STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

SPECIFICATIONS

Design: Load and Resistance Factor Design per AASHTO LRFD Bridge Design Specifications, Ninth Edition 2020.

DESIGN LOADING

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

TRAFFIC DATA

Current (2020) AADT	14,240
Future (2040) AADT	15,660
DHV - % of AADT	11%
Design Hour Volume	1720
Heavy Trucks (% of AADT)	4%
Heavy Trucks (% of DHV)	1%
Directional Distribution (% of DHV)	67%
18 kip Equivalent P 2.0	213
18 kip Equivalent P 2.5	203
Design Speed (mph)	35

MATERIALS

Concrete:	
Fill Concrete	Class "Fill"
Curb, Raised Median, Bridge Barrier, and Shared Use Path, Pedestrian Barrier	Class "LP"
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 "Fill"	f 'c = 2,500 psi
Class "A"	f 'c = 4,000 psi
Class "LP"	f 'c = 5,000 psi
Reinforcing Steel:	
Plain	f y = 60,000 psi
Stainless	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

FREEPORT
CUMBERLAND COUNTY
APPROACH ROAD BRIDGE
OVER
INTERSTATE 295
AND SIGNALIZED INTERSECTIONS
EXIT 22 INTERCHANGE
PROJECT NO. 02172600
PROJECT LENGTH 0.12 mi.
BRIDGE NO. 5721

LIST OF DRAWINGS

Title Sheet	1
Estimated Quantities	2
General Notes	3
General Plans	4-6
Profiles	7-11
Boring Location Plans	12-14
Interpretive Subsurface Profile and Cross Section Sheets	15-16
Boring Logs	17-20
Curbing & Geometric Plans	21-23
Signing & Striping Plans	24-27
Intersection Grading Plans	28-29
Typical Sections	30-33
BMP Plans	34-35
Cross Sections	36-100
Traffic Control Plans	101-102
Signal Plans	103-106
Lighting Plans	107-109
Mast Arm and Lighting Foundation Details	110
Construction Staging	111
Abutments	112-116
Pile Details	117
Approach Slab	118
Pier	119-121
Bearing Details	122
Framing Plans	123
Structural Steel Details	124-127
Superstructure Plans	128
Superstructure Reinforcing	129
Bridge Drain Details	130
Bridge Rail Details	131-136
Reinforcing Schedule	137-139
Right of Way Maps	140-144

UTILITIES

Central Maine Power
Consolidated Communications
Firstlight
MaineCom Services
Comcast
Town of Freeport

MAINTENANCE OF TRAFFIC

I-295 - Maintain all lanes of traffic for the duration of the project, except for periodic night time lane or shoulder closures.

Exit 22 On/Off Ramps - Maintain one lane of traffic at all ramps except for short duration closures.

Mallett Drive - Maintain two way traffic on the existing and proposed bridges for the duration of the project excluding periodic lane closures controlled by flaggers.

PROJECT LOCATION:	Mallett Drive over I-295 located at Exit 22, Latitude 43°51'52" N, Longitude 70°06'29" W
PROGRAM AREA:	Bridge Program
OUTLINE OF WORK:	Bridge Replacement with Highway and Intersection Improvements

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

	DATE
APPROVED	
COMMISSIONER:	9/15/21
CHIEF ENGINEER:	9/14/21

STATE OF MAINE — Steven M. Hodgdon — 11206 — LICENSED PROFESSIONAL ENGINEER

Stamp applies to sheets 1-11, 21-106 & 110-139

Steven Hodgdon — SIGNATURE — P.E. NUMBER 11206 — DATE 09/10/2021

PROJECT INFORMATION		
PROGRAM	BRIDGE	
PROJECT MANAGER	MACKENZIE KERSBERGEN, P.E.	
DESIGNER	HNTB	
CONSULTANT	PROJECT RESIDENT	
	CONTRACTOR	
	PROJECT COMPLETION DATE	

WIN 021726.00

FREEPORT
APPROACH ROAD BRIDGE

TITLE SHEET

SHEET NUMBER 1 OF 144

Date:9/9/2021
Username:
Division:
Filename@01_Title.dgn

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
201.11	Clearing	1.4	AC
202.15	Removing Existing Manhole or Catch Basin	6	EA
202.19	Removing Existing Bridge (1027 CY, 110 TON)	1	LS
202.202	Removing Pavement Surface	3,500	SY
203.20	Common Excavation	8,800	CY
203.24	Common Borrow	12,700	CY
203.25	Granular Borrow	861	CY
203.26	Gravel Borrow	717	CY
206.082	Structural Earth Excavation - Major Structures, Plan Quantity	1,670	CY
206.092	Structural Rock Excavation - Major Structures	40	CY
304.10	Aggregate Subbase Course - Gravel	6,900	CY
403.2081	Hot Mix Asphalt - 12.5 mm Nominal Maximum Size (Polymer Modified)	1,080	T
403.209	Hot Mix Asphalt 9.5 mm (sidewalks, drives, islands & incidentals)	150	T
403.211	Hot Mix Asphalt, 9.5 mm Nominal Maximum Size (Shimming)	110	T
403.213	Hot Mix Asphalt, 12.5 mm Nominal Maximum Size (Base and Intermediate Base course)	1,300	T
403.2131	Hot Mix Asphalt, 12.5 mm Nominal Maximum Size (Base and Intermediate Base course, Polymer Modified)	950	T
409.15	Bituminous Tack Coat - Applied	1,230	G
461.131	Temporary Pavement	251	T
501.231	Dynamic Loading Test	2	EA
501.50	Steel H-Beam Piles 89 Lbs/Ft, Delivered	610	LF
501.501	Steel H-Beam Piles 89 Lbs/Ft, In Place	510	LF
501.804	Drilling Equipment Mobilization	1	LS
501.811	Pre-Excavation for Piles, Earth	80	LF
501.812	Pre-Excavation for Piles, Rock	20	LF
501.90	Pile Tips	20	EA
501.91	Pile Splices	10	EA
501.92	Pile Driving Equipment Mobilization	1	LS
502.219	Structural Concrete, Abutments and Retaining Walls (255 CY)	1	LS
502.239	Structural Concrete Piers (244 CY)	1	LS
502.26	Structural Concrete Roadway and Sidewalk Slabs On Steel Bridges (398 CY)	1	LS
502.31	Structural Concrete Approach Slabs (49 CY)	1	LS
502.49	Structural Concrete Curbs and Sidewalks (292 CY)	1	LS
502.34121	Structural Concrete Raised Island (12 CY)	1	LS
502.565	Concrete Fill	138	CY
502.77	Fiber Reinforced Polymer Bridge Drain - Type: F	2	EA
503.26	Stainless Steel Reinforcement, Fabricated and Delivered	225,560	LB
503.27	Stainless Steel Reinforcement, Placing	225,560	LB
504.702	Structural Steel Fabricated and Delivered, Welded (607,200 LB)	1	LS
504.71	Structural Steel Erection (607,200 LB)	1	LS
505.08	Shear Connectors (6208 EA)	1	LS
506.9104	Thermal Spray Coating - Shop Applied	1	LS
507.0846	Barrier Mounted Steel Bridge Rail, 1 Bar (240 LF)	1	LS
507.0848	Barrier Mounted Steel Bridge Rail, 2 Bar (240 LF)	1	LS
508.14	High Performance Waterproofing Membrane (1300 SY)	1	LS
513.22	Crushed Stone Slope Protection	692	SY
515.21	Protective Coating for Concrete Surfaces (670 SY)	1	LS
519.60	Expansion Device - Asphaltic Plug Joint	107	LF
523.52	Bearing Installation	8	EA
523.5401	Laminated Elastomeric Bearings, Fixed	8	EA
524.301	Temporary Structural Support - Approaches	1	LS
524.301	Temporary Structural Support - Pier	1	LS
524.40	Protective Shield (3141 SY)	1	LS
526.301	Portable Concrete Barrier, Type 1 (1500 LF)	1	LS
526.304	Portable Concrete Barrier, Anchored Type 1 (240 LF)	1	LS
526.3241	Texas Concrete Beam and Post Rail - Modified, Traffic (240 LF)	1	LS
526.3241	Texas Concrete Beam and Post Rail - Modified, Separation (240 LF)	1	LS
526.341	Permanent Concrete Barrier, Special (240 LF)	1	LS
527.33	Truck Mounted Attenuator	2	EA
527.34	Work Zone Crash Cushions	4	UN
602.30	Flowable Concrete Fill	14	CY
603.159	12 inch Culvert Pipe Option III	88	LF
603.175	18 inch RCP Class III	180	LF
603.195	24 inch RCP Class III	32	LF
603.199	24 inch Culvert Pipe Option III	36	LF
604.072	Catch Basin Type A1-C	2.3	EA
604.09	Catch Basin Type B1	2	EA
604.092	Catch Basin Type B1-C	4.4	EA
604.15	Manhole	1.5	EA
604.164	Rebuilding Catch Basin	1	EA
604.247	Catch Basin Type F5-C	1	EA
605.09	6 inch Underdrain Type B	200	LF
605.11	12 inch Underdrain Type C	80	LF
605.13	18 inch Underdrain Type C	150	LF
606.1301	31" W-Beam Guardrail - Mid-Way Splice - Single Faced	1,200	LF
606.1304	31" W-Beam Guardrail - Mid-Way Splice, Over 15' Radius	350	LF
606.1305	31" W-Beam Guardrail - Mid-Way Splice Flared Terminal	2	EA
606.1306	31" W-Beam Guardrail - Mid-Way Splice Tangent Terminal	2	EA
606.1307	Bridge Transition (Asymmetrical) - Type 1A	4	EA
606.259	Anchorage Assembly	1	EA
606.353	Reflectorized Flexible Guardrail Marker	9	EA
606.356	Underdrain Delineator Post	7	EA

ITEM NO.	DESCRIPTION	QUANTITY	UNIT
607.39	Pedestrian Fence	670	LF
608.26	Curb Ramp Detectable Warning Field	98	SF
609.11	Vertical Curb Type 1	1,050	LF
609.12	Vertical Curb Type 1 - Circular	35	LF
609.221	Terminal Curb Type 1	8	LF
609.222	Terminal Curb Type 1 - Circular	31	LF
609.31	Curb Type 3	210	LF
609.34	Curb Type 5	800	LF
609.34	Curb Type 5 - Modified	480	LF
609.35	Curb Type 5 - Circular	13	LF
609.38	Reset Curb Type 1	690	LF
610.08	Plain Riprap	87	CY
610.18	Stone Ditch Protection	41	CY
613.319	Erosion Control Blanket	5,000	SY
615.07	Loam	920	CY
615.27	Underdrain Soil Filter	1	LS
618.13	Seeding Method Number 1	18	UN
618.14	Seeding Method Number 2	95	UN
618.148	Special Seeding, Wetland Seed Mix-Moist	2	UN
619.12	Mulch	120	UN
619.14	Erosion Control Mix	50	CY
620.58	Erosion Control Geotextile	1,251	SY
620.66	Drainage Geocomposite	147	SY
626.11	Precast Concrete Junction Box	12	EA
626.21	Metallic Conduit	80	LF
626.22	Non-Metallic Conduit	960	LF
626.251	Non-Metallic Under Pavement Conduit (Schedule 80 or greater rating)	1,500	LF
626.35	Controller Cabinet Foundation	1	EA
626.36	Removing or Modify Concrete Foundation	1	EA
626.38	Ground Mounted Cabinet Foundation	2	EA
626.421	24-Inch Diameter Foundation	7	LF
626.44	36-Inch Diameter Foundation	50	LF
626.46	48-Inch Diameter Foundation	11	LF
627.51	6 inch Temporary Pavement Tape, Yellow or White	6,650	LF
627.733	4" White or Yellow Painted Pavement Marking Line	6,800	LF
627.744	6" White or Yellow Painted Pavement Marking Line	9,250	LF
627.75	White or Yellow Pavement & Curb Marking	1,750	SF
627.77	Removing Existing Pavement Marking	3,300	SF
627.78	Temporary 4" Painted Pavement Marking Line, White or Yellow	7,250	LF
627.781	Temporary 6" Painted Pavement Marking Line, White or Yellow	1,000	LF
629.05	Hand Labor, Straight Time	30	HR
631.10	Air Compressor (including operator)	30	HR
631.11	Air Tool (including operator)	30	HR
631.12	All Purpose Excavator (including operator)	30	HR
631.14	Grader (including operator)	20	HR
631.172	Truck-large (including operator)	30	HR
631.22	Front End Loader (including operator)	30	HR
631.32	Culvert Cleaner (including operator)	10	HR
634.160	Highway Lighting	1	LS
634.2042	LED Luminaires	2	EA
639.18	Field Office, Type A	0.5	EA
643.21	Non-Invasive Detection - Stop Line: I-295 NB Ramps & Route 136/125 (Mallett Dr.)	1	LS
643.21	Non-Invasive Detection - Stop Line: I-295 SB Ramps & Route 136/125 (Mallett Dr.)	1	LS
643.22	Non-Invasive Detection - Advance: I-295 NB Ramps & Route 136/125 (Mallett Dr.)	1	LS
643.22	Non-Invasive Detection - Advance: I-295 SB Ramps & Route 136/125 (Mallett Dr.)	1	LS
643.72	Temporary Traffic Signal at: I-295 Exit 22 NB On/Off Ramps & Route 136/125 (Mallett Dr.)	1	LS
643.80	Traffic Signal at: NB On/Off Ramp & Route 136/125 (Mallett Dr.)	1	LS
643.80	Traffic Signal at: SB On/Off Ramp & Route 136/125 (Mallett Dr.)	1	LS
643.90	Interconnect Wireless Between: I-295 NB On/Off Ramps & I-295 SB On/Off Ramps	1	LS
643.91	Mast Arm Pole (30' and 45' Mast Arms)	1	EA
643.91	Mast Arm Pole (30' Mast Arm)	1	EA
643.92	Pedestal Pole	1	EA
643.94	Dual Purpose Pole (50' Mast Arm and Luminaire Arm)	1	EA
643.94	Dual Purpose Pole (30' and 35' Mast Arms and Luminaire Arm)	1	EA
645.103	Demount Guide Sign	12	EA
645.106	Demount Regulatory, Warning, Confirmation and Route Marker Assembly Sign	88	EA
645.108	Demount Pole	34	EA
645.113	Reinstall Guide Sign	12	EA
645.116	Reinstall Regulatory, Warning, Confirmation, and Route Marker Assembly Sign	78	EA
645.118	Reinstall Pole	26	EA
645.291	Roadside Guide Signs Type II	1.7	SF
645.292	Regulatory, Warning, Confirmation and Route Marker Assembly Signs Type II	150	SF
652.30	Flashing Arrow	2	EA
652.312	Type III Barricades	5	EA
652.33	Drum	150	EA
652.34	Cone	150	EA
652.35	Construction Signs	1,300	SF
652.361	Maintenance of Traffic Control Devices (9I5 CD)	1	LS
652.38	Flaggers	4,150	HR
652.41	Portable-Changeable Message Sign	3	EA
654.351	Connected Roadside Unit (RSU)	2	EA
656.75	Temporary Soil Erosion and Water Pollution Control	1	LS
659.10	Mobilization	1	LS

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	M. Kerstergen		
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	LZD	PEK	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

ESTIMATED QUANTITIES

SHEET NUMBER

2

OF 144

Filename: 002_Estimated Quantities.dgn Division: Username: Date:9/10/2021

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

4. Seeding Method No. 1 shall be utilized on all lawn and developed areas. Seeding Method No. 2 shall be utilized on all other areas, unless otherwise noted or directed.

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

6. The clearing limits as shown on the plans are approximate. The actual clearing limits for payment will be established in the field by the Resident.

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

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

9. 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.

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

    All exposed surfaces of concrete curbs and shared-use paths,
    Fascias down to the drip notch,
    Piers,
    Concrete barrier railing,
    Top of abutment backwalls and wingwalls, and
    To one foot below the ground on vertical walls against earth.

11. 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.

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

13. 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.

14. The project geotechnical reports titled:
Preliminary Geotechnical Design Report, dated December 21, 2020
Supplemental Geotechnical Design Report Part I, dated August 20, 2021
Supplemental Geotechnical Design Report Part II, dated August 20, 2021
may be accessed at the MaineDOT web address.

15. 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.

16. 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.

17. The Contractor shall submit a Bridge Demolition Plan to the Resident at least 10 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. The Bridge Demolition Plan shall include plans and calculations designed by a Professional Engineer licensed in the State of Maine. No work related to the removal of the bridge shall be undertaken by the Contractor until 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.

18. 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.

19. Install two layers of 6 mil polyethylene sheeting under approach slabs. Payment will be considered incidental to the approach slab pay item.

20. No existing drainage shall be abandoned, removed, or plugged unless noted on the plans without prior approval of the Resident.

21. Existing drainage that is abandoned shall be filled using Item 602.30, Flowable Concrete Fill.

22. 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.

23. 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 Section 605 Underdrains.

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

25. Inlets and outlets of all culverts shall be riprapped unless otherwise noted on the Plans or directed by the Resident.

26. 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.

27. 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 ravelled edges will not be permitted. All work necessary for the preparation of this joint will be considered incidental to the related contract items.

28. Any base pavement not surfaced before winter will require temporary pavement markings of paint, both yellow centerline and white edge lines and will be considered part of Standard Specifications Item 627.78, Temporary Pavement Marking Line, White or Yellow.

29. All existing delineators and mile marker posts on I-295 which are impacted shall be removed and reset.

30. All temporary roadways shall be constructed with a minimum: 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.

31. Temporary pavement ramps shall be constructed to meet the following criteria:

    a. For roadways with speed limits less than 50 mph, temporary ramps shall be constructed at a length of four feet per inch of transition depth.

    b. Materials, placement, maintenance, and removal shall be incidental to contract items.

32. Damage to the I-295 shoulders as a result of pier construction shall be repaired and restored to its existing condition. HMA shall be replaced at a depth of 9" and gravel at a depth of 24". The limits of repair shall be determined by the Resident and shall be considered incidental to the related contract items.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

PROJ. MANAGER	M. Kerstetter	BY	DATE
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	LZD	PEK	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

GENERAL NOTES

SHEET NUMBER

3

OF 144

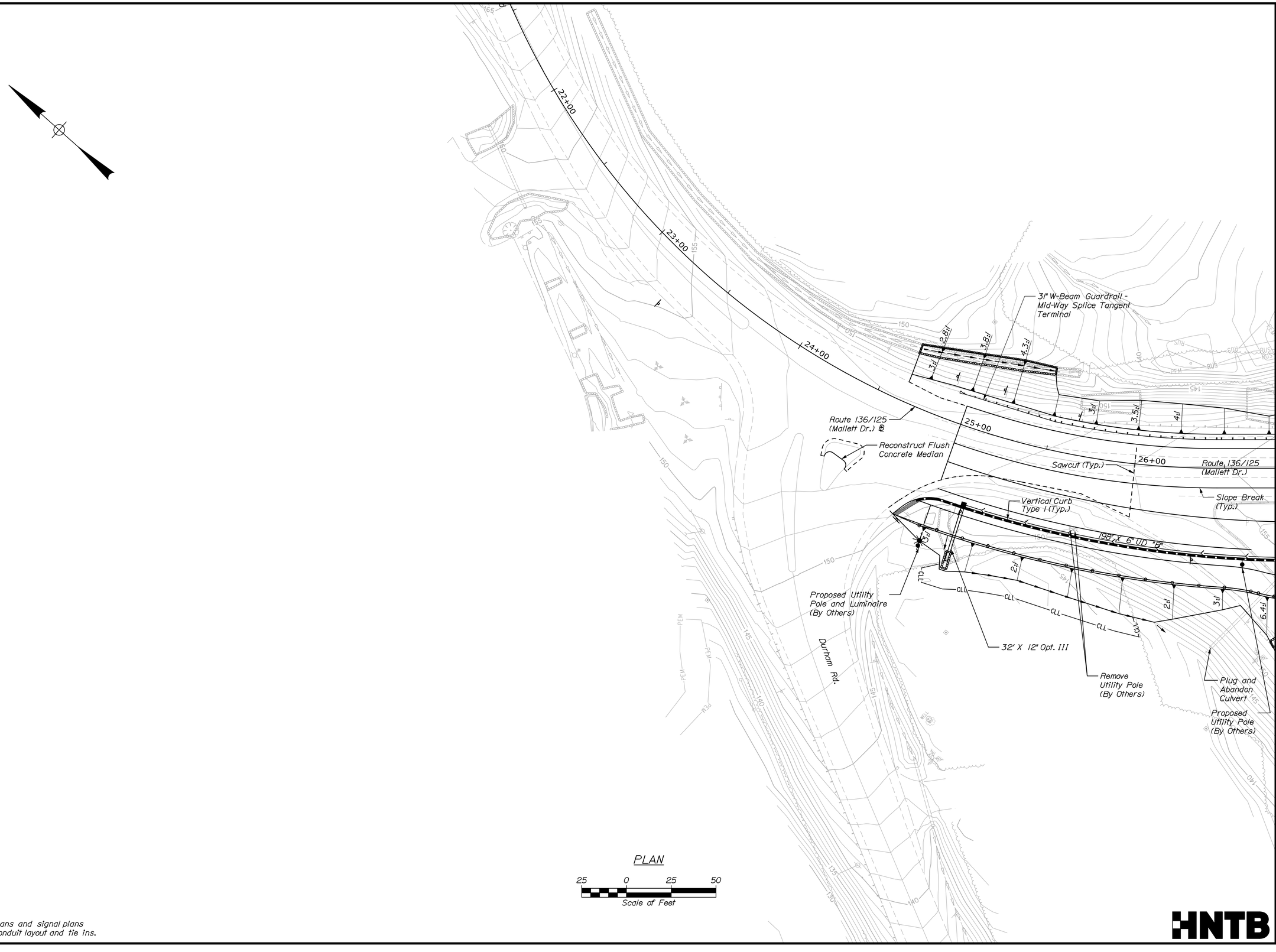
Username:

Division:

Date:9/10/2021

Filename: 003_GeneralNotes.dgn

Filename: 004_GeneralPlan 1.dgn Username: Division: Date:8/27/2021



PLAN

25 0 25 50

Scale of Feet

Note:
See lighting plans and signal plans
for complete conduit layout and tie ins.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721 BRIDGE PLANS

	BY	DATE
M. Kerstetter		
PROJ. MANAGER	DEB	08\21
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	LZD	
DESIGN2-DETAILED2	PEK	
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

GENERAL PLAN 1

SHEET NUMBER

4

OF 144

Date:8/27/2021

Username:

Division:

Filename: 005_General Plan 2.dgn

Proposed Utility Pole (By Others)
Riprap Downspout (Typ.)
Proposed Utility Pole (By Others)
3I" W-Beam Guardrail - Mid-Way Splice (Typ.)
℄ Brg. Abut. 1 Sta. 29+80.00
Remove CB and Culvert
118'-0"
6%
2:1
℄ Brg. Pier 1 Sta. 30+98.00
1228+00
Route 136/125 (Mallett Dr.) ℄
Proposed Utility Pole (By Others)
16'15'00" (Typ.)
℄ Brg. Abut. 2 Sta. 32+16.00
118'-0"
Proposed Utility Pole (By Others)
2.4:1
3:1
5:1
6:1
7.9:1
9.4:1
2.6:1
Route 136/125 (Mallett Dr.)
27+00
28+00
29+00
30+00
31+00
32+00
33+00
Remove Culvert
Slope Break (Typ.)
Remove CB
Plug and Abandon
Remove Utility Pole (By Others)
Remove CB
Remove Meter (By Others)
3I" W-Beam Guardrail - Mid-Way Splice Flared Terminal
80' X 12" UD "C"
Remove Electrical Meter and Junction Box
Remove CB
Multi-Use Path ℄
Vertical Curb Type I (Typ.)
200+00
9+00
10+00
12+00
13+00
8+00
3:1
6.4:1
Remove Trees
2" Loam and Seed
10:1
Anchorage Assembly
68' x 18" RCP Class III
26' x 18" RCP Class III
201+00
144' X 18" UD "C"
7.6:1
Plug and Abandon Culvert
Proposed Utility Pole (By Others)
5.2:1
2.2:1
2:1
Curb Type 3, Mold 2
3:1
2:1
202+00
I-295 SB Off Ramp
I-295 SB On Ramp
2:1
2.4:1
3:1
2.7:1
203+00
3I" W-Beam Guardrail - Mid-Way Splice Flared Terminal
Plug and Abandon Culvert
Remove CB
Sawcut (Typ.)
I-295 SB On/Off Ramp ℄
204+00
205+00
Note:
See lighting plans and signal plans for complete conduit layout and tie ins.
Remove Utility Pole (by Others)
Bridge Transition Type IA (Typ.)
2" Hand Placed Pavement Around Pier Grade to Drain
1227+00
Stone Ditch Protection
32" X 24" RCP Class III
36' X 24" Opt. III
I-295 Southbound
I-295 Northbound
Crushed Stone Slope Protection (Typ.)
6%
2:1
Remove Utility Pole (by Others)
3I" W-Beam Guardrail - Mid-Way Splice Tangent Terminal (Typ.)
28' X 12" Opt. III
1226+00
1225+00
36' X 18" RCP Class III
32' X 18" RCP Class III
Underdrain Soil Filter
28' X 12" Opt. III
Match Existing Guardrail (Typ.)
I-295 ℄
1224+00

PLAN

25 0 25 50
Scale of Feet

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE PLANS

BRIDGE No. 5721

	BY	DATE
PROJ. MANAGER	M. Kersbergen	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	LZD	08\21
DESIGN2-DETAILED2	PEK	
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

GENERAL PLAN 2

SHEET NUMBER

5

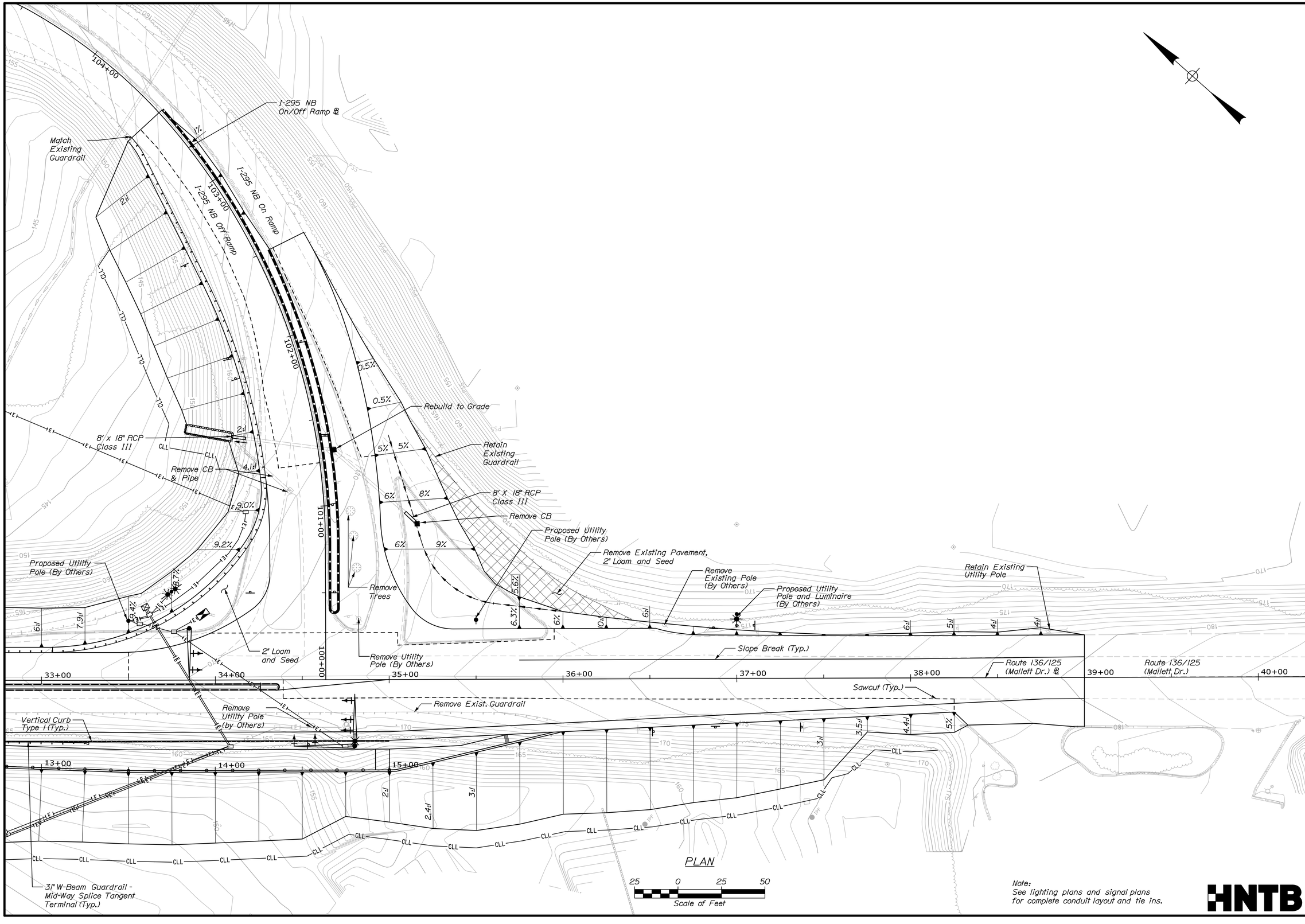
OF 144

Username:

Division:

Date:8/27/2021

Filename: 006_GeneralPlan 3.dgn



Note:
See lighting plans and signal plans for complete conduit layout and tie ins.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

PROJ. MANAGER	M. Kershaergen	BY	DATE
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	LZD	PEK	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

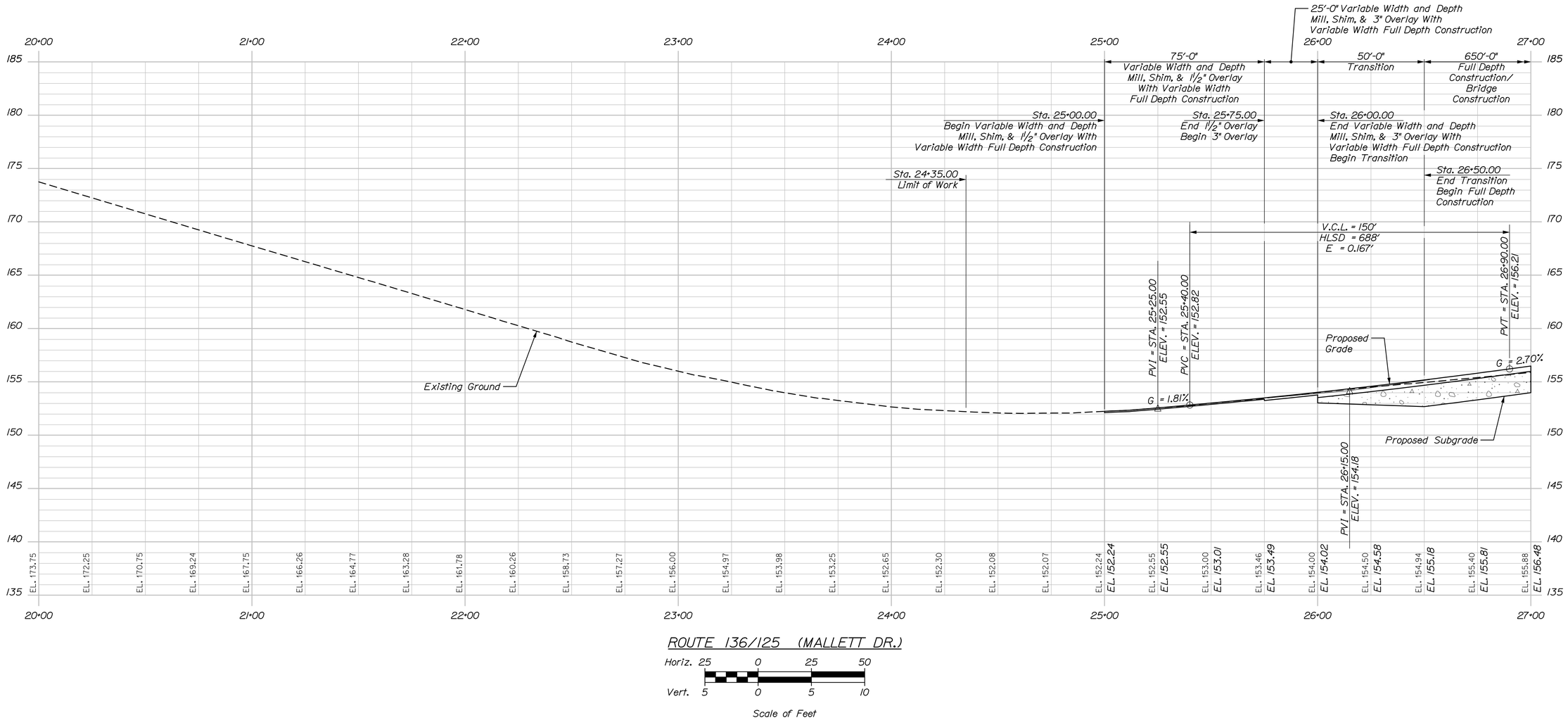
APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

GENERAL PLAN 3

SHEET NUMBER

6

OF 144



ROUTE 136/125 (MALLETT DR.)

Horiz. 25 0 25 50

Vert. 5 0 5 10

Scale of Feet

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

PROJ. MANAGER	M. Kerstbergen	BY	DATE
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	LZD	PEK	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

ROUTE 136/125 (MALLETT DR.)
PROFILE 1

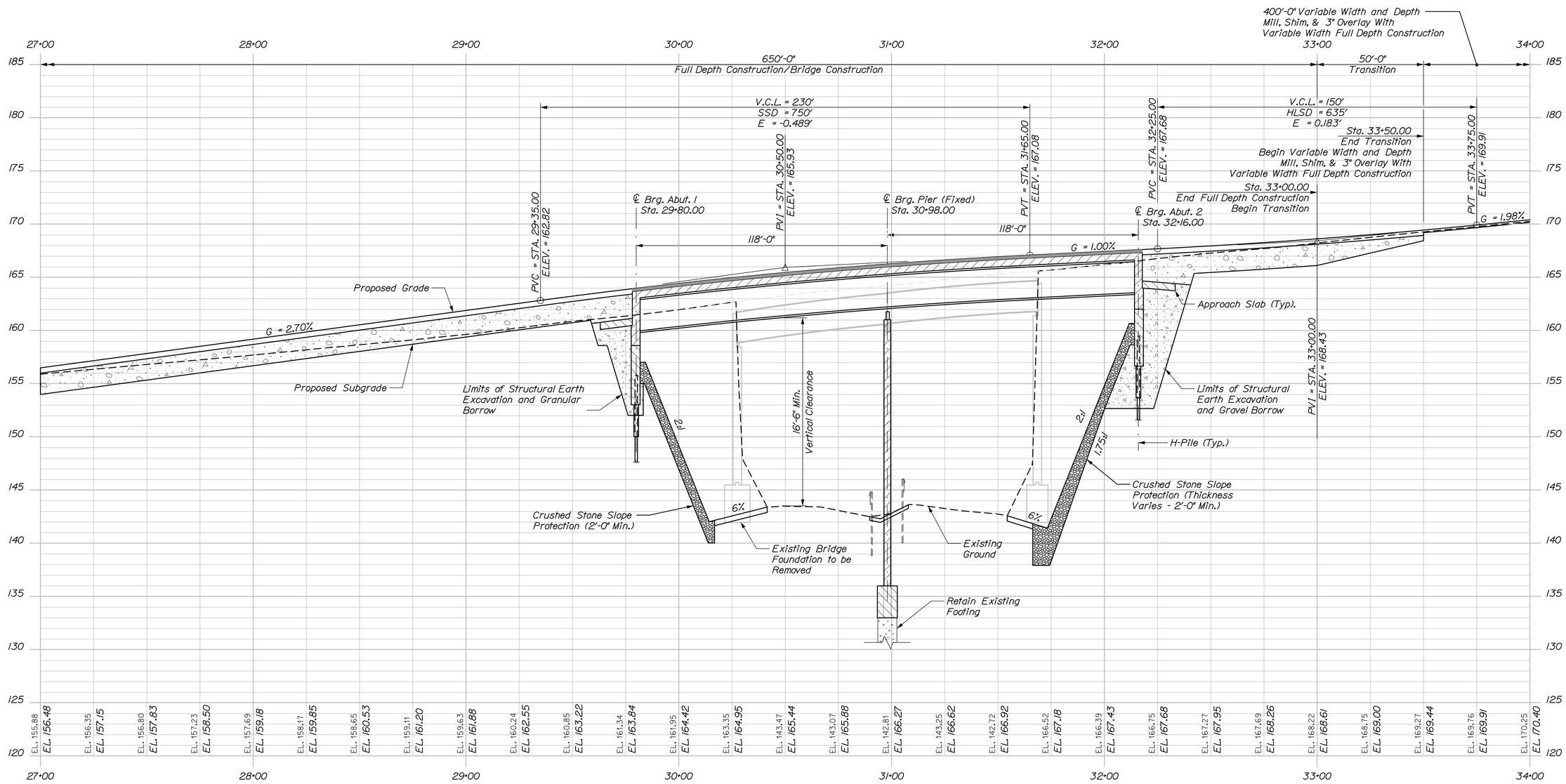
SHEET NUMBER

7

OF 144

Filename: 007_Profile 1.dgn Division: Username: Date:8/27/2021

Date:8/27/2021
Username:
Division:
Filename: 008_Profile 2.dgn



ROUTE 136/125 (MALLETT DR.)

Horiz. 25 0 25 50

Vert. 5 0 5 10

Scale of Feet

Note:
Existing abutments shall be completely removed. Structural excavation to remove existing abutments shall be incidental to pay item 202.19.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721 — BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kerstbergen	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	DEB	08\21
DESIGN2-DETAILED2	LZD	
DESIGN3-DETAILED3	PEK	
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

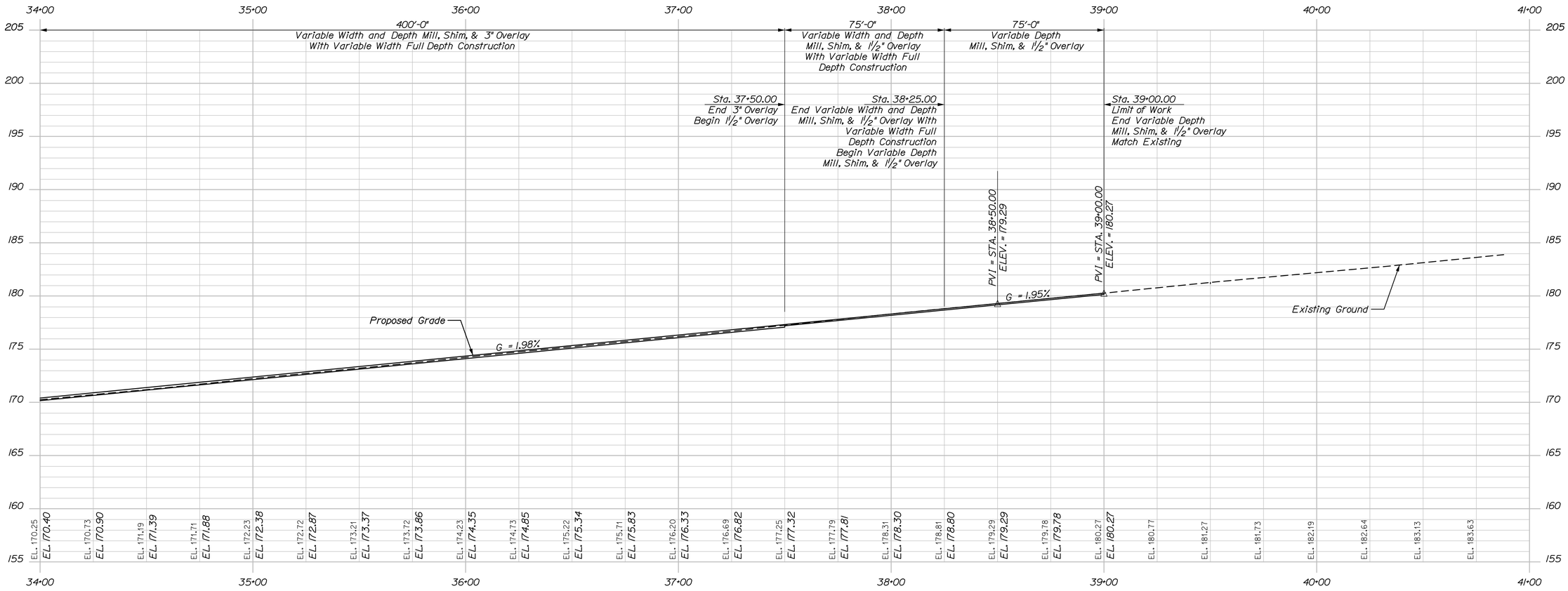
ROUTE 136/125 (MALLETT DR.)
PROFILE 2

SHEET NUMBER

8

OF 144

Filename: 009_Profile 3.dgn Username: Division: Date:8/27/2021



ROUTE 136/125 (MALLETT DR.)

Horiz. 25 0 25 50

Vert. 5 0 5 10

Scale of Feet

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721 BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kershaw-gen	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	LZD	08\21
DESIGN2-DETAILED2	DEB	
DESIGN3-DETAILED3	PEK	
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

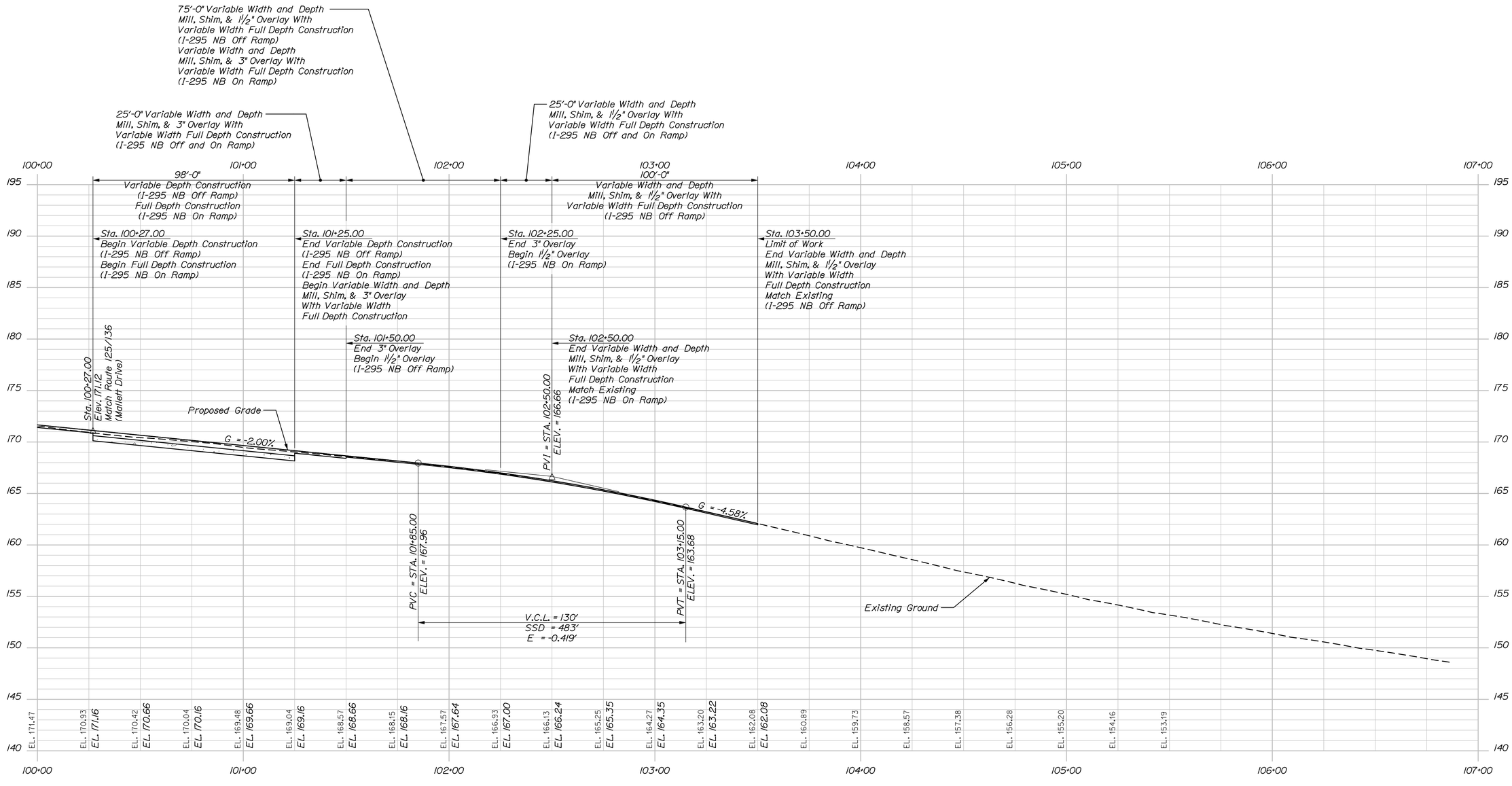
ROUTE 136/125 (MALLETT DR.)
PROFILE 3

SHEET NUMBER

9

OF 144

Username:
Division:
Filename: 010_Profile 4.dgn
Date:8/27/2021



I-295 NB ON/OFF RAMP

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

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kersbergen	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	LZD	08\21
DESIGN2-DETAILED2	LED2	
DESIGN3-DETAILED3	LED3	
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

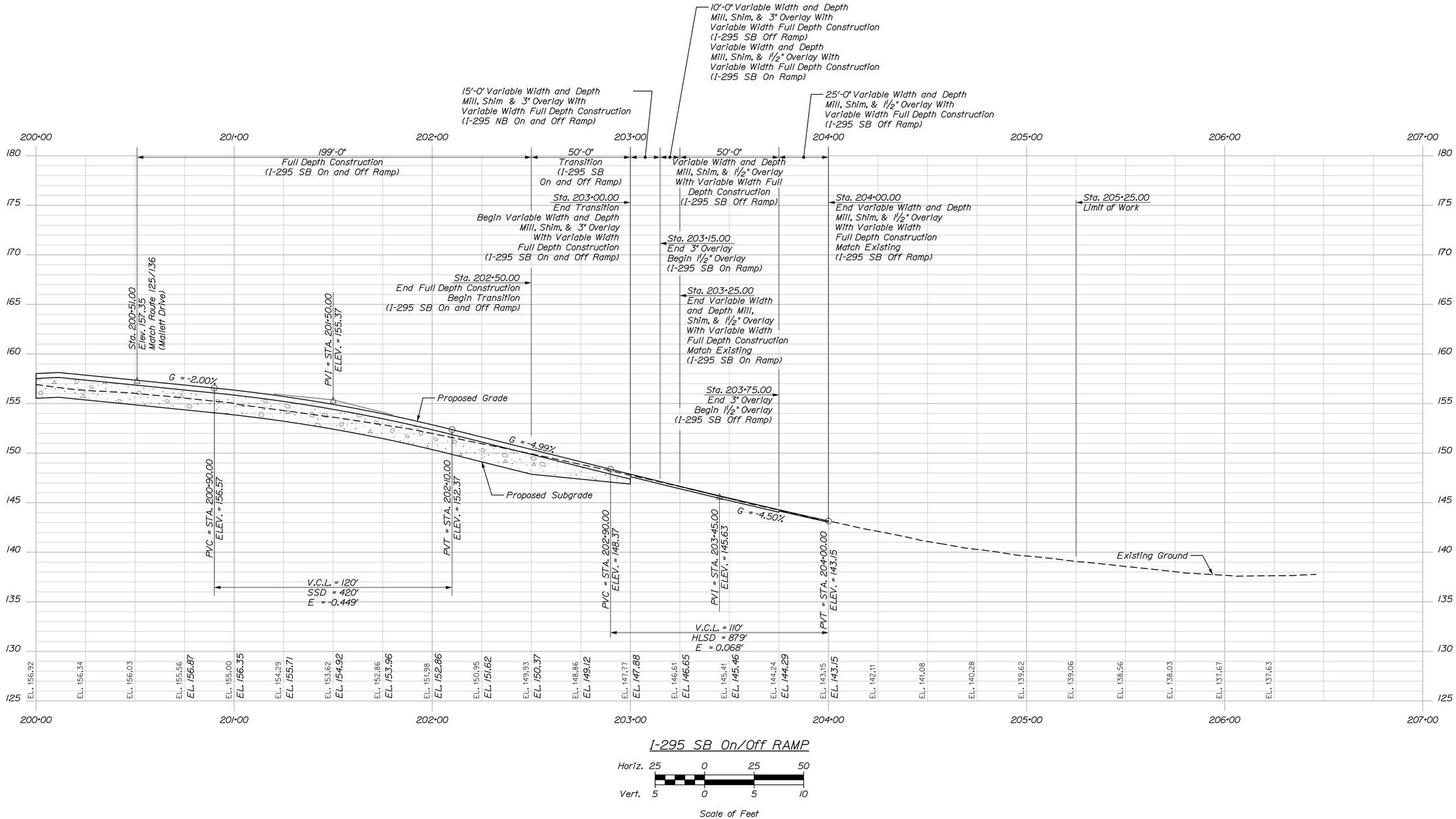
DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

I-295 NB ON/OFF RAMP
PROFILE

SHEET NUMBER
10
OF 144

Username:
Division:
Filename: 011_Profile 5.dgn
Date:8/27/2021



I-295 SB On/Off RAMP

Horiz. 25 0 25 50

Vert. 5 0 5 10

Scale of Feet

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kershaw	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	LZD	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

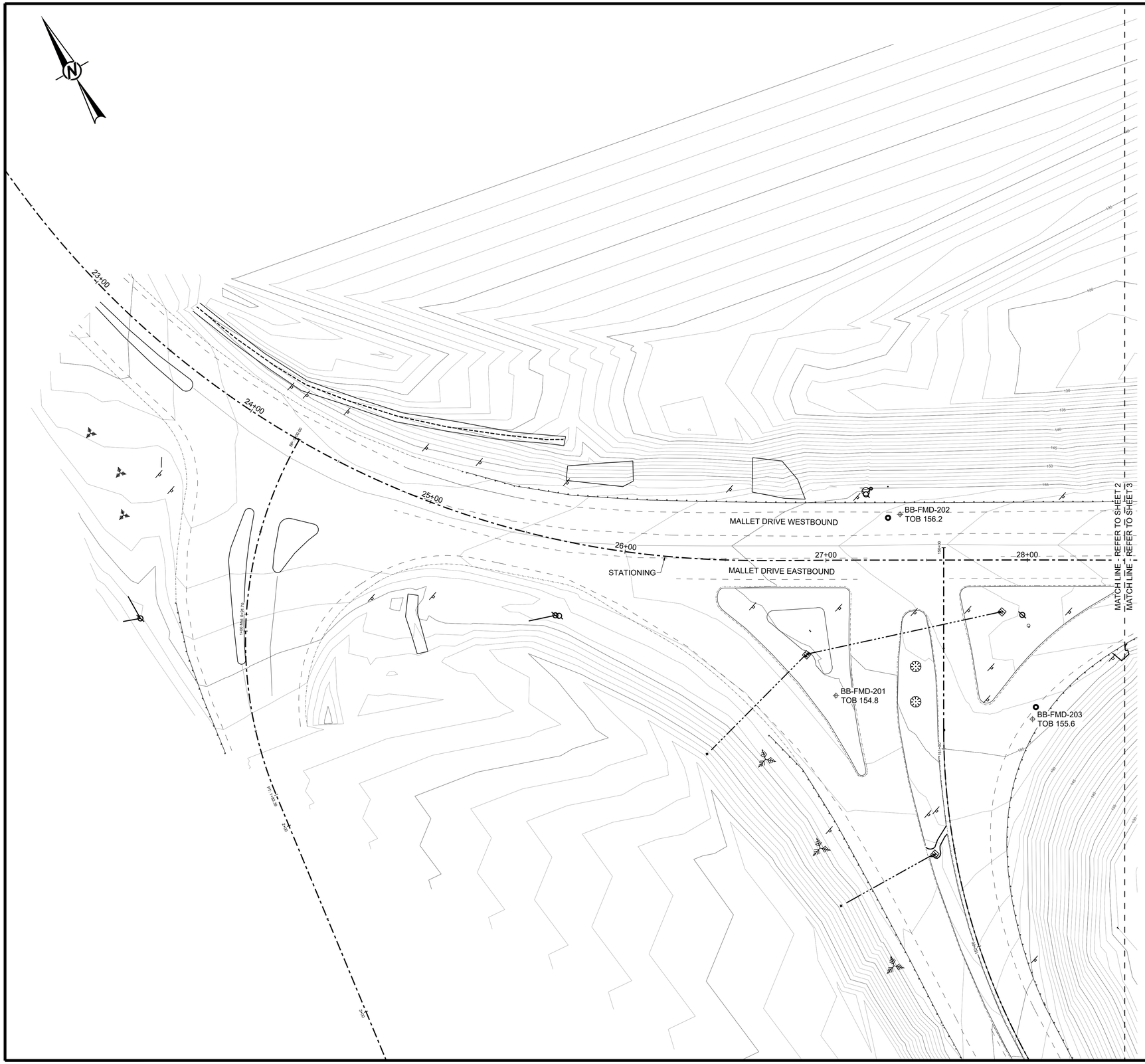
APPROACH ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

I-295 SB ON/OFF RAMP PROFILE

SHEET NUMBER

11

OF 144



LEGEND

◉	PROPOSED HIGH MAST LIGHTING (SEE SHEET 013)
○	PROPOSED MAST ARM FOUNDATION
⊕ BB-FDR-102 TOB 130.1	COMPLETED 100 SERIES BORINGS (SEE SHEET 013)
⊕ BB-FDR-202 TOB 156.2	COMPLETED 200 SERIES BORINGS
TOB XXX.X	ELEVATION OF TOP OF BORING OR PROBE

NOTE(S)

1. AS DRILLED BORING LOCATION PLAN FOR 100-SERIES BORINGS DERIVED FROM ELECTRONIC FILE NAME: "BOR12-18-19edit.csv" PROVIDED TO GOLDER BY MAINE DEPARTMENT OF TRANSPORTATION ON 01/06/2020. AS DRILLED BORING LOCATION PLAN FOR 200-SERIES BORINGS DERIVED FROM ELECTRONIC FILE NAME: "21726 Exit22 - 200 Series Borings Compiled" PROVIDED TO GOLDER BY MAINE DEPARTMENT OF TRANSPORTATION ON 06/24/2021.

