



Signal Plan Legend

	Existing	Proposed
Mast Arm & Steel Pole On Foundation		
Signal Head		
Pedestrian Signal Head		
Pedestrian Push Button & Sign		
Pedestal Pole & Foundation		
Control Cabinet & Foundation		
Junction Box		
Mast Arm Or Span Wire Mounted Sign		
Detector Zone		
Video Detector		
3" Underground Conduit	E	E
Interconnect	C	C
Video Dectector	#	#

PLAN

10 0 10 20

Scale of Feet

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	RBM	WAD	2/20
CHECKED-REVIEWED	ARG	DSS	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

MARTIN'S POINT SIGNAL PLAN

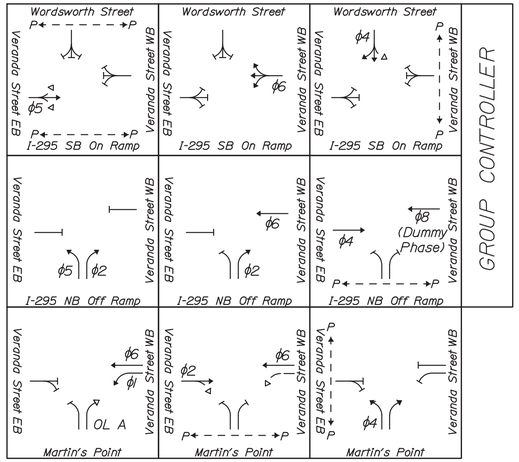
SHEET NUMBER

156

OF 220

Filename: 156_Signal_Martins Point.dgn Division: Username: Date:3/3/2020

SIGNAL PHASING SEQUENCE



* Pedestrian pre-emption will force Veranda Street EBL to a permissive movement.

I-295 NB & SB RAMPS AND VERANDA STREET SIGNAL TIMING

	PHASE 1	PHASE 2	PHASE 3	PHASE 4	PHASE 5	PHASE 6	PHASE 7	PHASE 8	PHASE 9
MINIMUM GREEN	-	5.0	-	5.0	5.0	5.0	-	5.0	-
VEHICLE EXTENSION		3.0		3.0	3.0	3.0		3.0	
MAXIMUM 1		76.0		22.0	23.0	47.0		22.0	
MAXIMUM 2		66.0		18.0	18.0	42.0		18.0	
MAXIMUM 3		60.0		18.0	18.0	36.0		18.0	
YELLOW		4.0		4.0	4.0	4.0		4.0	
ALL RED		2.0		2.0	2.0	2.0		2.0	
RECALL MODE		Min		None	None	Min		None	
WALK				7	7				
PED CLEAR				11	15				

Max 1 - AM Weekdays 7 AM to 9 AM
Max 2 - PM Weekdays 4 PM to 7 PM
Max 3 - Free All other

MARTIN'S POINT & VERANDA STREET SIGNAL TIMING

	PHASE 1	PHASE 2	PHASE 3	PHASE 4	PHASE 5	PHASE 6	PHASE 7	PHASE 8	PHASE 9
MINIMUM GREEN	5.0	5.0	-	5.0	-	5.0	-	-	-
VEHICLE EXTENSION	3.0	3.0		3.0		3.0			
MAXIMUM 1	5.0	70.0		17.0		81.0			
MAXIMUM 2	5.0	51.0		22.0		62.0			
MAXIMUM 3	5.0	45.0		23.0		57.0			
YELLOW	4.0	4.0		4.0		4.0			
ALL RED	2.0	2.0		2.0		2.0			
RECALL MODE	None	Min.		None		Min.			
WALK		7		7					
PED CLEAR		15		12					

Max 1 - AM Weekdays 7 AM to 9 AM
Max 2 - PM Weekdays 4 PM to 7 PM
Max 3 - Free All other

EQUIPMENT AND WORK ITEMS

	Wordworth and Veranda Street/Route 1/SB on Ramp	Veranda Street/ Route 1 and I-295 NB off Ramp	Martins Point and Veranda Street/ Route 1
FURNISH/INSTALL NEW ATC CONTROLLER CABINET W/FOUNDATION AND ALL ANCILLARY EQUIPMENT AND WIRING. (GROUP CONTROLLER)	1/2	1/2	-
FURNISH/INSTALL NEW ATC CONTROLLER AND MMU.	-	-	1
FURNISH/INSTALL 3-SECTION 12-INCH SIGNAL HEADS W/LED MODULES, TUNNEL VISORS AND REFLECTORIZED ALUMINUM LOUVERED BACKPLATES MOUNTED ON MAST ARMS OR PEDESTAL POLES W/NEW MOUNTING HARDWARE.	4	7	-
FURNISH/INSTALL 4-SECTION 12-INCH SIGNAL HEADS W/LED MODULES, TUNNEL VISORS AND REFLECTORIZED ALUMINUM LOUVERED BACKPLATES MOUNTED ON MAST ARMS OR PEDESTAL POLES W/NEW MOUNTING HARDWARE.	2	-	-
FURNISH/INSTALL 5-SECTION 12-INCH SIGNAL HEADS W/LED MODULES, TUNNEL VISORS AND REFLECTORIZED ALUMINUM LOUVERED BACKPLATES MOUNTED ON MAST ARMS OR PEDESTAL POLES W/NEW MOUNTING HARDWARE.	-	2	-
FURNISH/INSTALL PEDESTRIAN SIGNAL HEADS W/LED MODULES, TUNNEL VISORS AND REFLECTORIZED ALUMINUM LOUVERED BACKPLATES MOUNTED ON MAST ARMS OR PEDESTAL POLES W/NEW MOUNTING HARDWARE.	6	2	4
FURNISH/INSTALL PEDESTRIAN PUSH BUTTONS.	6	2	4
FURNISH/INSTALL NEW SIGNAL HEAD CABLE WIRING. WILL BE CONTINUOUS WIRING FROM CABINET TO MAST ARMS.	1/2	1/2	1
FURNISH/INSTALL UTILITY STUB POLE WITH POWER AND COMMUNICATIONS SERVICES AS SHOWN ON THE PLANS.	-	1	-
FURNISH/INSTALL VIDEO DETECTION SYSTEM.	1/2	1/2	-
FURNISH/INSTALL NON-METALLIC CONDUIT. (ITEM 626.22)	530 LF	530 LF	-
FURNISH/INSTALL NON-METALLIC UNDER PAVEMENT CONDUIT. (ITEM 626.251)	-	-	150 LF
FURNISH/INSTALL DUAL PURPOSE POLE W/55 FOOT MAST ARM, 12 FOOT LUMINAIRE ARM AND FOUNDATION.	1	-	-
FURNISH/INSTALL POLE WITH 45 FOOT MAST ARM, 12 FOOT LUMINAIRE ARM AND FOUNDATION.	-	1	-
FURNISH/INSTALL PEDESTAL POLES WITH FOUNDATIONS.	4	1	3
FURNISH/INSTALL INTERCONNECT WIRE BETWEEN: 12-STRAND FIBER OPTIC CABLE. (2000 LF)	1/4	1/4	1/2
FURNISH/INSTALL FIBER OPTIC PATCH PANEL AND SWITCH GEAR	1/2	1/2	1

COORDINATION CYCLE/SPLIT/OFFSET SCHEDULE

	Wordsworth and Veranda St/ Rte 1/I-295 SB on Ramp /I-295 NB off		Martins Point and Veranda St/ Rte 1		COORDINATION MODE SET TO FIXED FORCE-OFF
	PLAN 1	PLAN 2	PLAN 1	PLAN 2	
CYCLE LENGTH	110	96	110	96	
OFFSET	0	0	92	19	
COORDINATED PHASE	2	2	6	6	
SPLIT TIME ϕ1	--	--	11	11	
SPLIT TIME ϕ2	82	72	76	57	
SPLIT TIME ϕ3	--	--	--	--	
SPLIT TIME ϕ4	28	24	23	28	
SPLIT TIME ϕ5	29	24	--	--	
SPLIT TIME ϕ6	53	48	87	68	
SPLIT TIME ϕ7	--	--	--	--	
SPLIT TIME ϕ8	28	24	--	--	

1. Coordination reference offsets to end of green
2. Coordination applies to weekday
   Plan 1 AM Peak: 7-9am
   Plan 2 PM Peak: 4-7pm

SIGNAL NOTES

1. Conduits installed on Utility Company owned poles will be installed by the respective utility. The conduit will be provided by the contractor.
2. The location of all signal equipment and related items shall be in conformity with 'Americans With Disabilities Act' (ADA) accessibility standards. Use of sidewalks and pedestrian ramps shall not be obstructed.
3. Traffic controller cabinet shall be MaineDOT 32/48 ATC Cabinet. The cabinet shall have an extension base and be mounted on a concrete pad foundation with a Trafficware Commander ATC Controller.
4. All new signal sections shall have led lenses 12 inches in diameter with 5" retroreflective back plates.
5. All splices will be made in the cabinets meeting MaineDOT specifications.
6. The bottom of the housing of new mast arm mounted signal faces shall be at least 17 feet but not more than 19 feet above the pavement grade at the center of the roadway.
7. For pole mounted signal heads, the bottom of the housing shall be mounted at least 8 feet but not more than 19 feet above the sidewalk, or above pavment grade at the high point of the road.
8. Two copies of as-built plans, signal timing, log book and controller manuals shall be left in the controller cabinet. In a sealed water proof bag with memory stick.
9. The Contractor is responsible for finding exact locations of utilities prior to construction. The contractor shall contact dig-safe and appropriate authorities prior to any subsurface activities.
10. Traffic signal work shall be completed in a manner and order that will cause the minimum disruption to traffic.
11. The Resident, MaineDOT, and City of Portland shall have the right and authority to determine the acceptability of work and materials in progress or completed and shall have the right to reject any work or materials which do not conform, in its sole opinion, to the plans or specifications.
12. The Contractor shall provide the resident and the City of Portland with a schedule of work for constructing the traffic improvements.
13. The Contractor shall prepare a material schedule. All schedules shall be verified in the field by the Resident prior to ordering materials or performing work.
14. The Contractor shall be responsible for submitting red-line as-built drawings of the final work to the Resident. Those drawings shall be a clean set of plans showing all changes, modifications, and elevations to the bid plans.
15. All underground conduit shall be PVC Schedule 80 conduit when placed under pavement and Schedule 40 beyond pavement limits.
16. The Contractor shall meet all utility requirements for the new service connection.
17. All pedestal poles shall be one-piece.
18. Contractor shall povide and install all junction boxes, all junction boxes shall be paid under item 626.11.
19. The Contractor shall refer to the special provisions for City of Portland specific signal requirements.
20. All pole bases, pull boxes, and other controller conduits shall be sealed to prevent access by rodents and other small animals.
21. All old signal equipment will be returned to the City of Portland.

DETECTOR SCHEDULE

DETECTOR			
	PLAN ID	STREET	DIRECTION
Wordsworth and Veranda St/Rte 1/ I-295 SB on Ramp	4	Wordsworth Street SB	SB LTR
	5	Veranda Street EB	EB LTR
	6	Veranda Street WB	WB LTR
Veranda St/ Rte 1 and I-295 NB off Ramp	2	I-295 NB off Ramp	NB R
	4	Veranda Street EB	EB T
	5	I-295 NB off Ramp	NB L
	6 (DP)	Veranda Street WB	WB T
Martins Point and Veranda St/Rte 1	1	Veranda Street WB	WB L
	2	Veranda Street EB	EB TR
	4	Martin's Point NB	NB LR*
	6	Veranda Street WB	WB LT

* Indicates an 8 second delay for phase activiation due to right turning vehicles.

VIDEO DETECTION

1. Video detection shall consist of a thermal traffic sensor system per the City of Portland and MaineDOT. For additional information see Special Provisions-Trafisense 2.
2. The Resident reserves the right to direct the Contractor to field adjust the height, either lower or higher, of the video detector for local conditions identified during or after construction. No additional costs will be allowed for field adjusting the video detector.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

PIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	RBM	WAD	2/20
CHECKED-REVIEWED	ARG	DSS	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

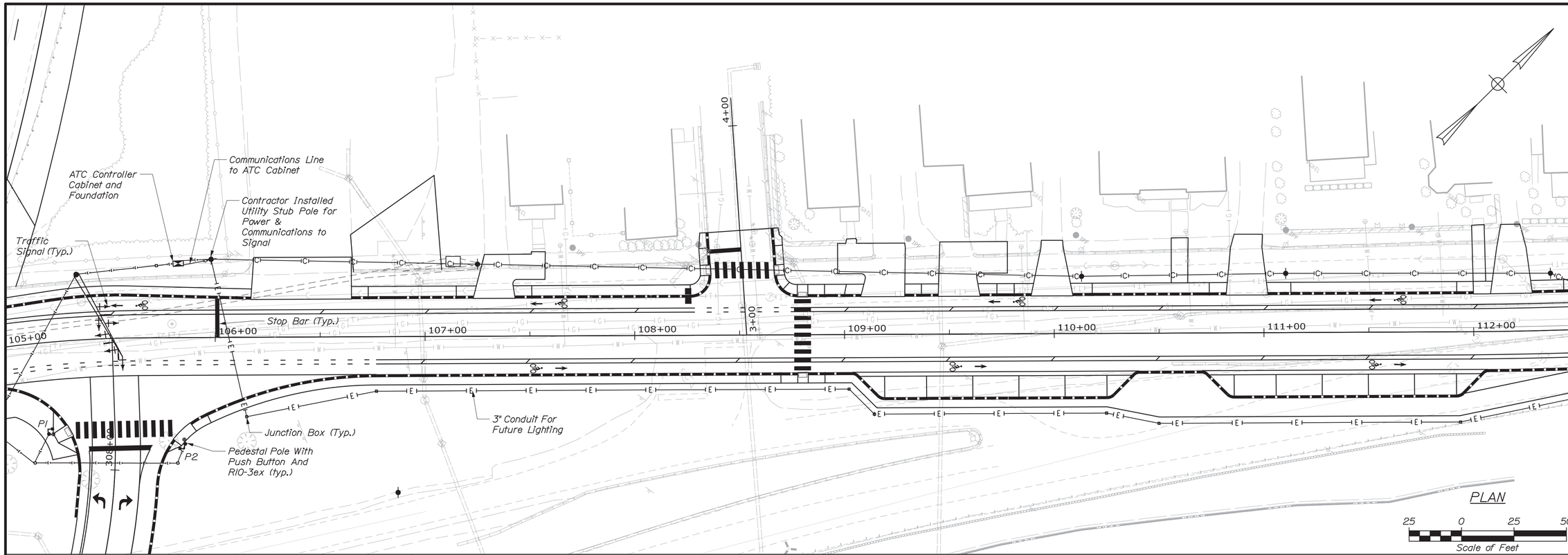
DATE

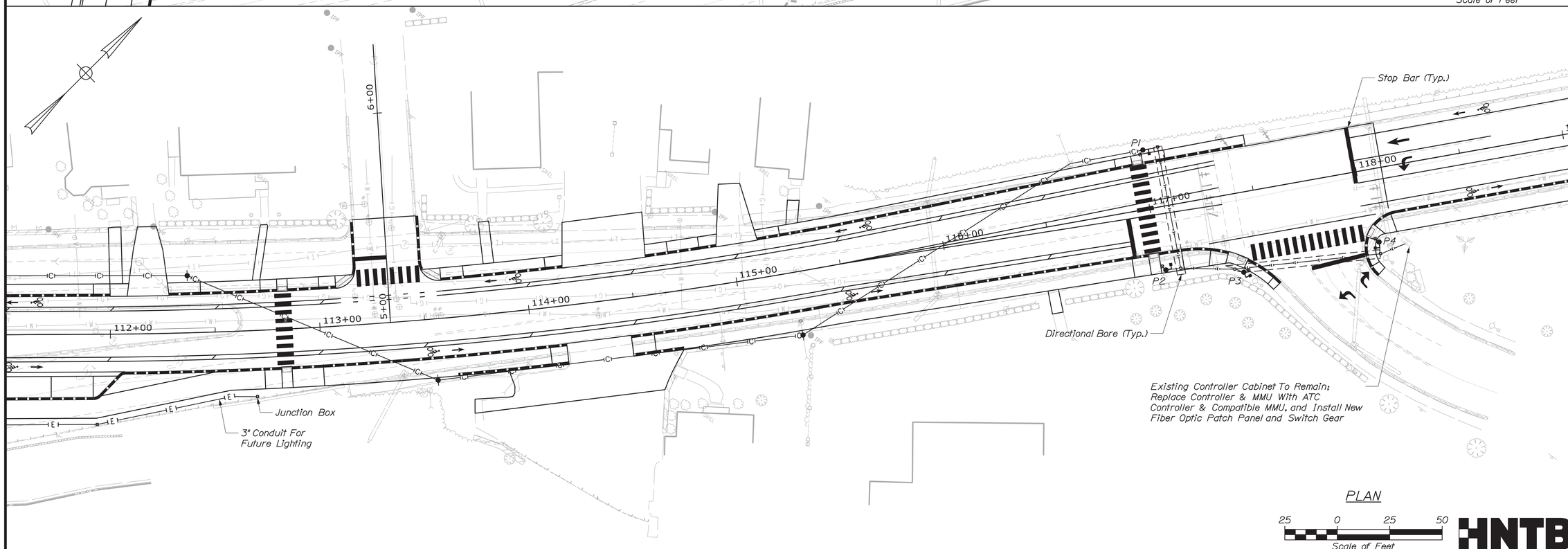
INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

VERANDA STREET
SIGNAL NOTES

SHEET NUMBER
157
OF 220

Filename: 157_Signal_Notes.dgn
Division:
Username:
Date:3/3/2020





HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

SIGNATURE

P.E. NUMBER

DATE

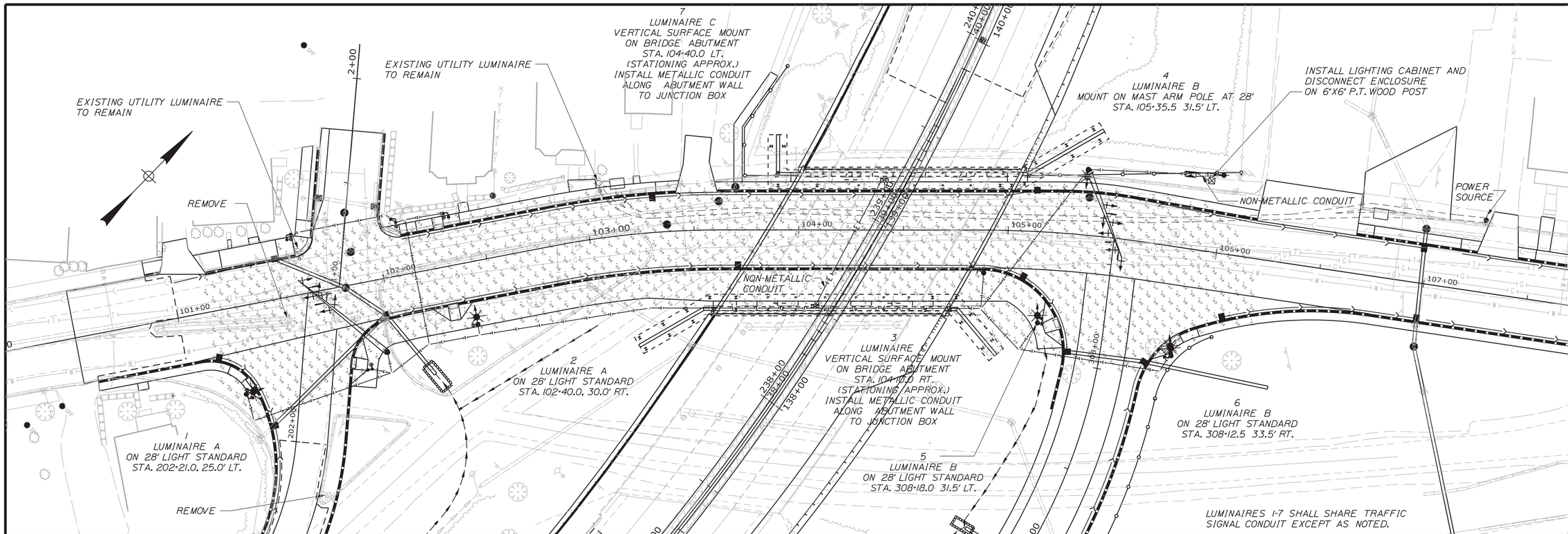
		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	RBM	WAD	2/20
CHECKED-REVIEWED	ARG	DSS	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

INTERSTATE 295 OVER VERANDA STREET
PORTLAND CUMBERLAND COUNTY

INTERCONNECT PLAN

SHEET NUMBER
158
OF 220

Filename: 158_Interconnect_Plan.dgn Division: Username: Date:3/3/2020



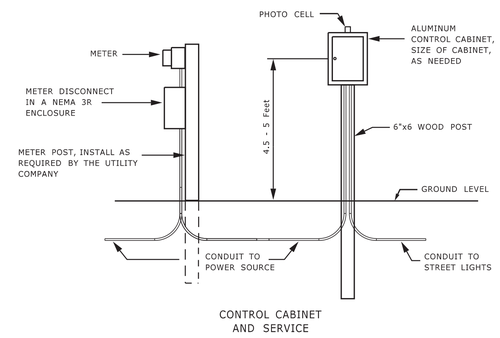
Statistics

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
NB Off-Ramp Intersection	+	0.7 fc	1.3 fc	0.3 fc	4.3:1	2.3:1
SB On-Ramp Intersection	+	0.7 fc	1.1 fc	0.3 fc	3.7:1	2.3:1
Under-Bridge Lighting	+	0.7 fc	1.6 fc	0.4 fc	4.0:1	1.8:1
Sta. 102+60 to Bridge (existing)	+	0.5 fc	0.9 fc	0.2 fc	4.5:1	2.5:1
Olympia St. Intersection (existing)	+	0.3 fc	0.8 fc	0.1 fc	8.0:1	3.0:1
Oregon St. Intersection (existing)	+	0.1 fc	0.2 fc	0.0 fc	N/A	N/A
Martin's Point Intersection (existing)	+	1.0 fc	2.3 fc	0.1 fc	23.0:1	10.0:1

SCALE

25 0 25 50

Scale of Feet



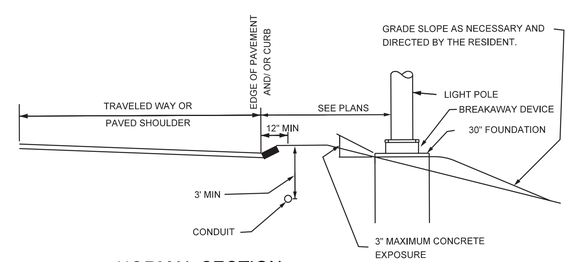
CONTROL CABINET AND SERVICE

LEGEND for LIGHTING

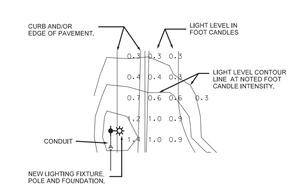
- Control Cabinet and Service
- Lighting Conduit
- JB Pull Box
- Light Fixture on a 28 Foot Pole and 30" Foundation
- Direction of Luminaire
- Existing Light Fixture on Wood Pole

Schedule

Symbol	Label	Quantity	Manufacturer	Catalog Number	Description	Lamp	Number Lamps	Filename	Lumens Per Lamp	Light Loss Factor	Wattage
	A	2	American Electric Lighting	ATB0 20BLEDE53 MVOLT R3 4K BK X X UMR-XX AO	ATB0 SERIES LED 525MA TYPE 3 4000K CCT	LED Array	1	ATB0_20BLE DE53_XXXXX_ R3_4K_5K.ies	4704	0.85	36
	B	3	American Electric Lighting	ATB0 20BLEDE53 MVOLT R2 4K BK X X UMR-XX AO	ATB0 SERIES LED 525MA TYPE 2 4000K CCT	LED Array	1	ATB0_20BLE DE53_XXXXX_ R2_4K_5K.ies	4638	0.85	36
	C	2	Holophane	HLWPC2 P10 40K XX T2M BKSDP 70CRI AO DF TP	Wallpack Full Cutoff LED, Performance Package P10, 4000K CCT, Auto-Sensing Voltage, Type II Medium	LED	1	HLWPC2_P10 _40K_XX_ T2M.ies	3110	0.85	28



NORMAL SECTION



KEY TO PLAN

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO. 5933

BRIDGE PLANS

STATE OF MAINE ALBERT L. GODFREY No. 4226 PROFESSIONAL ENGINEER

	4226	P.E. NUMBER
		2/24/20
		DATE

	TRC	BY	DATE
PROJ. MANAGER			
DESIGN-DETAILED	ALG	JLE	11-19
CHECKED-REVIEWED	ALG		11-19
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

INTERSTATE 295 OVER VERANDA STREET

PORTLAND CUMBERLAND COUNTY

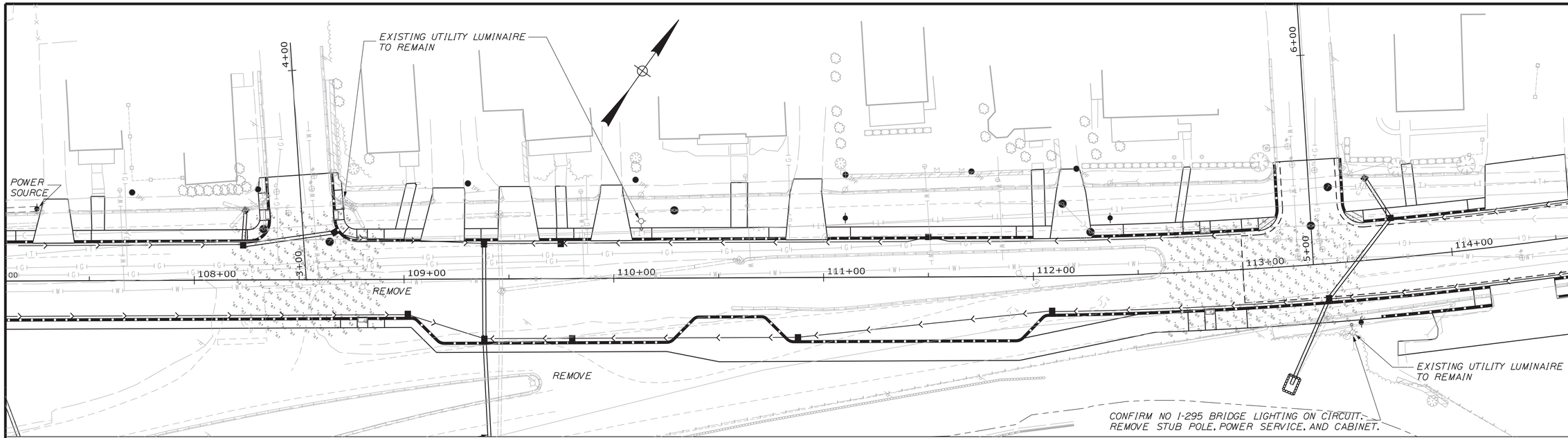
LIGHTING PLAN 1

SHEET NUMBER

159

OF 220

Filename: ...\159_LightingPlan_01.dgn Division: HIGHWAY Username: common Date:3/3/2020



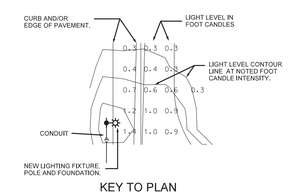
LEGEND for LIGHTING

- Control Cabinet and Service
- Lighting Conduit
- JB Pull Box
- Light Fixture on a 28 Foot Pole and 30" Foundation
  - Direction of Luminaire
- Existing Light Fixture on Wood Pole

SCALE

25 0 25 50

Scale of Feet



KEY TO PLAN

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO. 5933

BRIDGE PLANS

STATE OF MAINE ALBERT L. GODFREY No. 4226 PROFESSIONAL ENGINEER

SIGNATURE		
4226		
P.E. NUMBER		
2/24/20		
DATE		

PROJ. MANAGER		TRC	BY	DATE
DESIGN-DETAILED	ALG		JLE	11-19
CHECKED-REVIEWED	ALG			11-19
DESIGN2-DETAILED2				
DESIGN3-DETAILED3				
REVISIONS 1				
REVISIONS 2				
REVISIONS 3				
REVISIONS 4				
FIELD CHANGES				

INTERSTATE 295 OVER VERANDA STREET

PORTLAND CUMBERLAND COUNTY

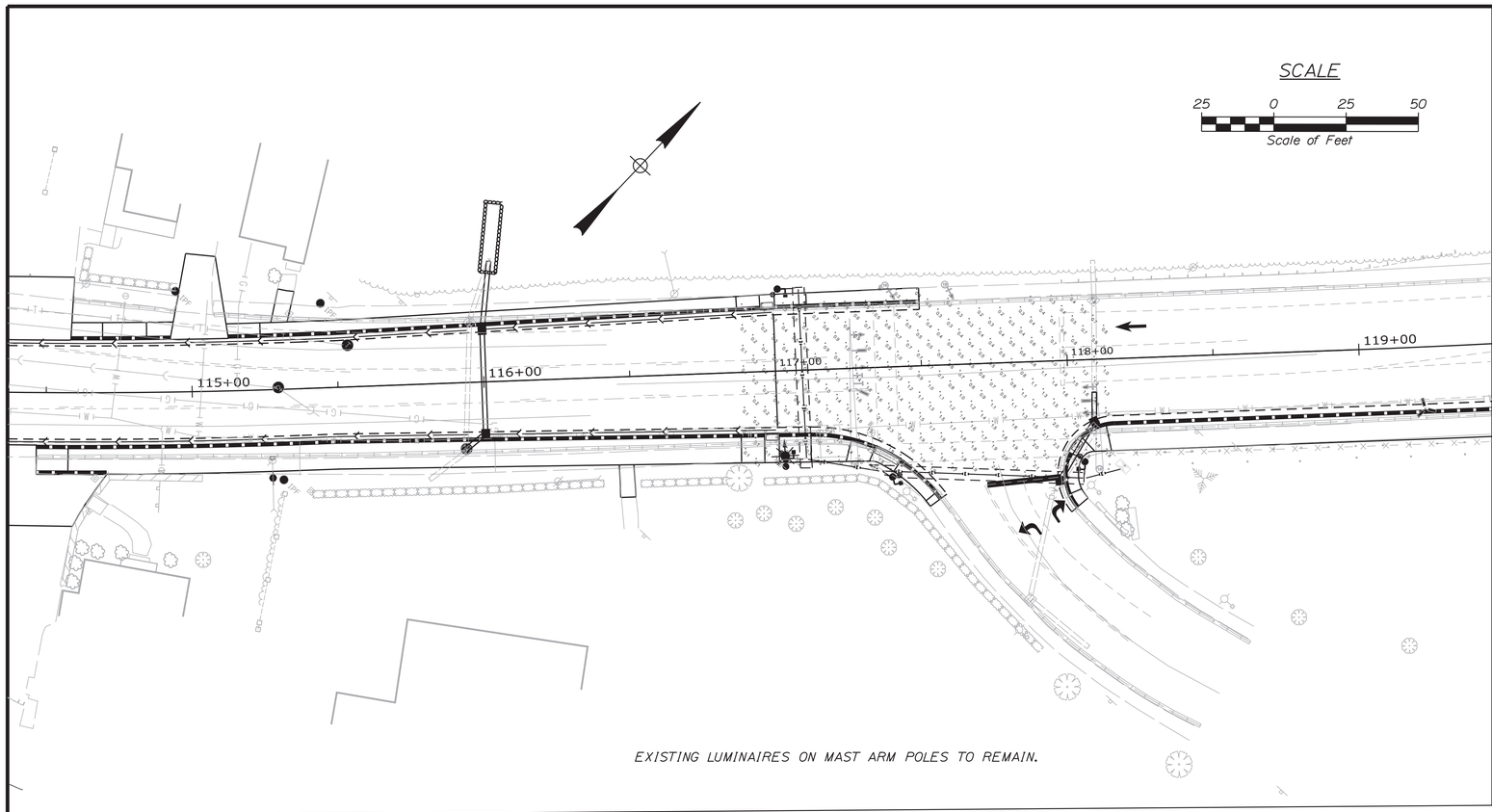
LIGHTING PLAN 2

SHEET NUMBER

160

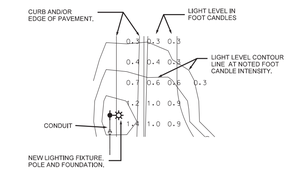
OF 220

Filename: ...\160_LightingPlan_02.dgn Division: HIGHWAY Username: common Date:3/3/2020



LEGEND for LIGHTING

- Control Cabinet and Service
- Lighting Conduit
- JB Pull Box
- Light Fixture on a 28 Foot Pole and 30" Foundation
- Direction of Luminaire
- Existing Light Fixture on Wood Pole



KEY TO PLAN

VERANDA STREET LIGHTING GENERAL NOTES

1. SCOPE OF WORK - INSTALL LIGHTING AS SHOWN ON THESE PLANS. POWER SERVICE WILL BE SHARED WITH PROPOSED TRAFFIC AND PEDESTRIAN SIGNALS. INSTALL CONTROL CABINETS, CONDUIT, WIRING, FOUNDATIONS, POLES, L.E.D. LUMINAIRES AND RELATED HARDWARE.

2. ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO APPLICABLE PROVISIONS OF THE MAINE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS AND STANDARD DETAILS, NATIONAL ELECTRICAL CODE AND ANY REQUIREMENTS OF THE POWER COMPANY.

3. THE CONTRACTOR SHALL FIELD VERIFY LIGHTING POLE LOCATIONS TO AVOID NATURAL AND BUILT SITE FEATURES THAT WOULD CONFLICT WITH PROPER INSTALLATION OF FOUNDATIONS.

4. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING TO ENSURE AWARENESS OF SITE CONDITIONS THAT COULD AFFECT THE BID.

5. LOCATIONS OF ANY EXISTING UNDERGROUND UTILITIES SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE PRESENCE OF UNDERGROUND UTILITY FACILITIES PRIOR TO COMMENCING ANY EXCAVATION WORK OR INSTALLATION OF POLES, FOUNDATIONS, CONDUIT, JUNCTION BOXES OR OTHER WORK INVOLVING SUBSURFACE DISTURBANCE AND SHALL NOTIFY UTILITIES OF PROPOSED WORK IN ACCORDANCE WITH MRSA TITLE 23 SECTION 3360-A, MAINE "DIG SAFE" SYSTEM. CONTRACTOR SHALL CONTACT DIG SAFE AT LEAST THREE WORKING DAYS PRIOR TO THE BEGINNING OF EXCAVATION. ALL UTILITIES SHALL BE LOCATED BEFORE BEGINNING EXCAVATION.

6. THE CONTRACTOR SHALL NOTIFY UTILITY COMPANIES AT LEAST 48 HOURS BEFORE ANY OPERATIONS ARE CONDUCTED THAT POTENTIALLY COULD CONFLICT WITH AERIAL UTILITIES.

7. INSTALL LIGHTING CONTROL CABINET AT LOCATION SHOWN ON THE PLANS. CABINET AT STATION 105+93 LT SHALL BE A MULTI-CIRCUIT CABINET. LUMINAIRES 1 THROUGH 4 WILL BE ON CIRCUIT 1. LUMINAIRES 5 THROUGH 7 WILL BE ON CIRCUIT 2.

8. POWER SUPPLY TO LIGHTING CABINETS SHALL BE 120/240V, SINGLE-PHASE, THREE WIRE. THE CONTRACTOR SHALL INSTALL A METER DISCONNECT IN A SEPARATE NEMA 3R ENCLOSURE WITH LIGHTING CABINET. CABINET AND DISCONNECT ENCLOSURE SHALL BE LOCKABLE. EACH SHALL BE MARKED WITH ARC HAZARD TYPE 1, 2, 3 OR 4 AND THE APPROPRIATE PPE REQUIRED.

9. ALL LIGHTING CIRCUITS ARE TO BE PHOTOCELL ACTIVATED BY A PHOTOCELL MOUNTED ON LIGHTING CONTROL CABINET.

10. FIXTURE VOLTAGE SHALL BE 120 VOLTS.

11. CONDUIT NOT UNDER PAVEMENT SHALL BE 3 INCH MINIMUM. PVC SCHEDULE 40. CONDUIT UNDER PAVEMENT SHALL BE 3 INCH MINIMUM SCHEDULE 80 PVC AND SHALL BE INSTALLED BY DIRECTIONAL BORING. MINIMUM BURIAL DEPTH FOR CONDUIT SHALL BE 36". TOP 3 INCHES OF CONDUIT SHALL BE SEALED TO PREVENT ENTRY BY RODENTS.

12. ALL EXPOSED STEEL FITTINGS AND HARDWARE SHALL BE GALVANIZED, EXCEPT NON-CONDUCTIVE BUSHINGS SHALL BE USED FOR CONNECTION OF RIGID METAL CONDUIT TO ALUMINUM CABINETS.

13. PULL WIRE SHALL BE INSTALLED IN ALL CONDUIT.

14. ALL CONDUIT THREADS SHALL BE RED-HEADED.

15. THERE SHALL BE NO SPLICES OR JUNCTION BOXES FOR LIGHTING EXCEPT AS NOTED ON THE PROJECT PLANS OR APPROVED BY THE RESIDENT. JUNCTION BOXES ARE INTENDED FOR WIRE PULLING ACCESS ONLY. ESTIMATED QUANTITIES INCLUDE AN ALLOWANCE FOR INSTALLATION OF ITEM 626.11. PRECAST CONCRETE JUNCTION BOX, AT UNDETERMINED LOCATIONS.

16. JUNCTION BOX COVERS SHALL BE LABELED "TRAFFIC" AND SHALL BE GROUNDED.

17. ALL SECONDARY LIGHTING CIRCUIT WIRING SHALL BE #8 AWG OR LARGER XHHW-2 STRANDED COPPER.

18. FOUNDATIONS FOR LIGHT STANDARDS SHALL BE 30 INCHES IN DIAMETER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CALCULATION OF POLE BASE REACTIONS AT THE TOP OF FOUNDATION IN ACCORDANCE WITH THE LATEST REVISION OF AASHTO "LRFD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS" AND THE LATEST REVISION OF MAINEDOT STANDARD SPECIFICATIONS SECTION 634. FOUNDATION LENGTHS SHALL BE DETERMINED FROM SECTION 626 CHARTS IN THE MAINEDOT STANDARD DETAILS BASED ON THE CALCULATED BASE REACTIONS FOR BENDING MOMENT AND TORSION AND ON SPECIFIED SOIL STRENGTH VALUES. FOR POLES 1 AND 2, SOIL SU SHALL BE ASSUMED TO BE 600 PSF. FOR ALL OTHER LIGHTING POLE FOUNDATIONS, SOIL SU SHALL BE ASSUMED TO BE 400 PSF.

19. ALL LIGHTING FOUNDATIONS SHALL HAVE A GROUND ROD LOCATED IN OR ADJACENT TO THE FOUNDATION THAT IS BONDED TO THE GROUNDING CONDUCTOR. PAYMENT FOR THE GROUND ROD SHALL BE INCLUDED IN ITEM 634.160, HIGHWAY LIGHTING.

20. ALL LIGHTING EQUIPMENT SHALL BE BONDED TO THE GROUNDING CONDUCTOR.

21. POLE OFFSETS STATED ON THE PLANS ARE TO THE CENTER OF FOUNDATIONS.

22. IF STRUCTURAL ROCK IS ENCOUNTERED DURING INSTALLATION OF FOUNDATIONS, PAYMENT FOR EXCAVATION AND DOWELING REINFORCING INTO ROCK SHALL BE CONSIDERED INCIDENTAL TO FOUNDATION ITEMS.

23. LIGHT STANDARDS SHALL BE 28' ROUND TAPERED ALUMINUM 4-BOLT ANCHOR BASE POLES. POLE BASE DIAMETER SHALL BE 8 INCHES MINIMUM. TAPER RATE SHALL BE APPROXIMATELY 0.14 IN./FT. WALL THICKNESS SHALL BE DETERMINED BY THE MANUFACTURER, SUBJECT TO APPROVAL OF MAINEDOT, BASED ON CALCULATIONS DONE IN ACCORDANCE WITH THE LATEST REVISION OF AASHTO "LRFD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS". LIGHT STANDARDS SHALL BE POLYESTER POWDER-COATED BLACK.

24. LIGHT STANDARDS SHALL HAVE DECORATIVE CAST ALUMINUM CLAMSHELL BASES. VALMONT 'HUNTINGTON ACI' STYLE, MODEL NUMBER HN24AC, OR APPROVED EQUAL. BASES SHALL BE POLYESTER POWDER-COATED BLACK.

25. ALL LIGHTING FIXTURES SHALL BE GASKETED, AND SHALL HAVE SURGE PROTECTION. A DOUBLE FUSE KIT, AND ADJUSTABLE OUTPUT. FIXTURES SHALL BE POLYESTER POWDER-COATED BLACK.

26. LIGHTING FIXTURES ON CONVENTIONAL LIGHT STANDARDS AND TRAFFIC SIGNAL MAST ARM POLES SHALL BE ATTACHED WITH A MINIMUM LENGTH HORIZONTAL TENON AT THE TOP OF LIGHT POLE OR MAST ARM POLE COLUMN. TENON SHALL BE 2 INCH NOMINAL DIAMETER. MOUNTING HEIGHT SHALL BE 29' ABOVE ROAD GRADE, UNLESS OTHERWISE NOTED. ORIENTATION SHALL BE AS INDICATED ON THE PLANS.

27. LUMINAIRES ON CONVENTIONAL LIGHT STANDARDS AND TRAFFIC SIGNAL MAST ARM POLES SHALL BE IES FULL CUTOFF LIGHT EMITTING DIODE (LED) FIXTURES, IES DISTRIBUTION TYPES 2 AND 3 AS NOTED ON THE PLANS. LED MODULES SHALL BE IP66 RATED. LUMINAIRES SHALL BE AMERICAN ELECTRIC LIGHTING 'AUTOBAHN' SERIES ATB0 FIXTURES, DISTRIBUTION TYPES AS NOTED IN THE LUMINAIRE SCHEDULE. CATALOG NUMBERS: ATB0 20BLEDE53 MVOLT R2 4K BK X X UMR-XX AO AND ATB0 20BLEDE53 MVOLT R3 4K BK X X UMR-XX AO.

28. SECURELY ATTACH UNDER-BRIDGE WALL PACK LIGHTING UNITS TO STANDARD EXTERIOR WET LOCATION RATED WALL-MOUNT TYPE ELECTRICAL JUNCTION BOXES INSTALLED ON THE VERTICAL FACE OF THE BRIDGE ABUTMENT CLOSEST TO THE LOCATION STATED ON THE LIGHTING PLAN. MOUNTING HEIGHT 16'.

29. INSTALL PRECAST CONCRETE JUNCTION BOXES IN NEW SIDEWALK AT THE BASE OF THE BRIDGE ABUTMENT WALLS FOR WIRING TO THE UNDER-BRIDGE WALL PACK UNITS.

30. ABOVE-GROUND CONDUIT FOR WALL PACK UNITS SHALL BE 3/4" DIAMETER CONDUIT SECURELY ATTACHED TO THE FACE OF THE BRIDGE ABUTMENTS.

31. UNDER-BRIDGE LIGHTING WALL PACK UNITS SHALL BE HOLOPHANE WALLPACK FULL CUTOFF LED FIXTURES. CATALOG NUMBER HLWPC2 P10 40K X T2M BKSDP 70CRI AO DF TP OR APPROVED EQUAL.

32. UNDER-BRIDGE LIGHTING UNITS SHALL BE WET LOCATION LISTED. LIGHT ENGINE HOUSING SHALL BE IP66 RATED. UNITS SHALL BE RATED FOR -40 DEGREES FAHRENHEIT MINIMUM AMBIENT TEMPERATURE. LIGHTING COLOR TEMPERATURE SHALL BE 4000K. OPTICS SHALL BE TYPE 2 MEDIUM DISTRIBUTION. HOUSINGS SHALL HAVE BLACK THERMOSET POWDERCOAT FINISH AND HAVE TAMPER RESISTANT HARDWARE. UNITS SHALL BE DOUBLE FUSED. UNITS SHALL HAVE 20KV/10KA SURGE PROTECTION OR BETTER.

33. ALL FIELD WIRING SHALL BE NEATLY BUNDLED AND CLEARLY IDENTIFIED WITH PERMANENT, LEGIBLE, WEATHERPROOF TAGS SECURELY ATTACHED TO EACH CABLE.

34. THE MAINTENANCE OF HIGHWAY LIGHTING SHALL REMAIN THE RESPONSIBILITY OF THE CONTRACTOR UNTIL FINAL ACCEPTANCE BY MAINEDOT.

35. UPON COMPLETION OF THIS PROJECT, THE CONTRACTOR SHALL FURNISH TO MAINEDOT A SET OF AS-BUILT LIGHTING PLANS FOR FUTURE REFERENCE AND SYSTEM MAINTENANCE.

36. PAYMENT UNDER ITEM 634.160, HIGHWAY LIGHTING WILL INCLUDE ALL MATERIALS, LABOR AND EQUIPMENT NECESSARY TO PROVIDE A FULLY FUNCTIONING LIGHTING SYSTEM, EXCEPT THOSE ITEMS TO BE PAID UNDER OTHER RELATED BID ITEMS IN THE CONTRACT.

37. PAYMENT UNDER ITEM 634.210, CONVENTIONAL LIGHT STANDARD, WILL INCLUDE, BUT NOT BE LIMITED TO, THE POLE, DECORATIVE BASE, ANCHOR BOLTS, TENON FOR FIXTURE ATTACHMENT, BREAKAWAY BASE IF REQUIRED, AND ALL REQUIRED INCIDENTALS.

38. PAYMENT FOR THE UNDER-BRIDGE WALL PACK LIGHTING UNITS WILL BE MADE UNDER ITEM 634.2042 LED LUMINAIRE. PAYMENT FOR CONDUIT WILL BE MADE UNDER APPLICABLE SECTION 626 ITEMS. PAYMENT FOR PRECAST CONCRETE JUNCTION BOXES WILL BE MADE UNDER ITEM 626.11. PAYMENT FOR WIRING, SURFACE-MOUNT ELECTRICAL JUNCTION BOX, AND ALL WORK AND INCIDENTALS NECESSARY TO PROVIDE FULLY FUNCTIONING UNDER-BRIDGE LIGHTING, EXCEPT FOR WORK AND MATERIALS COVERED BY OTHER PAY ITEMS OF THE CONTRACT, WILL BE MADE UNDER ITEM 634.160 HIGHWAY LIGHTING.

39. REMOVAL OF EXISTING HIGHWAY LIGHTING WILL BE INCIDENTAL TO ITEM 634.160.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO. 5933

BRIDGE PLANS

STATE OF MAINE ALBERT L. GODFREY No. 4226 PROFESSIONAL ENGINEER

SIGNATURE	
4226	
P.E. NUMBER	
2/24/20	
DATE	

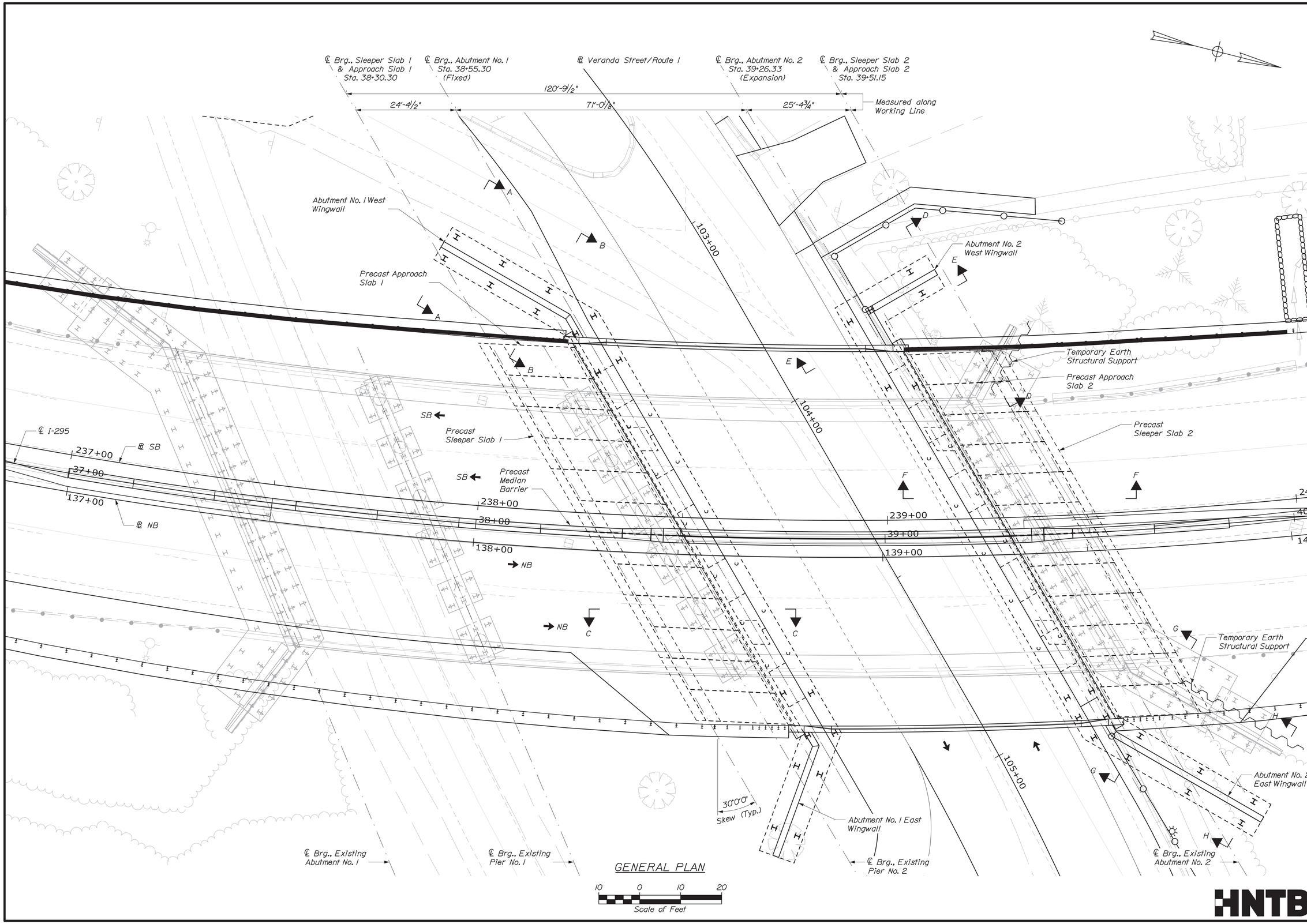
PROJ. MANAGER	TRC	BY	DATE
DESIGN-DETAILED	ALG	JLE	11-19
CHECKED-REVIEWED	ALG		11-19
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

LIGHTING PLAN 3

SHEET NUMBER
161
OF 220

Filename: ...\161_LightingPlan_03.dgn Division: HIGHWAY Username: common Date:3/3/2020



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

SIGNATURE

P.E. NUMBER

DATE

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	HJW	ERB	2\20
CHECKED-REVIEWED	NMW	TRC	2\20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

BRIDGE GENERAL PLAN

SHEET NUMBER
162
OF 220

Date:3/3/2020
Username:
Division:
Filename: 162_Bridge General Plan.dgn

The following information is provided for the Contractor's reference. The notes, work items and construction sequencing presented are general in nature and intended only to convey the general scope and sequence of work. The development of a final construction approach, sequence and workflow will be the sole responsibility of the Contractor.

A. GENERAL NOTES

A1. The existing bridge shall not be closed until the compressive test results for the structural concrete placed prior to the lateral slide demonstrate the concrete has reached the specified minimum values.

A2. The Contractor shall survey the top elevation of the abutments and clearly establishing working points, working lines, and benchmark elevations prior to performing the lateral slide.

A3. The superstructure shall be constructed on Temporary Abutment Falsework designed to fully support the superstructure under dead load, construction loading, snow and wind loads, and all other loadings anticipated prior to completion of the lateral slide. The falsework design shall include methods for adjusting the elevation of the slide surface to correct for settlement that may occur prior to the slide. See Special Provisions for additional information.

A4. The Temporary Abutment Falsework design and details shall be prepared by a Professional Engineer licensed in the State of Maine and shall be submitted for review no fewer than 45 calendar days prior to beginning erection of the Temporary Abutment Falsework.

A5. The connection between the Upper Portion of the proposed abutment and the Temporary Abutment Falsework shall be designed as a temporarily rotationally fixed connection. This connection shall be rotationally fixed at all times after placement of the Upper Abutment Portion except during the following times:

-The duration of the test lateral slide procedure.
-The duration of the permanent lateral slide procedure.

In advance of the above two procedures the bridge bearings shall be converted to their temporary rotationally fixed configuration immediately prior to releasing the rotational fixity between the Upper Portion of the proposed abutment and the Temporary Abutment Falsework.

A6. The closure of I-295 within the defined project limits is expected to last up to 60 hours to allow for the rapid demolition of the existing bridge, slide-in of the proposed structure, and completion of approach work. The closure of Veranda Street within the defined project limits is permitted to last up to five calendar days to allow for the mobilization of equipment and stockpiling of materials immediately prior to the lateral slide, completion of the lateral slide, and demobilization of equipment and removal of materials immediately following the lateral slide. See Special Provision 107 for additional information.

A7. Contractor shall provide a critical path method (CPM) schedule for all pre-closure, closure, and post-closure activities showing how the activities will be managed on the construction site. Many of the required construction activities can run concurrently to other activities. The Contractor is alerted that many construction activities will require overlapping access.

B. PRE-CLOSURE CONSTRUCTION SEQUENCE

B1. The following is a generalized anticipated construction sequence for the pre-closure, closure, and post-closure activities.

B2. Remove existing Veranda Street drainage beneath proposed Abutment 1 and install temporary and\or permanent drainage measures required to maintain drainage during construction. Install temporary pavement required to accommodate construction phasing and maintenance of traffic on Veranda Street.

B3. Adjust Veranda Street traffic pattern and install temporary concrete barrier, as necessary, to accommodate Contractor's work zone.

B4. Install foundation piles and construct abutment foundations, lower portions of abutment, and wingwalls beneath existing bridge as shown on the plans.

B5. Construct Temporary Structural Supports to retain roadway embankment at existing Abutment No. 2 wingwalls and remove portions of existing Abutment 2 wingwalls to the limits shown on the plans.

B6. Erect Temporary Structural Supports (Temporary Abutment Falsework) east of the existing bridge. The temporary structural supports shall be of sufficient length to allow for the completion of a trial slide as specified in the project Special Provisions.

B7. Revise traffic patterns on Veranda Street to locate both bounds of traffic, and the sidewalk, beneath the northerly span of the existing bridge.

B8. Excavate for Geofoam Lightweight Fill under the two southern spans of the existing bridge. Place Geofoam Lightweight Fill, Leveling Sand, HDPE Geomembrane, Lightweight Foam Concrete Fill, and Lightweight Foam Concrete Distribution Slabs to the limits shown on the plans. Backfill behind the proposed substructures, and around the existing pier bents, with Lightweight Foam Concrete Fill to the specified elevations.

B9. Construct the upper portion of the abutments on the Temporary Structural Supports (Temporary Abutment Falsework), install bridge bearings and erect structural steel. Form and place the bridge deck, semi-integral backwall, and concrete barriers. Apply High Performance Waterproofing Membrane to the bridge deck.

B10. Conduct a trial slide as defined in the Special Provisions and return the superstructure to the pre-trial slide position.

B11. Install detour signage and mobilize PCMS boards and traffic control devices in advance of the roadway closure. Pre-program existing signal systems with temporary signal timings (provided by others) for activation during the roadway closure period.

C. CLOSURE PERIOD CONSTRUCTION SEQUENCE

C1. Implement Veranda Street Detour and close Veranda Street. Mobilize equipment and stockpile materials necessary to complete the work. Install protective sheeting, matting or other materials over the Veranda Street Roadway to protect the pavement surface during demolition activities.

C2. Implement the I-295 Detour, activate temporary signal timing, and close I-295.

C3. Demolish the existing bridge superstructure, demolish portions of the existing substructure, remove existing median barrier, and excavate I-295 approaches to the limits shown on the plans.

C4. Laterally slide the proposed superstructure into its final position. Complete the bolted connection between the upper and lower portions of the abutments.

C5. Place and compact granular fill in the vicinity of the proposed sleeper slabs, fine grade and place the sleeper slabs. Install the precast sleeper slabs and the precast approach slabs.

C6. Release the bridge bearings from their temporarily fixed condition.

C7. Place Aggregate Subbase Course Gravel on the approaches to the bottom of pavement elevation.

C8. Place approach median barriers on I-295.

C9. Place base pavement on I-295 approaches and bridge.

C10. Install temporary concrete barrier and crash cushions on I-295 at interface between existing and proposed median barrier, and along approaches in place of permanent guardrail.

C11. Open I-295 and Veranda Street to traffic. At Contractor's option, Veranda Street may remain closed for an additional length of time as allowed in the Contract Specifications.

C12. Remove or cover Veranda Street and I-295 detour signage and PCMS boards. Deactivate the temporary signal timing.

POST-CLOSURE CONSTRUCTION SEQUENCE

D1. Cast closure placement between upper and lower portions of the abutments. Remove temporary diaphragms.

D2. Construct wingwalls to final lengths and top elevations as required.

D3. Demolish temporary structural supports.

D4. Backfill behind the abutments, and beneath approach slabs, with Lightweight Foam Concrete Fill. Complete construction of I-295 embankments and install guardrail and bridge transitions. Remove temporary concrete barriers from all areas, except for within the I-295 median.

D5. Apply final lift of pavement along the I-295 approaches and bridge to meet the final profile after the waiting period specified in the Contract Specifications. Install Asphaltic Plug Joints.

D6. Finish reconstruction of Veranda Street and associated intersections and side street improvements.

CLOSURE TIMEFRAME

Following is an estimated schedule for the work completed during the allowed roadway closure period. Note that some work activities occur simultaneously.