REFERENCE(S)

1. BASEMAP ELEMENTS TAKEN FROM MAINE DOT IN FILE NAMED "3DTopo_2019-11-18.dgn" RECIEVED ON JANUARY 2, 2020.
2. SURVEY DATA PROVIDED TO GOLDER ON JANUARY 2, 2020 BY MAINE DOT IN FILE "FREEPORT 21726.00 SURVEY DATA 2019-11-18.zip".
3. PROPOSED STATIONING PROVIDED TO GOLDER BY HNTB FOR A SOUTHERN SHIFT OF THE BRIDGE.
4. LOCATIONS FOR MAST ARM FOUNDATIONS AND LIGHT STANDARD FOUNDATIONS DERIVED FROM ELECTRONIC FILE NAME: "Foundation Location Tables.pdf" PROVIDED BY HNTB ON JUNE 29, 2021.
5. GOLDER ASSOCIATES, INC., DECEMBER 21, 2020, PRELIMINARY GEOTECHNICAL DESIGN REPORT, I-295 MALLET DRIVE BRIDGE REPLACEMENT #5721 (EXIT 22), FREEPORT, MAINE, MAINEDOT WIN 021726.00.
6. GOLDER ASSOCIATES, INC., AUGUST 20, 2021, SUPPLEMENTAL BRIDGE GEOTECHNICAL DESIGN REPORT Part I, I-295 MALLET DRIVE BRIDGE REPLACEMENT #5721 (EXIT 22), FREEPORT, MAINE, MAINEDOT WIN 021726.00.
6. GOLDER ASSOCIATES, INC., AUGUST 20, 2021, SUPPLEMENTAL BRIDGE GEOTECHNICAL DESIGN REPORT Part II, I-295 MALLET DRIVE BRIDGE REPLACEMENT #5721 (EXIT 22), FREEPORT, MAINE, MAINEDOT WIN 021726.00.
7. EXIT RAMP ALIGNMENTS PROVIDED TO GOLDER BY HNTB ON JULY 14, 2021.

0 25 50
1" = 25' FEET

GOLDER
MEMBER OF WSP

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

021726.00

WIN
021726.00

Bridge No. 5721

BRIDGE PLANS

STATE OF MAINE · CHRISTOPHER C. BENDA No. 15164 · LICENSED PROFESSIONAL ENGINEER

PROJ. MANAGER	BY	DATE
DESIGN-DETAILED	MEL	AAZ 21/08/25
CHECKED-REVIEWED	CDB/MEL	AAZ 21/09/07
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

15164
P.E. NUMBER

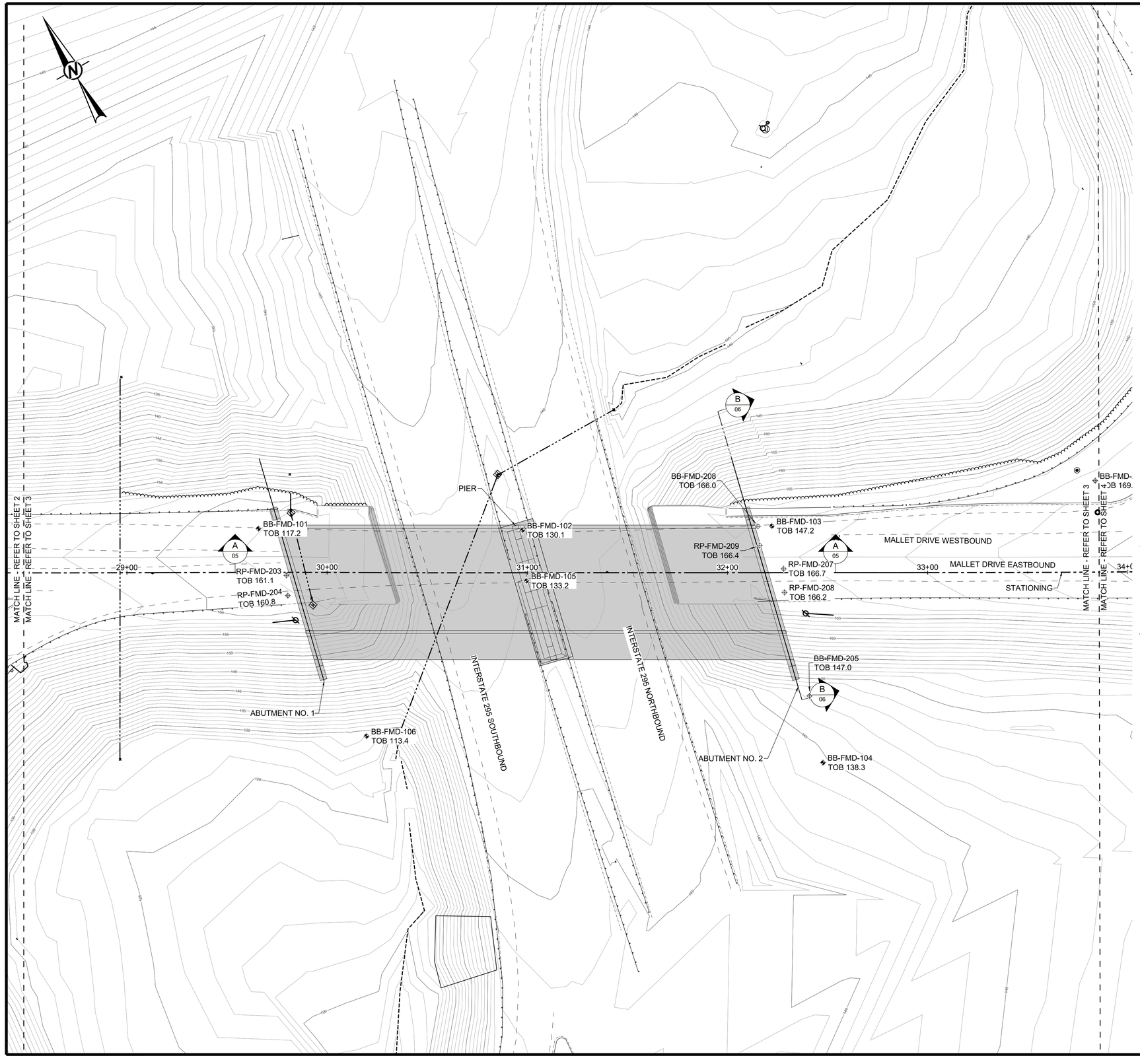
09/07/2021
DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

BORING LOCATION PLAN

SHEET NUMBER
12
OF 144

Filename: 21450910_0002_003.dwg Division: Username: Date:2021-07-02



LEGEND

RP-FDR-201	COMPLETED ROCK PROBES
	PROPOSED HIGH MAST LIGHTING
	PROPOSED MAST ARM FOUNDATION
BB-FDR-102 TOB 130.1	COMPLETED 100 SERIES BORINGS (SEE SHEET 013)
BB-FDR-202 TOB 156.2	COMPLETED 200 SERIES BORINGS
TOB XXX.X	ELEVATION OF TOP OF BORING OR ROCK PROBE

NOTE(S)

1. AS DRILLED BORING LOCATION PLAN FOR 100-SERIES BORINGS DERIVED FROM ELECTRONIC FILE NAME: "BOR12-18-19edit.csv" PROVIDED TO GOLDER BY MAINE DEPARTMENT OF TRANSPORTATION ON 01/06/2020. AS DRILLED BORING LOCATION PLAN FOR 200-SERIES BORINGS DERIVED FROM ELECTRONIC FILE NAME: "21726 Exit22 - 200 Series Borings Compiled" PROVIDED TO GOLDER BY MAINE DEPARTMENT OF TRANSPORTATION ON 06/24/2021.

REFERENCE(S)

1. BASEMAP ELEMENTS TAKEN FROM MAINE DOT IN FILE NAMED "3DTopo_2019-11-18.dgn" RECEIVED ON JANUARY 2, 2020.
2. SURVEY DATA PROVIDED TO GOLDER ON JANUARY 2, 2020 BY MAINE DOT IN FILE "FREEPORT 21726.00 SURVEY DATA 2019-11-18.zip".
3. PROPOSED STATIONING PROVIDED TO GOLDER BY HNTB FOR A SOUTHERN SHIFT OF THE BRIDGE.
4. LOCATIONS FOR MAST ARM FOUNDATIONS AND LIGHT STANDARD FOUNDATIONS DERIVED FROM ELECTRONIC FILE NAME: "Foundation Location Tables.pdf" PROVIDED BY HNTB ON JUNE 29, 2021.
5. GOLDER ASSOCIATES, INC., DECEMBER 21, 2020, PRELIMINARY GEOTECHNICAL DESIGN REPORT, I-295 MALLET DRIVE BRIDGE REPLACEMENT #5721 (EXIT 22), FREEPORT, MAINE, MAINEDOT WIN 021726.00.
6. GOLDER ASSOCIATES, INC., AUGUST 20, 2021, SUPPLEMENTAL BRIDGE GEOTECHNICAL DESIGN REPORT Part I, I-295 MALLET DRIVE BRIDGE REPLACEMENT #5721 (EXIT 22), FREEPORT, MAINE, MAINEDOT WIN 021726.00.
7. GOLDER ASSOCIATES, INC., AUGUST 20, 2021, SUPPLEMENTAL BRIDGE GEOTECHNICAL DESIGN REPORT Part II, I-295 MALLET DRIVE BRIDGE REPLACEMENT #5721 (EXIT 22), FREEPORT, MAINE, MAINEDOT WIN 021726.00.
8. EXIT RAMP ALIGNMENTS PROVIDED TO GOLDER BY HNTB ON JULY 14, 2021.
9. DETAILS OF BRIDGE AND FOUNDATION ELEMENTS TAKEN FROM HNTB, APPROACH ROAD BRIDGE OVER INTERSTATE 295 AND SIGNALIZED INTERSECTIONS, EXIT 22 INTERCHANGE: 98% PS&E, DATED JULY 16, 2021.

0 25 50
1" = 25' FEET

GOLDER
MEMBER OF WSP

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

021726.00

WIN
021726.00

Bridge No. 5721

BRIDGE PLANS

STATE OF MAINE
CHRISTOPHER C. BENDA
No. 15164
LICENSED PROFESSIONAL ENGINEER

PROJ. MANAGER	MEL		
DESIGN-DETAILED	MEL	AAZ	21/08/25
CHECKED-REVIEWED	CCB/MEL	AAZ	21/09/07
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

15164
P.E. NUMBER

09/07/2021
DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

BORING LOCATION PLAN

SHEET NUMBER
13
OF 144

Filename: 21450910_0002_003.dwg Division: Username: Date:2021-07-02

Filename: 21450910_0002_003.dwg Division: Username: Date:2021-07-02



LEGEND

◉	PROPOSED HIGH MAST LIGHTING
○	PROPOSED MAST ARM FOUNDATION
BB-FDR-102 TOB 130.1	COMPLETED 100 SERIES BORINGS (SEE SHEET 013)
BB-FDR-202 TOB 156.2	COMPLETED 200 SERIES BORINGS
TOB XXX.X	ELEVATION OF TOP OF BORING OR PROBE

NOTE(S)

1. AS DRILLED BORING LOCATION PLAN FOR 100-SERIES BORINGS DERIVED FROM ELECTRONIC FILE NAME: "BOR12-18-19edit.csv" PROVIDED TO GOLDER BY MAINE DEPARTMENT OF TRANSPORTATION ON 01/06/2020. AS DRILLED BORING LOCATION PLAN FOR 200-SERIES BORINGS DERIVED FROM ELECTRONIC FILE NAME: "21726 Exit22 - 200 Series Borings Compiled" PROVIDED TO GOLDER BY MAINE DEPARTMENT OF TRANSPORTATION ON 06/24/2021.

REFERENCE(S)

1. BASEMAP ELEMENTS TAKEN FROM MAINE DOT IN FILE NAMED "3DTopo_2019-11-18.dgn" RECEIVED ON JANUARY 2, 2020.
2. SURVEY DATA PROVIDED TO GOLDER ON JANUARY 2, 2020 BY MAINE DOT IN FILE "FREEPORT 21726.00 SURVEY DATA 2019-11-18.zip".
3. PROPOSED STATIONING PROVIDED TO GOLDER BY HNTB FOR A SOUTHERN SHIFT OF THE BRIDGE.
4. LOCATIONS FOR MAST ARM FOUNDATIONS AND LIGHT STANDARD FOUNDATIONS DERIVED FROM ELECTRONIC FILE NAME: "Foundation Location Tables.pdf" PROVIDED BY HNTB ON JUNE 29, 2021.
5. GOLDER ASSOCIATES, INC., DECEMBER 21, 2020, PRELIMINARY GEOTECHNICAL DESIGN REPORT, I-295 MALLET DRIVE BRIDGE REPLACEMENT #5721 (EXIT 22), FREEPORT, MAINE, MAINEDOT WIN 021726.00.
6. GOLDER ASSOCIATES, INC., AUGUST 20, 2021, SUPPLEMENTAL BRIDGE GEOTECHNICAL DESIGN REPORT Part I, I-295 MALLET DRIVE BRIDGE REPLACEMENT #5721 (EXIT 22), FREEPORT, MAINE, MAINEDOT WIN 021726.00.
7. GOLDER ASSOCIATES, INC., AUGUST 20, 2021, SUPPLEMENTAL BRIDGE GEOTECHNICAL DESIGN REPORT Part II, I-295 MALLET DRIVE BRIDGE REPLACEMENT #5721 (EXIT 22), FREEPORT, MAINE, MAINEDOT WIN 021726.00.
8. EXIT RAMP ALIGNMENTS PROVIDED TO GOLDER BY HNTB ON JULY 14, 2021.

0 25 50
1" = 25' FEET

GOLDER
MEMBER OF WSP

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

021726.00

WIN
021726.00

Bridge No. 5721

BRIDGE PLANS

STATE OF MAINE · CHRISTOPHER C. BENDA No. 15164 · LICENSED PROFESSIONAL ENGINEER

PROJ. MANAGER	MEL	BY	DATE
DESIGN-DETAILED	MEL	AAZ	21/08/25
CHECKED-REVIEWED	CCB/MEL	AAZ	21/09/07
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

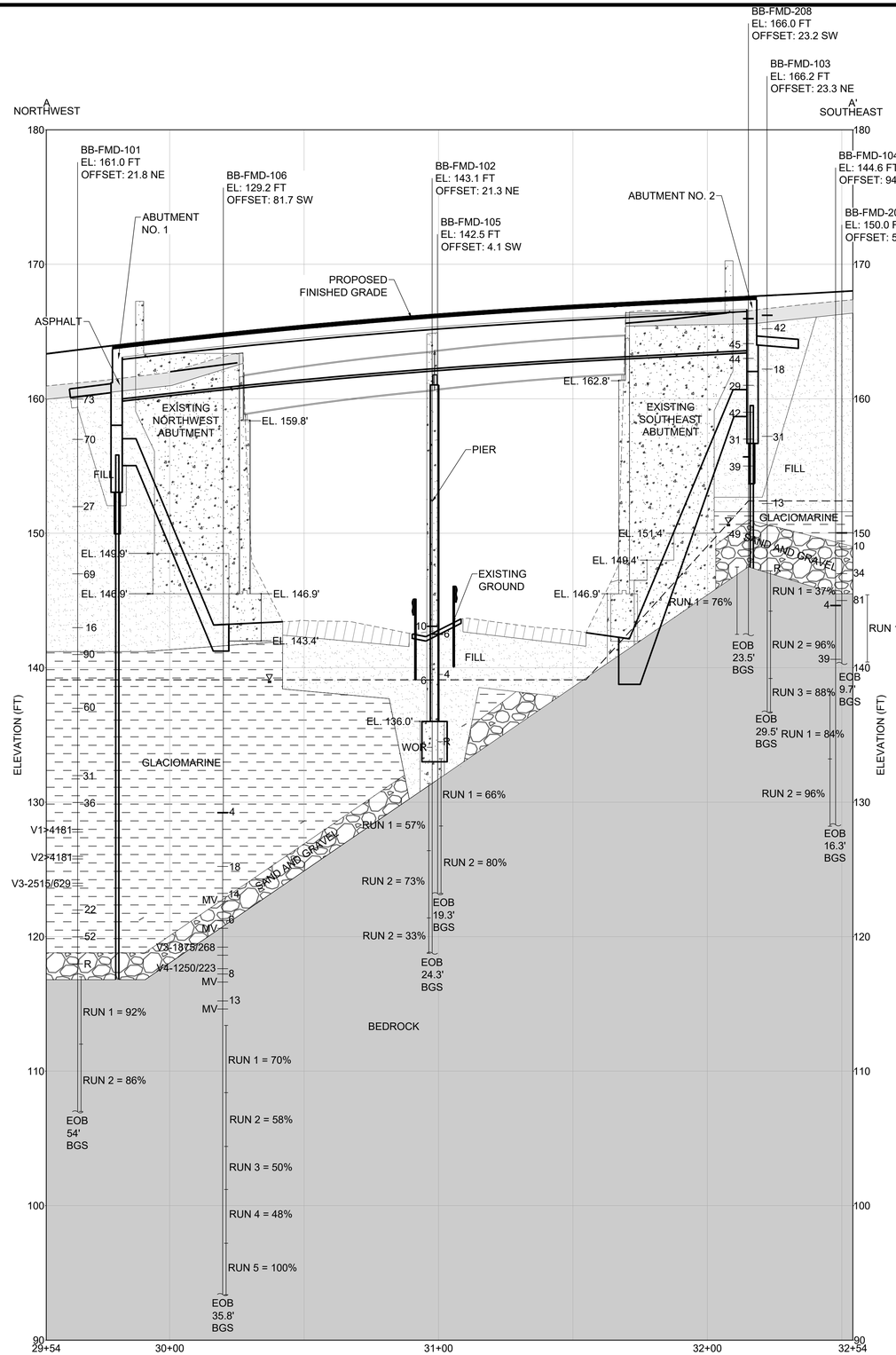
15164
P.E. NUMBER

09/07/2021
DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

BORING LOCATION PLAN

SHEET NUMBER
14
OF 144



LEGEND

BB-FMD-101
EL: 161.0 FT
OFFSET: 14.4 N — BORING LOCATION I.D., ELEVATION, OFFSET (FT) FROM SECTION LINE

(TOB) — TOP OF BORING OR PROBE

30 — SPT: N60 - VALUE (CORRECTED FOR HAMMER EFFICIENCY)

V1 - 2515/629 — FIELD VANE SHEAR TEST LOCATION AND UNDRAINED SHEAR STRENGTH (PSF) (PEAK/REMOLDED)

WOR — WEIGHT OF ROD

MV — MISSED VANE

R — REFUSAL

RUN1 - 92% — ROCK CORE RUN NUMBER AND ROCK QUALITY DESIGNATION (RQD)

EOB 54' BGS — END OF BORING DEPTH FEET BELOW GROUND SURFACE (BGS)

- ASPHALT
- EXISTING ABUTMENT AND FOUNDATION ELEMENTS
- PROPOSED ABUTMENT ELEMENTS
- BROWN TO GRAY, LOOSE TO MEDIUM DENSE, SILTY FINE TO COARSE SAND AND GRAVEL (FILL)
- GRAY, VERY SOFT TO VERY STIFF, LOW PLASTICITY SILTY CLAY (GLACIOMARINE)
- BROWN, MEDIUM DENSE TO VERY DENSE, FINE TO COARSE SAND, SOME SILT, TRACE GRAVEL (SAND AND GRAVEL)
- LIGHT GRAY, COARSE-GRAINED GNEISS, EXTREMELY STRONG, FRESH TO SLIGHTLY WEATHERED (BEDROCK)
- INTERPRETED GROUNDWATER SURFACE
- EXISTING GROUND SURFACE

NOTES:

1. AS DRILLED BORING LOCATION PLAN FOR 100-SERIES BORINGS DERIVED FROM ELECTRONIC FILE NAME: "BOR12-18-19edit.csv" PROVIDED TO GOLDER BY MAINE DEPARTMENT OF TRANSPORTATION ON 01/06/2020. AS DRILLED BORING LOCATION PLAN FOR 200-SERIES BORINGS DERIVED FROM ELECTRONIC FILE NAME: "21726 Exit22 - 200 Series Borings Compiled" PROVIDED TO GOLDER BY MAINE DEPARTMENT OF TRANSPORTATION ON 06/24/2021.
2. FOR DETAILED LITHOLOGIC DESCRIPTIONS SEE BORING LOGS IN NOTE 8, APPENDIX A (100-SERIES BORINGS) AND NOTE 9, APPENDIX A (200-SERIES BORINGS).
3. FOR COMPLETE LABORATORY DATA SEE LABORATORY REPORTS IN NOTE 8 (100-SERIES BORINGS) AND NOTE 9 (200-SERIES BORINGS).
4. GROUNDWATER SURFACE IS INTERPRETED FROM LOCALIZED SURFACE WATER LEVELS AND MEASUREMENTS TAKEN DURING THE SUBSURFACE EXPLORATION PROGRAMS. FOR DETAILS ON THE SUBSURFACE EXPLORATION PROGRAMS, SEE NOTE 8 (100-SERIES BORINGS) AND NOTE 9 (200-SERIES BORINGS).
5. THIS GENERALIZED SUBSURFACE PROFILE IS INTENDED TO CONVEY TRENDS IN SUBSURFACE CONDITIONS. THE BOUNDARIES BETWEEN STRATA ARE APPROXIMATE AND IDEALIZED AND HAVE BEEN DEVELOPED BASED ON INTERPRETATIONS OF WIDELY SPACED EXPLORATIONS. ACTUAL SOIL AND ROCK TRANSITIONS MAY VARY AND ARE PROBABLY MORE ERRATIC. FOR MORE SPECIFIC INFORMATION, REFER TO BORING LOGS IN NOTE 8, APPENDIX A (100-SERIES BORINGS) AND NOTE 9, APPENDIX A (200-SERIES BORINGS).
6. ABUTMENT AND PIER DETAILS INTERPRETED FROM ELECTRONIC FILE NAME "5721 FREEPORT 1956" PROVIDED TO GOLDER ON 8/22/2019 AND "Mallett Dr Profile1to1.dgn" PROVIDED TO GOLDER BY HNTB ON MAY 27, 2021.
7. FOR SOIL STRATA ANALYSIS THE ASPHALT LAYER AND ROADFILL LAYER ARE COMBINED FOR A LAYER THICKNESS OF FIVE FEET.
8. GOLDER ASSOCIATES, INC., DECEMBER 21, 2020, PRELIMINARY GEOTECHNICAL DESIGN REPORT, I-295 MALLET DRIVE BRIDGE REPLACEMENT #5721 (EXIT 22), FREEPORT, MAINE, MAINEDOT WIN 021726.00.
9. GOLDER ASSOCIATES, INC., AUGUST 20, 2021, SUPPLEMENTAL BRIDGE GEOTECHNICAL DESIGN REPORT Part I, I-295 MALLET DRIVE BRIDGE REPLACEMENT #5721 (EXIT 22), FREEPORT, MAINE, MAINEDOT WIN 021726.00.
10. GOLDER ASSOCIATES, INC., AUGUST 20, 2021, SUPPLEMENTAL BRIDGE GEOTECHNICAL DESIGN REPORT Part II, I-295 MALLET DRIVE BRIDGE REPLACEMENT #5721 (EXIT 22), FREEPORT, MAINE, MAINEDOT WIN 021726.00.

0 5 10
1" = 5' FEET

0 25 50
1" = 25' FEET

GOLDER
MEMBER OF WSP

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

021726.00

WIN
021726.00

Bridge No. 5721

BRIDGE PLANS

STATE OF MAINE · CHRISTOPHER C. BENDA No. 15164 · LICENSED PROFESSIONAL ENGINEER

PROJ. MANAGER	MEL		
DESIGN-DETAILED	MEL	AAZ	21/08/25
CHECKED-REVIEWED	CCB/MEL	AAZ	21/09/07
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

15164
P.E. NUMBER

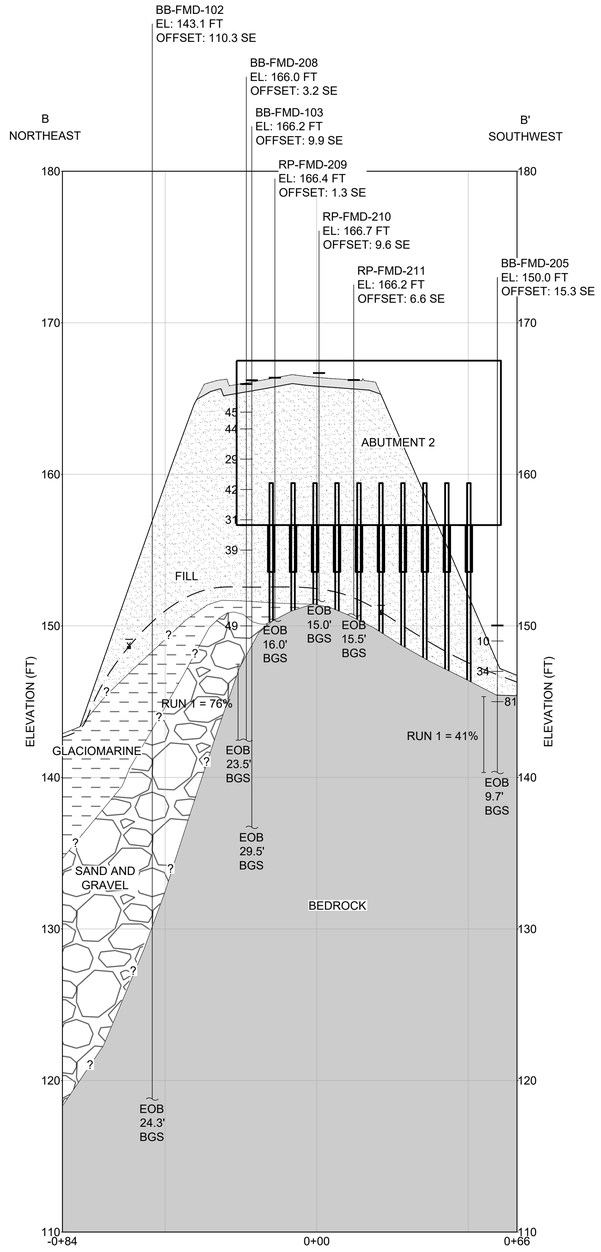
09/07/2021
DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

INTERPRETIVE SUBSURFACE PROFILE A-A'

SHEET NUMBER
15
OF 144

Filename: 21450910_0002_004 Division: Username: Date:2021-07-02



LEGEND

RP-FMD-210 — ROCK PROBE LOCATION I.D.
BB-FMD-101 — BORING LOCATION I.D.
EL: 161.0 FT — ELEVATION
OFFSET: 14.4 N — OFFSET (FT) FROM SECTION LINE
(TOB) — TOP OF BORING OR PROBE
30 — SPT: N60 - VALUE (CORRECTED FOR HAMMER EFFICIENCY)
V1 - 2515/629 — FIELD VANE SHEAR TEST LOCATION AND UNDRAINED SHEAR STRENGTH (PSF) (PEAK/REMOLDED)
WOR — WEIGHT OF ROD
MV — MISSED VANE
R — REFUSAL
RUN1 - 92% — ROCK CORE RUN NUMBER AND ROCK QUALITY DESIGNATION (RQD)
EOB 54' BGS — END OF BORING OR ROCK PROBE DEPTH FEET BELOW GROUND SURFACE (BGS)

- ASPHALT
- PROPOSED ABUTMENT ELEMENTS
- BROWN TO GRAY, LOOSE TO MEDIUM DENSE, SILTY FINE TO COARSE SAND AND GRAVEL (FILL)
- GRAY, VERY SOFT TO VERY STIFF, LOW PLASTICITY SILTY CLAY (GLACIOMARINE)
- BROWN, MEDIUM DENSE TO VERY DENSE, FINE TO COARSE SAND, SOME SILT, TRACE GRAVEL (SAND AND GRAVEL)
- LIGHT GRAY, COARSE-GRAINED GNEISS, EXTREMELY STRONG, FRESH TO SLIGHTLY WEATHERED (BEDROCK)
- INTERPRETED GROUNDWATER SURFACE
- EXISTING GROUND SURFACE

NOTES:

1. AS DRILLED BORING LOCATION PLAN FOR 100-SERIES BORINGS DERIVED FROM ELECTRONIC FILE NAME: "BOR12-18-19edit.csv" PROVIDED TO GOLDER BY MAINE DEPARTMENT OF TRANSPORTATION ON 01/06/2020. AS DRILLED BORING LOCATION PLAN FOR 200-SERIES BORINGS DERIVED FROM ELECTRONIC FILE NAME: "21726 Exit22 - 200 Series Borings Compiled" PROVIDED TO GOLDER BY MAINE DEPARTMENT OF TRANSPORTATION ON 06/24/2021.
2. FOR DETAILED LITHOLOGIC DESCRIPTIONS SEE BORING LOGS IN NOTE 8, APPENDIX A (100-SERIES BORINGS) AND NOTE 9, APPENDIX A (200-SERIES BORINGS).
3. FOR COMPLETE LABORATORY DATA SEE LABORATORY REPORTS IN NOTE 8 (100-SERIES BORINGS) AND NOTE 9 (200-SERIES BORINGS).
4. GROUNDWATER SURFACE IS INTERPRETED FROM LOCALIZED SURFACE WATER LEVELS AND MEASUREMENTS TAKEN DURING THE SUBSURFACE EXPLORATION PROGRAMS. FOR DETAILS ON THE SUBSURFACE EXPLORATION PROGRAMS, SEE NOTE 8 (100-SERIES BORINGS) AND NOTE 9 (200-SERIES BORINGS).
5. THIS GENERALIZED SUBSURFACE PROFILE IS INTENDED TO CONVEY TRENDS IN SUBSURFACE CONDITIONS. THE BOUNDARIES BETWEEN STRATA ARE APPROXIMATE AND IDEALIZED AND HAVE BEEN DEVELOPED BASED ON INTERPRETATIONS OF WIDELY SPACED EXPLORATIONS. ACTUAL SOIL AND ROCK TRANSITIONS MAY VARY AND ARE PROBABLY MORE ERRATIC. FOR MORE SPECIFIC INFORMATION, REFER TO BORING LOGS IN NOTE 8, APPENDIX A (100-SERIES BORINGS) AND NOTE 9, APPENDIX A (200-SERIES BORINGS).
6. ABUTMENT AND PIER DETAILS INTERPRETED FROM ELECTRONIC FILE NAME "5721 FREEPORT 1956" PROVIDED TO GOLDER ON 8/22/2019 AND "Mallett Dr Profile1to1.dgn" PROVIDED TO GOLDER BY HNTB ON MAY 27, 2021.
7. FOR SOIL STRATA ANALYSIS THE ASPHALT LAYER AND ROADFILL LAYER ARE COMBINED FOR A LAYER THICKNESS OF FIVE FEET.
8. GOLDER ASSOCIATES, INC., DECEMBER 21, 2020, PRELIMINARY GEOTECHNICAL DESIGN REPORT, I-295 MALLET DRIVE BRIDGE REPLACEMENT #5721 (EXIT 22), FREEPORT, MAINE, MAINEDOT WIN 021726.00.
9. GOLDER ASSOCIATES, INC., AUGUST 20, 2021, SUPPLEMENTAL BRIDGE GEOTECHNICAL DESIGN REPORT Part I, I-295 MALLET DRIVE BRIDGE REPLACEMENT #5721 (EXIT 22), FREEPORT, MAINE, MAINEDOT WIN 021726.00.
10. GOLDER ASSOCIATES, INC., AUGUST 20, 2021, SUPPLEMENTAL BRIDGE GEOTECHNICAL DESIGN REPORT Part II, I-295 MALLET DRIVE BRIDGE REPLACEMENT #5721 (EXIT 22), FREEPORT, MAINE, MAINEDOT WIN 021726.00.

VERTICAL SCALE 0 5 10 — 1" = 5' FEET

HORIZONTAL SCALE 0 25 50 — 1" = 25' FEET

GOLDER
MEMBER OF WSP

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

021726.00

WIN 021726.00

Bridge No. 5721

BRIDGE PLANS

STATE OF MAINE · CHRISTOPHER C. BENDA No. 15164 · LICENSED PROFESSIONAL ENGINEER

	BY	DATE
DESIGN-DETAILED	KAR	21/08/25
CHECKED-REVIEWED	CCB/MEL	21/09/07
DESIGN2-DETAILED2	AAZ	
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

PROJ. MANAGER: MEL

SIGNATURE

15164
P.E. NUMBER

09/07/2021
DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

INTERPRETIVE SUBSURFACE
CROSS SECTION B-B'

SHEET NUMBER
16
OF 144

Filename: 21450910_0002_005 Division: Username: Date:2021-07-02

Username:
Division:
Filename: 21450910_0002_006
Date:2021-07-02

Maine Department of Transportation — Boring No.: BB-FMD-101

Soil/Rock Exploration Log — US CUSTOMARY UNITS

Project: I-295 MALLET DRIVE BRIDGE REPLACEMENT #5721 (EXIT 22)
Location: FREEPORT, MAINE
WIN: 21726.00

Driller:	New England Boring Contractors	Elevation (ft.):	161.0
Operator:	Brad Enos	Datum:	NAD83 (2011) Maine 2000 West
Logged By:	Shiv Bhardwaj	Rig Type:	Mobile B-53
Date Start/Finish:	12/7/19 (1145); 12/17/19 (2128)	Drilling Method:	Solid Stem Auger / Cased Wash
Boring Location:	Nt 376042.7, Et1054596.1	Casing ID/OD:	4 in/4.5 in
Hammer Efficiency Factor: 0.896		Hammer Type:	Automatic ☒ Hydraulic ☐ Rope & Cathead ☐
Auger ID/OD:	4 in OD Solid Stem		
Samplers:	Standard Split Spoon		
Hammer Wt./Fall:	140 lbs/30 in		
Core Barrel:	1-7/8 in - NQ		
Water Level*:	Not Recorded		

Definitions: R = Rock Core Sample; SSA = Solid Stem Auger; RC = Rock Core; WOH = Weight of Hole, Hammer; WOR/C = Weight of Rods or Casing; WOP = Weight of Dyno Person; q_u = Peak/Remolded Field Vane Unconfined Shear Strength (psf); q_u(test) = Lab Vane Undrained Shear Strength (psf); q_p = Unconfined Compressive Strength (tsf); 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 c/6 in. Hammer Drop Strength (psf) or ROD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0							SSA	160.6		Driller notes asphalt thickness of 5 in (ASPHALT).	
										0.4	
	1D	24/9	1.00 - 3.00	27/21/22/16	49	73				Brown, dry, very dense, fine to coarse SAND, well-graded (FILL).	
	2D	24/18	4.00 - 6.00	30/29/18/16	47	70				Brown, dry, very dense, gravelly fine to coarse SAND, trace silt, poorly-graded (FILL).	GTX #540011 Fines = 7.3% A-1-b (0), SP-SM
10	3D	24/18	9.00 - 11.00	7/9/9/8	18	27				Brown, dry, medium dense, fine to coarse SAND, trace coarse gravel, trace silt, well-graded (FILL).	WC = 6.0%
											106
											122
											203
	4D	24/10	14.00 - 16.00	17/23/23/19	46	69				Brown, moist, very dense, fine to coarse SAND, trace silt, well-graded (FILL).	56
											52
											55
											94
								143.5		17.5	
	5D	24/12	18.00 - 20.00	13/6/5/6	11	16	51			SDA: Top 5 in Brown/grey, wet, very stiff, Silty CLAY, moderately plastic. (GLACIOMARINE). q_p = 4.0. 5.0 ksf. (Pocket Penetrometer). T_v = 200. 300 psf.	5DB: GTX #540010 WC = 17.8% Fines = 32.6% A-2-4 (0), SM
										5DB: Bottom 7 in Brown, wet, medium dense, fine to coarse SAND, some silt clay, trace fine gravel, well-graded, non-plastic (GLACIOMARINE).	
20	6D	24/14	20.00 - 22.00	30/42/18/8	60	90	100			6DA: Top 12 in Brown, wet, very dense, fine Gravelly fine to coarse SAND, trace silt, poor-graded (GLACIOMARINE).	6DA: GTX #540009 Fines = 8.6% A-1-a (0), SP-SM
							76			6DB: Bottom 2 in Brown/grey, wet, hard, CLAY, trace sand, moderately plastic (GLACIOMARINE). q_p = 2.0 ksf (Pocket Penetrometer).	7DA1
							95			7DA1: Grey, moist, very dense, SAND, some silt, trace gravel, poorly-graded (GLACIOMARINE).	GTX #540003 WC = 14% Fines = 32.8% A-2-4 (0), SM
	7D	24/18	24.00 - 26.00	5/23/17/16	40	60	100			7DA2: Grey, moist, hard, CLAY, some fine to coarse sand, moderately plastic. (GLACIOMARINE). q_p = 8.0. 8.0 ksf (Pocket Penetrometer). T_v = 1100. 700. 900 psf.	
25							101				
							87				
	8D	24/20	29.00 - 31.00	2/9/12/19	21	31	89			8D: Grey, wet, hard, CLAY, some fine to coarse sand, moderately plastic (GLACIOMARINE). q_p = 10.0. 10.0 ksf (Pocket Penetrometer). T_v = 700. 800 psf.	
							74				
	9D	24/14	31.00 - 33.00	12/12/12/14	24	36	123			9D: Grey, wet, hard, CLAY, some fine to coarse sand, moderately plastic (GLACIOMARINE). q_p = 2.0 2.0 ksf(Pocket Penetrometer). T_v = 1400 psf.	
30	10D V1	24/24	33.00 - 35.00	4/6/7/8 c_{uv}= 4181 psf	-					10D: Wet, grey, hard, CLAY, some fine to coarse sand, moderately plastic (GLACIOMARINE). q_p = 6.0. 6.0 ksf (Pocket Penetrometer). T_v = 1000. 900. psf. 16x32 mm vane row torque readings:	WC = 30.5%
	11D V2	24/24	35.00 - 37.00	2/5/5/5 c_{uv}= 2181 psf	-					V1: Reached 26.6 in-lbs without failure. 11D: Grey, wet, hard, CLAY, some fine to coarse sand, moderately plastic (GLACIOMARINE). q_p = 1.0 ksf (Pocket Penetrometer). T_v = 1000. 1100 psf. 16x32 mm vane row torque readings:	
	12D V3	24/24	37.00 - 39.00	WOH/18"/1/3 c_{uv}=2515/629 psf	-					V2: Reached 26.6 in-lbs without failure. 12D: Grey, wet, very stiff, CLAY, some fine to coarse sand, trace fine gravel, moderately plastic (GLACIOMARINE). q_p = 1.0 ksf (Pocket Penetrometer). T_v = 700. 300 psf. 16x32 mm vane row torque readings:	12D: GTX #539996 WC = 30% LL = 45 PL = 23 PI = 20 LI = 0.3 A-7-6, CL
35	13D	24/21	39.00 - 41.00	2/4/11/22	15	22				V3: 16/4 in-lbs	13D:
	WH			Would Not Push						13D: Grey, wet, very stiff, CLAY, some fine to coarse sand, moderately plastic (GLACIOMARINE). Failed 65x130 mm vane, would not push to 40.0 ft bgs.	GTX #540007, 539995 WC = 32% Fines = 70.4% LL = 23 PL = 15 PI = 8 LI = 2.1 A-4 (3), CL
	14D	24/12	41.00 - 43.00	8/17/18/19	35	52		120.0			
										41.0	
										14D: Brown, wet, very dense, fine to coarse SAND, some silt, trace fine gravel, non-plastic (SAND AND GRAVEL). No recovery: Refusal	
	15D	0/0	43.00 - 45.00	50(0")				117.2			
										43.8	
	R1	60/60	44.00 - 49.00	ROD = 92%			WK			Top of Bedrock at Elev. 117.2 ft. R1: Grey, coarse grained, strongly foliated, fresh (W1), very strong (R5), GNEISS: discontinuities steep (80°- 90°) and parallel to foliation, very close to moderately closely spaced (0.1-1.1 ft) (VASSALBORO FORMATION). Rock Mass Quality = Excellent Rock Core Rate (minisec) 44.0-45.0 ft (3:31) 45.0-46.0 ft (3:05) 46.0-47.0 ft (2:29) 47.0-48.0 ft (3:04) 48.0-49.0 ft (2:42) 100% Recovery	
45											
	R2	60/60	49.00 - 54.00	ROD = 86%						R2: Grey, coarse grained, strongly foliated, fresh (W1), weak (R2), GNEISS: discontinuities steep (85 +- 50°) and parallel to foliation, closely spaced (0.3-0.9 ft) (VASSALBORO FORMATION). Rock Mass Quality = Good Rock Core Rate (minisec) 49.0-50.0 ft (3:01) 50.0-51.0 ft (2:26) 51.0-52.0 ft (2:38) 52.0-53.0 ft (3:35) 53.0-54.0 ft (1:39) 100% Recovery	
50								107.0			
										54.0	
										Bottom of Exploration at 54.0 feet below ground surface. Boring backfilled with bentonite grout to 3 ft bgs, gravel from 3 ft bgs to 0.5 ft bgs, and cold patch asphalt to road surface.	
55											
60											
65											
70											
75											

Remarks:
1. Hammer Efficiency Factor provided by New England Boring Contractors and taken from "SPT Energy Submittal_Drill Rig No. NEBCD-24" by GZA GeoEnvironmental, dated 7/12/19. 2. As-drilled boring locations and ground surface elevations were provided by MaineDOT. 3. "-" Sample Interval disturbed by vane test before sampling blow counts not representative of undisturbed material.

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

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

Boring No.: BB-FMD-101

Maine Department of Transportation — Boring No.: BB-FMD-102

Soil/Rock Exploration Log — US CUSTOMARY UNITS

Project: I-295 MALLET DRIVE BRIDGE REPLACEMENT #5721 (EXIT 22)
Location: FREEPORT, MAINE
WIN: 21726.00

Driller:	New England Boring Contractors	Elevation (ft.):	143.1
Operator:	Brad Enos	Datum:	NAD83 (2011) Maine 2000 West
Logged By:	Shiv Bhardwaj	Rig Type:	Mobile B-53
Date Start/Finish:	12/17/19 (2155); 12/19/19 (1031)	Drilling Method:	Cased Wash
Boring Location:	Nt 375943.7, Et 1054683.2	Casing ID/OD:	4 in/4.5 in
Hammer Efficiency Factor: 0.896		Hammer Type:	Automatic ☒ Hydraulic ☐ Rope & Cathead ☐
Auger ID/OD:	N/A		
Samplers:	Standard Split Spoon		
Hammer Wt./Fall:	140 lbs/30 in		
Core Barrel:	1-7/8 in - NQ		
Water Level*:	5.91 ft on 12/26/19 at 21:23		

Definitions: R = Rock Core Sample; SSA = Solid Stem Auger; RC = Rock Core; WOH = Weight of Hole, Hammer; WOR/C = Weight of Rods or Casing; WOP = Weight of Dyno Person; q_u = Peak/Remolded Field Vane Unconfined Shear Strength (psf); q_u(test) = Lab Vane Undrained Shear Strength (psf); q_p = Unconfined Compressive Strength (tsf); 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 c/6 in. Hammer Drop Strength (psf) or ROD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0	1D	24/10	0.00 - 2.00	2/4/3/2	7	10	Open			Brown, dry, loose, fine to coarse SAND, well-graded (FILL).	
	2D	24/4	4.00 - 6.00	3/3/(112")	4	6	3			Brown, wet, loose, Silty fine SAND, well-graded (FILL).	WC = 15.6%
5							8				
							8				
							43				
							31				
	3D	24/3	9.00 - 11.00	WOH(24")	-	-	15				
							14				
							20				
10							144				
							Open	130.1			
							ND			13.0	
	R1	27.6/24	14.00 - 16.30	ROD = 57%						Top of Bedrock at Elev. 130.1 ft. R1: Grey, coarse grained, strongly foliated, slightly weathered (W2), very strong (R5), GNEISS: discontinuities steep (75°) and parallel to foliation, closely spaced (0.1-0.6 ft) (VASSALBORO FORMATION). Rock Mass Quality = Fair Rock Core Rate (minisec) 14.0-15.0 ft (3:32) 15.0-16.0 ft (2:40) 16.0-16.3 ft (1:43) 57% Recovery	GTX #311186 q_p = 1495 ksf 128.7-128.9 ft)
	R2	48/42	16.30 - 20.30	ROD = 73%						R2: Grey, coarse grained, strongly foliated, slightly weathered (W2), very strong (R5), GNEISS: discontinuities moderately dipping to steep (45 °-85°) and parallel to foliation, close to moderately closely spaced (0.1-0.6 ft) (VASSALBORO FORMATION). Rock Mass Quality = Fair Rock Core Rate (minisec) 16.3-17.3 ft (2:10) 17.3-18.3 ft (2:14) 18.3-19.3 ft (2:29) 19.3-20.3 ft (3:01) 88% Recovery	
20	R3	48/39	20.30 - 24.30	ROD = 33%						R3: Grey, coarse grained, strongly foliated, moderately weathered (W3), very strong (R5), GNEISS: discontinuities steep to vertical (75 °- 90°) and parallel to foliation, close to moderately closely spaced (0.1-0.6 ft) (VASSALBORO FORMATION). Rock Mass Quality = Poor Rock Core Rate (minisec) 20.3-21.3 ft (3:02) 21.3-22.3 ft (1:46) 22.3-23.3 ft (1:36) 23.3-24.3 ft (2:46) 83% Recovery	
								118.8		24.3	
										Bottom of Exploration at 24.3 feet below ground surface. Boring backfilled with bentonite grout to ground surface.	
25											
30											
35											
40											
45											
50											

Remarks:
1. Hammer Efficiency Factor provided by New England Boring Contractors and taken from "SPT Energy Submittal_Drill Rig No. NEBCD-24" by GZA GeoEnvironmental, dated 7/12/19. 2. As-drilled boring locations and ground surface elevations were provided by MaineDOT. 3. "-" Sample Interval disturbed by vane test before sampling blow counts not representative of undisturbed material.

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-FMD-102

Maine Department of Transportation — Boring No.: BB-FMD-103

Soil/Rock Exploration Log — US CUSTOMARY UNITS

Project: I-295 MALLET DRIVE BRIDGE REPLACEMENT #5721 (EXIT 22)
Location: FREEPORT, MAINE
WIN: 21726.00

Driller:	New England Boring Contractors	Elevation (ft.):	165.2
Operator:	Brad Enos	Datum:	NAD83 (2011) Maine 2000 West
Logged By:	Shiv Bhardwaj	Rig Type:	Mobile B-53
Date Start/Finish:	12/15/19 (2325); 12/16/19 (1136)	Drilling Method:	Solid Stem Auger / Cased Wash
Boring Location:	Nt 375852.0, Et 1054767.6	Casing ID/OD:	4 in/4.5 in
Hammer Efficiency Factor: 0.896		Hammer Type:	Automatic ☒ Hydraulic ☐ Rope & Cathead ☐
Auger ID/OD:	4 in OD Solid Stem		
Samplers:	Standard Split Spoon		
Hammer Wt./Fall:	140 lbs/30 in		
Core Barrel:	1-7/8 in - NQ		
Water Level*:	Not Recorded		

Definitions: D = Split Spoon Sample; WD = Unsuccessful Split Spoon Sample Attempt; U = Thin Wall Tube Sample; WU = Unsuccessful Thin Wall Tube Sample Attempt; V = Field Vane Shear Test; WV = Unsuccessful Field Vane Shear Test Attempt; R = Rock Core Sample; SSA = Solid Stem Auger; RC = Rock Core; WOH = Weight of Hole, Hammer; WOR/C = Weight of Rods or Casing; WOP = Weight of Dyno Person; q_u = Peak/Remolded Field Vane Unconfined Shear Strength (psf); q_u(test) = Lab Vane Undrained Shear Strength (psf); q_p = Unconfined Compressive Strength (tsf); 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 c/6 in. Hammer Drop Strength (psf) or ROD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0							SSA	165.6		Driller notes asphalt thickness of 7 in (ASPHALT).	
										0.6	
	1D	24/15	1.00 - 3.00	16/13/15/13	28	42				Brown, dry, dense, fine to coarse SAND, trace fine gravel, well-graded (FILL).	
	2D	24/18	4.00 - 6.00	5/6/6/9	12	18				Brown, dry, medium dense, fine to coarse SAND, trace fine gravel, trace clay, well-graded (FILL).	WC - 3.0%
5											
	3D	24/19	9.00 - 11.00	4/12/9/6	21	31	87			Brown, dry, dense, fine to coarse SAND, trace fine gravel, trace clay, well-graded, non-plastic (FILL).	
							58				
							73				
10							230				
							56				
	4D	24/12	14.00 - 16.00	6/5/4/5	9	13	59	151.6		Brown fine to coarse sand in wash from 0.6-13.5 ft bgs. 4DB: Top 7 in Brown, moist, medium dense, fine to coarse SAND, little fine gravel, little clay, well-graded (FILL).	4DB: GTX #540004 Fines = 11.4% A-1-b (0), SP-SM 4D41
							37			14.6	
							208			4DA: Bottom 5 in Brown, moist, stiff, fine to coarse Sandy CLAY, well-graded, moderately plastic (GLACIOMARINE). q_p = 5.0. 5.0 ksf (Pocket Penetrometer.). T_v = 400. 400 psf	GTX #540001 WC = 26% LL = 34 PL = 18 PI = 16 LI = 0.5 A-6, CL
							147				
15							OPEN			Blocks of clay in wash water from 14-19 ft bgs.	
	R1	36/35	19.00 - 22.00	ROD = 37%			ND	147.2		19.0	
	NO	0.0	19.00 - 19.00	Sub-Rl						Top of Bedrock at Elev. 147.2 ft. R1: Blue/grey, coarse grained, strongly foliated, slightly weathered (W2), very strong (R5), GNEISS: discontinuities low (5 °-35°) and parallel to foliation, very closely spaced (0.2-2.0 ft) [VASSALBORO FORMATION]. Rock Mass Quality = Poor Rock Core Rate (minisec) 19.0-20.0 ft (3:40) 20.0-21.0 ft (1:58) 21.0-22.0 ft (2:46) 97% Recovery	
	R2	60/59	22.00 - 27.00	ROD = 96%						R2: Blue/grey, coarse grained, strongly foliated, slightly weathered (W2), very strong (R5), GNEISS: discontinuities steep (75 °-90°) and parallel to foliation, closely spaced (0.2-2.0 ft) [VASSALBORO FORMATION]. Rock Mass Quality = Excellent Rock Core Rate (minisec) 22.0-23.0 ft (3:11) 23.0-24.0 ft (2:14) 24.0-25.0 ft (2:21) 25.0-26.0 ft (2:58) 26.0-27.0 ft (2:43) 98% Recovery	
20	R3	30/26.5	27.00 - 29.50	ROD = 88%						R3: Blue/grey, coarse grained, strongly foliated, fresh (W1), very strong (R5), GNEISS: no discontinuities [VASSALBORO FORMATION]. Rock Mass Quality = Good Rock Core Rate (minisec) 27.0-28.0 ft (2:06) 28.0-29.5 ft (2:10) 88% Recovery	
								136.7		29.5	
										Bottom of Exploration at 29.5 feet below ground surface. Boring backfilled with bentonite grout to 0.5 ft bgs with cuttings and cold patch asphalt to road surface.	
25											
30											
35											
40											
45											
50											

Remarks:
1. Hammer Efficiency Factor provided by New England Boring Contractors and taken from "SPT Energy Submittal_Drill Rig No. NEBCD-24" by GZA GeoEnvironmental, dated 7/12/19. 2. As-drilled boring locations and ground surface elevations were provided by MaineDOT. 3. "-" Sample Interval disturbed by vane test before sampling blow counts not representative of undisturbed material.