Time	Activity Start	Anticipated Duration (hours)
8:00 p.m. Friday	Close I-295	-
8:30 p.m. Friday	Begin demolition	20
4:00 p.m. Saturday	Begin lateral slide	7
8:00 p.m. Saturday	Begin placement of approach subbase and base gravel	14
4:00 p.m. Saturday	Final grade and installation of sleeper slabs	4
11:00 p.m. Saturday	Complete connection btwn. upper and lower abutments	4
3:00 a.m. Sunday	Release temporary bearing fixity connection	2
3:00 a.m. Sunday	Place approach slabs	1
9:00 a.m. Sunday	Install median barrier	5
1:00 p.m. Sunday	Place base pavement, temporary barrier, striping	10
11:00 p.m. Sunday	Re-open I-295	1
-	Schedule Float	8

Time duration for individual activities may vary. However, total closure duration shall not exceed 58.5 hours.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

BRIDGE NO.5933

WIN 021745.00

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	HJW	ERB	2\20
CHECKED-REVIEWED	NMW	TRC	2\20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS: 1			
REVISIONS: 2			
REVISIONS: 3			
REVISIONS: 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

SUGGESTED
CONSTRUCTION SEQUENCE I

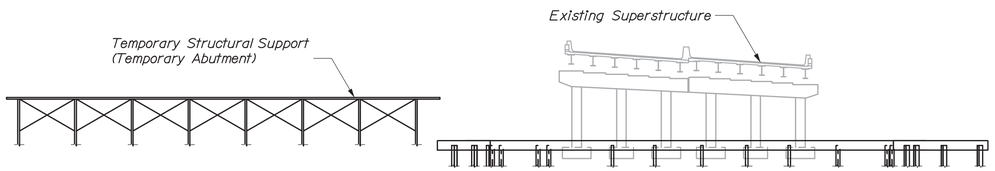
SHEET NUMBER
163
OF 220

Date:3/3/2020
Username:
Filename: 163_Suggested Construction Sequence I.dgn
Division:

NOTES:

1. All sections are looking at the face of Abutment 1.

2. See Suggested Construction Sequence 1 Sheet for general construction sequence notes and additional information.

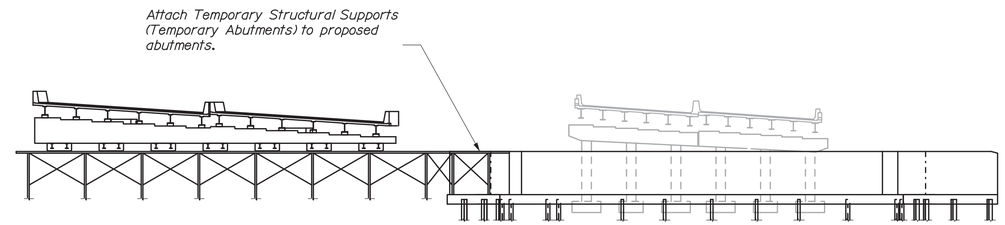


STAGE 1 (PRE-CLOSURE PERIOD)

STAGE NOTES:

1. Install proposed piles and abutment footings.

2. Erect Temporary Structural Supports (Temporary Abutments) for superstructure east of existing bridge.

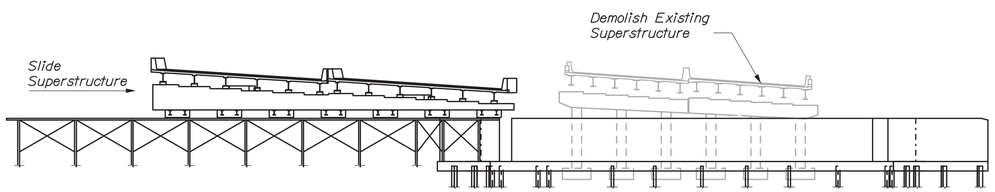


STAGE 2 (PRE-CLOSURE PERIOD)

STAGE NOTES:

1. Construct proposed upper portions of abutments and superstructure on Temporary Structural Supports.

2. Construct lower portions of abutments and wingwalls up to the slide elevation, backfill to the specified elevations.



STAGE 3 (CLOSURE PERIOD)

STAGE NOTES:

1. Detour traffic.

2. Demolish existing bridge superstructure and substructure to specified elevations.

3. Slide-in proposed superstructure.

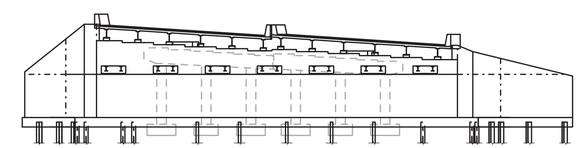
4. Connect upper and lower portions of abutments.

5. Place precast sleeper and approach slabs.

6. Remove temporary diaphragms and adjust bearing fixity to final condition.

7. Fill I-295 approaches and place base pavement.

8. Open I-295 to traffic.



STAGE 4 (POST-CLOSURE PERIOD)

STAGE NOTES:

1. Cast concrete connection between upper and lower abutment portions.

2. Install wingwalls to final elevation.

3. Pump Lightweight Concrete Foam Fill behind abutments under approach slabs.

4. Demolish Temporary Structural Supports (Temporary Abutments).

5. Complete base paving, barrier placement, and joint installation.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	HJW	ERB	2/20
CHECKED-REVIEWED	NMW	TRC	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

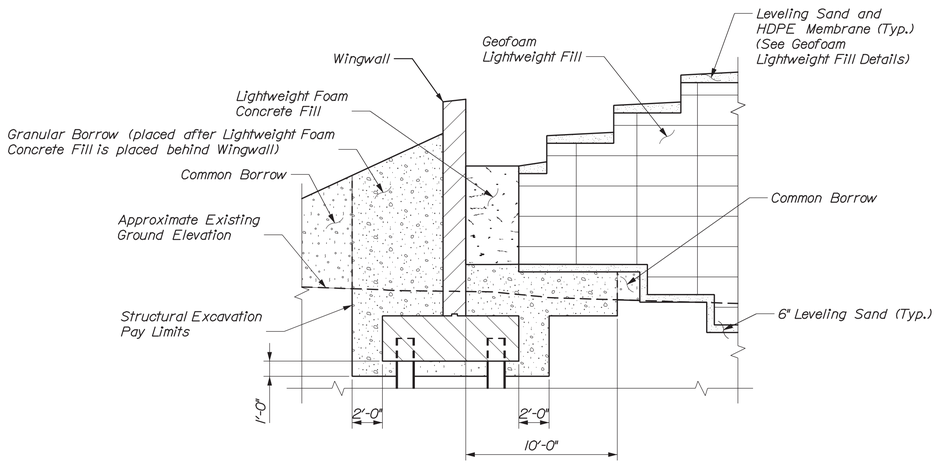
SUGGESTED
CONSTRUCTION SEQUENCE II

SHEET NUMBER

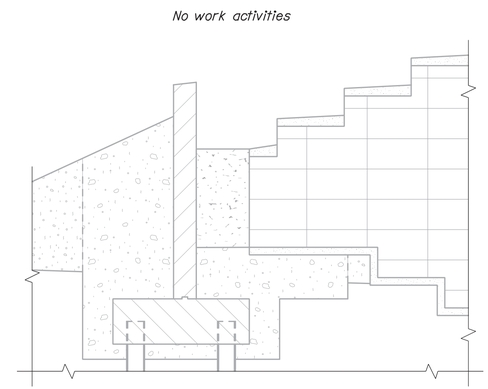
164

OF 220

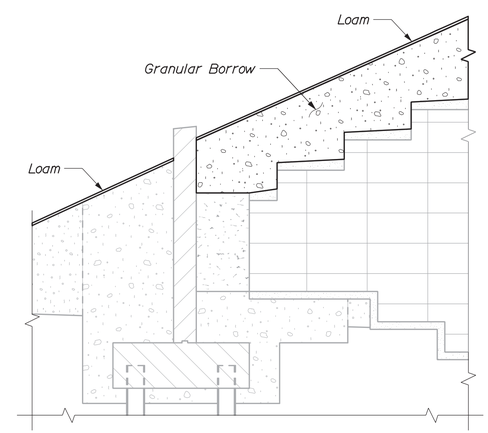
Filename: 164_Suggested Construction Sequence II.dgn Division: Username: Date:3/3/2020



SECTION A-A PRE-CLOSURE PERIOD



SECTION A-A CLOSURE PERIOD



SECTION A-A POST-CLOSURE PERIOD

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	HJW	ERB	2\20
CHECKED-REVIEWED	AES	TRC	2\20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

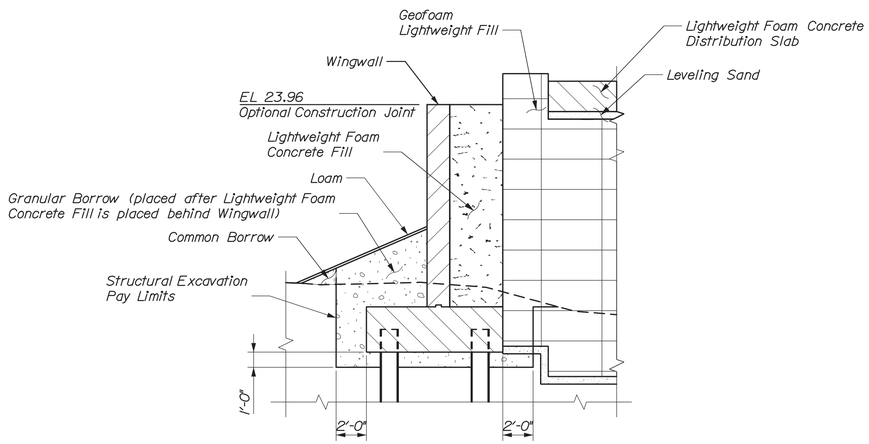
ABUTMENT AND WINGWALL
SECTIONS I

SHEET NUMBER

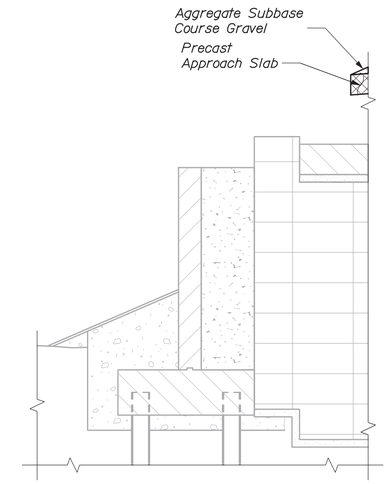
165

OF 220

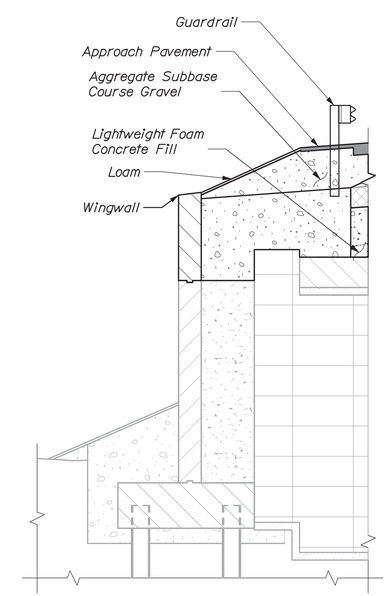
Filename: 165_Construction Sections I.dgn Division: Username: Date:3/3/2020



SECTION B-B PRE-CLOSURE PERIOD



SECTION B-B ABC PERIOD



SECTION B-B POST-ABC PERIOD

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

SIGNATURE

P.E. NUMBER

DATE

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	HJW	ERB	2/20
CHECKED-REVIEWED	AES	TRC	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

ABUTMENT AND WINGWALL
SECTIONS II

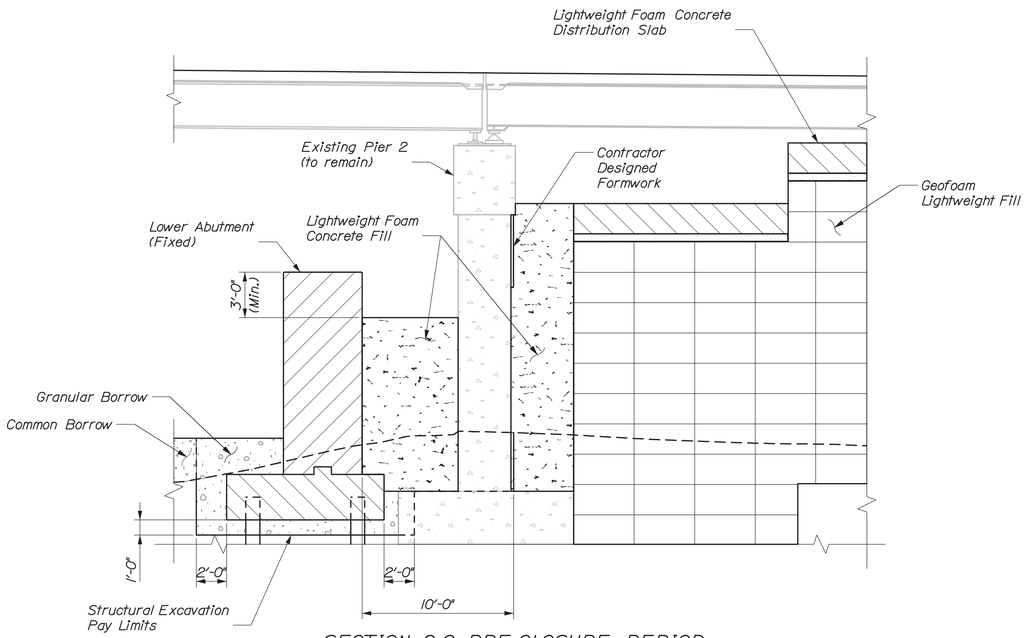
SHEET NUMBER
166
OF 220

Filename: 166_Construction Sections II.dgn Division: Username: Date:3/3/2020

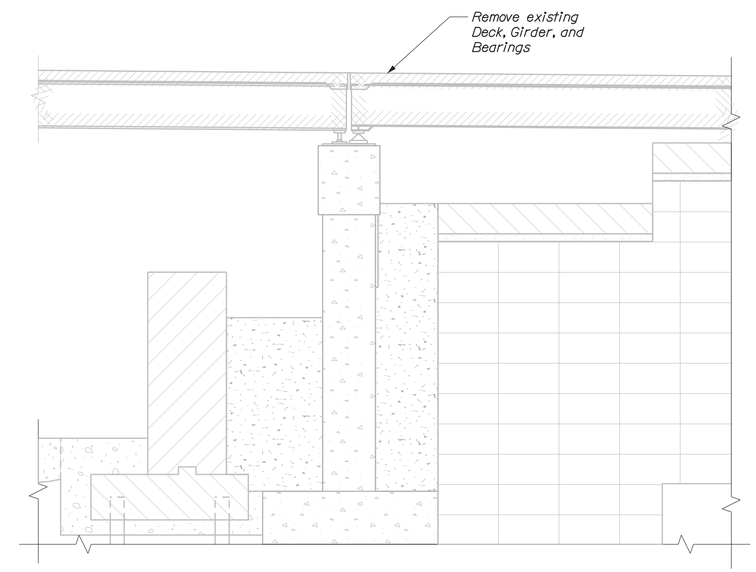
NOTES:

1. Granular borrow material may be replaced with aggregate subbase course gravel.

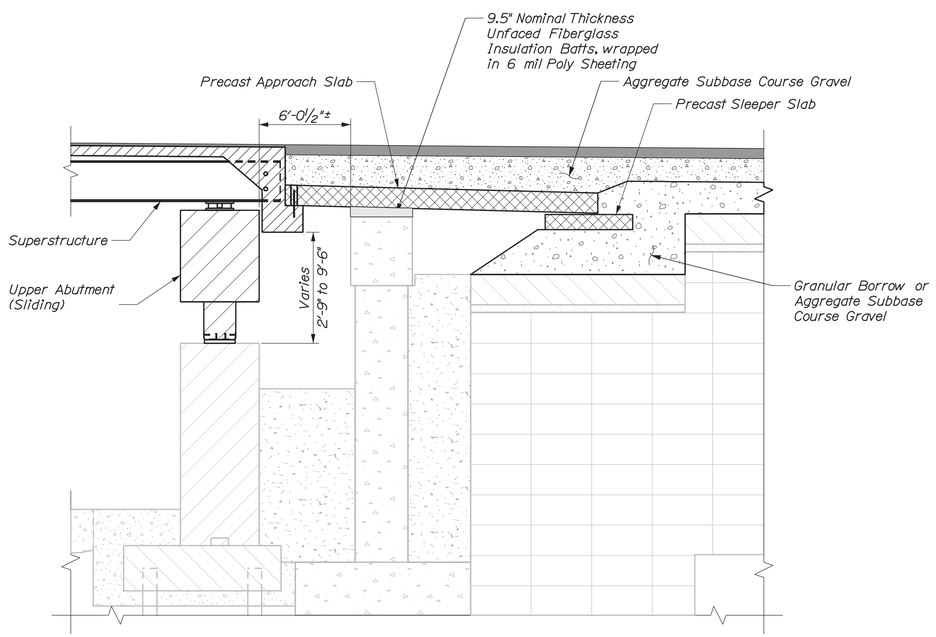
2. Unfaced Fiberglass Insulation Batts and Poly Sheeting placed over the existing pier will be incidental to Pay Item 534.7601 - Precast Approach Slab.



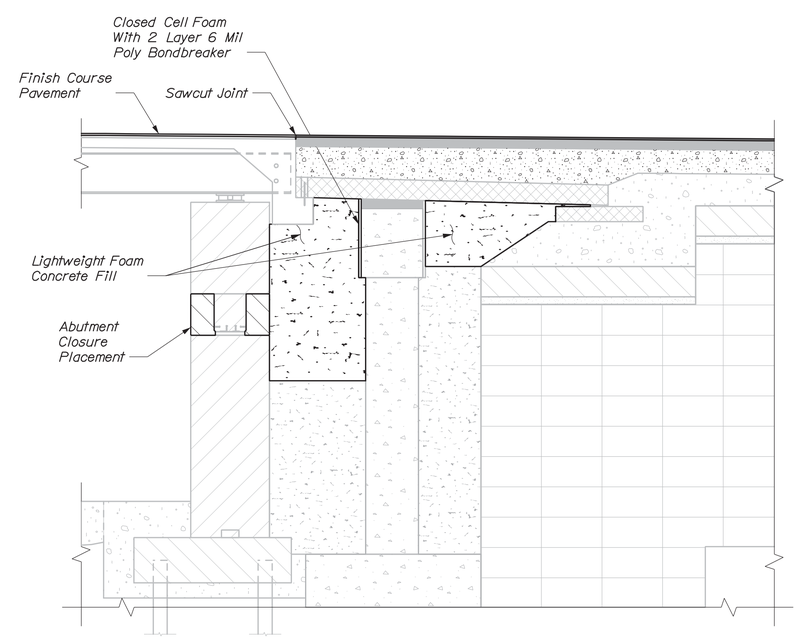
SECTION C-C PRE-CLOSURE PERIOD



SECTION C-C CLOSURE PERIOD, DEMOLITION



SECTION C-C CLOSURE PERIOD, AFTER DEMOLITION



SECTION C-C POST-CLOSURE PERIOD

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	HJW	ERB	2/20
CHECKED-REVIEWED	AES	TRC	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

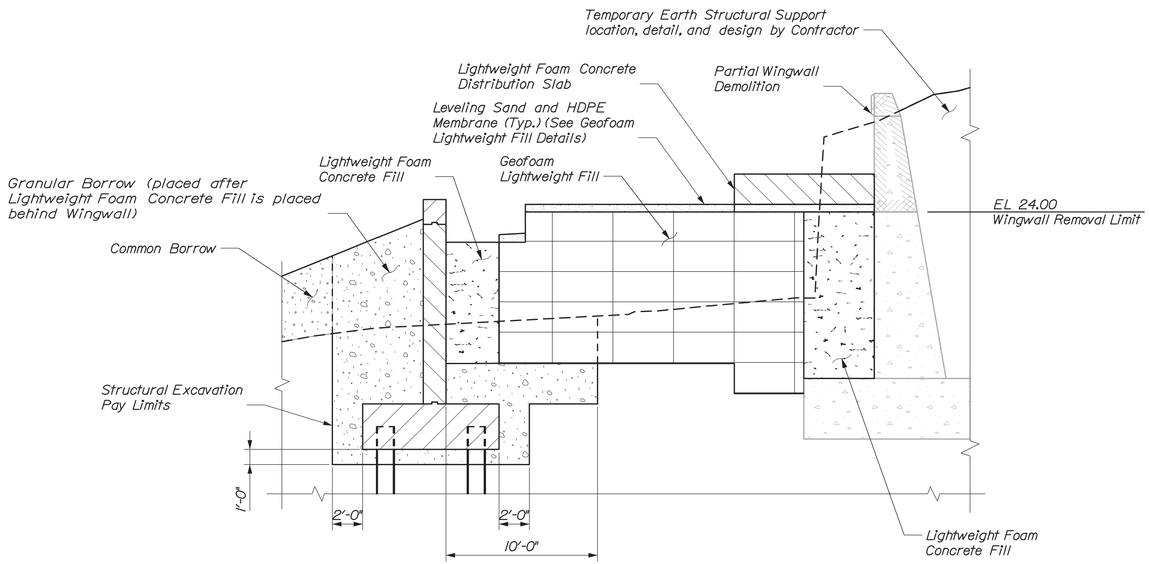
DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

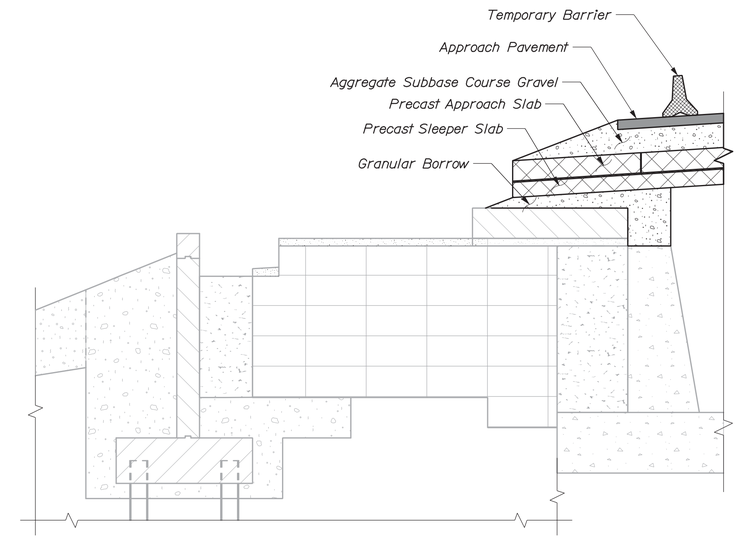
ABUTMENT AND WINGWALL
SECTIONS III

SHEET NUMBER
167
OF 220

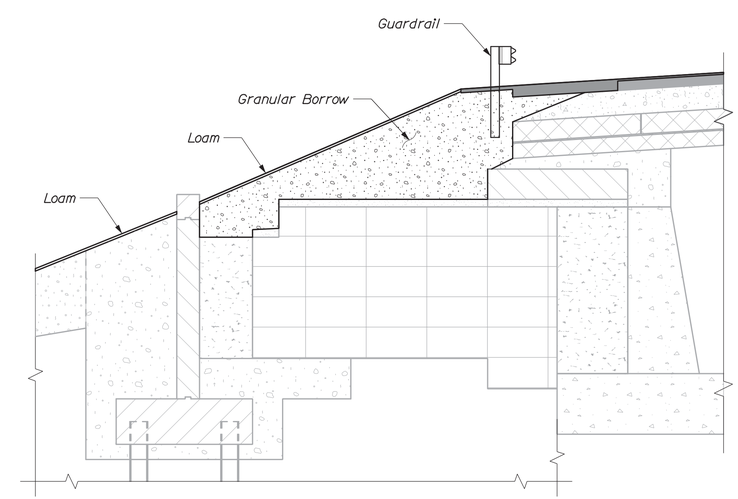
Date:3/3/2020 Username: Division: Filename: 167_Construction Sections III.dgn



SECTION D-D PRE-CLOSURE PERIOD



SECTION D-D CLOSURE PERIOD



SECTION D-D POST-CLOSURE PERIOD

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

SIGNATURE

P.E. NUMBER

DATE

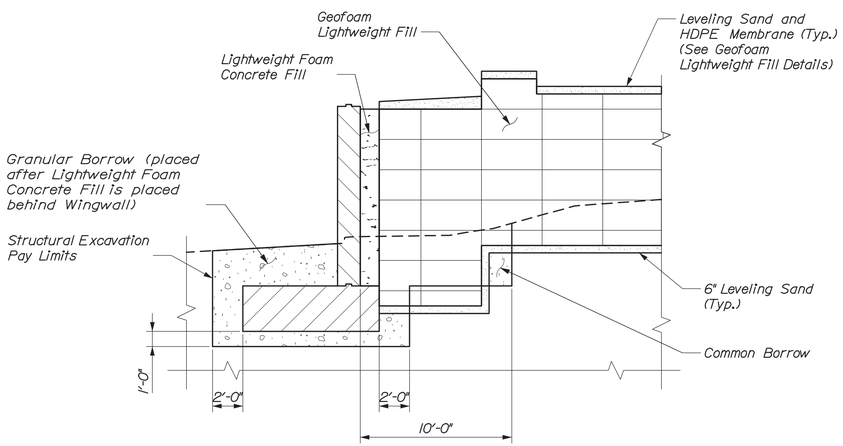
		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	HJW	ERB	2/20
CHECKED-REVIEWED	AES	TRC	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

ABUTMENT AND WINGWALL
SECTIONS IV

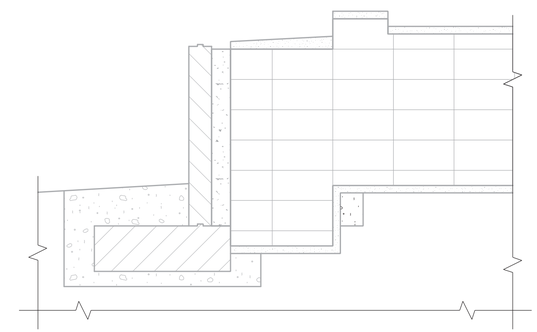
SHEET NUMBER
168
OF 220

Filename: 168_Construction Sections IV.dgn Division: Username: Date:3/3/2020

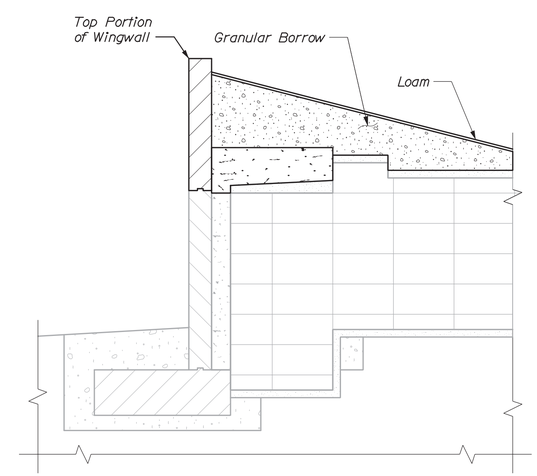


SECTION E-E PRE-CLOSURE PERIOD

No work activities



SECTION E-E CLOSURE PERIOD



SECTION E-E POST-CLOSURE PERIOD

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	HJW	ERB	2/20
CHECKED-REVIEWED	AES	TRC	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

ABUTMENT AND WINGWALL
SECTIONS V

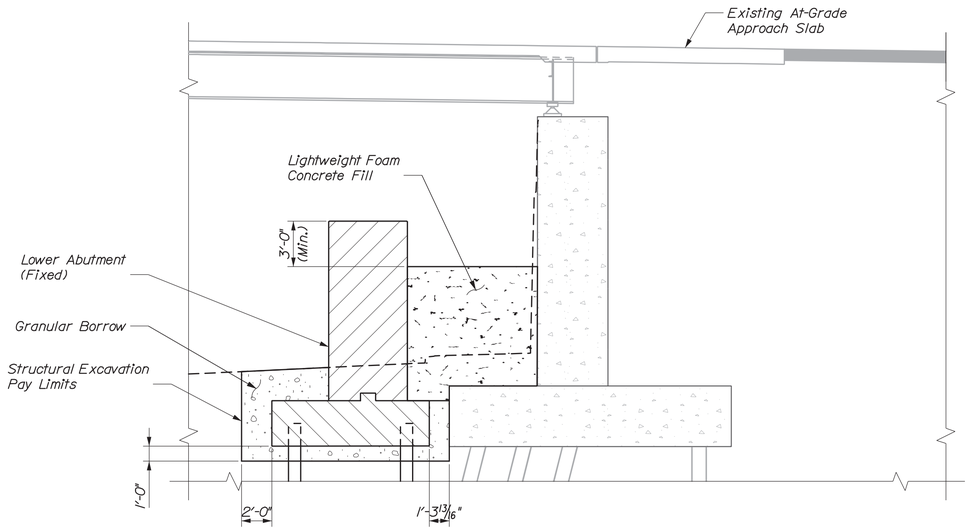
SHEET NUMBER
169
OF 220

Date:3/3/2020 Username: Division: Filename: 169_Construction Sections V.dgn

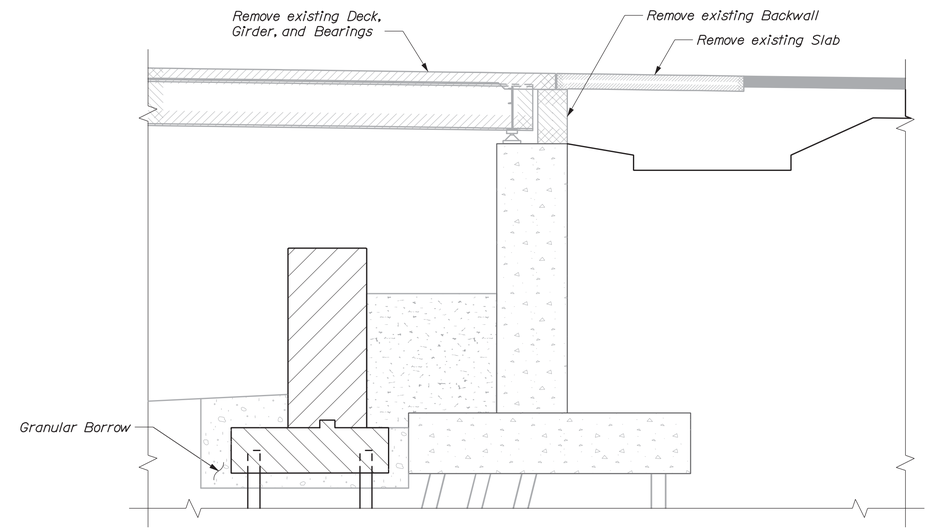
NOTES:

1. Granular borrow material may be replaced with aggregate subbase course gravel.

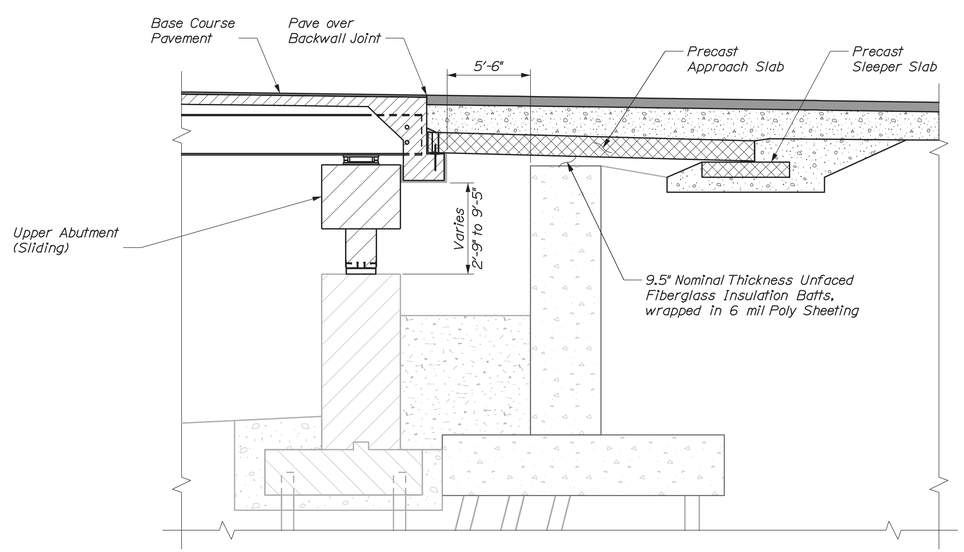
2. Unfaced Fiberglass Insulation Batts and Poly Sheeting placed over the existing abutment will be incidental to Pay Item 534.7601 - Precast Approach Slab.



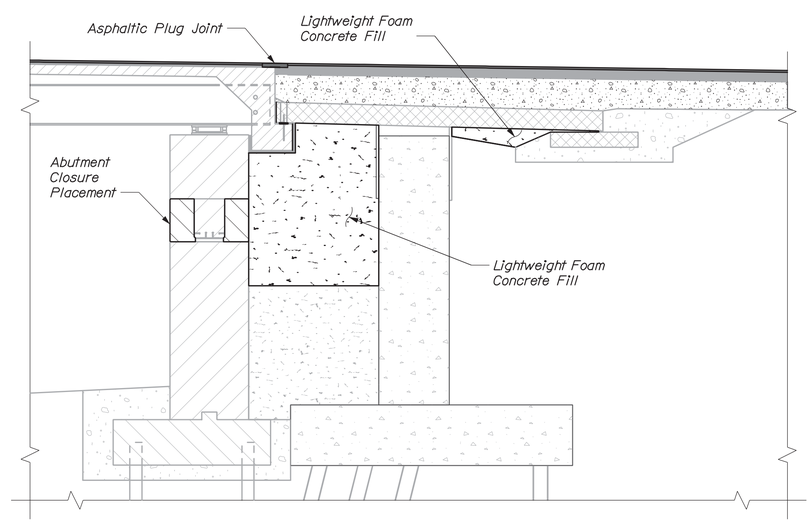
SECTION F-F PRE-CLOSURE PERIOD



SECTION F-F PRE-CLOSURE PERIOD, DEMOLITION



SECTION F-F CLOSURE PERIOD, AFTER DEMOLITION



SECTION F-F POST-CLOSURE PERIOD

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	HJW	ERB	2/20
CHECKED-REVIEWED	AES	TRC	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

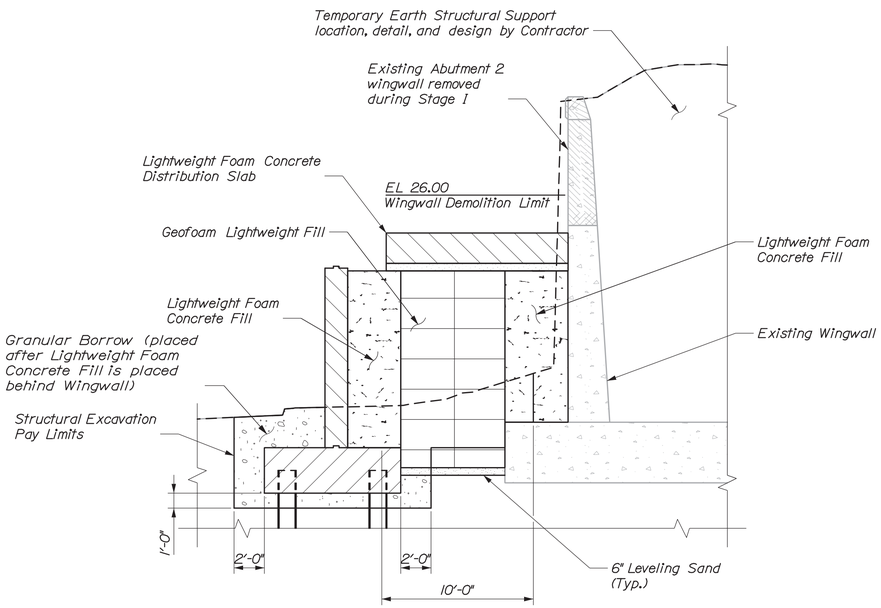
DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

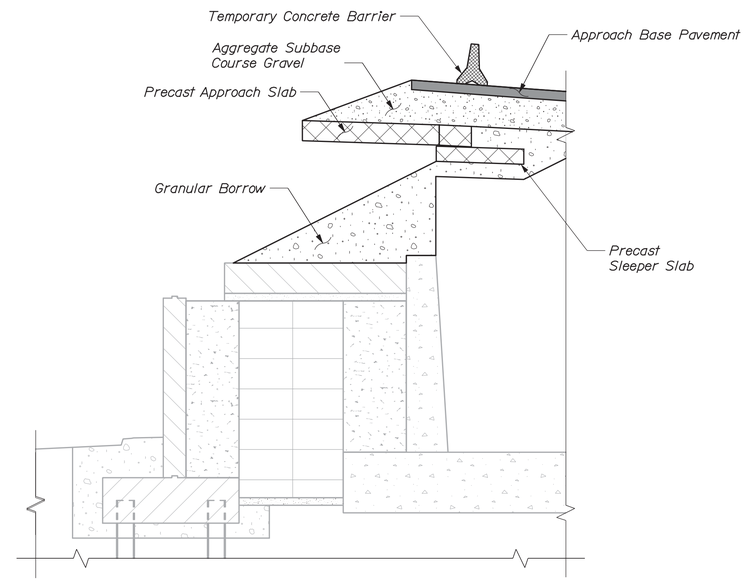
ABUTMENT AND WINGWALL
SECTIONS VI

SHEET NUMBER
170
OF 220

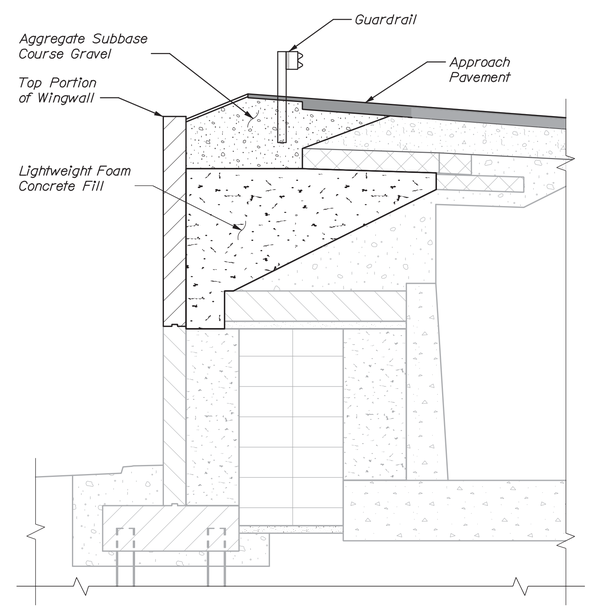
Date:3/3/2020
Username:
Division:
Filename: 170_Construction Sections VI.dgn



SECTION G-G PRE-CLOSURE PERIOD



SECTION G-G CLOSURE PERIOD



SECTION G-G POST-CLOSURE PERIOD

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	HJW	ERB	2/20
CHECKED-REVIEWED	AES	TRC	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

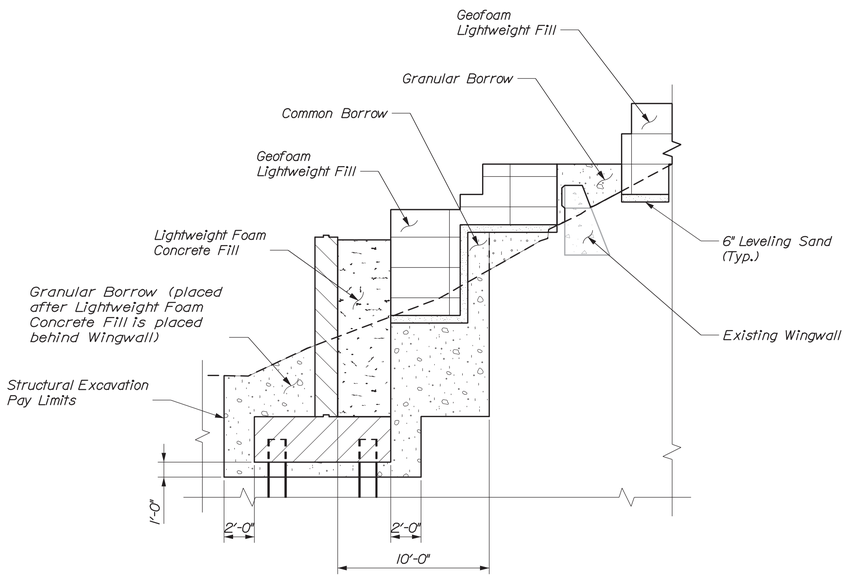
DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

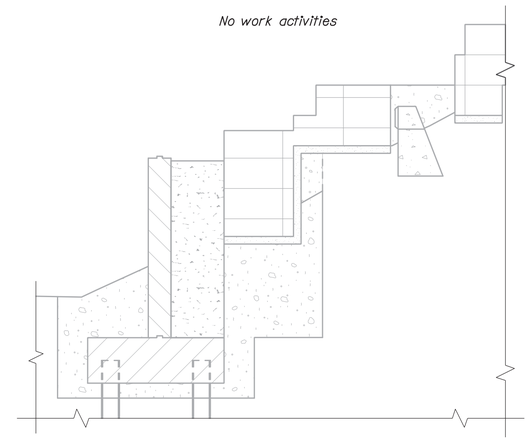
ABUTMENT AND WINGWALL
SECTIONS VII

SHEET NUMBER
171
OF 220

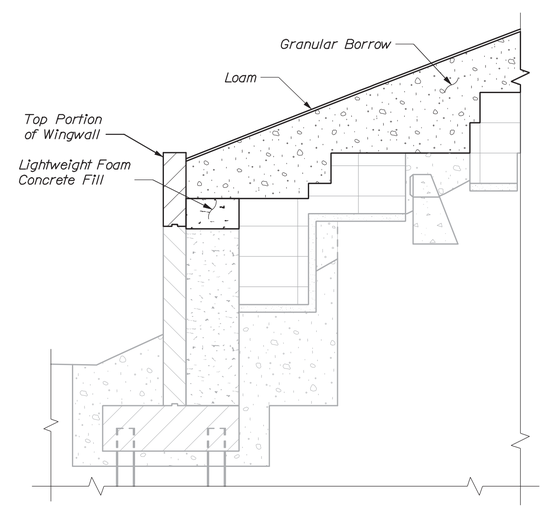
Filename: 171_Construction Sections VII.dgn Division: Username: Date:3/3/2020



SECTION H-H PRE-CLOSURE PERIOD



SECTION H-H CLOSURE PERIOD



SECTION H-H POST-CLOSURE PERIOD

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	H.W	ERB	2\20
CHECKED-REVIEWED	AES	TRC	2\20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

ABUTMENT AND WINGWALL
SECTIONS VIII

SHEET NUMBER
172
OF 220

Filename: 172_Construction Sections VIII.dgn Division: Username: Date:3/3/2020

LEGEND:

Minimum Demolition Limits During Closure Period

Minimum Demolition Limits Prior to Closure Period

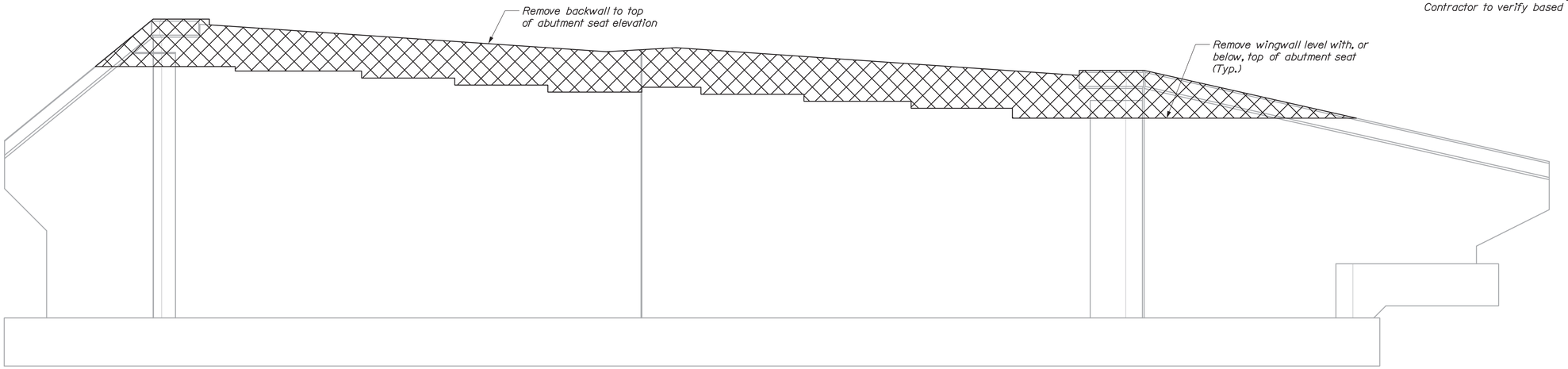
NOTES:

1. The existing superstructure and bearings shall be removed from all substructure units. Anchor rods shall be cut flush to top of concrete.

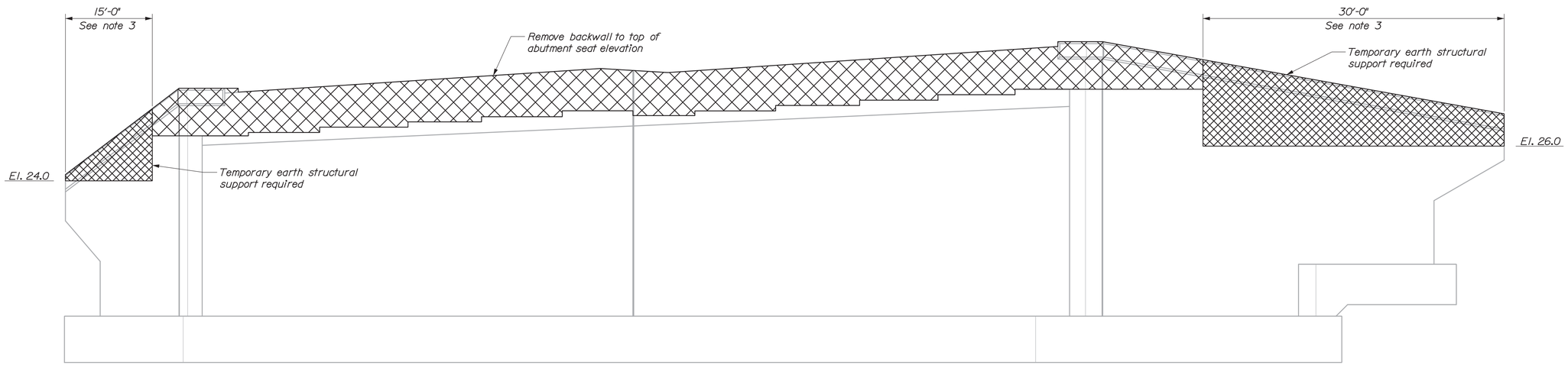
2. Payment for any temporary structural support or earth support systems will be made under Item 524.301, Temporary Structural Support.

3. Wingwall demolition lengths measured along the length of the wingwall.

4. No demolition of existing piers is expected. Contractor to verify based on pier elevations.



EXISTING ABUTMENT 1 ELEVATION
(Looking Downstation)



EXISTING ABUTMENT 2 ELEVATION
(Looking Upstation)

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	HJW	BY	DATE
CHECKED-REVIEWED	AES	ERB	2/20
DESIGN2-DETAILED2		TRC	11/19
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

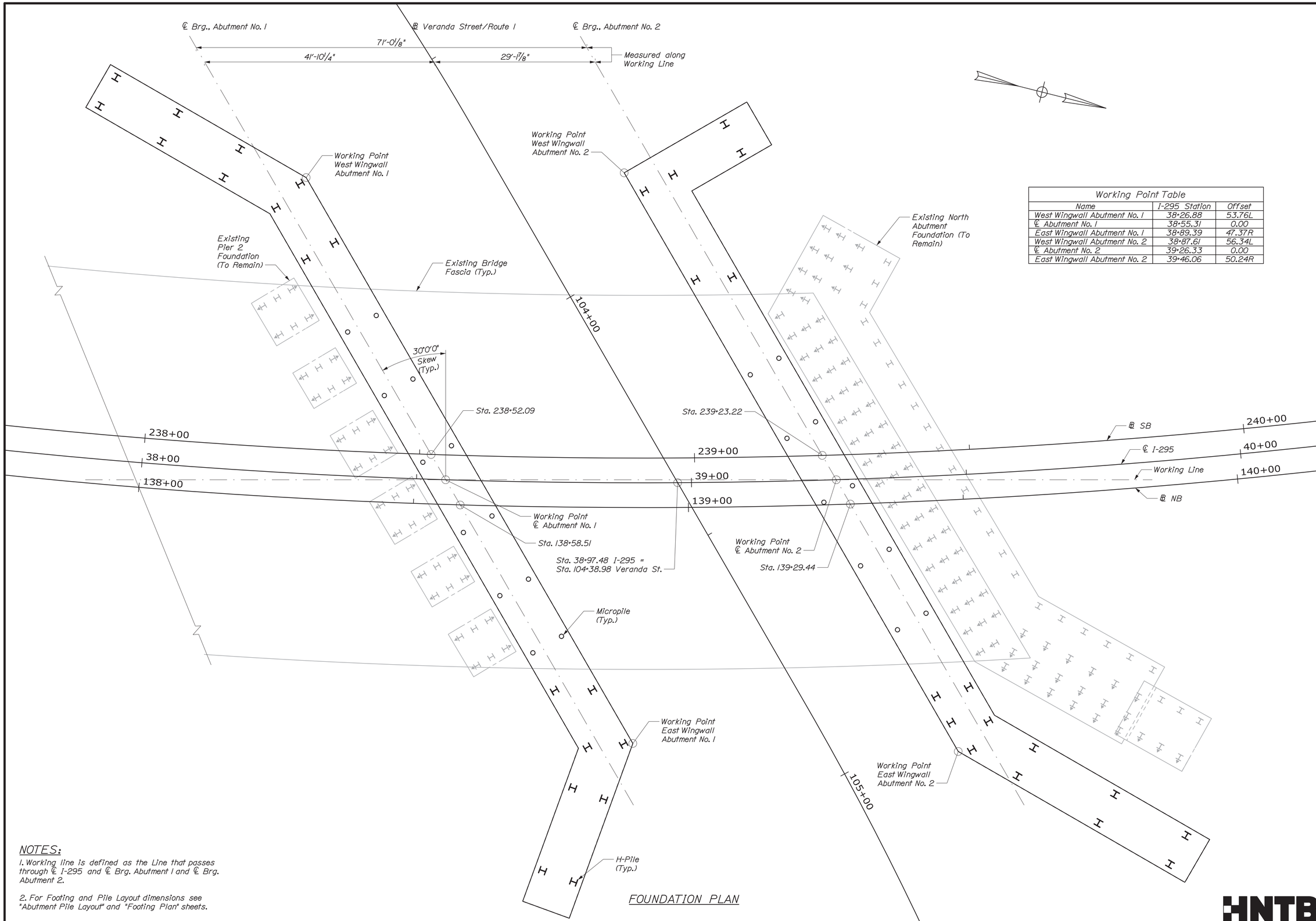
DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

ABUTMENT DEMOLITION LIMITS

SHEET NUMBER
173
OF 220

Filename: 173_Abutment Demolition Limits.dgn Division: Username: Date:3/3/2020



Working Point Table		
Name	I-295 Station	Offset
West Wingwall Abutment No. 1	38+26.88	53.76L
℄ Abutment No. 1	38+55.31	0.00
East Wingwall Abutment No. 1	38+89.39	47.37R
West Wingwall Abutment No. 2	38+87.61	56.34L
℄ Abutment No. 2	39+26.33	0.00
East Wingwall Abutment No. 2	39+46.06	50.24R

NOTES:

1. Working line is defined as the Line that passes through ℄ I-295 and ℄ Brg. Abutment 1 and ℄ Brg. Abutment 2.

2. For Footing and Pile Layout dimensions see "Abutment Pile Layout" and "Footing Plan" sheets.

FOUNDATION PLAN

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	D. EATON	
DESIGN-DETAILED	HJW	2/20
CHECKED-REVIEWED	ERB	2/20
DESIGN2-DETAILED2	TJP	
DESIGN3-DETAILED3	TRC	
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

FOUNDATION PLAN

SHEET NUMBER

174

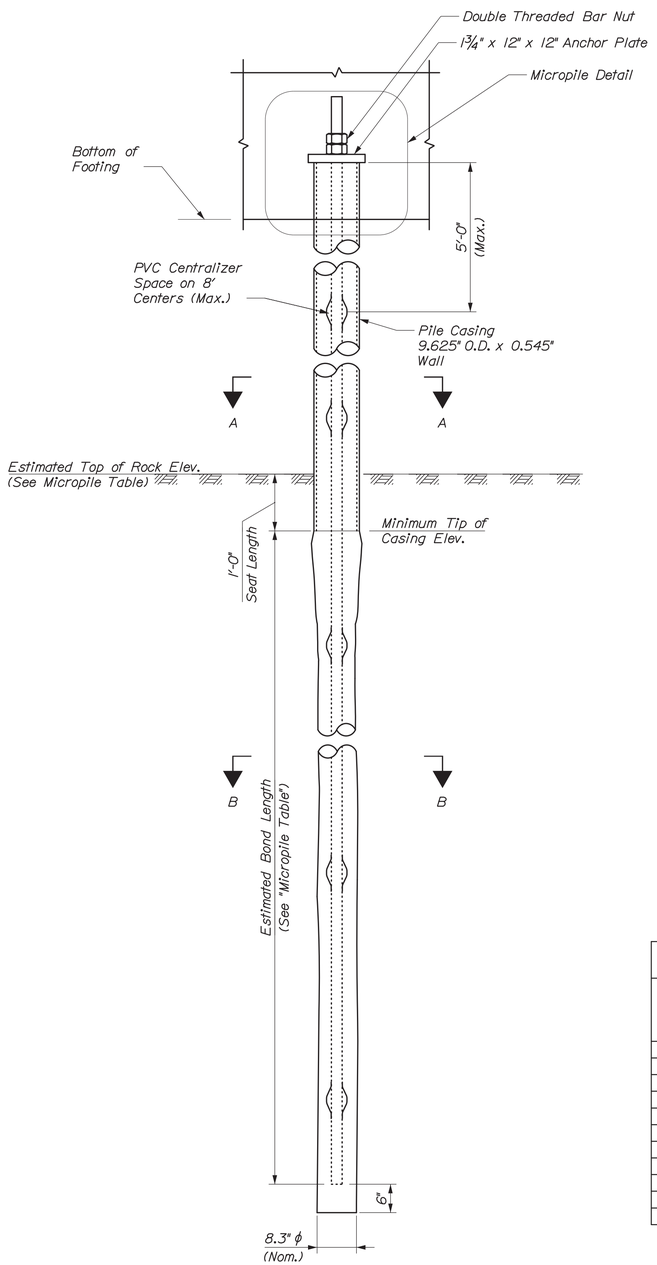
OF 220

Date:3/3/2020

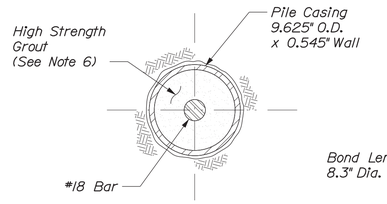
Username:

Division:

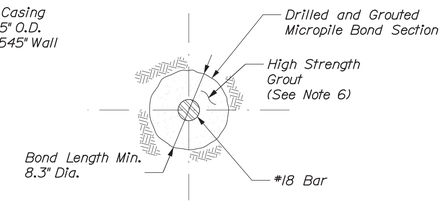
Filename: 174_Foundation Plan.dgn



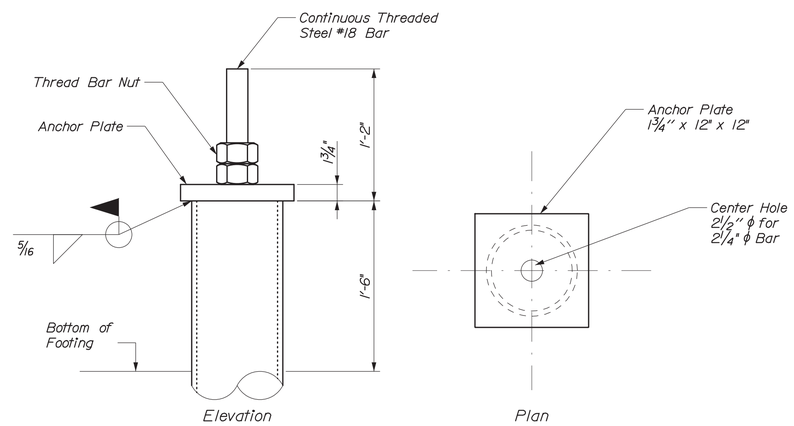
TYPICAL MICROPILE ELEVATION



SECTION A-A
(Cased Zone)



SECTION B-B
(Bond Zone in Bedrock)



MICROPILE DETAIL

MICROPILE TABLE								
Abutment	Micropiles	Required Nominal Resistance		Factored Design Load (FDL)		Bottom of Footing Elevation	Estimated Top of Rock Elevation	Estimated Bond Zone Length (ft.)
		Compression	Tension	Compression	Tension			
1	MP 1-1A, 1-1B	429 kips	0 kips	300 kips	0 kips	7.61	-89	10.0
1	MP 1-2A, 1-2B	429 kips	0 kips	300 kips	0 kips	7.61	-86	10.0
1	MP 1-3A, 1-3B	429 kips	0 kips	300 kips	0 kips	7.61	-83	10.0
1	MP 1-4A, 1-4B	429 kips	0 kips	300 kips	0 kips	7.61	-80	10.0
1	MP 1-5A, 1-5B	429 kips	0 kips	300 kips	0 kips	7.61	-77	10.0
1	MP 1-6A, 1-6B	429 kips	0 kips	300 kips	0 kips	7.61	-74	10.0
2	MP 2-1A, 2-1B	445 kips	0 kips	311 kips	0 kips	8.33	-123	11.0
2	MP 2-2A, 2-2B	445 kips	0 kips	311 kips	0 kips	8.33	-118	11.0
2	MP 2-3A, 2-3B	445 kips	0 kips	311 kips	0 kips	8.33	-113	11.0
2	MP 2-4A, 2-4B	445 kips	0 kips	311 kips	0 kips	8.33	-108	11.0
2	MP 2-5A, 2-5B	445 kips	0 kips	311 kips	0 kips	8.33	-103	11.0

NOTES:

1. Construct micropiles in accordance with Special Provision Section 501, Micropiles.

2. Bedrock bond zone lengths shall be confirmed by Contractor verification load tests on test piles in accordance with Special Provision Section 501, Micropiles.

3. Casing shall be API 5CT N80 pipe with a minimum yield strength of 80 ksi as approved by the Engineer.

4. Reinforcing bar shall be #18 Threaded Bar in accordance with ASTM A615 Grade 75. Reinforcing bars shall be galvanized in accordance with ASTM A153.

5. Anchor plate shall meet requirements of ASTM A709 Grade 50 and shall be galvanized per ASTM A123.

6. Grout shall have minimum 28 day compressive strength of 5,000 psi.

7. Micropile casing, threaded bar, anchor plates, and high strength grout shall be included in the unit bid price for Item 501.222, Micropiles.

8. Micropiles shall not be installed closer than 10 feet from an adjacent micropile, which has been grouted for a period of less than 24 hours.

9. If a micropile cannot be installed in the location indicated on the plans due to a conflict with existing piles, abandon the current micropile and offset a lateral distance determined by the Resident to avoid the current conflict. Payment for the abandoned micropile will be made under Item 501.2221 - Abandoned Micropile.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	HJW	ERB	2/20
CHECKED-REVIEWED	NMW	TRC	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

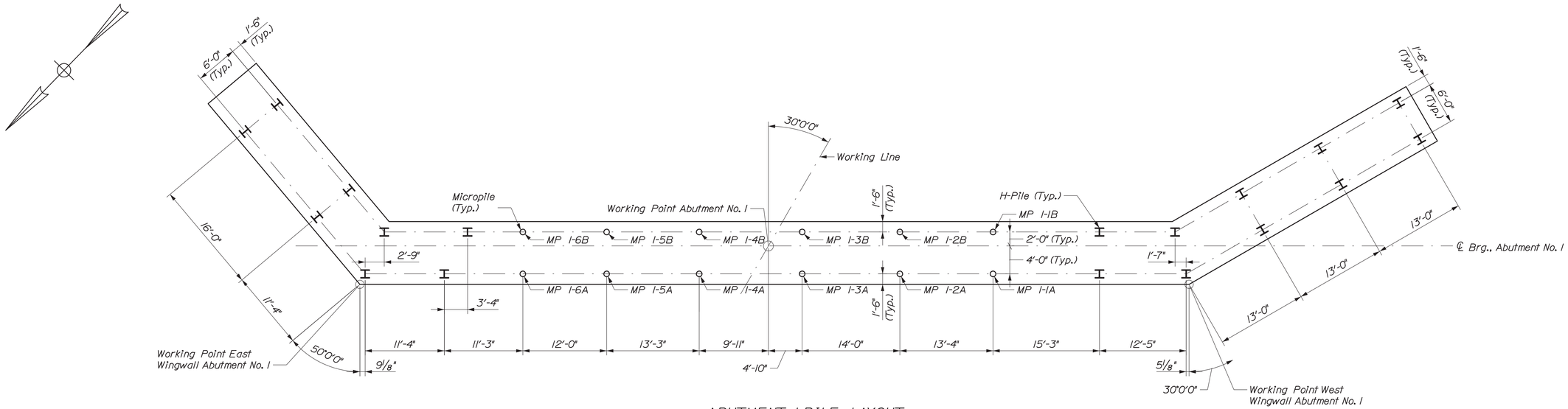
INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

MICROPILE DETAILS

SHEET NUMBER
175
OF 220

HNTB

Filename: 175_Micropile Details.dgn Division: Username: Date:3/3/2020



ABUTMENT 1 PILE LAYOUT

H-PILE NOTES:

1. The maximum axial factored pile load is 420 kips for Abutment 1 and 462 kips for Abutment 2 (Strength I Load Combination).

2. H-pile material shall be ASTM A572, Grade 50.

3. Estimate of H-piles Required, assuming driven to rock (includes 5 ft per pile as contingency):

   Abutment No. 1, Southbound: 10 - HP 14x89 @ 107 ft
   Abutment No. 1, Northbound: 8 - HP 14x89 @ 83 ft
   Abutment No. 2, Southbound: 6 - HP 14x89 @ 148 ft
   Abutment No. 2, Northbound: 11 - HP 14x89 @ 111 ft

4. All H-piles shall be equipped with a pile tip in accordance with Standard Specification Section 501.048, Prefabricated Pile Tips.

5. Install H-piles to achieve a nominal geotechnical compressive resistance of 647 kips for Abutment 1 and 711 kips for Abutment 2.

6. H-piles shall not be out of position shown be more than 2 inches in any direction. If the proposed H-pile conflicts with an existing pile the Contractor shall immediately notify the Resident before adjusting pile location.

7. The Contractor shall perform and submit four (4) wave equation analyses for driven H-piles, two at each abutment (one Northbound and one Southbound), 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.

8. The Contractor shall perform four (4) dynamic load tests with 24-hour restrikes, one at each Northbound and Southbound end of Abutments, to confirm the nominal resistance of the H-piles. The required nominal resistance for the pile is the factored axial H-pile load divided by a resistance factor of 0.65 per LRFD Specifications. The dynamic tests shall be performed on the first production H-pile driven at each Northbound and Southbound end of Abutments.

9. For more information and notes on micropiles, see "Micropile Details" Sheet.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	HJW	ERB	2\20
CHECKED-REVIEWED	NMW	TRC	2\20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

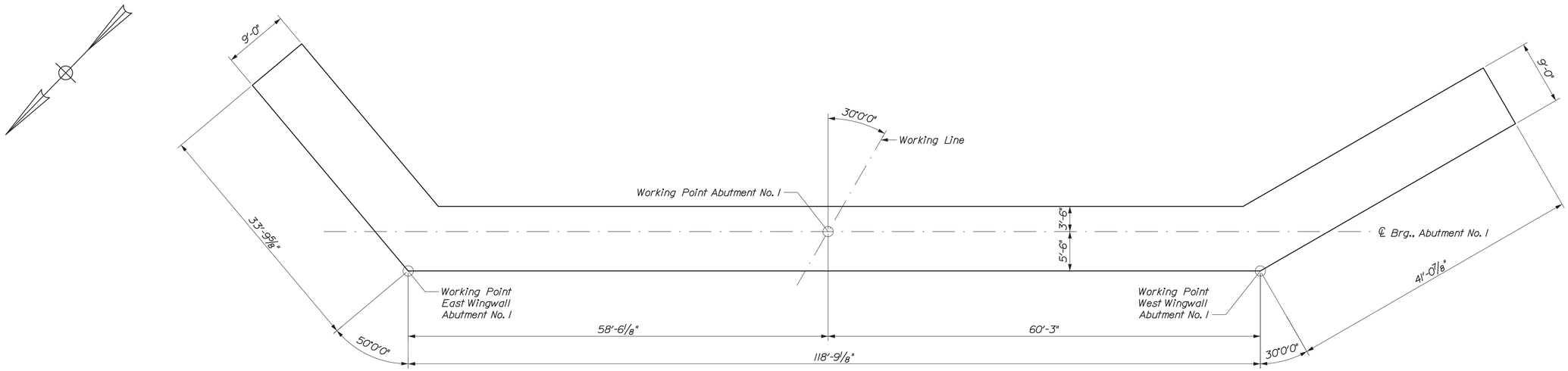
DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

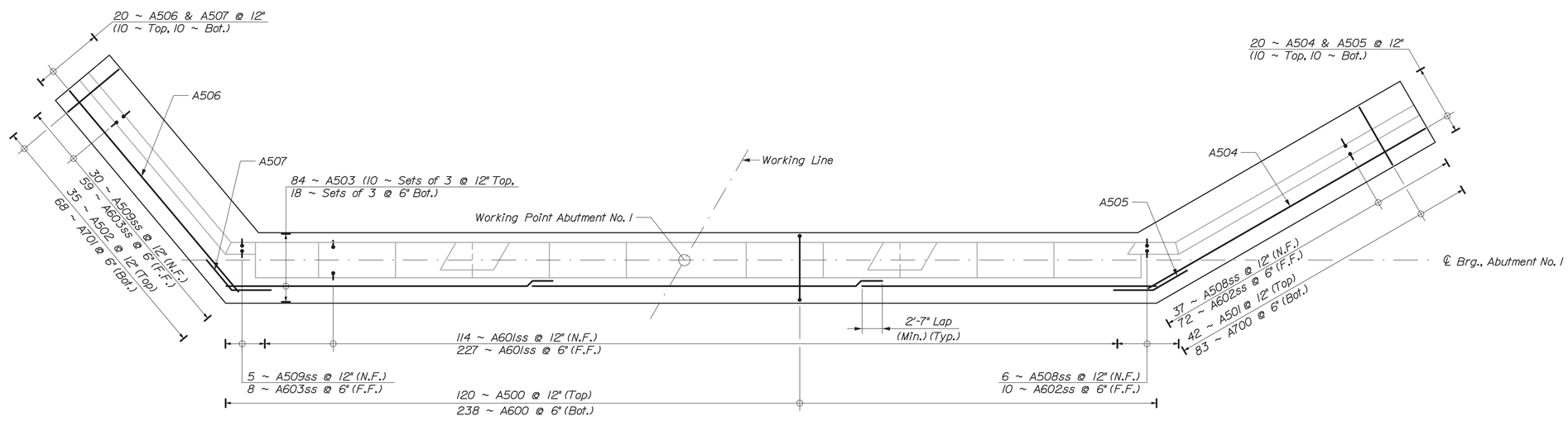
ABUTMENT 1
PILE LAYOUT

SHEET NUMBER
176
OF 220

Filename: 176_Abutment 1 Pile Layout.dgn Division: Username: Date:4/2/2020



ABUTMENT 1 FOOTING PLAN



ABUTMENT 1 FOOTING PLAN - REINFORCING

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	HJW	ERB	2\20
CHECKED-REVIEWED	NMW	TRC	2\20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

ABUTMENT 1
FOOTING PLAN

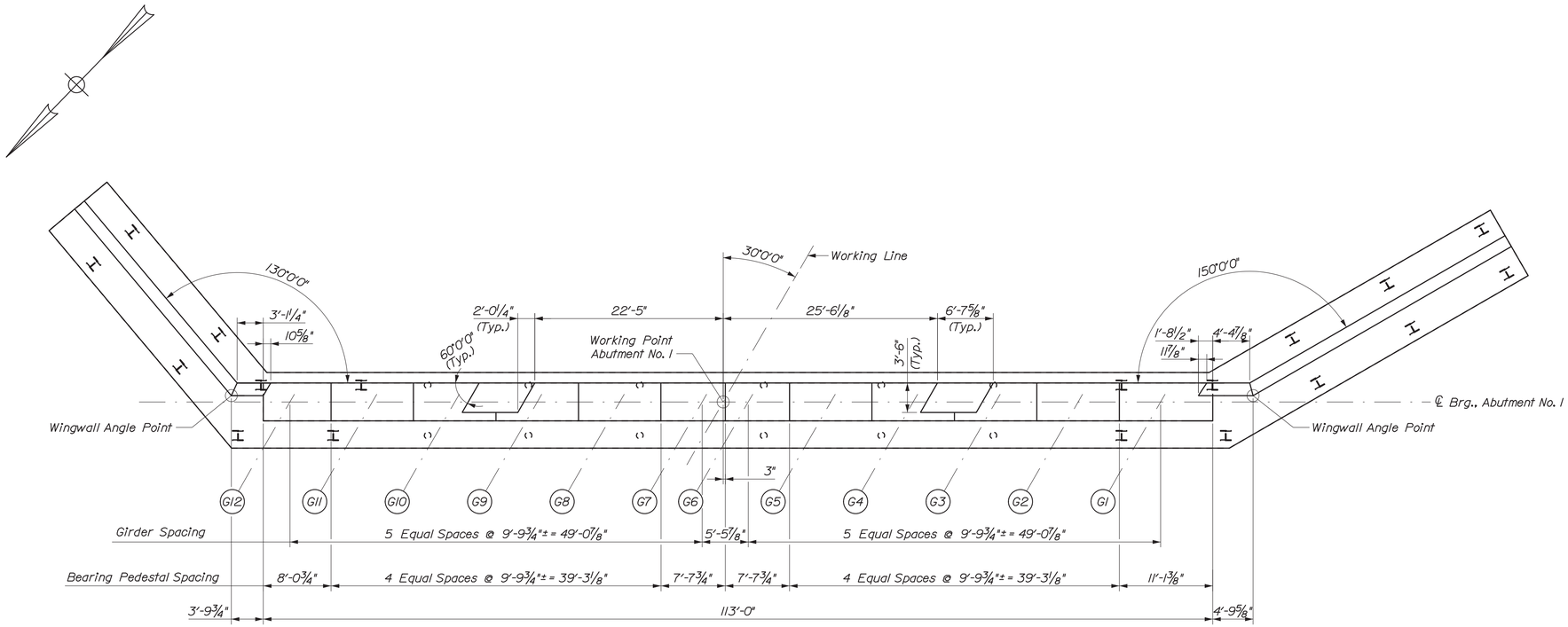
SHEET NUMBER

177

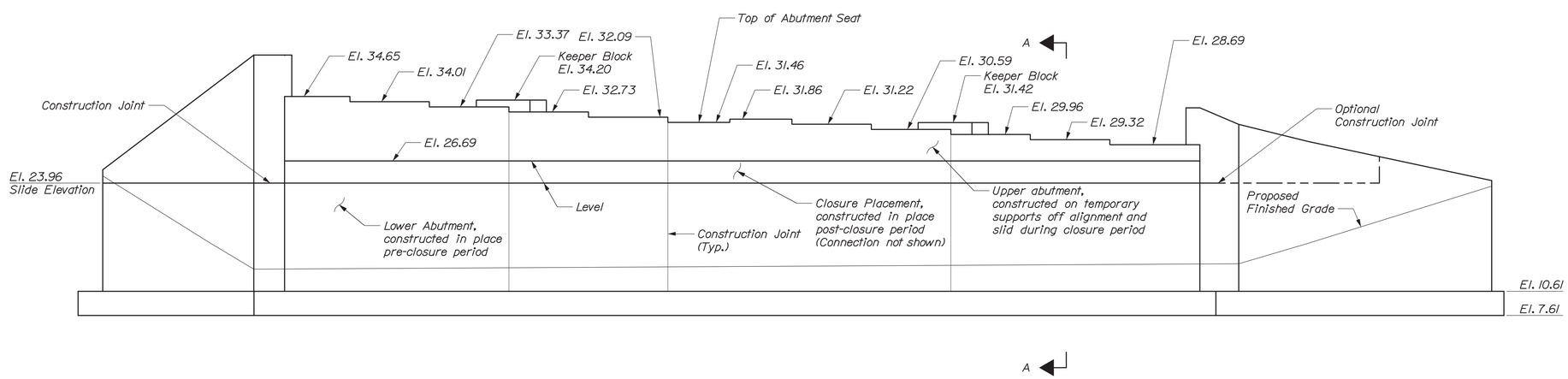
OF 220

HNTB

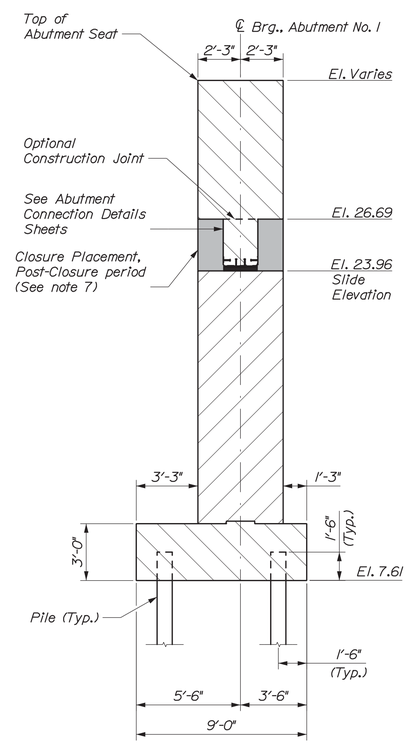
Filename: 177_Abutment 1 Footing Plan.dgn Division: Username: Date:3/3/2020



ABUTMENT 1 PLAN



ABUTMENT 1 ELEVATION
(Piles not shown)



SECTION A-A

ABUTMENT NOTES:

1. Reinforcing steel shall have a minimum cover of 2 inches in the walls and 3 inches in the footing 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 Detail 502(01).

4. Construct Drainage Geocomposite behind the abutments and wingwalls in accordance with Special Provision Section 620 Geotextiles - Drainage Geocomposite.

5. All elevations are provided at centerline of bearing unless otherwise noted.

6. For Abutment 1 wingwall geometry, see "Abutment 1 Wingwall Geometry" Sheet.

7. Closure pour concrete may be substituted with Non-shrink grout or Self Consolidated Concrete with a non-shrink additive as approved by the Resident.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	TJP	ERB	2/20
CHECKED-REVIEWED	KEB	TRC	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

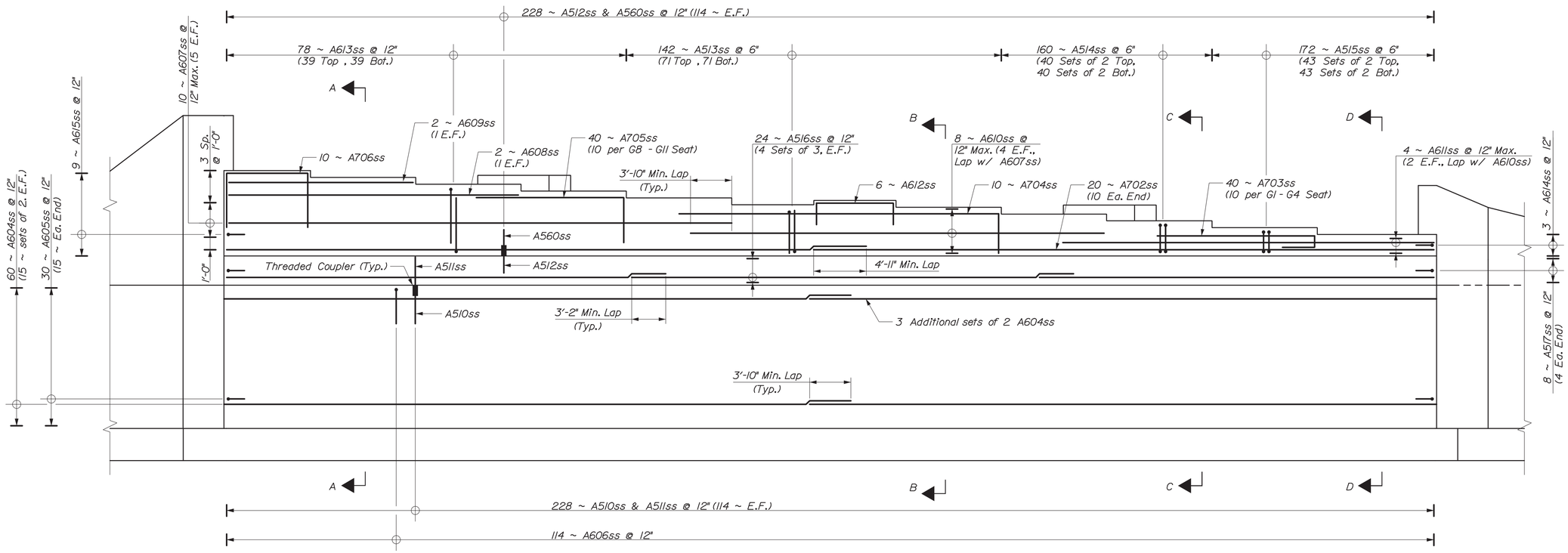
INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

ABUTMENT 1
PLAN AND ELEVATION

SHEET NUMBER
178
OF 220

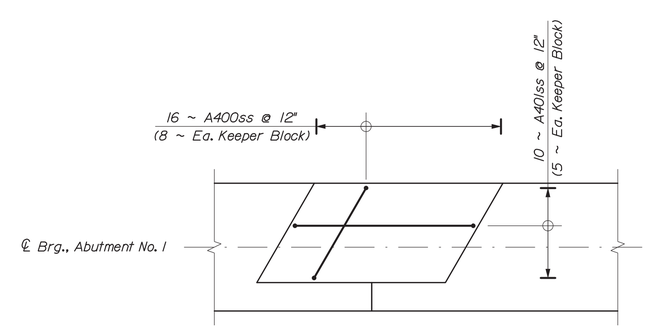
HNTB

Filename: 178_Abutment 1 Plan and Elevation.dgn Division: Username: Date:3/3/2020



ABUTMENT 1 ELEVATION - REINFORCING

(Footing and Wingwall Reinforcing not shown for clarity)



KEEPER BLOCK PLAN

NOTE:

For sections A thru D see "Abutment 1 Reinforcing Sections" sheet.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	TJP	ERB	2/20
CHECKED-REVIEWED	KEB	TRC	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

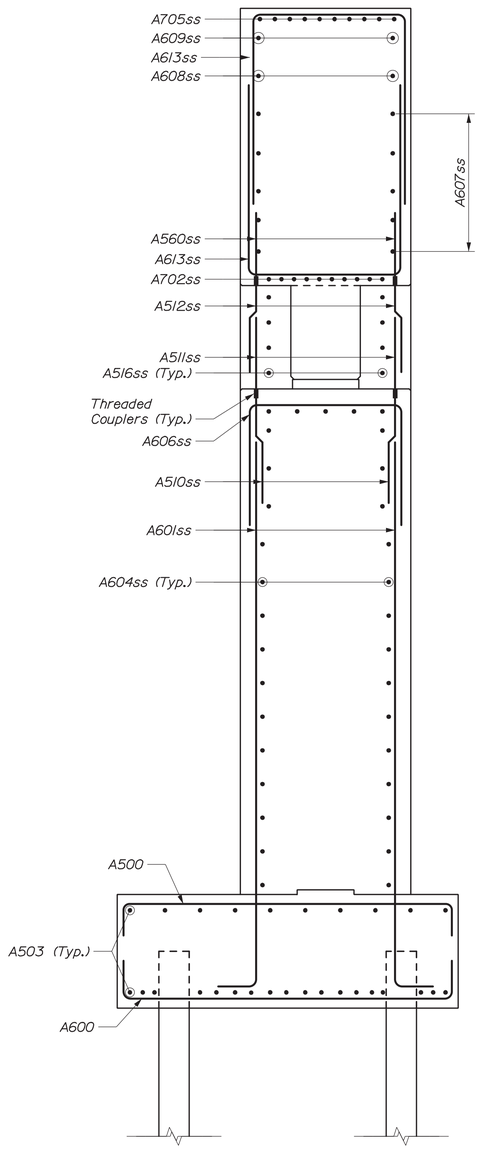
ABUTMENT 1
REINFORCING

SHEET NUMBER

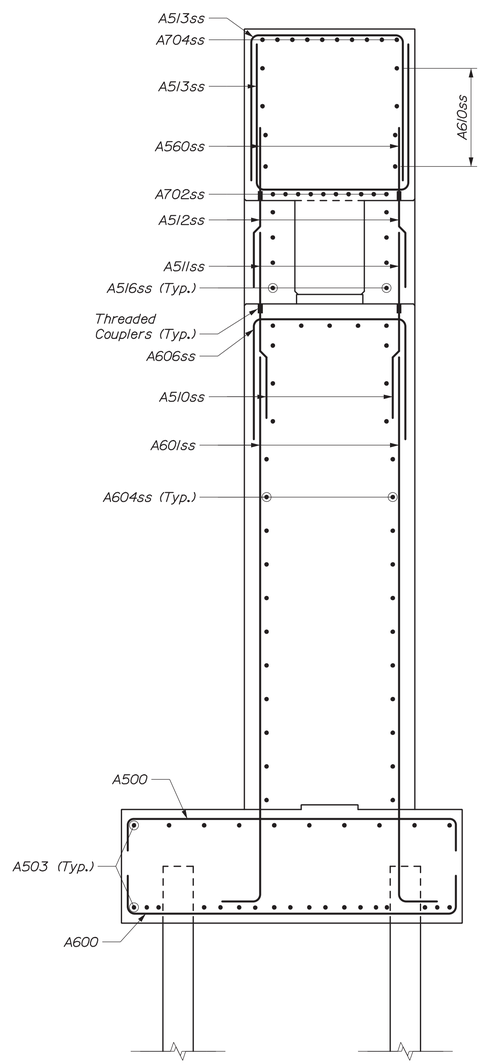
179

OF 220

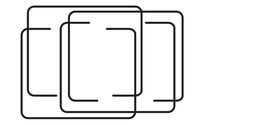
Filename: 179_Abutment 1 Reinforcing.dgn Division: Username: Date:3/3/2020



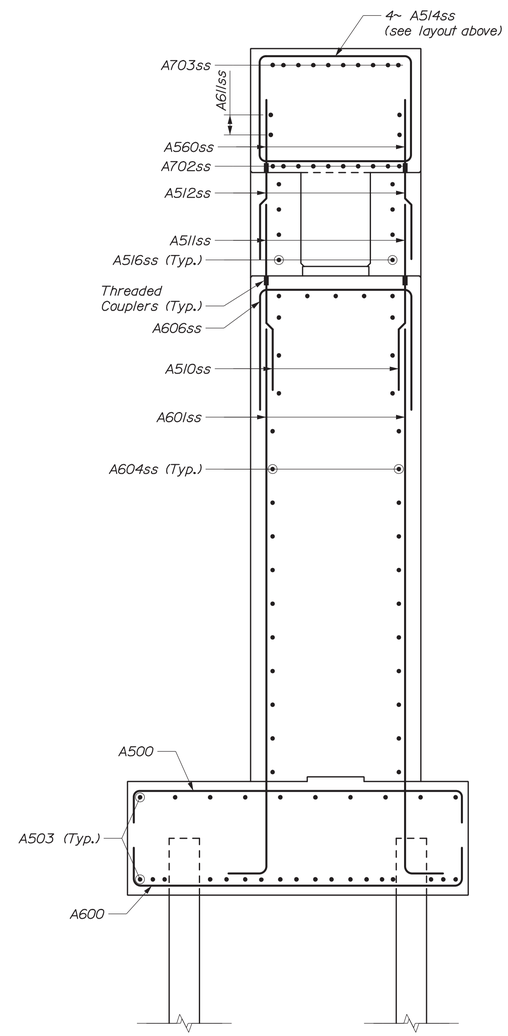
SECTION A-A



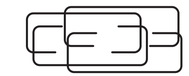
SECTION B-B



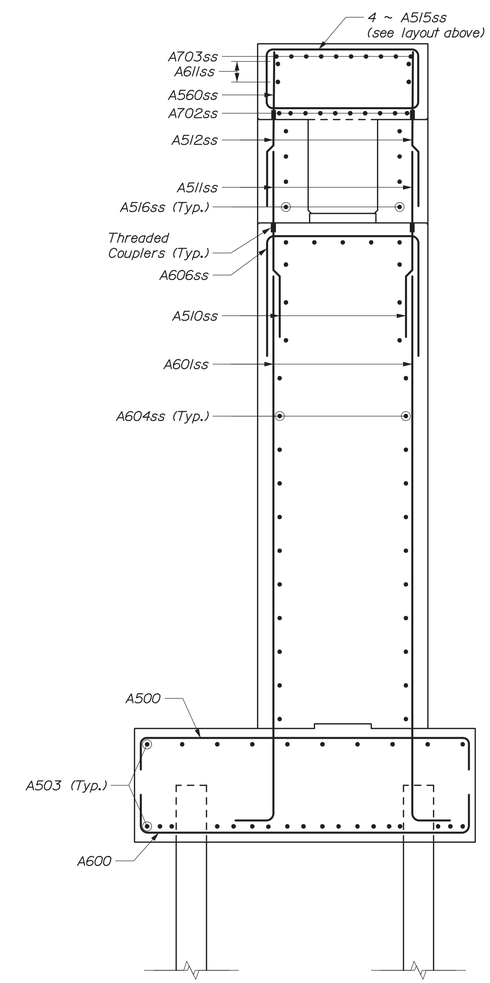
A514ss Layout



SECTION C-C



A515ss Layout



SECTION D-D

NOTE:
Reinforcing in the slide shoe not shown for clarity, refer to "Abutment Connection Details IV" sheet.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	TJP	ERB	2/20
CHECKED-REVIEWED	KEB	TRC	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

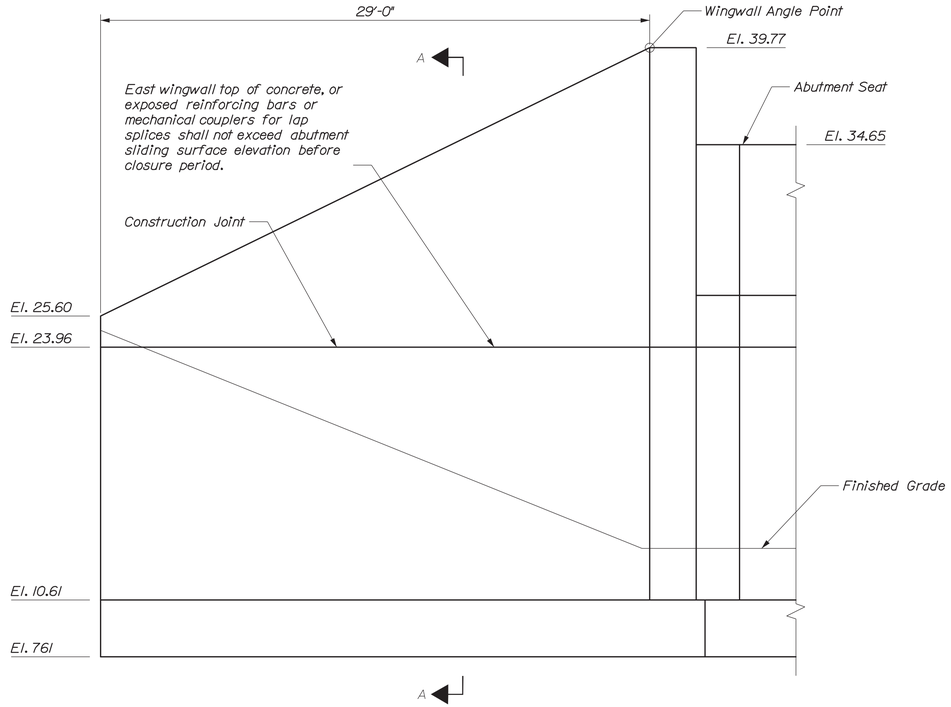
DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

ABUTMENT 1
REINFORCING SECTIONS

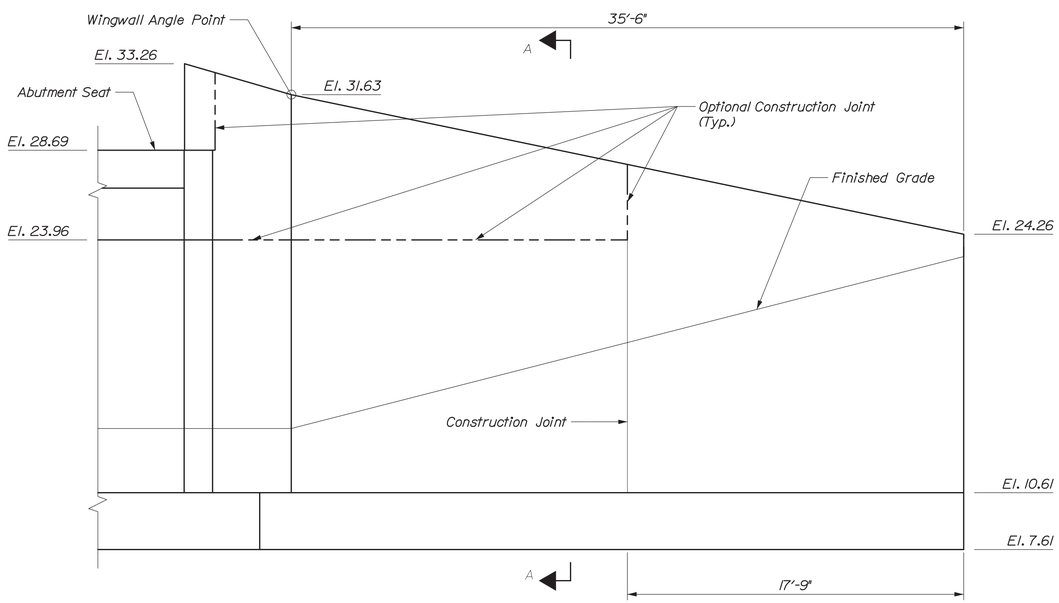
SHEET NUMBER
180
OF 220

Filename: 180_Abutment 1 Reinforcing Sections.dgn Division: Username: Date:3/3/2020



ABUTMENT 1 EAST WINGWALL ELEVATION

(Piles not shown)



ABUTMENT 1 WEST WINGWALL ELEVATION

(Piles not shown)

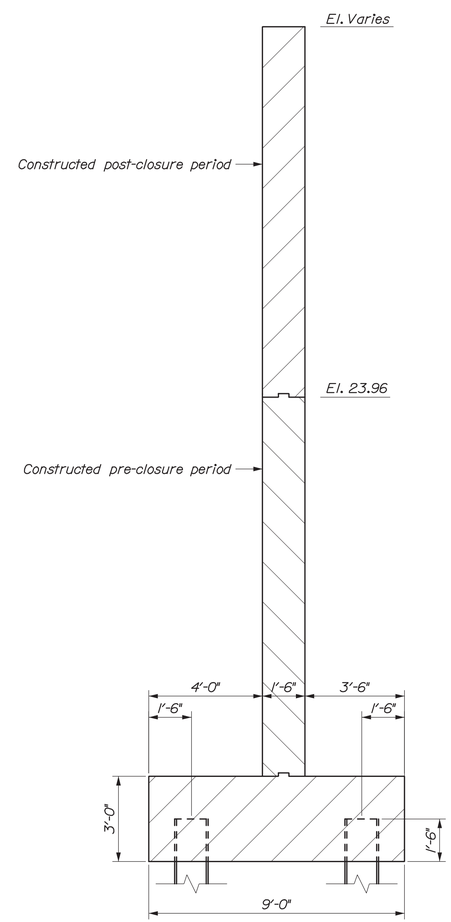
NOTES:

1. Contractor may precast any portion of wingwalls. All connections between precast wingwall components shall be made with grouted splice couplers that develop 125% of the full tension strength of the spliced reinforcing bars.

2. For wingwall backfill details, see "Construction Sections I" through "Construction Sections VIII" Sheets.

3. Abutment west wingwall phasing determined by Contractor.

4. West wingwall construction joints may have protruding bars. Mechanical couplers may be used instead, at no additional cost to the Department.



Section A-A

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	HJW	ERB	2\20
CHECKED-REVIEWED	TJP	TRC	2\20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

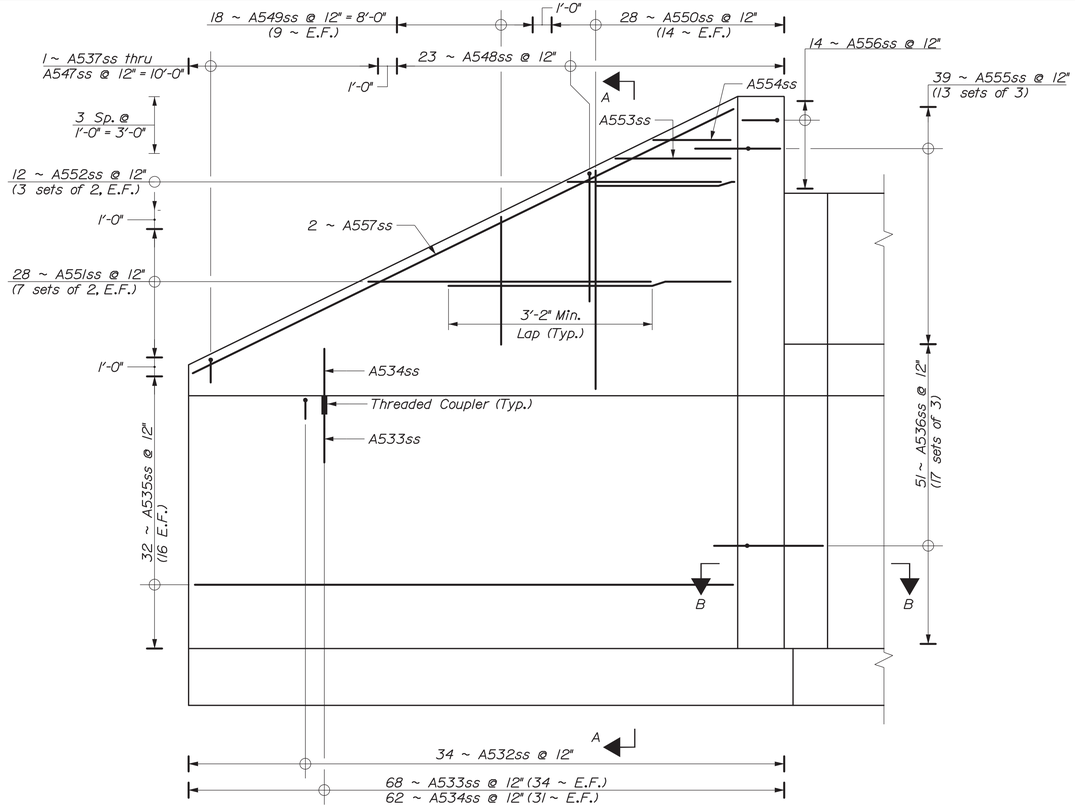
ABUTMENT 1
WINGWALL GEOMETRY

SHEET NUMBER

181

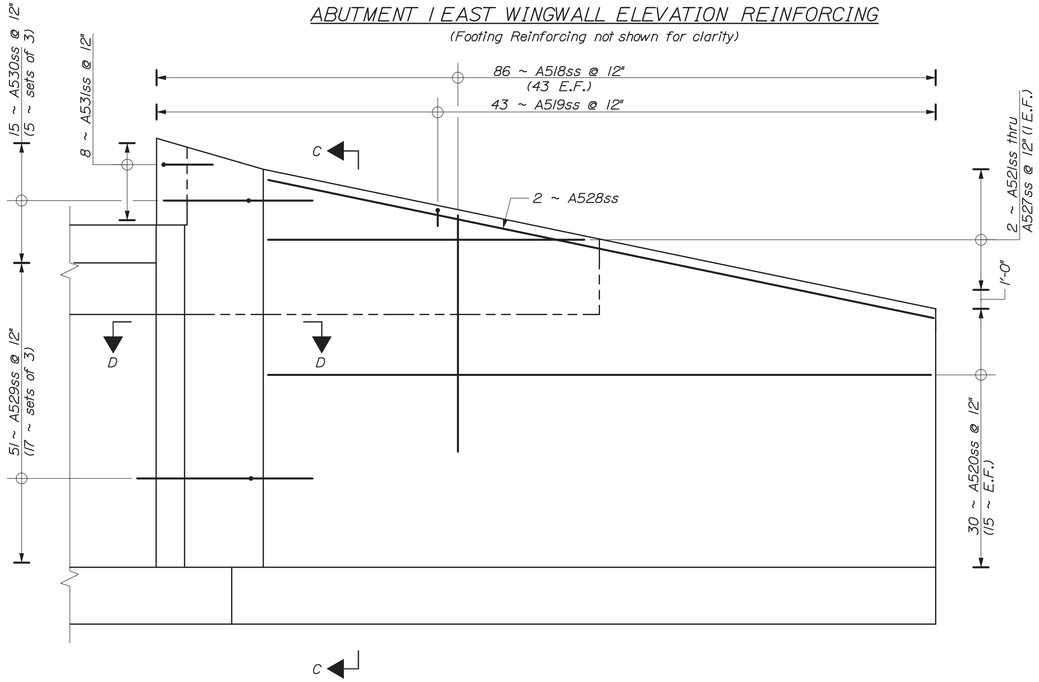
OF 220

Filename: 181_Abutment 1 Wingwall Geometry.dgn Division: Username: Date:3/3/2020



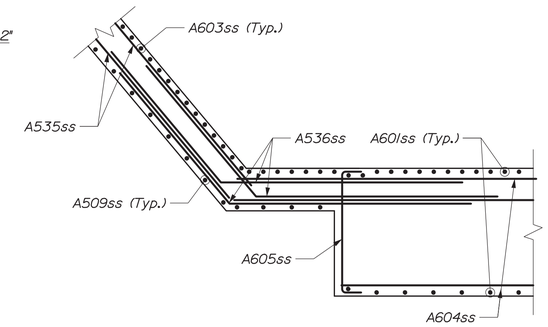
ABUTMENT 1 EAST WINGWALL ELEVATION REINFORCING

(Footing Reinforcing not shown for clarity)

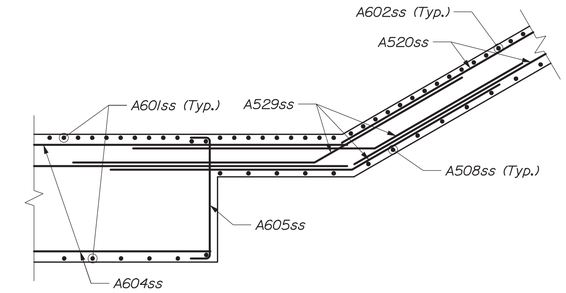


ABUTMENT 1 WEST WINGWALL ELEVATION REINFORCING

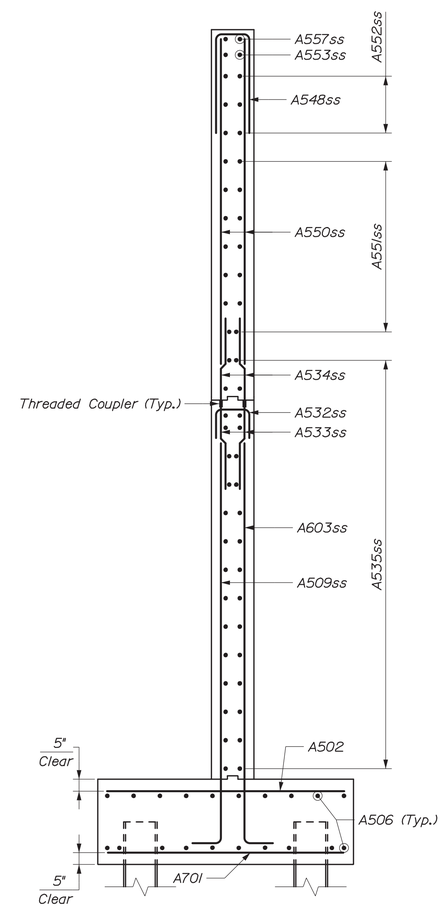
(Footing Reinforcing not shown for clarity)



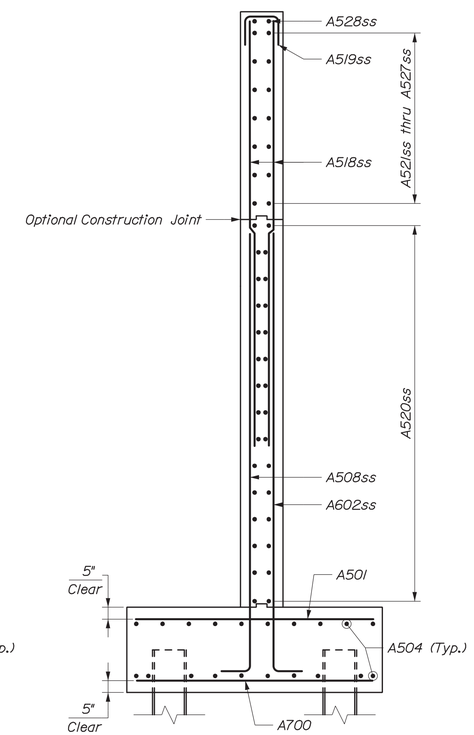
SECTION B-B



SECTION D-D



SECTION A-A



SECTION C-C

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	HJW	ERB	2\20
CHECKED-REVIEWED	NMW	TRC	2\20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

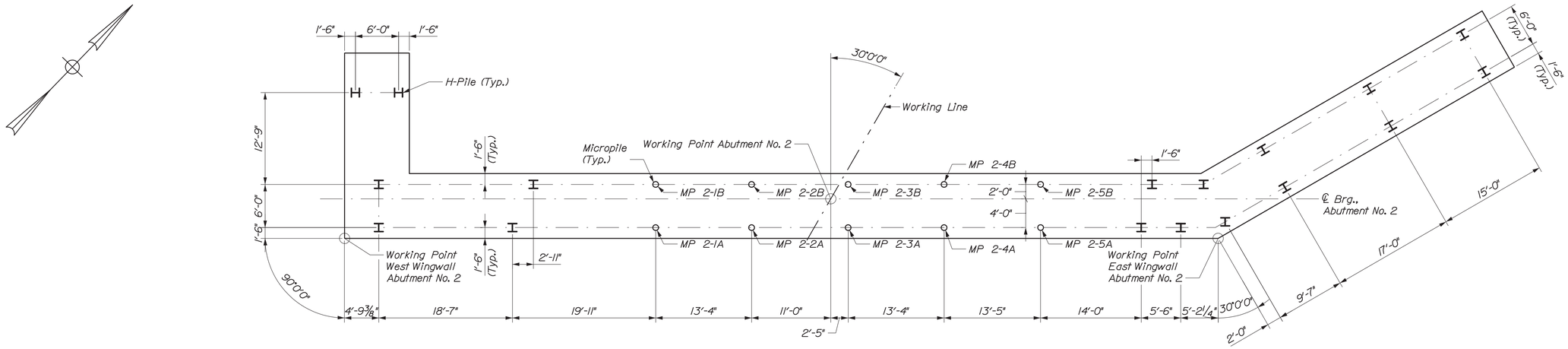
ABUTMENT 1
WINGWALL REINFORCING

SHEET NUMBER

182

OF 220

Filename: 182_Abutment 1 Wingwall Reinforcing.dgn Division: Username: Date:3/3/2020



ABUTMENT 2 PILE LAYOUT

NOTES:

1. For H-pile notes, see "Abutment 1 Pile Layout" Sheet.

2. For more information and notes on micropiles, see "Micropile Details" Sheet.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	H.W	ERB	2\20
CHECKED-REVIEWED	T.JP	TRC	2\20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

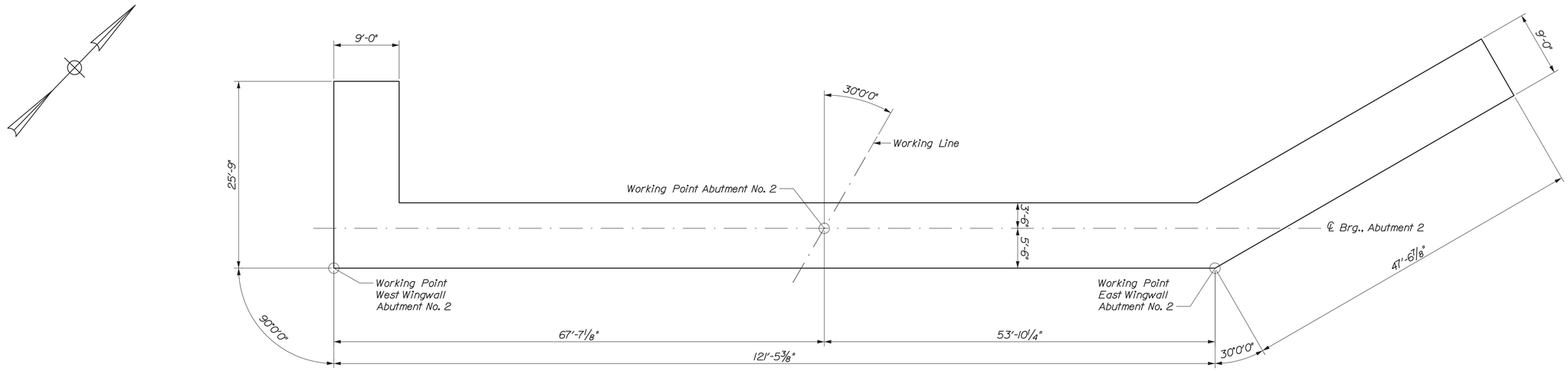
ABUTMENT 2
PILE LAYOUT

SHEET NUMBER

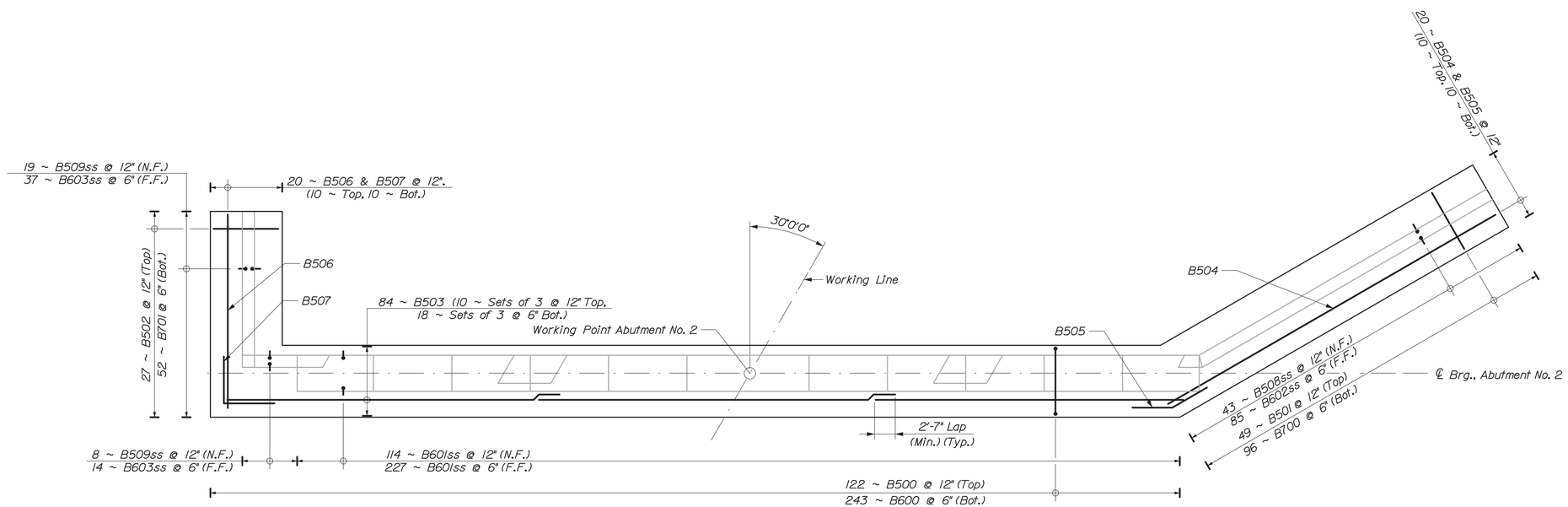
183

OF 220

Filename: 183_Abutment 2 Pile Layout.dgn Division: Username: Date:3/3/2020



ABUTMENT 2 FOOTING PLAN



ABUTMENT 2 FOOTING PLAN - REINFORCING

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	HJW	ERB	2/20
CHECKED-REVIEWED	NMW	TRC	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

ABUTMENT 2
FOOTING PLAN

SHEET NUMBER

184

OF 220

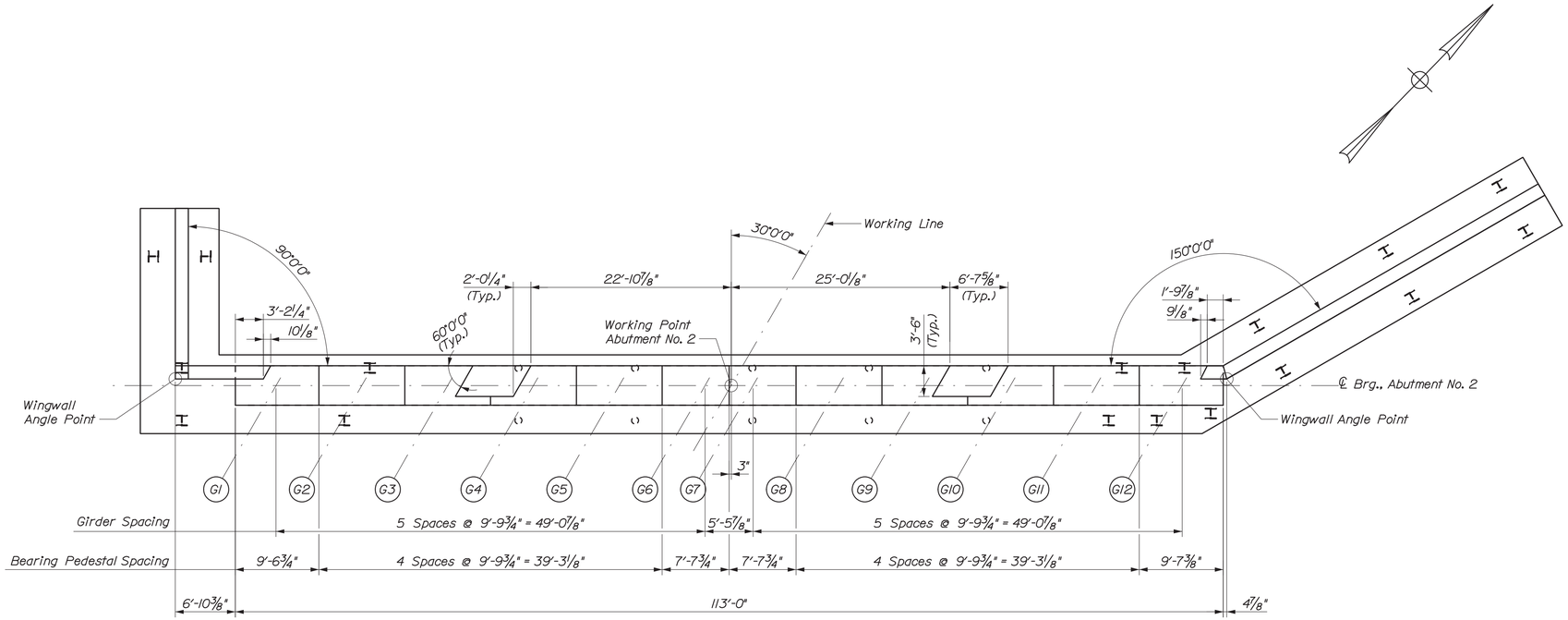
HNTB

Date:3/3/2020 Username: Division: Filename: 184_Abutment 2 Footing Plan.dgn

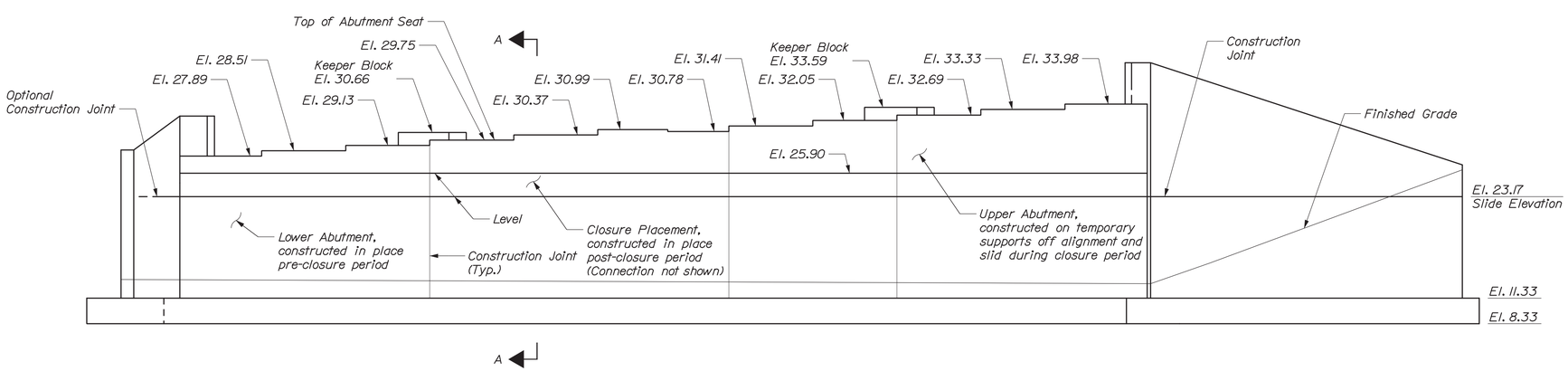
ABUTMENT NOTES:

1. For abutment notes, see "Abutment 1 Plan and Elevation" Sheet.

2. For Abutment 2 wingwall geometry, see "Abutment 2 Wingwall Geometry" Sheet

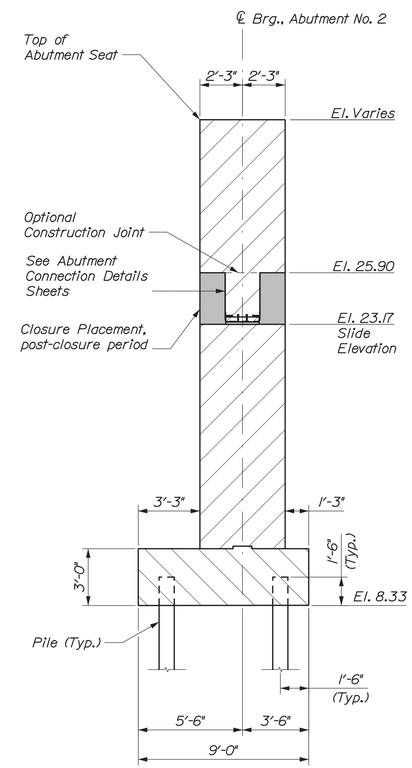


ABUTMENT 2 PLAN



ABUTMENT 2 ELEVATION

(Piles not shown)