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-FMD-103

Maine Department of Transportation — Boring No.: BB-FMD-104

Soil/Rock Exploration Log — US CUSTOMARY UNITS

Project: I-295 MALLET DRIVE BRIDGE REPLACEMENT #5721 (EXIT 22)
Location: FREEPORT, MAINE
WIN: 21726.00

Driller:	New England Boring Contractors	Elevation (ft.):	144.6
Operator:	Brad Enos	Datum:	NAD83 (2011) Maine 2000 West
Logged By:	Shiv Bhardwaj	Rig Type:	Mobile B-53
Date Start/Finish:	12/23/19 (1754); 12/23/19 (2158)	Drilling Method:	Solid Stem Auger
Boring Location:	Nt 375754.3, Et1054695.2	Casing ID/OD:	3 in/3.5 in
Hammer Efficiency Factor: 0.842		Hammer Type:	Automatic ☒ Hydraulic ☐ Rope & Cathead ☐
Auger ID/OD:	4 in OD Solid Stem		
Samplers:	Standard Split Spoon		
Hammer Wt./Fall:	140 lbs/30 in		
Core Barrel:	1-7/8 in - NQ		
Water Level*:	4.5 ft on 12/23/19 at 21:07		

Definitions: D = Split Spoon Sample; WD = Unsuccessful Split Spoon Sample Attempt; U = Thin Wall Tube Sample; WU = Unsuccessful Thin Wall Tube Sample Attempt; V = Field Vane Shear Test; WV = Unsuccessful Field Vane Shear Test Attempt; R = Rock Core Sample; SSA = Solid Stem Auger; RC = Rock Core; WOH = Weight of Hole, Hammer; WOR/C = Weight of Rods or Casing; WOP = Weight of Dyno Person; q_u = Peak/Remolded Field Vane Unconfined Shear Strength (psf); q_u(test) = Lab Vane Undrained Shear Strength (psf); q_p = Unconfined Compressive Strength (tsf); 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 c/6 in. Hammer Drop Strength (psf) or ROD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0	1D	24/6.5	0.00 - 2.00	1/1/2/2	3	4	SSA			Brown, moist, soft, SILT, trace coarse gravel, trace organics, non-plastic (TOPSOIL).	
								142.6		2.0	
	2D	24/24	4.00 - 6.00	4/16/12/22	28	39		140.4		2DC, Top 2 in: Brown, moist, hard, CLAY, trace silt, slightly plastic (GLACIOMARINE).	2DA/B: GTX #540005 Fines = 47.7% A-4 (0), SM
5										4.2	
										2DA and 2DB, Bottom 22 in: Brown, moist, dense, Silty fine to medium SAND, trace fine gravel, poorly-graded (SAND AND GRAVEL).	
	R1	60/59	6.30 - 11.30	ROD = 84%			ND	138.3		6.3	
										Top of Bedrock at Elev. 138.3 ft. R1: Blue/grey, coarse grained, strongly foliated, fresh (W1), strong (R4), GNEISS: discontinuities very steep to vertical (85 °-90°) and parallel to foliation, very closely to moderately closely spaced (0.1-2.4 ft) (VASSALBORO FORMATION). Rock Mass Quality = Good Rock Core Rate (minisec) 6.3-7.3 ft (2:49) 7.3-8.3 ft (2:24) 8.3-9.3 ft (2:45) 9.3-10.3 ft (3:15) 10.3-11.3 ft (3:02) 98% Recovery	q_p = 2127 ksf 137.4-137.8 ft)
10											
	R2	60/60	11.30 - 16.30	ROD = 96%				128.3		R2: Blue/grey, coarse grained, strongly foliated, fresh (W1), very strong (R5), GNEISS: discontinuities very steep (80°- 85°) and parallel to foliation, closely to moderately closely spaced (0.2-1.3 ft) [VASSALBORO FORMATION]. Rock Mass Quality = Excellent Rock Core Rate (minisec) 11.3-12.3 ft (3:29) 12.3-13.3 ft (2:59) 13.3-14.3 ft (2:16) 14.3-15.3 ft(2:14) 15.3-16.3 ft (2:41) 100% Recovery	
15										16.3	
										Bottom of Exploration at 16.3 feet below ground surface. Boring backfilled with soil cuttings and bentonite chips to ground surface.	
20											
25											

Remarks:
1. Hammer Efficiency Factor provided by New England Boring Contractors and taken from "SPT Energy Submittal_Drill Rig No. NEBCD-24" by GZA GeoEnvironmental, dated 7/12/19. 2. As-drilled boring locations and ground surface elevations were provided by MaineDOT. 3. "-" Sample Interval disturbed by vane test before sampling blow counts not representative of undisturbed material.

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-FMD-104

GOLDER
MEMBER OF WSP

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

021726.00
WIN
021726.00
Bridge No. 5721
BRIDGE PLANS

STATE OF MAINE — CHRISTOPHER C. BENDA — No. 15164 — LICENSED PROFESSIONAL ENGINEER

		DATE	21/08/25
		BY	MPB
	MEL		MPB
PROJ. MANAGER			
DESIGN-DETAILED	KAR	DATE	21/09/07
CHECKED-REVIEWED	CCB	SIGNATURE	
DESIGN2-DETAILED2		P.E. NUMBER	15164
DESIGN3-DETAILED3		DATE	09/07/2021
REVISIONS 1	1		
REVISIONS 2	2		
REVISIONS 3	3		
REVISIONS 4	4		
FIELD CHANGES			

APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

BORING LOGS

SHEET NUMBER
17
OF 144

Filename: 21450910_0002_007 Division: Username: Date:2021-07-02

Maine Department of Transportation — BB-FMD-105

Soil/Rock Exploration Log — US CUSTOMARY UNITS

Project: I-295 MALLET DRIVE BRIDGE REPLACEMENT #5721 (EXIT 22)
Locations: FREEPORT, MAINE

Boring No.: BB-FMD-105
WIN: 21726.00

Driller:	New England Boring Contractors	Elevation (ft.): 142.5	Auger ID/OD: N/A
Operator:	Brad Enos	Datum: NAD83 (2011) Maine 2000 West	Sampler: Standard Split Spoon
Logged By:	Shiv Bhardwaj	Rig Type: Mobile B-53	Hammer Wt./Fall: 140 lbs/30 in
Date Start/Finish:	12/19/19 (0:15:21; 12/19/19 (4:15)	Drilling Method: Cased Wash	Core Barrel: 1-7/8 in - NQ
Boring Location:	N: 375925.3, E: 1054665.6	Casing ID/OD: 4 in/4.5 in	Water Level*: 3.41 ft on 12/19/19 at 4:00
Hammer Efficiency Factor: 0.896		Hammer Type: Automatic ☒ Hydraulic ☐	Rope & Cathead ☐

Definitions:
D = Split Spoon Sample; SSA = Solid Stem Auger; RC = Rock Core Sample; S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf); T_v = Pocket Torvane Shear Strength (psf)
MD = Unsuccessful Split Spoon Sample Attempt; HSA = Hollow Stem Auger; RCR = Rock Core Barrel; $S_{u(UC)}$ = Lab Vane Undrained Shear Strength (psf); WC = Water Content, percent
U = Thin Wall Tube Sample; RC = Roller Cone; q_p = Unconfined Compressive Strength (tsf); LL = Liquid Limit
WH = Unsuccessful Thin Wall Tube Sample Attempt; RDR = Weight of Hole, Hammer; RBR = Weight of Rods or Casing; Unconsolidated or Raw Filed SPT Refusal; Hammer Efficiency Factor = Rig Specific Annual Calibration Value; PL = Plasticity Limit
V = Field Vane Shear Test; PP = Pocket Penetrometer; RBWC = Weight of Rods or Casing; N_{60} = SPT N-value Corrected for Hammer Efficiency; PI = Plasticity Index
WH = Unsuccessful Field Vane Shear Test Attempt; RDP = Weight of Drive Person; N_{60} = Hammer Efficiency Factor=60%=Hammer Efficiency; G = Grain Size Analysis; C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows/6 in. Shear Strength or RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0	1D	24/7	0.00 - 2.00	1/2/2/1	4	6	7			Brown, dry, loose, fine to coarse SAND, some silt, trace fine gravel, well-graded (FILL).	
							10				
							15				
	2D	24/4	3.00 - 5.00	2/2/11(12")	3	4	2			Brown, wet, very loose, fine to coarse SAND, some silt, trace fine gravel, well-graded (FILL).	GTX #540012 Fines = 21.2% A-2-4 (0), SM
5							9				
							7				
	3D	16/4	8.00 - 9.33	1/1/50/4"	- -		12			Brown, wet, very dense, fine to coarse SAND, some silt, well-graded (FILL).	
							19				
	R1	60/60	9.30 - 14.30	RQD = 66%			ND	133.2			
10										Top of Bedrock Elev. 133.2 ft. R1: Grey, coarse grained, strongly foliated, fresh (MI), very strong (R5), GNEISSI discontinuities moderately to very steep (55°-85°) and parallel to foliation, closely spaced (0.1-0.8 ft) [VASSALBORO FORMATION]. Rock Mass Quality = Fair Rock Core Rate (minsec) 9.3-10.3 ft (3:54) 10.3-11.3 ft (3:08) 11.3-12.3 ft (3:01) 12.3-13.3 ft (2:37) 13.3-14.3 ft (3:05) 100% Recovery	
	R2	60/60	14.30 - 19.30	RQD = 80%							
15										R2: Grey, coarse grained, strongly foliated, fresh (MI), very strong (R5), GNEISSI discontinuities very steep (50°-85°) and parallel to foliation, closely to closely spaced (0.1-1.0 ft) [VASSALBORO FORMATION]. Rock Mass Quality = Good Rock Core Rate (minsec) 14.3-15.3 ft (1:56) 15.3-16.3 ft (1:57) 16.3-17.3 ft (1:57) 17.3-18.3 ft(1:53) 18.3-19.3 ft (2:17) 100% Recovery	
								123.2			19.3
20										Bottom of Exploration at 19.3 feet below ground surface. Boring backfilled with gravel to ground surface.	
25											

Remarks:

1. Hammer Efficiency Factor provided by New England Boring Contractors and taken from "SPT Energy Submittal_Drill Rig No. NEBCD-24" by GZA GeoEnvironmental, dated 7/12/19. 2. As-drilled boring locations and ground surface elevations were provided by MaineDOT. 3. "-" Sample interval disturbed by vane test before sampling blow counts not representative of undisturbed material, were provided by MaineDOT.

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-FMD-105

Maine Department of Transportation — BB-FMD-106

Soil/Rock Exploration Log — US CUSTOMARY UNITS

Project: I-295 MALLET DRIVE BRIDGE REPLACEMENT #5721 (EXIT 22)
Locations: FREEPORT, MAINE

Boring No.: BB-FMD-106
WIN: 21726.00

Driller:	New England Boring Contractors	Elevation (ft.): 129.2	Auger ID/OD: 4 in OD Solid Stem
Operator:	Brad Enos	Datum: NAD83 (2011) Maine 2000 West	Sampler: Standard Split Spoon
Logged By:	Shiv Bhardwaj	Rig Type: SIMCO 2400	Hammer Wt./Fall: 140 lbs/30 in
Date Start/Finish:	12/23/19 (10:35:11; 12/23/19 (16:51)	Drilling Method: Solid Stem Auger / Cased Wash	Core Barrel: 1-7/8 in - NQ
Boring Location:	N: 375933.5, E: 1054554.5	Casing ID/OD: 3 in/3.5 in	Water Level*: 3.1 ft on 12/23/2019 at 16:30
Hammer Efficiency Factor: 0.600		Hammer Type: Automatic ☐ Hydraulic ☐	Rope & Cathead ☒

Definitions:
D = Split Spoon Sample; SSA = Solid Stem Auger; RC = Rock Core Sample; S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf); T_v = Pocket Torvane Shear Strength (psf)
MD = Unsuccessful Split Spoon Sample Attempt; HSA = Hollow Stem Auger; RCR = Rock Core Barrel; $S_{u(UC)}$ = Lab Vane Undrained Shear Strength (psf); WC = Water Content, percent
U = Thin Wall Tube Sample; RC = Roller Cone; q_p = Unconfined Compressive Strength (tsf); LL = Liquid Limit
WH = Unsuccessful Thin Wall Tube Sample Attempt; RDR = Weight of Hole, Hammer; RBR = Weight of Rods or Casing; Unconsolidated or Raw Filed SPT Refusal; Hammer Efficiency Factor = Rig Specific Annual Calibration Value; PL = Plasticity Limit
V = Field Vane Shear Test; PP = Pocket Penetrometer; RBWC = Weight of Rods or Casing; N_{60} = SPT N-value Corrected for Hammer Efficiency; PI = Plasticity Index
WH = Unsuccessful Field Vane Shear Test Attempt; RDP = Weight of Drive Person; N_{60} = Hammer Efficiency Factor=60%=Hammer Efficiency; G = Grain Size Analysis; C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows/6 in. Shear Strength or RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0	1D	24/12	0.00 - 2.00	1/2/2/2	4	4	SSA			Brown, moist, soft, SILT, some fine sand, little organics, non-plastic (TOPSOIL).	
								127.2			2.0
	2D	24/24	4.00 - 6.00	5/8/10/12	18	18				2D: Grey, dry, very stiff, CLAY, moderately plastic (GLACIOMARINE). q_p = 8.5 ksf (Pocket Penetrometer). T_v = 800- 1000, 1000 psf	GTX #540006 WC = 26.1% Fines = 99.5%
5											
	3D	24/19	6.00 - 8.00	6/7/7/8	14	14	25			3D: Grey, wet, stiff, CLAY, trace sand, moderately plastic (GLACIOMARINE). q_p = 5.0- 5.0 ksf (Pocket Penetrometer), T_v = 900, 1000 psf. Failed 55x110 mm vane, would not push to 7.0 ft bgs.	
	MV			Would Not Push			19				
	4D MV	24/7.5	8.00 - 10.00	2/3/3/2 Would Not Push	6	6	20			4D: Grey, wet, medium stiff, CLAY, trace sand, moderately plastic (GLACIOMARINE). q_p = 2.0 2.0 ksf (Pocket Penetrometer). T_v = 300, 700 psf. Failed 55x110 mm vane, would not push to 9.0 ft bgs	4D: GTX #540007, GTX #539999 WC = 31% Fines = 97.4% LL = 45 PL = 21 PI = 24 LI = 0.4 A-7-6 (26), CL
10							24				
	5D	24/24	10.00 - 12.00	2/11(12")/2	-		Open			5D: Grey, wet, stiff, CLAY, moderately plastic (GLACIOMARINE). q_p = 1.0 ksf (Pocket Penetrometer. T_v = 550- 500 psf. 55x110 mm vane raw torque readings: V3: 45 ft-lbs V4: 28/5 ft-lbs	
	V5 MV			S_u=1875/268psf S_u=1250/232psf							
	6D	24/5	12.00 - 14.00	1/3/5/5	8	8				6D: Grey, wet, medium stiff, CLAY, moderately plastic (GLACIOMARINE). q_p ? 1.0 ksf (Pocket Penetrometer. T_v = 200 psf.	
	MV			Would Not Push				116.2			16.0
	7D	22/15	14.00 - 15.83	WOR(5")/1(11")/5/ 8/50/4"	13	13				7DB: Top 7 in: Brown, wet, medium dense, Silty fine to coarse SAND, well-graded (SAND AND GRAVEL). 7DA: Bottom 8 in: Brown, wet, medium dense, fine to medium SAND, trace fine gravel, trace silt, well-graded (SAND AND GRAVEL).	6D: GTX #540000 WC = 33% LL = 38 PL = 19 PI = 19 LI = 0.7 A-6, CL 7DB: GTX #540013 WC = 23.4% Fines = 42.6% q_p = 3279 ksf
	MV RT	60/59	15.80 - 20.80	Would Not Push RQD = 70%				113.4			102.7-103.1 ft)
15										Top of Bedrock Elev. 113.4 ft. R1: Blue/grey, coarse grained, strongly foliated, fresh (MI), very strong (R5), GNEISSI discontinuities very steep to vertical (80°-90°) and parallel to foliation, very closely to closely spaced (0.1-1.7 ft) [VASSALBORO FORMATION]. Rock Mass Quality = Fair Rock Core Rate (minsec) 15.8-16.8 ft (3:41) 16.8-17.8 ft (2:51) 17.8-18.8 ft (1:45) 18.8-19.8 ft (2:06) 19.8-20.8 ft (1:58) 98% Recovery	15.8
20	R2	48/43	20.80 - 24.80	RQD = 58%							
	R3	38.4/38	24.80 - 28.00	RQD = 50%						R2: Grey, coarse grained, strongly foliated, fresh (MI), very strong (R5), GNEISSI interminigled with grey and blue, coarse-grained, strongly foliated, fresh (MI), very strong (R5), PEGMATITE1 with moderately steep to vertical discontinuities (40°-90°), very close to closely spaced (0.1-0.5 ft) [VASSALBORO FORMATION]. Rock Mass Quality = Fair Rock Core Rate (minsec) 20.8-21.8 ft (1:24) 21.8-22.8 ft (3:27) 22.8-23.8 ft (8:01) 23.8-24.8 ft (20:06) 90% Recovery	
25	R4	48/47	28.00 - 32.00	RQD = 48%							
	R5	46/46	32.00 - 35.83	RQD = 100%				93.4		R3: Blue/grey, coarse grained, strongly foliated, fresh (MI), very strong (R5), GNEISSI discontinuities very steep to vertical (85°-90°) and parallel to foliation, very closely to closely spaced (0.1-1.1 ft) [VASSALBORO FORMATION]. Rock Mass Quality = Poor Rock Core Rate (minsec) 24.8-25.8 ft (6:05) 25.8-26.8 ft (4:20) 26.8-27.8 ft (7:26) 27.8-28.0 ft (1:22) 100% Recovery	
30										R4: Grey, coarse grained, strongly foliated, fresh (MI), very strong (R5), GNEISSI interminigled with grey and blue, coarse-grained, strongly foliated, fresh (MI), extremely strong (R6), PEGMATITE1 with very steep to vertical discontinuities (80°-90°), very close to closely spaced (0.1-0.8 ft) [VASSALBORO FORMATION]. Rock Mass Quality = Poor Rock Core Rate (minsec) 28.0-29.0 ft (3:42) 29.0-30.0 ft (3:10) 30.0-31.0 ft (2:55) 31.0-32.0 ft (4:15) 98% Recovery	
35										R5: Blue/grey, fine grained, strongly foliated, fresh (MI), very strong (R5), PEGMATITE1 discontinuities moderately to very steep (55°-85°) and parallel to foliation, closely to moderately closely spaced (0.4-2.9 ft) [VASSALBORO FORMATION]. Rock Mass Quality = Excellent Rock Core Rate (minsec) 32.0-33.0 ft (5:22) 33.0-34.0 ft (7:04) 34.0-35.0 ft (11:54) 35.0-35.8 ft (9:34) 100% Recovery	
40											35.8
45										Bottom of Exploration at 35.8 feet below ground surface. Boring backfilled with soil cuttings, gravel and bentonite chips to ground surface.	
50											
55											
60											
65											
70											
75											

Remarks:

1. Hammer Efficiency Factor provided by New England Boring Contractors and taken from "SPT Energy Submittal_Drill Rig No. NEBCD-24" by GZA GeoEnvironmental, dated 7/12/19. 2. As-drilled boring locations and ground surface elevations were provided by MaineDOT. 3. "-" Sample interval disturbed by vane test before sampling blow counts not representative of undisturbed material.

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-FMD-106

Maine Department of Transportation — BB-FMD-201

Soil/Rock Exploration Log — US CUSTOMARY UNITS

Project: I-295 Mallet Drive Bridge Replacement
Locations: Freeport, Maine

Boring No.: BB-FMD-201
WIN: 021726.00

Driller:	SW Cole	Elevation (ft.): 154.8 ft	Auger ID/OD: 2.5 in
Operator:	J. Layfield	Datum: NAD83 (2011) Maine 2000 West	Sampler: Standard Split Spoon
Logged By:	C. Bartlotello	Rig Type: Diedrich D-50	Hammer Wt./Fall: 140 lbs/30 in
Date Start/Finish:	05/27/21 T221701105/27/21 T231201	Drilling Method: Pin Auger / Cased Wash	Core Barrel: NQ
Boring Location:	N: 376141.07 ft, E 1054356.023	Casing ID/OD: 5-5 in	Water Level*: 19.2 ft
Hammer Efficiency Factor: 0.974		Hammer Type: Automatic ☐ Hydraulic ☒	Rope & Cathead ☐

Definitions:
D = Split Spoon Sample; SSA = Solid Stem Auger; RC = Rock Core Sample; S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf); T_v = Pocket Torvane Shear Strength (psf)
MD = Unsuccessful Split Spoon Sample Attempt; HSA = Hollow Stem Auger; RCR = Rock Core Barrel; $S_{u(UC)}$ = Lab Vane Undrained Shear Strength (psf); WC = Water Content, percent
U = Thin Wall Tube Sample; RC = Roller Cone; q_p = Unconfined Compressive Strength (tsf); LL = Liquid Limit
WH = Unsuccessful Thin Wall Tube Sample Attempt; RDR = Weight of Hole, Hammer; RBR = Weight of Rods or Casing; Unconsolidated or Raw Filed SPT Refusal; Hammer Efficiency Factor = Rig Specific Annual Calibration Value; PL = Plasticity Limit
V = Field Vane Shear Test; PP = Pocket Penetrometer; RBWC = Weight of Rods or Casing; N_{60} = SPT N-value Corrected for Hammer Efficiency; PI = Plasticity Index
WH = Unsuccessful Field Vane Shear Test Attempt; RDP = Weight of Drive Person; N_{60} = Hammer Efficiency Factor=60%=Hammer Efficiency; G = Grain Size Analysis; C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows/6 in. Shear Strength or RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0	1D	24/14	0.00 - 2.00	3/5/7/10	12	19	PUSH			Brown, damp, medium dense, fine to coarse SAND, some fine gravel, well-graded (FILL)	
	2D	24/16	2.00 - 4.00	10/8/9/7	17	28				Brown, damp, medium dense, fine to coarse SAND, little fine gravel, well-graded (FILL)	
							34				
	3D	24/16	4.00 - 6.00	10/12/14/12	26	42	85			Brown, damp, dense, fine to coarse SAND, some fine gravel, trace silt, well-graded (FILL)	WC = 4.5%
5							53				
	4D	24/15	6.00 - 8.00	6/10/7/5	17	28	24			Brown, damp, medium dense, fine to coarse SAND, little fine gravel, trace silt, well-graded (FILL)	
							17				
	5D	24/15	8.00 - 10.00	6/6/5/3	11	18	15			5DA: Top 10 in: Dark brown, damp, very stiff, fine to medium Sandy SILT, trace gravel, q_p=1 ksf, non-plastic (FILL)	5DA: GTX #621778 WC = 21.3% Fines = 58.2% A-4, ML
							18	144.8			10.0
	6D	24/24	10.00 - 12.00	4/4/4/4	8	13	23			5DB: Bottom 5 in: Brown, wet, medium dense, fine to coarse Silty SAND, trace gravel, well-graded (FILL)	
							20			6D: Brown to grey, damp, stiff, Silty CLAY, T_v=4000 psf, q_p=3.5 ksf, slightly to moderately plastic (GLACIOMARINE) TD to 14 ft bgs casing blows done with 300ib/30in.	
							20				6D: WC = 31.1%
							40			Clay in wash 15 ft bgs.	
	7D	24/19	15.00 - 17.00	4/5/10/11	15	24	OPEN			Brown to grey, damp, very stiff, Silty CLAY, T_v=13000 psf, q_p= 6.2 ksf, slightly to moderately plastic (GLACIOMARINE)	GTX #621760 WC = 23.9% LL = 41 PL = 20 PI = 21 LI = 0.2
	8D	24/24	20.00 - 22.00	6/8/10/14	18	29				Brown to grey, damp, very stiff, Silty CLAY, T_v=13000 psf, q_p= 6.2 ksf, slightly to moderately plastic. Iron staining (GLACIOMARINE)	
	9D	24/24	25.00 - 27.00	4/5/6/7	11	18				Brown, moist, very stiff, Silty CLAY, T_v=15000 psf, q_p= 3.6 ksf, moderately plastic (GLACIOMARINE)	
								127.8			27.0
50										Bottom of Exploration at 27.0 feet below ground surface. Boring backfilled with gravel and topped with cold patch.	

Remarks:

Hammer calibration obtained from SW Cole calibration report.
As-drilled elevations are derived from survey files within the emails titled "FW Exit 20 and 22 Borings and Probes Freeport" received by Golder on June 11 and June 28, 2021 from MaineDOT.
Water level was measured 15 minutes after the completion of the drilling while casing was still in the hole.

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-FMD-201

Maine Department of Transportation — BB-FMD-202

Soil/Rock Exploration Log — US CUSTOMARY UNITS

Project: I-295 Mallet Drive Bridge Replacement
Locations: Freeport, Maine

Boring No.: BB-FMD-202
WIN: 021726.00

Driller:	SW Cole	Elevation (ft.): 156.2	Auger ID/OD: 2.5 in
Operator:	J. Layfield	Datum: NAD83 (2011) Maine 2000 West	Sampler: Standard Split Spoon
Logged By:	B. Kurtoglu	Rig Type: Diedrich D-50	Hammer Wt./Fall: 140 lbs/30 in
Date Start/Finish:	06/07/21 T201041106/07/21 T210241	Drilling Method: Pin Auger / Cased Wash	Core Barrel: NQ
Boring Location:	N: 376198.98 ft, E 1054444.482	Casing ID/OD: 5-5 in	Water Level*: 6.6 ft
Hammer Efficiency Factor: 0.974		Hammer Type: Automatic ☐ Hydraulic ☒	Rope & Cathead ☐

Definitions:
D = Split Spoon Sample; SSA = Solid Stem Auger; RC = Rock Core Sample; S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf); T_v = Pocket Torvane Shear Strength (psf)
MD = Unsuccessful Split Spoon Sample Attempt; HSA = Hollow Stem Auger; RCR = Rock Core Barrel; $S_{u(UC)}$ = Lab Vane Undrained Shear Strength (psf); WC = Water Content, percent
U = Thin Wall Tube Sample; RC = Roller Cone; q_p = Unconfined Compressive Strength (tsf); LL = Liquid Limit
WH = Unsuccessful Thin Wall Tube Sample Attempt; RDR = Weight of Hole, Hammer; RBR = Weight of Rods or Casing; Unconsolidated or Raw Filed SPT Refusal; Hammer Efficiency Factor = Rig Specific Annual Calibration Value; PL = Plasticity Limit
V = Field Vane Shear Test; PP = Pocket Penetrometer; RBWC = Weight of Rods or Casing; N_{60} = SPT N-value Corrected for Hammer Efficiency; PI = Plasticity Index
WH = Unsuccessful Field Vane Shear Test Attempt; RDP = Weight of Drive Person; N_{60} = Hammer Efficiency Factor=60%=Hammer Efficiency; G = Grain Size Analysis; C = Consolidation Test

Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows/6 in. Shear Strength or RQD (%)	N-uncorrected	N_{60}	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class.
0	1D	24/16	0.70 - 2.70	19/19/17/16	36	58	PUSH	155.5		Asphalt thickness of 8 in (ASPHALT)	0.7
										Light brown and tan, dry, very dense, fine to coarse SAND, little gravel, well-graded (FILL)	
	2D	24/18	4.00 - 6.00	12/13/15/16	28	45				Light brown and tan, dry, dense, fine to medium SAND, trace silt, poorly-graded (FILL)	
							34				
5	3D	24/23	6.00 - 8.00	4/3/6/10	9	15	62			Light brown, damp, medium dense, fine SAND, trace gravel, trace coarse sand, trace silt, poorly-graded (FILL)	
							83				
	4D	24/22	8.00 - 10.00	10/8/11/9	19	31	56			Light brown, damp, dense, fine to medium SAND, some silt, trace gravel, well-graded (FILL)	4D: GTX #621761 WC = 13.3% Fines = 27.3% A-2-4(0), SM
							63				
	5D	24/23	10.00 - 12.00	12/9/6/7	15	24	39			5DA: Top 11 in: Light brown, damp, medium dense, fine to medium SAND, some silt, little gravel, well-graded (FILL)	5DA: GTX #621762, 621755 WC = 8.1% Fines = 21.6% Non-plastic A-2-4(0), SM
10							39	145.3			10.0
							OPEN			5DB: Bottom 12 in: Grey, damp, stiff, Silty CLAY, T_v= 13000 psf, q_p=5.1 ksf, slightly plastic (GLACIOMARINE)	
	6D	24/16	15.00 - 17.00	5/5/6/4	11	18				Grey, wet, very stiff, Silty CLAY, trace sand, T_v=13000 psf, q_p=5.1 ksf, slightly plastic (GLACIOMARINE)	6D: GTX #621763, 621756 WC = 27.5% Fines = 93.2% LL = 36 PL = 19 PI = 17 LI = 0.5 A-6, CL
15											
	7D	24/19	20.00 - 22.00	4/3/4/3	7	11				Grey, wet, stiff, Silty CLAY, T_v=13000 psf, q_p=3.1 ksf, slightly plastic (GLACIOMARINE)	
	8D	24/24	25.00 - 27.00	4/5/11/17	16	26				Grey, wet, very stiff, Silty CLAY, T_v=13000 psf, q_p= 5.1 ksf, slightly to moderately plastic (GLACIOMARINE)	
								129.2			27.0
20										Bottom of Exploration at 27.0 feet below ground surface. Backfilled with gravel and topped with cold patch.	

Remarks:

Hammer calibration obtained from SW Cole calibration report.
As-drilled elevations are derived from survey files within the emails titled "FW Exit 20 and 22 Borings and Probes Freeport" received by Golder on June 11 and June 28, 2021 from MaineDOT.
Water level was measured 15 minutes after the completion of the drilling while casing was still in the hole.

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-FMD-202

GOLDER
MEMBER OF WSP

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

021726.00
WIN
021726.00

Bridge No. 5721

BRIDGE PLANS

STATE OF MAINE — CHRISTOPHER C. BENDA — No. 15164 — LICENSED PROFESSIONAL ENGINEER

P.E. NUMBER	15164	
SIGNATURE		
DATE	09/07/2021	

PROJ. MANAGER	MEL		
DESIGN-DETAILED	KAR	DATE	21/08/25
CHECKED-REVIEWED	CCB/MEL	BY	MPB
DESIGN2-DETAILED2		DATE	21/09/07
DESIGN3-DETAILED3		BY	MPB
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

BORING LOGS

SHEET NUMBER
18
OF 144

Maine Department of Transportation — Soil/Rock Exploration Log

US CUSTOMARY UNITS

Project: I-295 Mallet Drive Bridge Replacement
Location: Freeport, Maine

Boring No.: BB-FMD-203
WIN: 021726.00

Driller: SW Cole	Elevation (ft.): 155.6	Auger ID/OD: 2.5 in
Operator: J. Layfield	Datum: NAD83 (2011) Maine 2000 West	Sampler: Standard Split Spoon
Logged By: B. Kurtoglu	Rig Type: Diedrich D-50	Hammer Wt./Fall: 140 lbs/30 in
Date Start/Finish: 06/07/21 (2351510)6/22/21 (0)1551)	Drilling Methods: Pin Auger / Cased Wash	Core Barrel: NO
Boring Location: N 3180971.401 ft, E 1054412.229 ft	Casing ID/OD: 5.5 in	Water Level*: 8 ft
Hammer Efficiency Factor: 0.974	Hammer Type: Automatic ☐ Hydraulic ☒	Rope & Cathead ☐

Soil Descriptions
B = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
WC = Wash Core
RDH = Height of Hammer Fall
SPT = Standard Penetration Test
q_u = Unconfined Compressive Strength (tsf)
S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf)
$S_{u(LAB)}$ = Lab Vane Undrained Shear Strength (psf)
S_t = Sensitivity
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
E_{50} = Strain at 50% Stress
C = Consolidation Test

Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows / 6 in. Shear Strength (psf) or RQD (%)	Unconfined	% Fines	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class
						PUSH	154.6		Asphalt thickness 12 in (ASPHALT) — 1.0	
1D	24/19	1.00 - 3.00	12/16/20/16	36	58				Tan, damp, very dense, fine to coarse SAND, some gravel, well-graded (FILL)	
2D	24/19	3.00 - 5.00	14/14/16/12	30	49				Tan and light brown, damp, dense, fine to medium SAND, trace gravel, poorly-graded (FILL)	
3D	24/18	5.00 - 7.00	5/6/6/7	12	19				Tan, damp, medium dense, fine to medium SAND, little clay/silt, trace gravel, well-graded (FILL)	GTX #621764 WC = 8.1% Fines = 18.3% A-2-4(0). SC
4D	24/17	7.00 - 9.00	10/9/7/6	16	26				Tan, damp, medium dense, Clayey fine SAND, trace coarse sand, poorly-graded (FILL)	
5D	24/13	9.00 - 11.00	5/7/5/5	12	19				Tan, damp, medium dense, Clayey fine SAND, trace coarse sand, poorly-graded (FILL)	WC = 12.4%
6D	24/19	11.00 - 13.00	3/3/4/4	7	11		143.6		6DA. Top 12 in: Tan, damp, medium dense, fine to medium SAND, little clay, trace coarse sand, poorly-graded (FILL) — 12.0	
									6DB. Bottom 7 in: Light brown and grey, damp, stiff, Sandy CLAY, moderately plastic (GLACIMARINE)	
7D	24/14	15.00 - 17.00	3/2/1/3	3	5				Grey, wet, medium stiff, Silty CLAY, little sand, trace gravel (From wash). T_v=1400 psf, q_u=0.1 ksf, slightly plastic (GLACIMARINE)	
8D	24/13	20.00 - 22.00	WOH/WOH/4/4	4	6				Grey, wet, medium stiff, Silty CLAY, little sand, T_v=1400 psf, q_u=0.1 ksf, slightly plastic (GLACIMARINE)	GTX #621765, 621757 WC = 29.3% Fines = 87.1% LL = 29 PL = 18 PI = 11 LI = 1 A-6. CL
9D	24/22	25.00 - 27.00	1/2/2/2	4	6		128.6		Grey, wet, medium stiff, Silty CLAY, T_v=1300 psf, q_u=0.1 ksf, slightly to moderately plastic (GLACIMARINE) — 27.0	
									Bottom of Exploration at 27.0 feet below ground surface. Backfilled with gravel and topped with cold patch.	

Remarks:
Hammer calibration obtained from SW Cole calibration report.
As-drilled elevations are derived from survey files within the emails titled "FW Exit 20 and 22 Borings and Probes Freeport" received by Golder on June 11 and June 28, 2021 from MaineDOT.
Water level was measured 15 minutes after the completion of the drilling while casing was still in the hole.

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-FMD-203

Maine Department of Transportation — Soil/Rock Exploration Log

US CUSTOMARY UNITS

Project: I-295 Mallet Drive Bridge Replacement
Location: Freeport, Maine

Boring No.: BB-FMD-205
WIN: 021726.00

Driller: SW Cole	Elevation (ft.): 147.0	Auger ID/OD: 2.5 in
Operator: S. Shaw	Datum: NAD83 (2011) Maine 2000 West	Sampler: Standard Split Spoon
Logged By: J. Sedam	Rig Type: Diedrich D-50	Hammer Wt./Fall: 140 lbs/30 in
Date Start/Finish: 06/10/21 (0)8130)6/10/21 (0)9)50)	Drilling Methods: Pin Auger / Cased Wash	Core Barrel: NO
Boring Location: N 3180781.491 ft, E 1054116.836 ft	Casing ID/OD: 5.5 in	Water Level*: No measurement
Hammer Efficiency Factor: 0.974	Hammer Type: Automatic ☐ Hydraulic ☒	Rope & Cathead ☐

Soil Descriptions
B = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
WC = Wash Core
RDH = Height of Hammer Fall
SPT = Standard Penetration Test
q_u = Unconfined Compressive Strength (tsf)
S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf)
$S_{u(LAB)}$ = Lab Vane Undrained Shear Strength (psf)
S_t = Sensitivity
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
E_{50} = Strain at 50% Stress
C = Consolidation Test

Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows / 6 in. Shear Strength (psf) or RQD (%)	Unconfined	% Fines	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class
1D	24/7	0.00 - 2.00	3/2/4/6	6	10				1DA. Top 2 in: Brown, dry, loose, fine to medium SAND, trace gravel, trace silt, trace organics, poorly-graded (FILL)	GTX #621776 WC = 14% Fines = 27.1% A-2-4(0). SM
2D	24/23	2.00 - 4.00	6/7/14/21	21	34				1DB. Bottom 5 in: Reddish brown, dry, loose, fine to medium SAND, some silt, little gravel, trace organics, well-graded (FILL)	
3D	7.29/6	4.00 - 4.60 4.70 - 9.70	34/50(1")/ 50/0 in, 4.6"	50	81	NO	142.3		2D: Reddish brown, dry, loose, fine to medium SAND, some silt, little gravel, trace organics, well-graded (FILL)	
							137.0		3DA. Top 5 in: Brown, damp, very dense, fine to medium SAND, some silt, little gravel, trace organics, well-graded (FILL)	
									3DB. Bottom 5 in: Reddish brown, damp, very dense, fine to coarse SAND, some gravel, some silt, well-graded (FILL)	
									Top of bedrock at elev. 142.3 ft. — 4.7	
									Grey, fine grained, strongly foliated, SCHIST, very strong (R5), fresh to slightly weathered (W1 to W2), Discontinuities low angle to vertical (5-90 deg) and very closely to closely spaced (0.2-2 ft). [VASSALBORO FORMATION] Rock Mass Quality: POOR Rock Core Rate (minisec) 4.7-5.7 ft (2:21) 5.7-6.7 ft (2:19) 6.7-7.7 ft (2:15) 7.7-8.7 ft (1:49) 8.7-9.7 ft (2:38) 100% Recovery	
									Bottom of Exploration at 10.0 feet below ground surface. Backfilled with gravel and topped with cold patch. — 10.0	

Remarks:
Hammer calibration obtained from SW Cole calibration report.
As-drilled elevations are derived from survey files within the emails titled "FW Exit 20 and 22 Borings and Probes Freeport" received by Golder on June 11 and June 28, 2021 from MaineDOT.

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-FMD-205

Maine Department of Transportation — Soil/Rock Exploration Log

US CUSTOMARY UNITS

Project: I-295 Mallet Drive Bridge Replacement
Location: Freeport, Maine

Boring No.: BB-FMD-206
WIN: 021726.00

Driller: SW Cole	Elevation (ft.): 169.1	Auger ID/OD: 2.5 in
Operator: J. Layfield	Datum: NAD83 (2011) Maine 2000 West	Sampler: Standard Split Spoon
Logged By: B. Kurtoglu	Rig Type: Diedrich D-50	Hammer Wt./Fall: 140 lbs/30 in
Date Start/Finish: 06/07/21 (2214031)6/07/21 (2)1)5))	Drilling Methods: Pin Auger / Cased Wash	Core Barrel: NO
Boring Location: N 3)5746.32 ft, E 1054891.826 ft	Casing ID/OD: 5.5 in	Water Level*: 14.3 ft
Hammer Efficiency Factor: 0.974	Hammer Type: Automatic ☐ Hydraulic ☒	Rope & Cathead ☐

Soil Descriptions
B = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
WC = Wash Core
RDH = Height of Hammer Fall
SPT = Standard Penetration Test
q_u = Unconfined Compressive Strength (tsf)
S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf)
$S_{u(LAB)}$ = Lab Vane Undrained Shear Strength (psf)
S_t = Sensitivity
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
E_{50} = Strain at 50% Stress
C = Consolidation Test

Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows / 6 in. Shear Strength (psf) or RQD (%)	Unconfined	% Fines	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class
1D	24/16	0.00 - 2.00	7/11/13/15	24	39				White and light brown, damp, dense, Gravelly fine to coarse SAND, little silt, trace organics, well-graded (FILL)	
2D	24/15	2.00 - 4.00	16/22/15/11	37	60				White and tan, dry, very dense, fine to coarse Sandy GRAVEL, little silt, trace organics, well-graded (FILL)	
3D	24/11	4.00 - 6.00	12/10/28/22	38	62				Brown, damp, very dense, fine to coarse Sandy GRAVEL, little silt, well-graded (FILL)	GTX #621766 WC = 7.0% Fines = 10.4% A-1-a. GW
4D	24/16	6.00 - 8.00	7/5/9/8	14	23	27			4DA. Top 4 in: Dark brown, damp, medium dense, fine to coarse SAND, little gravel, little silt, well-graded (FILL)	
						31			4DB. Bottom 12 in: Tan, damp, medium dense, fine to medium SAND, some silt, trace gravel, poorly-graded (FILL)	GTX #621767 WC = 8.4% Fines = 9.3% A-3. SP-SM
5D	24/3	8.00 - 10.00	12/12/15/8	27	44	42			5DA. Brown, damp, dense, fine to medium SAND, trace silt, poorly-graded (FILL)	
						36			5DB. Greyish tan, moist, medium dense, fine to coarse SAND, little silt, trace gravel, well-graded (FILL)	
6D	24/9	10.00 - 12.00	8/4/6/4	10	16					
7D	24/10	15.00 - 17.00	7/29/20/9	49	80	17			7DA. Top 6 in: Grey, moist, very dense, Gravelly SAND, little clay/silt, well-graded (FILL)	GTX #621768 WC = 13.0% Fines = 18.4% A-1-b. SC
						21			7DB. Bottom 4 in: Orange brown, moist, very dense, Gravelly fine to medium SAND, little silt, poorly-graded (FILL)	
R1	60/44	17.50 - 22.50	ROD = 14%			12	151.6		Top of bedrock at elev. 151.6 ft. — 17.5	
						11			Dark grey, fine grained, SCHIST, extremely strong (R6), moderately weathered (W3), discontinuities horizontal to moderately dipping (0-40 deg), close to very closely spaced (0.05-0.3 ft). [VASSALBORO FORMATION] Rock Mass Quality: VERY POOR Rock Core Rate (minisec) 17.5-18.5 ft (2:02) 18.5-19.5 ft (1:53) 19.5-20.5 ft (1:40) 20.5-21.5 ft (1:07) 21.5-22.5 ft (1:15) 73% Recovery	
						13				
						39	146.6		Bottom of Exploration at 22.5 feet below ground surface. Backfilled with gravel and topped with cold patch. — 22.5	

Remarks:
Hammer calibration obtained from SW Cole calibration report.
As-drilled elevations are derived from survey files within the emails titled "FW Exit 20 and 22 Borings and Probes Freeport" received by Golder on June 11 and June 28, 2021 from MaineDOT.
Water level was measured 15 minutes after the completion of the drilling while casing was still in the hole.

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-FMD-206

Maine Department of Transportation — Soil/Rock Exploration Log

US CUSTOMARY UNITS

Project: I-295 Mallet Drive Bridge Replacement
Location: Freeport, Maine

Boring No.: BB-FMD-207
WIN: 021726.00

Driller: SW Cole	Elevation (ft.): 169.6	Auger ID/OD: 2.5 in
Operator: J. Layfield	Datum: NAD83 (2011) Maine 2000 West	Sampler: Standard Split Spoon
Logged By: B. Kurtoglu	Rig Type: Diedrich D-50	Hammer Wt./Fall: 140 lbs/30 in
Date Start/Finish: 06/07/21 (2221110)6/08/21 (0)1)1)	Drilling Methods: Pin Auger / Cased Wash	Core Barrel: NO
Boring Location: N 3)7112.)75 ft, E 1054910.126 ft	Casing ID/OD: 5.5 in	Water Level*: 16.3 ft
Hammer Efficiency Factor: 0.974	Hammer Type: Automatic ☐ Hydraulic ☒	Rope & Cathead ☐

Soil Descriptions
B = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
WC = Wash Core
RDH = Height of Hammer Fall
SPT = Standard Penetration Test
q_u = Unconfined Compressive Strength (tsf)
S_u = Peak/Remolded Field Vane Undrained Shear Strength (psf)
$S_{u(LAB)}$ = Lab Vane Undrained Shear Strength (psf)
S_t = Sensitivity
LL = Liquid Limit
PL = Plastic Limit
PI = Plasticity Index
E_{50} = Strain at 50% Stress
C = Consolidation Test

Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows / 6 in. Shear Strength (psf) or RQD (%)	Unconfined	% Fines	Casing Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ AASHTO and Unified Class
1D	24/18	0.80 - 2.80	14/16/16/17	32	52		168.8		Asphalt thickness of 10 in (ASPHALT) — 0.8	
2D	24/17	2.80 - 4.80	12/11/9/6	20	32				Tan, damp, very dense, fine to coarse SAND, some gravel, trace silt, well-graded (FILL)	
3D	24/10	4.80 - 6.80	8/9/5/7	18	29				Tan, damp, medium dense, fine to coarse SAND, little gravel, well-graded (FILL)	
4D	24/16	6.80 - 8.80	6/4/4/4	8	13				Tan, damp, medium dense, fine to medium SAND, trace gravel, trace silt, well-graded (FILL)	GTX #621769 WC = 4.2% Fines = 8.0% A-3. SP-SM
5D	24/21	8.80 - 10.80	6/8/9/15	16	26				Tan, damp, medium dense, fine to medium SAND, trace gravel, trace silt, trace sand, poorly-graded (FILL)	
6D	24/20	10.80 - 12.80	11/11/10/15	21	34				Tan, damp, dense, fine to medium SAND, trace silt, poorly-graded (FILL)	GTX #621770 WC = 6.9% Fines = 9.4% A-3. SP-SM
						15				
7D	6/6	15.00 - 15.50	50(6")	50	81	52			Brown, damp, very dense, fine to medium SAND, trace gravel, little rock chips in shoe, well-graded (FILL)	
						21			Driller notes boulder from 15.5 to 16.7 ft bgs	
						16				
						11				
						13				
						39				
8D	10/6	20.50 - 21.33	13/50(4")	50	81		148.9		8DA. Top 2 in: Brown and grey, moist, very dense, Sandy GRAVEL, little silt, well-graded (FILL) — 20.7	8DB: GTX #621771, 621758 WC = 26.5% Fines = 71.5% Non-plastic A-4. ML
							144.1		8DB. Bottom 4 in: Tan, moist, hard, SILT, some sand, trace gravel, non-plastic (GLACIMARINE)	
									Bottom of Exploration at 25.5 feet below ground surface. Backfilled with gravel and topped with cold patch. — 25.5	

Remarks:
Hammer calibration obtained from SW Cole calibration report.
As-drilled elevations are derived from survey files within the emails titled "FW Exit 20 and 22 Borings and Probes Freeport" received by Golder on June 11 and June 28, 2021 from MaineDOT.
Water level was measured 15 minutes after the completion of the drilling while casing was still in the hole.

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-FMD-207

GOLDER
MEMBER OF WSP

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

021726.00
WIN
021726.00
Bridge No. 5721
BRIDGE PLANS

STATE OF MAINE — CHRISTOPHER C. BENDA No. 15164 — REGISTERED PROFESSIONAL ENGINEER

	BY	DATE
DESIGNED	MEL	
DETAILED	KAR	21/08/25
CHECKED	MPB	21/09/07
QUALITY CONTROL	MPB	
APPROVED		

P.E. NUMBER 15164
SIGNATURE
DATE 09/07/2021

PROJ. MANAGER	
DESIGN-DETAILED	KAR
CHECKED-REVIEWED	CCB/MEL
DESIGN2-DETAILED2	
DESIGN3-DETAILED3	
REVISIONS 1	
REVISIONS 2	
REVISIONS 3	
REVISIONS 4	
FIELD CHANGES	

APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

BORING LOGS

SHEET NUMBER
19
OF 144

Filename: 21450910_0002_008 Division: Username: Date:2021-07-02

Username:
Division:
Filename: 21450910_0002_009
Date:2021-07-02

Maine Department of Transportation — BB-FMD-208

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: I-295 Mallet Drive Bridge Replacement
Locations: Freeport, Maine

Boring No.: BB-FMD-208
WIN: 021726.00

Driller: SW Cole	Elevation (ft.): 166.0	Auger ID/OD: 2.5 in	
Operator: J. Layfield	Datum: NAD83 (2011) Maine 2000 West	Sampler: Standard Split Spoon	
Logged By: B. Kurtoglu	Rig Type: Diedrich D-50	Hammer Wt./Fall: 140 lbs/30 in	
Date Start/Finish: 06/07/21 (21121106/07/21)	Drilling Methods: Pin Auger / Cased Wash	Core Barrel: NQ	
Boring Location: N 3159857.054 ft, E 1054762.839 ft	Casing ID/OD: 5.5 in	Water Level*: 13.6 ft	
Hammer Efficiency Factor: 0.974	Hammer Type: Automatic ☐ Hydraulic ☒	Rope & Cathead ☐	

Definitions:
S = Split Spoon Sample
SS = Split Spoon Sample Attempt
U = Thin Wall Tube Sample
WO = Unsuccessful Thin Wall Tube Sample Attempt
V = Field Vane Shear Test; PP = Pocket Penetrometer
VW = Unsuccessful Field Vane Shear Test Attempt
R = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
BDR = Weight of 140lb. Hammer
WOR/C = Weight of Rods or Casing
WOH = Weight of One Person
q_u = Peak/Remolded Field Vane Unconfined Shear Strength (psf)
$s_{u(lab)}$ = Lab Vane Undrained Shear Strength (psf)
q_p = Unconfined Compressive Strength (tsf)
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 (tsf)
MC = 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	1D	24/18	0.80 - 2.80	17/13/15/17	28	45		165.2		Asphalt thickness of 10 in (ASPHALT)	
								165.0		Tan, dry, dense, fine to coarse SAND, some gravel, trace silt, well-graded (FILL)	
	2D	24/24	2.80 - 4.80	12/14/13/10	27	44				Tan, dry, dense, fine to coarse SAND, some gravel, trace silt, well-graded (FILL)	
5	3D	24/18	4.80 - 6.80	10/10/8/11	18	29	44			Tan, dry, medium dense, fine to coarse SAND, little gravel, trace silt, well-graded (FILL)	
	4D	24/17	6.80 - 8.80	8/13/13/14	26	42	107			Tan, dry, dense, fine to coarse SAND, trace gravel, trace silt, poorly-graded (FILL)	
	5D	24/19	8.80 - 10.80	7/8/11/17	19	31	78				WC = 6.2%
							54	157.2		Tan, damp, dense, fine to coarse SAND, some gravel, little silt, well-graded (SAND AND GRAVEL)	
10							162	157.0			
	6D	24/16	10.80 - 12.80	10/11/13/11	24	39				Tan and white, damp, dense, fine to coarse SAND, some gravel, little silt, well-graded (SAND AND GRAVEL)	6D: GTX #621772 WC = 6.3% Fines = 11.7% A-1-a, SM
	7D	24/8	15.00 - 17.00	5/15/15/12	30	49				Greyish tan, damp, dense, GRAVEL, some fine to coarse sand, trace silt, well-graded (SAND AND GRAVEL)	7D: GTX #621773 WC = 6.3% Fines = 5.1% A-1-a, GW
15							22				
	R1	60/56	18.50 - 23.50	RQD = 76%			137 MD	147.5		Top of bedrock at elev. 147.5 ft.	
								142.5		Grey, fine grained, strongly foliated, SCHIST, strong to very strong (R4 to R5), slightly to moderately weathered (W2 to W3). Discontinuities low to moderately dipping (15-35 deg) and very closely to closely spaced (70.05-0.6 ft). [VASSALBORO FORMATION] RMR Mass Quality: GOOD Rock Core Rate (minspec) 18.5-19.5 ft (5:12) 19.5-20.5 ft (14:15) 20.5-21.5 ft (1:50) 21.5-22.5 ft (22:48) 22.5-23.5 ft (2:37) 93% Recovery	
20											
25											
30											
35											
40											
45											
50											
										Bottom of Exploration at 23.5 feet below ground surface. Backfilled with gravel and topped with cold patch.	

Remarks:
Hammer calibration obtained from SW Cole calibration report.
As-drilled elevations are derived from survey files within the emails titled "FW Exit 20 and 22 Borings and Probes Freeport" received by Golder on June 11 and June 28, 2021 from MaineDOT.
Water level was measured 15 minutes after the completion of the drilling while casing was still in the hole.

Stratification lines represent approximate boundaries between soil typest 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-FMD-208

Maine Department of Transportation — BB-FMD-209

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: I-295 Mallet Drive Bridge Replacement
Locations: Freeport, Maine

Boring No.: BB-FMD-209
WIN: 021726.00

Driller: SW Cole	Elevation (ft.): 172.3	Auger ID/OD: 2.5 in	
Operator: J. Layfield	Datum: NAD83 (2011) Maine 2000 West	Sampler: Standard Split Spoon	
Logged By: B. Kurtoglu	Rig Type: Diedrich D-50	Hammer Wt./Fall: 140 lbs/30 in	
Date Start/Finish: 06/08/21 (21121106/07/21)	Drilling Methods: Pin Auger / Cased Wash	Core Barrel: NQ	
Boring Location: N 3159530.836 ft, E 1054958.721 ft	Casing ID/OD: 5.5 in	Water Level*: DRY at 20.8 ft	
Hammer Efficiency Factor: 0.974	Hammer Type: Automatic ☐ Hydraulic ☒	Rope & Cathead ☐	

Definitions:
S = Split Spoon Sample
SS = Split Spoon Sample Attempt
U = Thin Wall Tube Sample
WO = Unsuccessful Thin Wall Tube Sample Attempt
V = Field Vane Shear Test; PP = Pocket Penetrometer
VW = Unsuccessful Field Vane Shear Test Attempt
R = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
BDR = Weight of 140lb. Hammer
WOR/C = Weight of Rods or Casing
WOH = Weight of One Person
q_u = Peak/Remolded Field Vane Unconfined Shear Strength (psf)
$s_{u(lab)}$ = Lab Vane Undrained Shear Strength (psf)
q_p = Unconfined Compressive Strength (tsf)
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 (tsf)
MC = 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	1D	24/17	0.70 - 2.70	10/11/14/17	25	41		171.6		Asphalt thickness of 8 in (ASPHALT)	
								171.0		Tan, dry, dense, fine to coarse SAND, some gravel, trace silt, rock chips in shoe, well-graded (FILL)	
	2D	24/19	2.70 - 4.70	15/11/17/15	28	45				Tan, dry, dense, fine to coarse SAND, some fine gravel, trace silt, well-graded (FILL)	
5	3D	24/9	4.70 - 6.70	5/5/12/8	17	28					
	4D	24/21	6.70 - 8.70	6/6/5/4	11	18				Greyish tan, dry, medium dense, fine to coarse SAND, little silt, trace gravel, well-graded (FILL)	GTX #621774 WC = 2.8% Fines = 13.9% A-2-4(0), SM
	5D	24/24	8.70 - 10.70	7/6/8/8	14	23				Tan, dry, medium dense, fine to medium SAND, little gravel, little silt, well-graded (FILL)	
10										Tan, damp, medium dense, gravelly fine to medium SAND, trace silt, well-graded (FILL)	WC = 5.8%
	6D	24/16	10.70 - 12.70	8/14/13/10	27	44	32				
							24	161.1		6DA. Top 6 in: Brown, damp, dense, fine to coarse SAND, little gravel, trace silt, well-graded (FILL)	
							28	159.2		6DB. Bottom 10 in: Tan, damp, dense, Silty SAND, trace gravel (SAND AND GRAVEL)	
							101				
							65				
15	7D	18/17	15.00 - 16.50	6/14/50(6")	64	104	19	156.5		7DA. Top 3 in: Tan, damp, very dense, fine to medium SAND, trace silt, poorly-graded (SAND AND GRAVEL)	7DB: GTX #621775, 621779 WC = 27.3% Fines = 81% LL = 25 PL = 17 PI = 8 LI = 1.3 A-4, CL
							117	156.2		7DB. Middle 11 in: Grey, moist, hard, Silty CLAY, little sand, trace gravel, T_v=13000 psf, q_p=5.1 ksf, slightly plastic (GLACIOMARINE)	
								156.2		7DC. Bottom 4 in: Grey and black, dry, very dense, Sandy GRAVEL, trace silt, well-graded (SAND AND GRAVEL)	
								152.3		Driller notes boulder from 18.9 to 20 ft bgs	
20	8D	8/7	20.00 - 20.67	62/50(2")	50	81		151.5		8DA. Top 2 in: Dark grey, moist, very dense, Sandy GRAVEL, trace silt, well-graded (SAND AND GRAVEL)	
								151.3		Fractured rock from 20 to 20.7 ft bgs. Production ceased at 20.8 ft bgs due to water loss in this formation.	
25										Bottom of Exploration at 20.8 feet below ground surface. Backfilled with gravel and topped with cold patch.	
30											
35											
40											
45											
50											

Remarks:
Hammer calibration obtained from SW Cole calibration report.
As-drilled elevations are derived from survey files within the emails titled "FW Exit 20 and 22 Borings and Probes Freeport" received by Golder on June 11 and June 28, 2021 from MaineDOT.
Water level was measured 15 minutes after the completion of the drilling while casing was still in the hole.

Stratification lines represent approximate boundaries between soil typest 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-FMD-209

Maine Department of Transportation — BB-FMD-210

Soil/Rock Exploration Log
US CUSTOMARY UNITS

Project: I-295 Mallet Drive Bridge Replacement
Locations: Freeport, Maine

Boring No.: BB-FMD-210
WIN: 021726.00

Driller: SW Cole	Elevation (ft.): 171.1	Auger ID/OD: 2.5 in	
Operator: J. Layfield	Datum: NAD83 (2011) Maine 2000 West	Sampler: Standard Split Spoon	
Logged By: B. Kurtoglu	Rig Type: Diedrich D-50	Hammer Wt./Fall: 140 lbs/30 in	
Date Start/Finish: 06/08/21 (21121106/07/21)	Drilling Methods: Pin Auger / Cased Wash	Core Barrel: NQ	
Boring Location: N 3159658.207 ft, E 1054898.191 ft	Casing ID/OD: 5.5 in	Water Level*: 18.3 ft	
Hammer Efficiency Factor: 0.974	Hammer Type: Automatic ☐ Hydraulic ☒	Rope & Cathead ☐	

Definitions:
S = Split Spoon Sample
SS = Split Spoon Sample Attempt
U = Thin Wall Tube Sample
WO = Unsuccessful Thin Wall Tube Sample Attempt
V = Field Vane Shear Test; PP = Pocket Penetrometer
VW = Unsuccessful Field Vane Shear Test Attempt
R = Rock Core Sample
SSA = Solid Stem Auger
HSA = Hollow Stem Auger
RC = Roller Cone
BDR = Weight of 140lb. Hammer
WOR/C = Weight of Rods or Casing
WOH = Weight of One Person
q_u = Peak/Remolded Field Vane Unconfined Shear Strength (psf)
$s_{u(lab)}$ = Lab Vane Undrained Shear Strength (psf)
q_p = Unconfined Compressive Strength (tsf)
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 (tsf)
MC = 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	1D	8/8	0.90 - 1.57	19/50(2")	50	81		170.2		Asphalt thickness of 11 in (ASPHALT)	
								169.9		Tan and white, dry, very dense, fine to coarse SAND, little gravel, well-graded (FILL)	
	2D	24/20	2.00 - 4.00	5/11/12/9	23	37				Tan, dry, dense, fine to coarse SAND, little gravel, trace silt, well-graded (FILL)	
5	3D	24/17	4.00 - 6.00	2/3/6/7	9	15				Tan, dry, medium dense, fine to coarse SAND, trace silt, well-graded (FILL)	
	4D	24/14	6.00 - 8.00	4/4/5/4	9	15				Tan, dry, medium dense, fine to coarse SAND, trace gravel, trace silt, well-graded (FILL)	
	5D	24/12	8.00 - 10.00	5/5/8/8	13	21				Tan, damp, medium dense, fine to coarse SAND, little gravel, trace silt, well-graded (FILL)	
10	6D	24/18	10.00 - 12.00	8/6/14/10	20	32				Tan, damp, dense, fine to coarse SAND, some gravel, trace silt, well-graded (FILL)	WC = 9.8%
15	7D	24/14	15.00 - 17.00	18/16/8/46	24	39	34	155.6		7DA. Top 6 in: Tan, damp, dense, fine to coarse SAND, some silt, trace gravel, well-graded (FILL)	7DA: GTX #621977 WC = 10.4% Fines = 26.8% A-2-4(0), SM
							72	155.5		7DB. Bottom 8 in: Grey and black, damp, dense, Sandy GRAVEL, well-graded (SAND AND GRAVEL) Driller Notes: Multiple boulders (approx. 1 ft thick) between 17 and 25 ft bgs.	
							354				
							251				
20							157				
	8D	4/4	20.00 - 20.33	50(4")	50	81				Tan and grey, wet, very dense, coarse SAND, little gravel, little silt, well- graded (SAND AND GRAVEL)	WC = 15.9%
25											
	9D	4/5	25.00 - 25.33	50(5")	50	81		145.7		Dark grey, moist, very dense, Silty fine to coarse SAND, little gravel, well-graded (SAND AND GRAVEL)	
30								145.4		Bottom of Exploration at 25.4 feet below ground surface. Backfilled with gravel and topped with cold patch.	
35											
40											
45											
50											

Remarks:
Hammer calibration obtained from SW Cole calibration report.
As-drilled elevations are derived from survey files within the emails titled "FW Exit 20 and 22 Borings and Probes Freeport" received by Golder on June 11 and June 28, 2021 from MaineDOT.
Water level was measured 15 minutes after the completion of the drilling while casing was still in the hole.

Stratification lines represent approximate boundaries between soil typest 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-FMD-210

Test Boring Designation[1]	As-Drilled Locations[2,3] Stationing	Offset (ft)	Existing Ground Surface Elevation[2] (ft)	Boring Depth[3,4] (ft)	Bedrock Elevation[3,4] (ft)	Bedrock Depth[3,4] (ft)
RP-FMD-204	29+80.3	11.6 RT	180.8	33.0	-	-
RP-FMD-209	32+16.1	13.6 LT	166.4	16.0	150.4	16
RP-FMD-210	32+18.3	1.2 LT	166.7	15.0	151.7	15
RP-FMD-211	32+21.5	9.6 RT	166.2	15.5	150.7	15.5

Notes:
1. Rock probes RP-FMD-2XX were performed by Maine Drilling and Blasting on June 9 and June 23, 2021.
2. Rock probe (RP-FMD-XXX) locations are illustrated in Sheets entitled "Boring Location Plan".
3. As-drilled locations and elevations for RP-FMD-2XX are derived from survey files within the emails titled "FW Exit 20 and 22 Borings and Probes Freeport" received by Golder on June 11 and June 28, 2021 from MaineDOT.
4. With respect to pre-construction topographic elevations.
5. Top of rock not reached due to rock probe rig mechanical limitations.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

021726.00
WIN
021726.00
Bridge No. 5721
BRIDGE PLANS

STATE OF MAINE
CHRISTOPHER C. BENDA
No. 15164
LICENSED PROFESSIONAL ENGINEER

P.E. NUMBER	15164		
SIGNATURE			
DATE	09/07/2021		

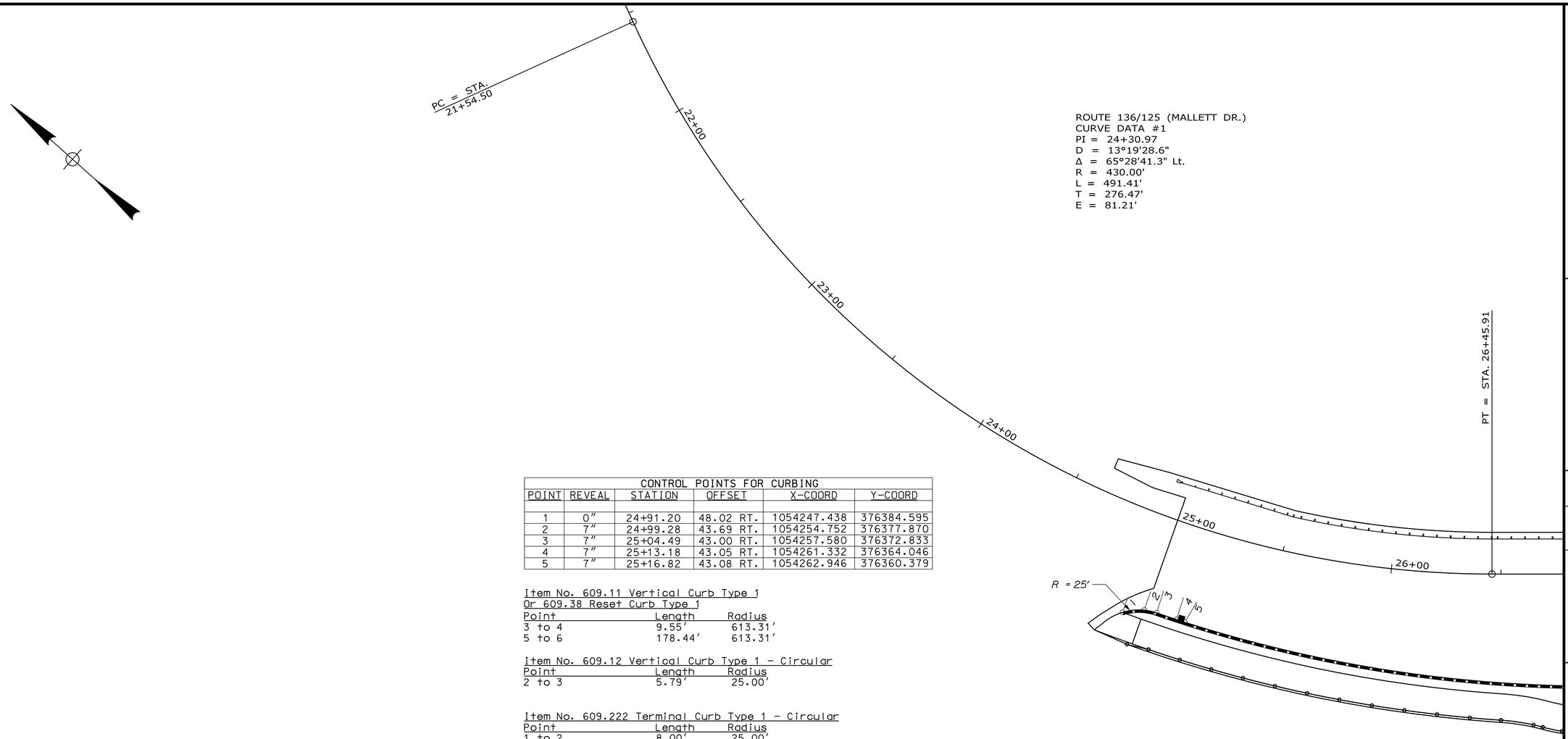
PROJ. MANAGER	KAR		
DESIGN-DETAILED	MPB	21/08/25	
CHECKED-REVIEWED	CCB/MEL	21/09/07	
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES	MEL	BY	DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

BORING LOGS

SHEET NUMBER
20
OF 144

GOLDER
MEMBER OF WSP



CONTROL POINTS FOR CURBING					
POINT	REVEAL	STATION	OFFSET	X-COORD	Y-COORD
1	0″	24+91.20	48.02 RT.	1054247.438	376384.595
2	7″	24+99.28	43.69 RT.	1054254.752	376377.870
3	7″	25+04.49	43.00 RT.	1054257.580	376372.833
4	7″	25+13.18	43.05 RT.	1054261.332	376364.046
5	7″	25+16.82	43.08 RT.	1054262.946	376360.379

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

Point	Length	Radius
3 to 4	9.55′	613.31′
5 to 6	178.44′	613.31′

Item No. 609.12 Vertical Curb Type 1 - Circular

Point	Length	Radius
2 to 3	5.79′	25.00′

Item No. 609.222 Terminal Curb Type 1 - Circular

Point	Length	Radius
1 to 2	8.00′	25.00′

PLAN

25 0 25 50

Scale of Feet

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

SIGNATURE

P.E. NUMBER

DATE

	BY	DATE
M. Kersbergen		
DESIGN-DETAILED	DEB	08\21
CHECKED-REVIEWED	LZD	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

CURBING & GEOMETRIC PLAN 1

SHEET NUMBER

21

OF 144

HNTB

Filename: 021_Geometric Plan 1.dgn Division: Username: Date:8/27/2021

Item No. 609.34 Curb Type 5

Point	Length	Radius
40 to 41	181.97′	–
44 to 45	131.60′	–
48 to 49	130.45′	–
52 to 53	183.13′	–

Item No. 609.34 Curb Type 5 – Modified

Point	Length	Radius
41 to 42	92.54′	–
42 to 43	110.55′	–
43 to 44	33.90′	–
49 to 50	35.06′	–
50 to 51	110.55′	–
51 to 52	91.37′	–

Item No. 609.35 Curb Type 5 – Circular

Point	Length	Radius
40 to 53	6.28′	2.00′

Item No. 609.12 Vertical Curb Type 1 – Circular

Point	Length	Radius
6 to 7	9.35′	30.00′
14 to 15	9.42′	3.00′

Item No. 609.222 Terminal Curb Type 1 – Circular

Point	Length	Radius
7 to 8	15.00′	30.00′
30 to 31	8.00′	25.00′

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

Point	Length	Radius
10 to 11	49.33′	267.86′
12 to 13	187.22′	348.00′
13 to 14	11.93′	–
15 to 16	11.93′	–
16 to 17	7.93′	342.00′
18 to 19	26.18′	342.00′
20 to 21	155.70′	342.00′
21 to 22	98.62′	282.00′
22 to 23	15.44′	–
31 to 32	74.87′	140.00′
32 to 33	8.00′	–
33 to 34	80.77′	–
34 to 35	8.00′	–
35 to 36	10.67′	–
60 to 61	21.98′	–
61 to 62	8.00′	–
62 to 63	92.03′	–
63 to 64	26.75′	–

PT = STA. 26+45.91

Sta. 27+57.59 Route 136/125 (Mallett Dr.)
= Sta. 200+00.00 I-295 SB Ramp

ROUTE 136/125
(MALLETT DR.)
CURVE DATA #2
PI = 33+50.00
Δ = 0°10'20.1" Lt.

PI = STA. 33+50.00

MULTI-USE PATH
CURVE DATA #1
PI = 8+10.55
D =212°12'23.7"
Δ = 23°29'42.6" Lt.
R = 27.00'
L = 11.07'
T = 5.61'
E = 0.58'

MULTI-USE PATH
CURVE DATA #2
PI = 8+68.33
D = 95°29'34.7"
Δ = 23°29'42.6" Rt.
R = 60.00'
L = 24.60'
T = 12.48'
E = 1.28'

MULTI-USE PATH
CURVE DATA #3
PI = 12+50.00
Δ = 1°58'51.2" Rt.

PI = STA. 12+50.00

MULTI-USE PATH
CURVE DATA #4
PI = 13+50.04
Δ = 2°09'08.8" Lt.

PI = STA. 13+50.04

I-295
CURVE DATA #1
PI = 1236+14.59
D = 0°55'54.4"
Δ = 39°14'46.9" Rt.
R = 6149.10'
L = 4212.00'
T = 2192.40'
E = 379.15'

I-295 SB ON/OFF RAMP
CURVE DATA #1
PI = 201+91.29
D = 16°51'06.1"
Δ = 33°08'18.2" Lt.
R = 340.00'
L = 196.65'
T = 101.16'
E = 14.73'

I-295 SB ON/OFF RAMP
CURVE DATA #2
PI = 203+41.40
D = 20°27'46.0"
Δ = 22°04'39.6" Lt.
R = 280.00'
L = 107.89'
T = 54.62'
E = 5.28'

I-295 SB ON/OFF RAMP
CURVE DATA #3
PI = 205+70.35
D = 40°55'32.0"
Δ =102°53'53.8" Lt.
R = 140.00'
L = 251.43'
T = 175.68'
E = 84.64'

PT = STA. 8+80.46
PC = STA. 8+55.86
PT = STA. 8+16.00
PC = STA. 8+04.93
Sta. 27+97.66, 71.6' Rt. Route 136/125 (Mallett Dr.)
= 7+93.36 Multi-Use Path
PC = STA. 200+90.13
PCC = STA. 202+86.77
PCC = STA. 203+94.67

S41°39'15.83"E
S48°20'44.17"W

R = 140′
R = 30′
R = 90′
R = 25′
R = 147′

27+00 28+00 29+00 30+00 31+00 32+00 33+00
8+00 9+00 10+00 12+00 13+00
200+00 201+00 202+00 203+00 204+00
1227+00 1228+00 1226+00

CONTROL POINTS FOR CURBING					
POINT	REVEAL	STATION	OFFSET	X-COORD	Y-COORD
5	7″	26+81.44	50.90 RT.	1054357.896	376210.045
6	7″	26+90.61	52.51 RT.	1054362.788	376202.124
7	0″	27+03.03	60.64 RT.	1054364.969	376187.442
10	4″	203+25.00	7.42 RT.	1054262.238	375925.727
11	7″	202+76.95	8.00 RT.	1054272.132	375973.988
12	7″	202+73.05	8.00 RT.	1054273.314	375977.809
13	7″	200+90.13	8.00 RT.	1054373.877	376133.059
14	7″	200+78.20	8.00 RT.	1054382.791	376140.988
15	7″	200+78.20	2.00 RT.	1054386.778	376136.505
16	7″	200+90.13	2.00 RT.	1054377.865	376128.576
17	7″	200+98.01	2.00 RT.	1054372.000	376123.236
18	7″	201+01.99	2.00 RT.	1054369.090	376120.492
19	7″	201+28.01	2.00 RT.	1054350.859	376101.715
20	7″	201+31.99	2.00 RT.	1054348.203	376098.726
21	7″	202+86.77	2.00 RT.	1054275.146	375962.755
22	7″	203+84.69	2.00 RT.	1054266.272	375865.043
23	5″	204+00.00	1.47 RT.	1054268.571	375849.774

CONTROL POINTS FOR CURBING					
POINT	REVEAL	STATION	OFFSET	X-COORD	Y-COORD
30	0″	28+03.47	59.64 RT.	1054432.464	376113.061
31	2″	28+09.59	54.54 RT.	1054440.342	376111.878
32	2″	28+80.94	35.00 RT.	1054502.369	376071.554
33	4″	28+88.94	35.00 RT.	1054507.682	376065.573
34	4″	29+69.71	35.00 RT.	1054561.369	376005.226
35	7″	29+77.71	35.00 RT.	1054566.686	375999.249
36	7″	29+88.38	35.00 RT.	1054573.776	375991.279
40	5″	28+00.00	13.00 RT.	1054465.010	376146.652
41	5″	29+81.97	13.00 RT.	1054585.952	376010.692
42	5″	30+74.50	13.00 RT.	1054647.454	375941.553
43	5″	31+84.50	2.00 RT.	1054728.783	375866.675
44	5″	32+18.40	2.00 RT.	1054751.314	375841.347
45	5″	33+50.00	2.00 RT.	1054838.780	375743.019
48	5″	33+50.00	6.00 RT.	1054835.805	375740.356
49	5″	32+19.57	6.00 RT.	1054749.101	375837.819
50	5″	31+84.50	6.00 RT.	1054725.794	375864.017
51	5″	30+74.50	17.00 RT.	1054644.466	375938.894
52	5″	29+83.13	17.00 RT.	1054583.738	376007.163
53	5″	28+00.00	17.00 RT.	1054462.022	376143.993
60	7″	32+28.02	35.00 RT.	1054733.050	375812.227
61	7″	32+50.00	35.00 RT.	1054747.640	375795.792
62	2″	32+58.00	35.00 RT.	1054752.958	375789.815
63	2″	33+50.00	35.00 RT.	1054814.134	375721.060
64	2″	33+76.64	35.00 RT.	1054831.960	375701.155

PLAN

25 0 25 50
Scale of Feet

NOTE:
1. For lengths and station/offset locations of curb type 3, refer to cross sections

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kersbergen	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	LZD	08\21
DESIGN2-DETAILED2	PEK	
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

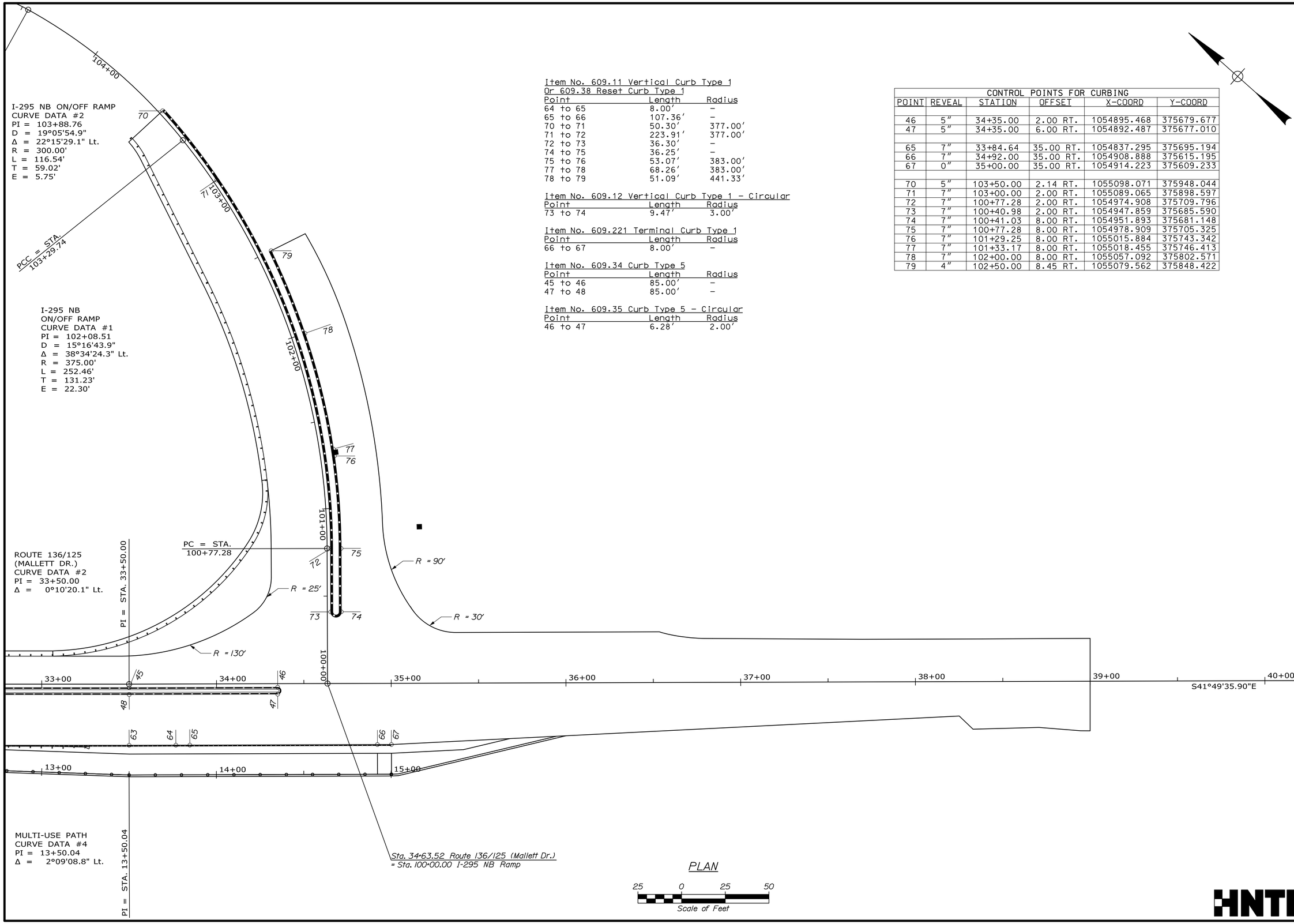
DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

CURBING & GEOMETRIC
PLAN 2

SHEET NUMBER
22
OF 144

Date:8/27/2021
Username:
Division:
Filename: 022_Geometric Plan 2.dgn



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

Point	Length	Radius
64 to 65	8.00′	–
65 to 66	107.36′	–
70 to 71	50.30′	377.00′
71 to 72	223.91′	377.00′
72 to 73	36.30′	–
74 to 75	36.25′	–
75 to 76	53.07′	383.00′
77 to 78	68.26′	383.00′
78 to 79	51.09′	441.33′

Item No. 609.12 Vertical Curb Type 1 – Circular

Point	Length	Radius
73 to 74	9.47′	3.00′

Item No. 609.221 Terminal Curb Type 1

Point	Length	Radius
66 to 67	8.00′	–

Item No. 609.34 Curb Type 5

Point	Length	Radius
45 to 46	85.00′	–
47 to 48	85.00′	–

Item No. 609.35 Curb Type 5 – Circular

Point	Length	Radius
46 to 47	6.28′	2.00′

CONTROL POINTS FOR CURBING

POINT	REVEAL	STATION	OFFSET	X-COORD	Y-COORD
46	5″	34+35.00	2.00 RT.	1054895.468	375679.677
47	5″	34+35.00	6.00 RT.	1054892.487	375677.010
65	7″	33+84.64	35.00 RT.	1054837.295	375695.194
66	7″	34+92.00	35.00 RT.	1054908.888	375615.195
67	0″	35+00.00	35.00 RT.	1054914.223	375609.233
70	5″	103+50.00	2.14 RT.	1055098.071	375948.044
71	7″	103+00.00	2.00 RT.	1055089.065	375898.597
72	7″	100+77.28	2.00 RT.	1054974.908	375709.796
73	7″	100+40.98	2.00 RT.	1054947.859	375685.590
74	7″	100+41.03	8.00 RT.	1054951.893	375681.148
75	7″	100+77.28	8.00 RT.	1054978.909	375705.325
76	7″	101+29.25	8.00 RT.	1055015.884	375743.342
77	7″	101+33.17	8.00 RT.	1055018.455	375746.413
78	7″	102+00.00	8.00 RT.	1055057.092	375802.571
79	4″	102+50.00	8.45 RT.	1055079.562	375848.422

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE PLANS

BRIDGE No. 5721

	BY	DATE
PROJ. MANAGER	M. Kerkhergen	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	LZD	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

CURBING & GEOMETRIC
PLAN 3

SHEET NUMBER
23
OF 144

HNTB

Filename: 023_Geometric Plan 3.dgn Division: Username: Date:8/27/2021

Filename: 024_Signing & Striping 1.dgn Division: Username: Date:8/27/2021

TO INTERSTATE 295 / TO 1 (Retain)

22+00 23+00 24+00 25+00 26+00

125 (Retain)

136 CONTROLLED ACCESS HIGHWAY OFFICIAL HIGHWAY SIGNS ONLY

BROWN DOG INN (Retain)

RECYCLING FACILITY ← 1 MILE (Remove & Reset)

(Remove & Reset)
ONLY
← POWNAL 4
DURHAM 8 →
BRADBURY MTN STATE PARK ← 5 MILES
(Remove & Reset)

(W3-3)

← BRADBURY MOUNTAIN STATE PARK
← HEDGEHOG MOUNTAIN & RECREATION FACILITY
← TRANSFER FACILITY
← PINE TREE ACADEMY
(Retain)

NO POWNAL UNITIED METHODIST CHURCH ← 8½ MI. (Retain)

STOP (Retain)

SPEED LIMIT 30 (Retain)

11.0' 11 18 10.8' 16 11.0' 19 12" SYL Spaced @ 35' O.C. (Typ.)
SDYL
11.0' 12 11.0' 9 5.0' 11.0' 7 STOP BAR (TYP.)
2 1 3
SYL 11.0'
SWL 11.0' 5.0' 11.0'

(D3-1)
MALLETT DR
MALLET DR (Remove)
DURHAM RD (Remove & Reset)
STOP (Remove & Reset)

ONLY (R3-8)

NORTH INTERSTATE 295 SOUTH INTERSTATE 295 (Remove & Reset)

← DURHAM 8
FREEPORT CTR 1 → (Retain)

NO PEDESTRIANS HITCHHIKERS BICYCES MOTORSCOOTERS ANIMALS RIDDEN DRIVEN OR LED FARM EQUIPMENT OVER 96 IN WIDE (Remove & Reset)

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

NOTES:
1. Traffic Signs Associated with the Mast Arms and Pedestal Poles Are Shown on the Signal Plans.
2. See Sign Summary & Striping Layout Tables Sheet for Striping Control Point Information

PLAN
25 0 25 50
Scale of Feet

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
02172600
WIN 021726.00
BRIDGE No. 5721
BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kerbergen	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	LZD	08\21
DESIGN2-DETAILED2	DEB	
DESIGN3-DETAILED3	PEK	
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE
P.E. NUMBER
DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

SIGNING & STRIPING PLAN 1

SHEET NUMBER
24
OF 144

HNTB

Filename: 025_Signing & Striping 2.dgn Division: Username: Date:8/27/2021

PORTLAND 17
DURHAM 8
(Remove & Reset)

SOUTH INTERSTATE 295

ENTER
(Remove & Reset)

STOP (Front)
DO NOT ENTER (Back)
(Remove)

ONLY
(Remove & Reset)

(R4-7)

(Reset From Sta. 27+82 Rt.) (RR-03)

12" SYL Spaced @ 35' O.C. (Typ.)

STOP BAR (TYP.)

EXIT 25 MPH
(Retain)

EXIT 25 MPH
(Retain)

NORTH 125
NORTH 136
(Remove & Reset)

(Remove & Reset)
(Back)
DO NOT ENTER
YIELD
(Front)
(Remove)

SOUTH 125
SOUTH 136
(Remove & Reset)

DO NOT ENTER
(Remove)

(Reset From Sta 202+17 LT) (RR-02)

BRADBURY MTN STATE PARK POWNAL
125 136
EMERGENCY ROUTE MM
(Remove & Reset to Sta. 27+75 Lt.) (RR-03)

DO NOT ENTER (Back)
YIELD
(Front)
(Remove)

DO NOT ENTER
(Remove & Reset)

NO PEDESTRIANS HITCHHIKERS BICYCES MOTORSCOOTERS ANIMALS RIDDEN DRIVEN OR LED FARM EQUIPMENT OVER 96 IN WIDE
(Remove & Reset)

YIELD
(Remove)

(Remove & Reset to Sta 203+00 Rt.) (RR-01)

(Front)
DURHAM
AUBURN
FREEPORT
AMTRAK STATION
(Front)

WRONG WAY (Back)
DO NOT ENTER (Back)
(Remove & Reset To Sta 201+00 Lt.) (RR-02)

ONLY ONLY
(R3-8)

WRONG WAY
(Retain)

(Reset From Sta 201+32 Rt.) (RR-01)

REDUCE SPEED IN INCLEMENT WEATHER
(Retain)

EXIT 22
125 136
FREEPORT
DURHAM
(Retain)

(Retain)
EXIT 22 (Front)
WRONG WAY (Back)
WRONG WAY
(Retain)

PLAN
25 0 25 50
Scale of Feet

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

NOTES:
1. Traffic Signs Associated with the Mast Arms and Pedestal Poles Are Shown on the Signal Plans.

2. See Sign Summary & Striping Layout Tables Sheet for Striping Control Point Information

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE PLANS

BRIDGE No. 5721

SIGNATURE

P.E. NUMBER

DATE

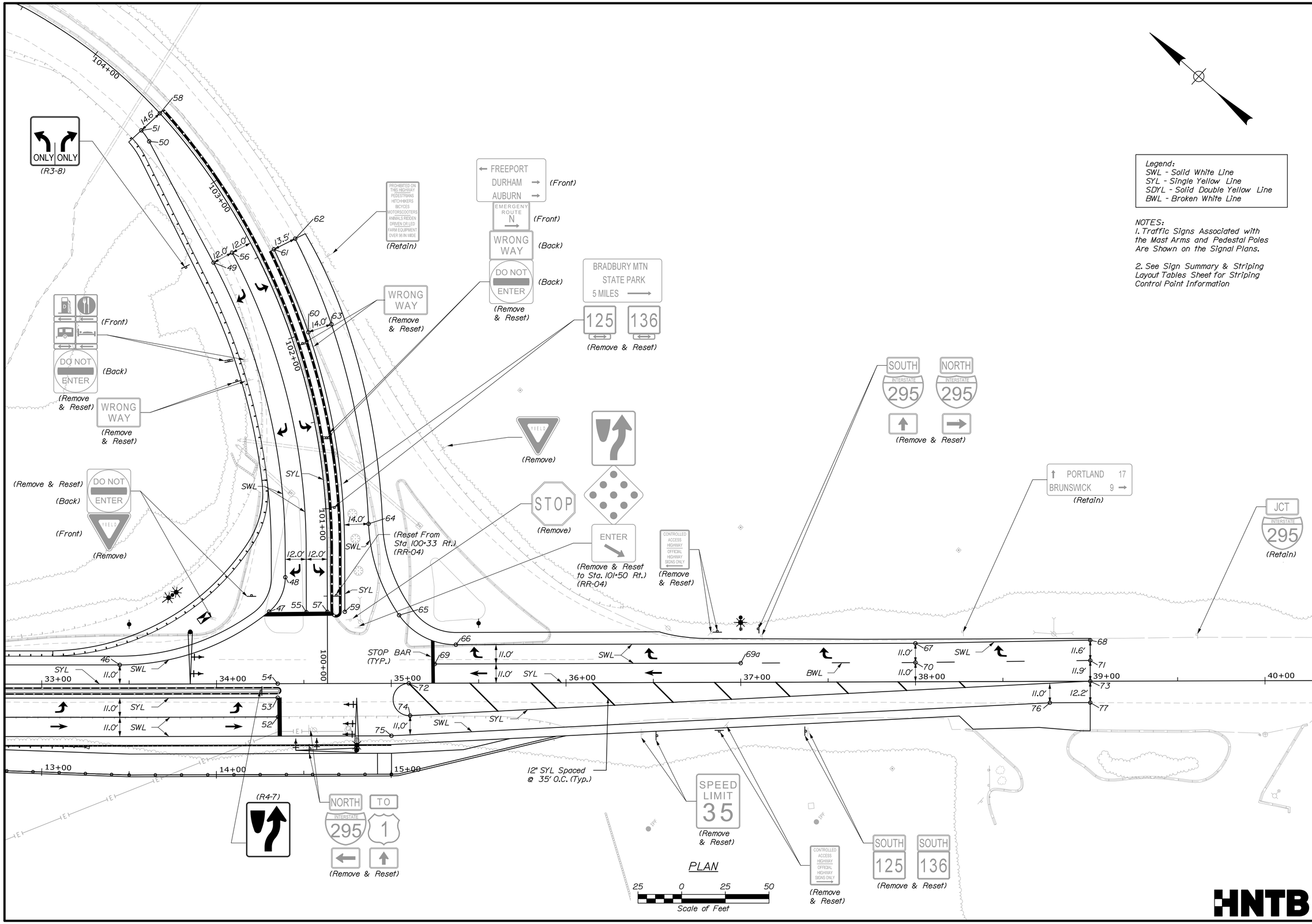
	BY	DATE
PROJ. MANAGER	M. Kerstetter	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	LZD	08\21
DESIGN2-DETAILED2	DEB	
DESIGN3-DETAILED3	PEK	
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

SIGNING & STRIPING PLAN 2

SHEET NUMBER
25
OF 144

Date:8/27/2021
Username:
Division:
Filename: 026_Signing & Striping 3.dgn



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

NOTES:
1. Traffic Signs Associated with the Mast Arms and Pedestal Poles Are Shown on the Signal Plans.

2. See Sign Summary & Striping Layout Tables Sheet for Striping Control Point Information

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kersbergen	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	LZD	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

SIGNING & STRIPING PLAN 3

SHEET NUMBER
26
OF 144

HNTB

Filename: 027_Signing & Striping Summary.dgn Division:

Username: Date:8/27/2021

PROPOSED SIGN SUMMARY

ITEM NUMBER	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	TOTAL AREA IN SQUARE FEET	POST
645.292	CS-1	30"	36"	LEFT TURN YIELD ON FLASHING	TEXT DIMENSIONS SHALL CONFORM TO "STANDARD HIGHWAY SIGNS"			2	COLORS SHALL CONFORM TO "STANDARD HIGHWAY SIGNS"		7.50 (15.00)	MOUNT ON MAST ARM
645.291	D3-1	30"	8"	MALLETT DR				1			1.67 (1.67)	METAL POST
645.292	R3-5a	30"	36"	ONLY				4			7.50 (30.00)	MOUNT ON MAST ARM
645.292	R3-5L	30"	36"	ONLY				4			7.50 (30.00)	MOUNT ON MAST ARM
645.292	R3-5R	30"	36"	ONLY				3			7.50 (22.50)	MOUNT ON MAST ARM
645.292	R3-8	30"	30"	ONLY ONLY				2			6.25 (12.50)	METAL POST
645.292	R3-8	30"	30"	ONLY				1			6.25 (6.25)	METAL POST
645.292	R4-7	24"	30"					2			5.00 (10.00)	METAL POST
645.292	R10-3eL	9"	15"	START CROSSING Watch For Vehicles / DON'T START Finish Crossing If Started / TIME REMAINING To Finish Crossing / DON'T CROSS / TO CROSS PUSH BUTTON				1			0.94 (0.94)	MOUNT ABOVE APS PUSH BUTTON
645.292	R10-3eR	9"	15"	START CROSSING Watch For Vehicles / DON'T START Finish Crossing If Started / TIME REMAINING To Finish Crossing / DON'T CROSS / TO CROSS PUSH BUTTON				1			0.94 (0.94)	MOUNT ABOVE APS PUSH BUTTON
645.292	R10-15R	30"	30"	TURNING VEHICLES / YIELD TO				2			6.25 (12.50)	MOUNT ON MAST ARM
645.292	W3-3	30"	30"					1			6.25 (6.25)	METAL POST

STRIPING LAYOUT TABLES

POINT	STATION	OFFSET	POINT	STATION	OFFSET
1	24+79.83	58.34' RT.	40	30+74.70	19.00' RT.
2	24+89.59	43.01' RT.	41	30+74.50	11.00' RT.
3	24+99.65	38.00' RT.	42	30+74.50	0.00'
4	26+81.54	45.90' RT.	43	31+84.70	19.00' RT.
5	27+03.19	53.91' RT.	44	31+84.70	8.00' RT.
6	27+10.38	60.56' RT.	45	31+84.50	0.00'
7	25+00.00	27.00' RT.	46	33+44.62	11.00' LT.
8	27+00.00	35.00' RT.	47	100+41.22	33.36' LT.
9	25+00.00	22.00' RT.	48	100+60.89	24.00' LT.
10	27+00.00	30.00' RT.	49	102+59.26	24.00' LT.
11	24+50.00	11.00' RT.	50	103+41.94	15.27' LT.
12	25+00.00	11.00' RT.	51	103+50.00	14.39' LT.
13	26+92.61	19.00' RT.	52	34+35.12	19.00' RT.
14	27+00.00	19.00' RT.	53	34+35.00	8.00' RT.
15	27+00.00	11.00' RT.	54	34+35.01	0.00'
16	25+00.00	0.00'	55	100+40.88	12.00' LT.
17	27+00.00	0.00'	56	102+59.26	12.00' LT.
18	25+00.00	10.79' LT.	57	100+41.03	0.00'
19	25+13.70	11.00' LT.	58	103+50.00	0.00'
20	200+72.47	37.60' RT.	59	100+41.03	10.00' RT.
21	201+13.10	24.00' RT.	60	102+00.00	10.00' RT.
22	201+88.23	24.00' RT.	61	102+50.00	10.26' RT.
23	203+25.00	21.94' RT.	62	102+50.00	23.80' RT.
24	200+78.20	10.00' RT.	63	102+00.00	24.00' RT.
24a	202+77.00	10.00' RT.	64	100+90.45	24.00' RT.
25	203+25.00	8.68' RT.	65	100+38.98	41.10' RT.
26	200+78.10	0.00'	66	35+37.03	22.00' LT.
27	204+00.00	0.00'	67	38+00.00	22.00' LT.
28	200+78.10	12.00' LT.	68	39+00.06	23.51' LT.
29	202+57.36	12.00' LT.	69	35+24.92	11.00' LT.
30	200+71.81	29.52' LT.	69a	37+00.00	11.00' LT.
31	200+96.56	24.00' LT.	70	38+00.00	11.00' LT.
32	203+09.29	20.16' LT.	71	39+00.03	11.89' LT.
33	204+00.00	13.57' LT.	72	35+10.00	0.00'
34	27+95.40	59.72' RT.	73	38+99.99	0.00'
35	28+07.48	49.95' RT.	74	35+10.72	18.49' RT.
36	28+83.94	30.00' RT.	75	35+00.00	30.00' RT.
37	28+00.00	19.00' RT.	76	38+76.84	12.24' RT.
38	28+00.00	11.00' RT.	77	38+99.96	12.21' RT.
39	28+00.00	0.00'			

POINT TO POINT	TYPE
1-2-3-4-5-6	4" SWL
7-8	4" SWL
9-10	4" SWL
11-12	4" SDYL
12-13-14	4" SYL
12-15	4" SYL
15-14	4" SYL
16-17	4" SWL
18-19-46-47	4" SWL
47-48-49-50-51	6" SWL
20-21-22-23	6" SWL
24-24a-25	6" SYL
26-27	6" SYL
28-29	6" SWL
30-31-32-33	6" SWL
34-35-36-75-76-77	4" SWL
37-40-44-53	4" SYL
38-41-45-54	4" SYL
39-42	4" SWL
43-52	4" SWL
55-56	6" SWL
57-58	6" SYL
59-60-61	6" SYL
62-63-64-65	6" SWL
65-66-67-68	4" SWL
69-69a	4" SWL
69a-70-71	4" BWL
72-73	4" SYL
74-73	4" SYL
72-74	4" SYL

LEGEND:
SWL - Solid White Line
SYL - Single Yellow Line
SDYL - Solid Double Yellow Line
BWL - Broken White Line

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721 BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kershaergen	
DESIGN-DETAILED	CDH	DEB 08\21
CHECKED-REVIEWED	LZD	PEK 08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

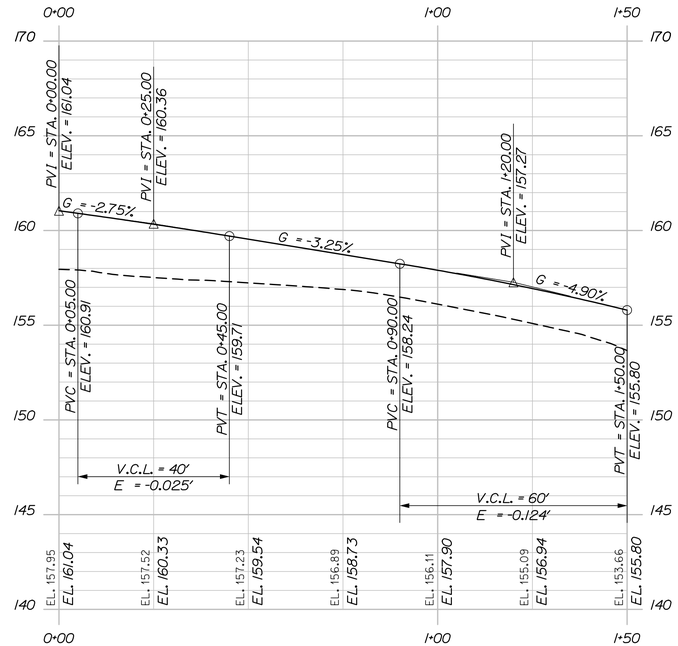
APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

SIGN SUMMARY & STRIPING LAYOUT TABLES

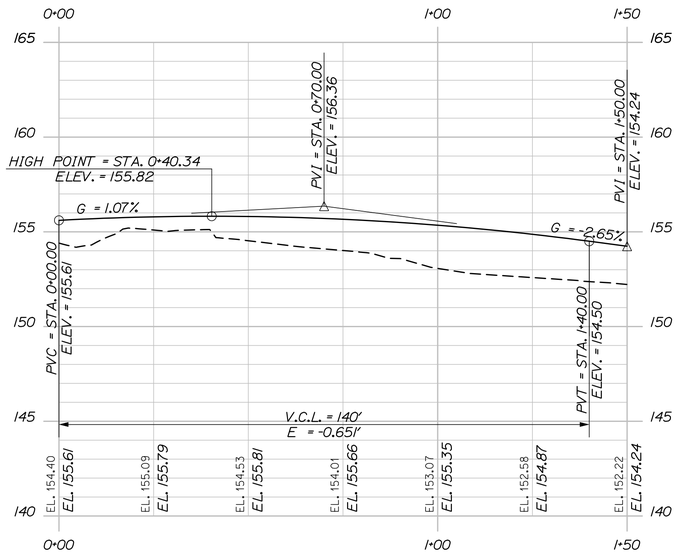
SHEET NUMBER
27
OF 144

HNTB

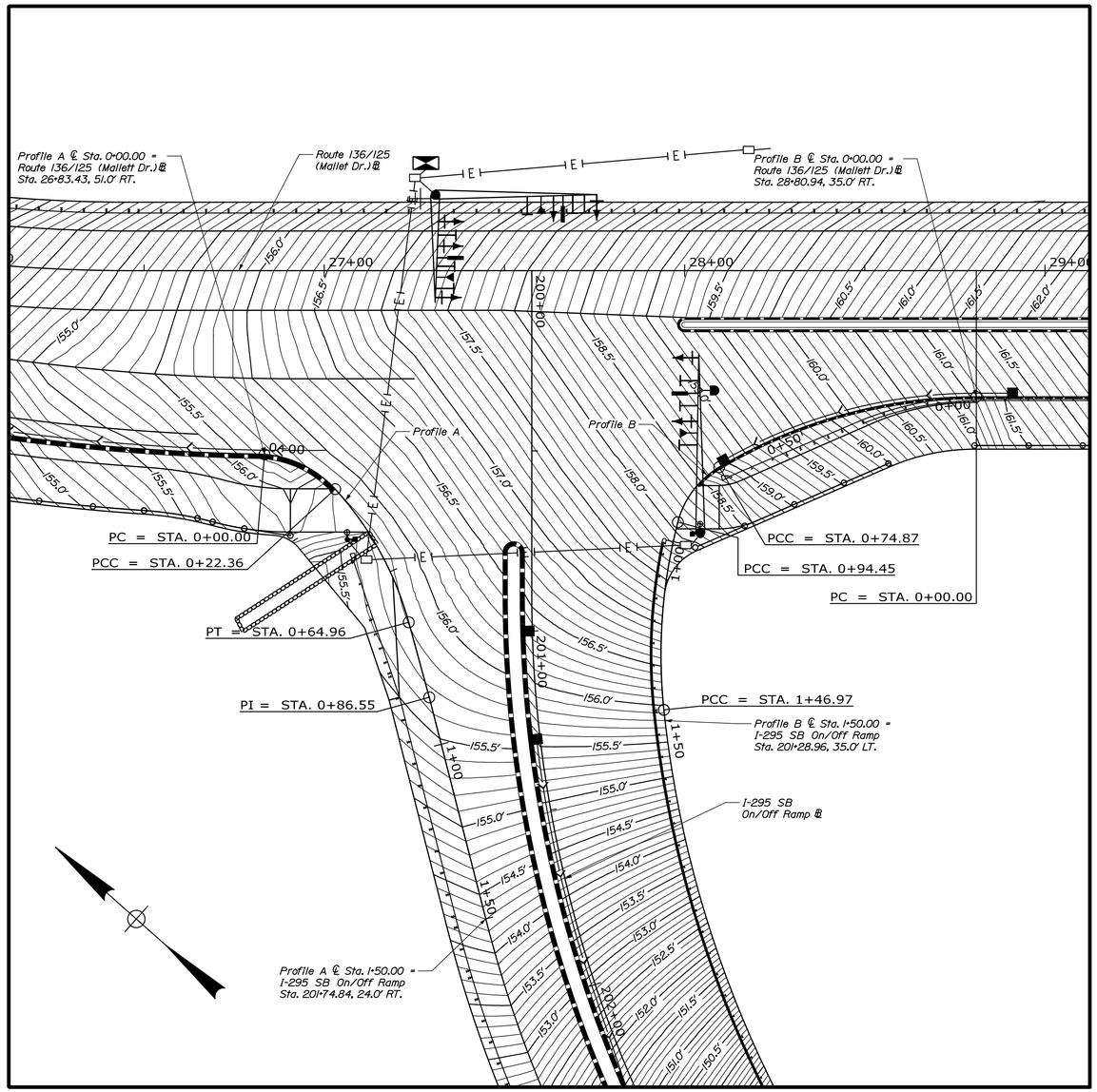
Filename: 028_Intersection Grading Plan 1.dgn Division: Username: Date:8/27/2021



PROFILE B



PROFILE A



Horiz. 20 0 20 40
Vert. 4 0 4 8
Scale of Feet

INTERSECTION OF I-295 SB ON/OFF RAMP -
ROUTE 136/125 (MALLETT DR.)

Note: Contours are shown at 0.1 foot intervals

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kershaw-gen	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	LZD	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

P.E. NUMBER

SIGNATURE

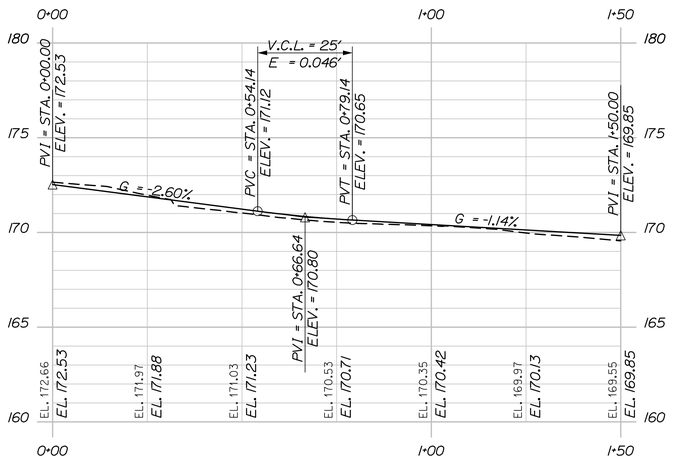
DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

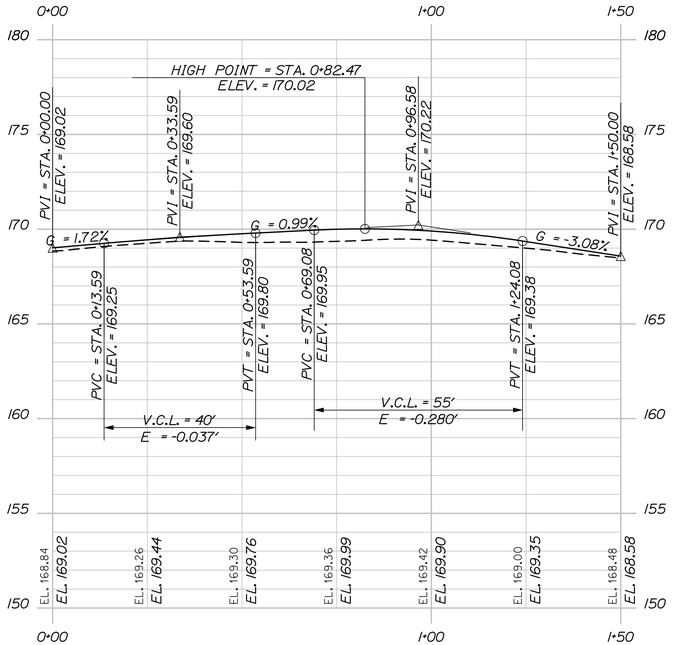
I-295 SB ON/OFF RAMP
INTERSECTION GRADING PLAN

SHEET NUMBER
28
OF 144

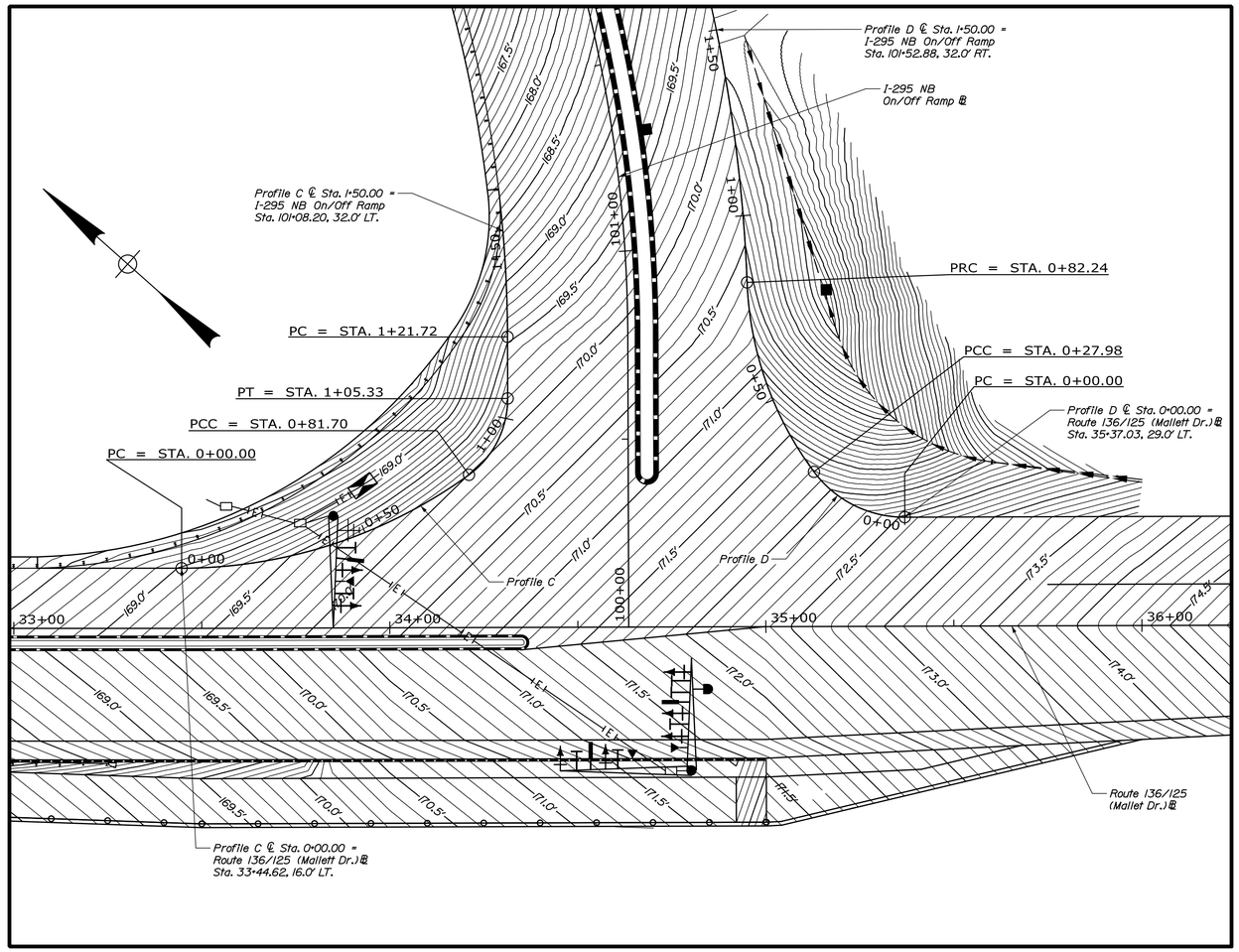
Filename: 029_Intersection Grading Plan 2.dgn Division:
Username:
Date:8/27/2021



PROFILE D



PROFILE C



Horiz. 20 0 20 40
Vert. 4 0 4 8
Scale of Feet

INTERSECTION OF I-295 NB ON/OFF RAMP -
ROUTE 136/125 (MALLETT DR.)