SECTION A-A

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	TJP	ERB	2\20
CHECKED-REVIEWED	KEB	TRC	2\20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

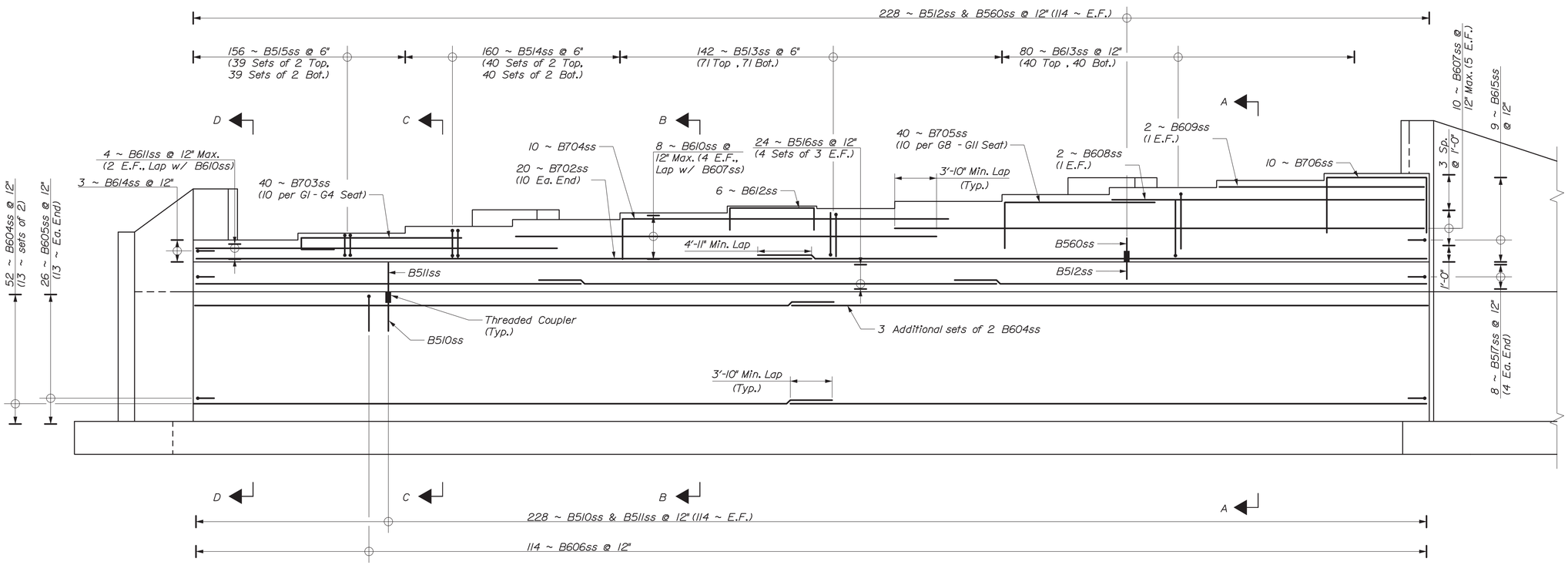
ABUTMENT 2
PLAN AND ELEVATION

SHEET NUMBER

185

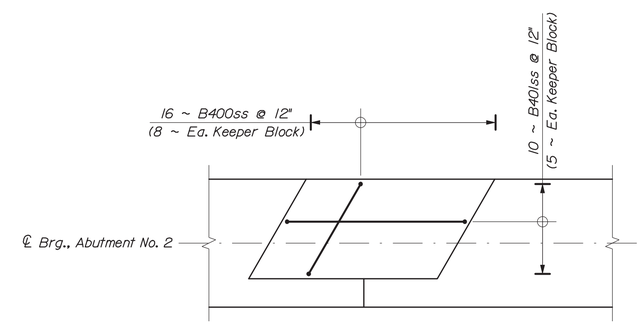
OF 220

Filename: 185_Abutment 2 Plan and Elevation.dgn Division: Username: Date:3/3/2020



ABUTMENT 2 ELEVATION - REINFORCING

(Footing and Wingwall Reinforcing not shown for clarity)



KEEPER BLOCK PLAN

NOTES:

1. For sections A thru D see "Abutment 2 Reinforcing Sections" sheet.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

BRIDGE NO.5933 — WIN 021745.00 — BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	TJP	ERB	2/20
CHECKED-REVIEWED	KEB	TRC	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER VERANDA STREET
PORTLAND CUMBERLAND COUNTY

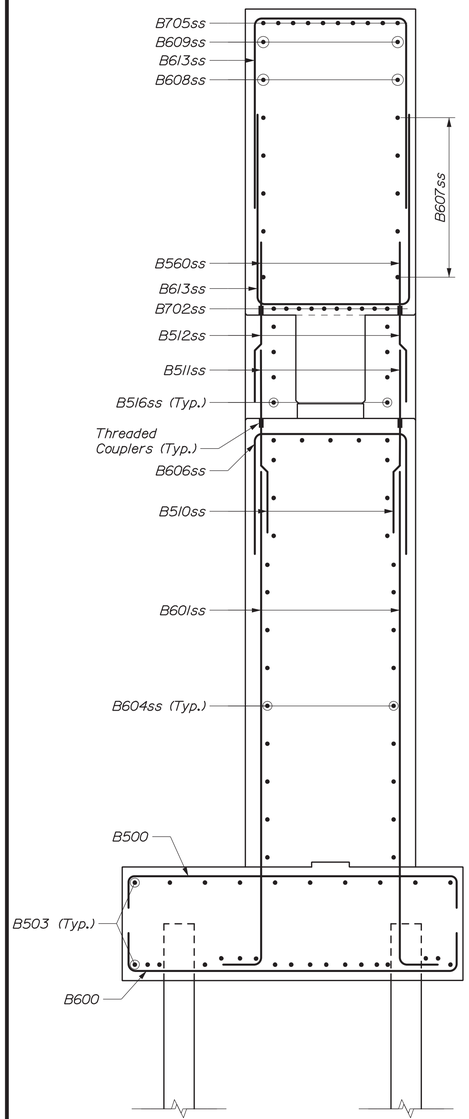
ABUTMENT 2 REINFORCING

SHEET NUMBER

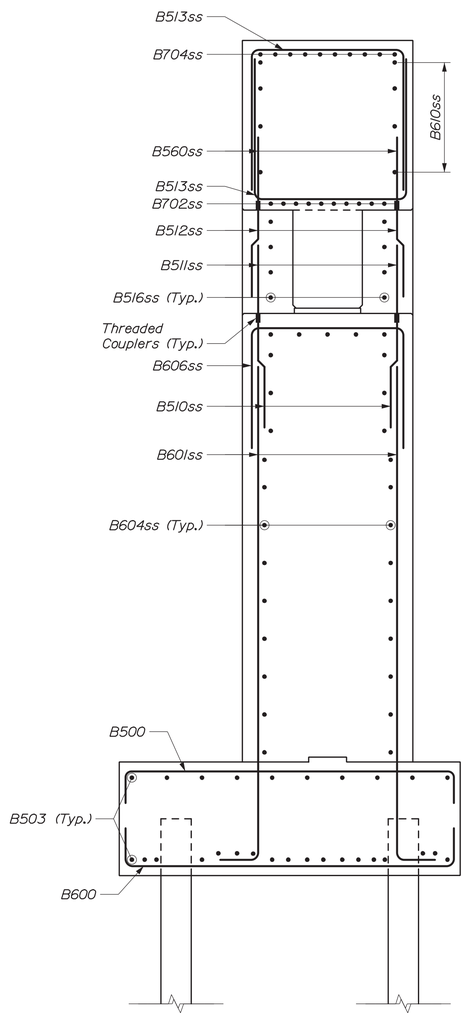
186

OF 220

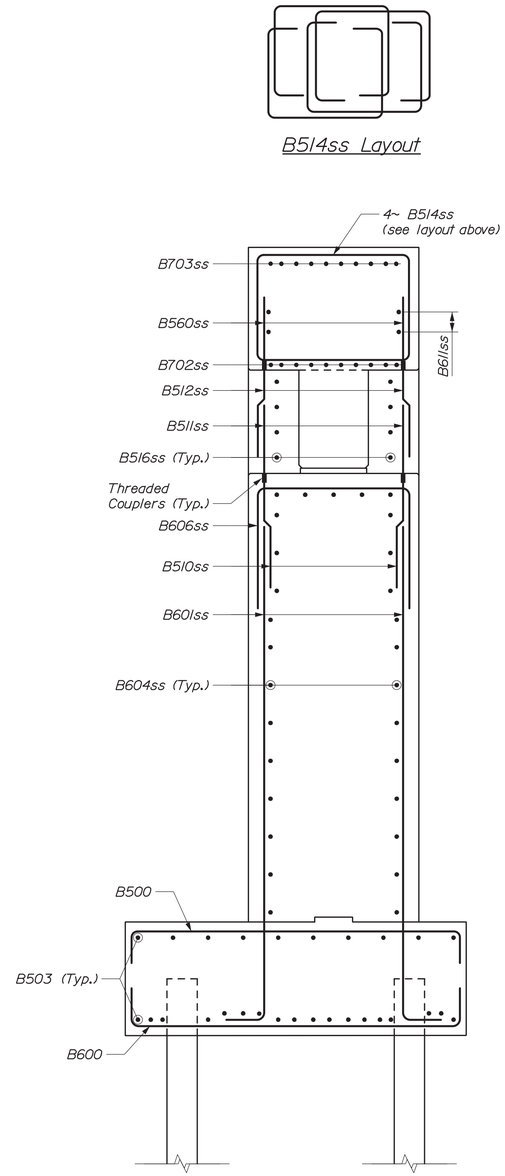
Filename: 186_Abutment 2 Reinforcing.dgn Division: Username: Date:3/3/2020



SECTION A-A

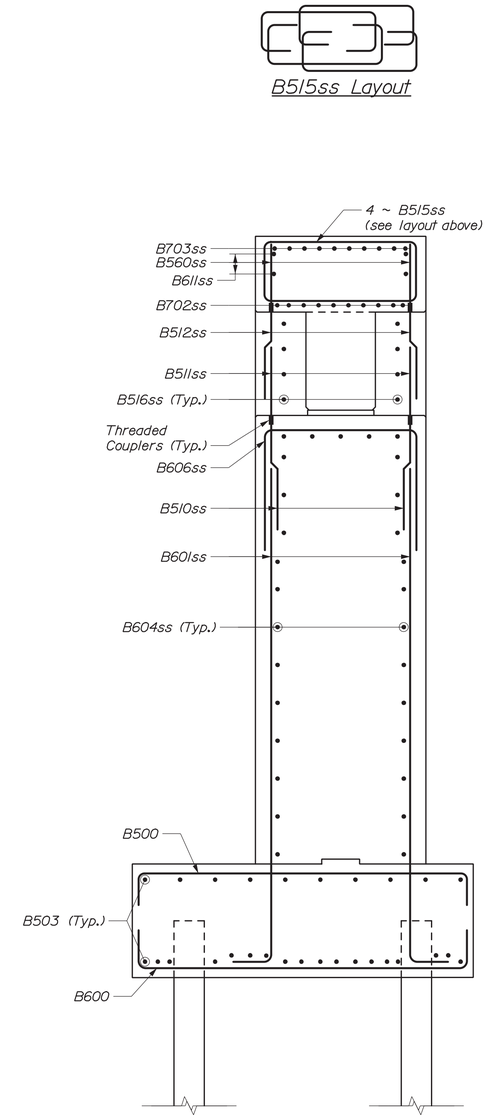


SECTION B-B



B514ss Layout

SECTION C-C



B515ss Layout

SECTION D-D

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	HJW	ERB	2\20
CHECKED-REVIEWED	NMW	TRC	2\20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

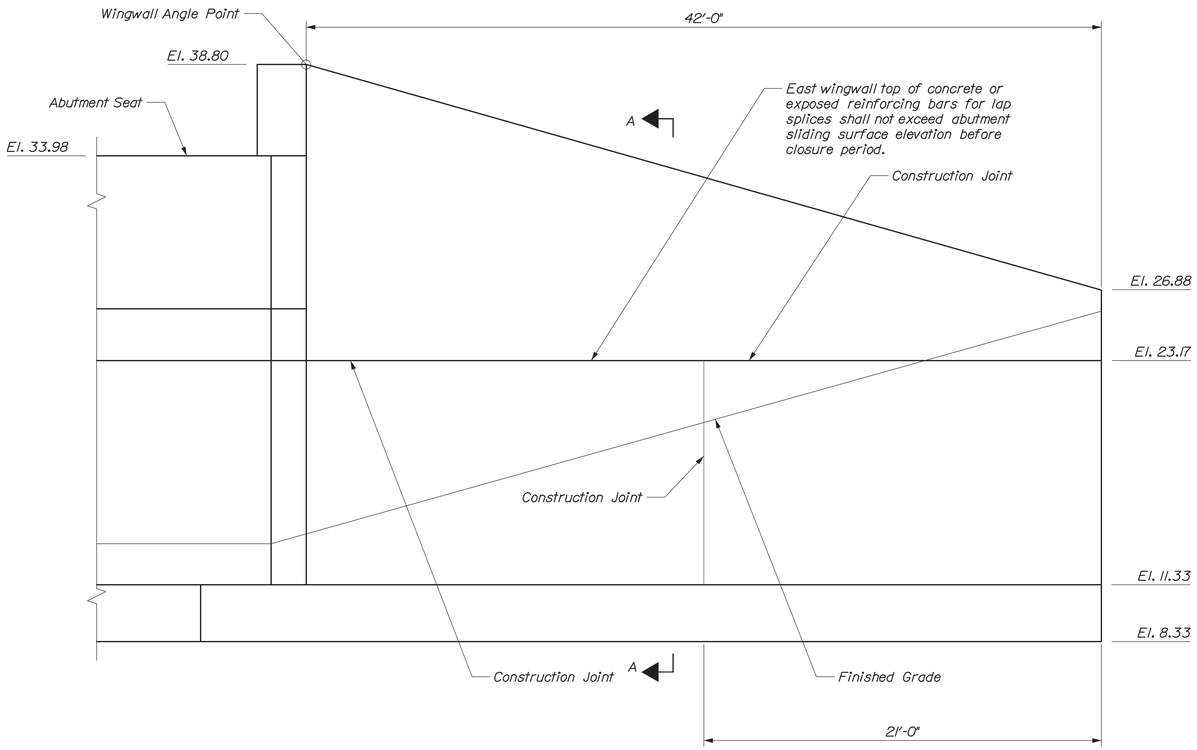
DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

ABUTMENT 2
REINFORCING SECTIONS

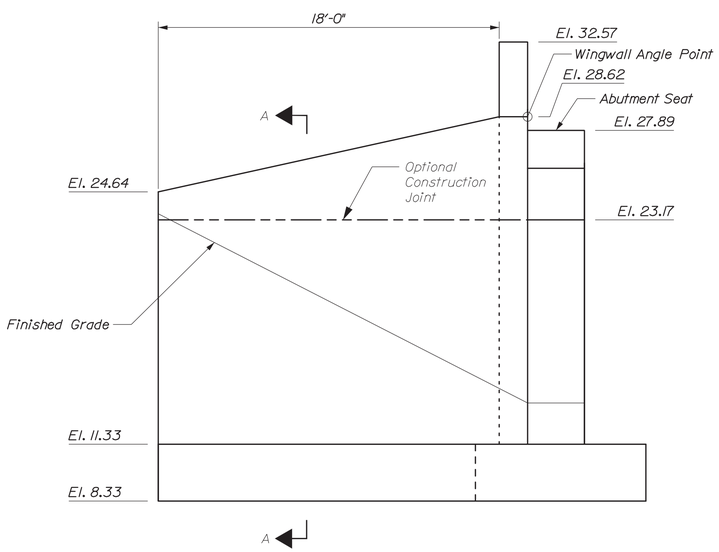
SHEET NUMBER
187
OF 220

Filename: 187_Abutment 2 Reinforcing Sections.dgn Division: Username: Date:3/3/2020



ABUTMENT 2 EAST WINGWALL ELEVATION

(Piles not shown)

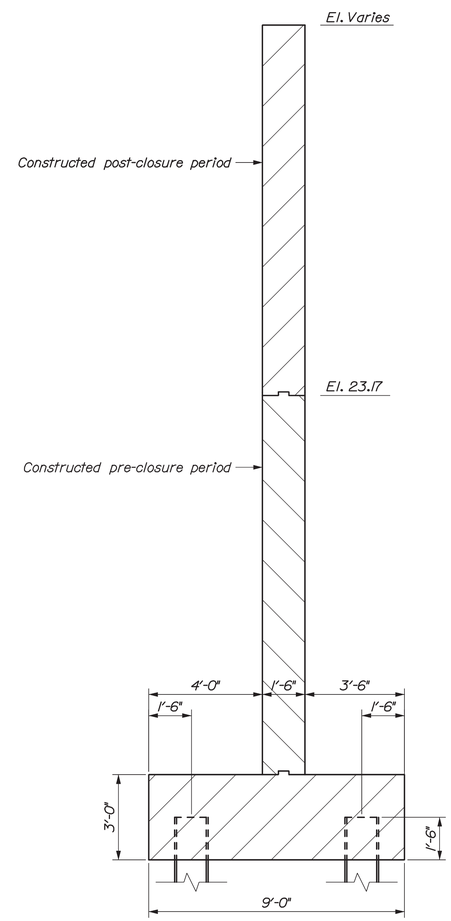


ABUTMENT 2 WEST WINGWALL ELEVATION

(Piles not shown)

NOTES:

1. For wingwall typical sections and wingwall notes, see Abutment I Wingwall Geometry Sheet.



Section A-A

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

SIGNATURE

P.E. NUMBER

DATE

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	H.W	ERB	2\20
CHECKED-REVIEWED	T.JP	TRC	2\20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

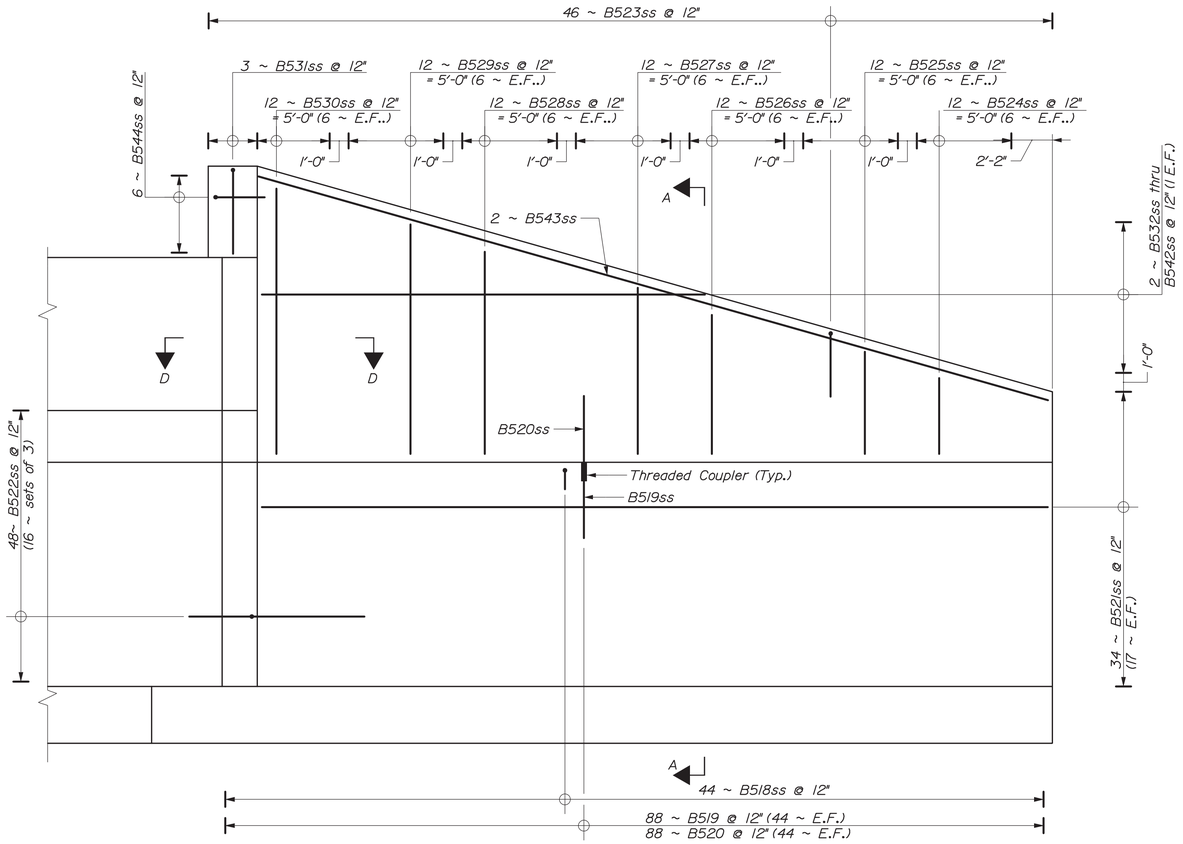
ABUTMENT 2
WINGWALL GEOMETRY

SHEET NUMBER

188

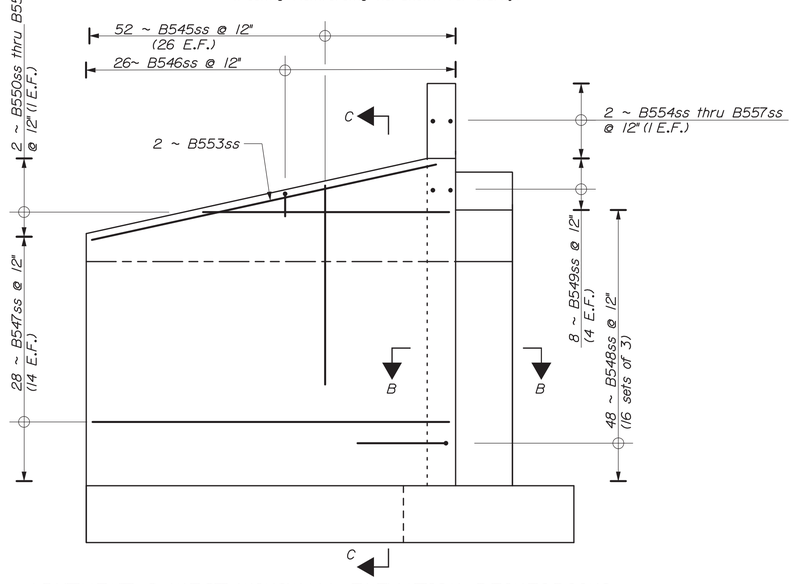
OF 220

Filename: 188_ Abutment 2 Wingwall Geometry.dgn Division: Username: Date:3/3/2020



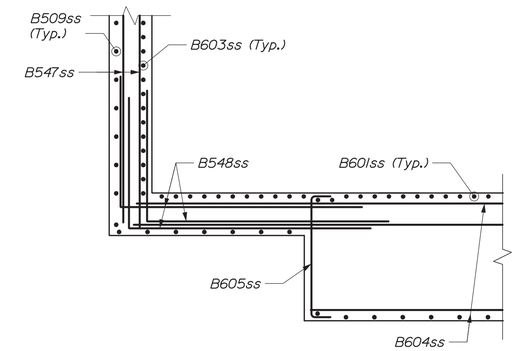
ABUTMENT 2 EAST WINGWALL ELEVATION REINFORCING

(Footing Reinforcing not shown for clarity)

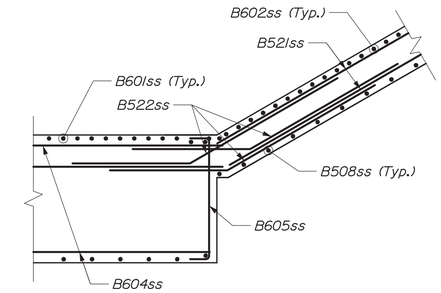


ABUTMENT 2 WEST WINGWALL ELEVATION REINFORCING

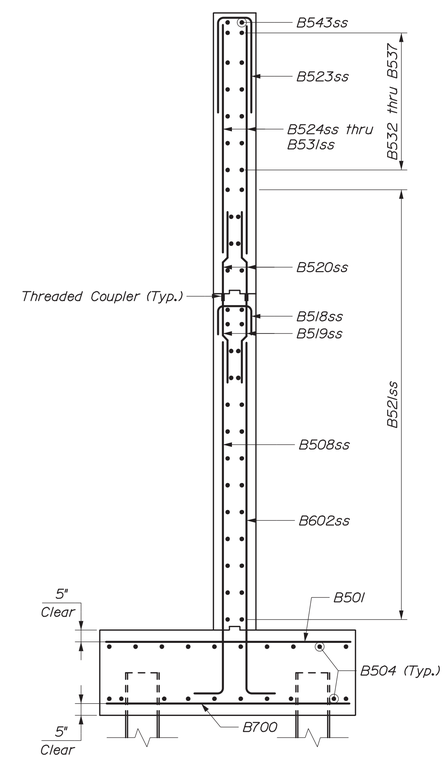
(Footing Reinforcing not shown for clarity)



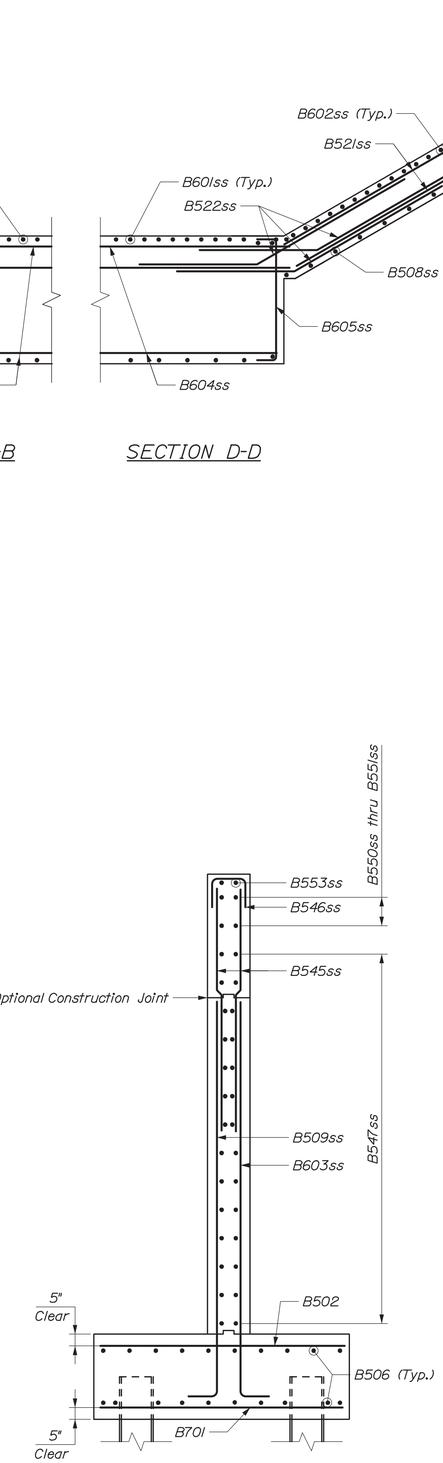
SECTION B-B



SECTION D-D



SECTION A-A



SECTION C-C

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	T.JP	ERB	2\20
CHECKED-REVIEWED	KEB	TRC	2\20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

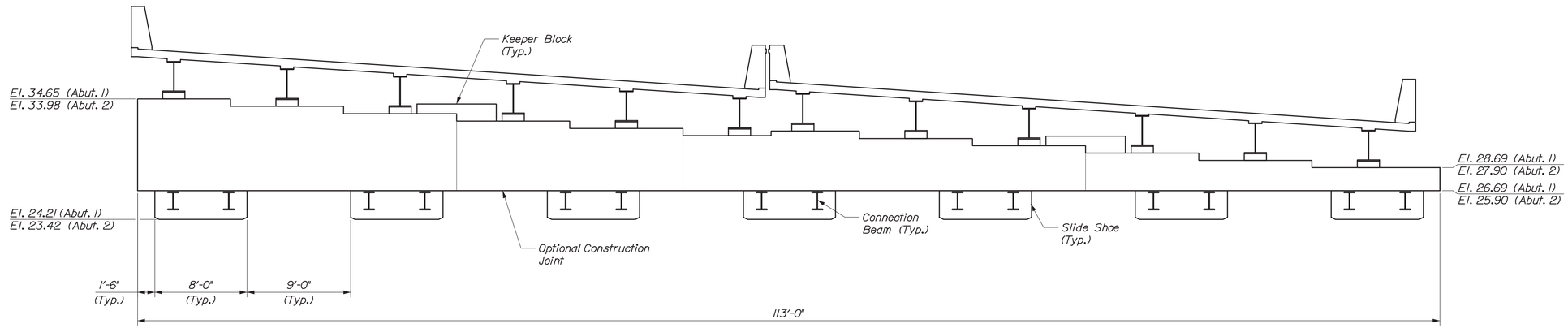
ABUTMENT 2
WINGWALL REINFORCING

SHEET NUMBER

189

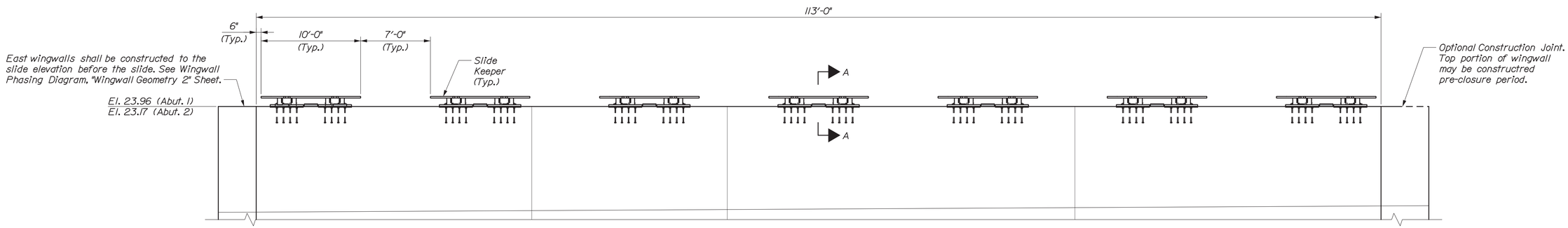
OF 220

Filename: 189_Abutment 2 Wingwall Reinforcing.dgn Division: Username: Date:3/3/2020



UPPER ABUTMENT (SLIDING)

(Abutment 1 shown, Abutment 2 opposite hand)



LOWER ABUTMENT (FIXED)

(Abutment 1 shown, Abutment 2 opposite hand)

ABUTMENT CONNECTION NOTES:

1. Temporary bearings are optional. Any temporary bearing shall meet the requirements of the slide bearing detailed on Abutment Connection Details IV.

2. All components for sliding the bridge, including slide bearings, stainless steel slide plates, connection beams and slide keepers shall be paid for under lump sum Item 524.302, Lateral Slide.

3. All rolled and plate steel components in the abutment shall be AASHTO M270 grade 50, washers shall be ASTM F436, nuts shall be ASTM A563.

4. Rolled steel shape for Connection Beam may be replaced with plate sections that match the nominal rolled member depths, flange plate widths, flange plate depths, and web thicknesses rounded up to the nearest $^1/_8$".

5. Plate steel and rolled steel shapes shall be galvanized in accordance with Section 506. Bolts, washers, nuts shall be galvanized to ASTM A153 or ASTM B695, Class 50, Type 1.

6. The faying surfaces between the Connection Beam and the Slide Keeper shall meet the requirements of an AASHTO Class B Surface for slip.

7. Plate washer shim packs shall be provided at thicknesses determined by the Contractor and shall be placed between the Connection Beam and the Slide Keeper as shown on the plans. The maximum gap between the Connection Beam and the Slide Keeper after shims are placed is $^1/_{16}$".

8. For each abutment, all plate washer shims shall be placed and all bolts shall be brought to a finger tight condition before any bolts are torqued.

9. Slide bearings shall be placed such that in the temporary condition a minimum of 2 bearings will be fully under each slide shoe. Slide bearings may be moved during the slide. Permanent slide bearings shall be spaced as shown on Slide Shoe Elevation on Sheet Abutment Connections Details IV.

10. Slide bearing elastomer shall be 100% polychloroprene (neoprene) with durometer hardness of 50. The shear modulus of the elastomer shall be between 100 psi and 130 psi.

11. The Slide Keeper shall be plumb within $^1/_{16}$". If the Slide Keeper anchorage is cast unlevel, the Contractor shall provide beveled shim plates between the Slide Keeper anchorage to correct the plumbness of the Slide Keeper.

12. All abutment splice connection bolts must be torqued as required in Section 504 for a splice connection prior to placing the modular approach slabs.

13. The Contractor may drill up to 2 holes in each end of the Connector Beam webs as necessary to place continuous transverse reinforcement. The holes shall be no larger than $1^1/_2$" ϕ and the center point of a hole shall be 2" minimum from the inside of the Connector Beam flanges.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	HJW	ERB	2/20
CHECKED-REVIEWED	JDW	TRC	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

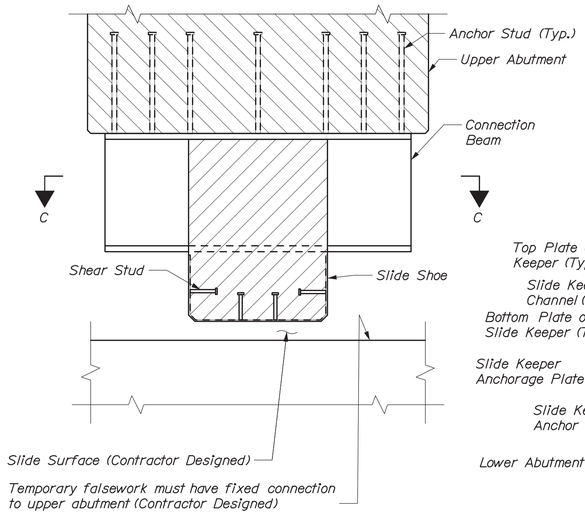
ABUTMENT CONNECTION
DETAILS I

SHEET NUMBER

190

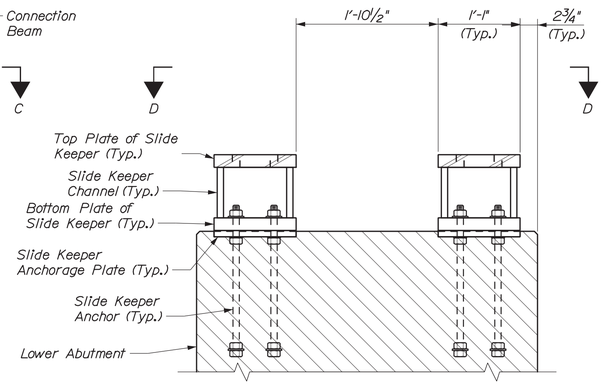
OF 220

Filename: 190_Abutment Connection Details I.dgn Division: Username: Date:3/3/2020



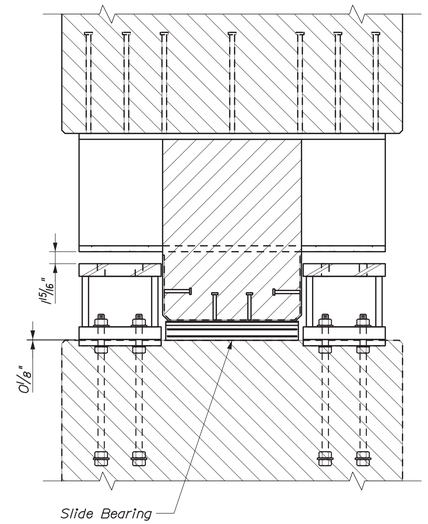
SECTION A-A

(Upper Abutment, Pre-Closure Period)



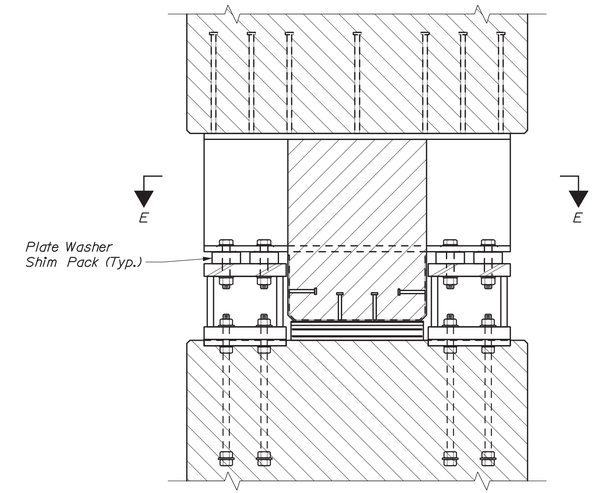
SECTION A-A

(Lower Abutment Pre-Closure Period)



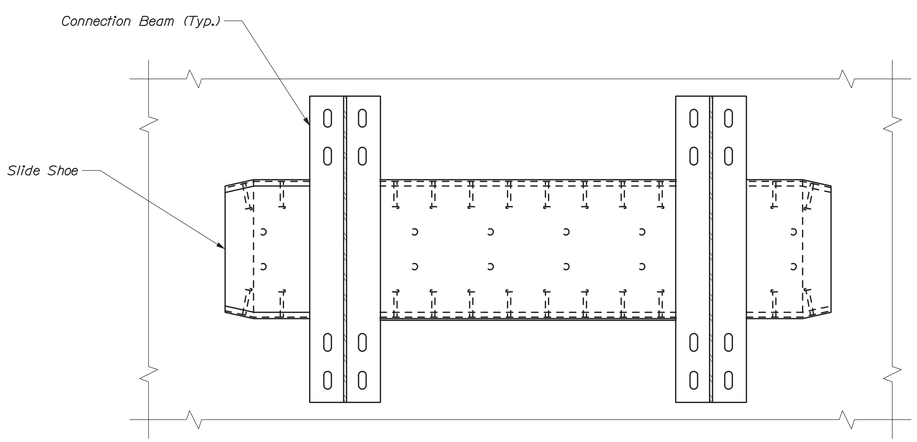
SECTION A-A

(During Slide)

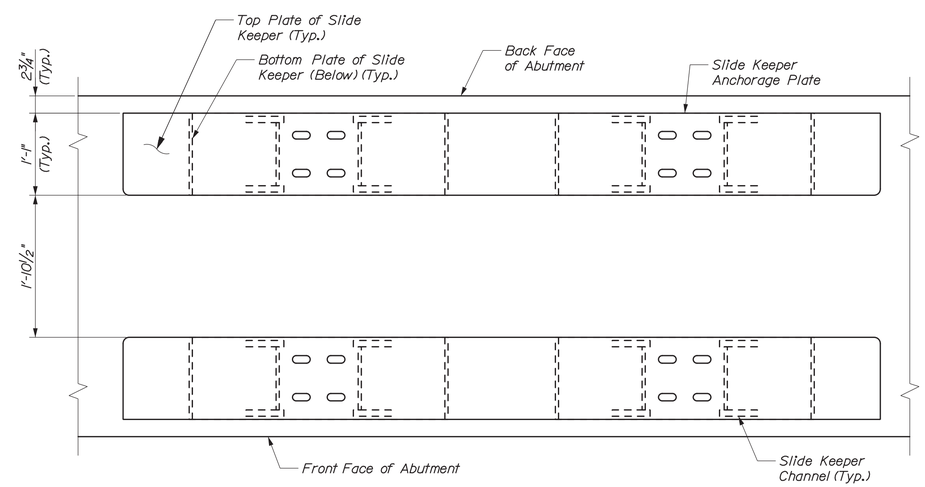


SECTION A-A

(After Slide and Prior to Roadway Opening)



SECTION C-C



SECTION D-D

NOTES:

1. For Section E-E, see "Abutment Connection Details III" Sheet.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

SIGNATURE

P.E. NUMBER

DATE

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	HJW	ERB	2\20
CHECKED-REVIEWED	JDW	TRC	2\20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

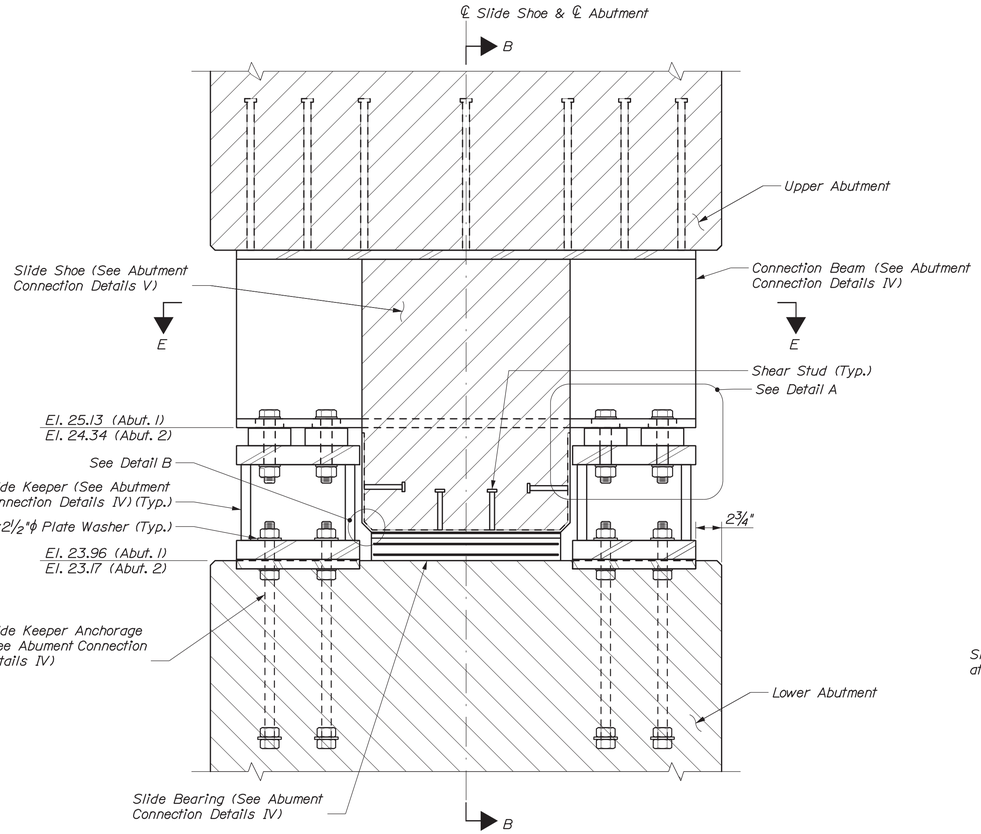
ABUTMENT CONNECTION DETAILS II

SHEET NUMBER

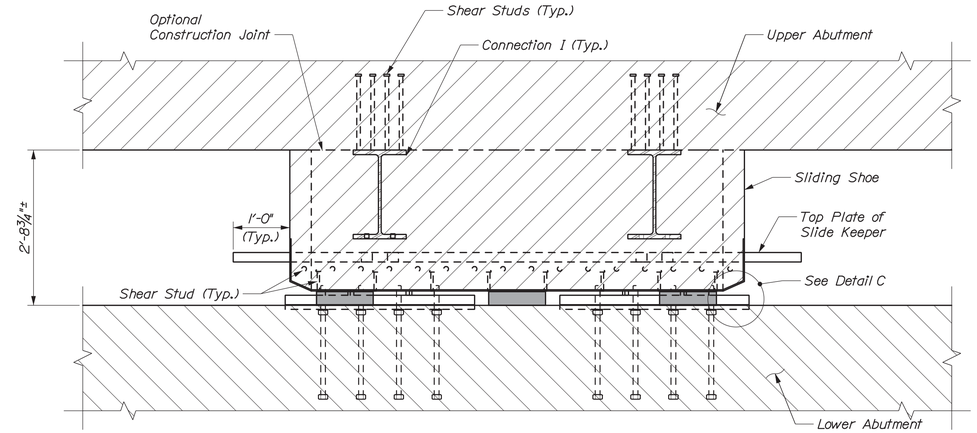
191

OF 220

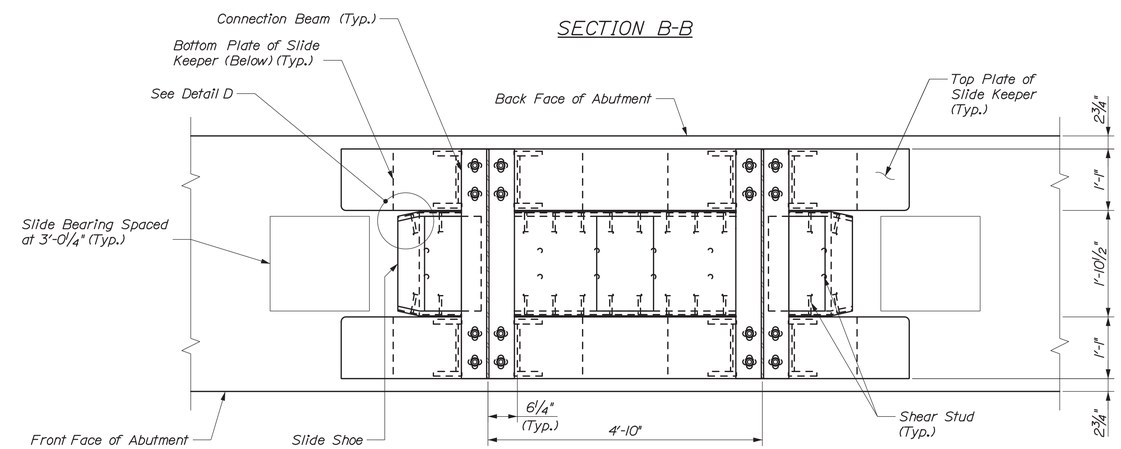
Filename: 191_Abutment Connection Details II.dgn Division: Username: Date:3/3/2020



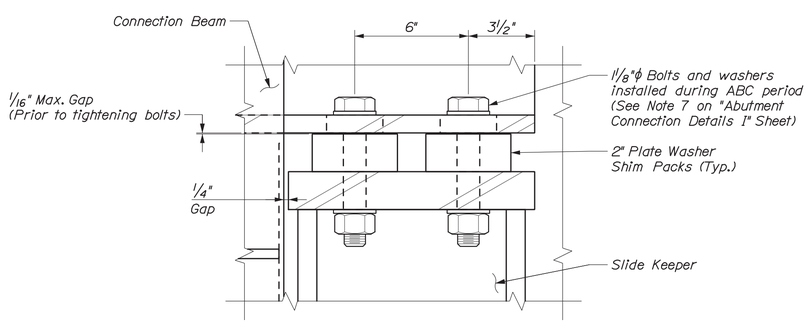
SECTION A-A



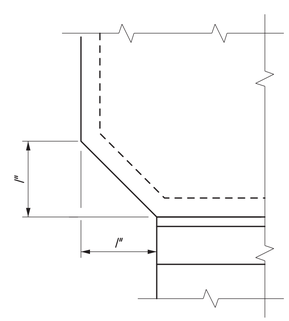
SECTION B-B



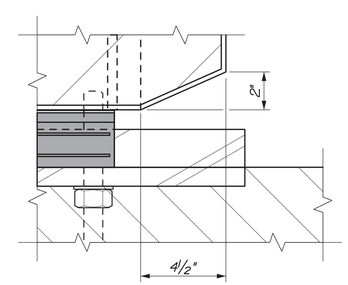
SECTION E-E



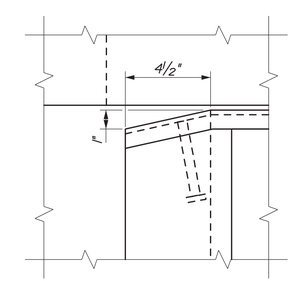
DETAIL A



DETAIL B



DETAIL C



DETAIL D

NOTES:

1. Reinforcing and shear connectors in slide shoe not shown for clarity.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	HJW	ERB	2/20
CHECKED-REVIEWED	JDW	TRC	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

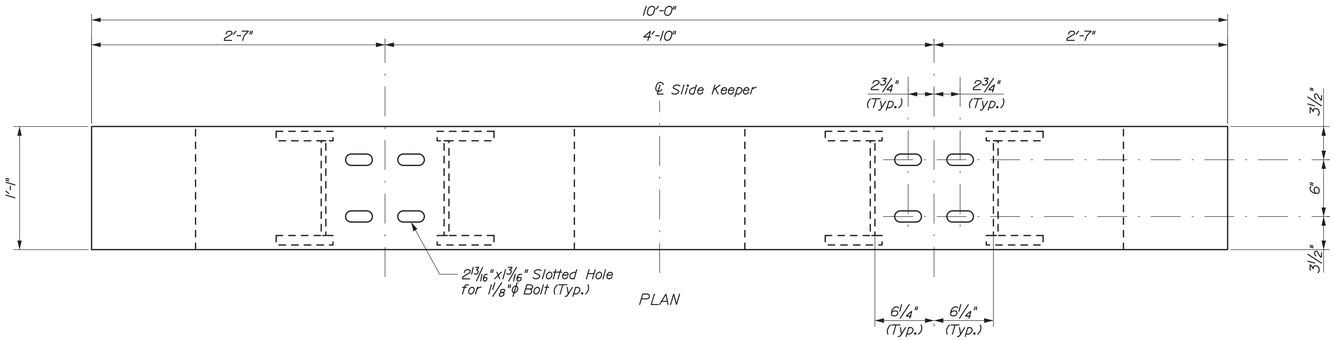
ABUTMENT CONNECTION DETAILS III

SHEET NUMBER

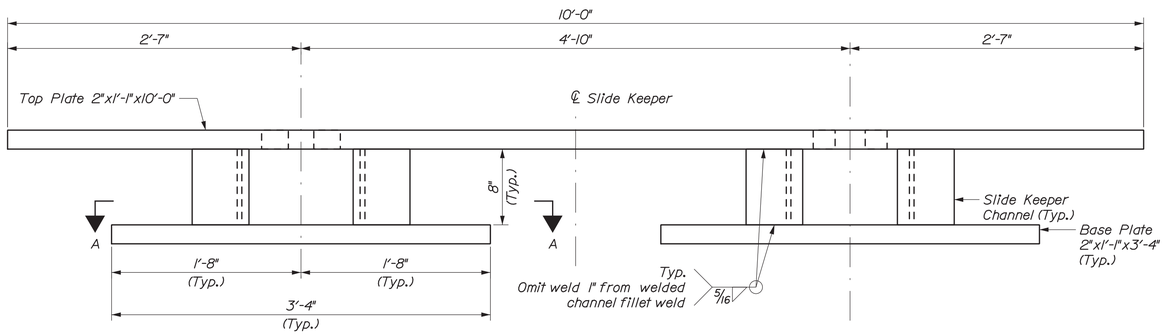
192

OF 220

Filename: 192_Abutment Connection Details III.dgn Division: Username: Date:3/3/2020



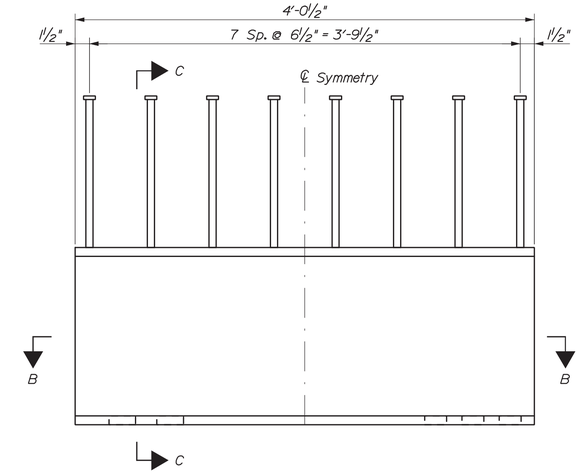
PLAN



ELEVATION

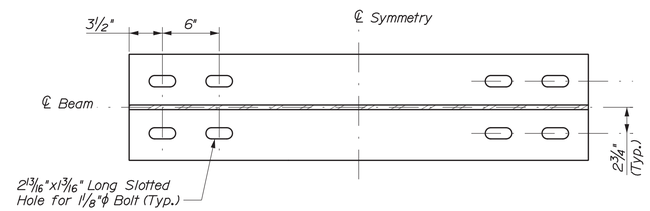
SLIDE KEEPER

(Slide keeper anchorage not shown)
(14 Each Abutment, 28 Total)



CONNECTION BEAM ELEVATION

(14 Each Abutment, 28 Total)



SECTION B-B

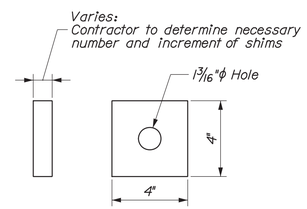
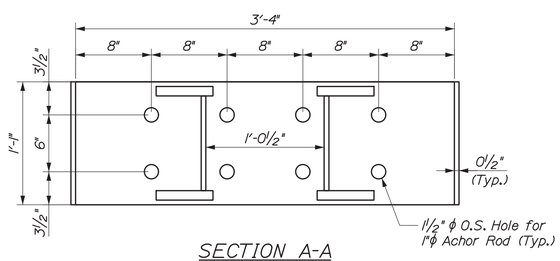
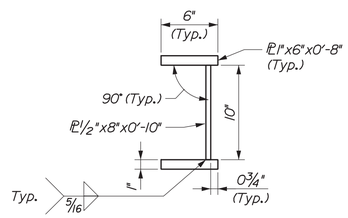


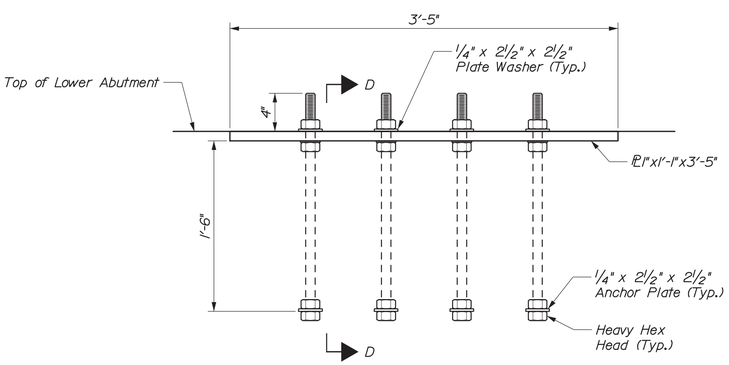
PLATE WASHER SHIM PACK



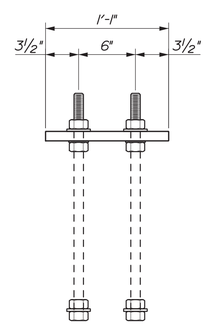
SECTION A-A



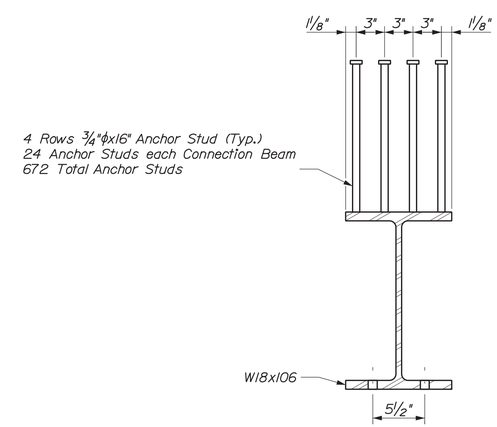
SLIDE KEEPER CHANNEL PLAN



SLIDE KEEPER ANCHORAGE



SECTION D-D



SECTION C-C

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	HJW	ERB	2/20
CHECKED-REVIEWED	JDW	TRC	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

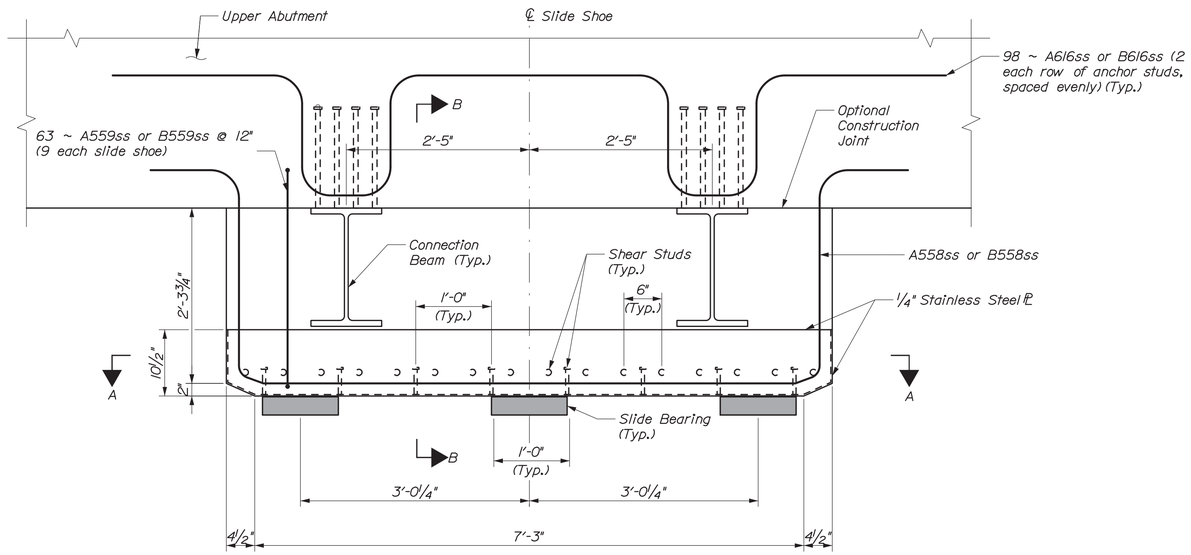
ABUTMENT CONNECTION DETAILS IV

SHEET NUMBER

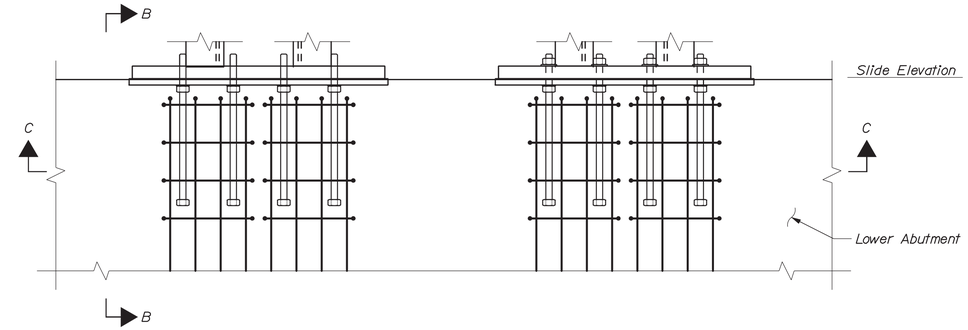
193

OF 220

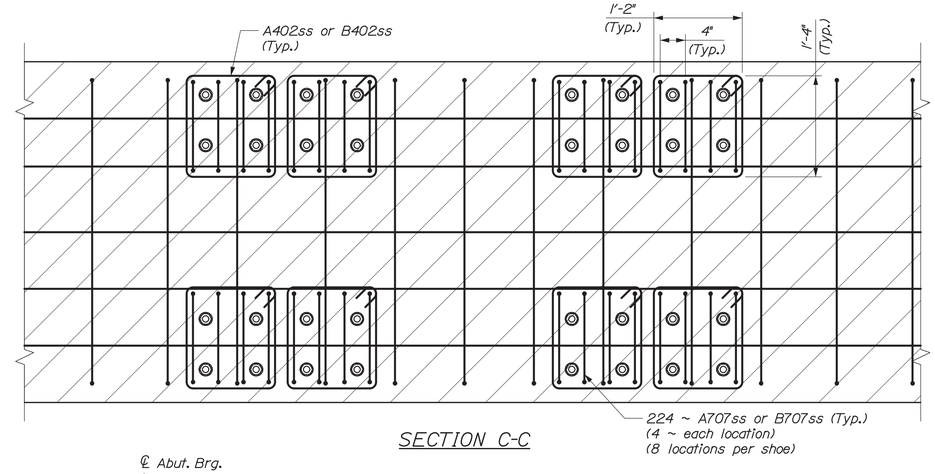
Filename: 193_Abutment Connection Details IV.dgn Division: Username: Date:3/3/2020