Note: Contours are shown at 0.1 foot intervals

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721 BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kershbergen	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	DEB	08\21
DESIGN2-DETAILED2	LZD	PEK
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

P.E. NUMBER

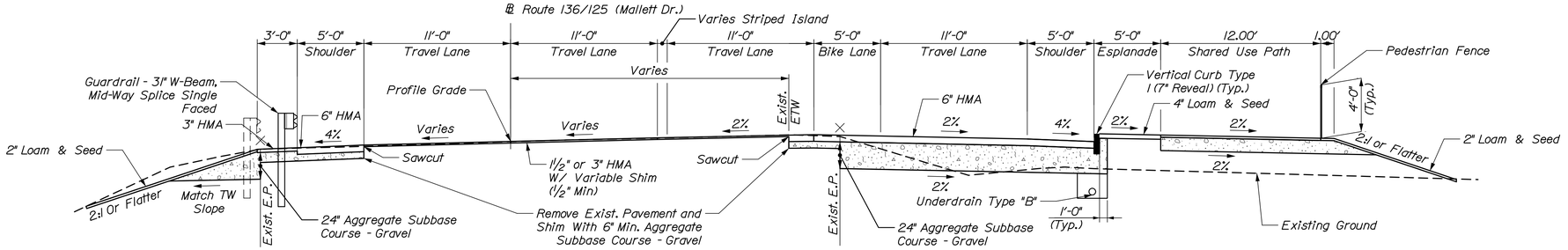
SIGNATURE

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

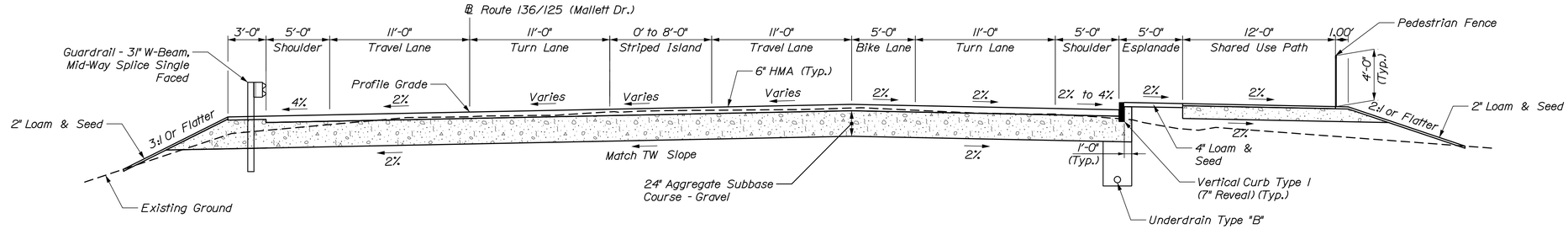
I-295 NB ON/OFF RAMP
INTERSECTION GRADING PLAN

SHEET NUMBER
29
OF 144



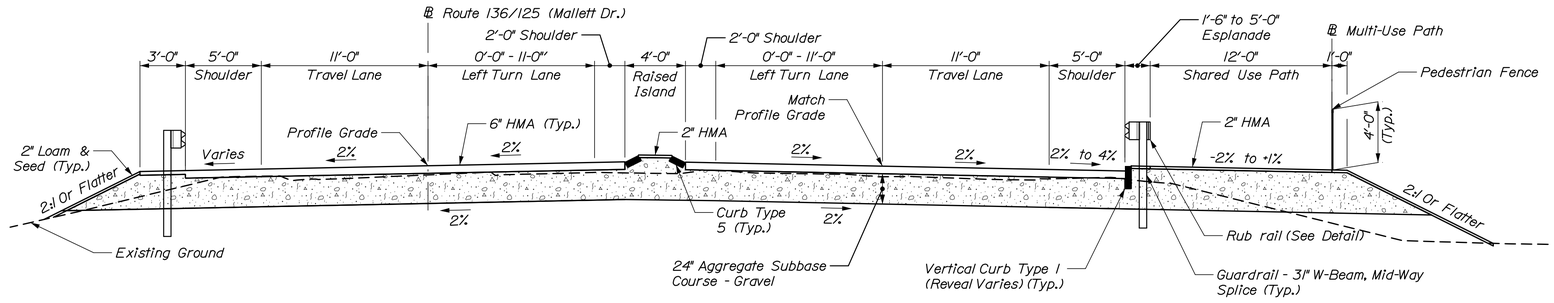
ROUTE 136/125 (MALLETT DR.) - SUPERELEVATED SECTION

Variable Width & Depth Mill, Shim, & Overlay With Variable Width Full Depth Construction
Sta. 25+00.00 to Sta. 26+00.00



ROUTE 136/125 (MALLETT DR.) - SUPERELEVATED SECTION

Full Depth Construction
Sta. 26+00.00 to Sta. 28+00.00

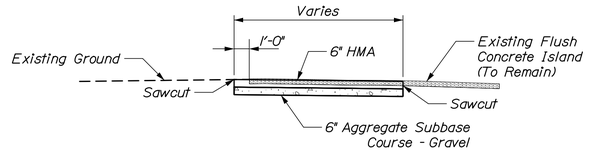


Route 136/125 (Mallett Dr.) Superelevation Table

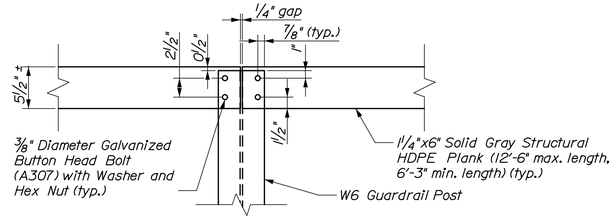
Left Shoulder / Right Turn Lane	Left Travel Lane	Station	Left Turn Lane / Striped Island	Right Travel Lane	Right Turn Lane	Right Shoulder
	N/A	24+50.00	N/A	N/A	N/A	N/A
Match Existing	N/A	24+75.00	N/A	N/A	N/A	N/A
-3.6%	Match Existing	25+00.00	Match Existing			
-4.0%	-3.0%	25+25.00	3.0%	1.5%	-2.0%	-4.0%
-4.0%	-2.5%	25+50.00	2.5%	2.0%	-2.0%	-2.0%
-4.0%	-2.0%	25+75.00	2.0%	2.0%	-2.0%	-2.0%
-4.0%	-2.0%	26+00.00	2.0%	2.0%	-2.0%	-2.0%
-4.0%	-2.0%	26+25.00	2.0%	2.0%	-2.0%	-2.0%
-4.0%	-2.0%	26+50.00	1.0%	1.0%	-2.0%	-2.0%
-4.0%	-2.0%	26+75.00	0.9%	0.0%	-2.0%	-2.0%
-4.0%	-2.0%	27+00.00	0.9%	-1.0%	-2.0%	-2.0%
-4.0%	-2.0%	27+25.00	0.9%	-2.0%	N/A	-2.0%
		TO				
-4.0%	-2.0%	28+00.00	0.9%	-2.0%	N/A	-2.0%
-4.0%	-2.0%	28+25.00	1.4%	-2.0%	N/A	-2.0%
-4.0%	-2.0%	28+50.00	2.0%	-2.0%	N/A	-2.0%
		TO				
-4.0%	-2.0%	29+50.00	2.0%	-2.0%	N/A	-2.0%
-2.0%	-2.0%	29+75.00	2.0%	-2.0%	N/A	-2.0%
		Bridge				
-2.0%	-2.0%	32+25.00	-2.0%	-2.0%	N/A	-2.0%
-2.0%	-2.0%	32+50.00	-2.0%	-2.0%	N/A	-4.0%
		TO		-2.0%		
-2.0%	-2.0%	35+75.00	-2.0%	-2.0%	N/A	-4.0%
-2.5%	-2.0%	36+00.00	-2.0%	-2.0%	N/A	-4.0%
	-2.0%	TO	-2.0%		N/A	-4.0%
-2.5%	-2.0%	38+50.00	-2.0%	-2.0%	N/A	-4.0%
-2.5%	-2.0%	38+75.00	-2.0%	-2.0%	N/A	-3.1%
Match Existing		39+00.00	Match Existing			

ROUTE 136/125 (MALLETT DR.) - NORMAL SECTION

Full Depth Construction With Median & Multi-Use Path
Sta. 28+00.00 to Sta. 29+80.00
Sta. 32+16.00 to Sta. 33+50.00



FLUSH CONCRETE ISLAND REMOVAL DETAIL



RUB RAIL ELEVATION DETAIL

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%.

5. The station ranges referenced are approximate.

6. Rub rail components and hardware shall be incidental to the Guardrail 31" W-Beam, Mid-Way Splice.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE PLANS

BRIDGE No. 5721

	BY	DATE
PROJ. MANAGER	M. Kerbergen	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	LZD	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

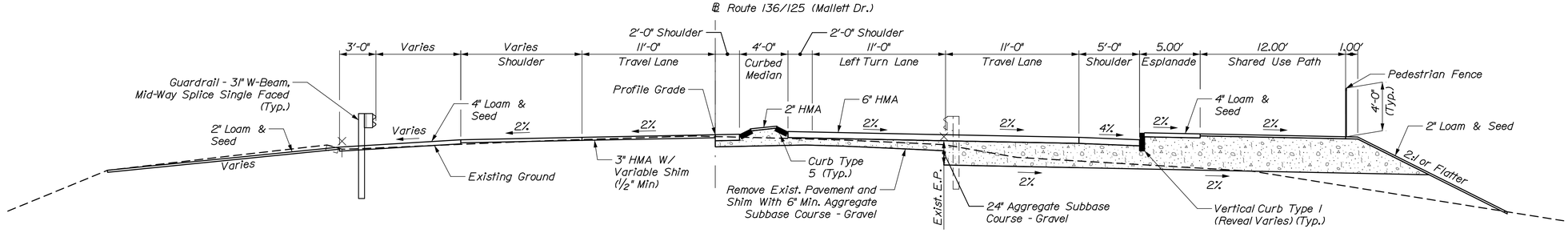
DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

ROUTE 136/125 (MALLETT DR.)
TYPICAL SECTIONS

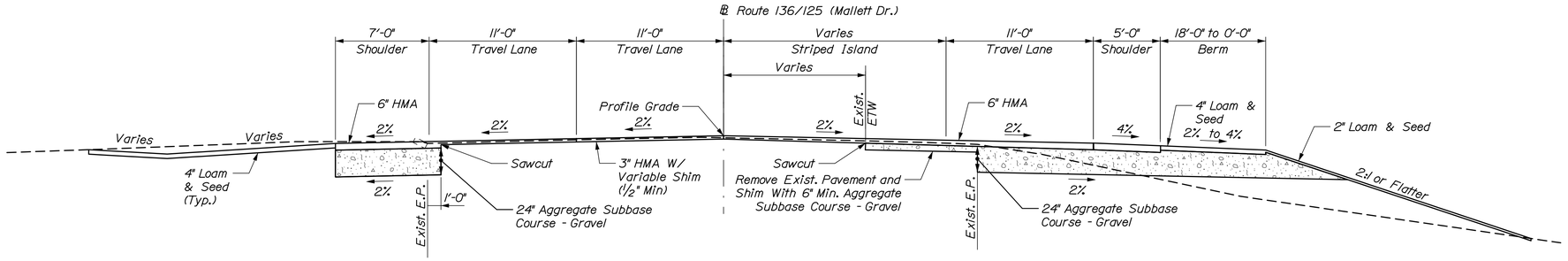
SHEET NUMBER
30
OF 144

Filename: 030_Typical_Sections 1.dgn Division: Username: Date:8/27/2021



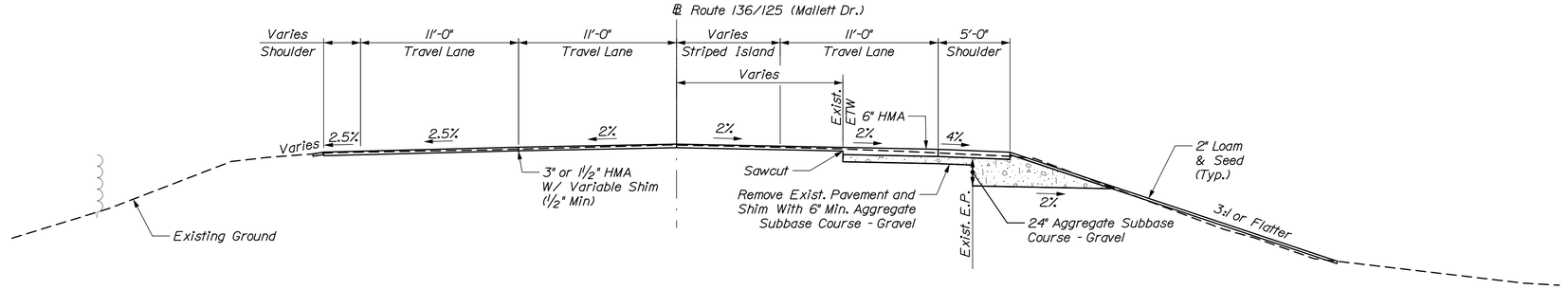
ROUTE 136/125 (MALLETT DR.) - NORMAL SECTION

Variable Width & Depth Mill, Shim, & Overlay With Variable Width Full Depth Construction
With Median & Multi-Use Path
Sta. 33+50.00 to Sta. 35+00.00



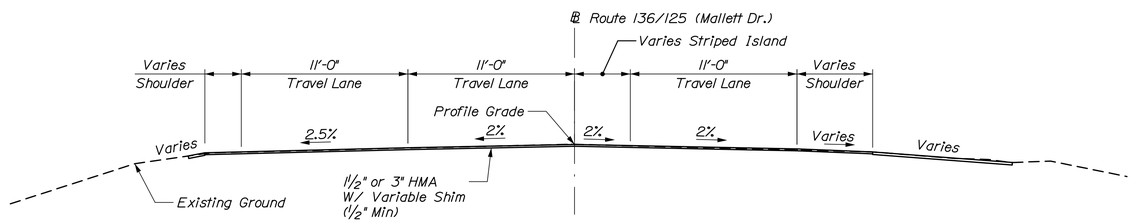
ROUTE 136/125 (MALLETT DR.) - NORMAL SECTION

Variable Width & Depth Mill, Shim, & Overlay With Variable Width Full Depth Construction
Sta. 35+00.00 to Sta. 36+00.00



ROUTE 136/125 (MALLETT DR.) - NORMAL SECTION

Variable Width & Depth Mill, Shim, & Overlay With Variable Width Full Depth Construction
Sta. 36+00.00 to Sta. 38+25.00



ROUTE 136/125 (MALLETT DR.) - NORMAL SECTION

Variable Depth Mill, Shim & Overlay
Sta. 38+25.00 to Sta. 39+00.00

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%.
5. The station ranges referenced are approximate.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

PROJ. MANAGER	M. Kerstergen	BY	DATE
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	LZD	PEK	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

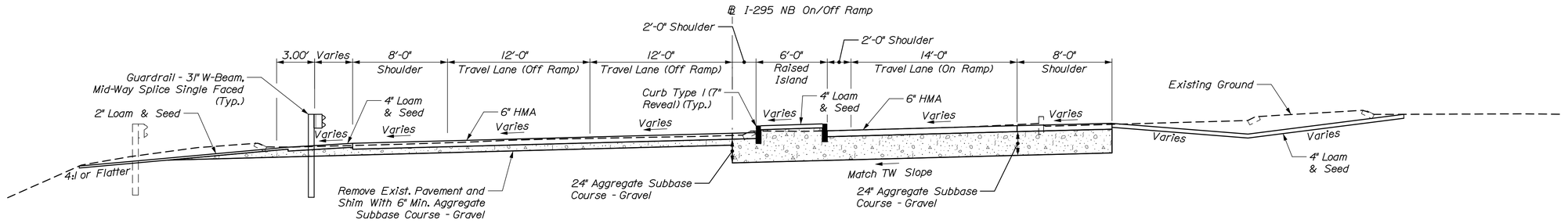
ROUTE 136/125 (MALLETT DR.)
TYPICAL SECTIONS

SHEET NUMBER

31

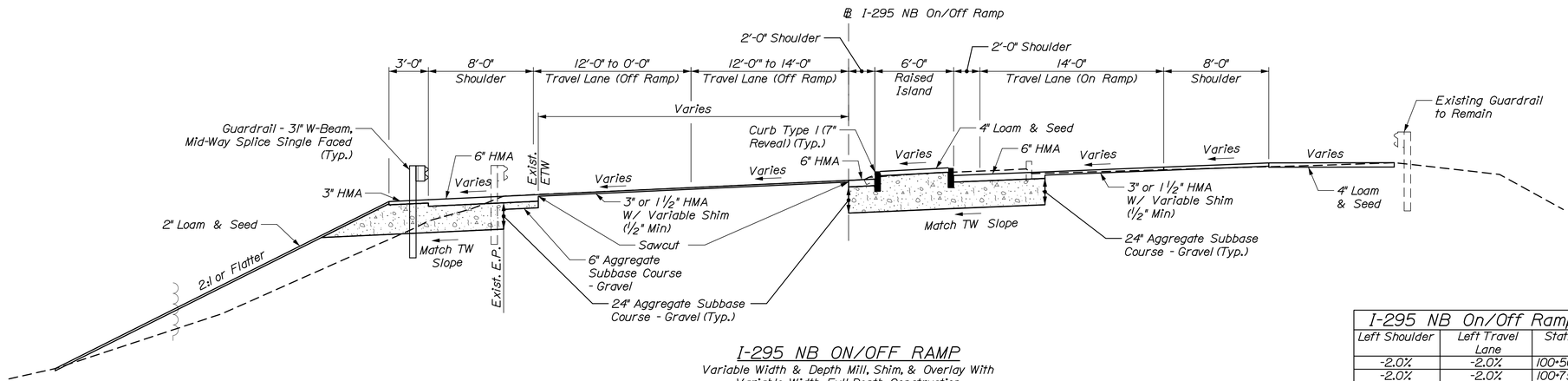
OF 144

Filename: 031_Typical_Sections 2.dgn Division: Username: Date:8/27/2021



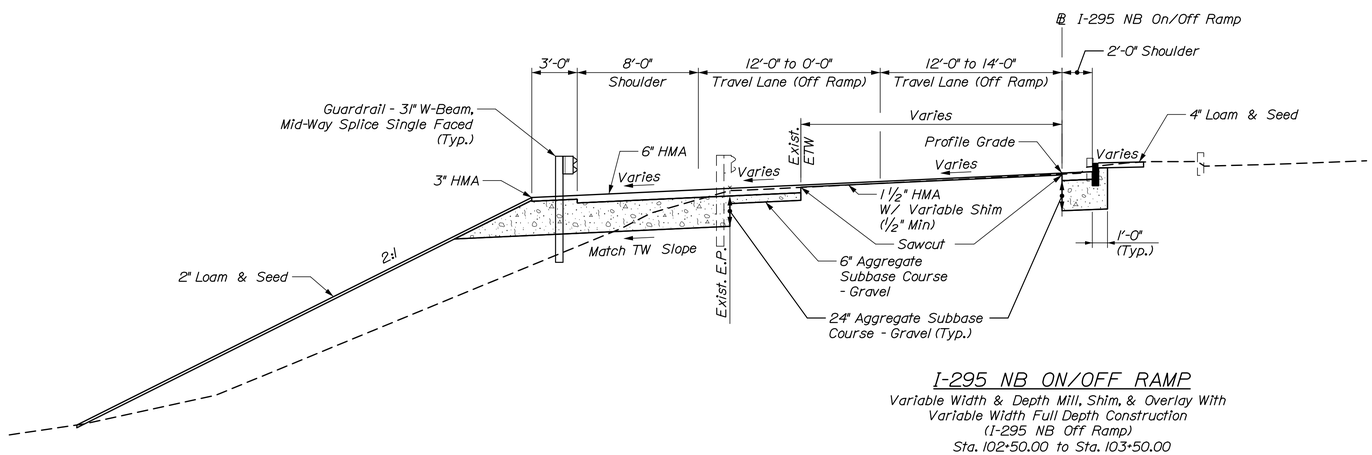
I-295 NB ON/OFF RAMP

Variable Depth Construction
(I-295 NB Off Ramp)
Full Depth Construction
(I-295 NB On Ramp)
Sta. 100+50.00 to Sta. 101+25.00



I-295 NB ON/OFF RAMP

Variable Width & Depth Mill, Shim, & Overlay With
Variable Width Full Depth Construction
(I-295 NB Off Ramp & On Ramp)
Sta. 101+25.00 to Sta. 102+50.00



I-295 NB ON/OFF RAMP

Variable Width & Depth Mill, Shim, & Overlay With
Variable Width Full Depth Construction
(I-295 NB Off Ramp)
Sta. 102+50.00 to Sta. 103+50.00

I-295 NB On/Off Ramp Superelevation Table				
Left Shoulder	Left Travel Lane	Station	Right Travel Lane	Right Shoulder
-2.0%	-2.0%	100+50.00	2.0%	2.0%
-2.0%	-2.0%	100+75.00	2.0%	2.0%
-2.6%	-2.6%	101+00.00	2.6%	2.6%
-3.3%	-3.3%	101+25.00	3.3%	4.0%
-4.0%	-4.0%	101+50.00	4.0%	4.0%
-4.6%	-4.6%	101+75.00	4.0%	4.0%
		TO		
-4.6%	-4.6%	102+50.00	Match Existing	
-4.6%	-4.6%	102+75.00		
-4.6%	-4.6%	103+00.00		
-5.3%	-5.3%	103+25.00		
Match Existing		103+50.00		

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%.

5. The station ranges referenced are approximate.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kershaw	
DESIGN-DETAILED	CDH	DEB 08\21
CHECKED-REVIEWED	LZD	PEK 08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

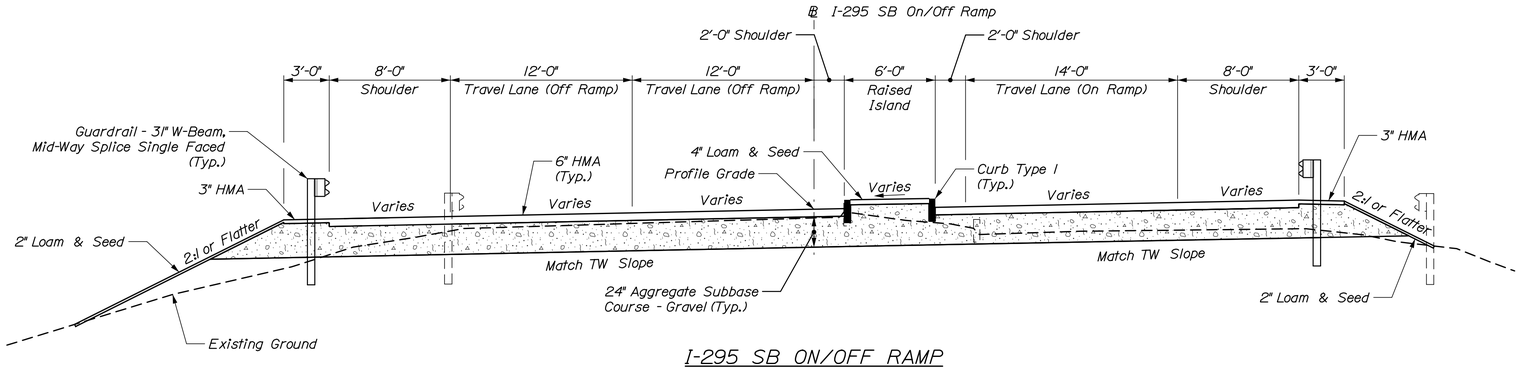
APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

I-295 NB ON/OFF RAMP
TYPICAL SECTIONS

SHEET NUMBER
32
OF 144

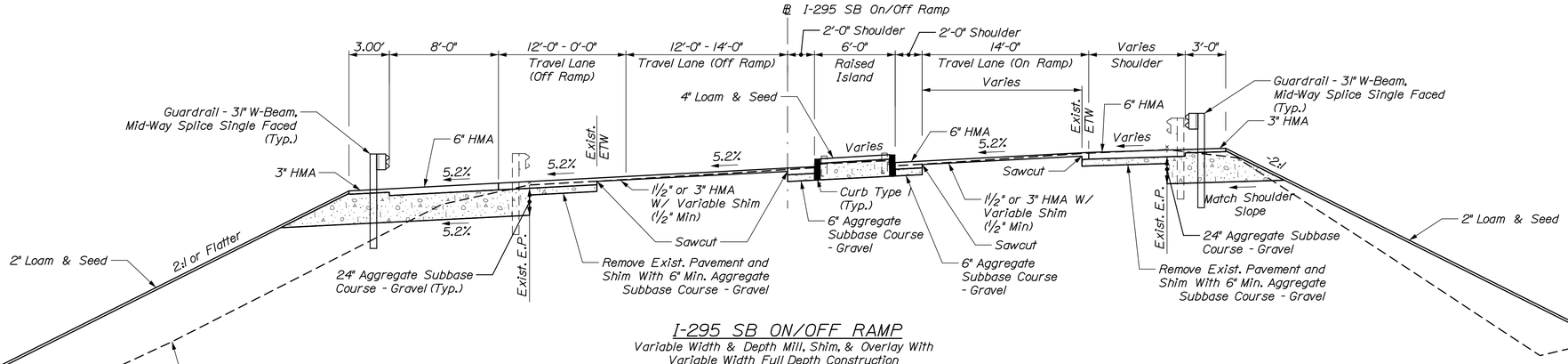
HNTB

Username:
Date:8/27/2021
Division:
Filename: 032_Typical_Sections 3.dgn



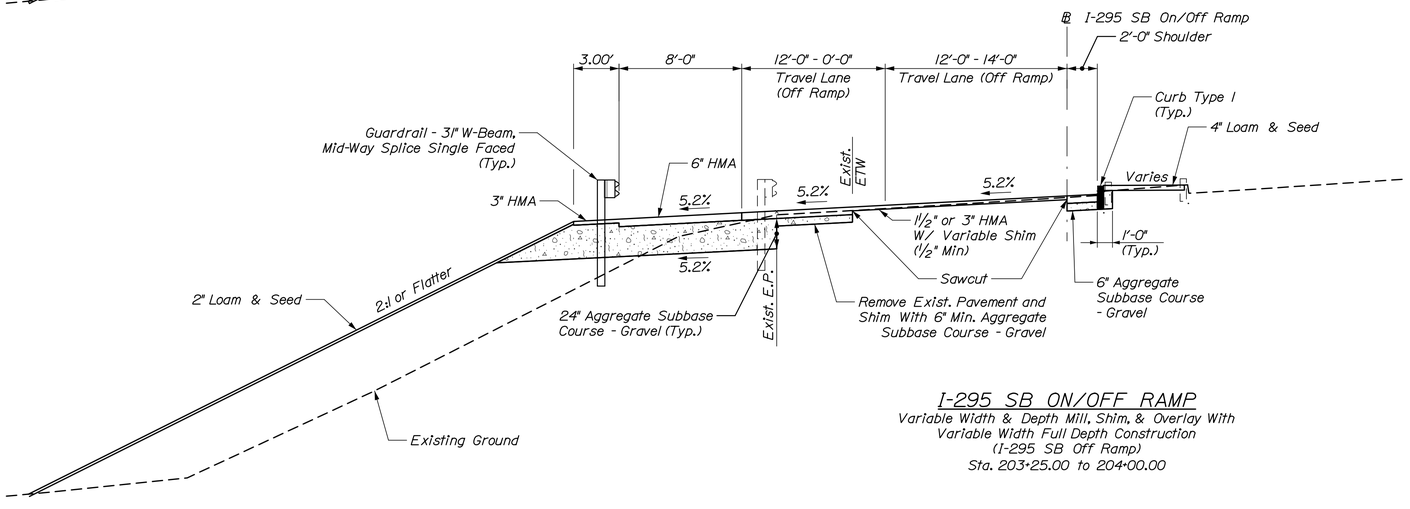
I-295 SB ON/OFF RAMP

Full Depth Construction
(I-295 SB Off & On Ramp)
Sta. 200+75.00 to 203+00.00



I-295 SB ON/OFF RAMP

Variable Width & Depth Mill, Shim, & Overlay With
Variable Width Full Depth Construction
(I-295 SB Off & On Ramp)
Sta. 203+00.00 to 203+25.00



I-295 SB ON/OFF RAMP

Variable Width & Depth Mill, Shim, & Overlay With
Variable Width Full Depth Construction
(I-295 SB Off Ramp)
Sta. 203+25.00 to 204+00.00

I-295 SB On/Off Ramp Superelevation Table				
Left Shoulder	Left Travel Lane	Station	Right Travel Lane	Right Shoulder
2.7%	2.7%	200+75.00	-2.7%	-2.7%
1.7%	1.7%	201+00.00	-1.7%	-2.0%
0.7%	0.7%	201+25.00	-0.7%	-2.0%
-0.3%	-0.3%	201+50.00	0.3%	-2.0%
-1.3%	-1.3%	201+75.00	1.3%	-2.0%
-2.2%	-2.2%	202+00.00	2.2%	-1.0%
-3.2%	-3.2%	202+25.00	3.2%	0.0%
-4.2%	-4.2%	202+50.00	4.2%	1.0%
-5.2%	-5.2%	202+75.00	5.2%	2.0%
-5.2%	-5.2%	203+00.00	5.2%	3.0%
-5.2%	-5.2%	203+25.00	Match Existing	
-5.2%	-5.2%	203+50.00		
-5.2%	-5.2%	203+75.00		
Match Existing		204+00.00		

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%.

5. The station ranges referenced are approximate.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kershaw	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	DEB	08\21
DESIGN2-DETAILED2	LZD	
DESIGN3-DETAILED3	PEK	
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

I-295 SB ON/OFF RAMP
TYPICAL SECTIONS

SHEET NUMBER

33

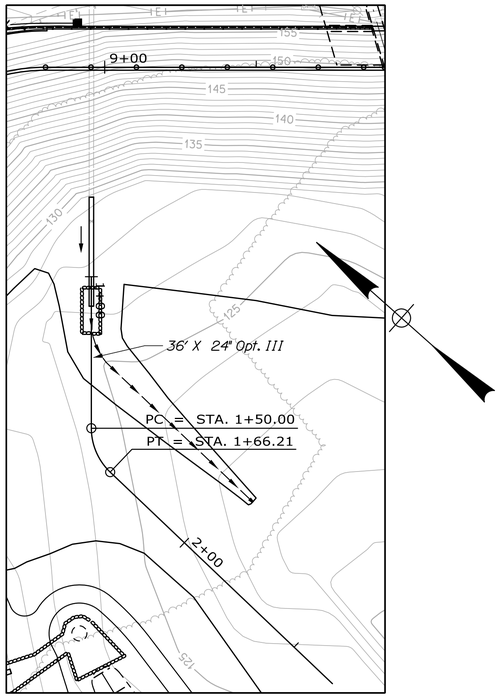
OF 144

Username:

Division:

Date:8/27/2021

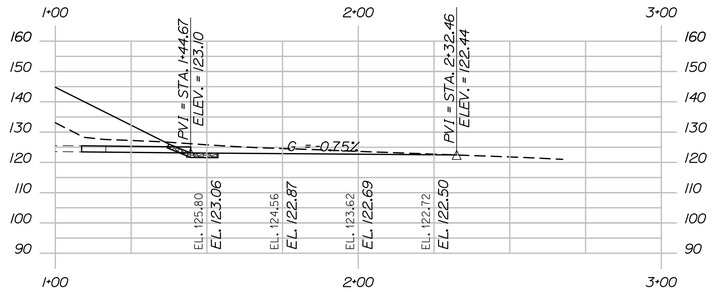
Filename: 033_Typical_Sections 4.dgn



PLAN

25 0 25 50

Scale of Feet

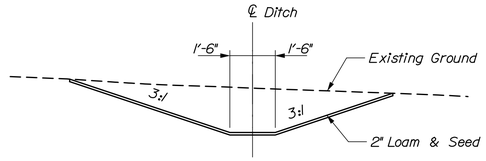


PROFILE

Horiz. 25 0 25 50

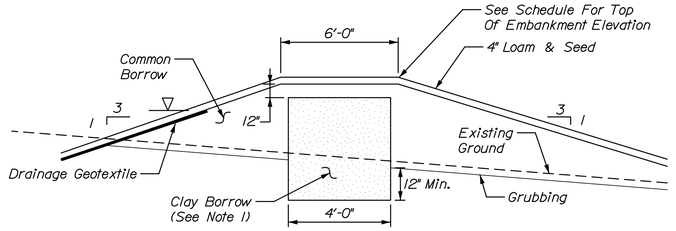
Vert. 25 0 25 25

Scale of Feet



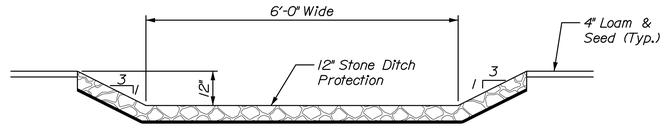
SECTION

Not to Scale



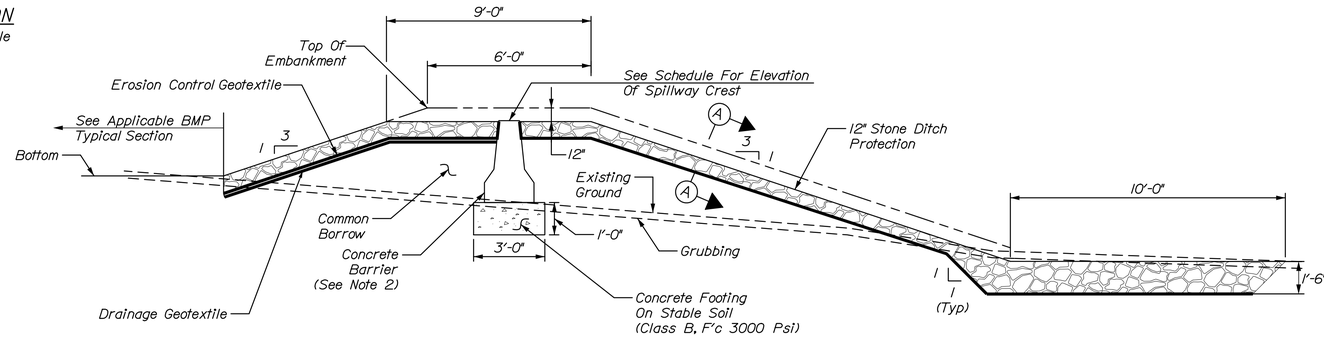
TYPICAL SECTION AT EMBANKMENTS

NOT TO SCALE



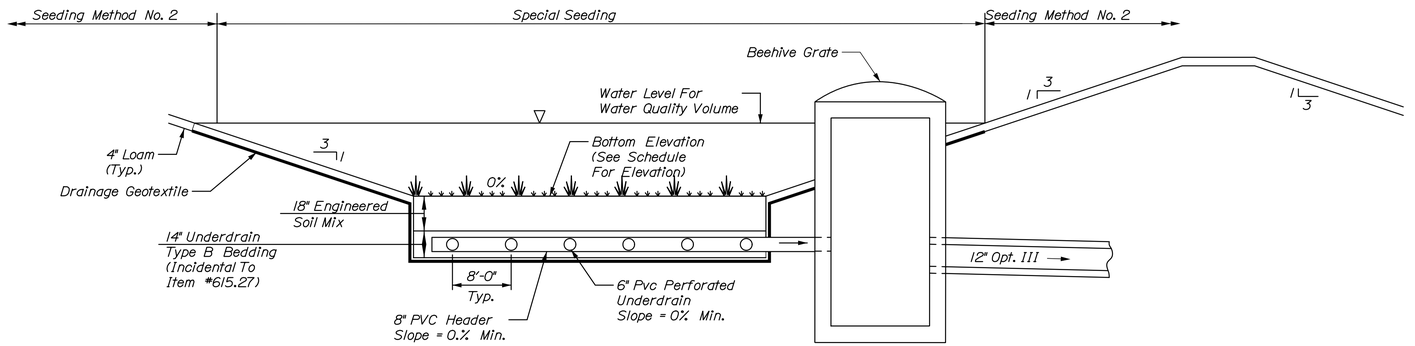
EMERGENCY SPILLWAY
SECTION A-A

NOT TO SCALE



TYPICAL SECTION AT OVERFLOW SPILLWAY

NOT TO SCALE



USF BASIN
TYPICAL SECTION

NOT TO SCALE

UNDERDRAIN SOIL FILTER NOTES:

1. At emergency spillway, impermeable soil (clay borrow) shall tie into concrete barrier and extend 3' along each end of concrete barrier.

2. Set top of concrete barrier level at the designated elevation of spillway crest. payment shall be included in item 615.17: Underdrained Soil Filter.

3. For layout of underdrain soil filter, underdrain, pipes, and outlet control structure, see bmp layout plan.

4. 8" PVC underdrain header shall not be slotted.

5. Surface of soil filter shall be seeded with special seed as specified in Section 618 of the Specifications.

6. The underdrain soil filter shall be constructed to the limits and details shown on the plans and specifications unless otherwise approved by the Resident.

7. The filter bed material shall not be placed in the USF basin until the tributary drainage area is permanently stabilized against erosion.

8. 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 Underdrain Soil Filter.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kersbergen	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	LZD	08\21
DESIGN2-DETAILED2	DEB	
DESIGN3-DETAILED3	PEK	
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

BMP & DRAINAGE DETAILS

SHEET NUMBER

34

OF 144

HNTB

Date:8/27/2021

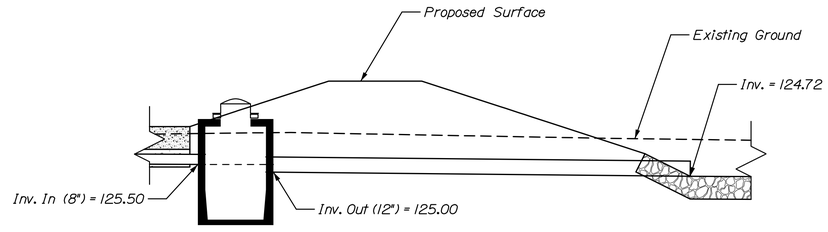
Username:

Division:

Filename: 034_BMP&Drainage_Details.dgn

BMP LAYOUT TABLE				
POINT	STATION	OFFSET	X-COORD	Y-COORD
1	203+23.59	80.56' Lt.	1054349.62	375915.41
2	203+26.67	90.21' Lt.	1054358.92	375912.06
3	204+03.90	79.59' Lt.	1054348.91	375860.87
4	204+09.82	73.12' Lt.	1054343.13	375856.91
5	204+02.61	63.84' Lt.	1054333.30	375858.65
6	203+91.89	60.70' Lt.	1054329.30	375864.71
7	203+74.92	64.90' Lt.	1054332.43	375878.17
8	203+52.49	72.91' Lt.	1054340.28	375895.14

USF BASIN SCHEDULE					
Basin Elevations			Peak Water Surface Elevation		
Bottom	Spillway Crest	Top of Embankment	2-year	10-year	25-year
(feet)	(feet)	(feet)	(feet)	(feet)	(feet)
128.00	130.00	131.00	129.55	129.75	129.84

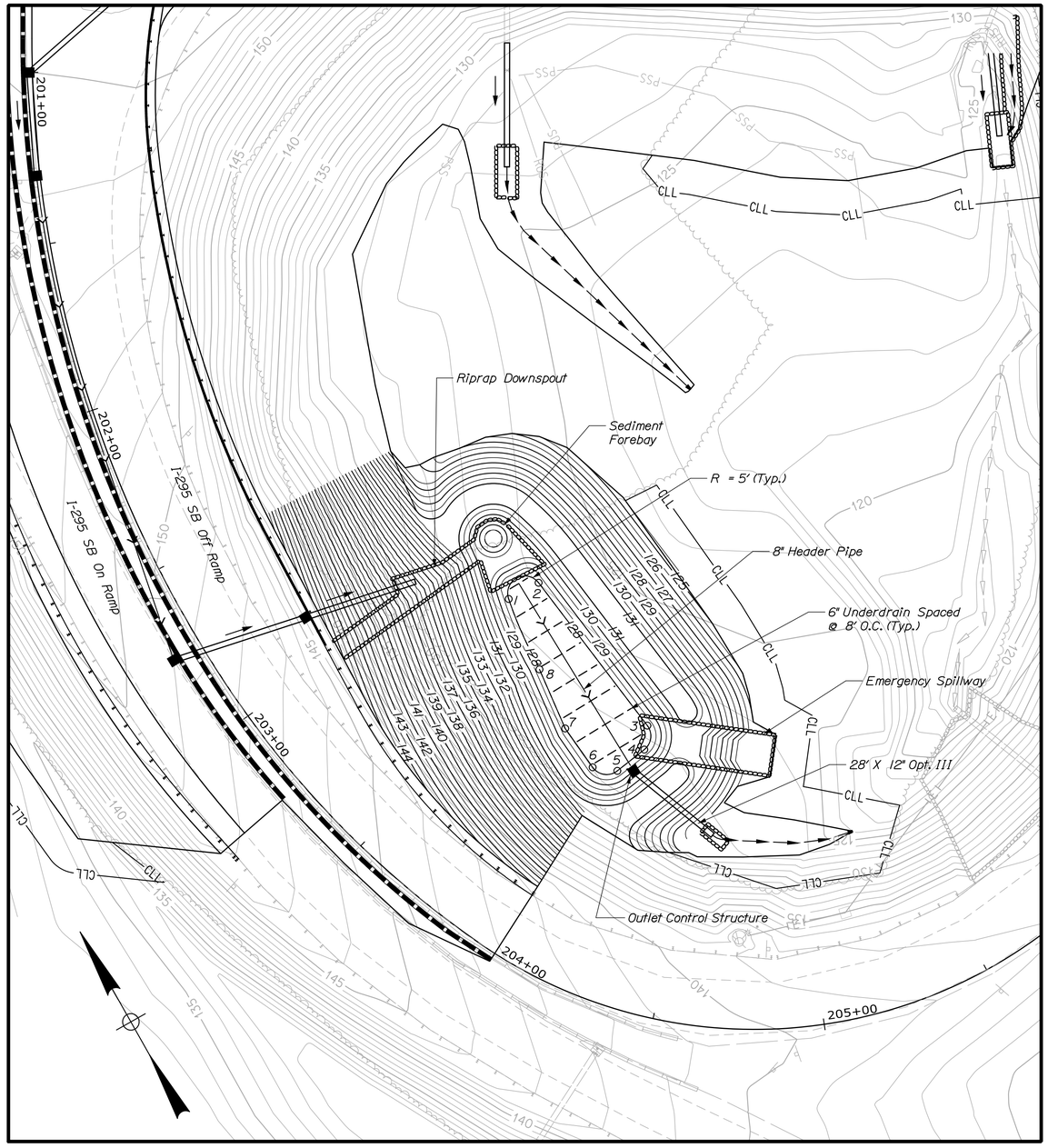


Sta. 203+21.44, 85.7' Lt. to Sta. 204+10.43, 66.2' Lt. Install 63' X 8" PVC Header Pipe (Install 6" Into Outlet Control Structure, Install Cap With 1.5" Orifice Inv. Elev. 125.58) (Incidental to Item 615.27)

Sta. 204+10.43, 66.2' Lt. Install CB Type BI Flat Top W/ Beehive Grate Rim Elev. 129.50

Sta. 204+10.43, 66.2' Lt. to Sta. 204+59.43, 55.5' Lt. Install 28' X 12" Opt. III

OUTLET CONTROL STRUCTURE DATA



*Proposed Contours Shown at 0.5' Interval

BMP LAYOUT PLAN
SCALE
20 0 20 40
Scale of Feet

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	M. Kerstergen		
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	LZD	PEK	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

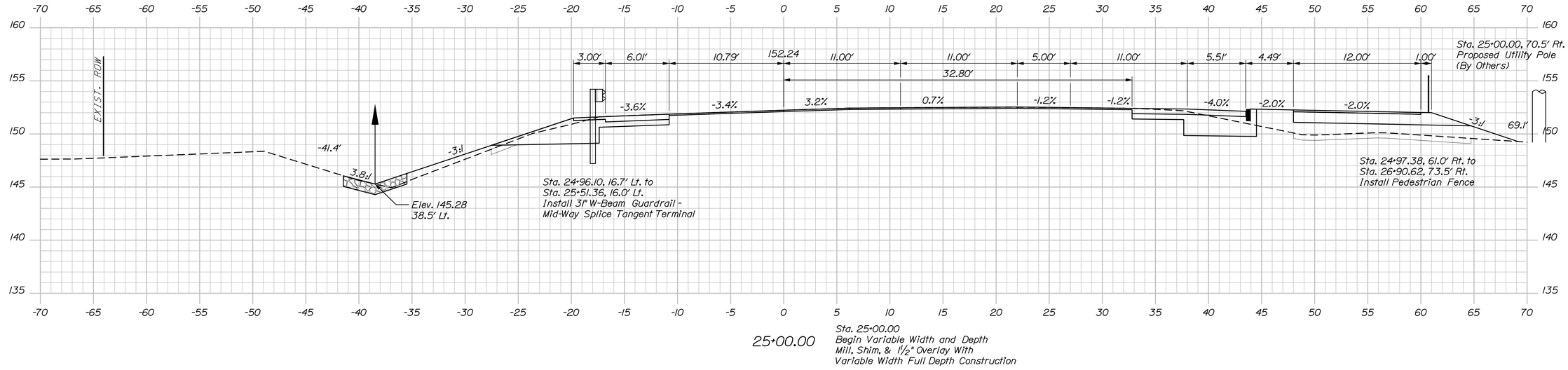
DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

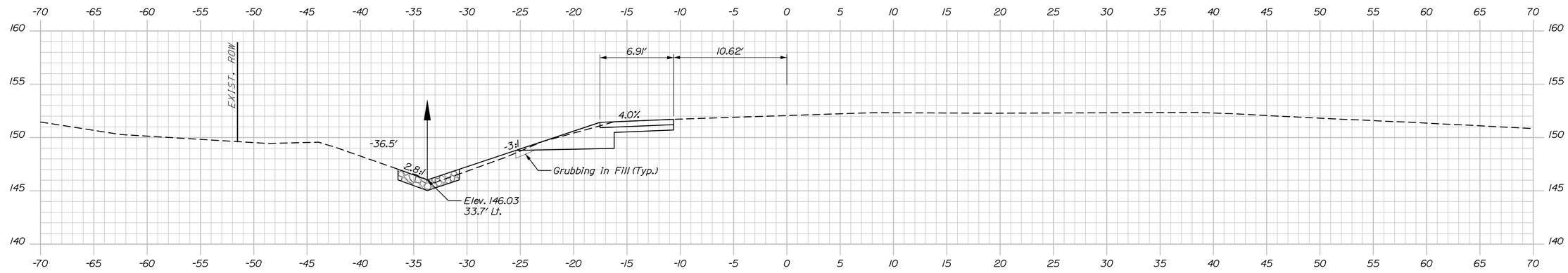
BMP LAYOUT PLAN

SHEET NUMBER
35
OF 144

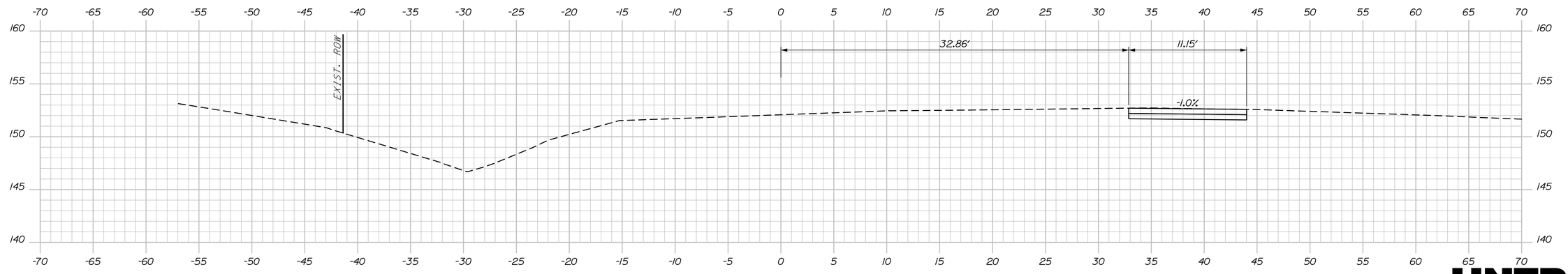
Filename: 035_BMP Layout Plan.dgn Division: Username: Date:8/27/2021



25+00.00 Sta. 25+00.00
Begin Variable Width and Depth
Mill, Shim, & 1½" Overlay With
Variable Width Full Depth Construction



24+75.00



24+50.00 Sta. 24+35.00
Limit of Work

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kerstetter	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	LZD	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

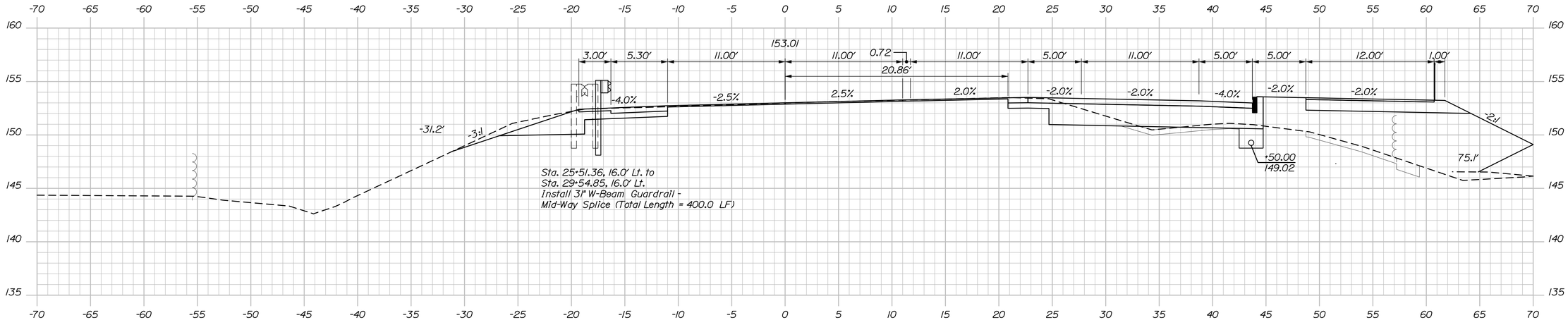
APPROACH ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

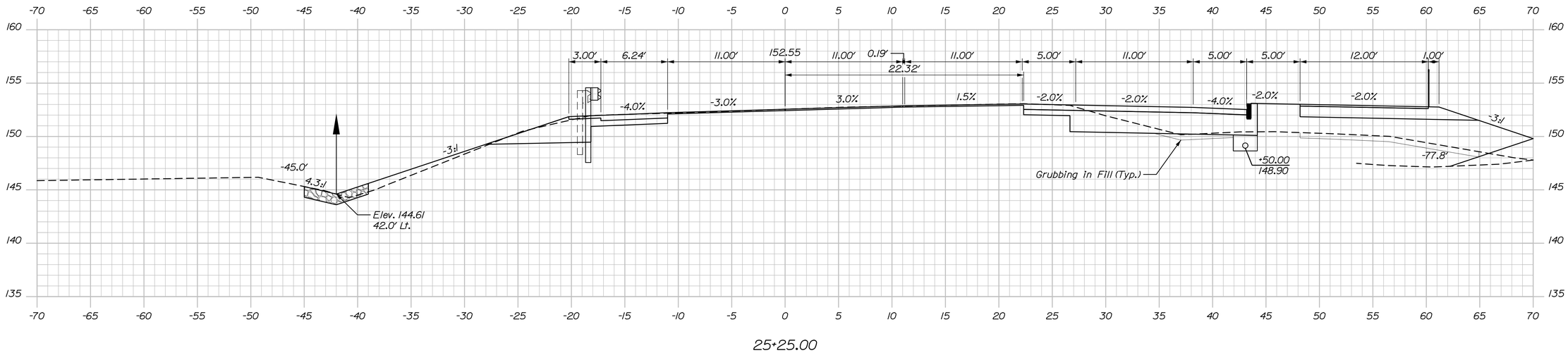
ROUTE 136/125 (MALLETT DR.)
CROSS SECTIONS