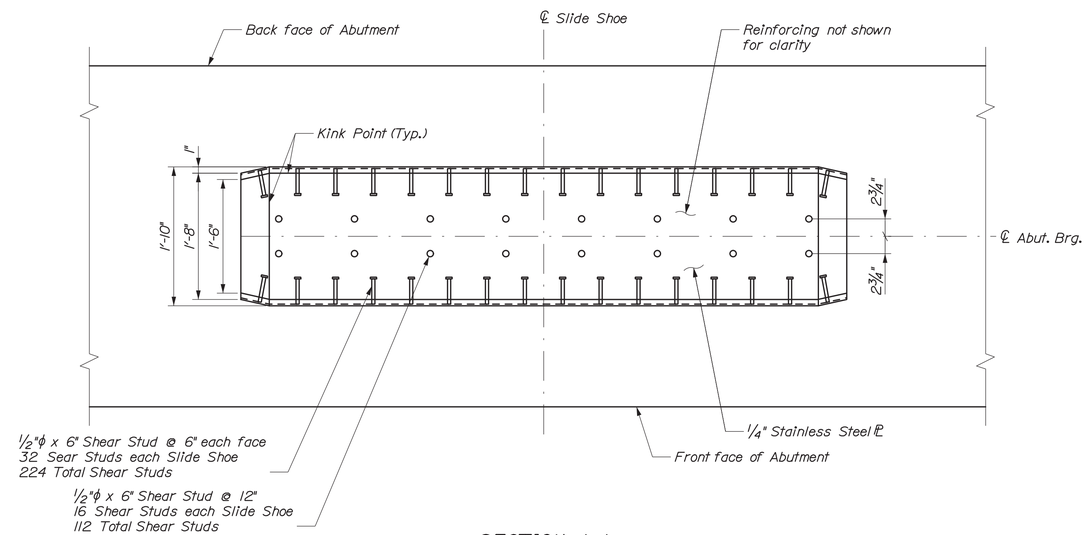
SLIDE SHOE ELEVATION
(Slide Keepers not shown for clarity)



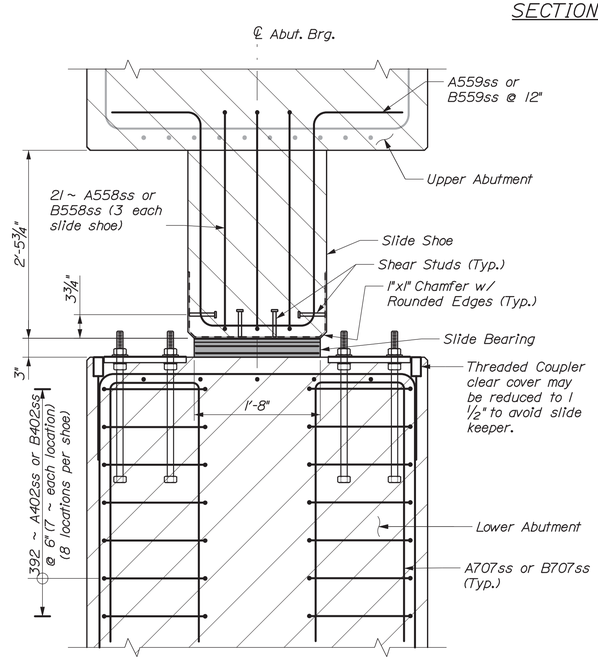
LOWER ABUTMENT ELEVATION



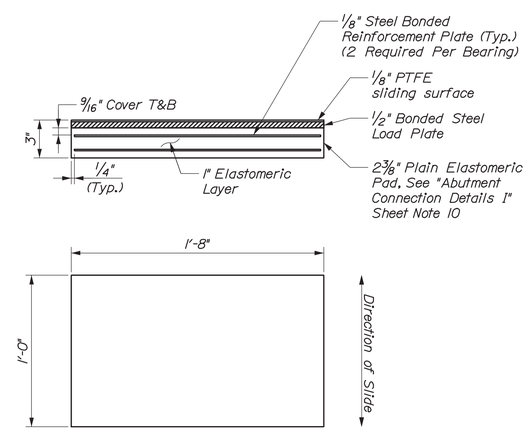
SECTION C-C



SECTION A-A



SECTION B-B



SLIDE BEARING

NOTES:

1. Reinforcing for Abutment 1 shown. Reinforcing for Abutment 2 similar.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	HJW	ERB	2/20
CHECKED-REVIEWED	JDW	TRC	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

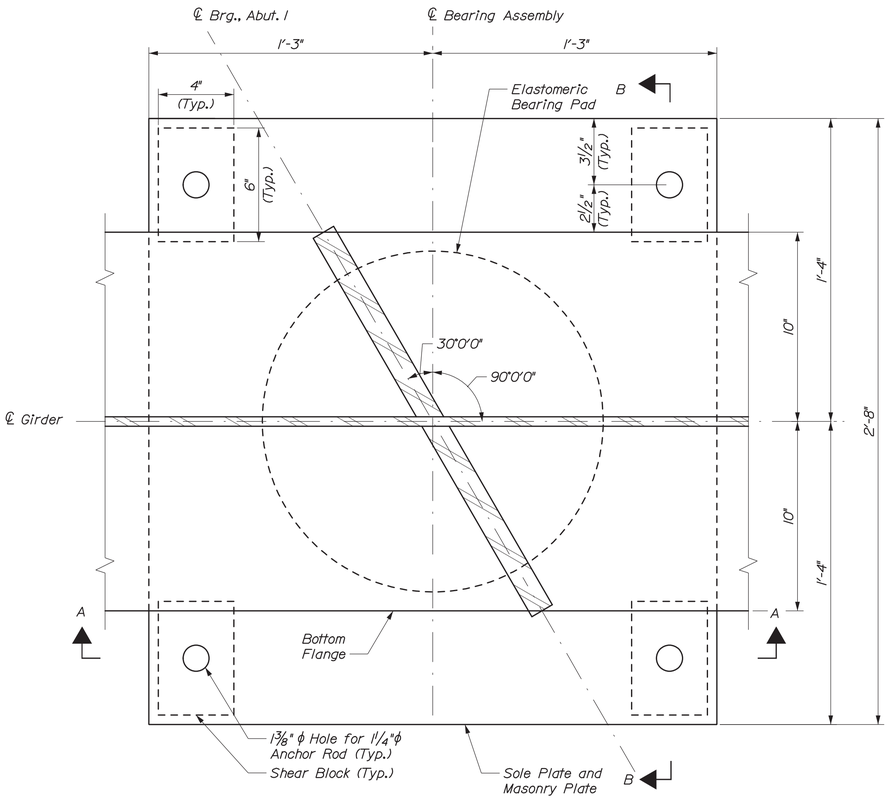
ABUTMENT CONNECTION DETAILS V

SHEET NUMBER

194

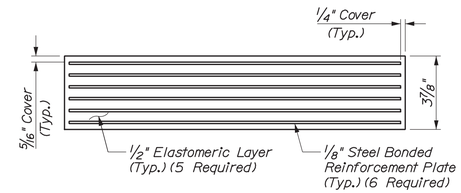
OF 220

Filename: 194_Abutment Connection Details V.dgn Division: Username: Date:3/3/2020

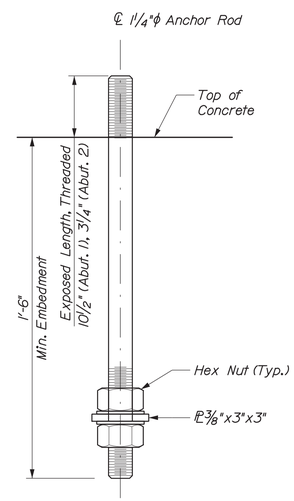


PLAN

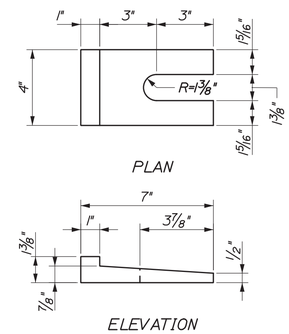
BEARING DESIGN CRITERIA		
Criteria	Abutment 1	Abutment 2
Unfactored Dead Load (kips)	182	182
Unfactored Live Load (kips)	100	100
Max. Longitudinal Displ. (in.)	0	0.61



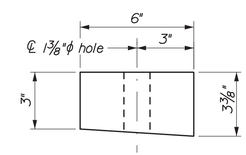
ELASTOMERIC BEARING PAD
(24 Required)



ANCHOR ROD DETAIL



WEDGE DETAIL
(48 Required)



SHEAR BLOCK DETAIL

BEARING NOTES:

1. Elastomer shall be 100% polychloroprene (neoprene) with durometer hardness of 50. The shear modulus of the elastomer shall be between 95 and 130 psi.

2. Vulcanizing of the elastomer to the sole plate and masonry plate shall be done during the primary mold process.

3. For the Normal Configuration, single nut the anchor rods in expansion bearings and double nut the anchor rods in fixed bearings. Upset the threads on the anchor rods after the lateral slide and before the bridge is opened to traffic.

4. Sole plate, masonry plate, shim plates, and shear block shall be AASHTO M270 Grade 36. Anchor rods shall meet the requirements of ASTM F1554, Grade 105.

5. Bearings shall be covered during transit.

6. Masonry and Sole plates shall be galvanized in accordance with Section 506. Anchor rods, washers and nuts shall be galvanized to ASTM A 153 or ASTM B 695, Class 50, Type 1. Temporary shims may be uncoated.

7. Bearings are designed such that the superstructure may be erected when the ambient temperature is within the range of 30°F and 80°F. If the ambient temperature is outside of this range, the bearings shall be reset as directed by the Resident.

8. All bearings shall be marked prior to shipping. The marks shall include the bearing location on the bridge, and a direction arrow that points up-station. All marks shall be permanent and shall be visible after the bearing is installed.

9. The Contractor shall not weld the girders to the sole plates until after all adjustments have been made in accordance with Section 523.

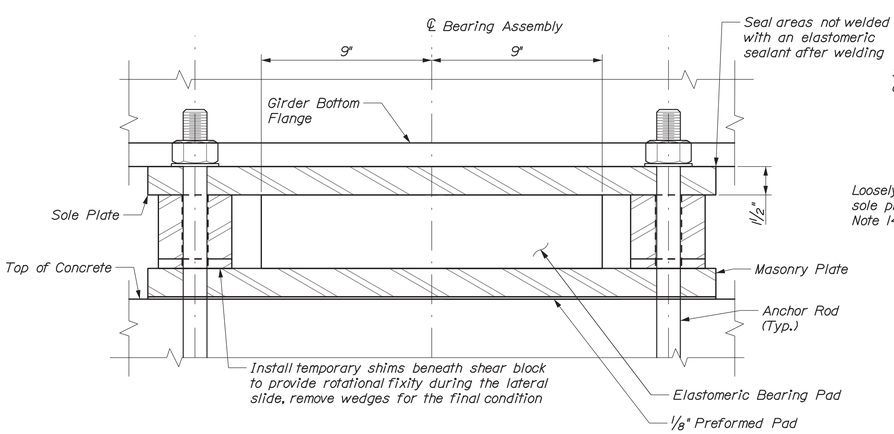
10. All necessary precautions shall be taken to protect bearing components from field weld flash and spatter. Heat from welding operations shall be controlled such that steel adjacent to the elastomer does not exceed 200°F. The temperature shall be verified by use of temperature indicating crayons or other suitable means.

11. Contractor shall re-finish galvanizing and girder metallizing, as directed by Resident, in accordance with ASTM A780 after welding.

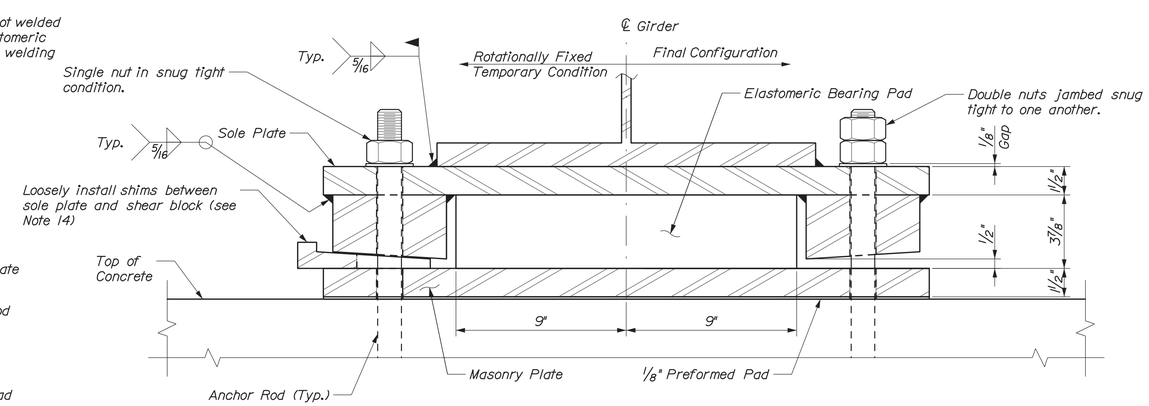
12. Bearing pads were designed using "Method A" and shall be subsequently tested in accordance with the specifications.

13. All bearings shall be in their rotationally fixed condition during the times indicated in Special Provision 524 - Lateral Slide. At all other times, bearings shall be in their Final Configuration. For Notes on expansion bearing rotationally fixed condition see Sheet "Bearing Details 11".

14. To achieve the rotationally fixed condition for fixed bearings, the Contractor shall loosely install steel wedges between the masonry plate and shear blocks at each of the four anchor bolt locations. Following installation of the wedges the Contractor shall bring the anchor rod nuts to a snug tight condition. After bolt tightening the contractor shall tap each wedge with a steel hammer to confirm the wedges are securely clamped in place. If loose wedges are encountered the Contractor shall repeat the process. The Contractor shall not drive the wedges to a snug tight condition prior to tightening the anchor rod nuts whereas the additional load added to the structure following the lateral slide, and prior to removal of the wedges, will compress the bearings and make wedge removal difficult.



SECTION A-A
(Rotationally Fixed Temporary Condition)



SECTION B-B

FIXED BEARING ASSEMBLY
(12 Required)

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	HJW	ERB	2/20
CHECKED-REVIEWED	NMW	TRC	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

BEARING DETAILS I

SHEET NUMBER
195
OF 220

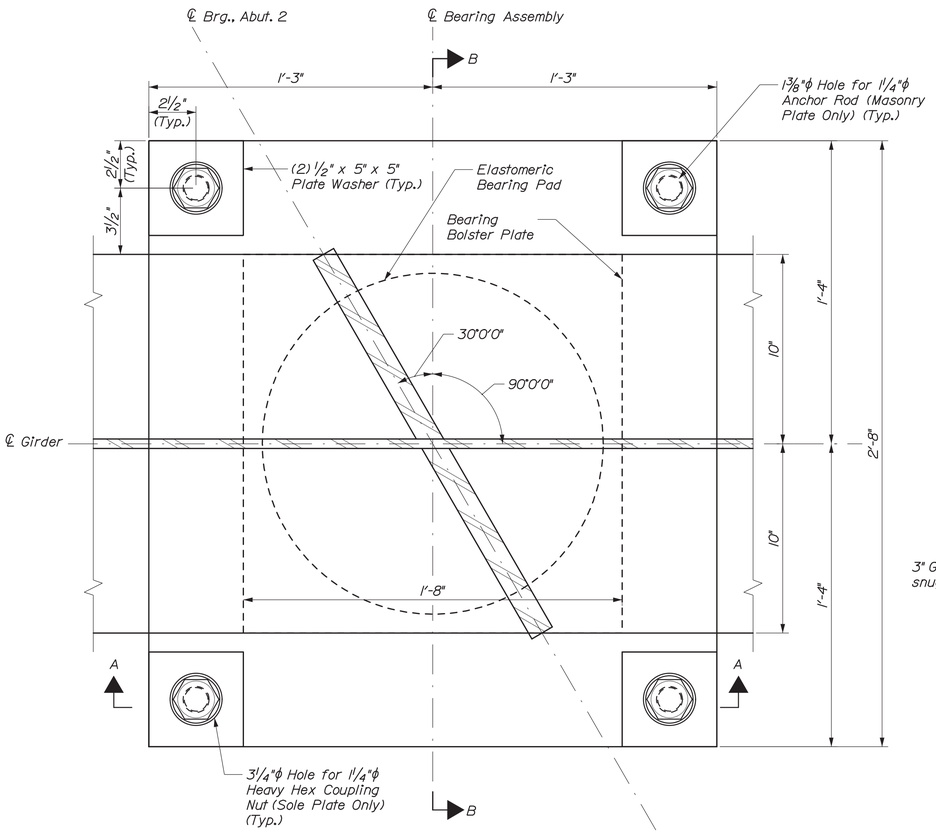
Filename: 195_Bearing Details I.dgn Division: Username: Date:3/3/2020

NOTES:

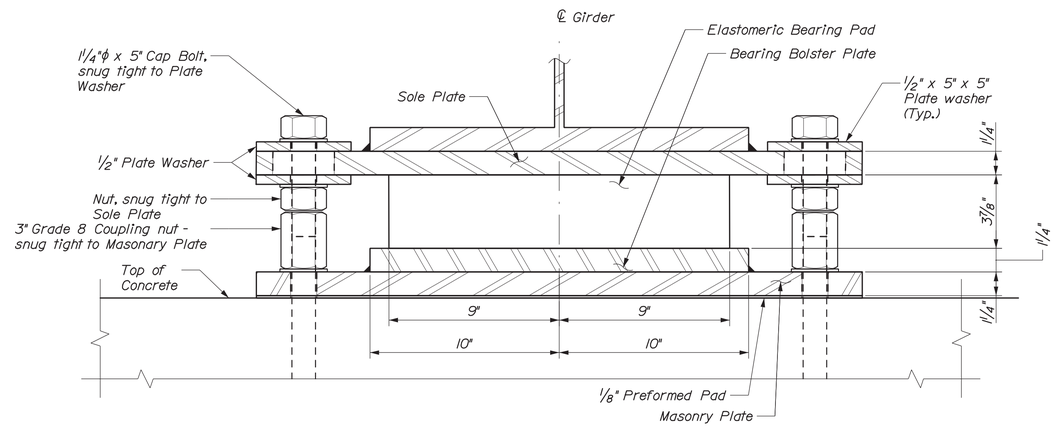
1. For general notes on bearings see "Bearing Notes" on Sheet "Bearing Details I".

2. Prior to starting the trial slide, the Contractor shall verify that all anchor rods for expansion bearings have a projection of 3 1/4" ±1/8" from face of concrete abutment seat. Any anchor rods with project greater than the allowable tolerance shall be cut to meet tolerance.

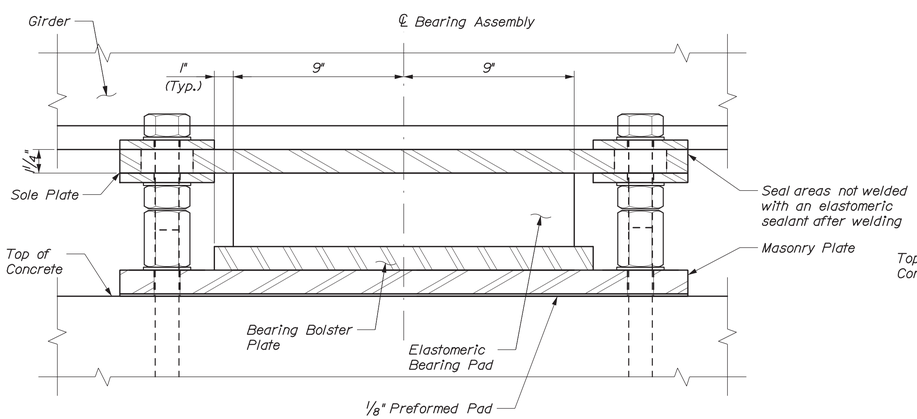
3. To achieve the rotationally fixed condition for expansion bearings, the Contractor shall remove the anchor rod nut, thread a hex coupler nut to the anchor rod, place a heavy hex jamming nut and a 1/2" thick plate washer between the coupler nut and the sole plate, place a 1/2" plate washer and a standard 1 1/4"ϕ washer on top of the sole plate, and thread a 5" cap bolt through the jamming nut and into the coupling nut to a finger tight condition. After all four cap bolts are installed finger tight with the coupling nut, each cap bolt shall be tightened to a snug tight condition to the coupling nut, making sure that the jamming nut is not bearing on the coupling nut. All cap bolts shall be tightened together; turn the cap bolts no more than 1/4 turn with a wrench at a time before moving to the next cap bolt, tightening all cap bolts in sequence. After tightening the cap bolts, the Contractor shall verify that the top plate washers are not free to spin by hand. If one plate washer is free to spin, and a gap is visible between the cap bolt and the washer, remove the cap bolt that is not bearing, insert an additional standard washer between the head of the bolt and the plate washer, re-thread the cap bolt into the jamming nut and the cap bolt, and tighten the cap bolt to a snug tight condition in the coupling nut. If two or more top plate washers are free to spin, loosen all cap bolts to a finger tight condition, install an additional washer where necessary, and re-tighten all cap bolts to a snug tight condition. After all four cap bolts are tightened to a snug tight condition in the coupling nut, tighten all four jamming nuts to a snug tight condition against the sole plate, making sure the cap bolt doesn't loosen in the coupling nut.



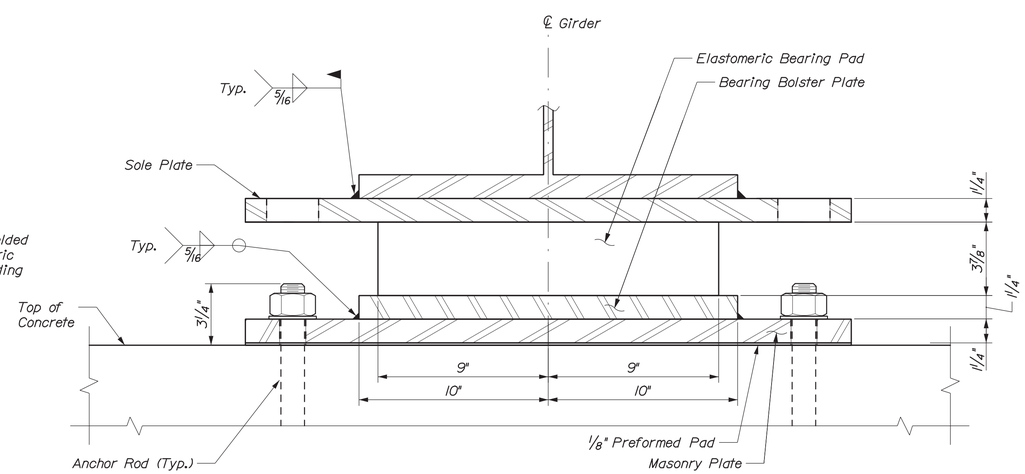
PLAN



SECTION B-B
(Rotationally Fixed Temporary Condition)



SECTION A-A
(Rotationally Fixed Temporary Condition)



SECTION B-B

EXPANSION BEARING ASSEMBLY
(12 Required)

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	HJW	ERB	2/20
CHECKED-REVIEWED	TJP	TRC	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

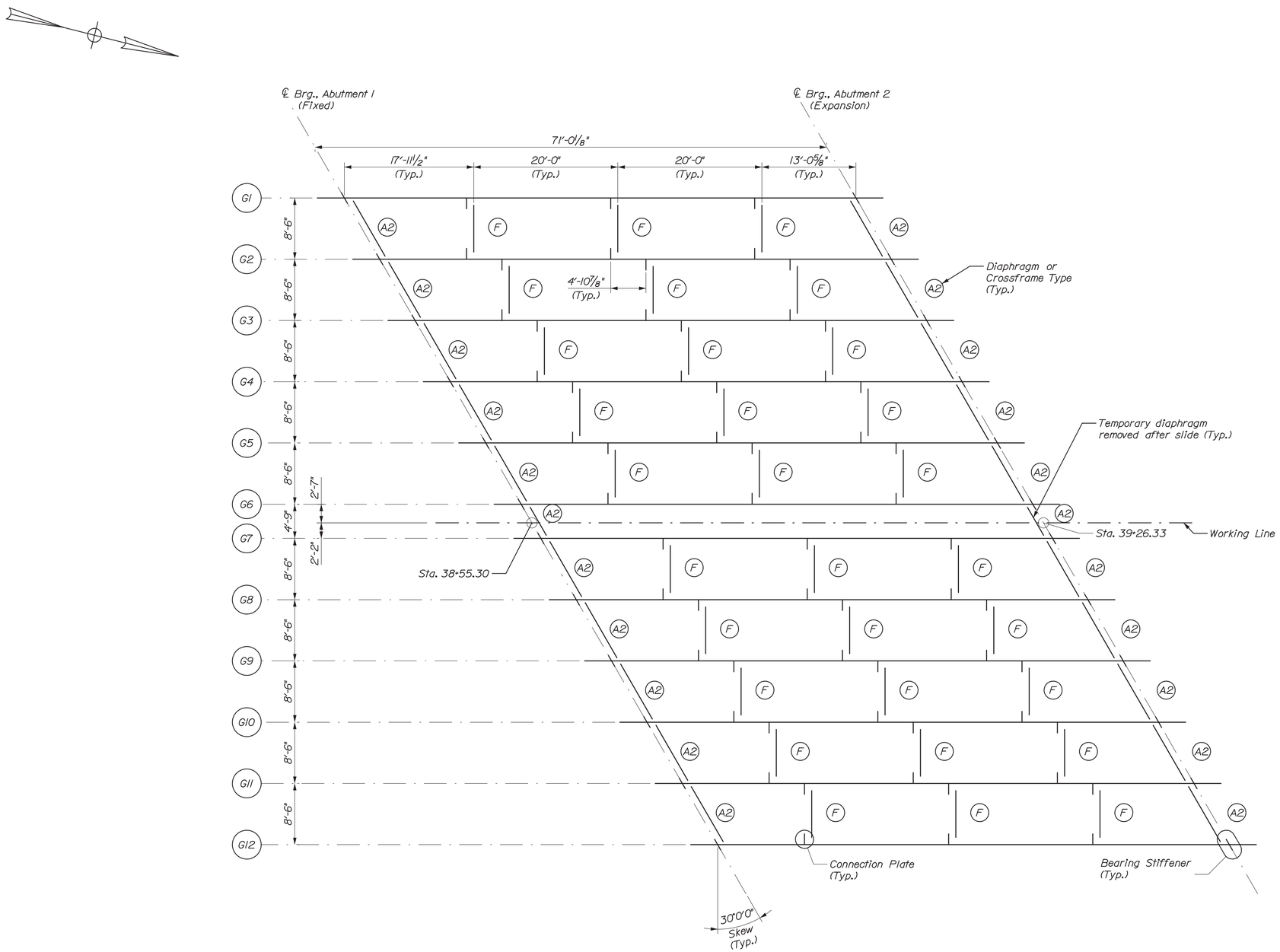
DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

BEARING DETAILS II

SHEET NUMBER
196
OF 220

Filename: 196_Bearing Details II.dgn Division: Username: Date:3/3/2020



FRAMING PLAN

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	H.W	ERB	2\20
CHECKED-REVIEWED	NMW	TRC	2\20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

FRAMING PLAN

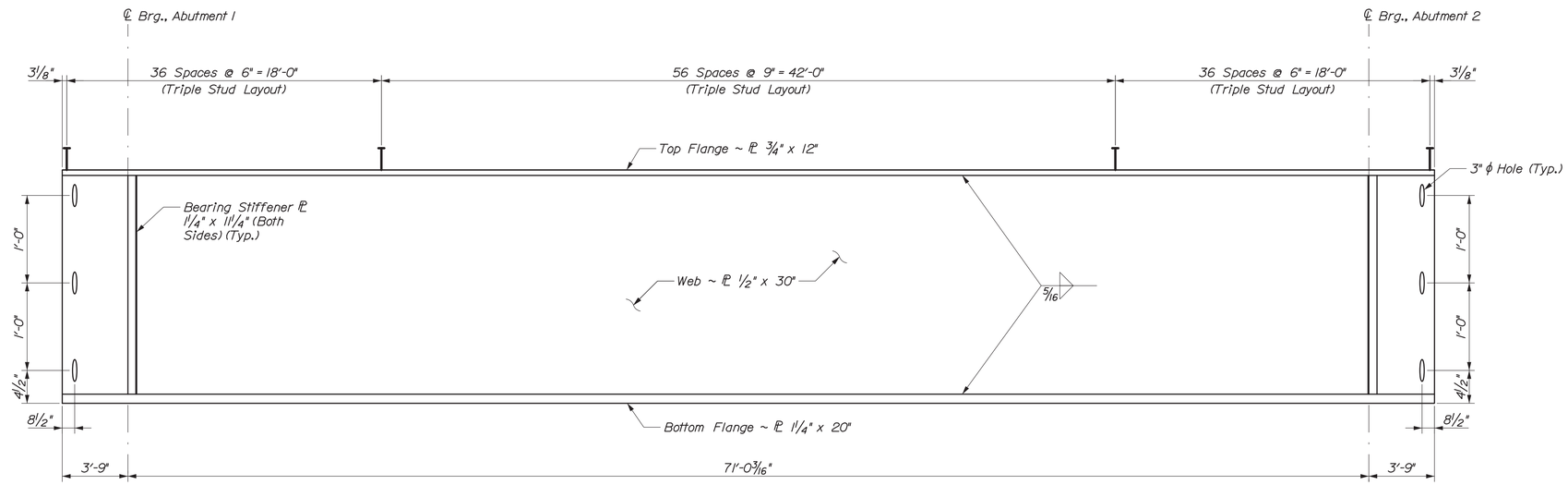
SHEET NUMBER

197

OF 220

HNTB

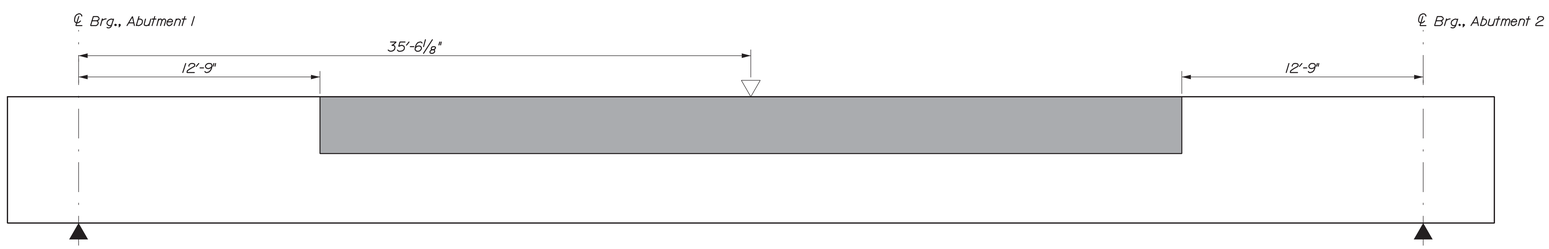
Filename: 197_Framing Plan.dgn Division: Username: Date:3/3/2020



GIRDER ELEVATION

387 studs per girder (4644 studs total)

GIRDER	BOTTOM OF SLAB ELEVATIONS										
	℄ Brg., Abut. 1	0.10 x L	0.20 x L	0.30 x L	0.40 x L	0.50 x L	0.60 x L	0.70 x L	0.80 x L	0.90 x L	℄ Brg., Abut. 2
G1	32.12	32.10	32.08	32.05	32.00	31.94	31.85	31.76	31.64	31.52	31.39
G2	32.76	32.75	32.73	32.70	32.65	32.59	32.50	32.40	32.28	32.15	32.01
G3	33.40	33.38	33.37	33.34	33.29	33.22	33.14	33.03	32.91	32.77	32.63
G4	34.03	34.02	34.00	33.97	33.92	33.85	33.76	33.65	33.53	33.39	33.25
G5	34.66	34.64	34.62	34.59	34.54	34.47	34.38	34.27	34.15	34.01	33.87
G6	35.29	35.27	35.24	35.20	35.15	35.08	34.99	34.88	34.76	34.63	34.49
G7	34.89	34.87	34.85	34.82	34.78	34.73	34.66	34.58	34.48	34.38	34.28
G8	35.53	35.52	35.51	35.48	35.44	35.39	35.32	35.24	35.14	35.03	34.91
G9	36.17	36.16	36.15	36.13	36.09	36.04	35.97	35.88	35.78	35.67	35.55
G10	36.81	36.80	36.79	36.77	36.73	36.68	36.61	36.52	36.42	36.31	36.19
G11	37.45	37.44	37.42	37.40	37.36	37.31	37.24	37.16	37.06	36.95	36.83
G12	38.08	38.07	38.05	38.03	37.99	37.94	37.87	37.78	37.69	37.58	37.47



LEGEND

- Indicates areas always in compression. All other areas are in tension or have stress reversal.
- ▽ Point of maximum positive moment.
- ▲ Point of maximum negative moment.

STEEL GIRDER BEAM STRESS DIAGRAM

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	HJW	PEB	2/20
CHECKED-REVIEWED	NMW	TRC	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

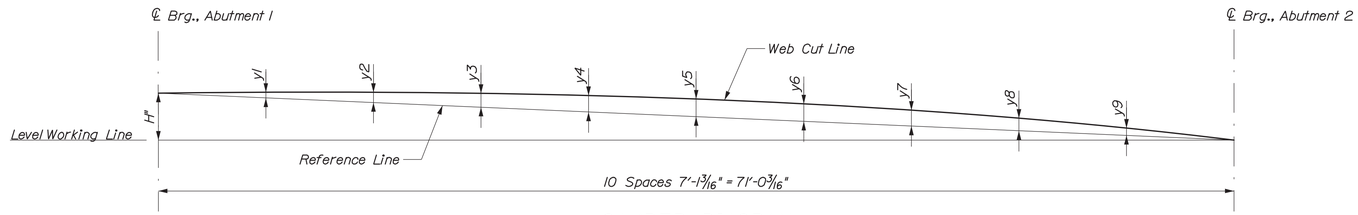
DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

STRUCTURAL STEEL
DETAILS I

SHEET NUMBER
198
OF 220

Filename: 198_Structural Steel Details I.dgn Division: Username: Date:3/3/2020



CAMBER DIAGRAM

GIRDER	CAMBER ORDINATES (INCHES)											
	H	℄ Brg., Abut. 1	y1	y2	y3	y4	y5	y6	y7	y8	y9	℄ Brg., Abut. 2
G1	8 13/16	0	13/16	1 9/16	2 1/8	2 1/2	2 5/8	2 1/2	2 1/8	1 9/16	13/16	0
G2	9	0	7/8	1 3/4	2 3/8	2 3/4	2 7/8	2 3/4	2 3/8	1 11/16	7/8	0
G3	9 3/16	0	15/16	1 13/16	2 7/16	2 7/8	3 1/16	2 7/8	2 1/2	1 13/16	15/16	0
G4	9 3/8	0	15/16	1 13/16	2 7/16	2 7/8	3	2 7/8	2 7/16	1 13/16	15/16	0
G5	9 1/2	0	7/8	1 3/4	2 3/8	2 13/16	2 15/16	2 3/4	2 3/8	1 3/4	15/16	0
G6	9 5/8	0	13/16	1 5/8	2 3/16	2 9/16	2 3/4	2 5/8	2 3/16	1 5/8	13/16	0
G7	7 7/16	0	11/16	1 1/4	1 3/4	2 1/8	2 3/16	2 1/16	1 3/4	1 1/4	11/16	0
G8	7 3/8	0	3/4	1 1/2	2 1/16	2 3/8	2 9/16	2 3/8	2 1/16	1 1/2	3/4	0
G9	7 3/8	0	13/16	1 9/16	2 3/16	2 9/16	2 11/16	2 9/16	2 3/16	1 9/16	13/16	0
G10	7 3/8	0	13/16	1 9/16	2 3/16	2 9/16	2 11/16	2 9/16	2 3/16	1 9/16	13/16	0
G11	7 3/8	0	3/4	1 1/2	2 1/8	2 7/16	2 5/8	2 7/16	2 1/8	1 1/2	3/4	0
G12	7 5/16	0	11/16	1 3/8	1 7/8	2 1/4	2 3/8	2 1/4	1 15/16	1 3/8	11/16	0

GIRDER	DEAD LOAD COMPONENT	DEAD LOAD DEFLECTIONS (INCHES)										
		℄ Brg., Abut. 1	y1	y2	y3	y4	y5	y6	y7	y8	y9	℄ Brg., Abut. 2
G1	Steel Dead Load	0.00	-0.16	-0.29	-0.40	-0.47	-0.49	-0.47	-0.40	-0.29	-0.16	0.00
	Deck Concrete Load	0.00	-0.46	-0.90	-1.24	-1.44	-1.55	-1.45	-1.25	-0.91	-0.47	0.00
	Superimposed Dead Load	0.00	-0.02	-0.07	-0.11	-0.14	-0.14	-0.13	-0.11	-0.07	-0.02	0.00
G2	Steel Dead Load	0.00	-0.16	-0.30	-0.41	-0.49	-0.50	-0.49	-0.41	-0.30	-0.16	0.00
	Deck Concrete Load	0.00	-0.55	-1.07	-1.48	-1.72	-1.81	-1.72	-1.48	-1.07	-0.55	0.00
	Superimposed Dead Load	0.00	-0.02	-0.07	-0.11	-0.12	-0.14	-0.12	-0.11	-0.07	-0.02	0.00
G3	Steel Dead Load	0.00	-0.16	-0.31	-0.42	-0.49	-0.53	-0.49	-0.42	-0.31	-0.16	0.00
	Deck Concrete Load	0.00	-0.59	-1.15	-1.58	-1.85	-1.94	-1.85	-1.58	-1.15	-0.59	0.00
	Superimposed Dead Load	0.00	-0.02	-0.07	-0.11	-0.13	-0.14	-0.13	-0.11	-0.07	-0.02	0.00
G4	Steel Dead Load	0.00	-0.16	-0.31	-0.42	-0.49	-0.53	-0.49	-0.42	-0.31	-0.16	0.00
	Deck Concrete Load	0.00	-0.60	-1.15	-1.60	-1.86	-1.96	-1.86	-1.60	-1.15	-0.60	0.00
	Superimposed Dead Load	0.00	-0.02	-0.07	-0.10	-0.12	-0.13	-0.12	-0.10	-0.07	-0.02	0.00
G5	Steel Dead Load	0.00	-0.16	-0.30	-0.41	-0.49	-0.50	-0.49	-0.41	-0.30	-0.16	0.00
	Deck Concrete Load	0.00	-0.56	-1.10	-1.52	-1.78	-1.87	-1.78	-1.54	-1.10	-0.58	0.00
	Superimposed Dead Load	0.00	-0.02	-0.07	-0.11	-0.12	-0.14	-0.12	-0.11	-0.07	-0.02	0.00
G6	Steel Dead Load	0.00	-0.16	-0.29	-0.40	-0.47	-0.49	-0.47	-0.40	-0.29	-0.16	0.00
	Deck Concrete Load	0.00	-0.52	-1.01	-1.38	-1.62	-1.73	-1.62	-1.38	-1.01	-0.52	0.00
	Superimposed Dead Load	0.00	-0.02	-0.06	-0.10	-0.12	-0.14	-0.13	-0.10	-0.06	-0.02	0.00
G7	Steel Dead Load	0.00	-0.16	-0.29	-0.40	-0.47	-0.49	-0.47	-0.40	-0.29	-0.16	0.00
	Deck Concrete Load	0.00	-0.44	-0.85	-1.18	-1.38	-1.46	-1.38	-1.18	-0.85	-0.43	0.00
	Superimposed Dead Load	0.00	-0.04	-0.08	-0.12	-0.16	-0.16	-0.14	-0.12	-0.06	-0.04	0.00
G8	Steel Dead Load	0.00	-0.16	-0.30	-0.41	-0.49	-0.50	-0.49	-0.41	-0.30	-0.16	0.00
	Deck Concrete Load	0.00	-0.54	-1.06	-1.46	-1.69	-1.79	-1.69	-1.45	-1.04	-0.54	0.00
	Superimposed Dead Load	0.00	-0.02	-0.07	-0.11	-0.13	-0.16	-0.13	-0.11	-0.07	-0.02	0.00
G9	Steel Dead Load	0.00	-0.16	-0.31	-0.42	-0.49	-0.53	-0.49	-0.42	-0.31	-0.16	0.00
	Deck Concrete Load	0.00	-0.59	-1.15	-1.58	-1.85	-1.94	-1.85	-1.58	-1.15	-0.59	0.00
	Superimposed Dead Load	0.00	-0.02	-0.07	-0.11	-0.13	-0.14	-0.13	-0.11	-0.07	-0.02	0.00
G10	Steel Dead Load	0.00	-0.16	-0.31	-0.42	-0.49	-0.53	-0.49	-0.42	-0.31	-0.16	0.00
	Deck Concrete Load	0.00	-0.60	-1.15	-1.60	-1.86	-1.96	-1.86	-1.60	-1.15	-0.60	0.00
	Superimposed Dead Load	0.00	-0.02	-0.07	-0.11	-0.13	-0.14	-0.13	-0.11	-0.07	-0.02	0.00
G11	Steel Dead Load	0.00	-0.16	-0.30	-0.41	-0.49	-0.50	-0.49	-0.41	-0.30	-0.16	0.00
	Deck Concrete Load	0.00	-0.56	-1.09	-1.52	-1.76	-1.87	-1.78	-1.52	-1.10	-0.56	0.00
	Superimposed Dead Load	0.00	-0.02	-0.07	-0.11	-0.12	-0.16	-0.12	-0.11	-0.07	-0.02	0.00
G12	Steel Dead Load	0.00	-0.16	-0.29	-0.40	-0.47	-0.49	-0.47	-0.40	-0.29	-0.16	0.00
	Deck Concrete Load	0.00	-0.50	-0.98	-1.34	-1.58	-1.69	-1.60	-1.36	-1.00	-0.52	0.00
	Superimposed Dead Load	0.00	-0.02	-0.06	-0.11	-0.13	-0.16	-0.14	-0.11	-0.07	-0.02	0.00

STRUCTURAL STEEL NOTES:

1. Camber ordinates, as shown, are computed to compensate for all dead load deflections and for the finished grade profile.

2. No transverse butt weld splices will be allowed in the flange plates or web plates within 10 feet or 10 percent of the span length (whichever is greater) from the points of maximum negative moment or maximum positive moment. Butt weld splices in flanges shall be not less than 3 feet from transverse butt welds in the web plates and no transverse web or flange butt welds shall be located within 3 feet of other transverse welds (e.g. connection plates to web welds) on either flange or web. No transverse butt weld splices will be allowed in areas of stress reversal.

3. Sections of flange plates or web plates between transverse shop splices or between a transverse shop splice and a field splice shall be not less than 20 feet in length unless otherwise shown on the plans.

4. Bearing stiffeners shall be plumb after erection and dead loading of the structure. Intermediate web stiffeners may be either plumb or normal to the top flange.

5. Crossframe and diaphragm connection plates may be either plumb or normal to the top flange.

6. All connection plates shall be welded to the web and top and bottom flanges using 5/16" fillet welds.

7. Shear Connectors shall be installed per Standard Detail 505(01).

8. Drip bars shall be installed in accordance with Standard Detail 504(10).

9. Girders shall be metallized in accordance with Standard Specifications Section 506. Diaphragms may be metallized or hot-dipped galvanized after fabrication.

10. Diaphragms between girders G06 and G07 shall be removed after the bridge has been slid into its final position. Diaphragm removal shall occur within two weeks of opening the bridge to traffic.

11. Cross frames shall be detailed and fabricated to fit under total steel dead load.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

SIGNATURE
P.E. NUMBER
DATE

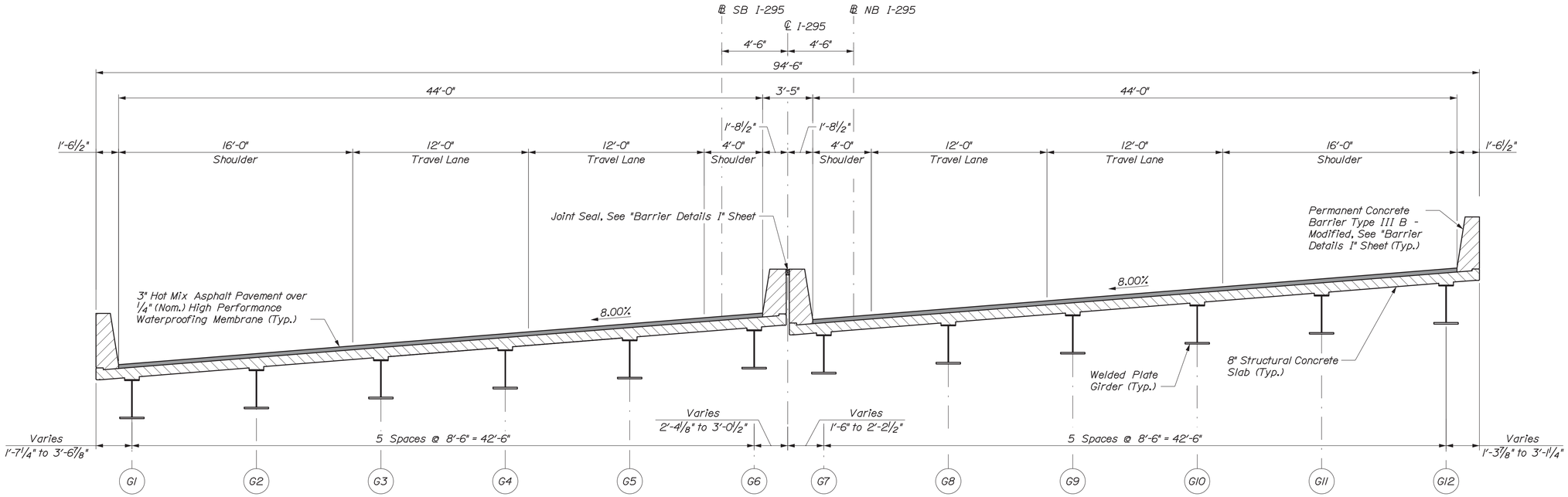
		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	HJW	ERB	2\20
CHECKED-REVIEWED	NMW	TRC	2\20
DESIGN2-DETAILED2	NMW		
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

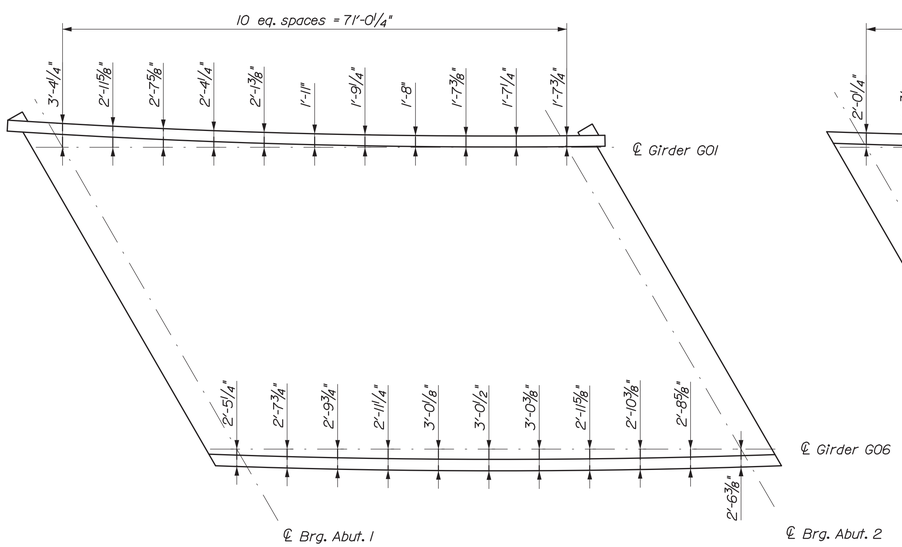
STRUCTURAL STEEL
DETAILS II

SHEET NUMBER
199
OF 220

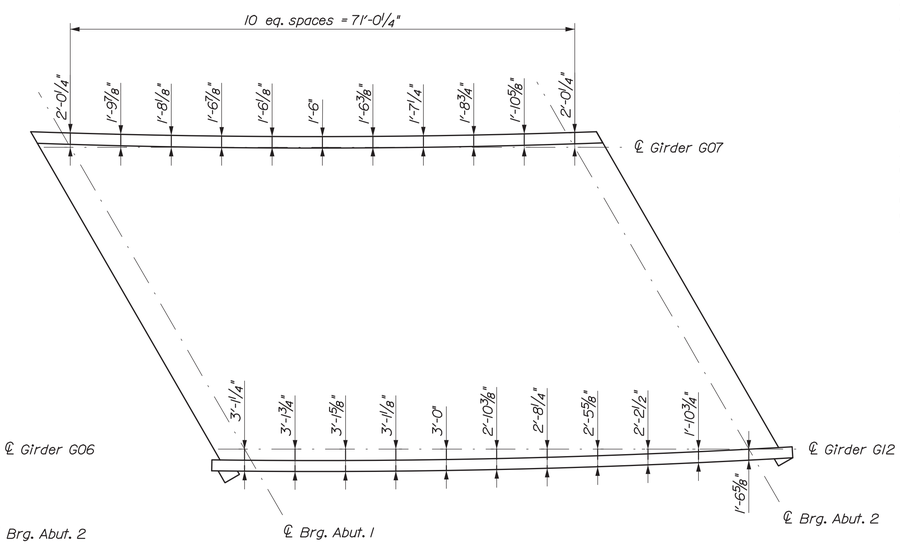
Filename: 199_Structural Steel Details II.dgn Division: Username: Date:3/3/2020



TRANSVERSE SECTION



SOUTHBOUND FASCIA OFFSET PLAN



NORTHBOUND FASCIA OFFSET PLAN

SUPERSTRUCTURE NOTES:

1. The theoretical blocking used for design of the structure is 3" (2¼" clear) at the centerline of bearing of the abutments. Refer to Standard Detail 502(03) for blocking details.

2. Reinforcing bars shall have a minimum concrete cover of 2" unless otherwise noted.

3. Form a one inch V-groove on the fascias at the horizontal joint between the curb and slab.

4. The superstructure slab and semi-integral backwall for each bound shall be placed in one continuous operation and shall be kept plastic until the entire placement has been made.