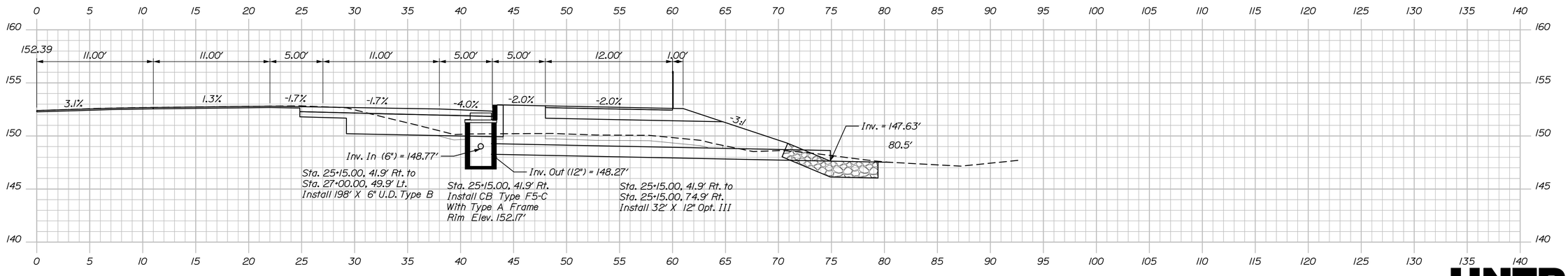
SHEET NUMBER
36
OF 144

Date:8/27/2021
Username:
Division:
Filename: Xsect_MallettDr.dgn

Sta. 24+50.00 to Sta. 25+00.00







STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kerlsbergen	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	LZD	08\21
DESIGN2-DETAILED2	DEB	
DESIGN3-DETAILED3	PEK	
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

ROUTE 136/125 (MALLETT DR.)
CROSS SECTIONS

SHEET NUMBER

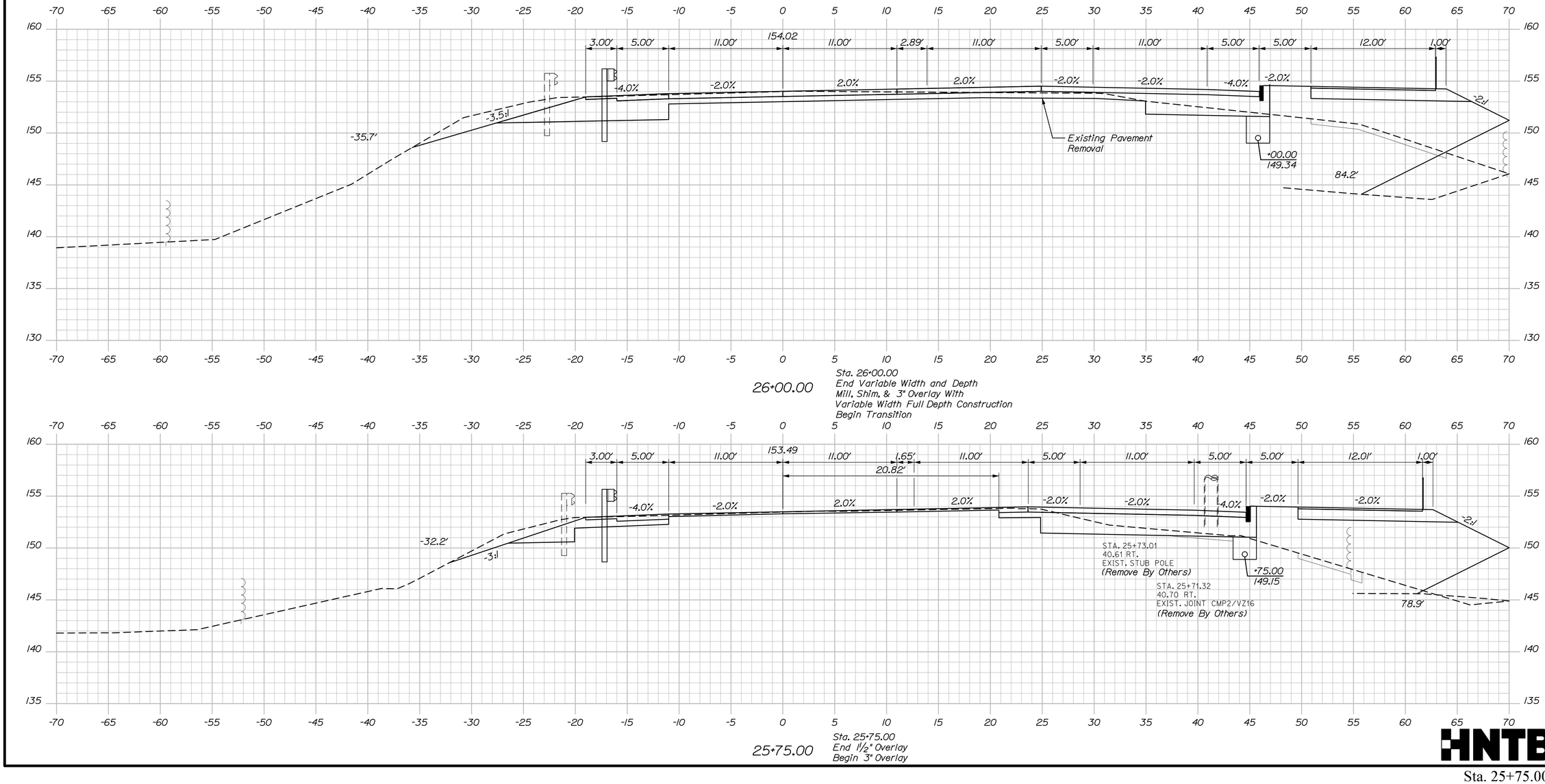
37

OF 144

HNTB

Sta. 25+15.00 to Sta. 25+50.00

Filename: Xsect_MallettDr.dgn Division: Username: Date:8/27/2021



HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kersbergen	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	LZD	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

ROUTE 136/125 (MALLETT DR.)
CROSS SECTIONS

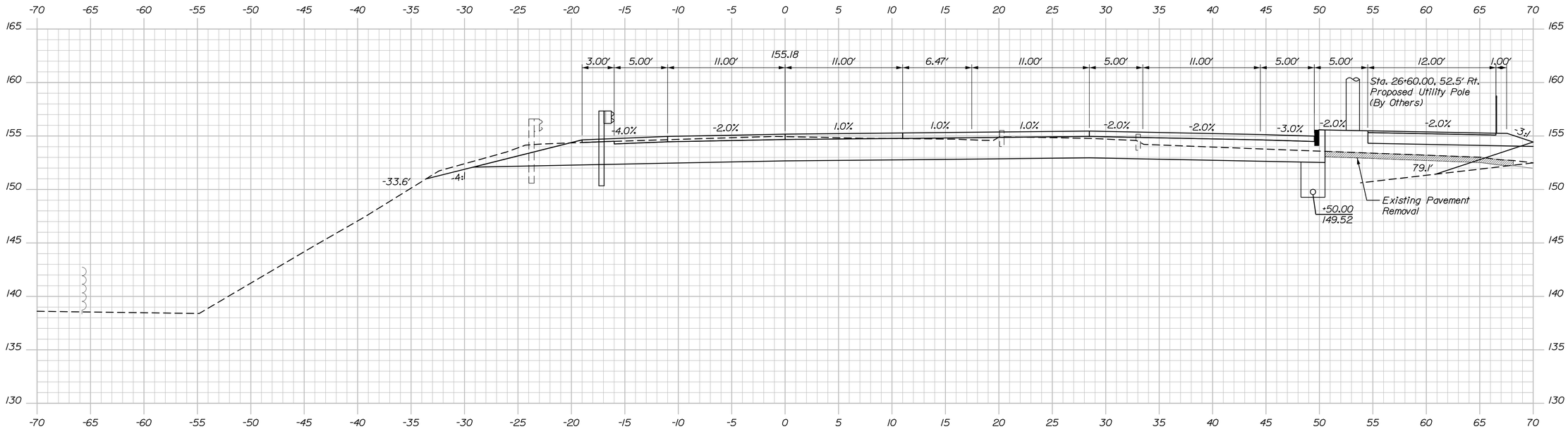
SHEET NUMBER

38

OF 144

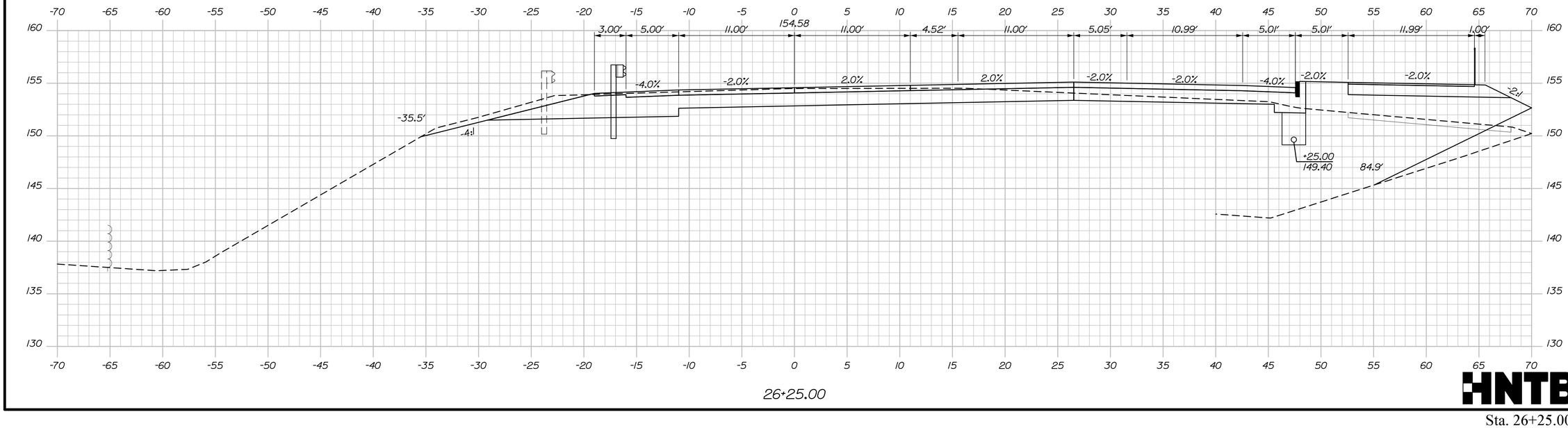
Sta. 25+75.00 to Sta. 26+00.00

Filename: Xsect_MallettDr.dgn Division: Username: Date:8/27/2021



26+50.00

Sta. 26+50.00
End Transition
Begin Full Depth Construction



26+25.00

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN
021726.00

BRIDGE No. 5721

BRIDGE PLANS

PROJ. MANAGER	M. Kershaw	BY	DATE
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	LZD	PEK	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

ROUTE 136/125 (MALLETT DR.)
CROSS SECTIONS

SHEET NUMBER

39

OF 144

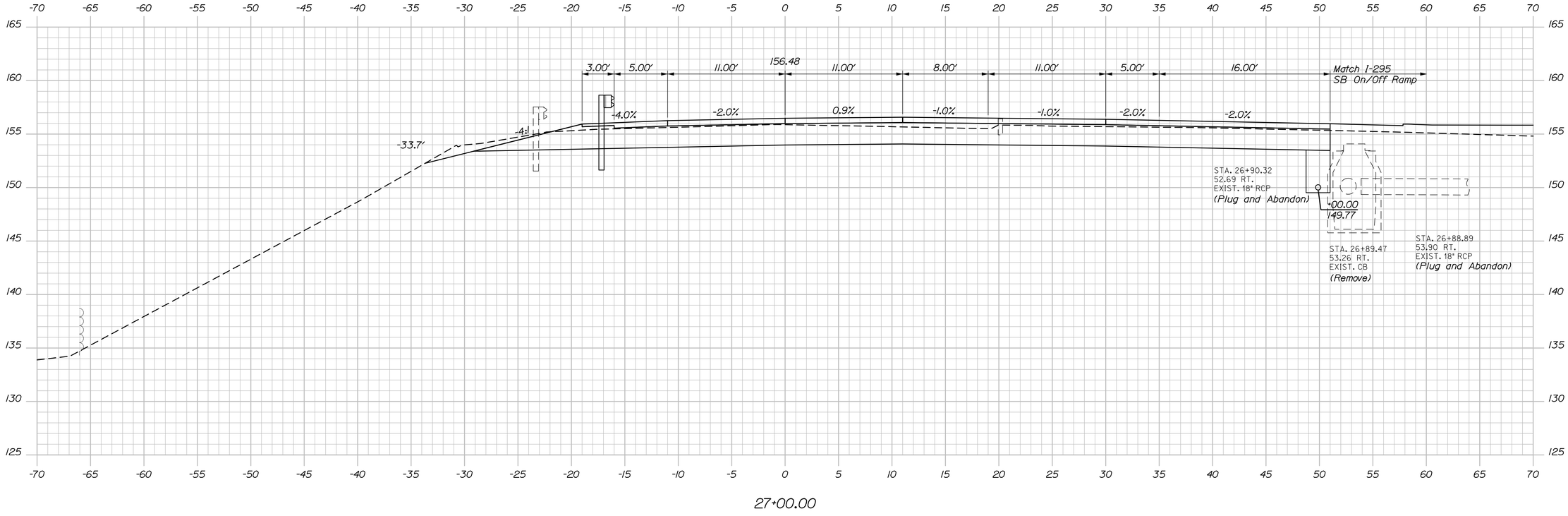
Sta. 26+25.00 to Sta. 26+50.00

Username:

Division:

Date:8/27/2021

Filename: Xsect_MallettDr.dgn



Sta. 26+75.00 to Sta. 27+00.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

PROJ. MANAGER	M. Kershaw	BY	DATE
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	LZD	PEK	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
CUMBERLAND

FREEPORT

ROUTE 136/125 (MALLETT DR.)
CROSS SECTIONS

SHEET NUMBER

40

OF 144

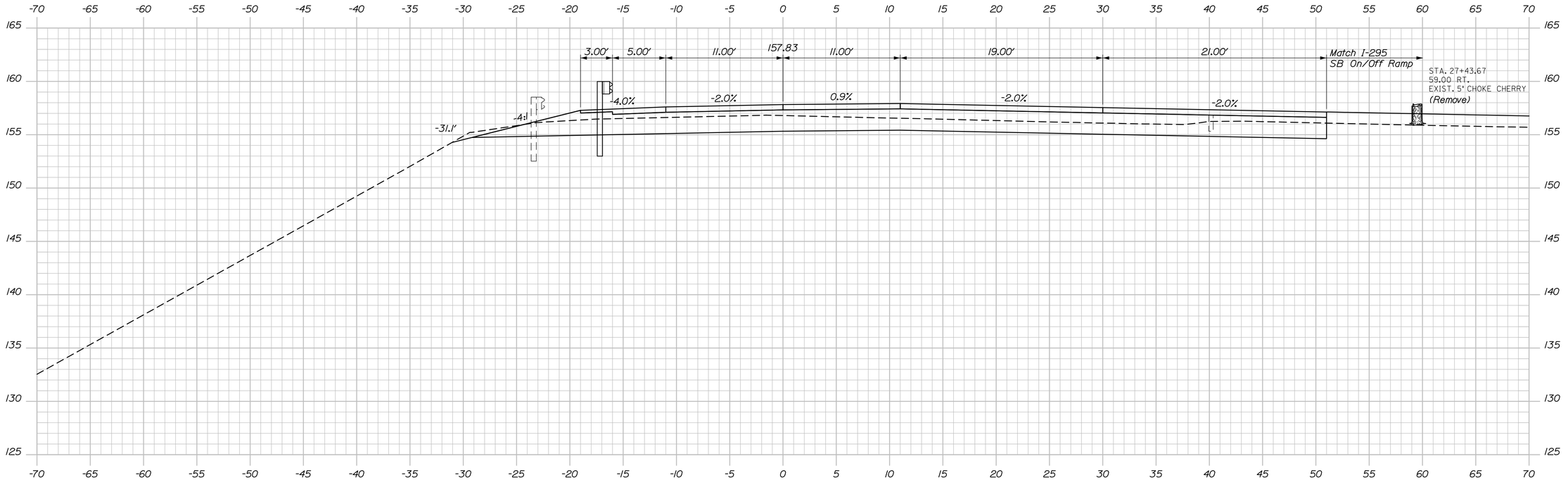
HNTB

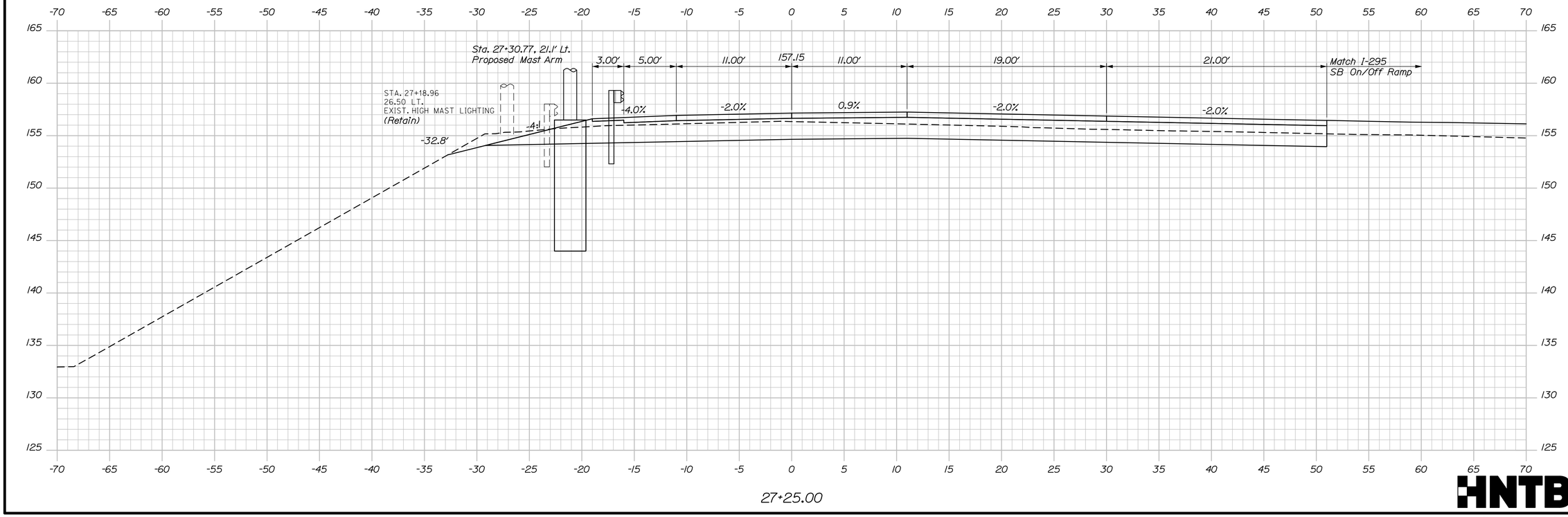
Username:

Division:

Date:8/27/2021

Filename: Xsect_MallettDr.dgn





STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE PLANS

BRIDGE No. 5721

	BY	DATE
PROJ. MANAGER	M. Kershaw	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	LZD	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

ROUTE 136/125 (MALLETT DR.)
CROSS SECTIONS

SHEET NUMBER

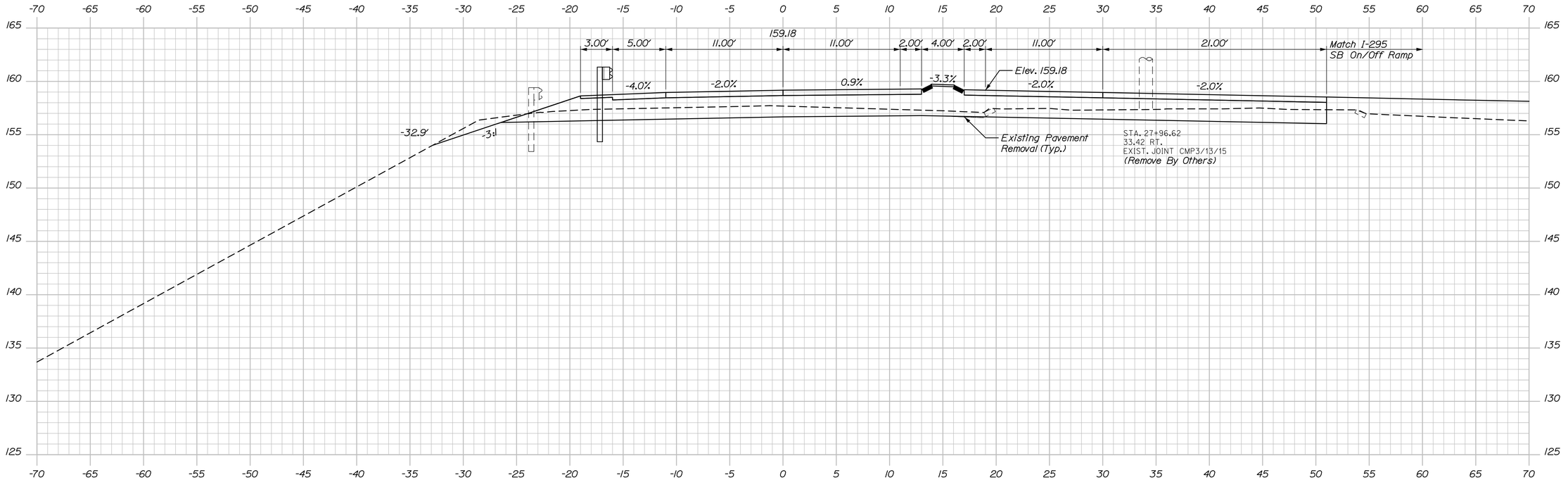
41

OF 144

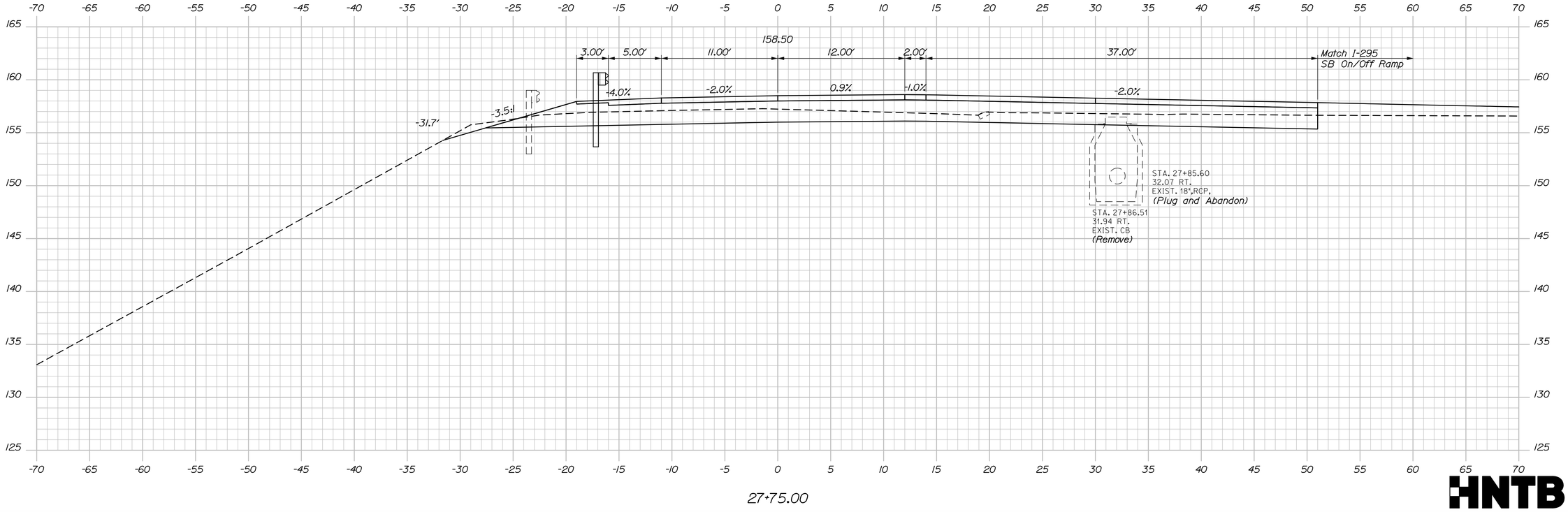
HNTB

Sta. 27+25.00 to Sta. 27+50.00

Filename: Xsect_MallettDr.dgn Division: Username: Date:8/27/2021



28+00.00



27+75.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE PLANS

BRIDGE No. 5721

PROJ. MANAGER	M. Kersbergen		
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	LZD	PEK	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

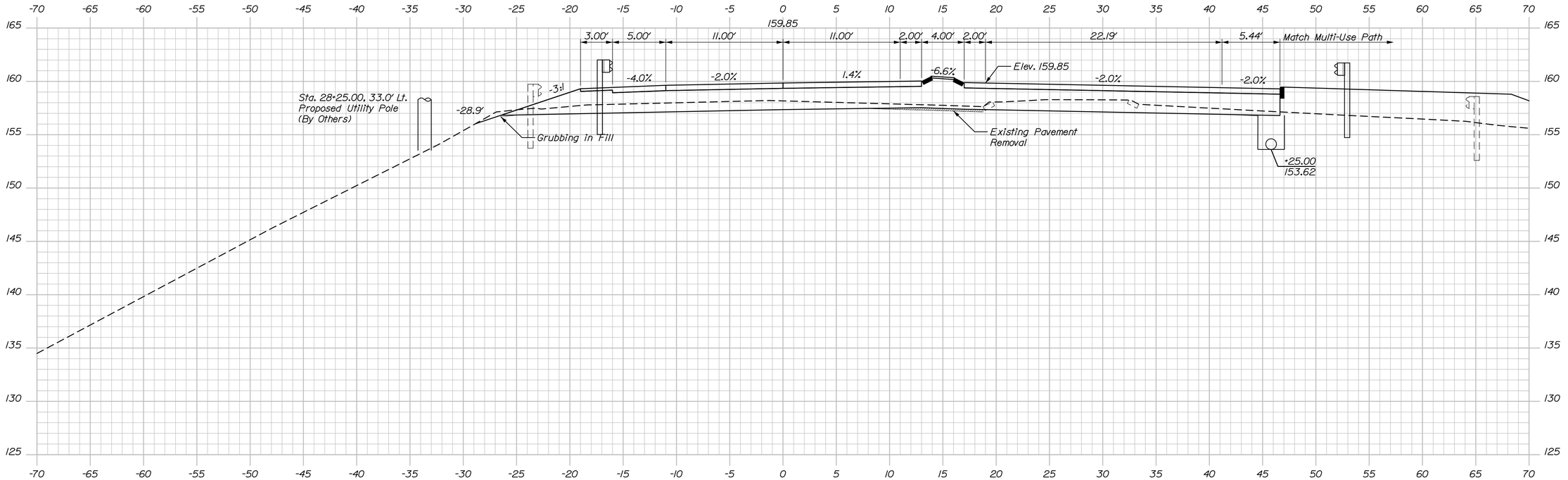
ROUTE 136/125 (MALLETT DR.)
CROSS SECTIONS

SHEET NUMBER
42
OF 144

HNTB

Sta. 27+75.00 to Sta. 28+00.00

Date:8/27/2021
Username:
Division:
Filename: Xsect_MallettDr.dgn



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE PLANS

BRIDGE No. 5721

	BY	DATE
PROJ. MANAGER	M. Kerstbergen	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	LZD	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

ROUTE 136/125 (MALLETT DR.)
CROSS SECTIONS

SHEET NUMBER

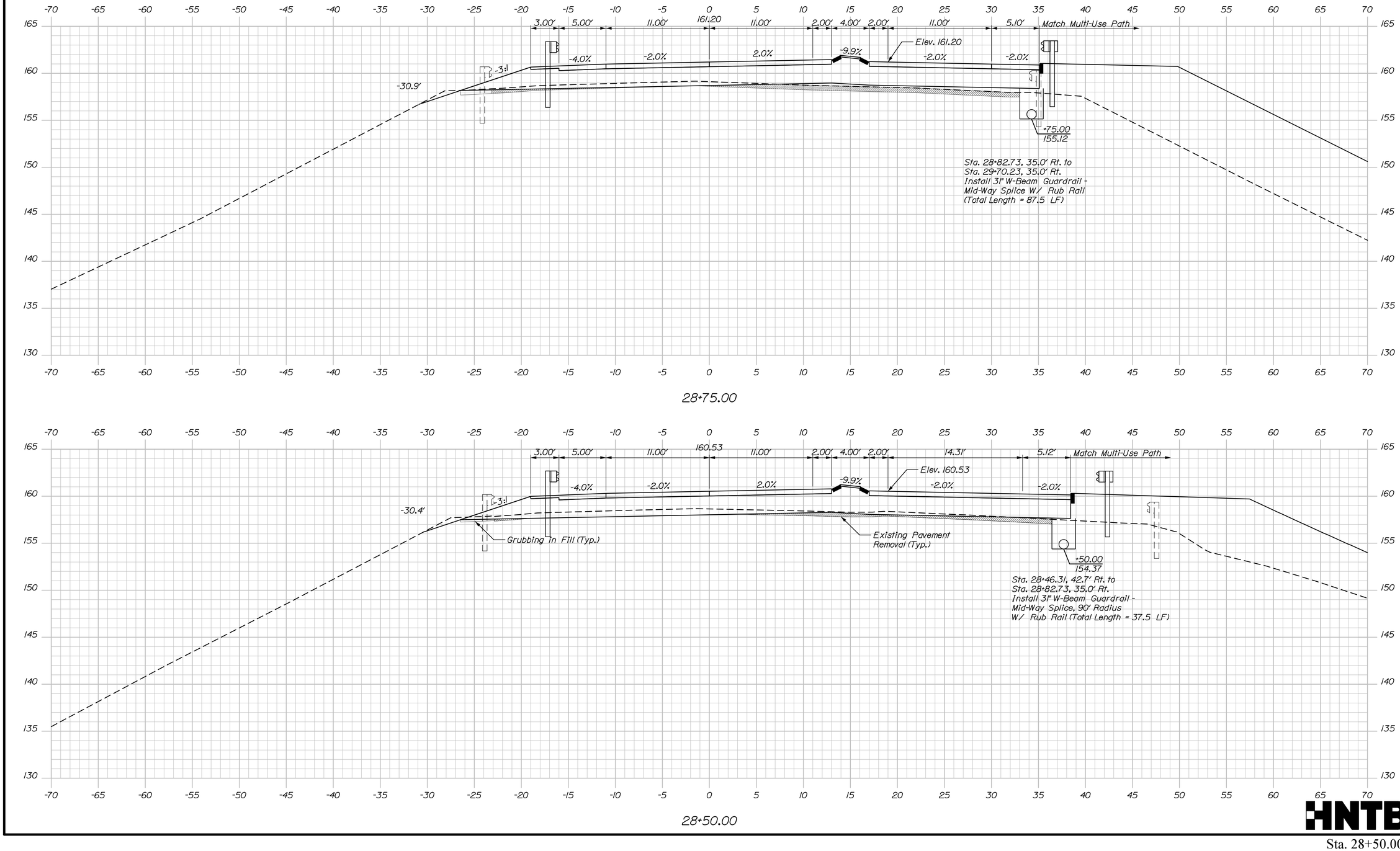
43

OF 144

HNTB

Sta. 28+11.00 to Sta. 28+25.00

Date:8/27/2021
Username:
Division:
Filename: Xsect_MallettDr.dgn



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kerstergen	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	LZD	08\21
DESIGN2-DETAILED2	DEB	
DESIGN3-DETAILED3	PEK	
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

ROUTE 136/125 (MALLETT DR.)
CROSS SECTIONS

SHEET NUMBER

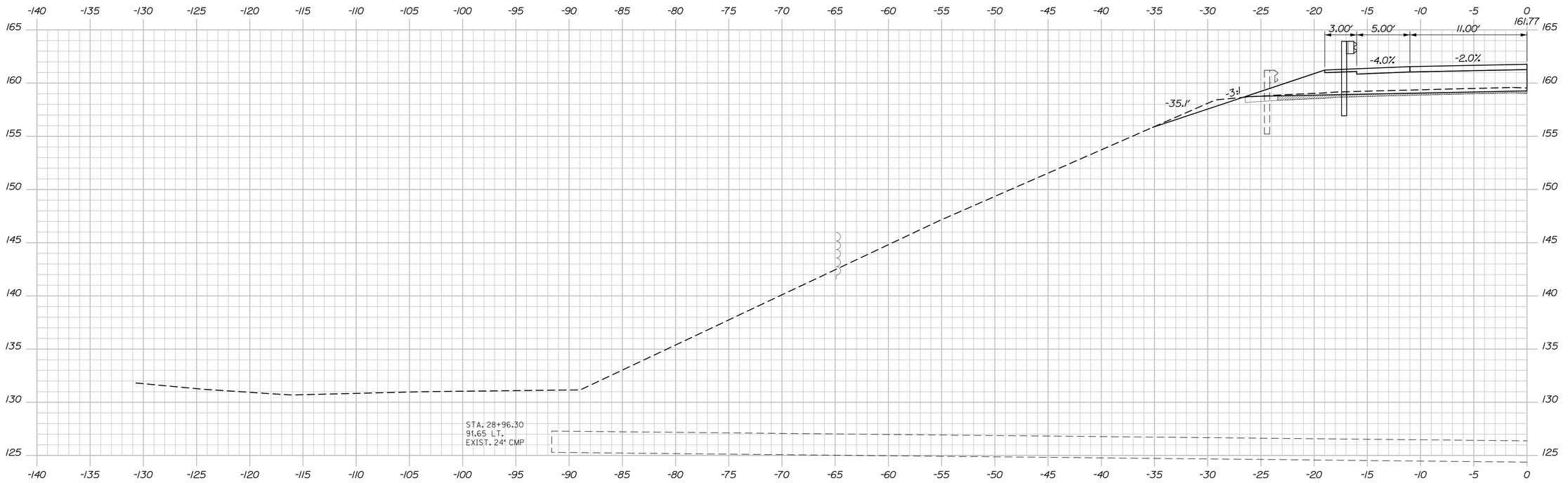
44

OF 144

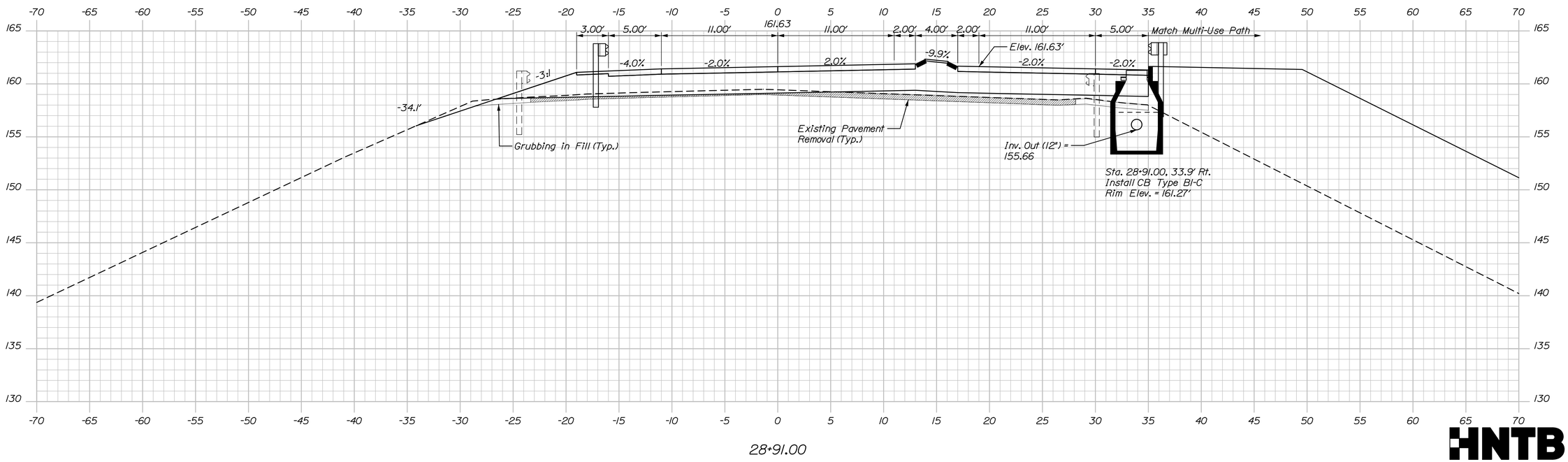
HNTB

Sta. 28+50.00 to Sta. 28+75.00

Filename: Xsect_MallettDr.dgn Division: Username: Date:8/27/2021



28+96.00 LT.



28+91.00

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE PLANS

BRIDGE No. 5721

	BY	DATE
PROJ. MANAGER	M. Kerstergen	
DESIGN-DETAILED	DEB	08\21
CHECKED-REVIEWED	CDH	08\21
DESIGN2-DETAILED2	LZD	
DESIGN3-DETAILED3	PEK	
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
CUMBERLAND

FREEPORT

ROUTE 136/125 (MALLETT DR.)
CROSS SECTIONS

SHEET NUMBER

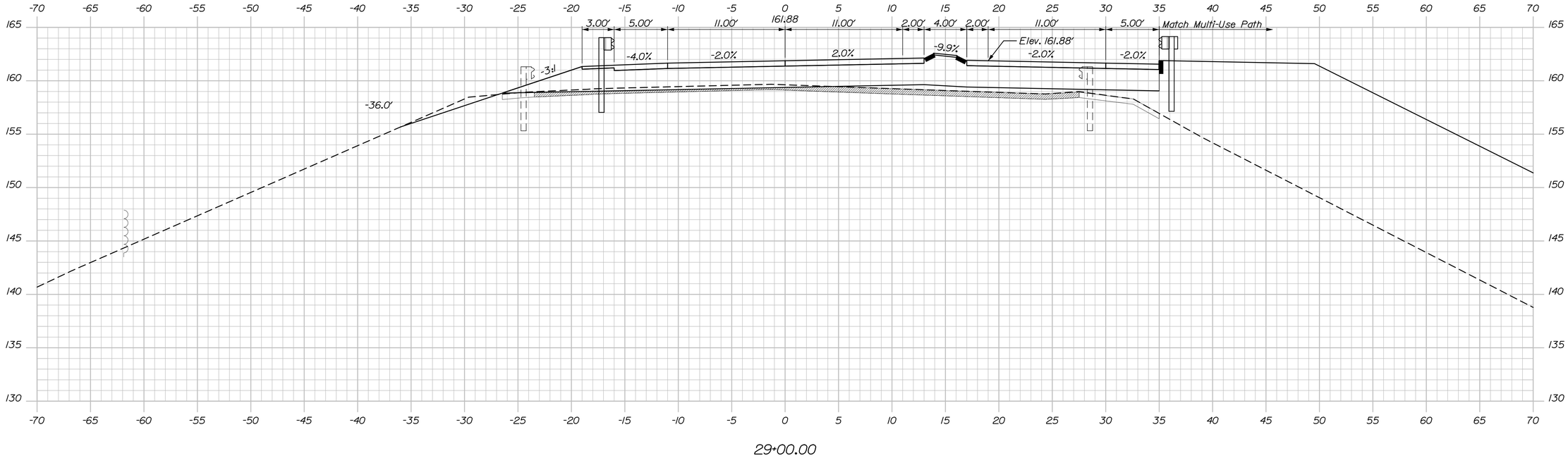
45

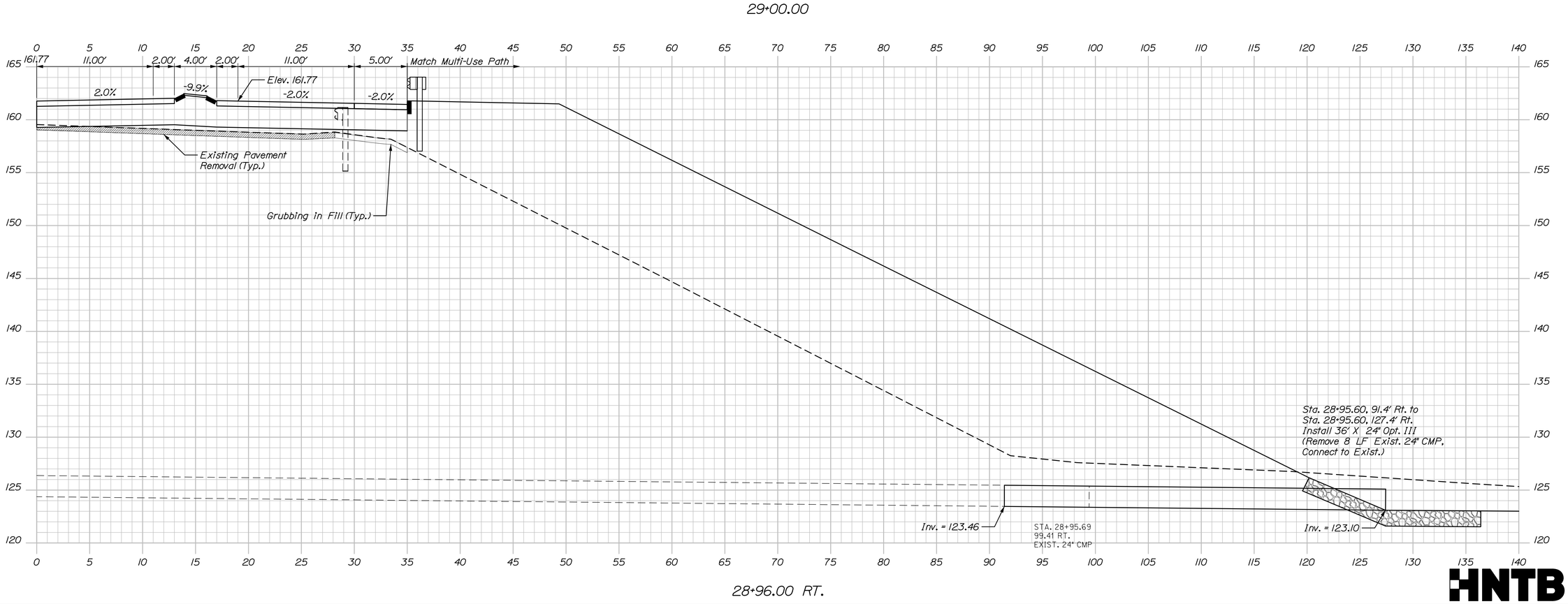
OF 144

Sta. 28+91.00 to Sta. 28+96.00

Filename: Xsect_MallettDr.dgn Division: Username: Date:8/27/2021

Date:8/27/2021
Username:
Division:
Filename: Xsect_MalletDr.dgn





STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE PLANS

BRIDGE No. 5721

	BY	DATE
PROJ. MANAGER	M. Kerbergen	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	LZD	08\21
DESIGN2-DETAILED2	DEB	
DESIGN3-DETAILED3	PEK	
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

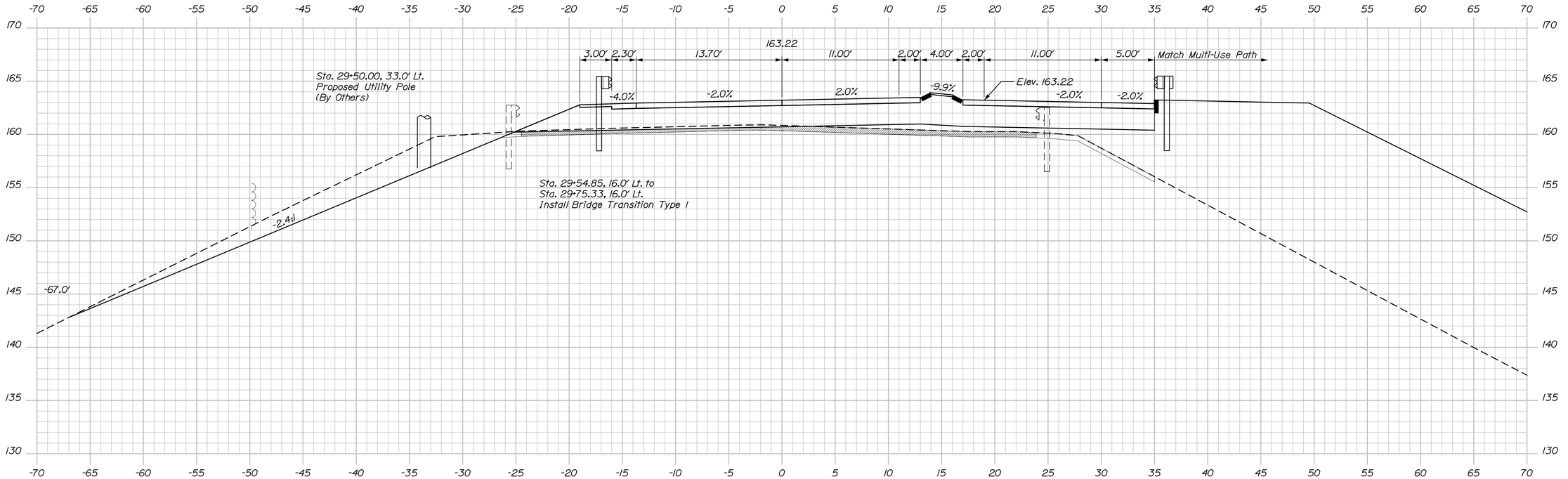
DATE

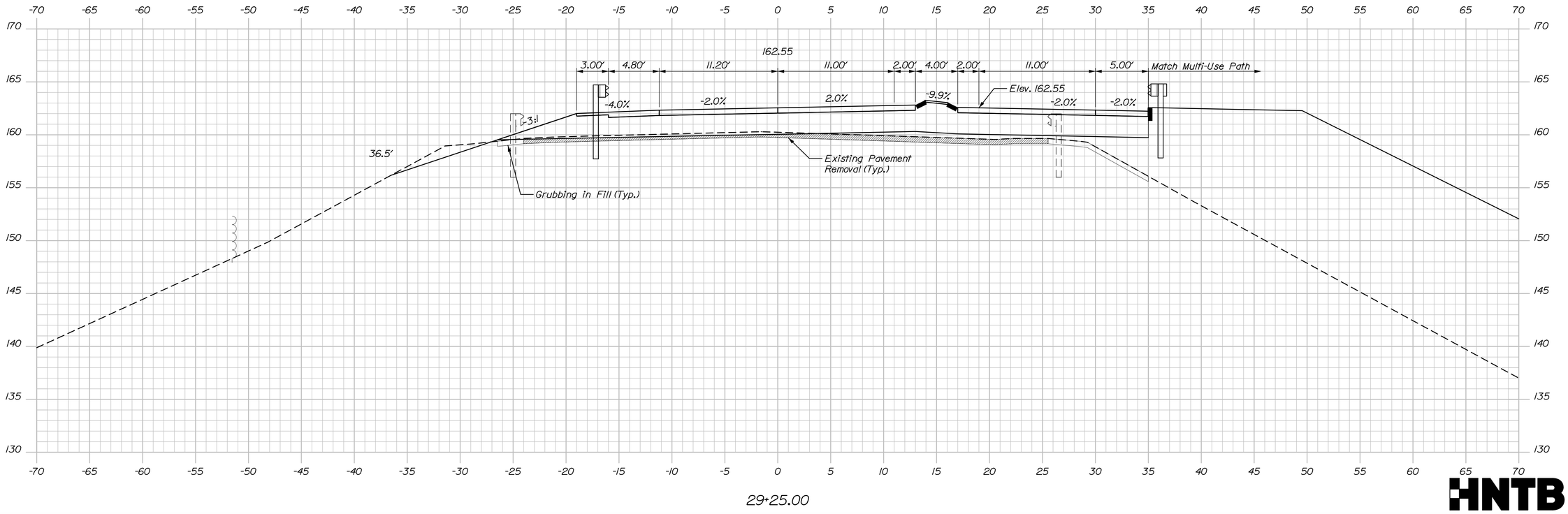
APPROACH ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT
ROUTE 136/125 (MALLETT DR.)
CROSS SECTIONS

SHEET NUMBER
46
OF 144

HNTB

Sta. 28+96.01 to Sta. 29+00.00





STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE PLANS

BRIDGE No. 5721

	BY	DATE
PROJ. MANAGER	M. Kershaw	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	LZD	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

ROUTE 136/125 (MALLETT DR.)
CROSS SECTIONS

SHEET NUMBER

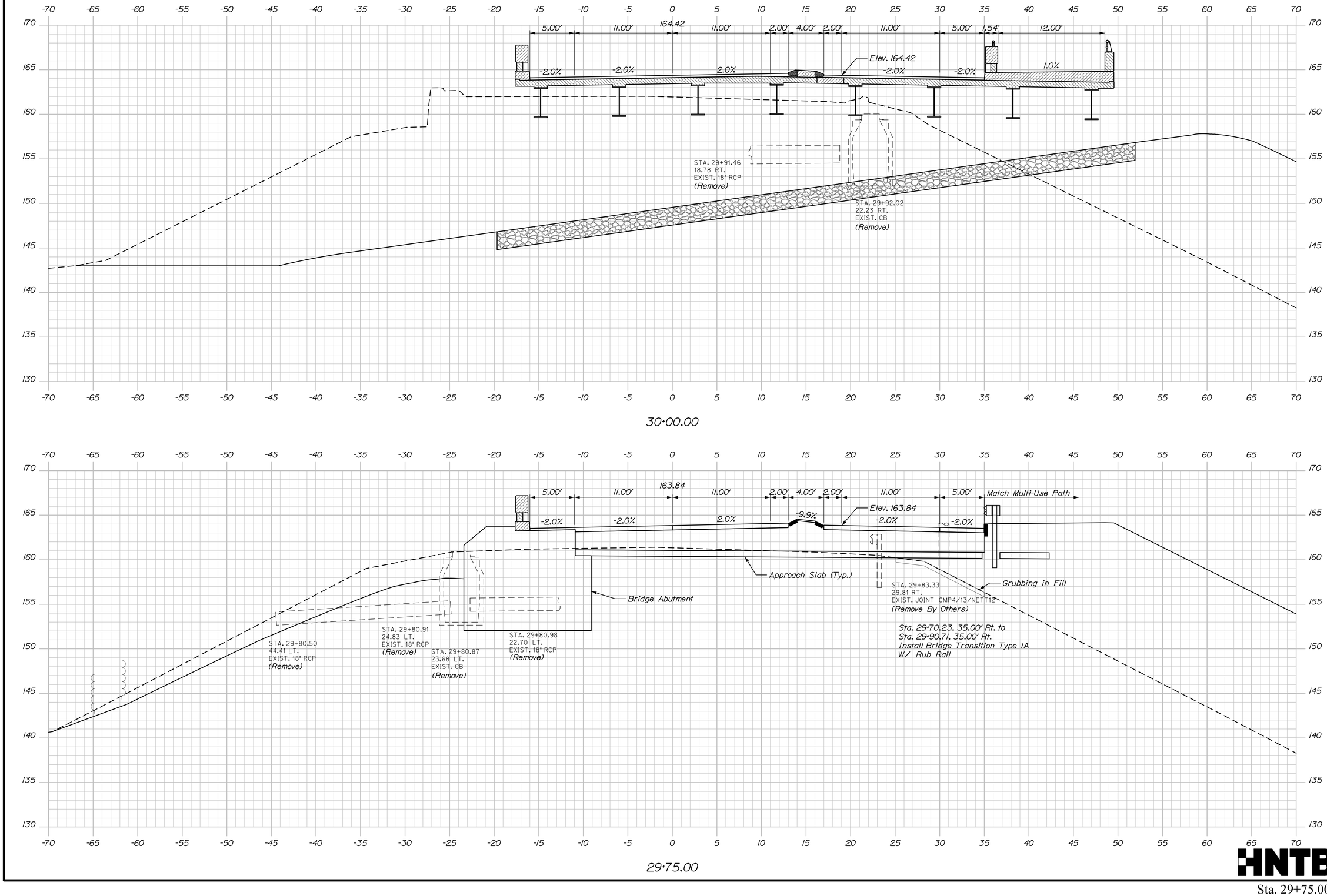
47

OF 144

HNTB

Sta. 29+25.00 to Sta. 29+50.00

Date:8/27/2021
Username:
Division:
Filename: Xsect_MallettDr.dgn



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN
021726.00

BRIDGE No. 5721

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kershaw	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	LZD	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

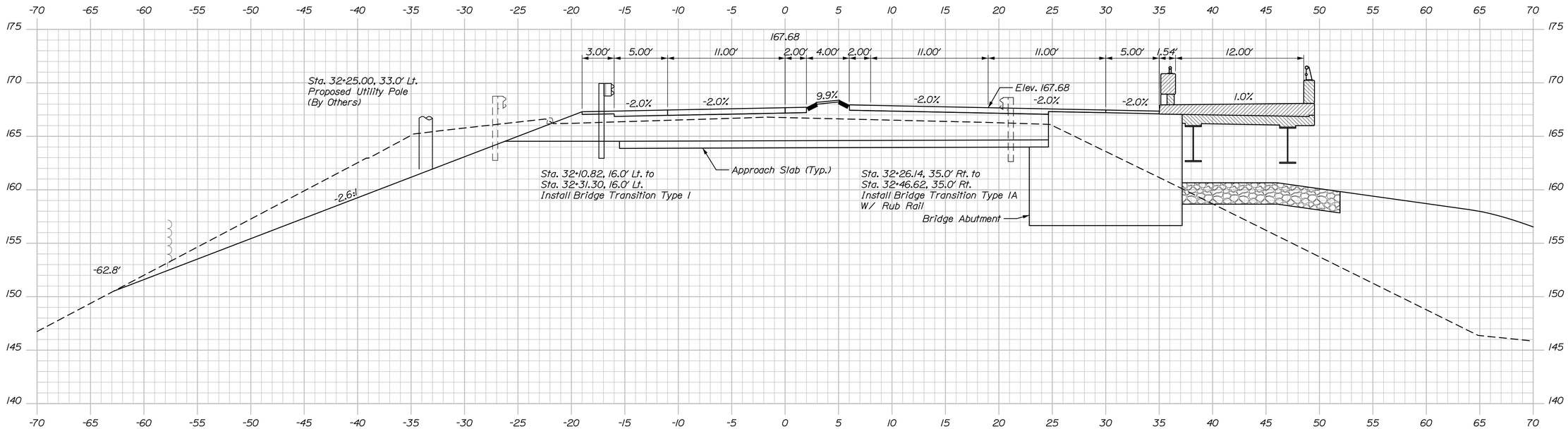
ROUTE 136/125 (MALLETT DR.)
CROSS SECTIONS

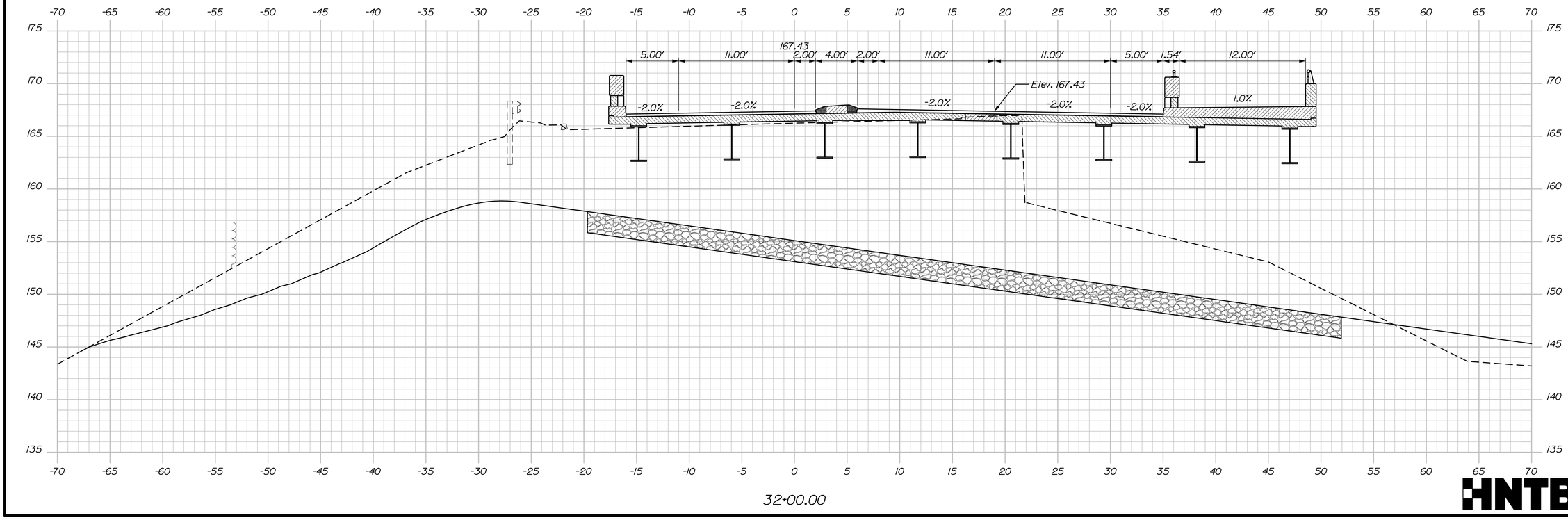
SHEET NUMBER
48
OF 144

HNTB

Sta. 29+75.00 to Sta. 30+00.00

Filename: Xsect_MallettDr.dgn Division: Username: Date:8/27/2021





STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

PROJ. MANAGER	M. Kersbergen			
DESIGN-DETAILED	CDH	DEB	08\21	
CHECKED-REVIEWED	LZD	PEK	08\21	
DESIGN2-DETAILED2				
DESIGN3-DETAILED3				
REVISIONS 1				
REVISIONS 2				
REVISIONS 3				
REVISIONS 4				
FIELD CHANGES				

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

ROUTE 136/125 (MALLETT DR.)
CROSS SECTIONS

SHEET NUMBER

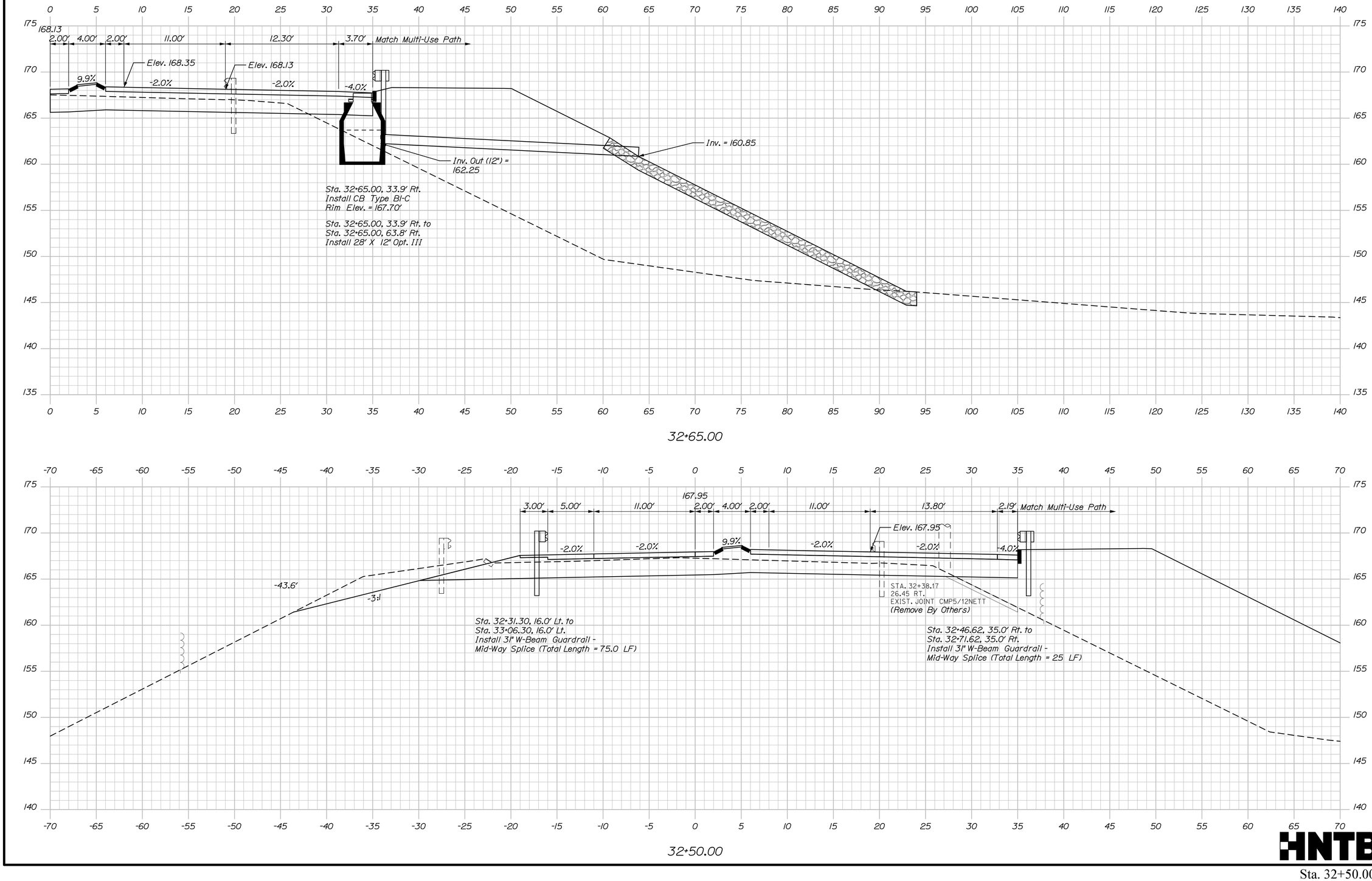
49

OF 144

HNTB

Sta. 32+00.00 to Sta. 32+25.00

Filename: Xsect_MallettDr.dgn
Division:
Username:
Date:8/27/2021



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	M. Kerstetter		
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	LZD	PEK	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

ROUTE 136/125 (MALLETT DR.)
CROSS SECTIONS

SHEET NUMBER

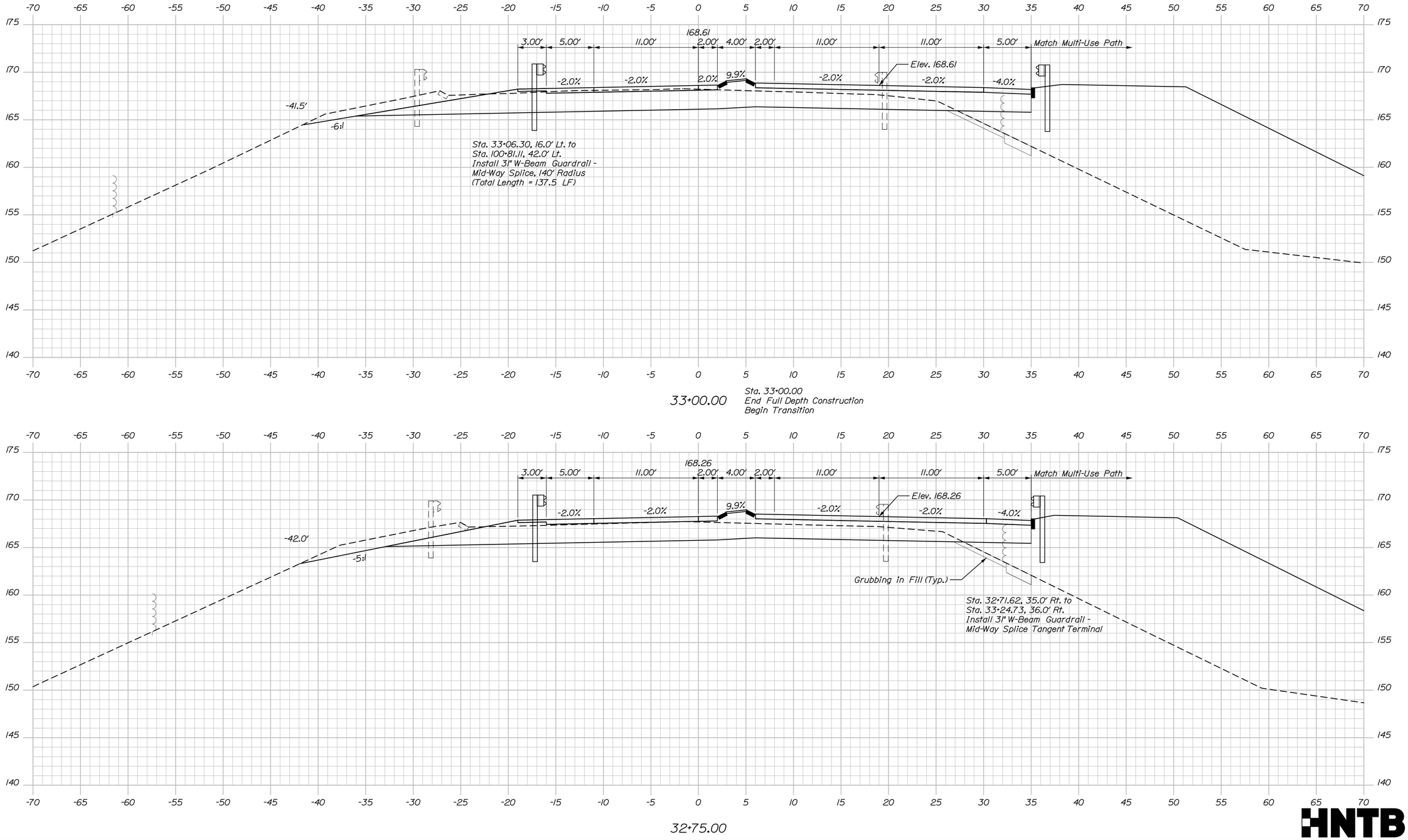
50

OF 144

HNTB

Sta. 32+50.00 to Sta. 32+65.00

Filename: Xsect_MallettDr.dgn Division: Username: Date:8/27/2021



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	M. Kerstergen		
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	LZD	PEK	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

ROUTE 136/125 (MALLETT DR.)
CROSS SECTIONS

SHEET NUMBER

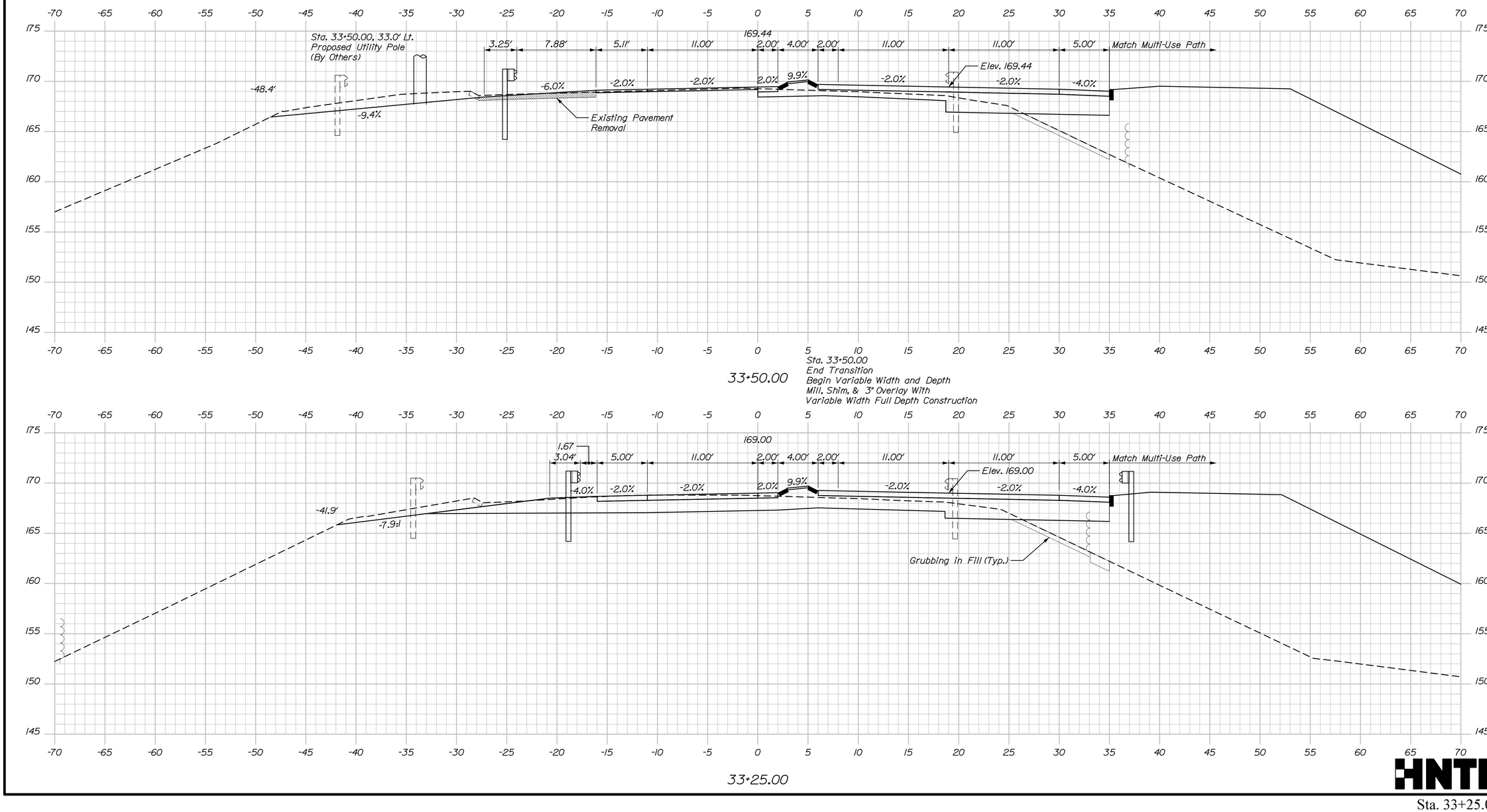
51

OF 144

HNTB

Sta. 32+75.00 to Sta. 33+00.00

Date:8/27/2021
Username:
Division:
Filename: Xsect_MallettDr.dgn



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kershaw	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	LZD	08\21
DESIGN2-DETAILED2	PEK	
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
CUMBERLAND

FREEPORT

ROUTE 136/125 (MALLETT DR.)
CROSS SECTIONS

SHEET NUMBER

52

OF 144

HNTB

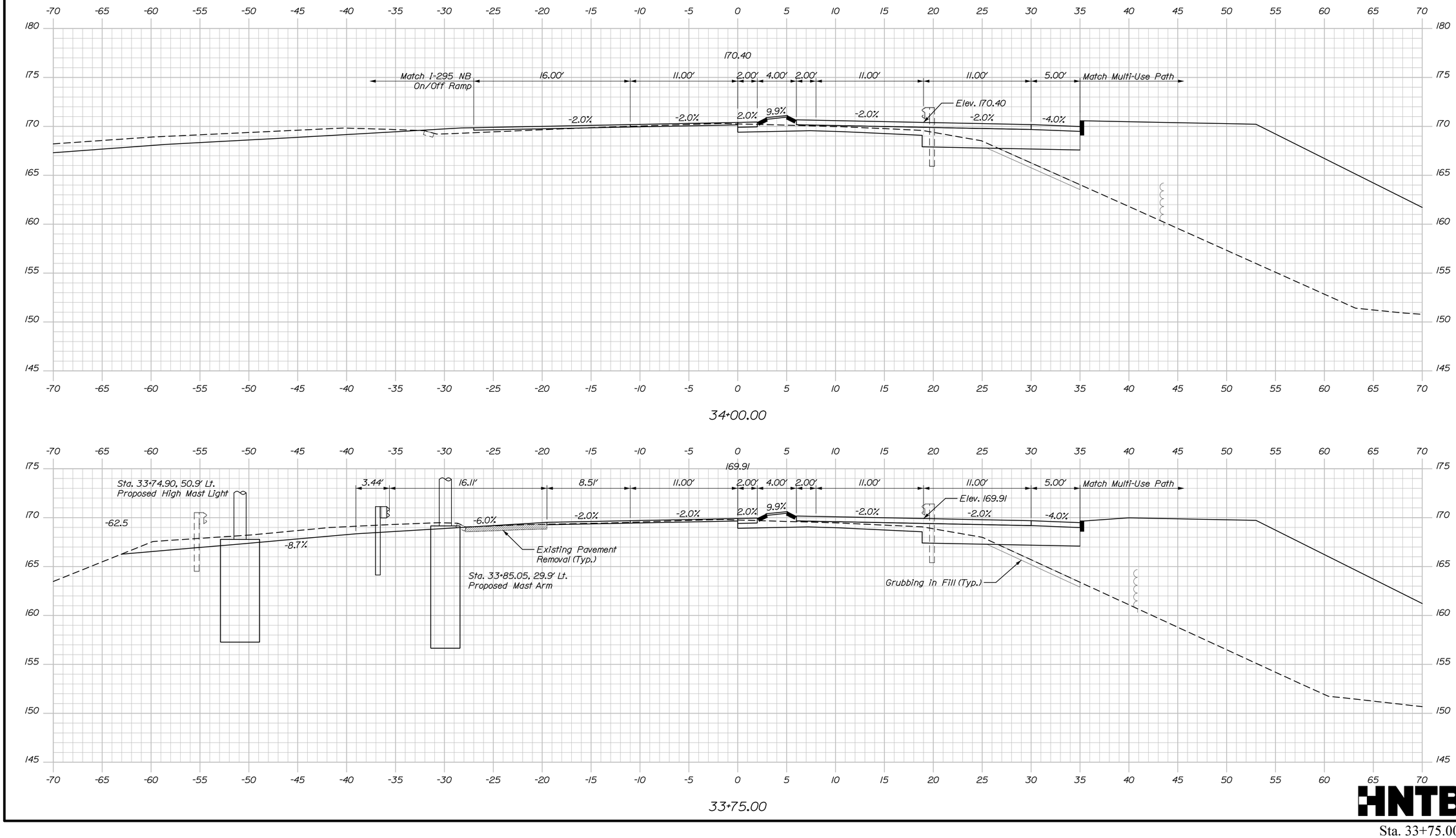
Sta. 33+25.00 to Sta. 33+50.00

Date:8/27/2021

Username:

Division:

Filename: Xsect_MallettDr.dgn



HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

PROJ. MANAGER	M. Kershaw	BY	DATE
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	LZD	PEK	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

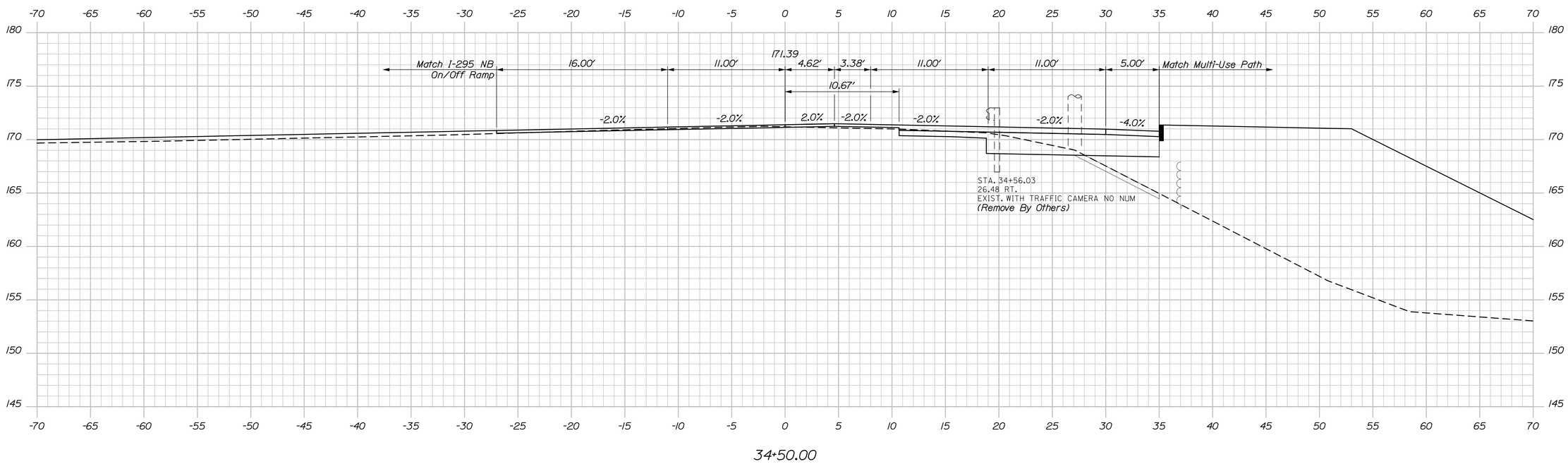
APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

ROUTE 136/125 (MALLETT DR.)
CROSS SECTIONS

SHEET NUMBER
53
OF 144

Sta. 33+75.00 to Sta. 34+00.00

Username:
Division:
Date:8/27/2021
Filename: Xsect_MallettDr.dgn



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

PROJ. MANAGER	M. Kerstetgen	BY	DATE
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	LZD	PEK	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

ROUTE 136/125 (MALLETT DR.)
CROSS SECTIONS

SHEET NUMBER

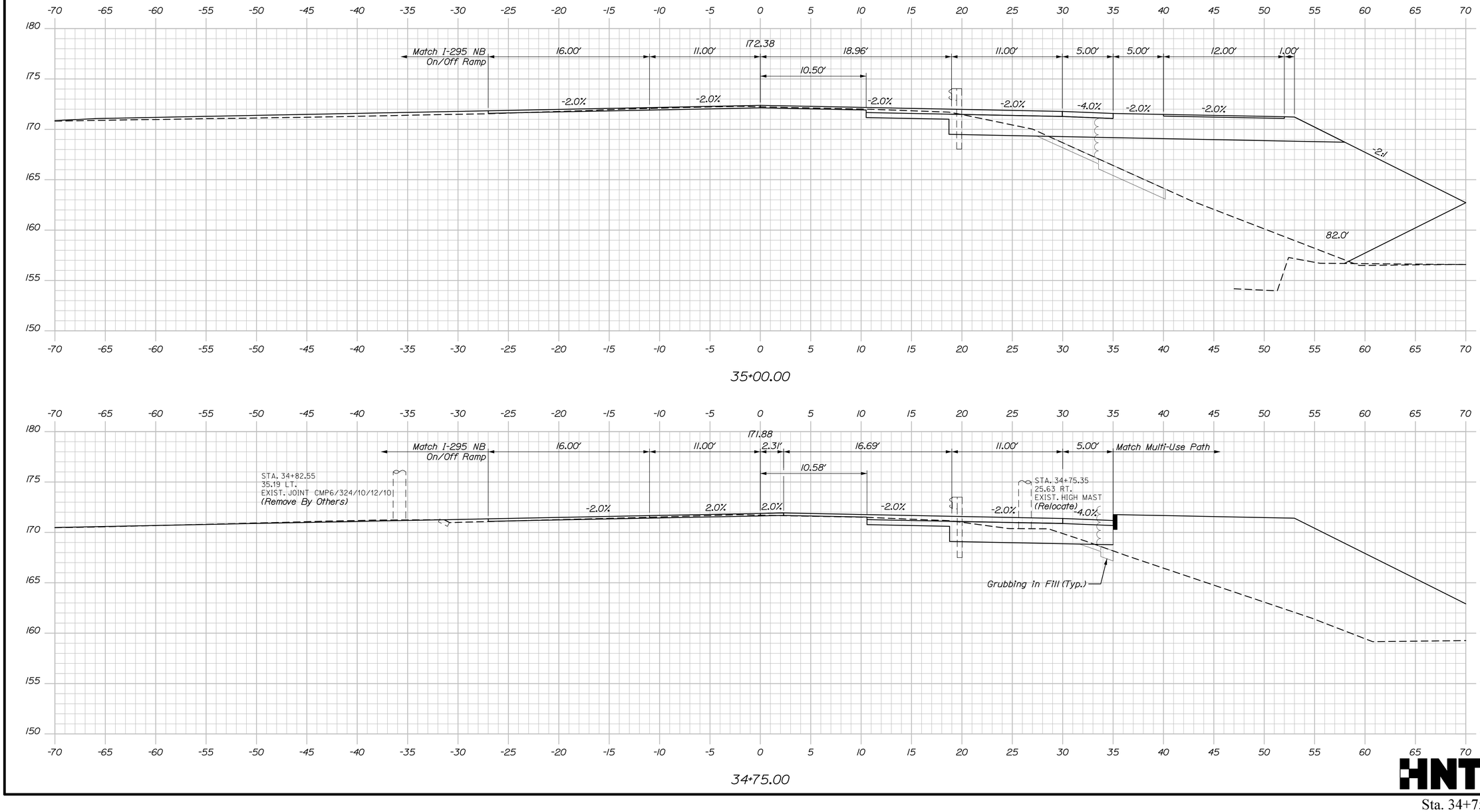
54

OF 144

HNTB

Sta. 34+25.00 to Sta. 34+50.00

Filename: Xsect_MallettDr.dgn Division: Username: Date:8/27/2021



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kerstergen	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	LZD	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
CUMBERLAND

FREEPORT

ROUTE 136/125 (MALLETT DR.)
CROSS SECTIONS

SHEET NUMBER

55

OF 144

HNTB

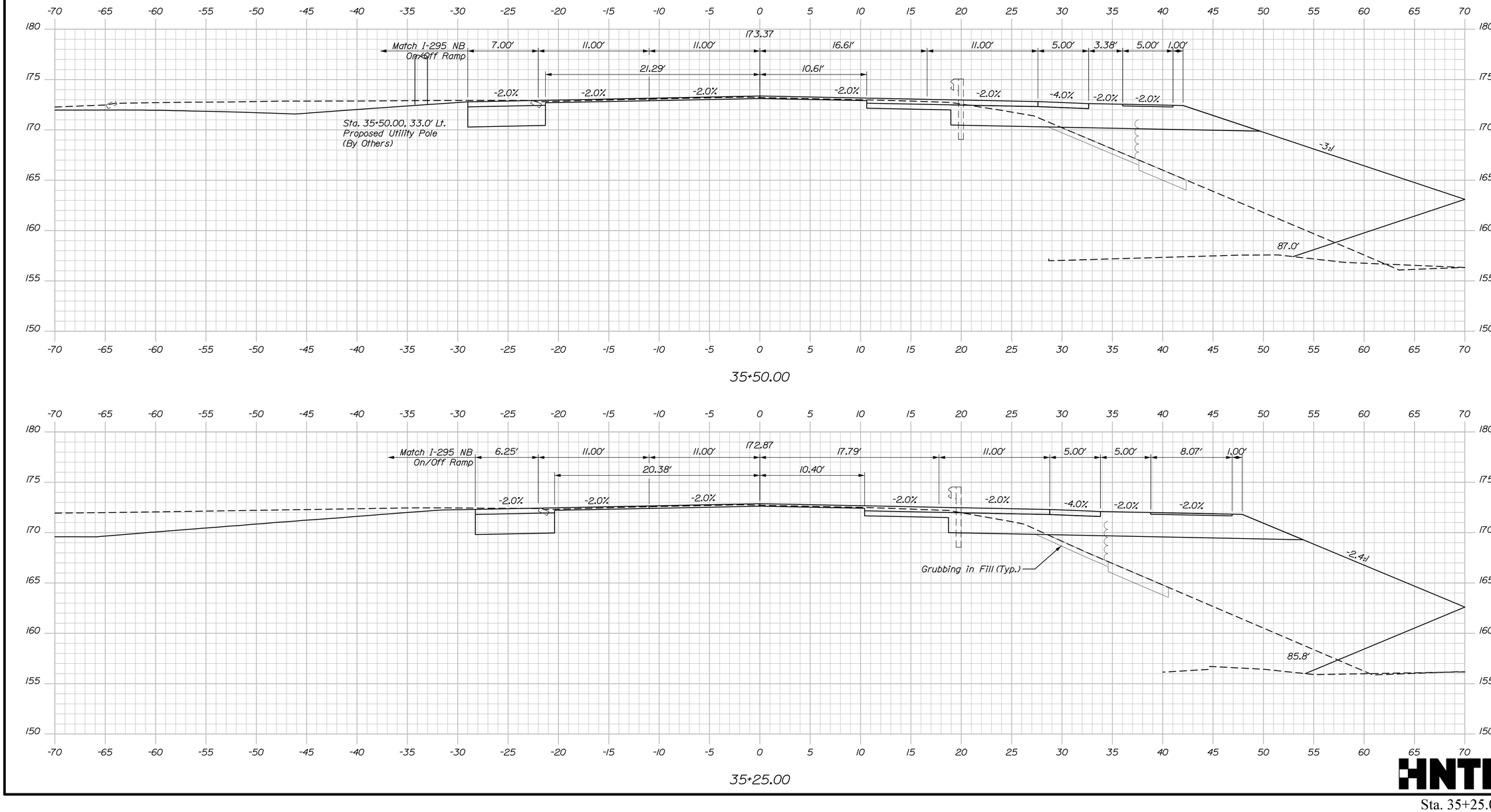
Sta. 34+75.00 to Sta. 35+00.00

Date:8/27/2021

Username:

Division:

Filename: Xsect_MallettDr.dgn



Sta. 35+25.00 to Sta. 35+50.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kershaw	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	LZD	08\21
DESIGN2-DETAILED2	PEK	
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

ROUTE 136/125 (MALLETT DR.)
CROSS SECTIONS

SHEET NUMBER

56

OF 144

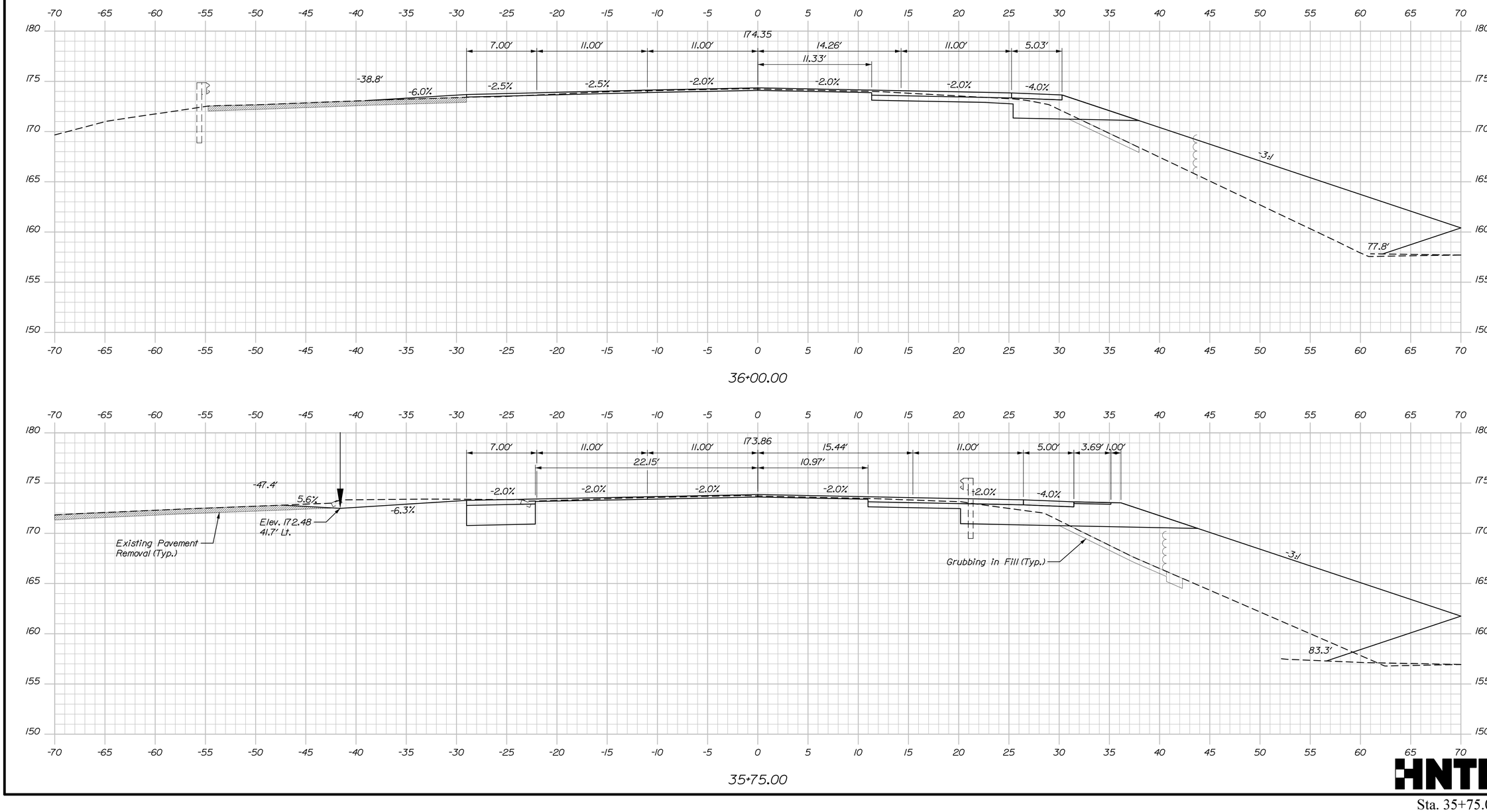
HNTB

Username:

Division:

Date:8/27/2021

Filename: Xsect_MallettDr.dgn



HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

SIGNATURE			
P.E. NUMBER			
DATE			

			DATE
PROJ. MANAGER	M. Kershbergen	BY	
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	LZD	PEK	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

APPROACH ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

ROUTE 136/125 (MALLETT DR.)
CROSS SECTIONS

SHEET NUMBER

57

OF 144

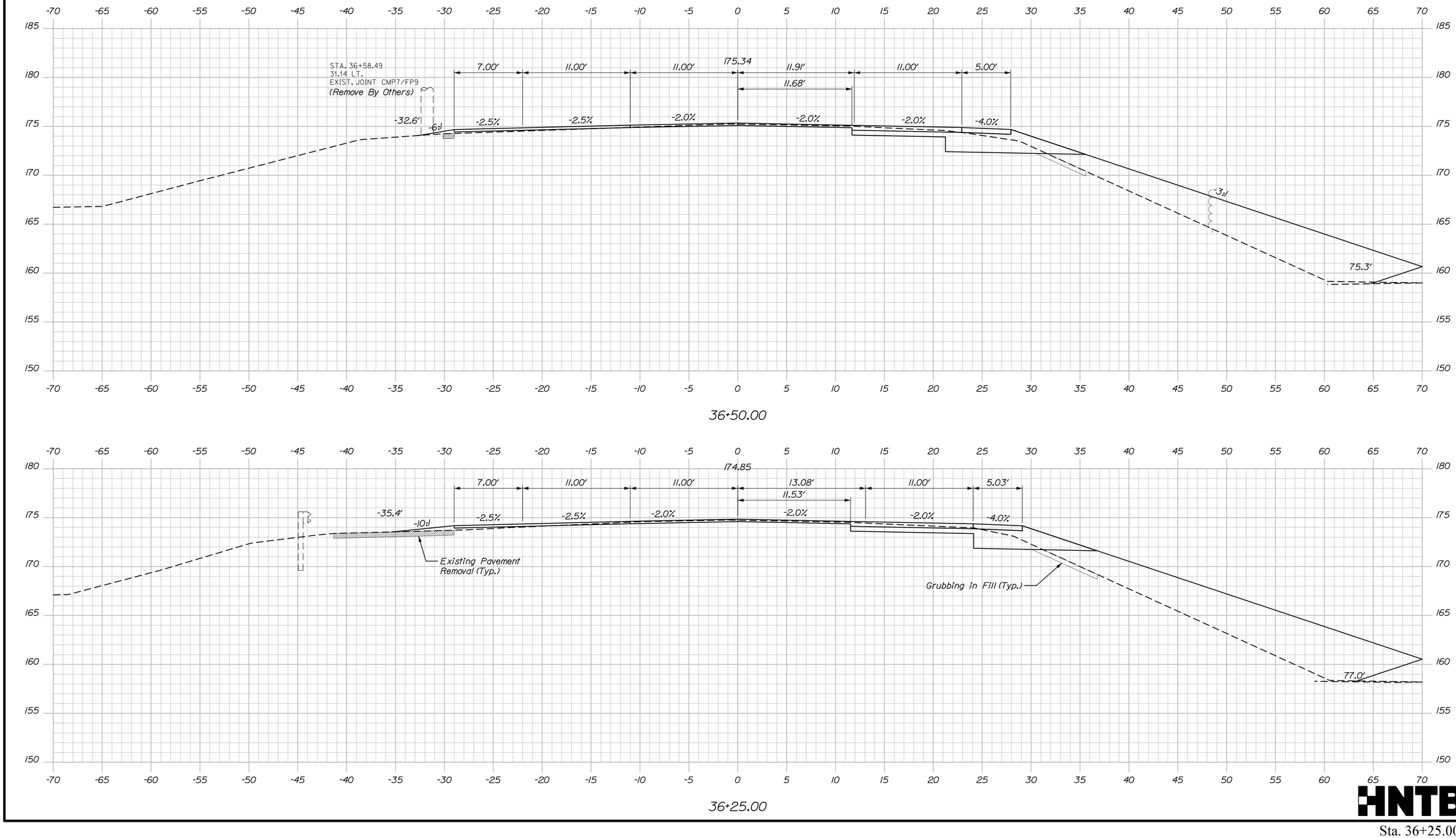
Sta. 35+75.00 to Sta. 36+00.00

Date:8/27/2021

Username:

Division:

Filename: Xsect_MallettDr.dgn



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN
021726.00

BRIDGE No. 5721

BRIDGE PLANS

PROJ. MANAGER	M. Kershaw	BY	DATE
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	LZD	PEK	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

ROUTE 136/125 (MALLETT DR.)
CROSS SECTIONS

SHEET NUMBER

58

OF 144

HNTB

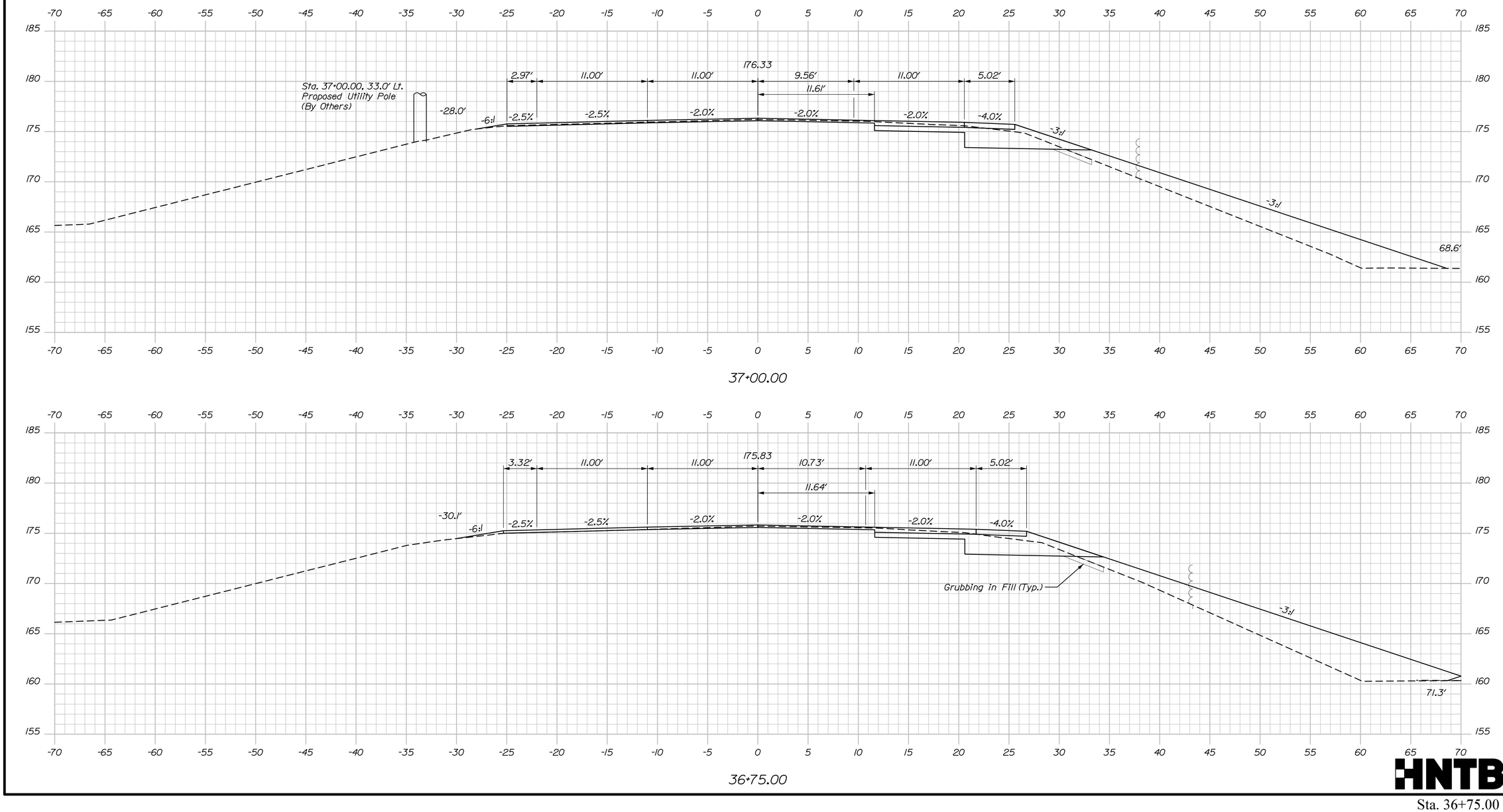
Sta. 36+25.00 to Sta. 36+50.00

Date:8/27/2021

Username:

Division:

Filename: Xsect_MallettDr.dgn



HNTB

Sta. 36+75.00 to Sta. 37+00.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

PROJ. MANAGER	M. Kershbergen	BY	DATE
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	LZD	PEK	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

ROUTE 136/125 (MALLETT DR.)
CROSS SECTIONS

SHEET NUMBER

59

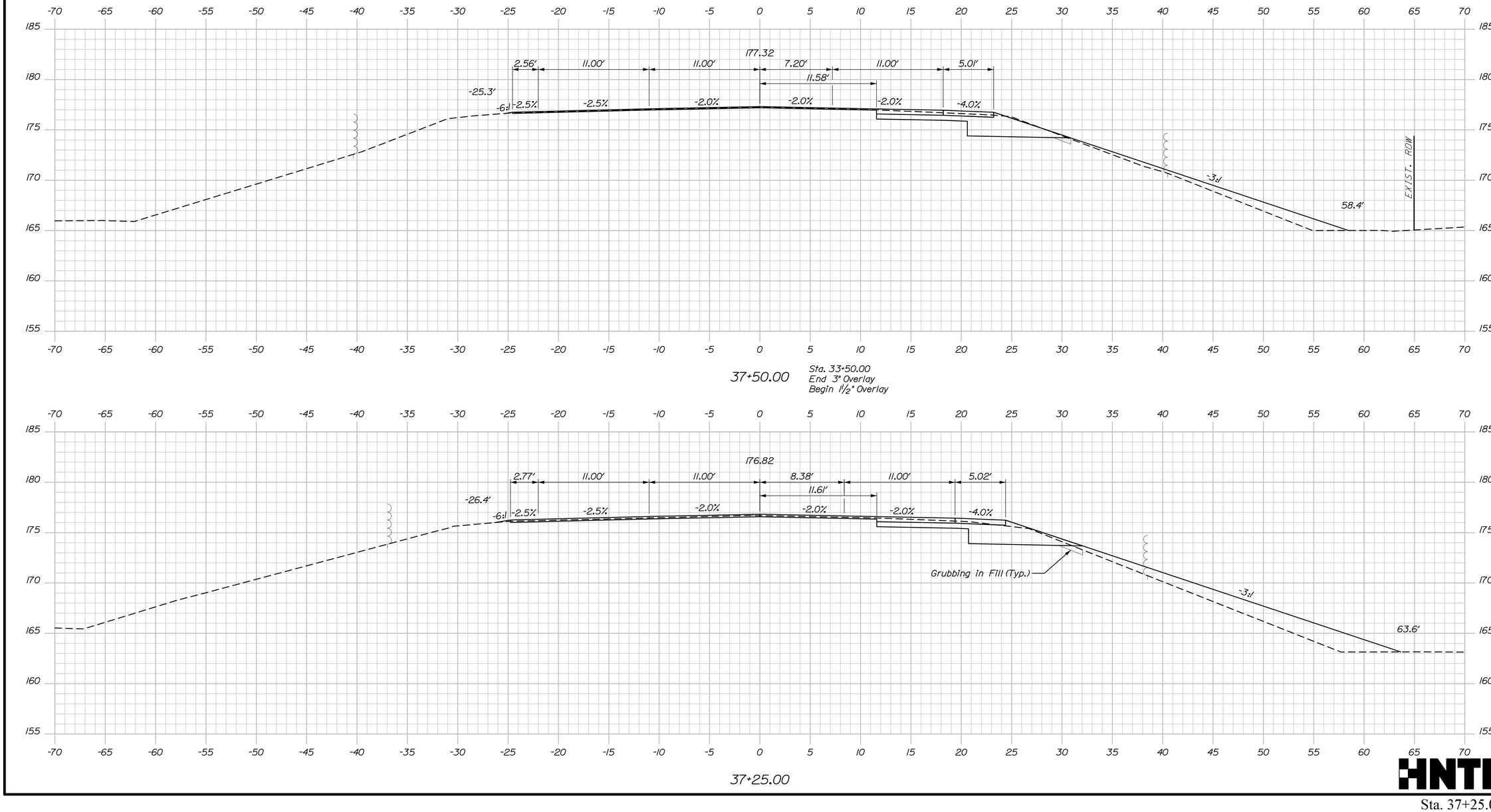
OF 144

Username:

Division:

Date:8/27/2021

Filename: Xsect_MallettDr.dgn



Sta. 37+25.00 to Sta. 37+50.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

PROJ. MANAGER	M. Kershbergen	BY	DATE
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	LZD	PEK	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

ROUTE 136/125 (MALLETT DR.)
CROSS SECTIONS

SHEET NUMBER

60

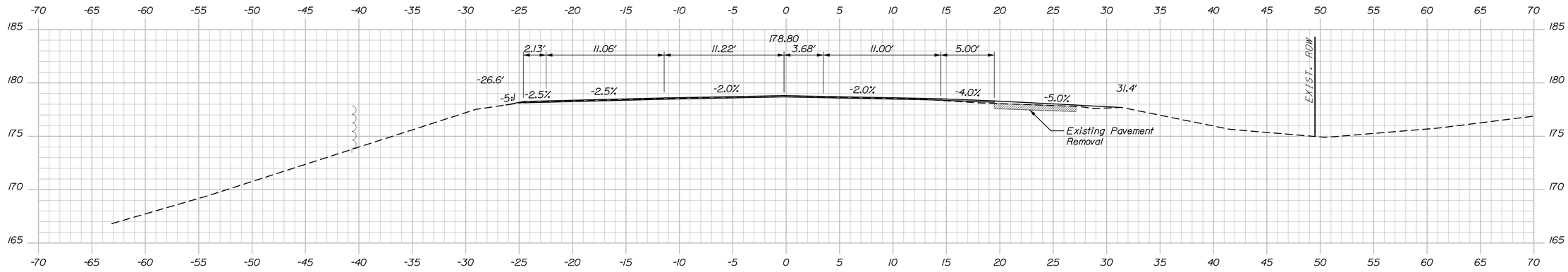
OF 144

Username:

Division:

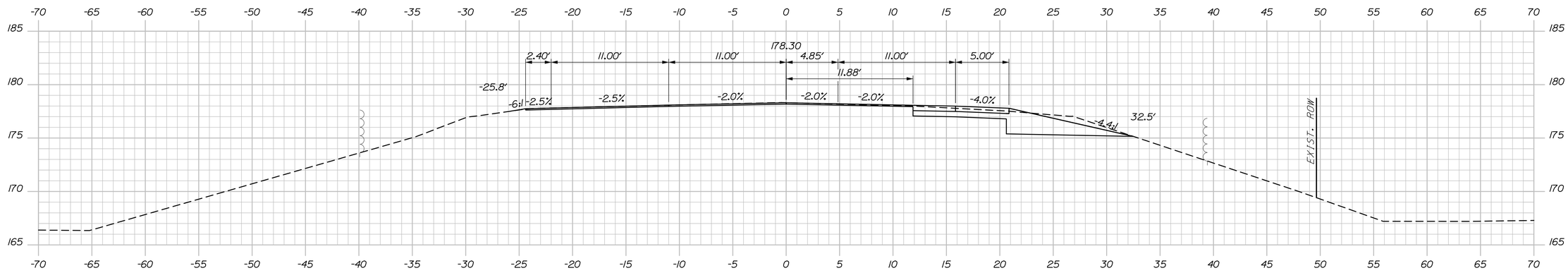
Date:8/27/2021

Filename: Xsect_MallettDr.dgn

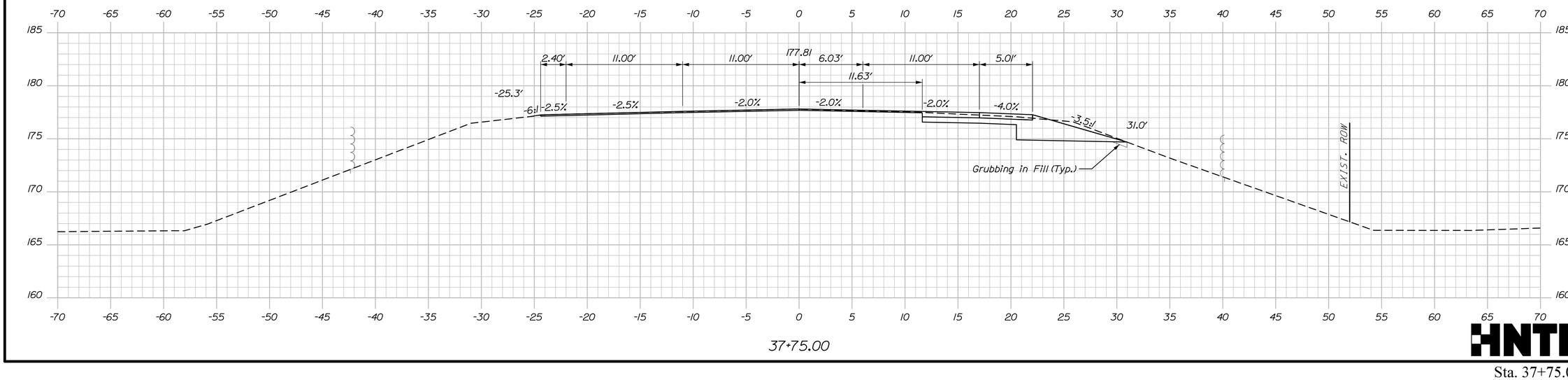


38+25.00

Sta. 38+25.00
End Variable Width and Depth
Mill, Shim, & 1½" Overlay With
Variable Width Full Depth Construction
Begin Variable Width
Mill, Shim, & 1½" Overlay



38+00.00



37+75.00

HNTB

Sta. 37+75.00 to Sta. 38+25.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kershaw	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	LZD	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