5. The use of Precast Concrete Deck Panels will not be allowed on this project.

6. Concrete for the semi-integral backwall will be paid as part of Pay Item 502.26, Structural Concrete Roadway and Sidewalk Slab on Steel Bridges.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	HJW	ERB	2/20
CHECKED-REVIEWED	NMW	TRC	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

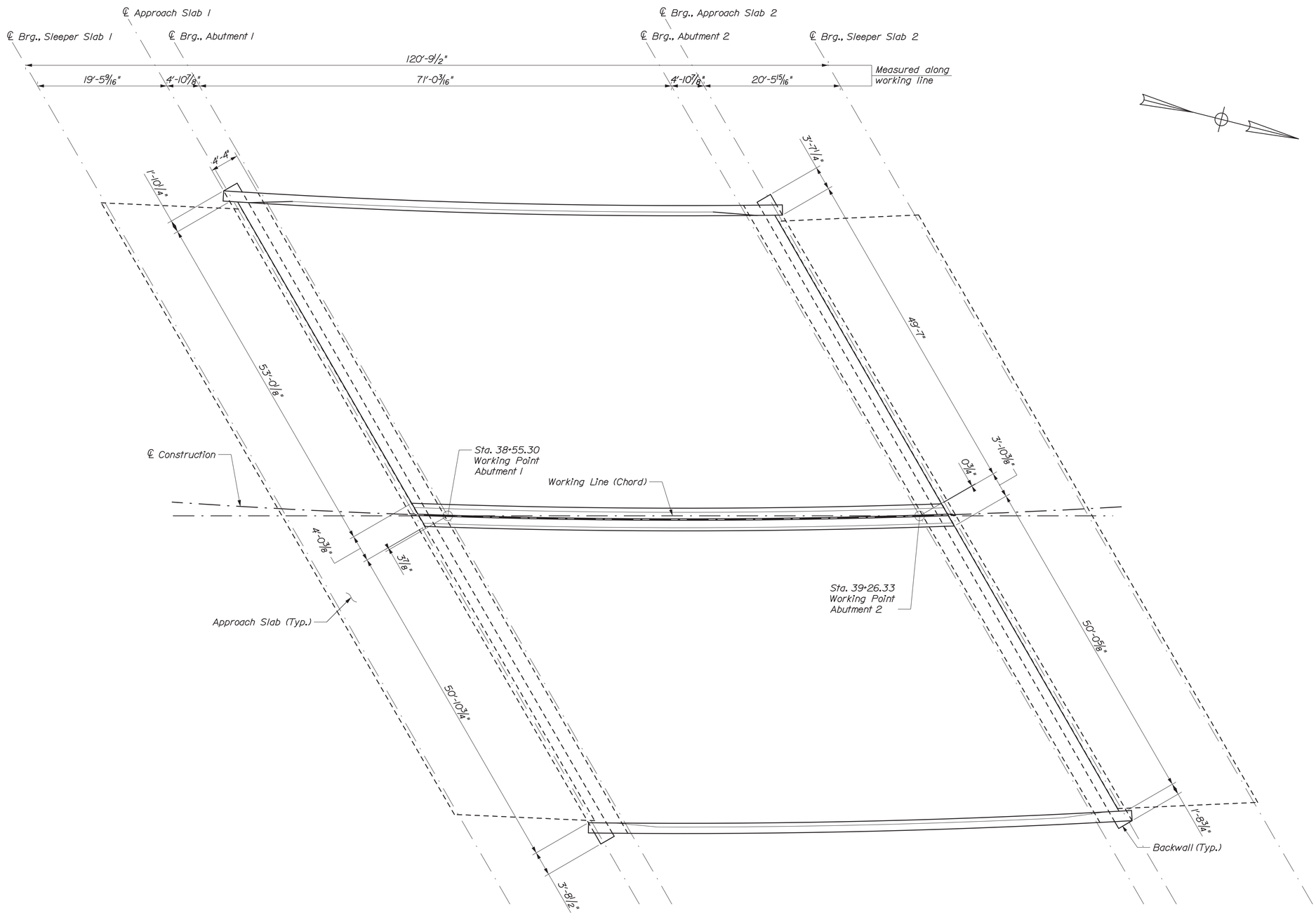
DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

TRANSVERSE SECTION

SHEET NUMBER
200
OF 220

Filename: 200_Transverse Section.dgn Division: Username: Date:4/13/2020



SUPERSTRUCTURE PLAN

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	HJW	ERB	2\20
CHECKED-REVIEWED	NMW	TRC	2\20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

SUPERSTRUCTURE PLAN

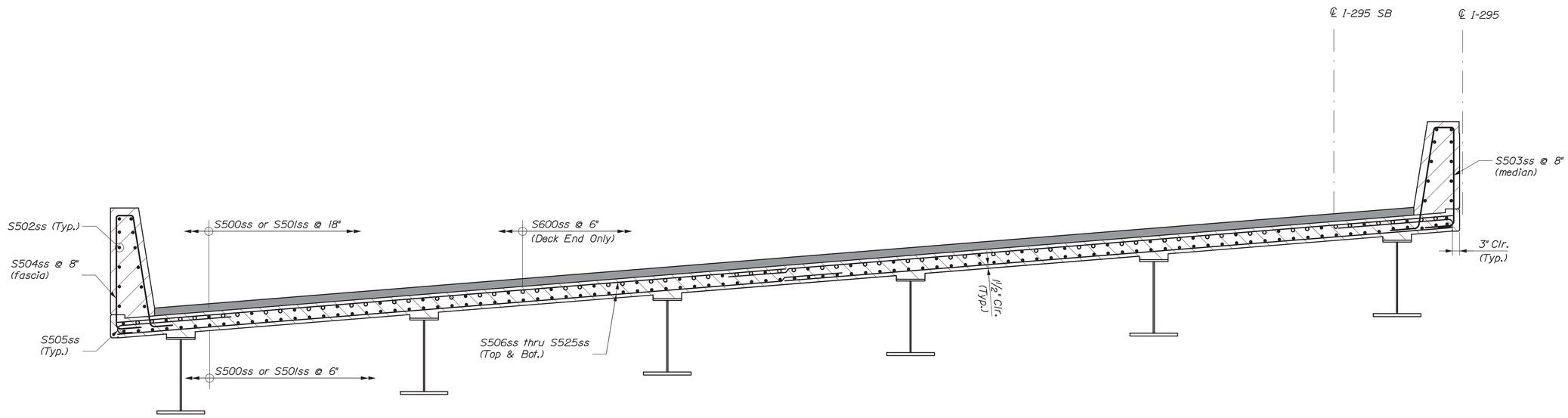
SHEET NUMBER

201

OF 220

HNTB

Filename: 201_Superstructure Plan.dgn Division: Username: Date:3/3/2020



TRANSVERSE SECTION - REINFORCING

(Southbound Shown, Looking Upstation)

(Northbound Similar, Opposite Hand)

NOTES:

1. Shear connectors on girder top flanges not shown for clarity.

2. Refer to "Barrier Details" for additional information regarding barrier reinforcing.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN
021745.00

BRIDGE NO.5933

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	HJW	ERB	2/20
CHECKED-REVIEWED	NMW	TRC	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

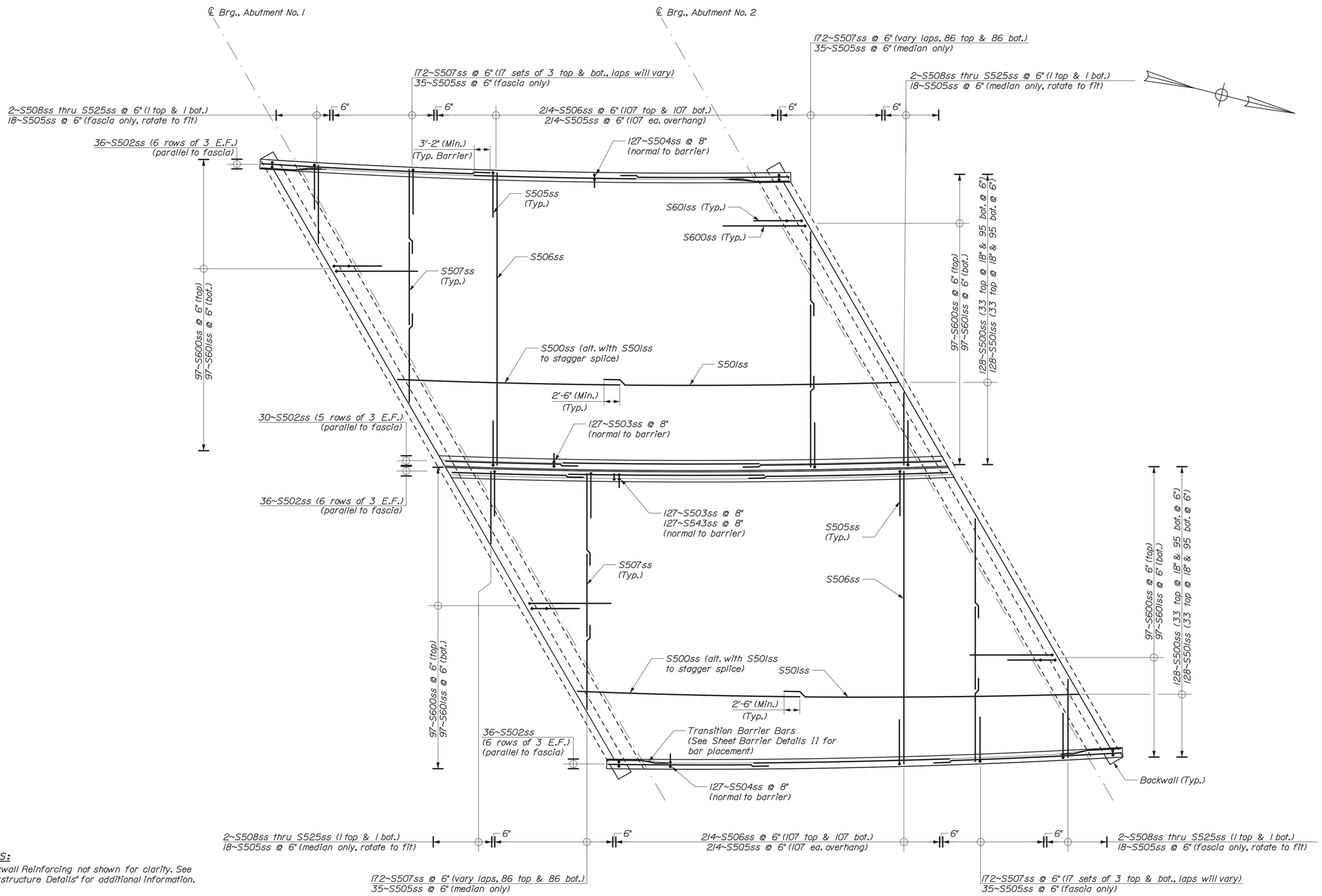
TRANSVERSE SECTION
REINFORCING

SHEET NUMBER
202
OF 220

Date:3/3/2020

Username:

Filename: 202_Transverse Section Reinforcing.dgn Division:



Notes:

1. Backwall Reinforcing not shown for clarity. See "Superstructure Details" for additional information.

2. Longitudinal reinforcing bars (S500ss and S501ss) shall be placed along the bridge curve.

4. All bars layed out normal or parallel to girders unless otherwise noted.

SUPERSTRUCTURE PLAN - REINFORCING

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

SIGNATURE

P.E. NUMBER

DATE

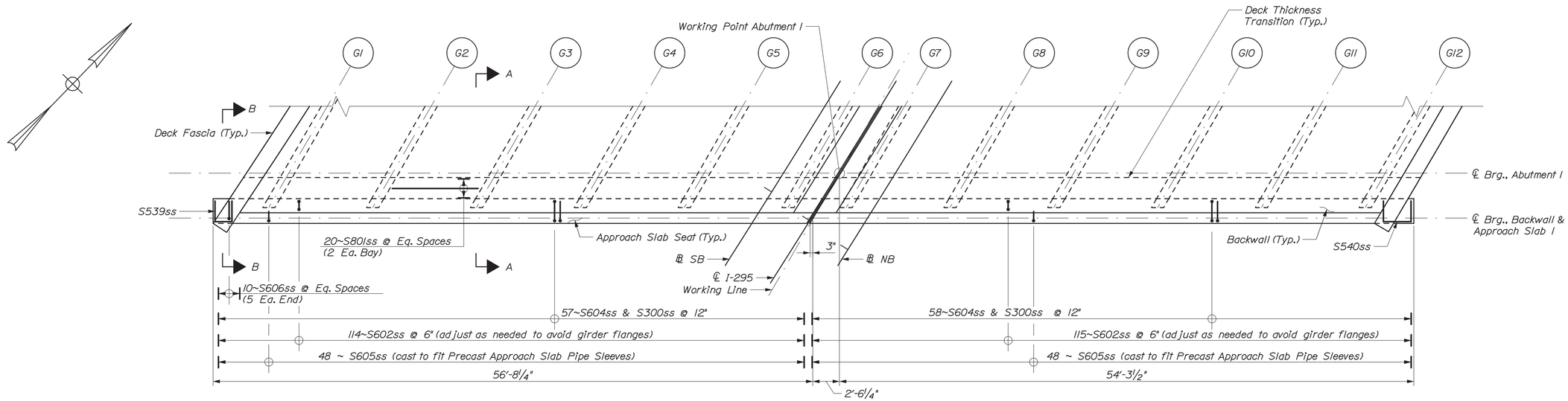
PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	H.W.	ERB	2/20
CHECKED-REVIEWED	NMW	TRC	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

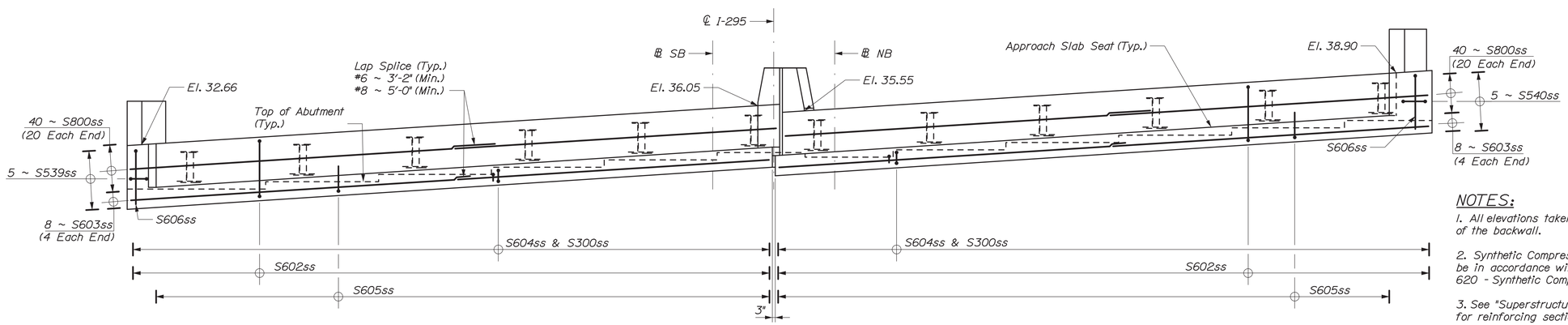
SUPERSTRUCTURE PLAN
REINFORCING

SHEET NUMBER
203
OF 220

Filename: 203_Superstructure Plan Reinforcing.dgn Division: Username: Date:3/3/2020



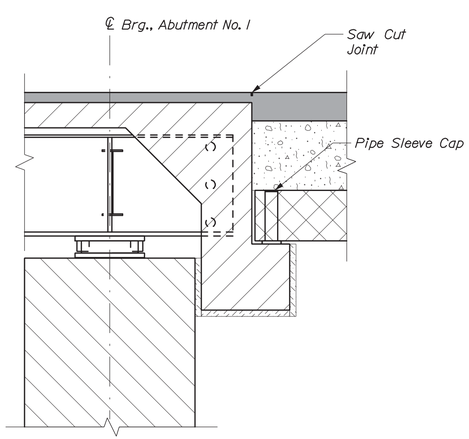
ABUTMENT 1 SEMI-INTEGRAL BACKWALL PLAN



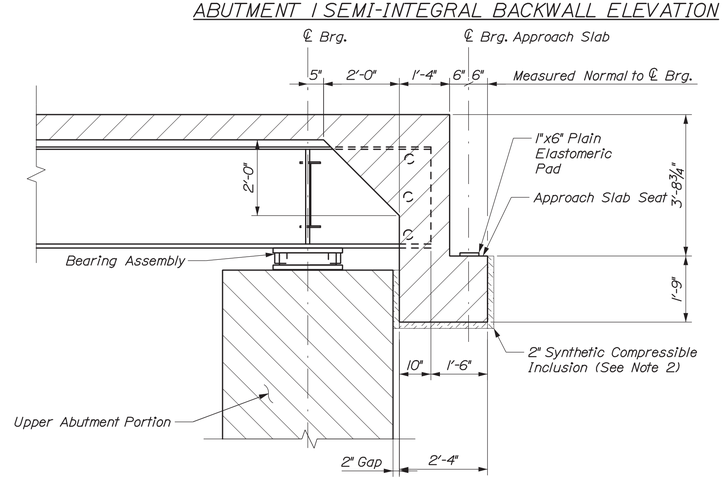
ABUTMENT 1 SEMI-INTEGRAL BACKWALL ELEVATION

NOTES:

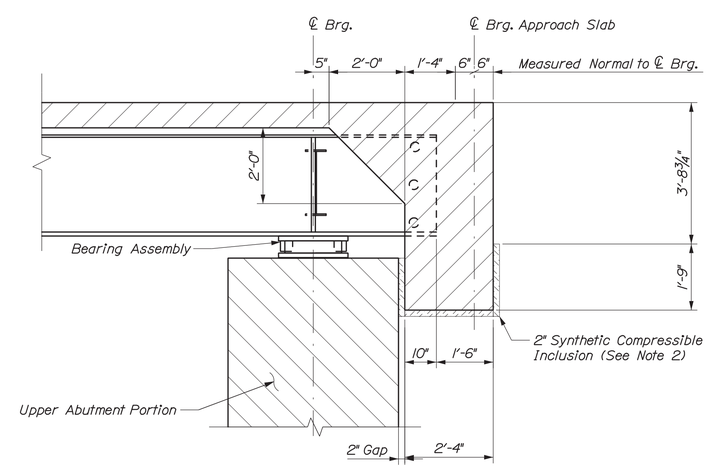
1. All elevations taken at the south face of the backwall.
2. Synthetic Compressible Inclusion shall be in accordance with Special Provision 620 - Synthetic Compressible Inclusion
3. See "Superstructure Details 11" sheet for reinforcing sections.
4. The Contractor may drill and anchor the S605ss approach slab dowel bars.



SECTION A-A - PAVEMENT DETAIL



SECTION A-A



SECTION B-B
(Barrier not shown for clarity)

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	D. EATON	
DESIGN-DETAILED	HJW	2/20
CHECKED-REVIEWED	NMW	2/20
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

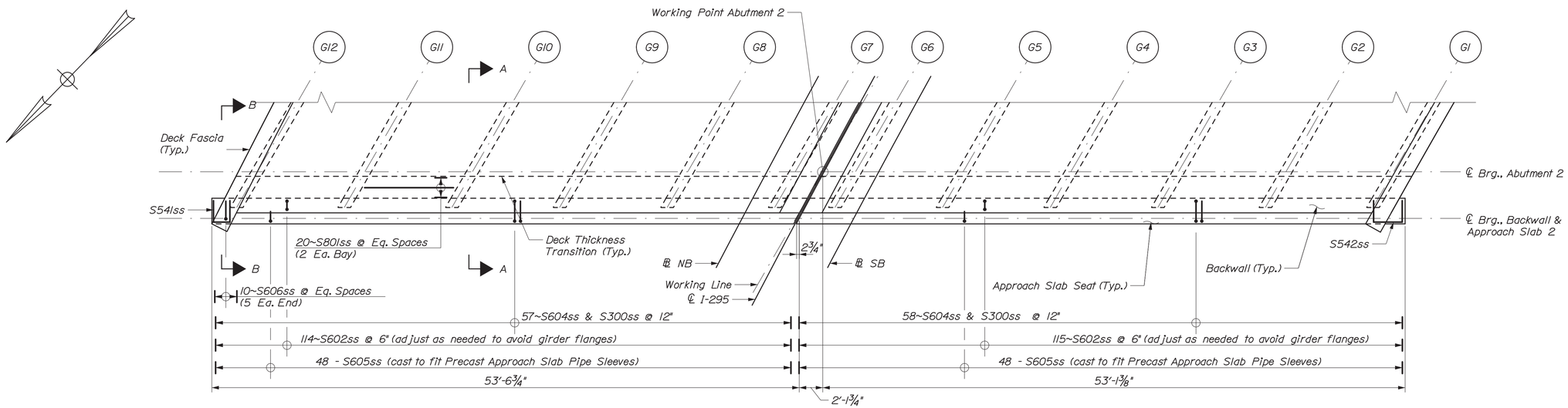
DATE

INTERSTATE 295 OVER VERANDA STREET
PORTLAND CUMBERLAND COUNTY

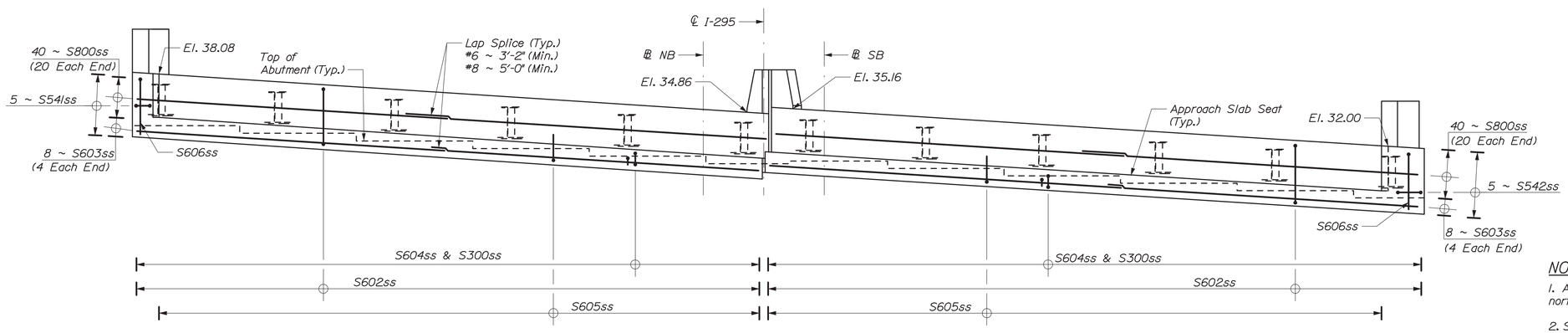
SUPERSTRUCTURE DETAILS I

SHEET NUMBER
204
OF 220

Filename: 204_Superstructure Details 1.dgn Division: Username: Date:3/3/2020



ABUTMENT 2 SEMI-INTEGRAL BACKWALL PLAN

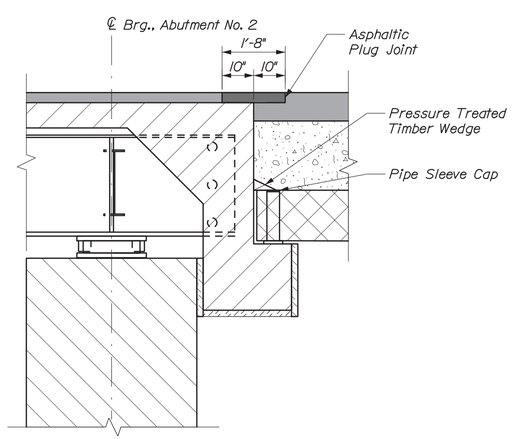


ABUTMENT 2 SEMI-INTEGRAL BACKWALL ELEVATION

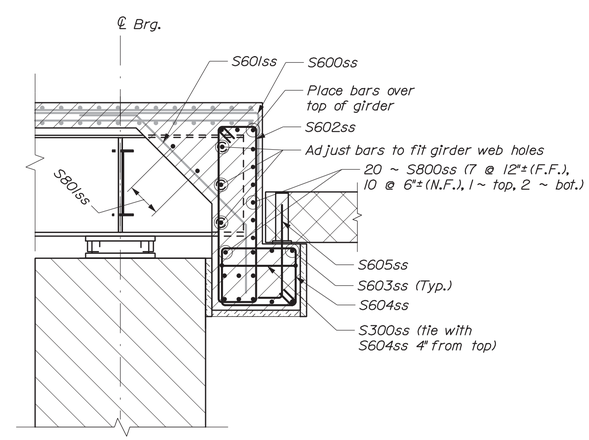
NOTES:

1. All elevations taken at the north face of the backwall.

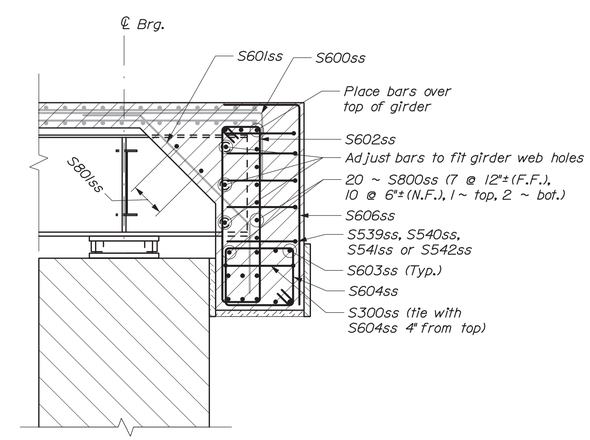
2. See "Superstructure Details I" sheet for geometry sections.



SECTION A-A - PAVEMENT DETAIL



SECTION A-A - REINFORCING DETAIL



SECTION B-B - REINFORCING DETAIL
(Barrier not shown for clarity)

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	HJW	ERB	2/20
CHECKED-REVIEWED	NMW	TRC	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

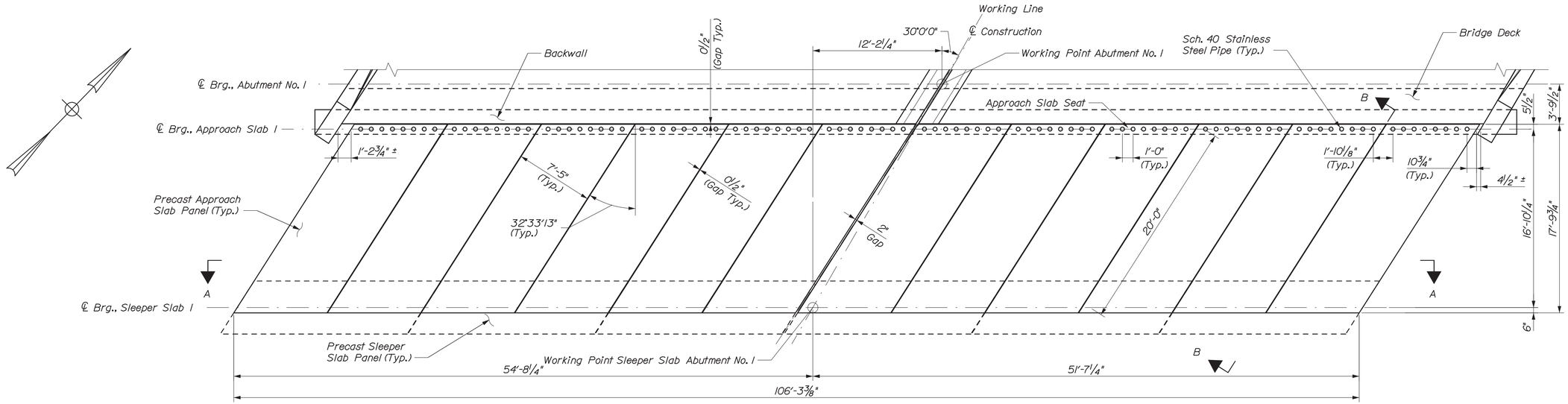
DATE

INTERSTATE 295 OVER VERANDA STREET
PORTLAND CUMBERLAND COUNTY

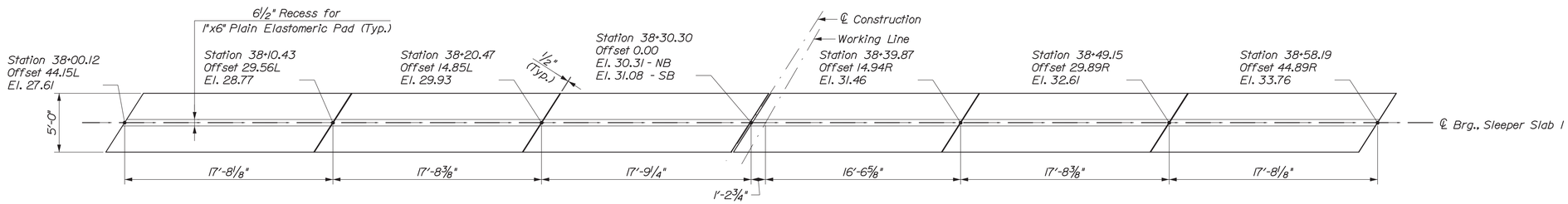
SUPERSTRUCTURE DETAILS II

SHEET NUMBER
205
OF 220

Filename: 205_Superstructure Details II.dgn Division: Username: Date:3/3/2020

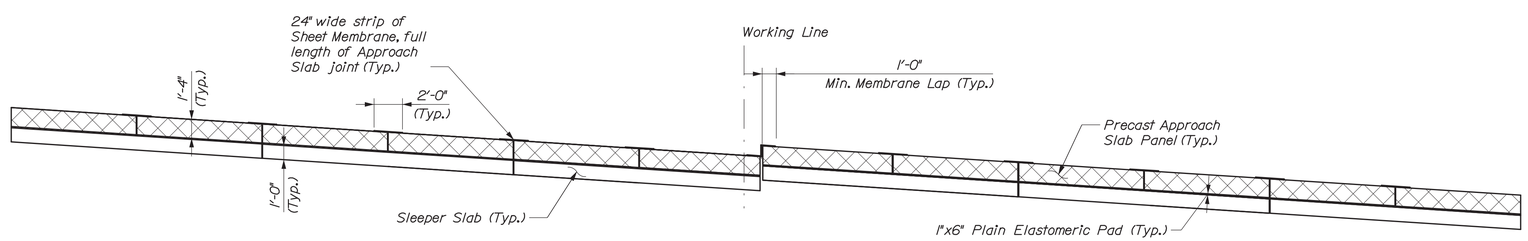


APPROACH SLAB NO. 1 PLAN



SLEEPER SLAB APPROACH NO. 1

NOTE: Elevations are to bottom of sleeper slab.



SECTION A-A

NOTES:

1. Sleeper Slabs shall be placed on a minimum of 6" of Granular Borrow, see sheet "Abutment and Wingwall Sections VI".

2. No connection is required between adjacent sleeper or approach slab sections.

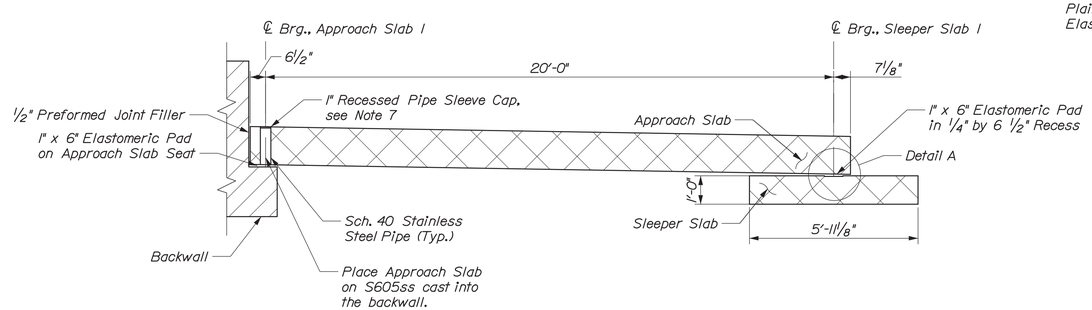
3. Sheet membrane for the backwall connection, shown on sheets "Superstructure Details I" and "Superstructure Details II" longitudinal slab joints, and the longitudinal joint between the northbound and southbound center approach slabs will be incidental to Pay Item 534.7601 - Precast Approach Slab.

4. Elastomeric bearing pads shall be incidental to Pay Item 534.7601 - Precast Approach Slab.

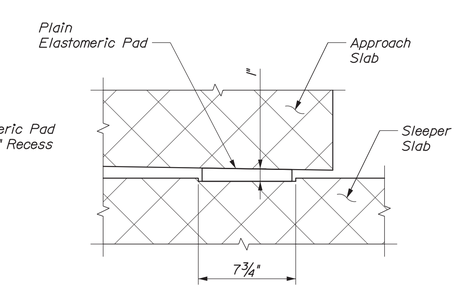
5. Concrete for precast sleeper slabs and approach slabs shall meet the requirements of Class P concrete. The Contractor may self-perform the construction of the approach slabs and sleeper slabs. If so, the Contractor shall construct the precast approach slabs and sleeper slabs on site or at a location coordinated with the Department.

6. The Contractor shall adjust the center location of each approach slab pipe sleeve to correspond to the center of the backwall dowels as necessary.

7. The Contractor shall design the recessed pipe sleeve cap. The cap may be either an insert to the pipe sleeve or a cover in a recessed blockout in the top of the concrete approach slab. The pipe sleeve cap must meet the following: be made of an environmentally durable material i.e. galvanized steel or stainless steel, sit flush or below the top of the approach slab, not interfere with the movement between the pipe sleeve and the S605ss dowel bar, prevent soil migration into the pipe sleeve, and withstand a 400 pound impact.



SECTION B-B



DETAIL A

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	HJW	ERB	2/20
CHECKED-REVIEWED	KEB	TRC	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER VERANDA STREET
PORTLAND CUMBERLAND COUNTY

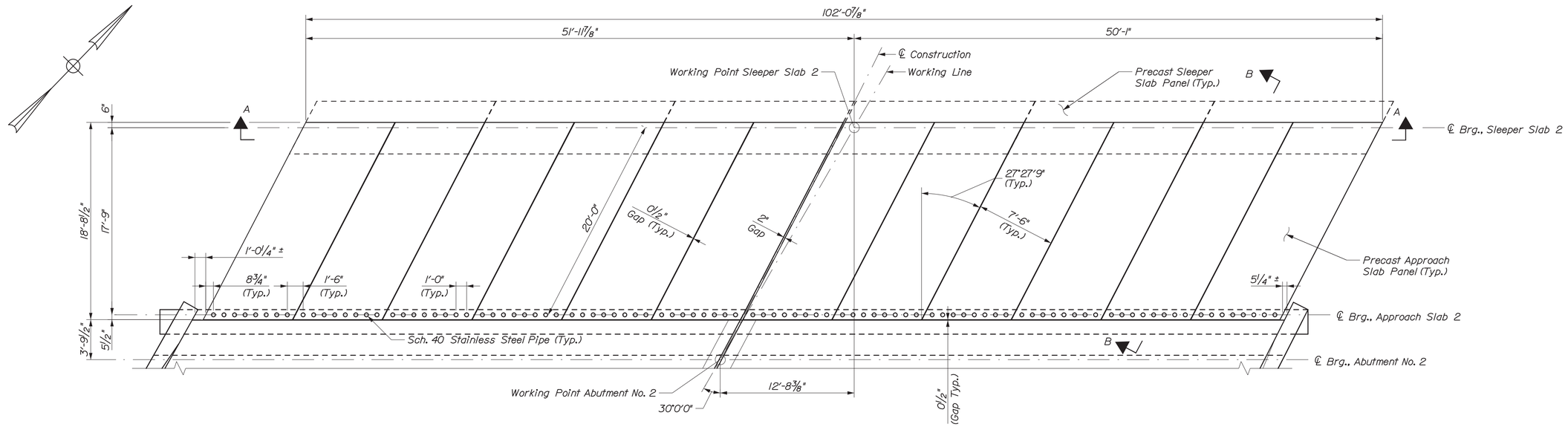
APPROACH SLAB 1
PLAN AND SECTION

SHEET NUMBER

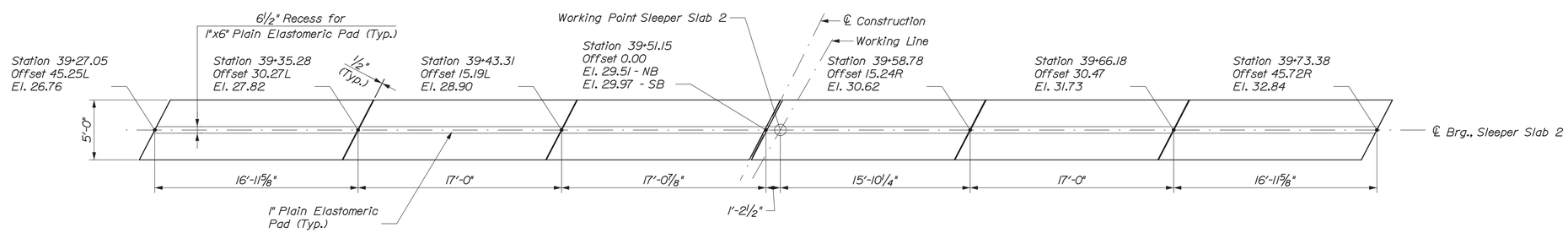
206

OF 220

Filename: 206_Approach Slab 1.dgn Division: Username: Date:3/3/2020

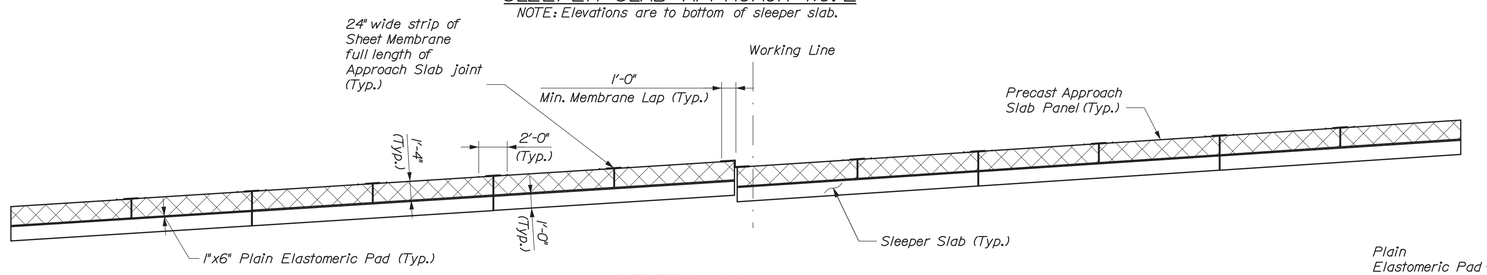


APPROACH SLAB NO. 2 PLAN

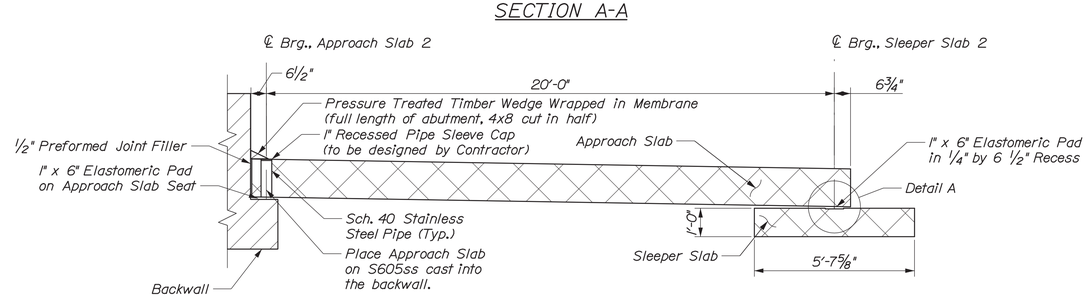


SLEEPER SLAB APPROACH NO. 2

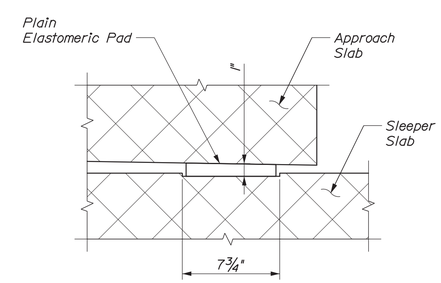
NOTE: Elevations are to bottom of sleeper slab.



SECTION A-A



SECTION B-B



DETAIL A

NOTES:

1. See "Approach Slab 1 Plan and Section" for Approach Slab Notes.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

BRIDGE NO.5933

WIN 021745.00

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	HJW	ERB	2\20
CHECKED-REVIEWED	KEB	TRC	2\20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

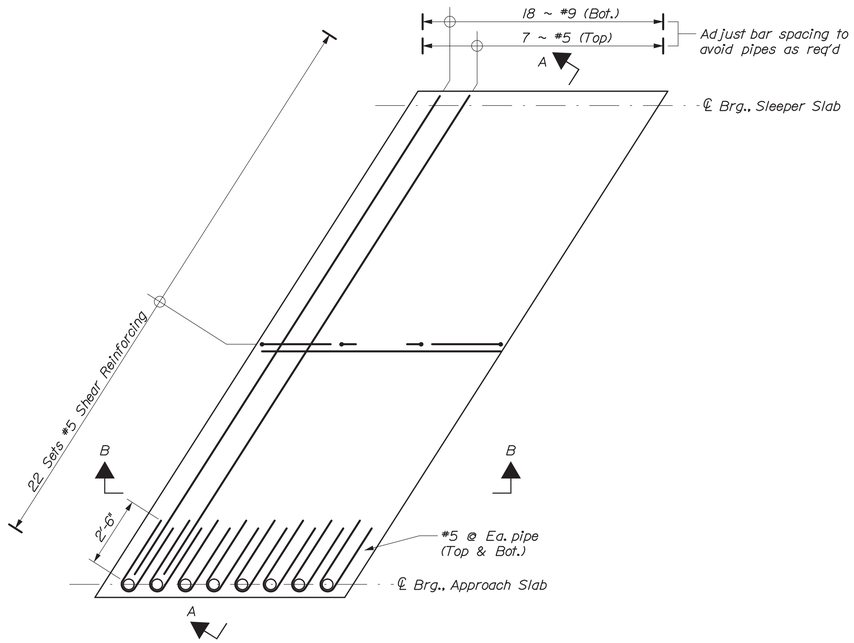
APPROACH SLAB 2
PLAN AND SECTION

SHEET NUMBER

207

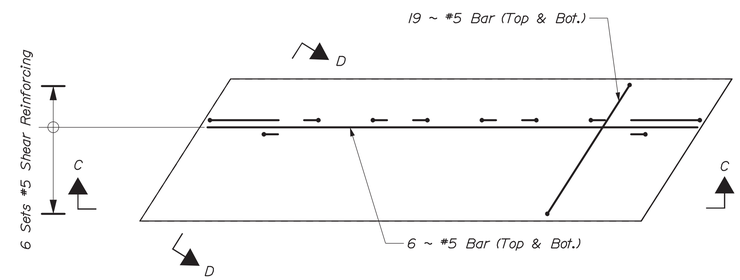
OF 220

Filename: 207_Approach Slab 2.dgn Division: Username: Date:3/3/2020



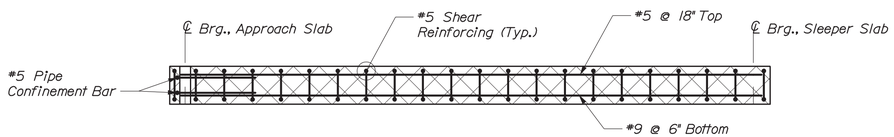
APPROACH SLAB PANEL REINFORCING PLAN

(Approach Slab 1 shown, Approach Slab 2 similar)

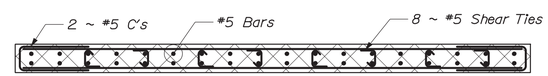


SLEEPER SLAB PANEL REINFORCING PLAN

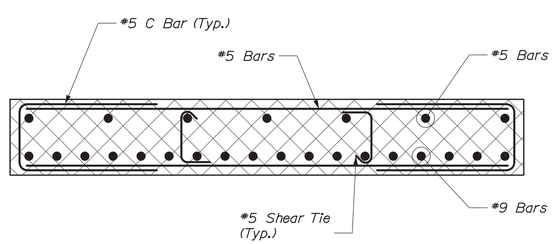
(Sleeper Slab 1 shown, Sleeper Slab 2 similar)



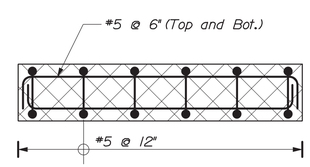
SECTION A-A



SECTION C-C



SECTION B-B



SECTION D-D

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	HJW	ERB	2/20
CHECKED-REVIEWED	KEB	TRC	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

APPROACH SLAB
REINFORCING

SHEET NUMBER

208

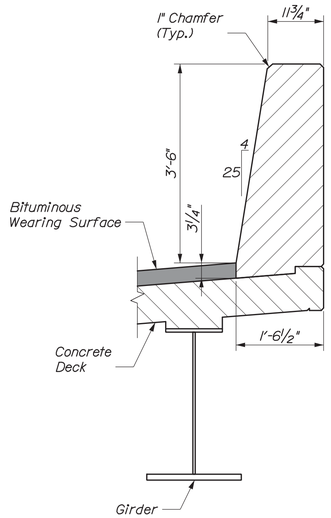
OF 220

Filename: 208_Approach Slab Reinforcing.dgn Division: Username: Date:3/3/2020

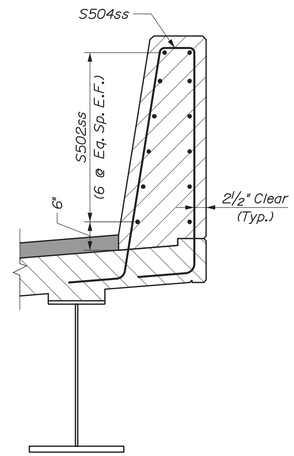
NOTES:

1. All bridge barriers shall have full perimeter 3/4" chamfered dummy joints spaced at a maximum of 20'-0" on center. Contraction joints shall be no more than 40'-0" on center and chamfers shall be similar to dummy joints.

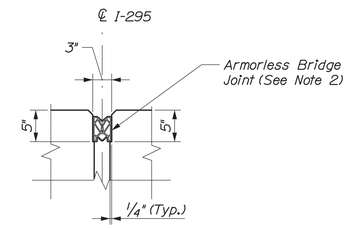
2. Armorless bridge joint shall be in accordance with Special Provision 520.223 "Armorless Bridge Joint".



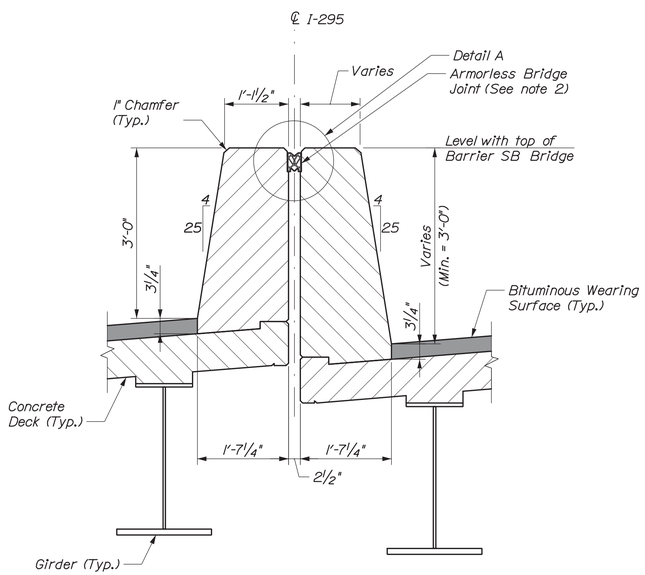
FASCIA BARRIER - MASONRY



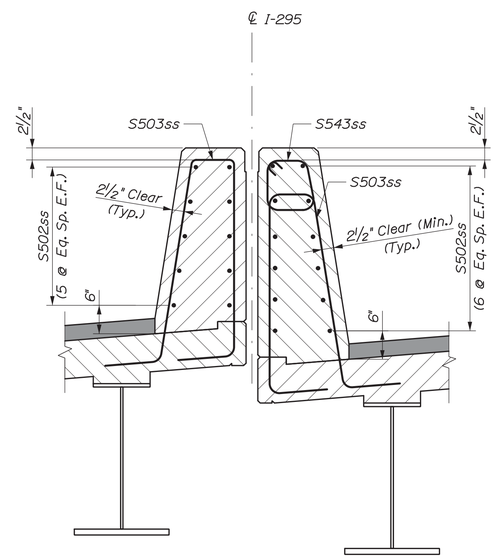
FASCIA BARRIER - REINFORCING



DETAIL A



MEDIAN BARRIER - MASONRY



MEDIAN BARRIER - REINFORCING

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	HJW	ERB	2/20
CHECKED-REVIEWED	NMW	TRC	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

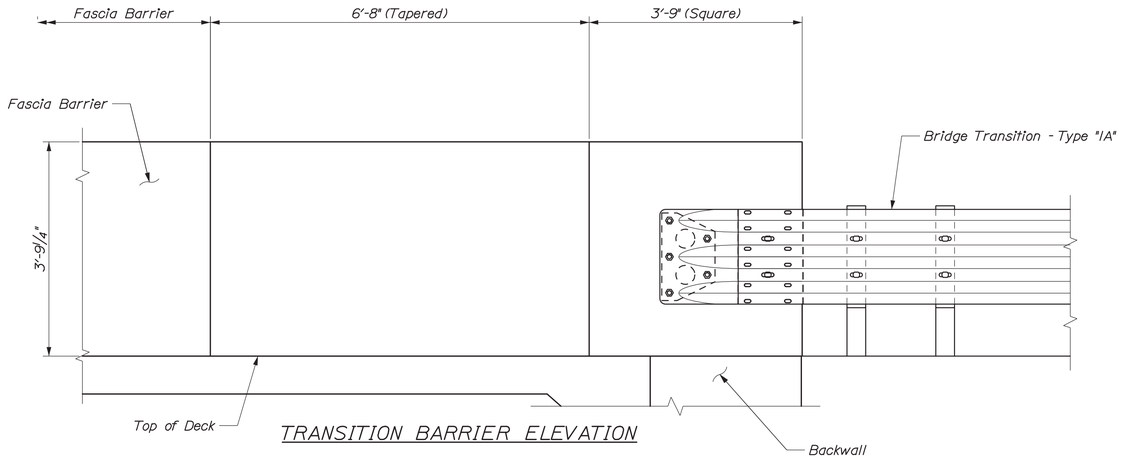
BARRIER DETAILS I
BRIDGE BARRIER

SHEET NUMBER

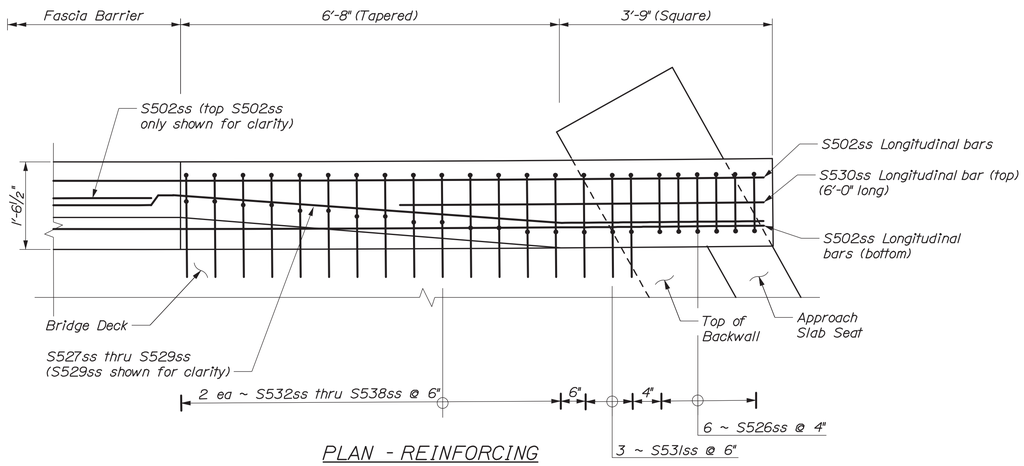
209

OF 220

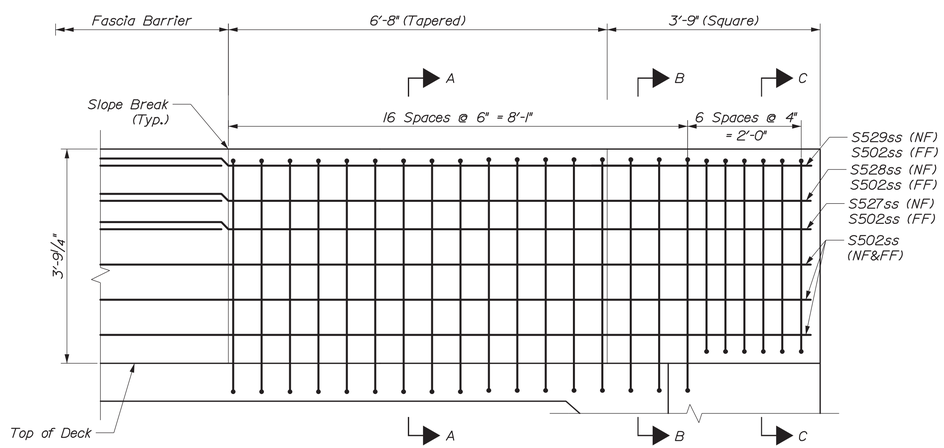
Filename: 209_Barrier Details I.dgn Division: Username: Date:3/3/2020



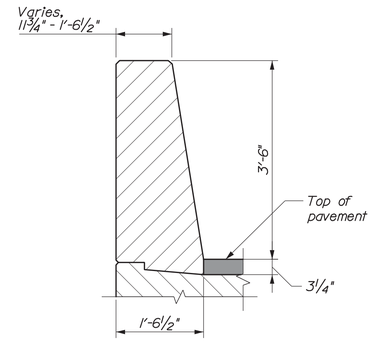
TRANSITION BARRIER ELEVATION



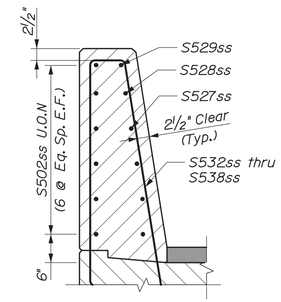
PLAN - REINFORCING



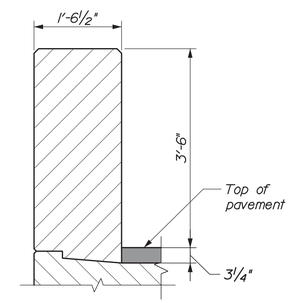
ELEVATION - REINFORCING



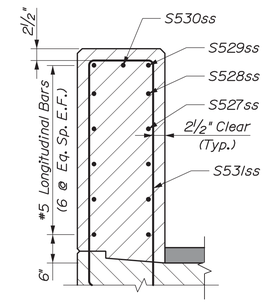
SECTION A-A (MASONRY)



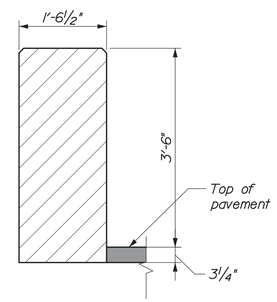
SECTION A-A (REINFORCING)



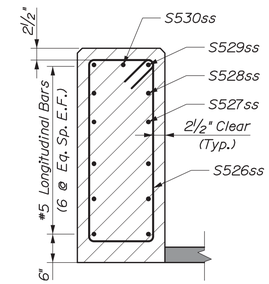
SECTION B-B (MASONRY)



SECTION B-B (REINFORCING)



SECTION C-C (MASONRY)



SECTION C-C (REINFORCING)

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	HJW	ERB	2/20
CHECKED-REVIEWED	NMW	TRC	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

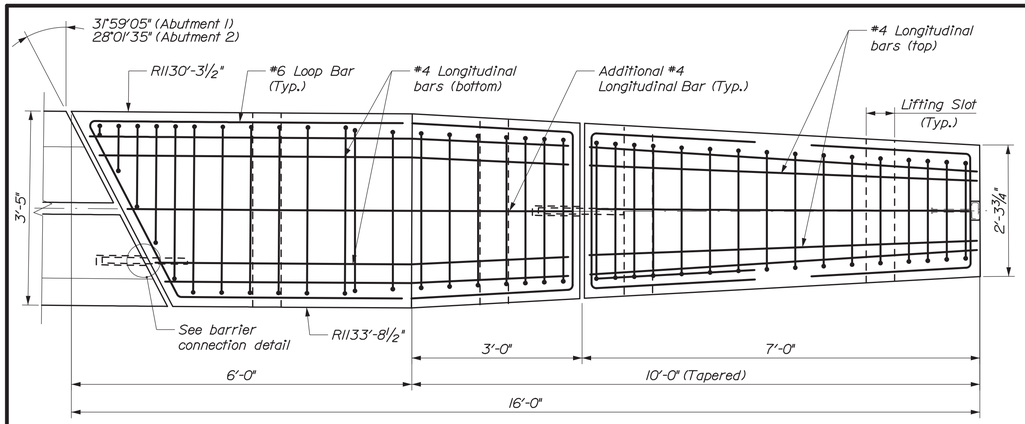
DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

BARRIER DETAILS II
BRIDGE BARRIER

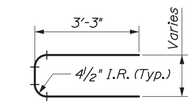
SHEET NUMBER
210
OF 220

Filename: 210_Barrier Details II.dgn Division: Username: Date:3/3/2020

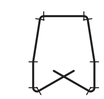


PLAN
(Abutment 2 shown, Abutment 1 similar)

CONCRETE BARRIER REINFORCING SCHEDULE *				
DESCRIPTION	SIZE	NO.	UNBENT LENGTH	TYPE
LONGITUDINAL (EACH FACE)	#4	11	VARIES	
STIRRUPS	#4	8	VARIES	
STIRRUPS	#4	8	VARIES	
STIRRUPS	#4	13	VARIES	
LOOP BAR	#6	2	VARIES	

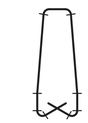


#6 LOOP BAR (TOP VIEW)



DIMENSIONS VARY

#4 STIRRUP BAR

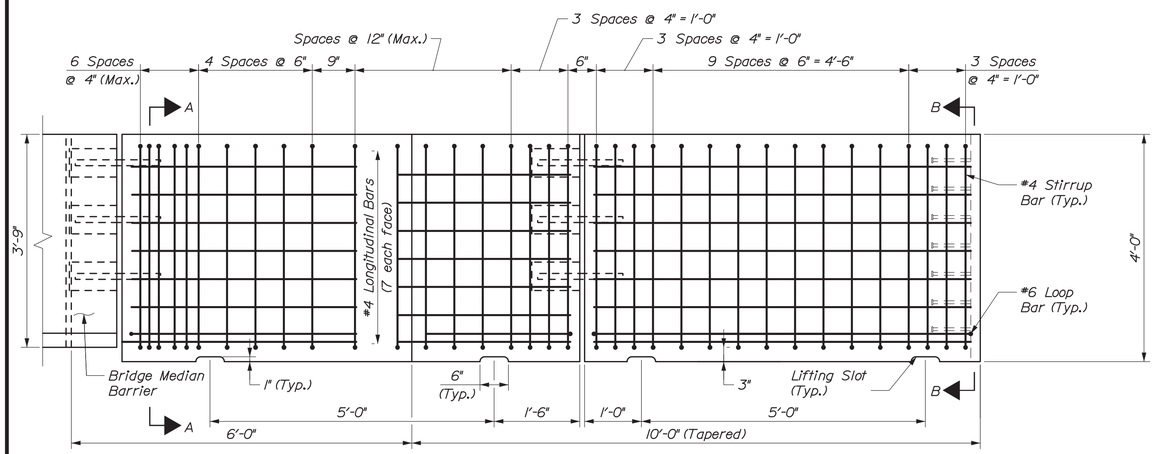


DIMENSIONS VARY

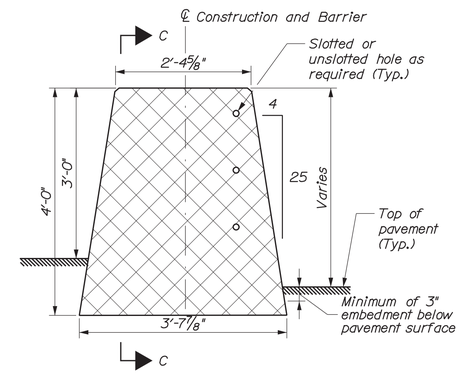
#4 STIRRUP BAR

DIMENSIONS VARY

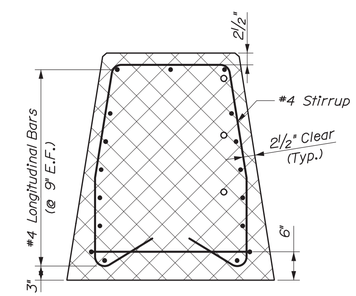
#4 STIRRUP BAR



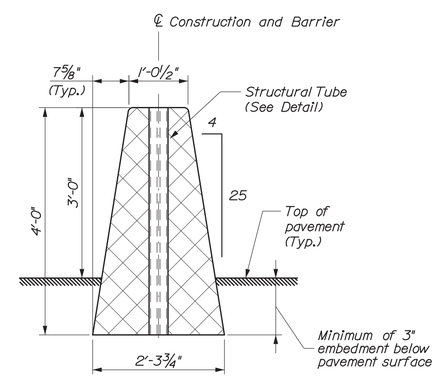
ELEVATION



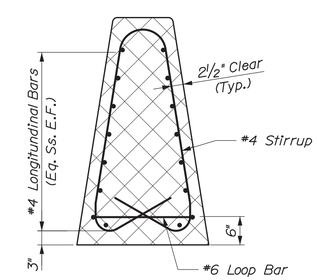
SECTION A-A (MASONRY)



SECTION A-A (REINFORCEMENT)



SECTION B-B (MASONRY)



SECTION B-B (REINFORCEMENT)

NOTES:

1. See Barrier Details IV Sheet for barrier connection detail.

2. Preparation of subgrade shall be performed to ensure proper height of connection guardrail prior to setting concrete transition barrier.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	D. EATON	
DESIGN-DETAILED	HJW	2/20
CHECKED-REVIEWED	NMW	2/20
DESIGN2-DETAILED2	TRC	
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

BARRIER DETAILS III
MEDIAN TRANSITION

SHEET NUMBER

211

OF 220

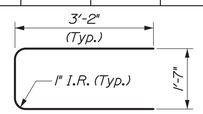
Date:3/3/2020

Username:

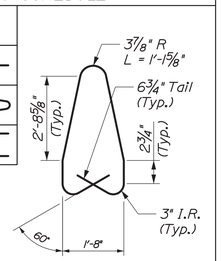
Division:

Filename: 211_Barrier Details III.dgn

CONCRETE BARRIER REINFORCING SCHEDULE*				
Description	Size	No.	Unbent Length	Type
Longitudinal	#4	10	19'-6"	
Stirrups	#4	29	8'-6"	
Loop Bar	#6	2	7'-11"	

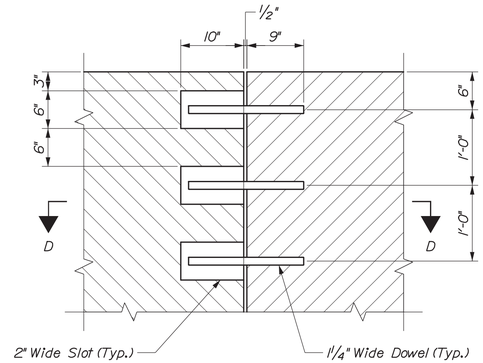


#6 LOOP BAR (TOP VIEW)

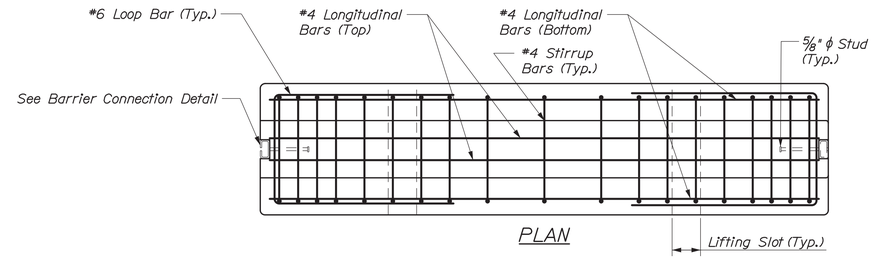


#4 STIRRUP BAR

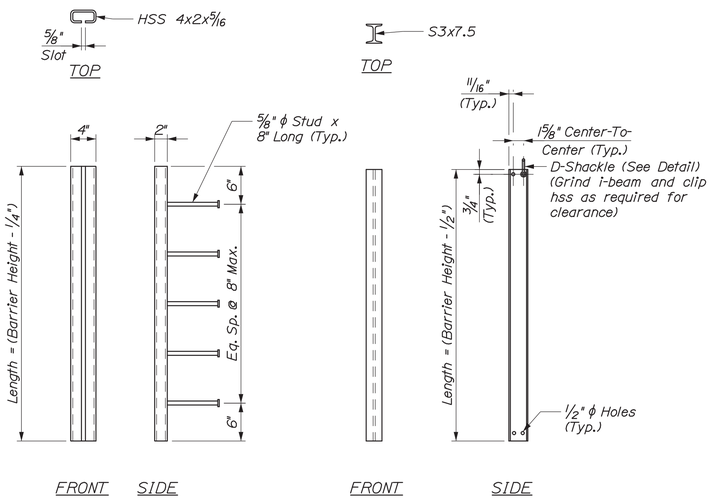
* Quantities Based On 20'-0" Barrier Length.



SECTION C-C

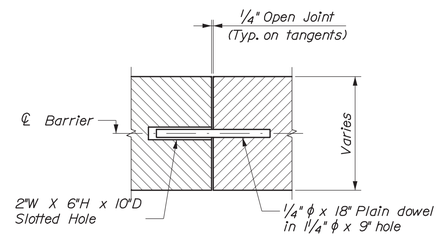


PLAN

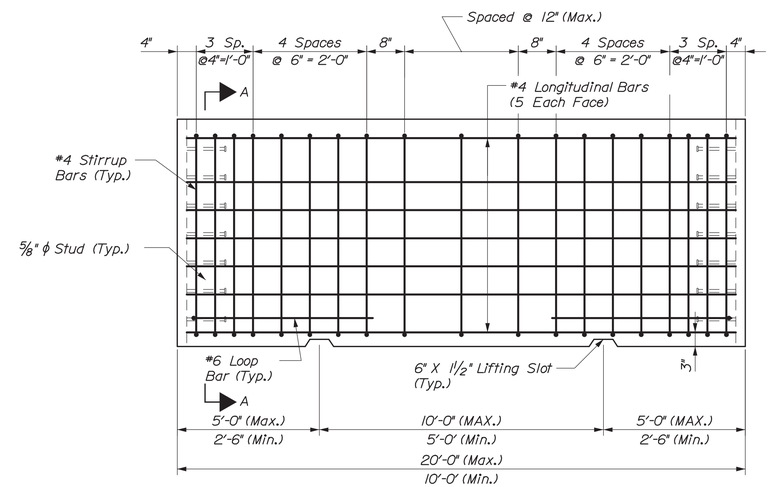


STRUCTURAL TUBE DETAILS

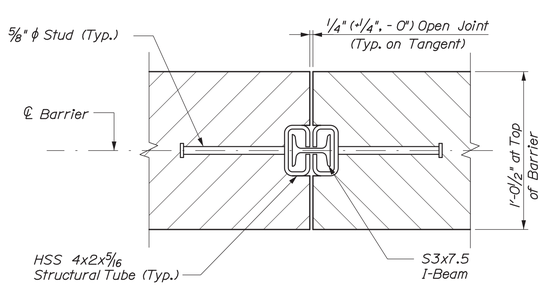
I-BEAM DETAILS



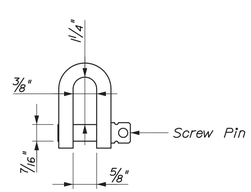
SECTION D-D



ELEVATION

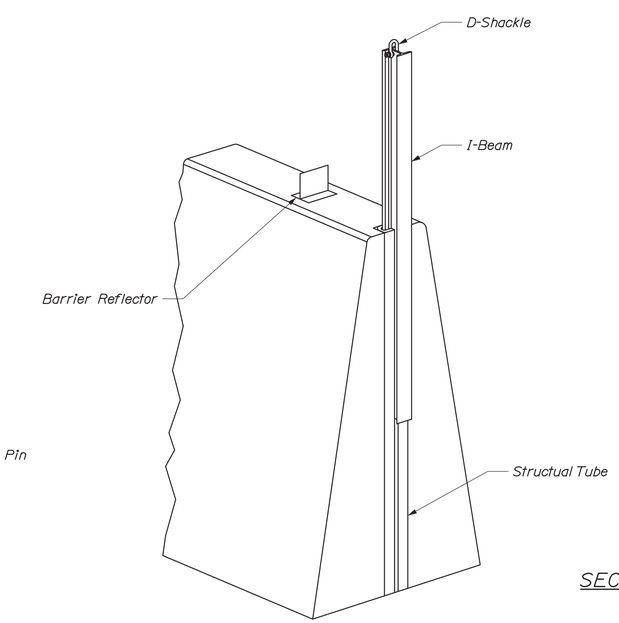


BARRIER CONNECTION DETAIL



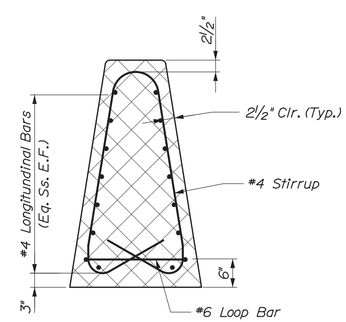
D-SHACKLE DETAIL

(One Per I-Beam)

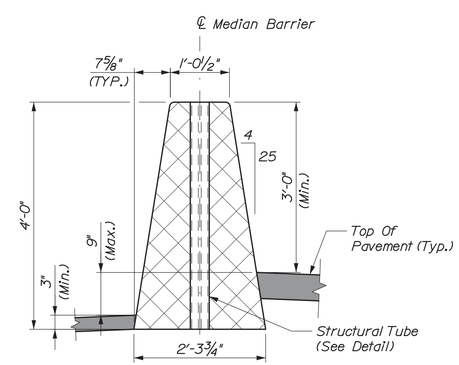


PERSPECTIVE VIEW

NOT TO SCALE



SECTION A-A (REINFORCEMENT)



SECTION A-A (MASONRY)

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE NO.5933

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER			
DESIGN-DETAILED	HJW	ERB	2\20
CHECKED-REVIEWED	NMW	TRC	2\20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

BARRIER DETAILS IV
PRECAST BARRIER DETAILS

SHEET NUMBER

212

OF 220

Filename: 212_Barrier Details IV.dgn Division: Username: Date:3/3/2020

STRAIGHT BARS

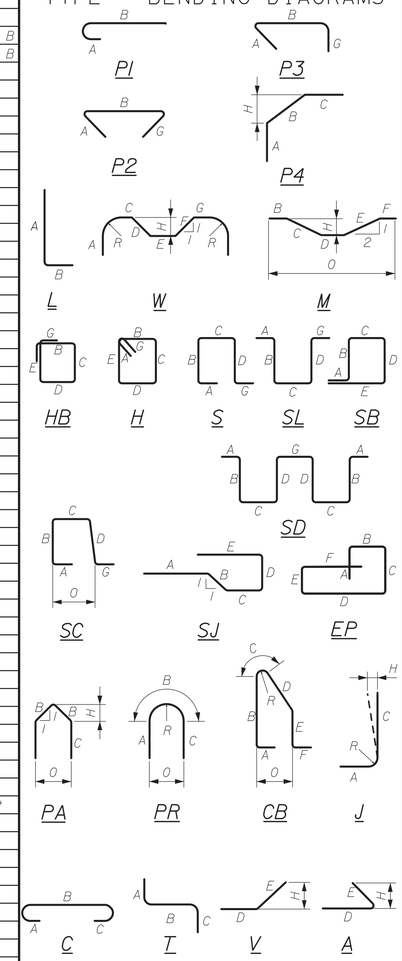
MARK	QTY.	LENGTH	LOCATION
Abutment I (Plain Bars)			
A501	42	8'-6"	West Wingwall Footing Long. Top
A502	35	8'-6"	East Wingwall Footing Long. Top
A503	84	42'-0"	Footing Transverse Top & Bot.
A504	20	40'-9"	West Wingwall Footing Transv. T & B
A506	20	33'-5"	East Wingwall Footing Transv. T & B
A700	83	8'-6"	West Wingwall Footing Long. Bot.
A701	68	8'-6"	East Wingwall Footing Long. Bot.

MARK	QTY.	LENGTH	LOCATION
Abutment I (Stainless Steel)			
A510ss	228	1'-11"	Closure Pour Coupler Bars (Bot.)
A511ss	228	1'-11"	Closure Pour Coupler Bars (Top)
A512ss	228	1'-11"	Cap Vertical Dowel (Bot.)
A516ss	24	40'-0"	Closure Pour Longitudinal
A518ss	86	12'-4"	West Wingwall Vertical
A520ss	30	35'-3"	West Wingwall Horizontal
A521ss	2	30'-5"	West Wingwall Horizontal
A522ss	2	25'-7"	West Wingwall Horizontal
A523ss	2	20'-9"	West Wingwall Horizontal
A524ss	2	15'-11"	West Wingwall Horizontal
A525ss	2	11'-1"	West Wingwall Horizontal
A526ss	2	6'-3"	West Wingwall Horizontal
A527ss	2	2'-0"	West Wingwall Horizontal
A528ss	2	36'-0"	West Wingwall Top
A533ss	68	3'-0"	East Wingwall Coupler Bars (Bot.)
A534ss	62	3'-0"	East Wingwall Coupler Bars (Top)
A535ss	32	28'-8"	East Wingwall Horizontal
A549ss	18	6'-10"	East Wingwall Vertical
A550ss	28	11'-1"	East Wingwall Vertical
A551ss	28	14'-11"	East Wingwall Horizontal
A552ss	12	8'-1"	East Wingwall Horizontal
A553ss	2	6'-1"	East Wingwall Horizontal
A554ss	2	4'-1"	East Wingwall Horizontal
A557ss	2	31'-11"	East Wingwall Top
A560ss	228	1'-10"	Cap Vertical Dowel (Top)
A604ss	66	58'-6"	Stem Horizontal
A607ss	10	47'-2"	Cap Horizontal Mid
A608ss	2	27'-8"	Cap Horizontal Top
A609ss	2	17'-6"	Cap Horizontal Top
A610ss	8	39'-0"	Cap Horizontal Mid
A611ss	4	34'-9"	Cap Horizontal Mid
A702ss	20	59'-0"	Cap Horizontal Bot.

BENT BARS

MARK	QTY.	LENGTH	TYPE	A	B	C	D	E	F	G	H	O	R	LOCATION
Abutment I (Plain Bars)														
A500	120	10'-2"	S	0"	10"	8'-6"	10"			0"				Footing Longitudinal Top
A505	20	5'-2"	V				2'-7"	2'-7"			1'-4"			West Wingwall Footing to Abut. T & B
A507	20	5'-2"	V				2'-7"	2'-7"			2'-0"			West Wingwall Footing to Abut. T & B
A600	238	10'-6"	S	0"	1'-0"	8'-6"	1'-0"			0"				Footing Longitudinal Bot.
Abutment I (Stainless Steel)														
A400ss	16	11'-7"	S	0"	4'-0"	3'-7"	4'-0"			0"				Keeper Block Long.
A401ss	10	15'-3"	S	0"	4'-0"	7'-3"	4'-0"			0"				Keeper Block Trans.
A402ss	392	5'-8"	H	6"	1'-2"	1'-2"	1'-2"	1'-2"		6"				Slide Shoe Reinforcing
A508ss	43	16'-7"	L	15'-9"	10"									Footing to West Wingwall (NF)
A509ss	35	16'-7"	L	15'-9"	10"									Footing to East Wingwall (NF)
A513ss	142	11'-10"	S	0"	3'-10"	4'-2"	3'-10"			0"				Cap Stirrups (G5-G12)
A514ss	160	10'-7"	EP	0"	10"	2'-10"	3'-3"	2'-10"	10"					Cap Stirrups (G3-G4)
A515ss	172	8'-1"	EP	0"	10"	1'-7"	3'-3"	1'-7"	10"					Cap Stirrups (G1-G2)
A517ss	8	5'-10"	S	0"	10"	4'-2"	10"			0"				Closure Pour Ends
A519ss	43	2'-10"	S	0"	10"	1'-2"	10"			0"				West Wingwall Vertical
A529ss	51	14'-6"	V				8'-6"	6'-0"			3'-0"			West Wingwall Corner
A530ss	15	7'-6"	V				3'-10"	3'-8"			1'-10"			West Wingwall Corner
A531ss	8	11'-10"	CB	0"	6'-0"	4"	1'-2"	4'-4"	0"			1'-2"	2"	West Wingwall Corner
A532ss	34	2'-10"	S	0"	10"	1'-2"	10"			0"				East Wingwall Vertical
A536ss	51	11'-4"	V				7'-8"	3'-8"			2'-10"			East Wingwall Corner
A537ss	1	3'-10"	S	0"	1'-4"	1'-2"	1'-4"			0"				East Wingwall Vertical
A538ss	1	4'-10"	S	0"	1'-10"	1'-2"	1'-10"			0"				East Wingwall Vertical
A539ss	1	5'-10"	S	0"	2'-4"	1'-2"	2'-4"			0"				East Wingwall Vertical
A540ss	1	6'-10"	S	0"	2'-10"	1'-2"	2'-10"			0"				East Wingwall Vertical
A541ss	1	7'-10"	S	0"	3'-4"	1'-2"	3'-4"			0"				East Wingwall Vertical
A542ss	1	8'-10"	S	0"	3'-10"	1'-2"	3'-10"			0"				East Wingwall Vertical
A543ss	1	9'-10"	S	0"	4'-4"	1'-2"	4'-4"			0"				East Wingwall Vertical
A544ss	1	10'-10"	S	0"	4'-10"	1'-2"	4'-10"			0"				East Wingwall Vertical
A545ss	1	11'-10"	S	0"	5'-4"	1'-2"	5'-4"			0"				East Wingwall Vertical
A546ss	1	12'-10"	S	0"	5'-10"	1'-2"	5'-10"			0"				East Wingwall Vertical
A547ss	1	13'-10"	S	0"	6'-4"	1'-2"	6'-4"			0"				East Wingwall Vertical
A548ss	23	14'-10"	S	0"	6'-10"	1'-2"	6'-10"			0"				East Wingwall Vertical
A555ss	39	4'-3"	V				2'-2"	2'-1"			1'-7"			East Wingwall Corner
A556ss	14	9'-6"	CB	0"	3'-11"	5"	1'-2"	3'-7"	0"			1'-2"	2"	East Wingwall Corner
A558ss	21	14'-8"	SL	10"	2'-8"	7'-8"	2'-8"			10"				Slide Shoe Reinforcing
A559ss	63	8'-6"	SL	10"	2'-8"	1'-6"	2'-8"			10"				Slide Shoe Reinforcing
A601ss	341	16'-9"	L	15'-9"	1'-0"									Footing to Abutment Stem
A602ss	82	16'-9"	L	15'-9"	1'-0"									Footing to West Wingwall (FF)
A603ss	67	16'-9"	L	15'-9"	1'-0"									Footing to East Wingwall (FF)
A605ss	30	6'-2"	S	0"	1'-0"	4'-2"	1'-0"			0"				Seat Ends
A606ss	114	10'-6"	S	0"	3'-2"	4'-2"	3'-2"			0"				Stem U-Bar at Construction Joint
A612ss	6	13'-1"	S	0"	2'-11"	7'-3"	2'-11"			0"				Cap Horizontal (G6)
A613ss	78	15'-0"	S	0"	5'-5"	4'-2"	5'-5"			0"				Cap Stirrup (G9-G12)
A614ss	3	6'-2"	S	0"	1'-0"	4'-2"	1'-0"			0"				Cap End (G1)
A615ss	9	6'-2"	S	0"	1'-0"	4'-2"	1'-0"			0"				Cap End (G12)
A616ss	98	17'-8"	SD	2'-6"	1'-8"	1'-2"	1'-8"			3'-8"				Slide Shoe Reinforcing
A703ss	40	19'-0"	SJ	0"	0"	3'-9"	1'-8"	13'-7"						Cap Horizontal Top (G1-G4)
A704ss	10	32'-6"	L	28'-11"	3'-7"									Cap Horizontal Top (G5-G17)
A705ss	40	17'-10"	L	13'-7"	4'-3"									Cap Horizontal Top (G8-G11)
A706ss	10	16'-2"	S	0"	4'-3"	7'-8"	4'-3"			0"				Cap Horizontal Top (G12)
A707ss	224	11'-0"	S	0"	5'-0"	1'-0"	5'-0"			0"				Slide Shoe Reinforcing

TYPE - BENDING DIAGRAMS



All dimensions are out-to-out of bar.

Bending details and hooks shall conform to the recommendations of the current revision of ACI Standard 315 and ACI Standard 318.

Reinforcing Bar: ASTM A615/A615M, Grade 60
ASTM A955, GRADE 75
CSA S807-10, ACI 440.1r-15

GENERAL NOTES

1. The first two digits following the letter(s) of the mark indicate the size of the bar:

   Mark "A502" = bar size #5
   Mark "P805" = bar size #8
   Mark "S650" = bar size #6
   Mark "S650ss" = bar size #6 Stainless Steel
   Mark "S600G" = bar size #6 GFRP

2. Each crank bar, Type B, may be replaced by two (2) straight bars (one top and one bottom) of the same bar size as the crank bar. Payment in either case shall be based on crank bars as schedule on the plans.

3. Bar marks ending with 'G' indicate GFRP. Bar marks ending with 'ss' indicate stainless steel. All other bars are plain (uncoated).

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE PLANS

BRIDGE NO.5933

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	T.JP	ERB	2\20
CHECKED-REVIEWED	KEB	TRC	2\20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

REINFORCING STEEL SCHEDULE I

SHEET NUMBER

213

OF 220

Filename: 213_Reinforcing Schedule I.dgn Division: Username: Date:3/3/2020

STRAIGHT BARS

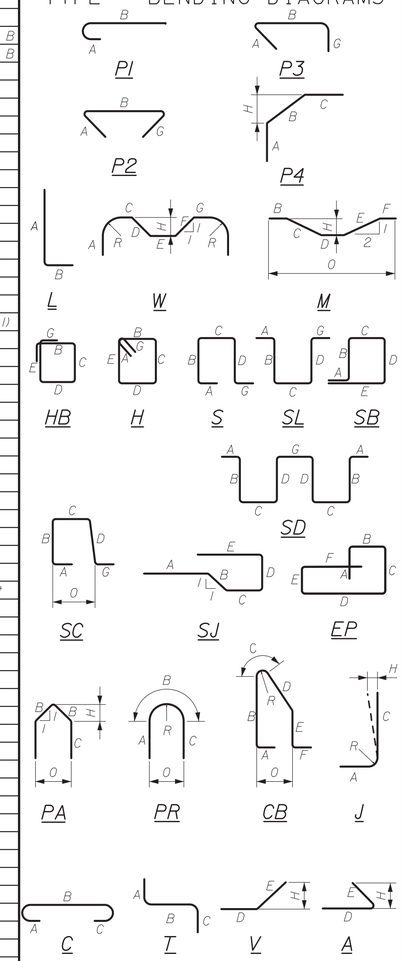
MARK	QTY.	LENGTH	LOCATION
Abutment 2 (Plain Bars)			
B501	49	8'-6"	East Wingwall Footing Long. Top
B502	27	8'-6"	West Wingwall Footing Long. Top
B503	84	43'-0"	Footing Transverse Top & Bot.
B504	20	47'-3"	East Wingwall Footing Transv. T & B
B506	20	25'-3"	West Wingwall Footing Transv. T & B
B700	96	8'-6"	East Wingwall Footing Long. Bot.
B701	52	8'-6"	West Wingwall Footing Long. Bot.

MARK	QTY.	LENGTH	LOCATION
Abutment 2 (Stainless Steel)			
B510ss	228	1'-11"	Closure Pour Coupler Bars (Bot.)
B511ss	228	1'-11"	Closure Pour Coupler Bars (Top)
B512ss	228	1'-11"	Cap Vertical Dowel (Bot.)
B516ss	24	40'-0"	Closure Pour Longitudinal
B519ss	88	3'-0"	East Wingwall Coupler Bars (Bot.)
B520ss	88	3'-6"	East Wingwall Coupler Bars (Top)
B521ss	34	41'-8"	East Wingwall Horizontal
B524ss	12	4'-0"	East Wingwall Vertical
B525ss	12	5'-8"	East Wingwall Vertical
B526ss	12	7'-4"	East Wingwall Vertical
B527ss	12	9'-0"	East Wingwall Vertical
B528ss	12	10'-8"	East Wingwall Vertical
B529ss	12	12'-4"	East Wingwall Vertical
B530ss	12	14'-0"	East Wingwall Vertical
B532ss	2	38'-2"	East Wingwall Horizontal
B533ss	2	34'-8"	East Wingwall Horizontal
B534ss	2	31'-2"	East Wingwall Horizontal
B535ss	2	27'-8"	East Wingwall Horizontal
B536ss	2	24'-2"	East Wingwall Horizontal
B537ss	2	20'-8"	East Wingwall Horizontal
B538ss	2	17'-2"	East Wingwall Horizontal
B539ss	2	13'-8"	East Wingwall Horizontal
B540ss	2	10'-2"	East Wingwall Horizontal
B541ss	2	6'-8"	East Wingwall Horizontal
B542ss	2	3'-2"	East Wingwall Horizontal
B543ss	2	43'-4"	East Wingwall Top
B545ss	52	12'-2"	West Wingwall Vertical
B547ss	28	19'-2"	West Wingwall Horizontal
B549ss	8	6'-6"	West Wingwall Horizontal
B550ss	2	14'-8"	West Wingwall Horizontal
B551ss	2	10'-2"	West Wingwall Horizontal
B552ss	2	5'-8"	West Wingwall Horizontal
B553ss	2	19'-6"	West Wingwall Horizontal
B554ss	2	8'-0"	West Wingwall Horizontal
B555ss	2	6'-4"	West Wingwall Horizontal
B556ss	2	4'-8"	West Wingwall Horizontal
B560ss	228	1'-10"	Cap Vertical Dowel (Top)
B604ss	58	58'-6"	Stem Horizontal
B607ss	10	48'-6"	Cap Horizontal Mid
B608ss	2	28'-10"	Cap Horizontal Top
B609ss	2	19'-1"	Cap Horizontal Top
B610ss	8	39'-0"	Cap Horizontal Mid
B611ss	4	33'-3"	Cap Horizontal Mid
B702ss	20	59'-0"	Cap Horizontal Bot.

BENT BARS

MARK	QTY.	LENGTH	TYPE	A	B	C	D	E	F	G	H	O	R	LOCATION
Abutment 2 (Plain Bars)														
B500	122	10'-2"	S	0"	10"	8'-6"	10"			0"				Footing Longitudinal Top
B505	20	5'-2"	V				2'-7"	2'-7"			1'-4"			East Wingwall Footing to Abut. T & B
B507	20	5'-2"	L	2'-7"	2'-7"									West Wingwall Footing to Abut. T & B
B600	243	10'-6"	S	0"	1'-0"	8'-6"	1'-0"			0"				Footing Longitudinal Bot.
Abutment 2 (Stainless Steel)														
B400ss	16	11'-9"	S	0"	4'-1"	3'-7"	4'-1"			0"				Keeper Block Long.
B401ss	10	14'-5"	S	0"	4'-1"	6'-3"	4'-1"			0"				Keeper Block Trans.
B402ss	392	5'-8"	H	6"	1'-2"	1'-0"	1'-2"	1'-0"		6"				Slide Shoe Reinforcing
B508ss	43	15'-1"	L	14'-3"	10"									Footing to East Wingwall (NF)
B509ss	27	15'-1"	L	14'-3"	10"									Footing to West Wingwall (NF)
B513ss	142	11'-10"	S	0"	3'-10"	4'-2"	3'-10"			0"				Cap Stirrups (G5-G8)
B514ss	160	10'-7"	EP	0"	10"	2'-10"	3'-3"	2'-10"	10"					Cap Stirrups (G3-G4)
B515ss	156	8'-1"	EP	0"	10"	1'-7"	3'-3"	1'-7"	10"					Cap Stirrups (G1-G2)
B517ss	8	5'-10"	S	0"	10"	4'-2"	10"			0"				Closure Pour Ends
B518ss	44	2'-10"	S	0"	10"	1'-2"	10"			0"				East Wingwall Vertical (Top Phase I)
B522ss	48	7'-11"	V				4'-3"	3'-8"			1'-10"			East Wingwall Corner
B523ss	46	7'-10"	S	0"	3'-4"	1'-2"	3'-4"			0"				East Wingwall Top
B531ss	3	10'-0"	S	0"	4'-5"	1'-2"	4'-5"			0"				East Wingwall Horizontal
B544ss	6	6'-4"	CB	0"	2'-5"	4"	1'-2"	2'-5"	0"			1'-2"	2"	East Wingwall Top
B546ss	26	2'-10"	S	0"	10"	1'-2"	10"			0"				West Wingwall Vertical
B548ss	48	13'-4"	L	4'-8"	8'-8"									West Wingwall Horizontal
B557ss	2	10'-5"	V				2'-10"	7'-7"			3'-11"			West Wingwall Horizontal
B558ss	21	14'-8"	SL	10"	2'-8"	7'-8"	2'-8"			10"				Slide Shoe Reinforcing
B559ss	63	8'-6"	SL	10"	2'-8"	1'-6"	2'-8"			10"				Slide Shoe Reinforcing
B601ss	341	15'-3"	L	14'-3"	1'-0"									Footing to Abutment Stem
B602ss	85	15'-3"	L	14'-3"	1'-0"									Footing to East Wingwall (FF)
B603ss	51	15'-3"	L	14'-3"	1'-0"									Footing to West Wingwall (FF)
B605ss	26	6'-2"	S	0"	1'-0"	4'-2"	1'-0"			0"				Seat Ends
B606ss	114	10'-6"	S	0"	3'-2"	4'-2"	3'-2"			0"				Stem U-Bar at Construction Joint
B612ss	6	13'-1"	S	0"	2'-11"	7'-3"	2'-11"			0"				Cap Horizontal (G6)
B613ss	80	15'-0"	S	0"	5'-5"	4'-2"	5'-5"			0"				Cap Stirrup (G9-G12)
B614ss	3	6'-2"	S	0"	1'-0"	4'-2"	1'-0"			0"				Cap End (G1)
B615ss	9	6'-2"	S	0"	1'-0"	4'-2"	1'-0"			0"				Cap End (G12)
B616ss	98	17'-8"	SD	2'-6"	1'-8"	1'-2"	1'-8"			3'-8"				Slide Shoe Reinforcing
B703ss	40	19'-0"	SJ	0"	0"	3'-9"	1'-8"	13'-7"						Cap Horizontal Top (G1-G4)
B704ss	10	32'-6"	L	28'-11"	3'-7"									Cap Horizontal Top (G5-G7)
B705ss	40	18'-2"	L	13'-7"	4'-7"									Cap Horizontal Top (G8-G11)
B706ss	10	17'-9"	L	0"	4'-3"	9'-3"	4'-3"			0"				Cap Horizontal Top (G12)
B707ss	224	11'-0"	S	0"	5'-0"	1'-0"	5'-0"			0"				Slide Shoe Reinforcing

TYPE - BENDING DIAGRAMS



All dimensions are out-to-out of bar.

Bending details and hooks shall conform to the recommendations of the current revision of ACI Standard 315 and ACI Standard 318.

Reinforcing Bar: ASTM A615/A615M, Grade 60
ASTM A955, GRADE 75
CSA S807-10, ACI 440.1r-15

GENERAL NOTES

1. The first two digits following the letter(s) of the mark indicate the size of the bar:

   Mark "A502" = bar size #5
   Mark "P805" = bar size #8
   Mark "S650" = bar size #6
   Mark "S650ss" = bar size #6 Stainless Steel
   Mark "S600G" = bar size #6 GFRP

2. Each crank bar, Type B, may be replaced by two (2) straight bars (one top and one bottom) of the same bar size as the crank bar. Payment in either case shall be based on crank bars as schedule on the plans.

3. Bar marks ending with "G" indicate GFRP. Bar marks ending with "ss" indicate stainless steel. All other bars are plain (uncoated).

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE PLANS

BRIDGE NO.5933

		BY	DATE
PROJ. MANAGER	D. EATON		
DESIGN-DETAILED	HJW	ERB	2\20
CHECKED-REVIEWED	NMW	TRC	2\20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

REINFORCING STEEL SCHEDULE II

SHEET NUMBER

214

OF 220

Filename: 214_Reinforcing Schedule II.dgn Division: Username: Date:3/3/2020

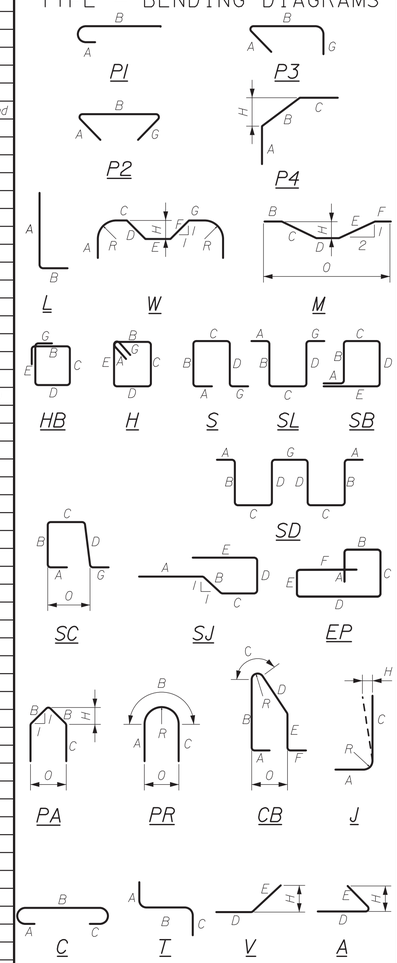
STRAIGHT BARS

MARK	QTY.	LENGTH	LOCATION	MARK	QTY.	LENGTH	LOCATION
Superstructure (Stainless Steel)							
S500ss	256	50'-0"	Top & Bot Longitudinal				
S501ss	256	33'-6"	Top & Bot Longitudinal				
S502ss	138	30'-6"	Barrier Longitudinal				
S506ss	428	46'-11"	Top & Bot Transverse				
S507ss	688	17'-4"	Top & Bot Transverse				
S508ss	8	16'-6"	Top & Bot Transverse				
S509ss	8	15'-8"	Top & Bot Transverse				
S510ss	8	14'-10"	Top & Bot Transverse				
S511ss	8	14'-0"	Top & Bot Transverse				
S512ss	8	13'-2"	Top & Bot Transverse				
S513ss	8	12'-4"	Top & Bot Transverse				
S514ss	8	11'-6"	Top & Bot Transverse				
S515ss	8	10'-8"	Top & Bot Transverse				
S516ss	8	9'-10"	Top & Bot Transverse				
S517ss	8	9'-0"	Top & Bot Transverse				
S518ss	8	8'-2"	Top & Bot Transverse				
S519ss	8	7'-4"	Top & Bot Transverse				
S520ss	8	6'-6"	Top & Bot Transverse				
S521ss	8	5'-8"	Top & Bot Transverse				
S522ss	8	4'-10"	Top & Bot Transverse				
S523ss	8	4'-0"	Top & Bot Transverse				
S524ss	8	3'-2"	Top & Bot Transverse				
S525ss	8	2'-4"	Top & Bot Transverse				
S530ss	4	6'-0"	Barrier Transition Long. Middle				
S603ss	32	30'-6"	Backwall Corbel Transverse				
S800ss	160	31'-6"	Backwall Transverse				
S801ss	40	9'-2"	Backwall Haunch Btwn Girders				
MARK	QTY.	LENGTH	LOCATION	MARK	QTY.	LENGTH	LOCATION

BENT BARS

MARK	QTY.	LENGTH	TYPE	A	B	C	D	E	F	G	H	O	R	LOCATION
Superstructure (Stainless Steel)														
S300ss	230	2'-10"	C	5"	2'-0"	5"								Backwall Corbel Tie
S503ss	254	9'-9"	SC	1'-0"	3'-6"	8"	3'-7"			1'-0"		1'-2"		Barrier Stirrup (Median)
S504ss	254	10'-7"	SC	1'-0"	4'-0"	6"	4'-1"			1'-0"		1'-2"		Barrier Stirrup (Fascia)
S505ss	640	9'-7"	C	7"	9'-0"	0"								Top Transverse Overhang
S526ss	24	9'-10"	H	6"	1'-1"	3'-4"	1'-1"	3'-4"		6"				Barrier Transition Vertical Hoop End
S527ss	4	13'-8"	M		3'-6"	4'-5"	3'-2"	0"	0"		2"	13'-8"		Barrier Transition Long. Taper
S528ss	4	13'-8"	M		3'-6"	4'-5"	3'-2"	0"	0"		4"	13'-8"		Barrier Transition Long. Taper
S529ss	4	13'-9"	M		3'-6"	4'-5"	3'-2"	0"	0"		6"	13'-8"		Barrier Transition Long. Taper
S531ss	12	10'-1"	SC	1'-0"	3'-6"	1'-0"	3'-7"			1'-0"		1'-2"		Barrier Transition Vertical Hoop
S532ss	8	10'-1"	SC	1'-0"	3'-6"	1'-0"	3'-7"			1'-0"		1'-1"		Barrier Transition Vertical Hoop
S533ss	8	10'-0"	SC	1'-0"	3'-6"	11"	3'-7"			1'-0"		1'-1"		Barrier Transition Vertical Hoop
S534ss	8	9'-11"	SC	1'-0"	3'-6"	10"	3'-7"			1'-0"		1'-1"		Barrier Transition Vertical Hoop
S535ss	8	9'-10"	SC	1'-0"	3'-6"	9"	3'-7"			1'-0"		1'-1"		Barrier Transition Vertical Hoop
S536ss	8	9'-9"	SC	1'-0"	3'-6"	8"	3'-7"			1'-0"		1'-1"		Barrier Transition Vertical Hoop
S537ss	8	9'-8"	SC	1'-0"	3'-6"	7"	3'-7"			1'-0"		1'-1"		Barrier Transition Vertical Hoop
S538ss	8	9'-7"	SC	1'-0"	3'-6"	6"	3'-7"			1'-0"		1'-1"		Barrier Transition Vertical Hoop
S539ss	5	5'-2"	S	0"	1'-11"	1'-4"	1'-11"			0"				Backwall Ends
S540ss	5	6'-6"	S	0"	1'-11"	2'-8"	1'-11"			0"				Backwall Ends
S541ss	5	5'-2"	S	0"	1'-11"	1'-4"	1'-11"			0"				Backwall Ends
S542ss	5	6'-6"	S	0"	1'-11"	2'-8"	1'-11"			0"				Backwall Ends
S543ss	127	3'-6"	H	6"	7"	8"	7"	8"		6"				Barrier Stirrup (NB Median Only)
S600ss	388	19'-5"	L	15'-9"	3'-8"									Deck End Top Longitudinal
S601ss	388	8'-8"	P4	2'-6"	3'-8"	2'-6"								Deck End Bottom Longitudinal
S602ss	458	12'-0"	H	6"	1'-0"	4'-6"	1'-0"	4'-6"		6"				Backwall Stirrup
S604ss	230	7'-10"	H	6"	2'-0"	1'-5"	2'-0"	1'-5"		6"				Backwall Corbel Stirrup
S605ss	192	3'-8"	L	1'-6"	2'-2"									Approach Slab Dowel
S606ss	20	6'-5"	L	4'-6"	1'-11"									Backwall Ends
MARK	QTY.	LENGTH	TYPE	A	B	C	D	E	F	G	H	O	R	LOCATION

TYPE - BENDING DIAGRAMS



All dimensions are out-to-out of bar.

Bending details and hooks shall conform to the recommendations of the current revision of ACI Standard 315 and ACI Standard 318.

Reinforcing Bar: ASTM A615/A615M, Grade 60
ASTM A955, GRADE 75
CSA S807-10, ACI 440.1r-15

GENERAL NOTES

1. The first two digits following the letter(s) of the mark indicate the size of the bar:

   Mark "A502" = bar size #5
   Mark "P805" = bar size #8
   Mark "S650" = bar size #6
   Mark "S650ss" = bar size #6 Stainless Steel
   Mark "S600G" = bar size #6 GFRP

2. Each crank bar, Type B, may be replaced by two (2) straight bars (one top and one bottom) of the same bar size as the crank bar. Payment in either case shall be based on crank bars as schedule on the plans.

3. Bar marks ending with "G" indicate GFRP. Bar marks ending with "ss" indicate stainless steel. All other bars are plain (uncoated).

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

WIN 021745.00

BRIDGE PLANS

BRIDGE NO.5933

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	HJW	ERB	2/20
CHECKED-REVIEWED	NMW	TRC	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER
VERANDA STREET
PORTLAND CUMBERLAND COUNTY

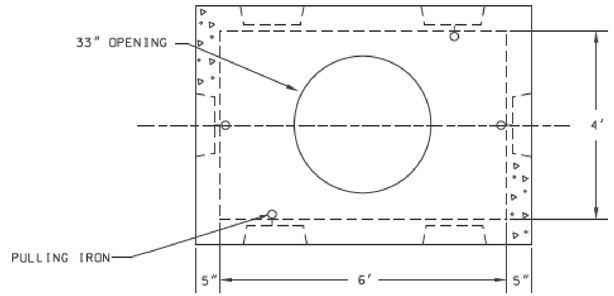
REINFORCING STEEL SCHEDULE III

SHEET NUMBER

215

OF 220

Filename: 215_Reinforcing Schedule III.dgn Division: Username: Date:3/3/2020



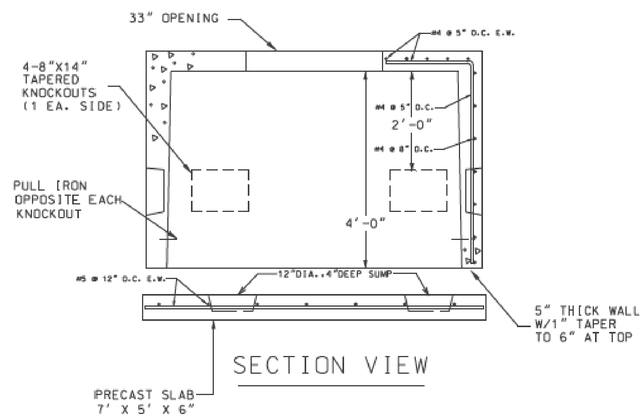
PLAN VIEW

NOTES:

1) Splice box shall be designed to withstand H20 wheel loading with 6 inches of overburden. The design shall also comply with National Electrical Safety Code Section 323A. Provide shop drawings stamped by a State of Maine Registered Professional Engineer upon Request.

2) For use with 32" cover marked CMP Co., S/C62-1830 (Min. one course of brick to grade.)

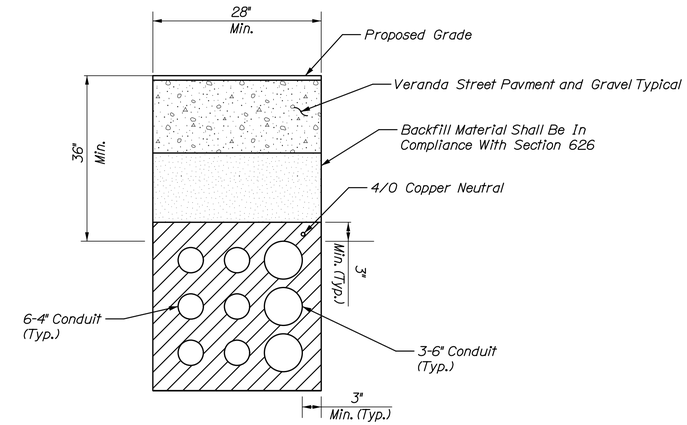
3) Splice box and slab shall be set on a suitable gravel base.



SECTION VIEW

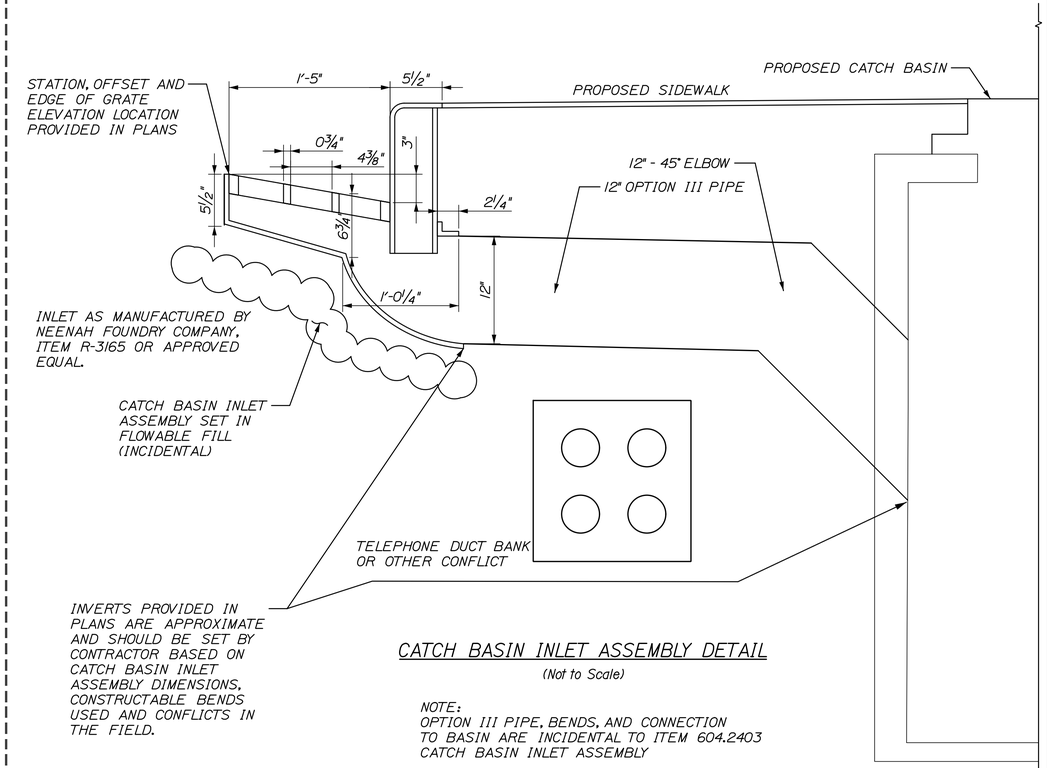
4' X 6' SPLICE BOX

(NOT TO SCALE)



3X3 UTILITY CONDUIT CONCRETE DUCT BANK

(Not to Scale)



CATCH BASIN INLET ASSEMBLY DETAIL

(Not to Scale)

NOTE:
OPTION III PIPE, BENDS, AND CONNECTION TO BASIN ARE INCIDENTAL TO ITEM 604.2403 CATCH BASIN INLET ASSEMBLY

THIS DRAWING SHALL BE REVISED ON THE CADD SYSTEM ONLY

	ORIGINAL	REVISED	REVISED
BY	REC	REC	
APPROVED	BAC	BCB	
APPROVED			
DATE	12/12/03	08/06/07	

DISTRIBUTION ENGINEERING

4 X 6 SPLICE BOX WITH 32" ROUND COVER

CENTRAL MAINE POWER CO.

905A-4

FILE NAME ___ ___ ___ SCANNED ___ ___ ___

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

NHPP-2174(500)

BRIDGE NO.5933

WIN 021745.00

BRIDGE PLANS

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	EDD	CDH	2/20
CHECKED-REVIEWED	RWH	LZD	2/20
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS: 1			
REVISIONS: 2			
REVISIONS: 3			
REVISIONS: 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

INTERSTATE 295 OVER VERANDA STREET
PORTLAND CUMBERLAND COUNTY

UTILITY DETAILS

SHEET NUMBER

220

OF 220

Date:4/10/2020 Username: Division: Filename: 220_Utility Details.dgn

NOTES

1. CONTRACTOR SHALL DISPOSE OF ALL EXCAVATED PIPING AND APPURTENANCES. SALVAGE ALL REMOVED HYDRANTS AND DELIVER TO PWD YARD AT 225 DOUGLASS ST - PORTLAND.

2. ALL MAINS AND SERVICES SHALL BE INSTLLED WITH 5.5′ OF COVER MEASURED FROM PROPOSED ROAD GRADE UNLESS INDICATED OTHERWISE ON THE DRAWINGS OR APPROVED BY A PWD REPRESENTATIVE.

3. THE PORTLAND WATER DISTRICT WILL NOTIFY CUSTOMERS FOR ALL WORK INVOLVING TEMPORARY SHUTDONW OF SERVICE. CUSTOMERS MUST RECEIVE AT LEAST 48 HOURS NOTIFICATION PRIO TO ANY SHUTDOWN. THE DISTRICT MUST RECEIVE NOTICE FROM THE CONTRACTOR OF THE SHUTDOWN AT LEAST 48 HOURS PRIOR TO CUSTOMER NOTIFICATION.

4. ALL DUCTILE IRON PIPE AND FITTINGS SHALL BE POLY-WRAPPED PER SPECIICATIONS.

5. INSTALL 4″ TEMPORARY FIRE DEPARTMENT. CONNECTION (TYP.). 4″ GATE VALVE, 90° ELBOW, AND 4-1/2″ NPT STEAMER PORT CONNECTION WITH CAP AT LOCATIONS SHOWN ON THE DRAWINGS. ALL JOINTS TO BE RESTRAINED. STEAMER PORT AND RISER TO BE ANCHORED TO THE GROUND. OUTLET TO BE BETWEEN 1′ AND 2′ OFF THE GROUND. OUTLET AND TEE TO BE BRACED.

6. TEMPORARY WATER SYSTEM SHALL ONLY BE ACTIVE BETWEEN APRIL 15TH AND OCTOBER 15TH. ALL WATER MAIN, EITHER EXISTING OR NEWLY INSTALLED, MUST BE ACTIVE BETWEEN OCTOBER 16TH AND APRIL 14TH.

7. CONTRACTOR MUST ALLOW OWNER SUFFICIENT TIME TO TRANSFER WATER SERVICES FROM EXISTING WATER MAIN TO TEMPORARY WATER MAIN SERVICES INSTALLED BY CONTRACTOR AND TO TRANSFER SERVICE TO NEW WATER MAIN/SERVICE LINE UPON SUCCESSFUL TESTING OF SAMPLE FOR ABSENCE OF BACTERIA. THE CONTRCTOR SHALL NOT CLAIM ANY DELAY-RELATED COST OR TIME RELATD TO THIS WORK.

8. REPLACE ALL SERVICES TO BE RENEWED FROM MAIN TO STREET LINE WITH 1" COPPER PIPING, UNLESS OTHERWISE NOTED.

9. LOCATIONS OF UTILITIES OTHER THAN WATER ARE APPROXIMATE, AND NOT ALL UTILITES ARE SHOWN. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING, SUPPORTING AND PROTECTING ALL UTILITIES DURING INSTALLATION OF THE WATER MAIN.

10. INSTALL SWIVEL TYPE TEES FOR ALL HYDRANT CONNECTIONS.

11. A SHUTDOWN IS REQUIRED FOR INSTALLATION OF ALL CUT-IN VALVES AND FITTINGS ON EXISTING WATER MAINS.

12. ALL FITTINGS SHALL BE MECHANICAL JOINT (RETAINED).

13. REMOVE THE TOP SECTION OF ALL ABANDONED VALVE BOXES AND FILL WITH SAND.

14. INSTALL A MECHANICAL JOINT CAP ON ENDS OF ALL ABANDONED MAINS.

15. CONTRACTOR SHALL TEST AND ACTIVATE PHASE 1 BEFORE INSTALLATION CAN BEGIN IN PHASE 2.

16. ALL TEMPORARY WATER MAIN TO BE BURIED BELOW GRADE AT ALL STREET AND DRIVEWAY CROSSINGS. INSTALL AND MAINTAIN TEMPORARY PAVEMENT IN THESE AREAS.

LEGEND

EXISTING WATER MAIN

TEMPORARY WATER MAIN

PROJECT:

374376

VERANDA STREET PORTLAND, MAINE WATER MAIN REPLACEMENT TEMPORARY WATER MAIN

STATE OF MAINE TIMOTHY J. MCALLIN 9385 LICENSED PROFESSIONAL ENGINEER

DRAWN BY: BSJ

DESIGN BY: TM

DATE: 12/10/2019

Portland Water District

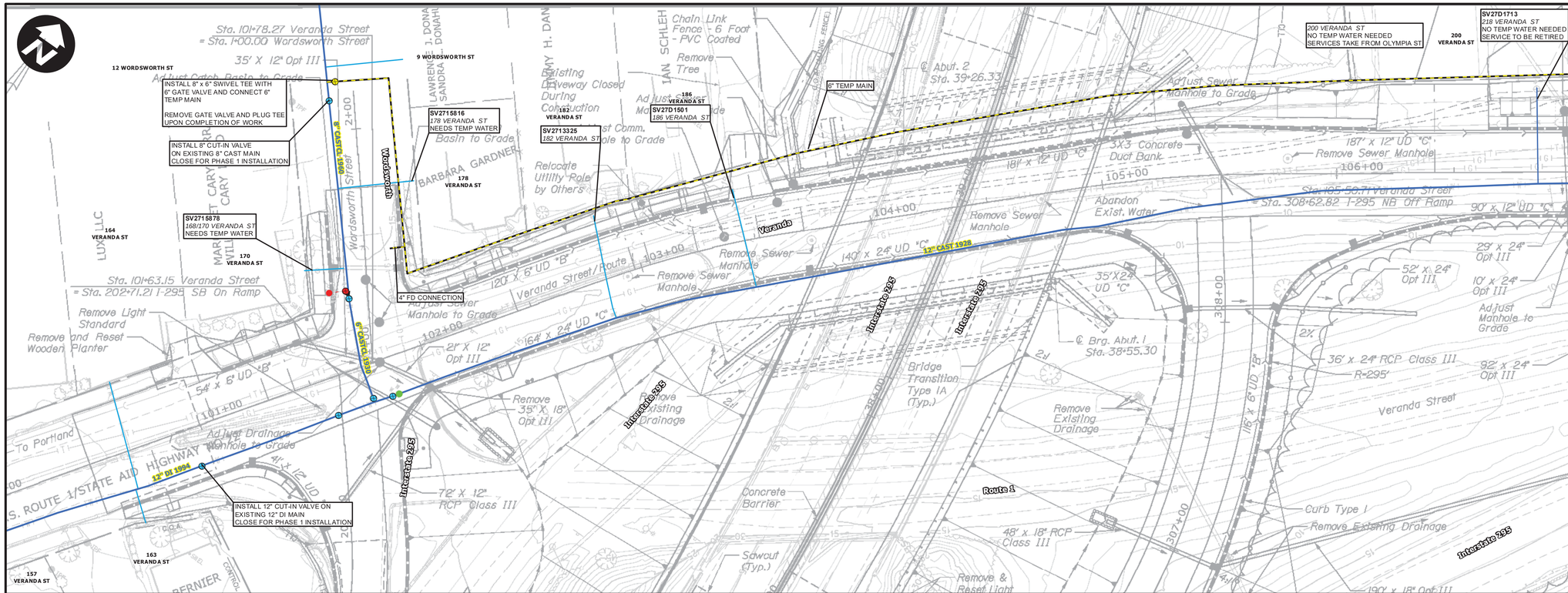
ASSET MANAGEMENT AND PLANNING DEPARTMENT

225 DOUGLASS STREET, PORTLAND ME 04104

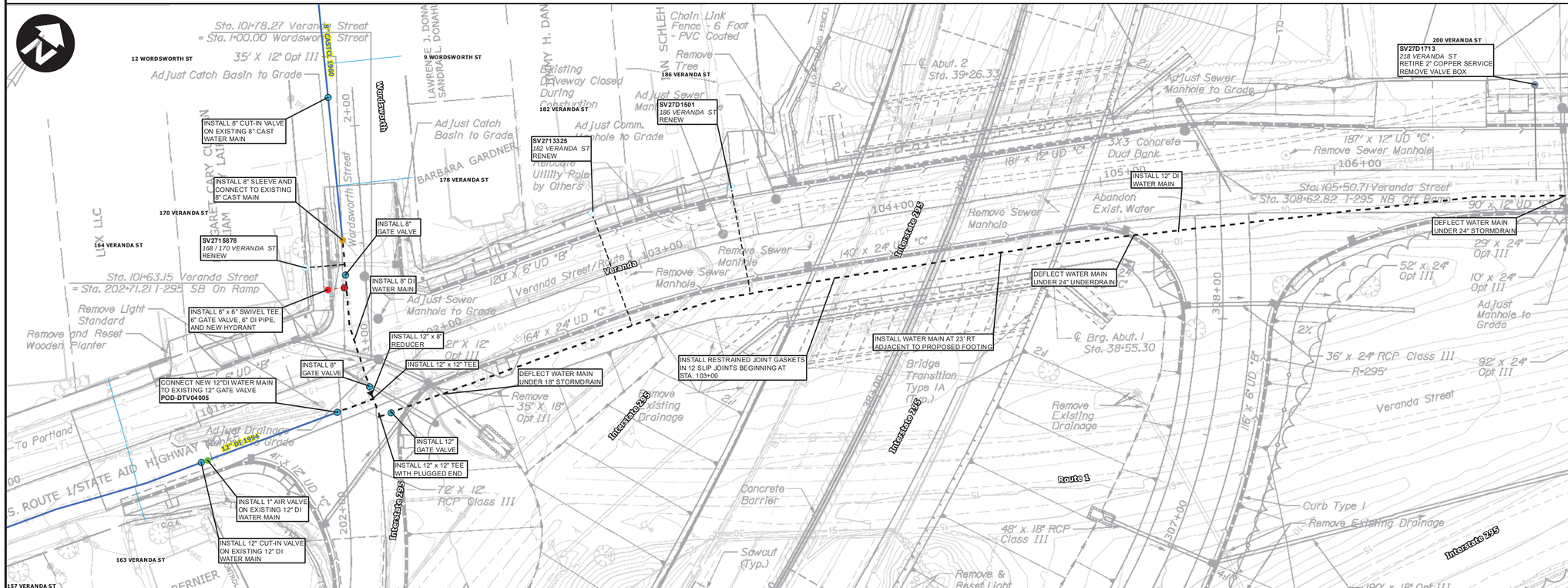
(207) 774-5961 • WWW.PWD.ORG

SHEET:

W1 OF W6



EXISTING AND TEMPORARY MAINS
1 " = 25 '



PROPOSED MAINS
1 " = 25 '

NOTES

1. CONTRACTOR SHALL DISPOSE OF ALL EXCAVATED PIPING AND APPURTENANCES. SALVAGE ALL REMOVED HYDRANTS AND DELIVER TO PWD YARD AT 225 DOUGLASS ST - PORTLAND.

2. ALL MAINS AND SERVICES SHALL BE INSTLLED WITH 5.5' OF COVER MEASURED FROM PROPOSED ROAD GRADE UNLESS INDICATED OTHERWISE ON THE DRAWINGS OR APPROVED BY A PWD REPRESENTATIVE.

3. THE PORTLAND WATER DISTRICT WILL NOTIFY CUSTOMERS FOR ALL WORK INVOLVING TEMPORARY SHUTDONW OF SERVICE. CUSTOMERS MUST RECEIVE AT LEAST 48 HOURS NOTIFICATION PRIO TO ANY SHUTDOWN. THE DISTRICT MUST RECEIVE NOTICE FROM THE CONTRACTOR OF THE SHUTDOWN AT LEAST 48 HOURS PRIOR TO CUSTOMER NOTIFICATION.

4. ALL DUCTILE IRON PIPE AND FITTINGS SHALL BE POLY-WRAPPED PER SPECIICATIONS.

5. INSTALL 4" TEMPORARY FIRE DEPARTMENT. CONNECTION (TYP.). 4" GATE VALVE, 90° ELBOW, AND 4-1/2" NPT STEAMER PORT CONNECTION WITH CAP AT LOCATIONS SHOWN ON THE DRAWINGS. ALL JOINTS TO BE RESTRAINED. STEAMER PORT AND RISER TO BE ANCHORED TO THE GROUND. OUTLET TO BE BETWEEN 1' AND 2' OFF THE GROUND. OUTLET AND TEE TO BE BRACED.

6. TEMPORARY WATER SYSTEM SHALL ONLY BE ACTIVE BETWEEN APRIL 15TH AND OCTOBER 15TH. ALL WATER MAIN, EITHER EXISTING OR NEWLY INSTALLED, MUST BE ACTIVE BETWEEN OCTOBER 16TH AND APRIL 14TH.

7. CONTRACTOR MUST ALLOW OWNER SUFFICIENT TIME TO TRANSFER WATER SERVICES FROM EXISTING WATER MAIN TO TEMPORARY WATER MAIN SERVICES INSTALLED BY CONTRACTOR AND TO TRANSFER SERVICE TO NEW WATER MAIN/SERVICE LINE UPON SUCCESSFUL TESTING OF SAMPLE FOR ABSENCE OF BACTERIA. THE CONTRCTOR SHALL NOT CLAIM ANY DELAY-RELATED COST OR TIME RELATD TO THIS WORK.

8. REPLACE ALL SERVICES TO BE RENEWED FROM MAIN TO STREET LINE WITH 1" COPPER PIPING, UNLESS OTHERWISE NOTED.

9. LOCATIONS OF UTILITIES OTHER THAN WATER ARE APPROXIMATE, AND NOT ALL UTILITES ARE SHOWN. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING, SUPPORTING AND PROTECTING ALL UTILITIES DURING INSTALLATION OF THE WATER MAIN.

10. INSTALL SWIVEL TYPE TEES FOR ALL HYDRANT CONNECTIONS.

11. A SHUTDOWN IS REQUIRED FOR INSTALLATION OF ALL CUT-IN VALVES AND FITTINGS ON EXISTING WATER MAINS.

12. ALL FITTINGS SHALL BE MECHANICAL JOINT (RETAINED).

13. REMOVE THE TOP SECTION OF ALL ABANDONED VALVE BOXES AND FILL WITH SAND.

14. INSTALL A MECHANICAL JOINT CAP ON ENDS OF ALL ABANDONED MAINS.

15. CONTRACTOR SHALL TEST AND ACTIVATE PHASE 1 BEFORE INSTALLATION CAN BEGIN IN PHASE 2.

16. ALL TEMPORARY WATER MAIN TO BE BURIED BELOW GRADE AT ALL STREET AND DRIVEWAY CROSSINGS. INSTALL AND MAINTAIN TEMPORARY PAVEMENT IN THESE AREAS.

LEGEND

- EXISTING WATER MAIN
- PROPOSED WATER MAIN
- TEMPORARY WATER MAIN
- PROPOSED/RENEWED SERVICE
- RECONNECT SERVICE

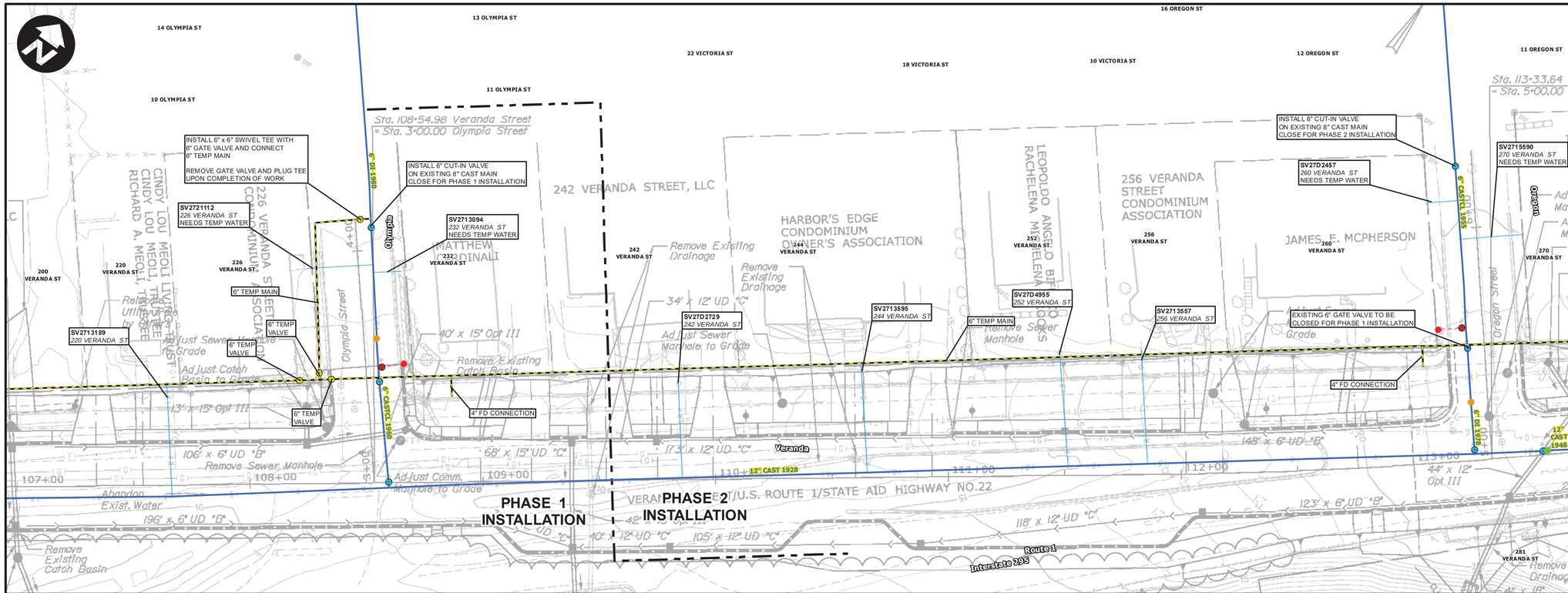
PROJECT:
374376

VERANDA STREET PORTLAND, MAINE WATER MAIN REPLACEMENT

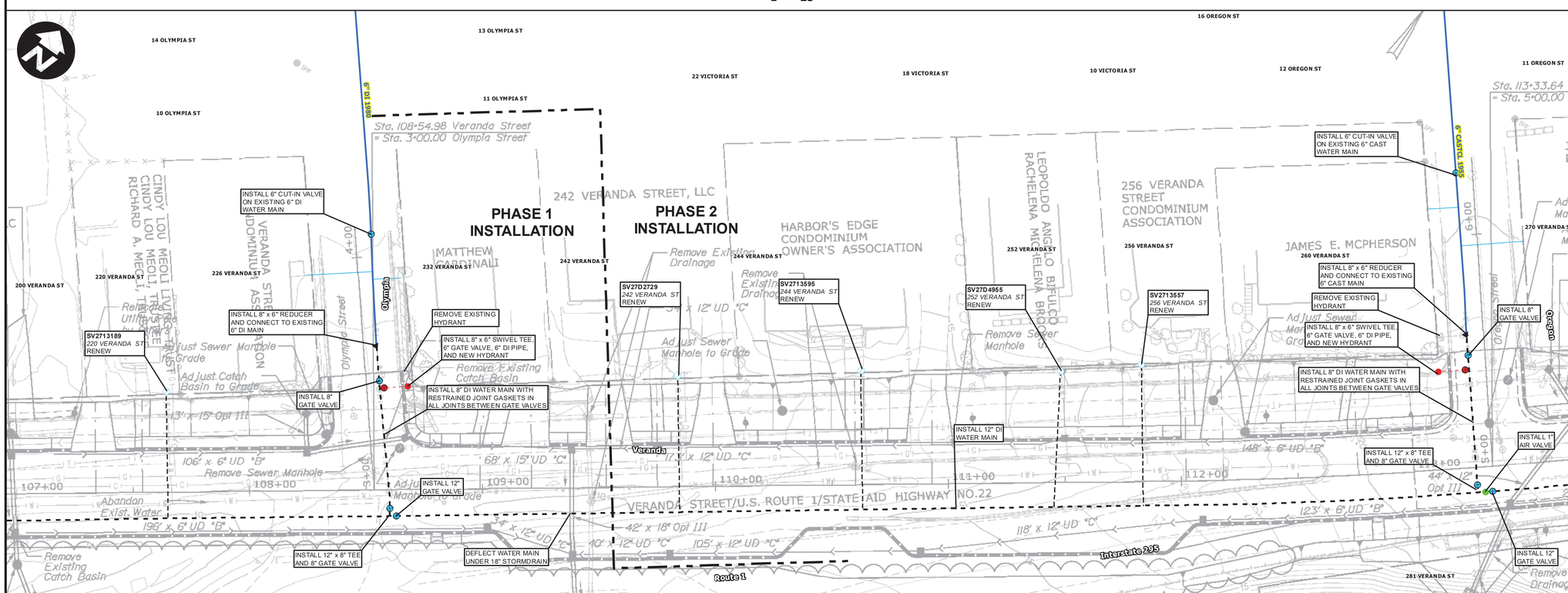
DRAWN BY: BSJ
DESIGN BY: TJM
DATE: 12/10/2019

Portland Water District
ASSET MANAGEMENT AND PLANNING DEPARTMENT
225 DOUGLASS STREET, PORTLAND ME 04104
(207) 774-5961 • WWW.PWD.ORG

SHEET:
W2 OF W6



EXISTING AND TEMPORARY MAINS
1 " = 25 '



PROPOSED MAINS
1 " = 25 '

NOTES

1. CONTRACTOR SHALL DISPOSE OF ALL EXCAVATED PIPING AND APPURTENANCES. SALVAGE ALL REMOVED HYDRANTS AND DELIVER TO PWD YARD AT 225 DOUGLASS ST - PORTLAND.

2. ALL MAINS AND SERVICES SHALL BE INSTLLED WITH 5.5' OF COVER MEASURED FROM PROPOSED ROAD GRADE UNLESS INDICATED OTHERWISE ON THE DRAWINGS OR APPROVED BY A PWD REPRESENTATIVE.

3. THE PORTLAND WATER DISTRICT WILL NOTIFY CUSTOMERS FOR ALL WORK INVOLVING TEMPORARY SHUTDONW OF SERVICE. CUSTOMERS MUST RECEIVE AT LEAST 48 HOURS NOTIFICATION PRIO TO ANY SHUTDOWN. THE DISTRICT MUST RECEIVE NOTICE FROM THE CONTRACTOR OF THE SHUTDOWN AT LEAST 48 HOURS PRIOR TO CUSTOMER NOTIFICATION.

4. ALL DUCTILE IRON PIPE AND FITTINGS SHALL BE POLY-WRAPPED PER SPECIICATIONS.

5. INSTALL 4" TEMPORARY FIRE DEPARTMENT. CONNECTION (TYP.). 4" GATE VALVE, 90° ELBOW, AND 4-1/2" NPT STEAMER PORT CONNECTION WITH CAP AT LOCATIONS SHOWN ON THE DRAWINGS. ALL JOINTS TO BE RESTRAINED. STEAMER PORT AND RISER TO BE ANCHORED TO THE GROUND. OUTLET TO BE BETWEEN 1' AND 2' OFF THE GROUND. OUTLET AND TEE TO BE BRACED.

6. TEMPORARY WATER SYSTEM SHALL ONLY BE ACTIVE BETWEEN APRIL 15TH AND OCTOBER 15TH. ALL WATER MAIN, EITHER EXISTING OR NEWLY INSTALLED, MUST BE ACTIVE BETWEEN OCTOBER 16TH AND APRIL 14TH.

7. CONTRACTOR MUST ALLOW OWNER SUFFICIENT TIME TO TRANSFER WATER SERVICES FROM EXISTING WATER MAIN TO TEMPORARY WATER MAIN SERVICES INSTALLED BY CONTRACTOR AND TO TRANSFER SERVICE TO NEW WATER MAIN/SERVICE LINE UPON SUCCESSFUL TESTING OF SAMPLE FOR ABSENCE OF BACTERIA. THE CONTRCTOR SHALL NOT CLAIM ANY DELAY-RELATED COST OR TIME RELATD TO THIS WORK.

8. REPLACE ALL SERVICES TO BE RENEWED FROM MAIN TO STREET LINE WITH 1" COPPER PIPING, UNLESS OTHERWISE NOTED.

9. LOCATIONS OF UTILITIES OTHER THAN WATER ARE APPROXIMATE, AND NOT ALL UTILITES ARE SHOWN. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING, SUPPORTING AND PROTECTING ALL UTILITIES DURING INSTALLATION OF THE WATER MAIN.

10. INSTALL SWIVEL TYPE TEES FOR ALL HYDRANT CONNECTIONS.

11. A SHUTDOWN IS REQUIRED FOR INSTALLATION OF ALL CUT-IN VALVES AND FITTINGS ON EXISTING WATER MAINS.

12. ALL FITTINGS SHALL BE MECHANICAL JOINT (RETAINED).

13. REMOVE THE TOP SECTION OF ALL ABANDONED VALVE BOXES AND FILL WITH SAND.

14. INSTALL A MECHANICAL JOINT CAP ON ENDS OF ALL ABANDONED MAINS.

15. CONTRACTOR SHALL TEST AND ACTIVATE PHASE 1 BEFORE INSTALLATION CAN BEGIN IN PHASE 2.

16. ALL TEMPORARY WATER MAIN TO BE BURIED BELOW GRADE AT ALL STREET AND DRIVEWAY CROSSINGS. INSTALL AND MAINTAIN TEMPORARY PAVEMENT IN THESE AREAS.

LEGEND

- EXISTING WATER MAIN
- PROPOSED WATER MAIN
- TEMPORARY WATER MAIN
- PROPOSED/RENEWED SERVICE
- RECONNECT SERVICE

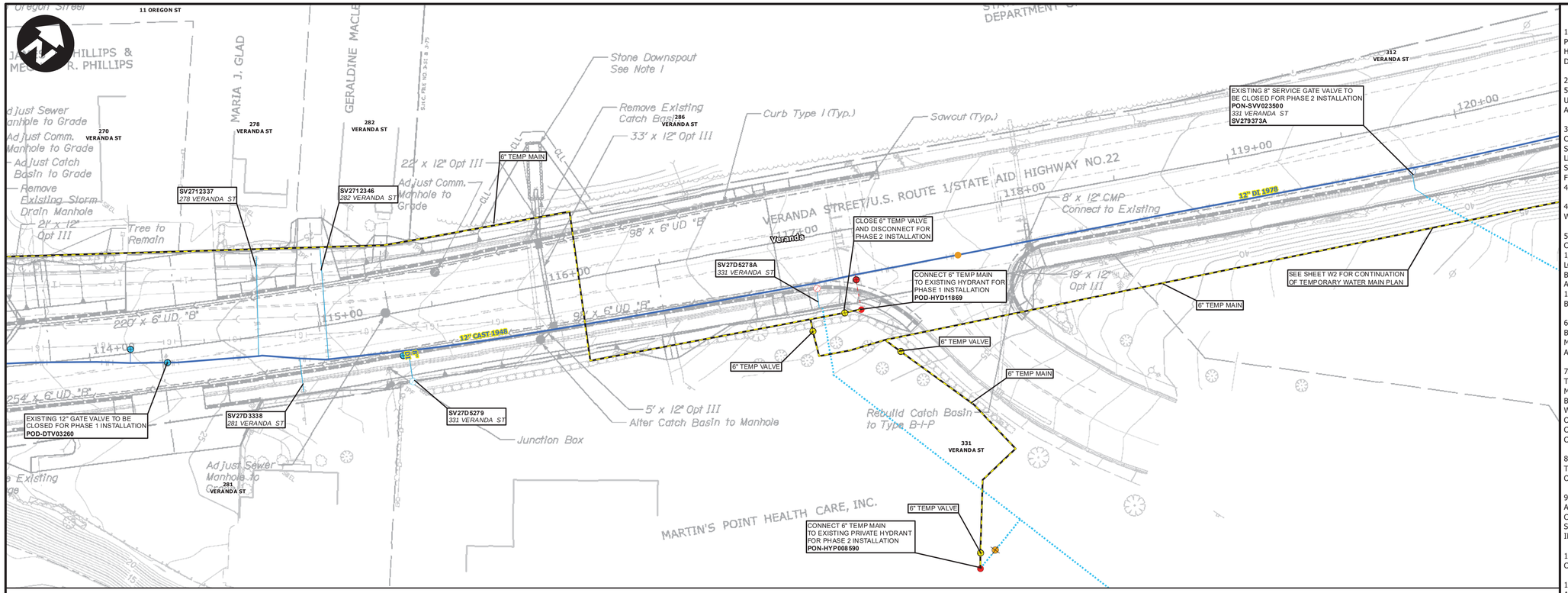
PROJECT:
374376

VERANDA STREET PORTLAND, MAINE WATER MAIN REPLACEMENT

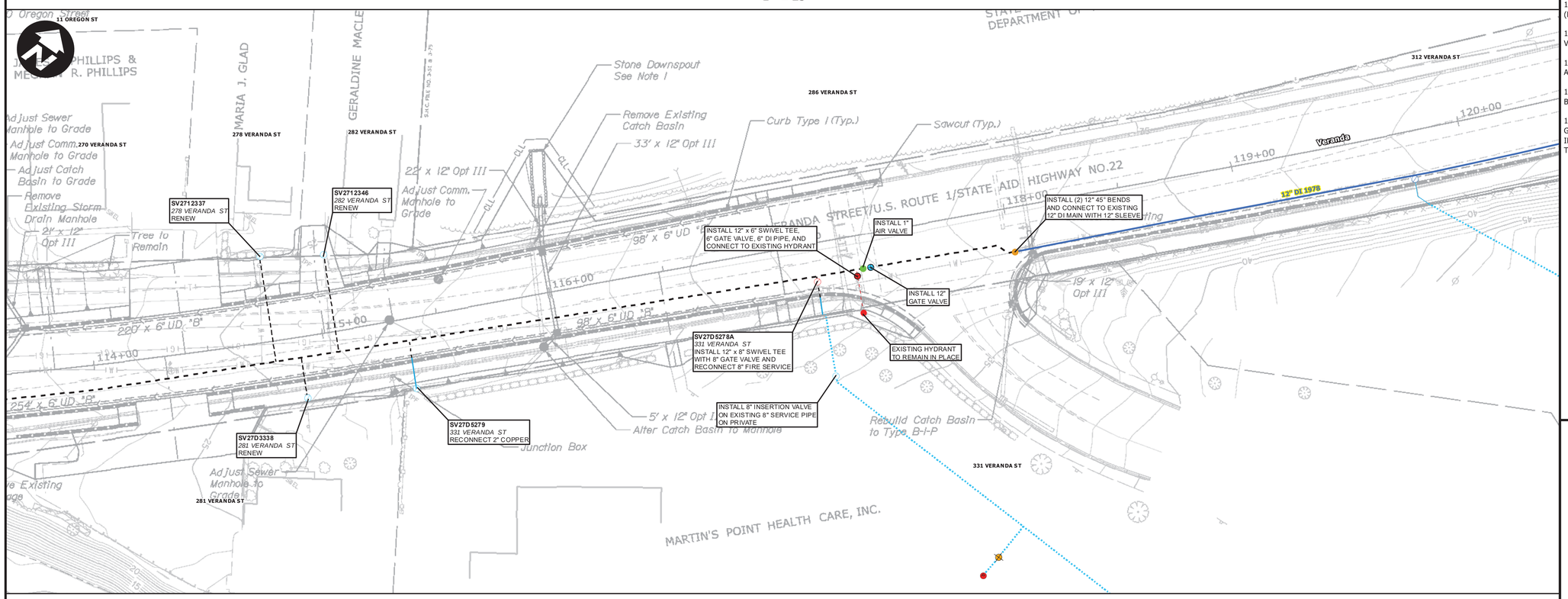
DRAWN BY: BSJ
DESIGN BY: TM
DATE: 12/10/2019

Portland Water District
ASSET MANAGEMENT AND PLANNING DEPARTMENT
225 DOUGLASS STREET, PORTLAND ME 04104
(207) 774-5961 • WWW.PWD.ORG

SHEET:
W3 OF W6



EXISTING AND TEMPORARY MAINS
1 " = 25 '



PROPOSED MAINS
1 " = 25 '

NOTES

1. CONTRACTOR SHALL DISPOSE OF ALL EXCAVATED PIPING AND APPURTENANCES. SALVAGE ALL REMOVED HYDRANTS AND DELIVER TO PWD YARD AT 225 DOUGLASS ST - PORTLAND.

2. ALL MAINS AND SERVICES SHALL BE INSTLLED WITH 5.5' OF COVER MEASURED FROM PROPOSED ROAD GRADE UNLESS INDICATED OTHERWISE ON THE DRAWINGS OR APPROVED BY A PWD REPRESENTATIVE.

3. THE PORTLAND WATER DISTRICT WILL NOTIFY CUSTOMERS FOR ALL WORK INVOLVING TEMPORARY SHUTDONW OF SERVICE. CUSTOMERS MUST RECEIVE AT LEAST 48 HOURS NOTIFICATION PRIO TO ANY SHUTDOWN. THE DISTRICT MUST RECEIVE NOTICE FROM THE CONTRACTOR OF THE SHUTDOWN AT LEAST 48 HOURS PRIOR TO CUSTOMER NOTIFICATION.

4. ALL DUCTILE IRON PIPE AND FITTINGS SHALL BE POLY-WRAPPED PER SPECIICATIONS.

5. INSTALL 4" TEMPORARY FIRE DEPARTMENT. CONNECTION (TYP.). 4" GATE VALVE, 90° ELBOW, AND 4-1/2" NPT STEAMER PORT CONNECTION WITH CAP AT LOCATIONS SHOWN ON THE DRAWINGS. ALL JOINTS TO BE RESTRAINED. STEAMER PORT AND RISER TO BE ANCHORED TO THE GROUND. OUTLET TO BE BETWEEN 1' AND 2' OFF THE GROUND. OUTLET AND TEE TO BE BRACED.

6. TEMPORARY WATER SYSTEM SHALL ONLY BE ACTIVE BETWEEN APRIL 15TH AND OCTOBER 15TH. ALL WATER MAIN, EITHER EXISTING OR NEWLY INSTALLED, MUST BE ACTIVE BETWEEN OCTOBER 16TH AND APRIL 14TH.

7. CONTRACTOR MUST ALLOW OWNER SUFFICIENT TIME TO TRANSFER WATER SERVICES FROM EXISTING WATER MAIN TO TEMPORARY WATER MAIN SERVICES INSTALLED BY CONTRACTOR AND TO TRANSFER SERVICE TO NEW WATER MAIN/SERVICE LINE UPON SUCCESSFUL TESTING OF SAMPLE FOR ABSENCE OF BACTERIA. THE CONTRCTOR SHALL NOT CLAIM ANY DELAY-RELATED COST OR TIME RELATD TO THIS WORK.

8. REPLACE ALL SERVICES TO BE RENEWED FROM MAIN TO STREET LINE WITH 1" COPPER PIPING, UNLESS OTHERWISE NOTED.

9. LOCATIONS OF UTILITIES OTHER THAN WATER ARE APPROXIMATE, AND NOT ALL UTILITES ARE SHOWN. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING, SUPPORTING AND PROTECTING ALL UTILITIES DURING INSTALLATION OF THE WATER MAIN.

10. INSTALL SWIVEL TYPE TEES FOR ALL HYDRANT CONNECTIONS.

11. A SHUTDOWN IS REQUIRED FOR INSTALLATION OF ALL CUT-IN VALVES AND FITTINGS ON EXISTING WATER MAINS.

12. ALL FITTINGS SHALL BE MECHANICAL JOINT (RETAINED).

13. REMOVE THE TOP SECTION OF ALL ABANDONED VALVE BOXES AND FILL WITH SAND.

14. INSTALL A MECHANICAL JOINT CAP ON ENDS OF ALL ABANDONED MAINS.

15. CONTRACTOR SHALL TEST AND ACTIVATE PHASE 1 BEFORE INSTALLATION CAN BEGIN IN PHASE 2.

16. ALL TEMPORARY WATER MAIN TO BE BURIED BELOW GRADE AT ALL STREET AND DRIVEWAY CROSSINGS. INSTALL AND MAINTAIN TEMPORARY PAVEMENT IN THESE AREAS.

LEGEND

- EXISTING WATER MAIN
- PROPOSED WATER MAIN
- TEMPORARY WATER MAIN
- PROPOSED/RENEWED SERVICE
- RECONNECT SERVICE

PROJECT:
374376

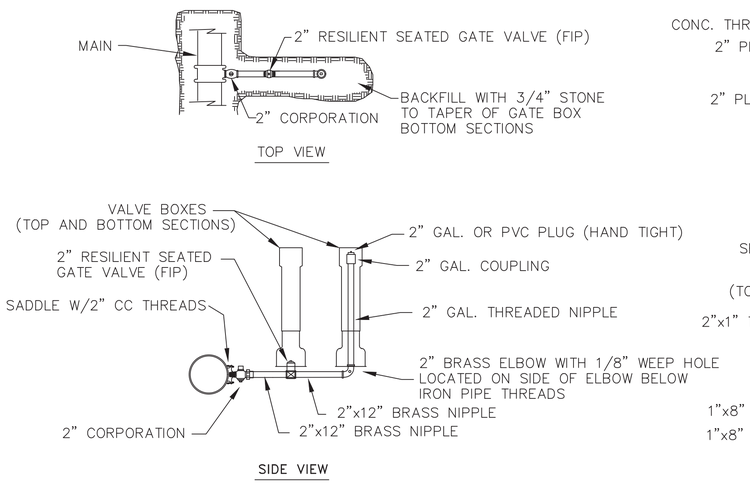
VERANDA STREET PORTLAND, MAINE WATER MAIN REPLACEMENT

STATE OF MAINE
TIMOTHY J. MCMULLIN
9355
PROFESSIONAL ENGINEER

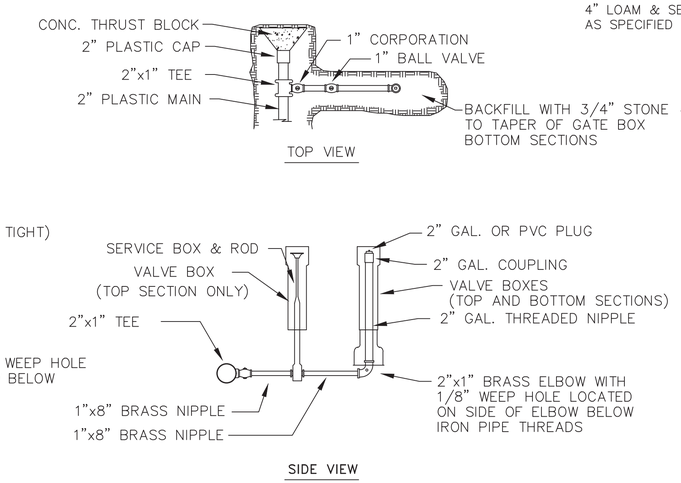
DRAWN BY: BSJ
DESIGN BY: TM
DATE: 12/10/2019

Portland Water District
ASSET MANAGEMENT AND PLANNING DEPARTMENT
225 DOUGLASS STREET, PORTLAND ME 04104
(207) 774-5961 • WWW.PWD.ORG

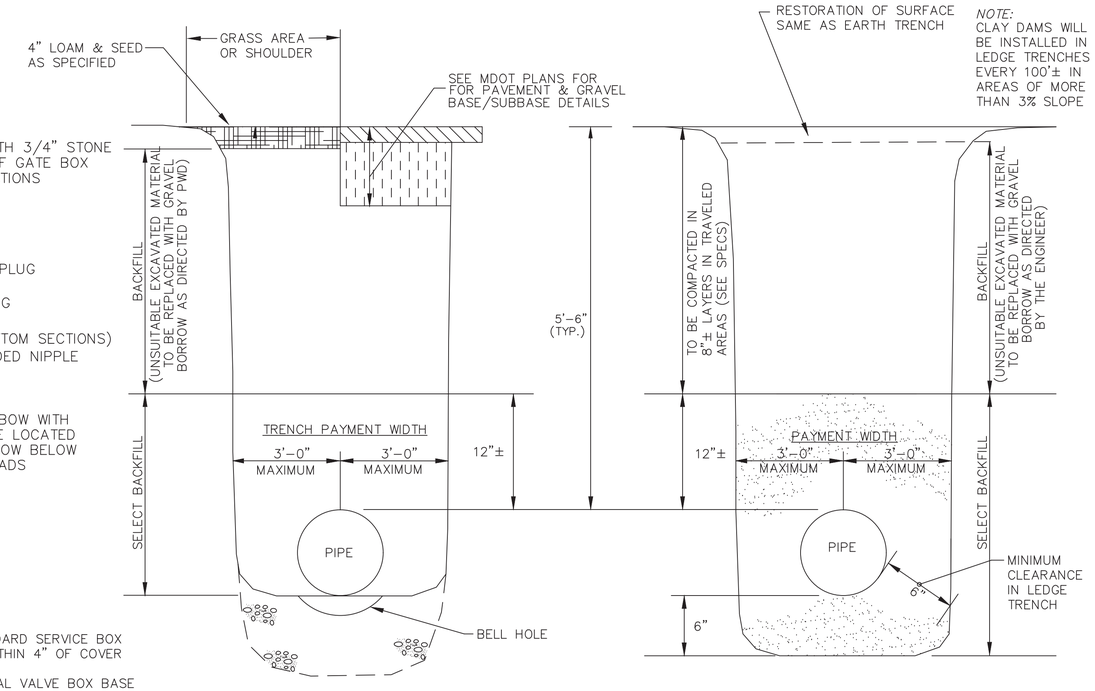
SHEET:
W4 OF W6



SIDE-ARM BLOW-OFF
4" & LARGER MAINS

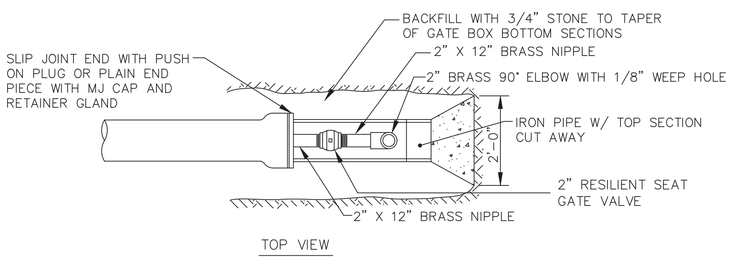


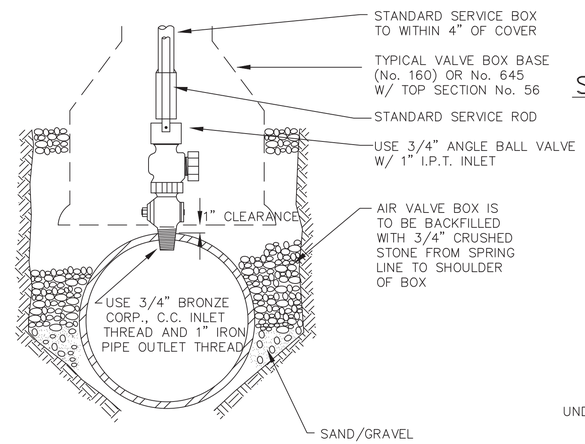
SIDE-ARM BLOW-OFF
2" MAIN



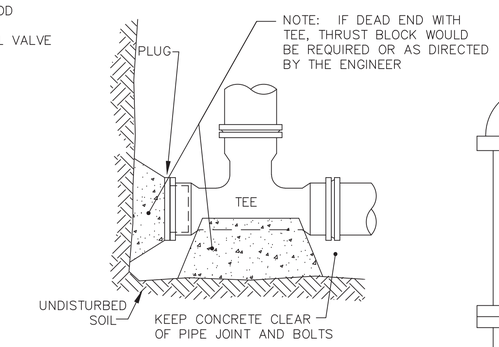
SECTION THRU EARTH TRENCH

SECTION THRU LEDGE TRENCH





TYPICAL AIR VALVE (1")



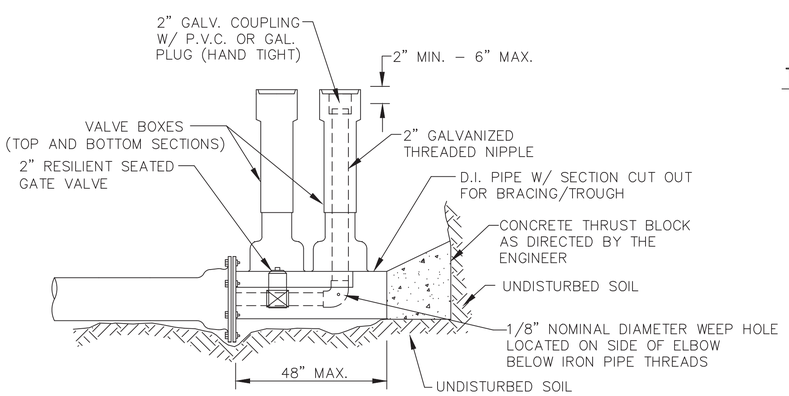
STANDARD TEE BLOCKING

FOR STATE ROADS

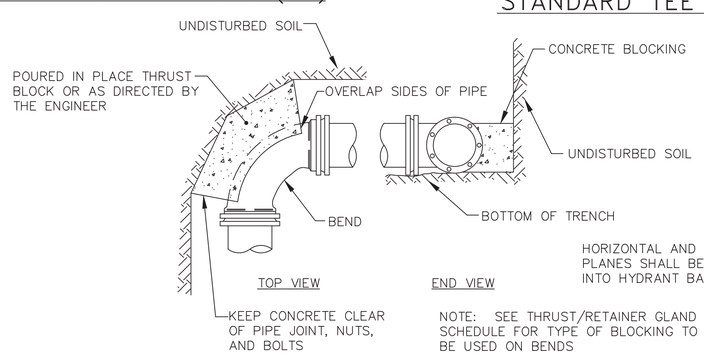
SETBACK SHALL CONFORM TO M.D.OT. POLICY FOR ABOVE GROUND UTILITY LOCATIONS. FOR SPEED LIMITS >35MPH 6 1/2' FROM EDGE OF SHOULDER OR FACE OF CURB. FOR SPEED LIMITS <35MPH 3' FROM EDGE OF SHOULDER OR 1' FROM FACE OF CURB.

FOR CITY OR TOWN ROADS

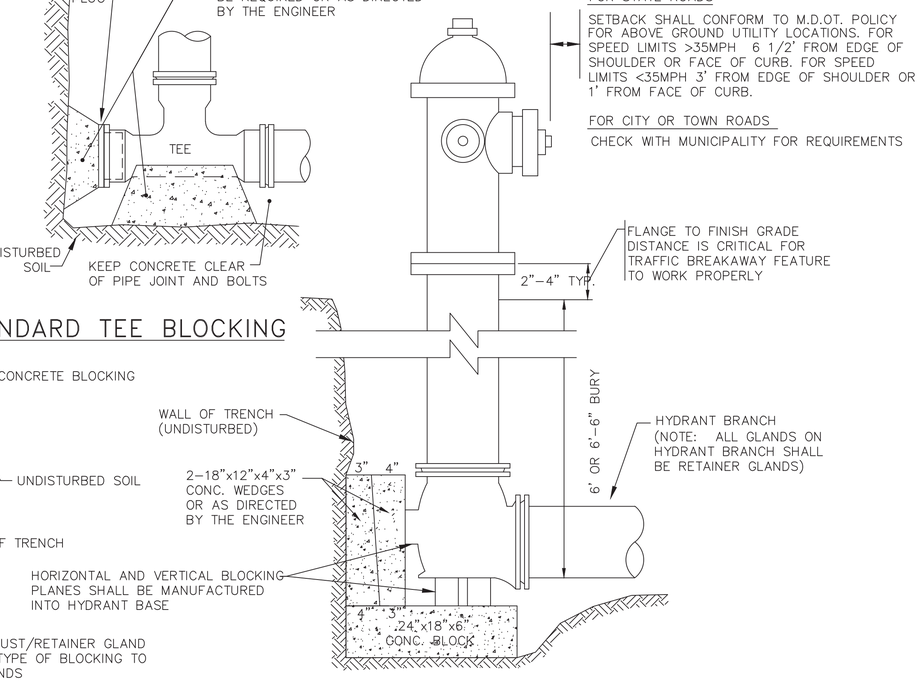
CHECK WITH MUNICIPALITY FOR REQUIREMENTS



STANDARD 2" BLOW OFF



STANDARD BEND BLOCKING



TYPICAL HYDRANT INSTALLATION DETAIL

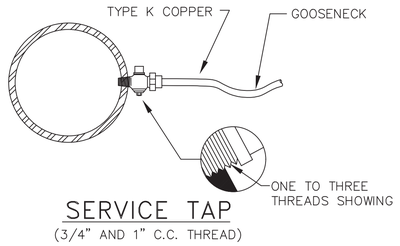
PROJECT:
374376

VERANDA STREET
PORTLAND, MAINE
WATER MAIN REPLACEMENT
STANDARD DETAILS

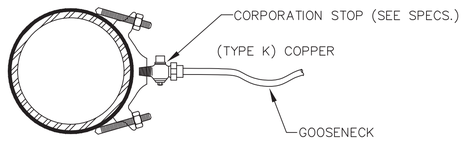
DRAWN BY: BSJ
CHECKED BY: TM
DATE: 11/18/2019

Portland Water District
ASSET MANAGEMENT AND PLANNING DEPARTMENT
225 DOUGLASS STREET, PORTLAND ME 04104
(207) 774-5961 EXT. 3041 • MEANS@PWD.ORG

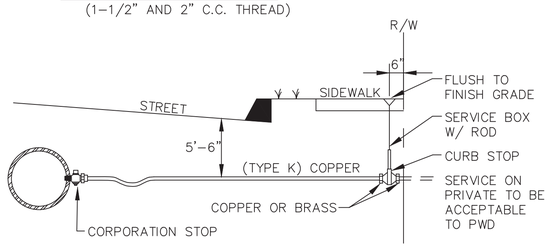
SHEET:
W5 OF W6



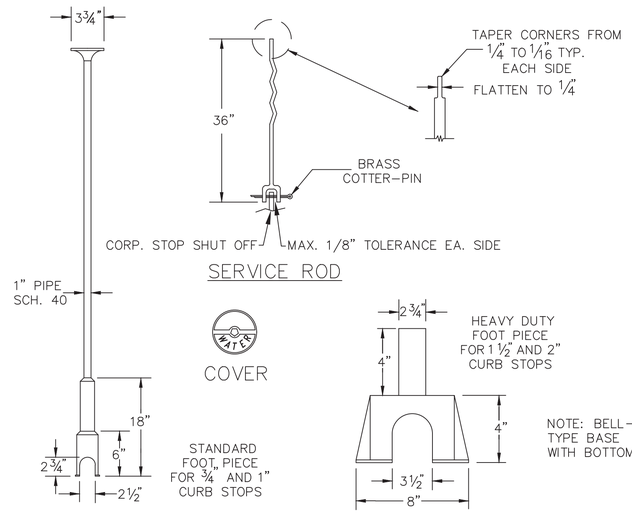
SERVICE TAP
(3/4" AND 1" C.C. THREAD)



SERVICE SADDLE
(1-1/2" AND 2" C.C. THREAD)

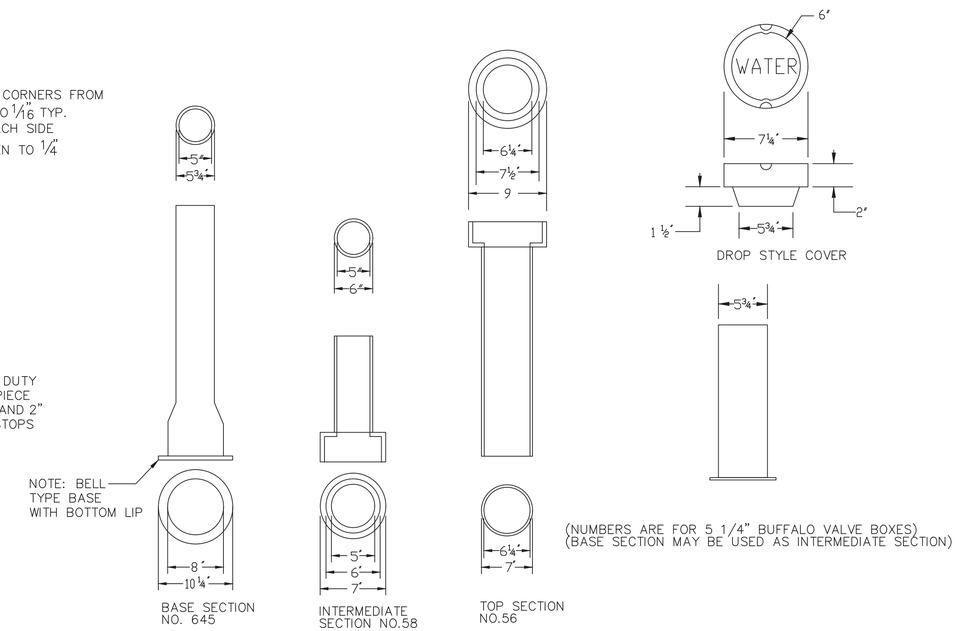


TYPICAL SERVICE CONNECTION



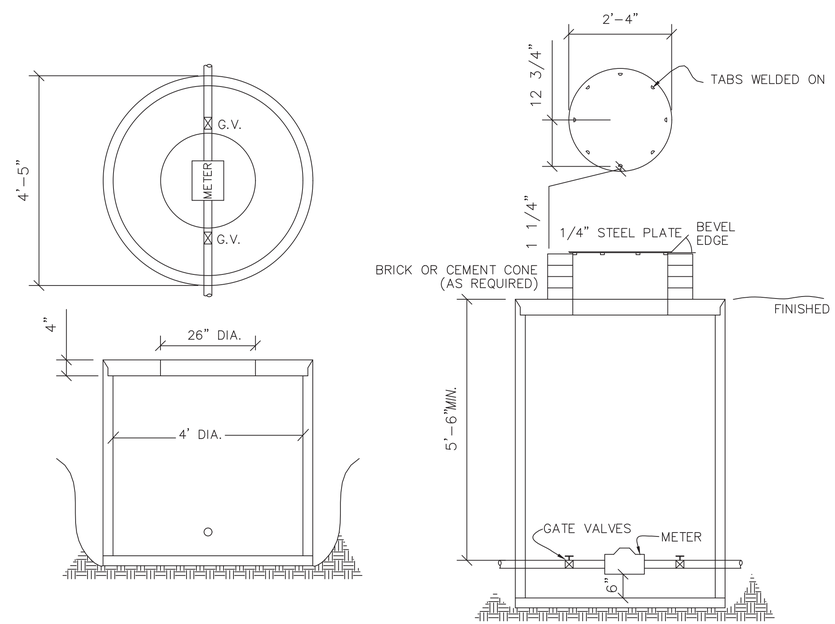
NOTE : ANY EXTENSION OF SERVICE BOX REQUIRES:
1) 1" FEMALE IRON PIPE COUPLING
2) 1" THREADED PIPE

(THIS IS TO BE A NON-WELDED, TWO PIECE ARRANGEMENT. SLIP ON ADAPTERS ARE NOT PERMISSIBLE.)



(NUMBERS ARE FOR 5 1/4" BUFFALO VALVE BOXES)
(BASE SECTION MAY BE USED AS INTERMEDIATE SECTION)

VALVE BOX & COVER



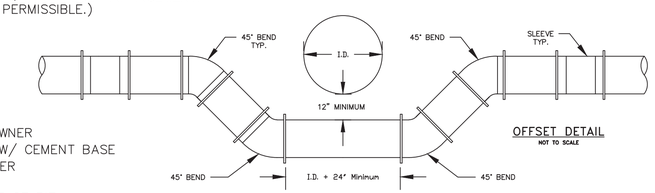
TYPICAL METER PIT

5/8" TO 2" METERS

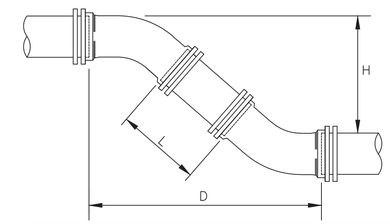
METER BOX
1) TO BE INSTALLED AND SUPPLIED BY OWNER
2) MINIMUM 4'-0" DIAMETER CONC. M.H. W/ CEMENT BASE
3) WATER METER TO HAVE 5'-6" OF COVER AND IS TO BE SUPPLIED BY P.W.D.
4) OWNER IS TO SUPPLY 2 VALVES INSIDE OF PIT (MINIMUM SEPARATION OF 2'-0")
5) COPPER PIPE REQUIRED THRU METER PIT

COVER PLATE
1) COVER MUST WEIGH LESS THAN 60 lbs.
2) MINIMUM SIZE OF COVER WILL BE 28" DIAMETER.
3) IF STEEL PLATE IS USED, TREAT WITH A COAT OF RUST INHIBITING PAINT.

NOTES
1) THIS PIT IS TO BE PLACED ON PRIVATE PROPERTY NEAR THE STREET LINE.
2) THIS TYPICAL PIT WAS NOT DESIGNED FOR ANY TRAFFIC LOAD
3) THE PIT CAN BE ORDERED THRU OTHERS WITH SPECIAL DETAILS SUCH AS LARGER M.H. COVERS, ETC.
4) THIS PIT WILL HOUSE UP TO TWO 5/8", 3/4", OR 1" METERS



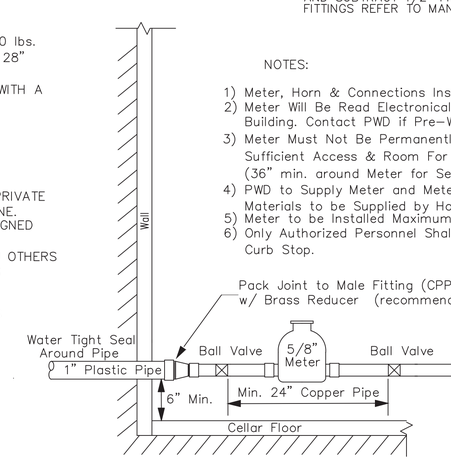
NOTE: DIMENSIONS APPLICABLE FOR SIGMA COMPACT BENDS. FOR TYLER COMPACT BENDS, ADD 1/2" TO "D" DIMENSION AND SUBTRACT 1/2" FROM "L" DIMENSION. FOR OTHER FITTINGS REFER TO MANUFACTURER'S RECOMMENDATIONS.



	6" PIPE		8" PIPE		12" PIPE	
H	D	L	D	L	D	L
12"	1' 6-1/2"	0' 10-1/2"	1' 7-1/2"	0' 9-1/2"	1' 11-1/2"	0' 5-1/2"
13"	1' 7-1/2"	0' 11-7/8"	1' 8-1/2"	0' 10-7/8"	2' 0-1/2"	0' 6-7/8"
14"	1' 8-1/2"	1' 1-5/16"	1' 9-1/2"	1' 0-5/16"	2' 1-1/2"	0' 8-5/16"
15"	1' 9-1/2"	1' 2-11/16"	1' 10-1/2"	1' 1-11/16"	2' 2-1/2"	0' 9-11/16"
16"	1' 10-1/2"	1' 4-1/8"	1' 11-1/2"	1' 3-1/8"	2' 3-1/2"	0' 11-1/8"
17"	1' 11-1/2"	1' 5-9/16"	2' 0-1/2"	1' 4-9/16"	2' 4-1/2"	1' 0-9/16"
18"	2' 0-1/2"	1' 6-15/16"	2' 1-1/2"	1' 5-15/16"	2' 5-1/2"	1' 1-15/16"
19"	2' 1-1/2"	1' 8-3/8"	2' 2-1/2"	1' 7-3/8"	2' 6-1/2"	1' 3-3/8"
20"	2' 2-1/2"	1' 9-13/16"	2' 3-1/2"	1' 8-13/16"	2' 7-1/2"	1' 4-13/16"
21"	2' 3-1/2"	1' 11-3/16"	2' 4-1/2"	1' 10-3/16"	2' 8-1/2"	1' 6-3/16"
22"	2' 4-1/2"	2' 0-5/8"	2' 5-1/2"	1' 11-5/8"	2' 9-1/2"	1' 7-5/8"
23"	2' 5-1/2"	2' 2"	2' 6-1/2"	2' 1"	2' 10-1/2"	1' 9"
24"	2' 6-1/2"	2' 3-7/16"	2' 7-1/2"	2' 2-7/16"	2' 11-1/2"	1' 10-7/16"
25"	2' 7-1/2"	2' 4-7/8"	2' 8-1/2"	2' 3-7/8"	3' 0-1/2"	1' 11-7/8"
26"	2' 8-1/2"	2' 6-1/4"	2' 9-1/2"	2' 5-1/4"	3' 1-1/2"	2' 1-1/4"
27"	2' 9-1/2"	2' 7-11/16"	2' 10-1/2"	2' 6-11/16"	3' 2-1/2"	2' 2-11/16"
28"	2' 10-1/2"	2' 9-1/8"	2' 11-1/2"	2' 8-1/8"	3' 3-1/2"	2' 4-1/8"
29"	2' 11-1/2"	2' 10-1/2"	3' 0-1/2"	2' 9-1/2"	3' 4-1/2"	2' 5-1/2"
30"	3' 0-1/2"	2' 11-15/16"	3' 1-1/2"	2' 10-15/16"	3' 5-1/2"	2' 6-15/16"
31"	3' 1-1/2"	3' 1-5/16"	3' 2-1/2"	3' 0-5/16"	3' 6-1/2"	2' 8-5/16"
32"	3' 2-1/2"	3' 2-3/4"	3' 3-1/2"	3' 1-3/4"	3' 7-1/2"	2' 9-3/4"
33"	3' 3-1/2"	3' 4-3/16"	3' 4-1/2"	3' 3-3/16"	3' 8-1/2"	2' 11-3/16"
34"	3' 4-1/2"	3' 5-9/16"	3' 5-1/2"	3' 4-9/16"	3' 9-1/2"	3' 0-9/16"
35"	3' 5-1/2"	3' 7"	3' 6-1/2"	3' 6"	3' 10-1/2"	3' 2"
36"	3' 6-1/2"	3' 8-7/16"	3' 7-1/2"	3' 7-7/16"	3' 11-1/2"	3' 3-7/16"
37"	3' 7-1/2"	3' 9-13/16"	3' 8-1/2"	3' 8-13/16"	4' 0-1/2"	3' 4-13/16"
38"	3' 8-1/2"	3' 11-1/4"	3' 9-1/2"	3' 10-1/4"	4' 1-1/2"	3' 6-1/4"
39"	3' 9-1/2"	4' 0-11/16"	3' 10-1/2"	3' 11-11/16"	4' 2-1/2"	3' 7-11/16"
40"	3' 10-1/2"	4' 2-1/16"	3' 11-1/2"	4' 1-1/16"	4' 3-1/2"	3' 9-1/16"
41"	3' 11-1/2"	4' 3-1/2"	4' 0-1/2"	4' 2-1/2"	4' 4-1/2"	3' 10-1/2"
42"	4' 0-1/2"	4' 4-7/8"	4' 1-1/2"	4' 3-7/8"	4' 5-1/2"	3' 11-7/8"
43"	4' 1-1/2"	4' 6-5/16"	4' 2-1/2"	4' 5-5/16"	4' 6-1/2"	4' 1-5/16"
44"	4' 2-1/2"	4' 7-3/4"	4' 3-1/2"	4' 6-3/4"	4' 7-1/2"	4' 2-3/4"
45"	4' 3-1/2"	4' 9-1/8"	4' 4-1/2"	4' 8-1/8"	4' 8-1/2"	4' 4-1/8"
46"	4' 4-1/2"	4' 10-9/16"	4' 5-1/2"	4' 9-9/16"	4' 9-1/2"	4' 5-9/16"
47"	4' 5-1/2"	4' 11-15/16"	4' 6-1/2"	4' 10-15/16"	4' 10-1/2"	4' 6-15/16"
48"	4' 6-1/2"	5' 1-3/8"	4' 7-1/2"	5' 0-3/8"	4' 11-1/2"	4' 8-3/8"
49"	4' 7-1/2"	5' 2-13/16"	4' 8-1/2"	5' 1-13/16"	5' 0-1/2"	4' 9-13/16"
50"	4' 8-1/2"	5' 4-3/16"	4' 9-1/2"	5' 3-3/16"	5' 1-1/2"	4' 11-3/16"
51"	4' 9-1/2"	5' 5-5/8"	4' 10-1/2"	5' 4-5/8"	5' 2-1/2"	5' 0-5/8"
52"	4' 10-1/2"	5' 7-1/16"	4' 11-1/2"	5' 6-1/16"	5' 3-1/2"	5' 2-1/16"
53"	4' 11-1/2"	5' 8-7/16"	5' 0-1/2"	5' 7-7/16"	5' 4-1/2"	5' 3-7/16"
54"	5' 0-1/2"	5' 9-7/8"	5' 1-1/2"	5' 8-7/8"	5' 5-1/2"	5' 4-7/8"
55"	5' 1-1/2"	5' 11-5/16"	5' 2-1/2"	5' 10-5/16"	5' 6-1/2"	5' 6-5/16"

TYPICAL MAIN OFFSET

NOTES:
1) Meter, Horn & Connections Installed by PWD
2) Meter Will Be Read Electronically From Outside of Building. Contact PWD if Pre-Wiring is Required.
3) Meter Must Not Be Permanently "Boxed" Without Sufficient Access & Room For Future Servicing (36" min. around Meter for Servicing).
4) PWD to Supply Meter and Meter Horn. All Other Materials to be Supplied by Homeowner.
5) Meter to be Installed Maximum 18" from Entrance.
6) Only Authorized Personnel Shall Operate Service Curb Stop.



TYP. HORIZONTAL METER SET

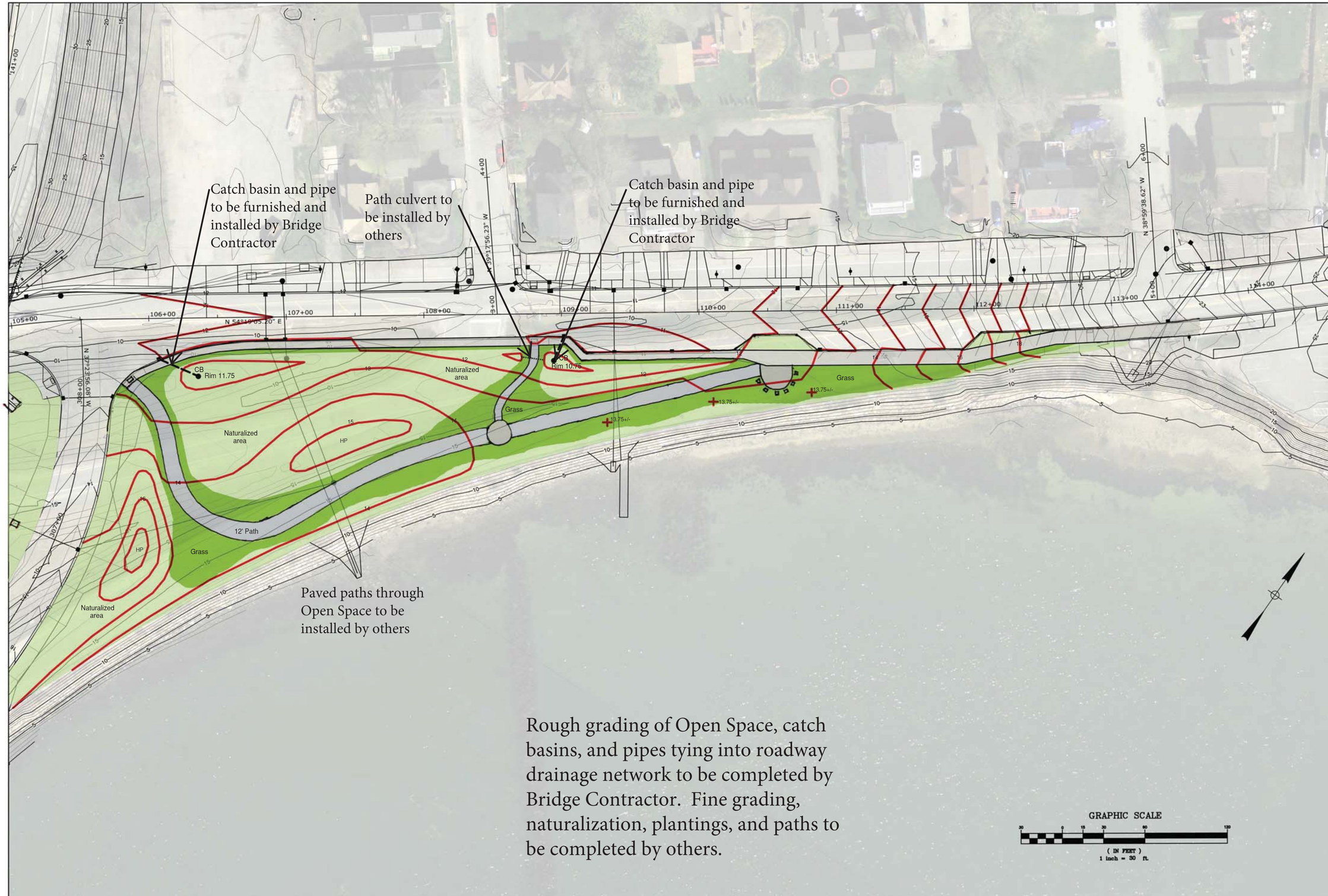
PROJECT:
374376

VERANDA STREET
PORTLAND, MAINE
WATER MAIN REPLACEMENT
STANDARD DETAILS

DRAWN BY: BSJ
CHECKED BY: TM
DATE: 11/18/2019

Portland Water District
ASSET MANAGEMENT AND PLANNING DEPARTMENT
225 DOUGLASS STREET, PORTLAND ME 04104
(207) 774-5961 EXT. 3041 • MEANS@PWD.ORG

SHEET:
W6 OF W6



Rough grading of Open Space, catch basins, and pipes tying into roadway drainage network to be completed by Bridge Contractor. Fine grading, naturalization, plantings, and paths to be completed by others.

Keith Smith Landscape Architecture

ksla

207.318.7774

ksmithlandarch@gmail.com

Owner/Client:

City of Portland, Maine

Draft: KBS

Scale: As Shown

Date: 09.20.19

Stamp

Rev	Issued for	Date	By
-	Reference in MDOT Plan Set	02.24.2020	KBS

Status

Concept

Project

Veranda Bridge Replacement Open Space

Drawing Name

Concept Plan

Sheet

OS-1