ROUTE 136/125 (MALLETT DR.)
CROSS SECTIONS

SHEET NUMBER

61

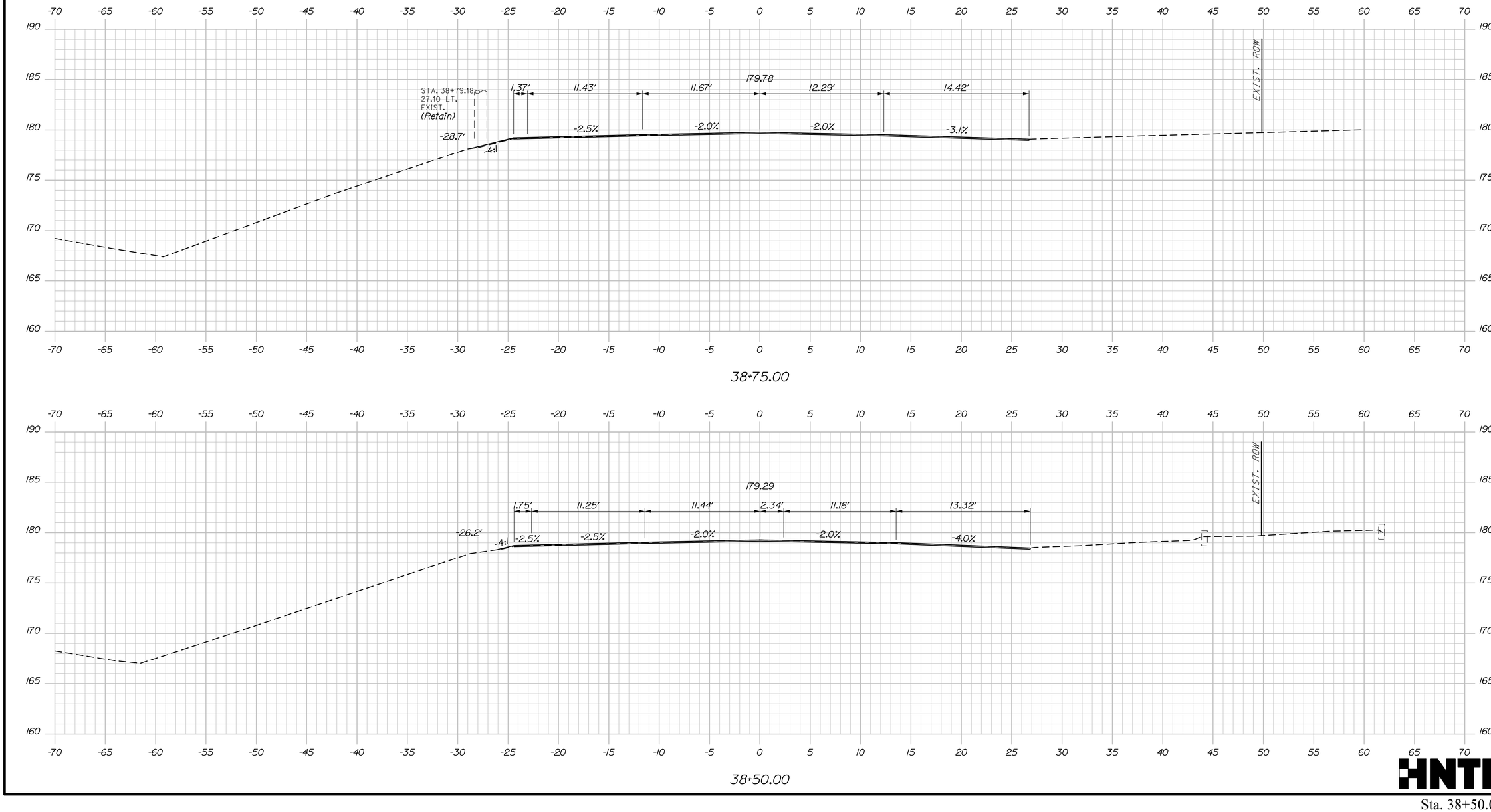
OF 144

Date:8/27/2021

Username:

Division:

Filename: Xsect_MallettDr.dgn



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721 BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kershaw	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	DEB	08\21
DESIGN2-DETAILED2	LZD	
DESIGN3-DETAILED3	PEK	
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
CUMBERLAND

FREEPORT

ROUTE 136/125 (MALLETT DR.)
CROSS SECTIONS

SHEET NUMBER

62

OF 144

HNTB

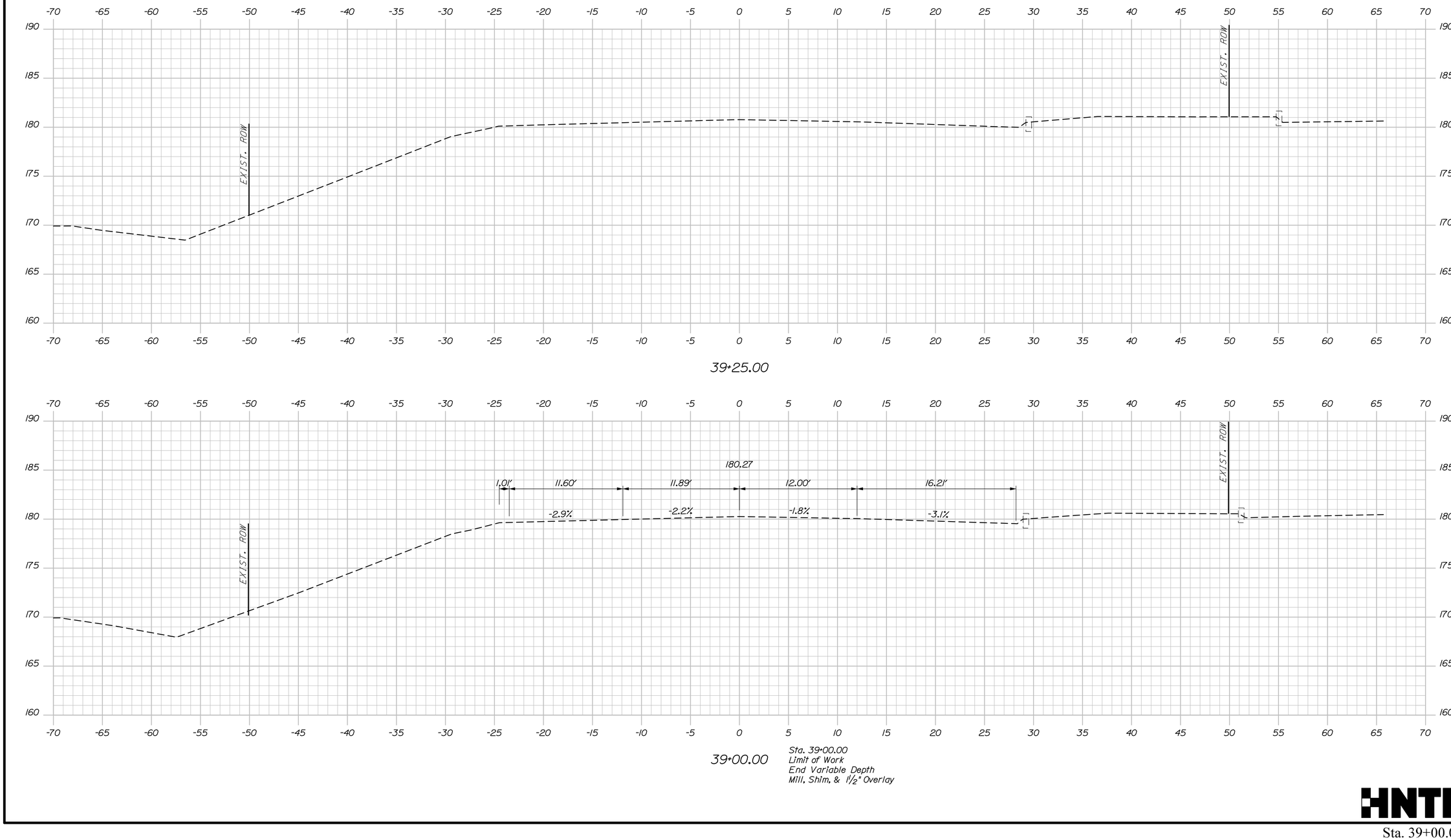
Sta. 38+50.00 to Sta. 38+75.00

Date:8/27/2021

Username:

Division:

Filename: Xsect_MallettDr.dgn



HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kerstetgen	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	LZD	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

ROUTE 136/125 (MALLETT DR.)
CROSS SECTIONS

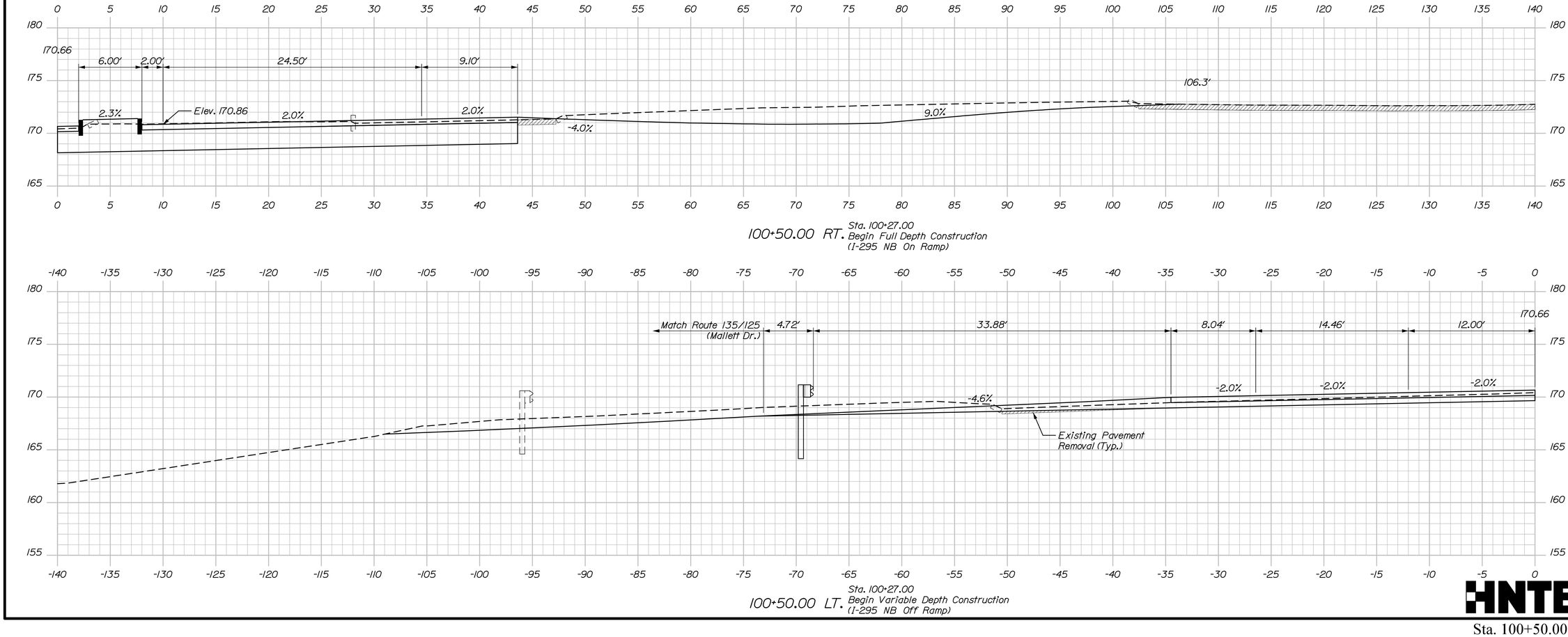
SHEET NUMBER

63

OF 144

Sta. 39+00.00 to Sta. 39+25.00

Filename: Xsect_MallettDr.dgn Division: Username: Date:8/27/2021



100+50.00 RT. Sta. 100+27.00 Begin Full Depth Construction (I-295 NB On Ramp)

100+50.00 LT. Sta. 100+27.00 Begin Variable Depth Construction (I-295 NB Off Ramp)

Sta. 100+50.00 to Sta. 100+50.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721 BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kerstetgen	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	LZD	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

I-295 NB ON/OFF RAMP CROSS SECTIONS

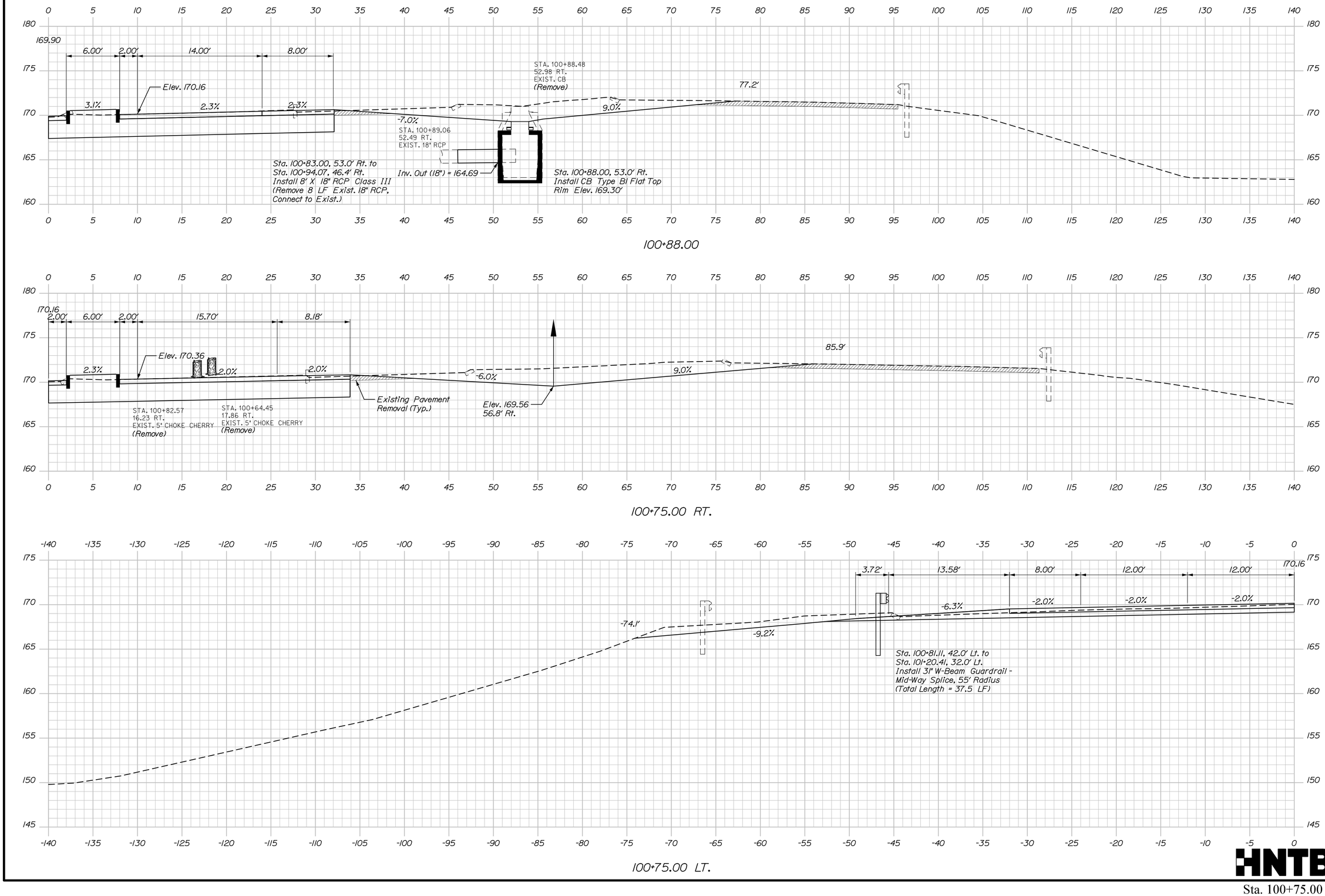
SHEET NUMBER

64

OF 144

HNTB

Filename: Xsect_I295_NB Ramps.dgn Division: Username: Date:8/27/2021



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kershaw	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	DEB	08\21
DESIGN2-DETAILED2	LZD	
DESIGN3-DETAILED3	PEK	
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

I-295 NB ON/OFF RAMP
CROSS SECTIONS

SHEET NUMBER

65

OF 144

HNTB

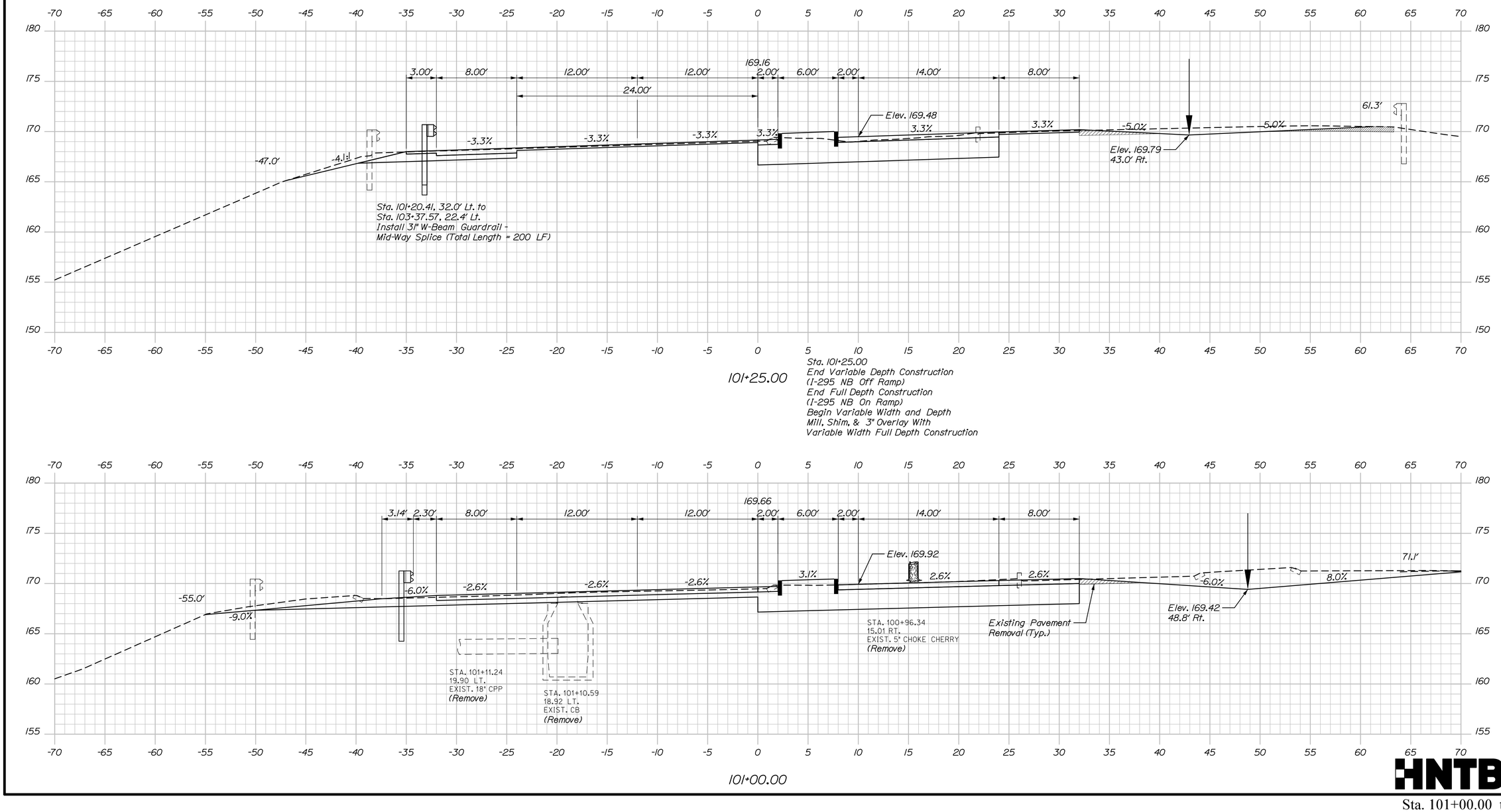
Sta. 100+75.00 to Sta. 100+88.00

Date:8/27/2021

Username:

Division:

Filename: Xsect_I295_NB Ramps.dgn



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

PROJ. MANAGER	M. Kershaw	BY	DATE
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	LZD	PEK	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

I-295 NB ON/OFF RAMP
CROSS SECTIONS

SHEET NUMBER

66

OF 144

HNTB

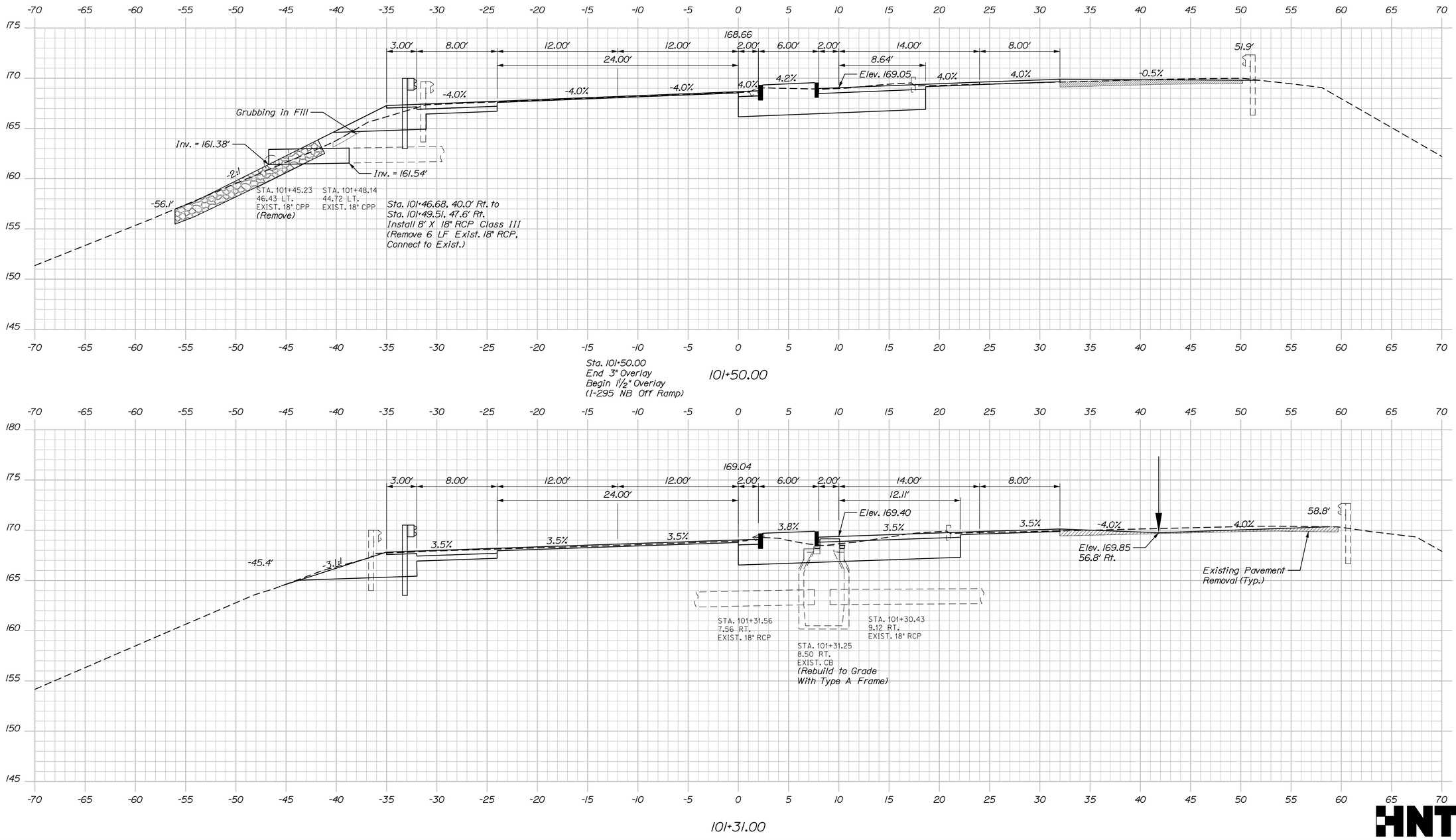
Sta. 101+00.00 to Sta. 101+25.00

Date:8/27/2021

Username:

Division:

Filename: Xsect_I295_NB Ramps.dgn



HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kerstetgen	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	LZD	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

I-295 NB ON/OFF RAMP CROSS SECTIONS

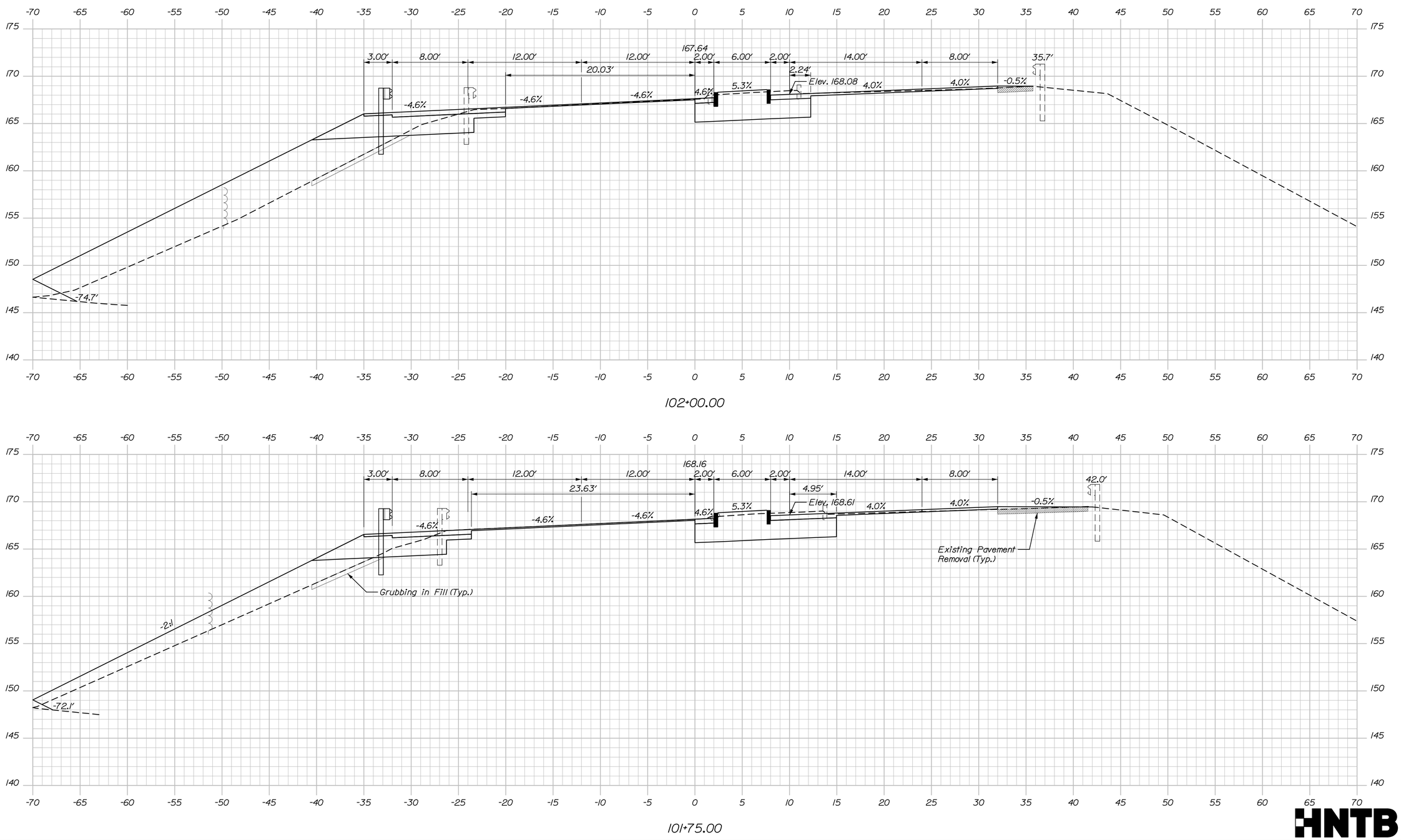
SHEET NUMBER

67

OF 144

Sta. 101+31.00 to Sta. 101+50.00

Filename: Xsect_I295_NB Ramps.dgn Division: Username: Date:8/27/2021



Sta. 101+75.00 to Sta. 102+00.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	M. Kerstetgen		
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	LZD	PEK	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

I-295 NB ON/OFF RAMP
CROSS SECTIONS

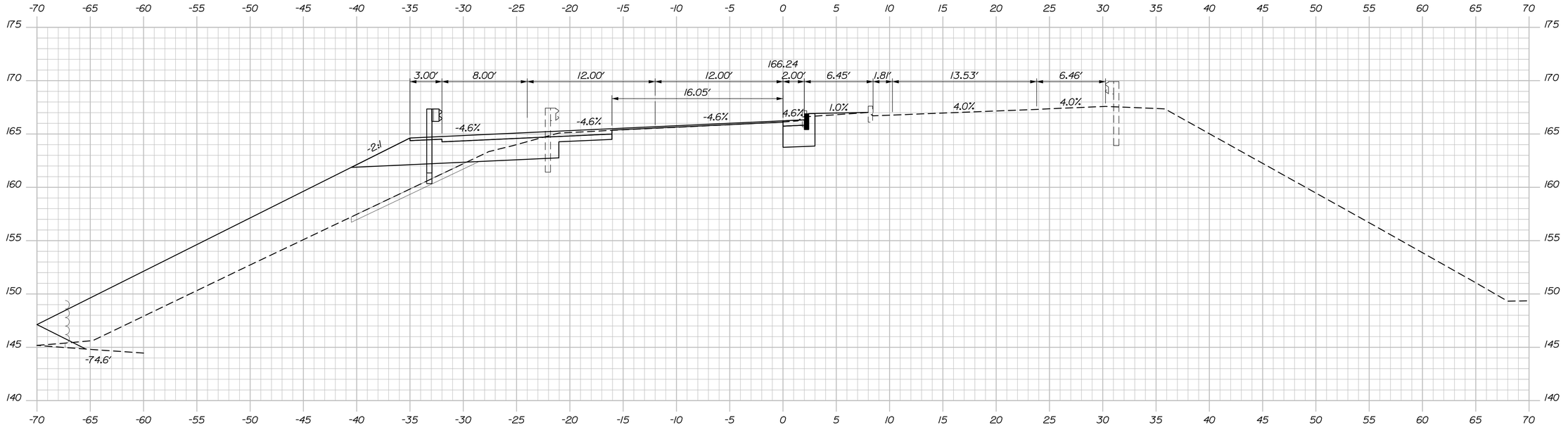
SHEET NUMBER

68

OF 144

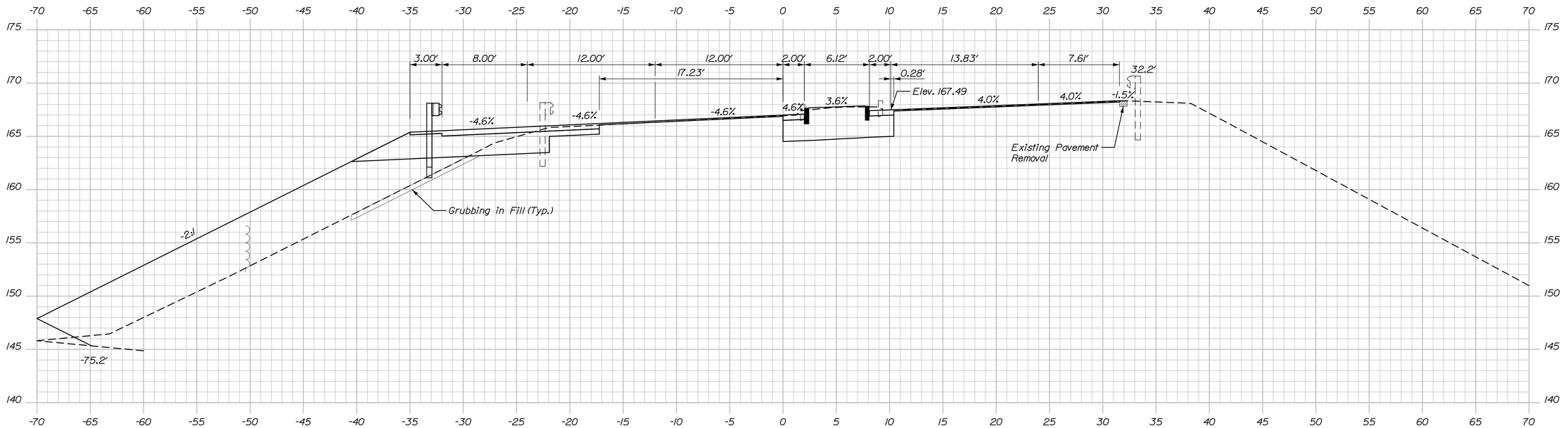
HNTB

Filename: Xsect_I295_NB Ramps.dgn Division: Username: Date:8/27/2021



102+50.00

Sta. 102+50.00
End Variable Width and Depth
Mill, Shim, & 1½" Overlay With
Variable Width Full Depth Construction
Match Existing
(I-295 NB On Ramp)



102+25.00

Sta. 102+25.00
End 3" Overlay
Begin 1½" Overlay
(I-295 NB On Ramp)

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

SIGNATURE

P.E. NUMBER

DATE

PROJ. MANAGER	M. Kerstergen	BY	DATE
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	LZD	PEK	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

APPROACH ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

I-295 NB ON/OFF RAMP
CROSS SECTIONS

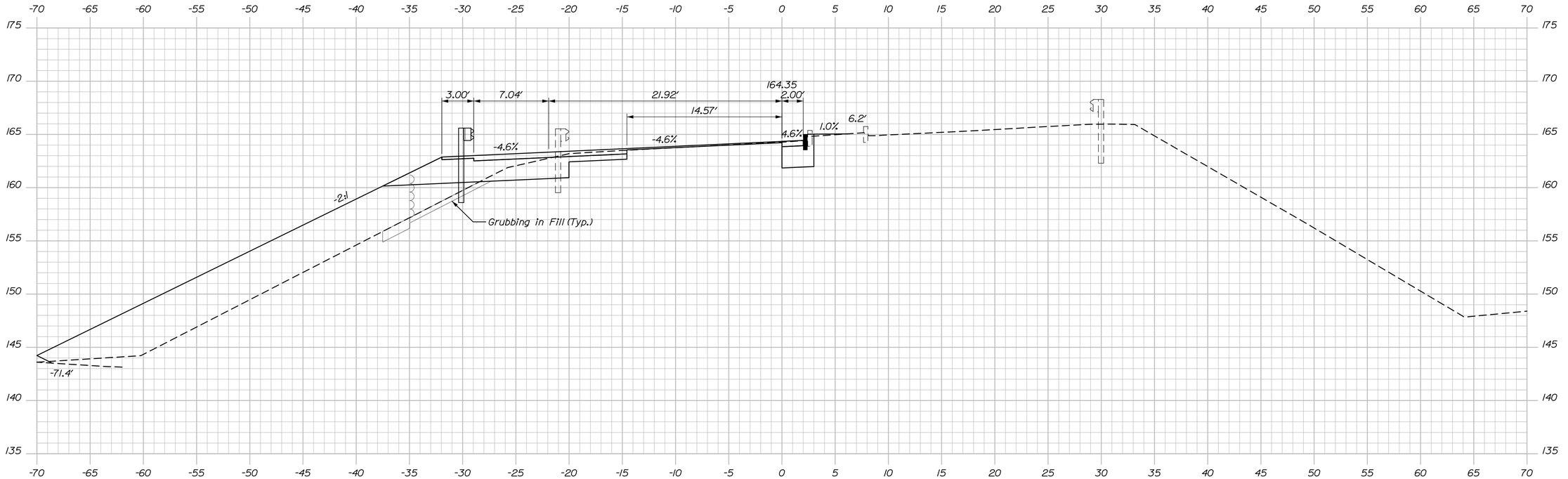
SHEET NUMBER

69

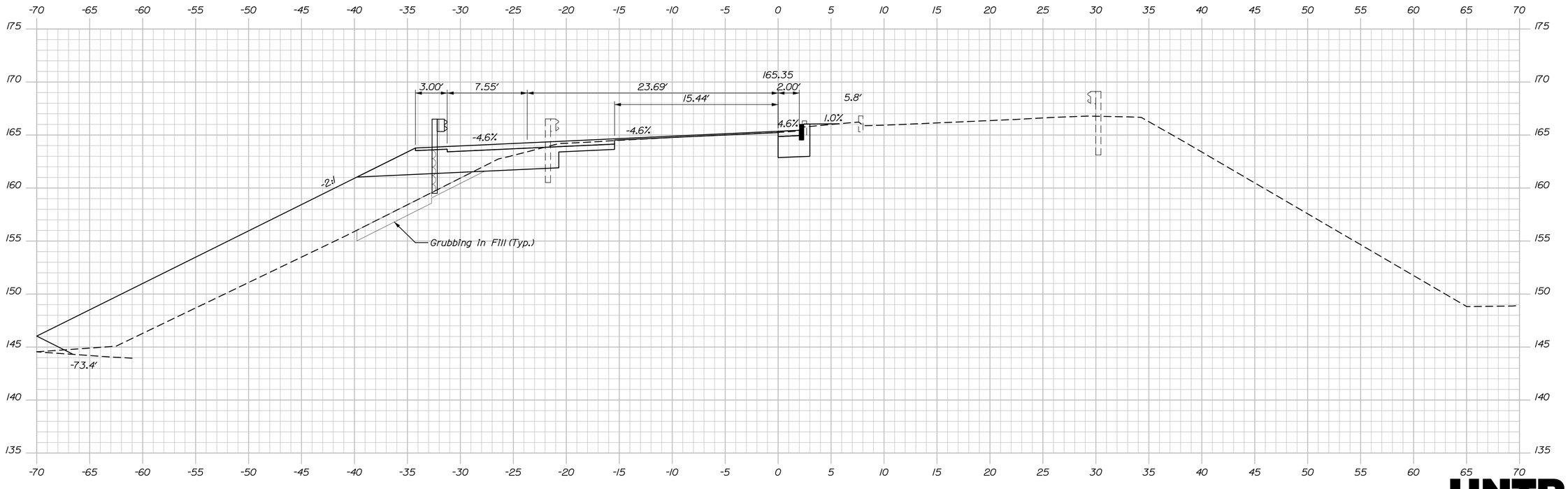
OF 144

Sta. 102+25.00 to Sta. 102+50.00

Date:8/27/2021
Username:
Division:
Filename: Xsect_I295_NB Ramps.dgn



103+00.00



102+75.00

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kershaw-gen	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	LZD	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

I-295 NB ON/OFF RAMP
CROSS SECTIONS

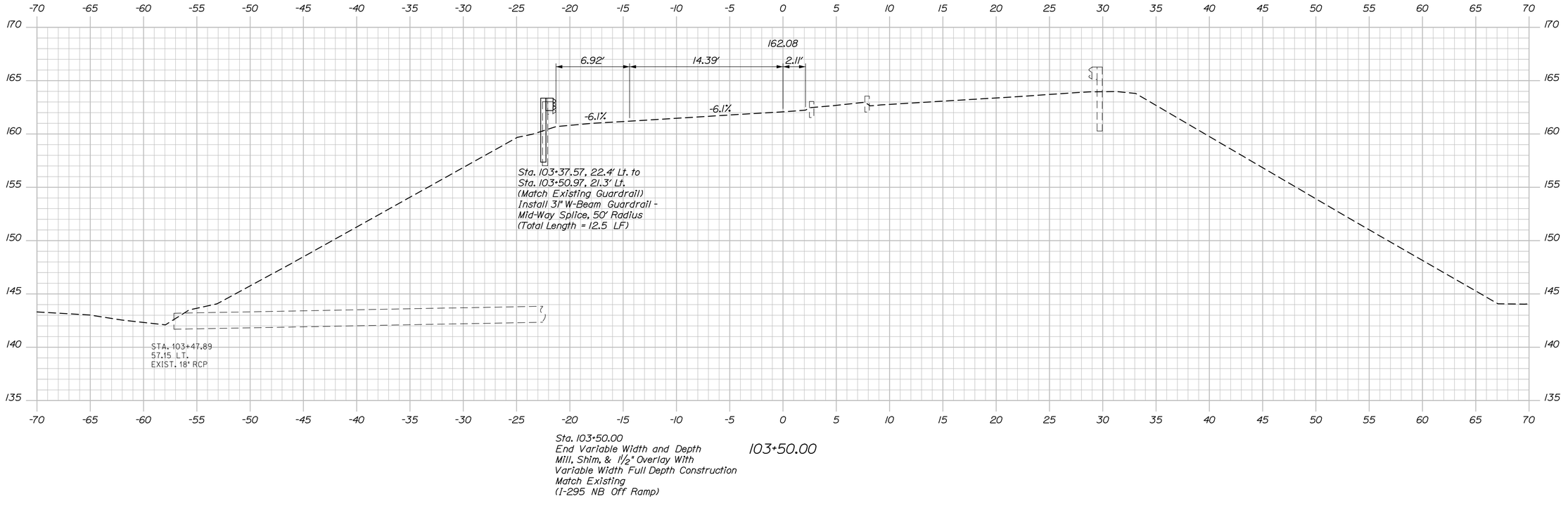
SHEET NUMBER

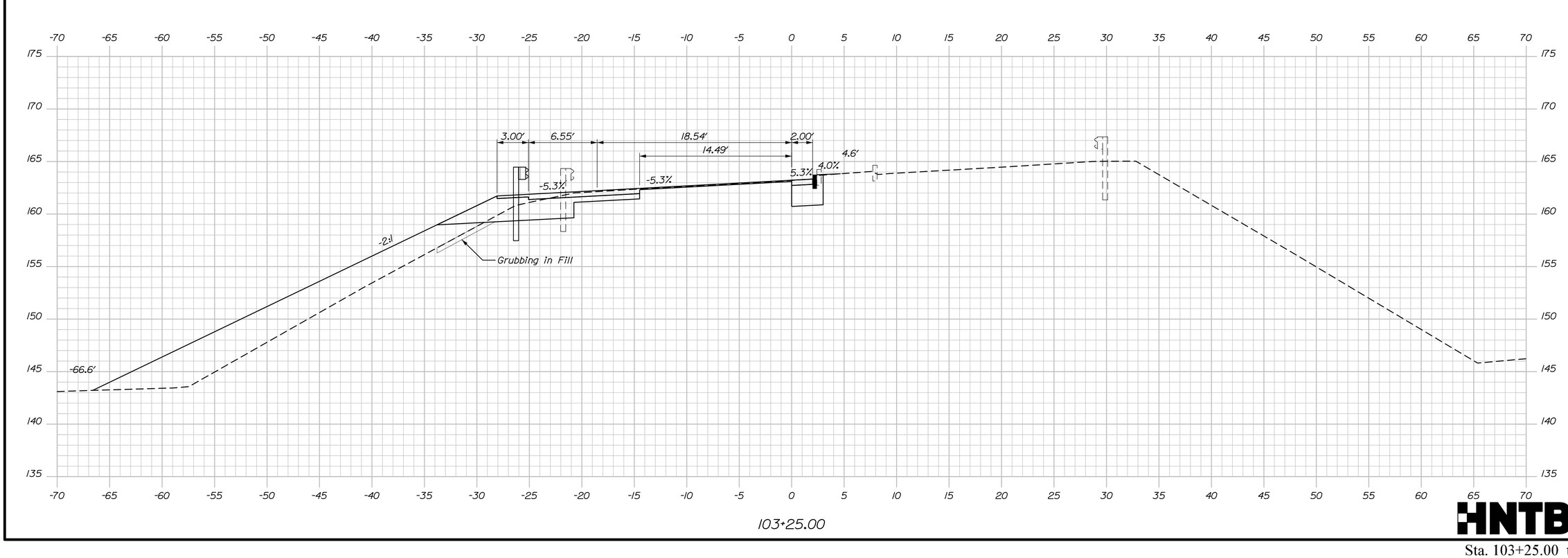
70

OF 144

Sta. 102+75.00 to Sta. 103+00.00

Filename: Xsect_I295_NB Ramps.dgn Division: Username: Date:8/27/2021





STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

PROJ. MANAGER	M. Kerstergen	BY	DATE
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	LZD	PEK	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

I-295 NB ON/OFF RAMP CROSS SECTIONS

SHEET NUMBER

71

OF 144

HNTB

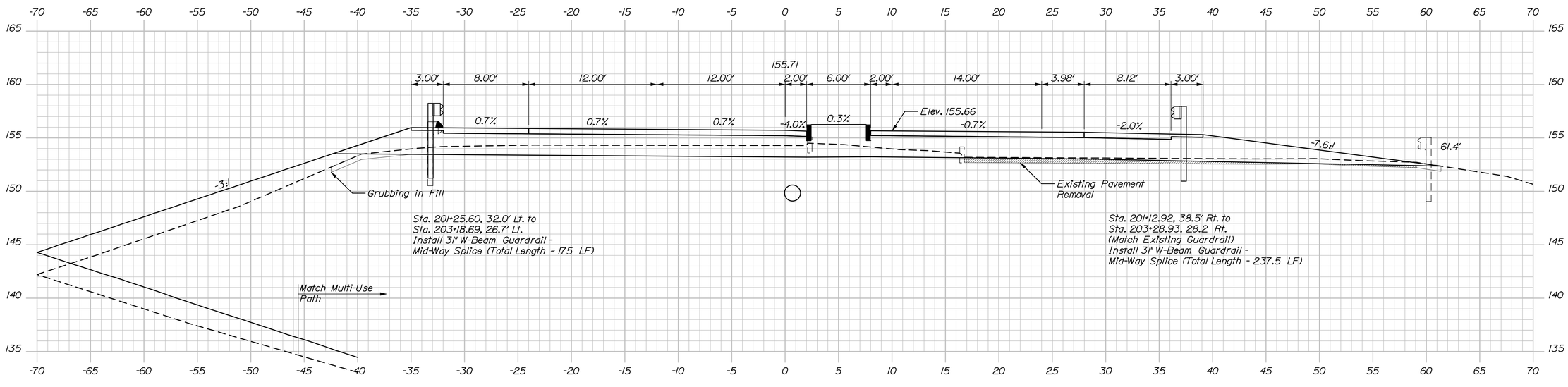
Sta. 103+25.00 to Sta. 103+50.00

Date:8/27/2021

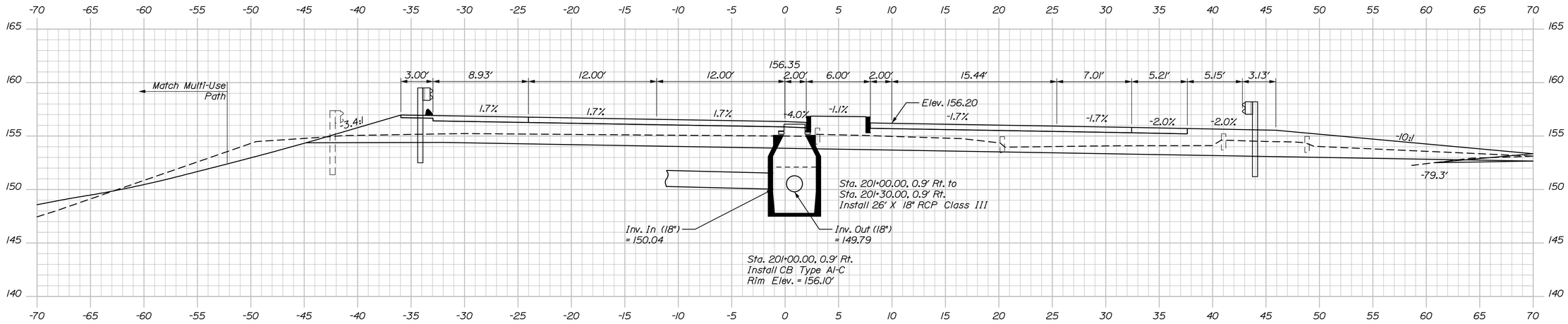
Username:

Division:

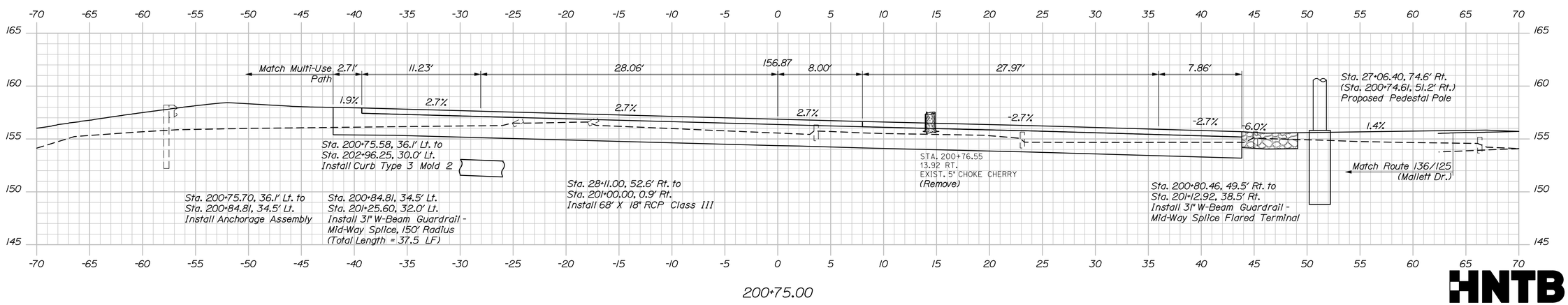
Filename: Xsect_I295_NB Ramps.dgn



201+25.00



201+00.00



200+75.00

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE PLANS

BRIDGE No. 5721

	BY	DATE
PROJ. MANAGER	M. Kerstergen	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	LZD	08\21
DESIGN2-DETAILED2	DEB	
DESIGN3-DETAILED3	PEK	
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

I-295 SB ON/OFF RAMP CROSS SECTIONS

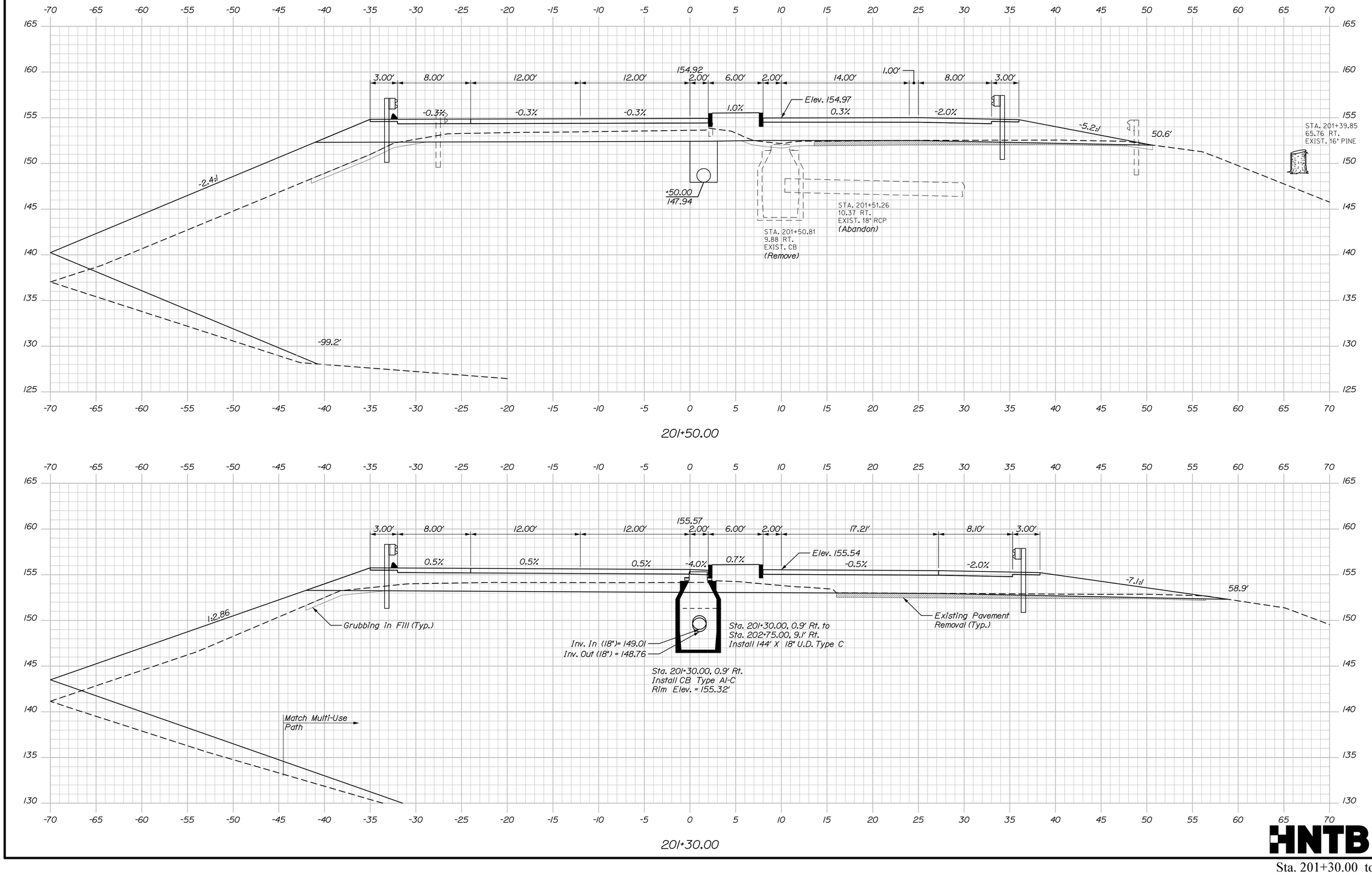
SHEET NUMBER

72

OF 144

Sta. 200+75.00 to Sta. 201+25.00

Filename: Xsect_I295_SB Ramps.dgn Division: Username: Date:8/27/2021



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN
021726.00

BRIDGE No. 5721

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	M. Kershbergen		
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	LZD	PEK	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

I-295 SB ON/OFF RAMP CROSS SECTIONS

SHEET NUMBER

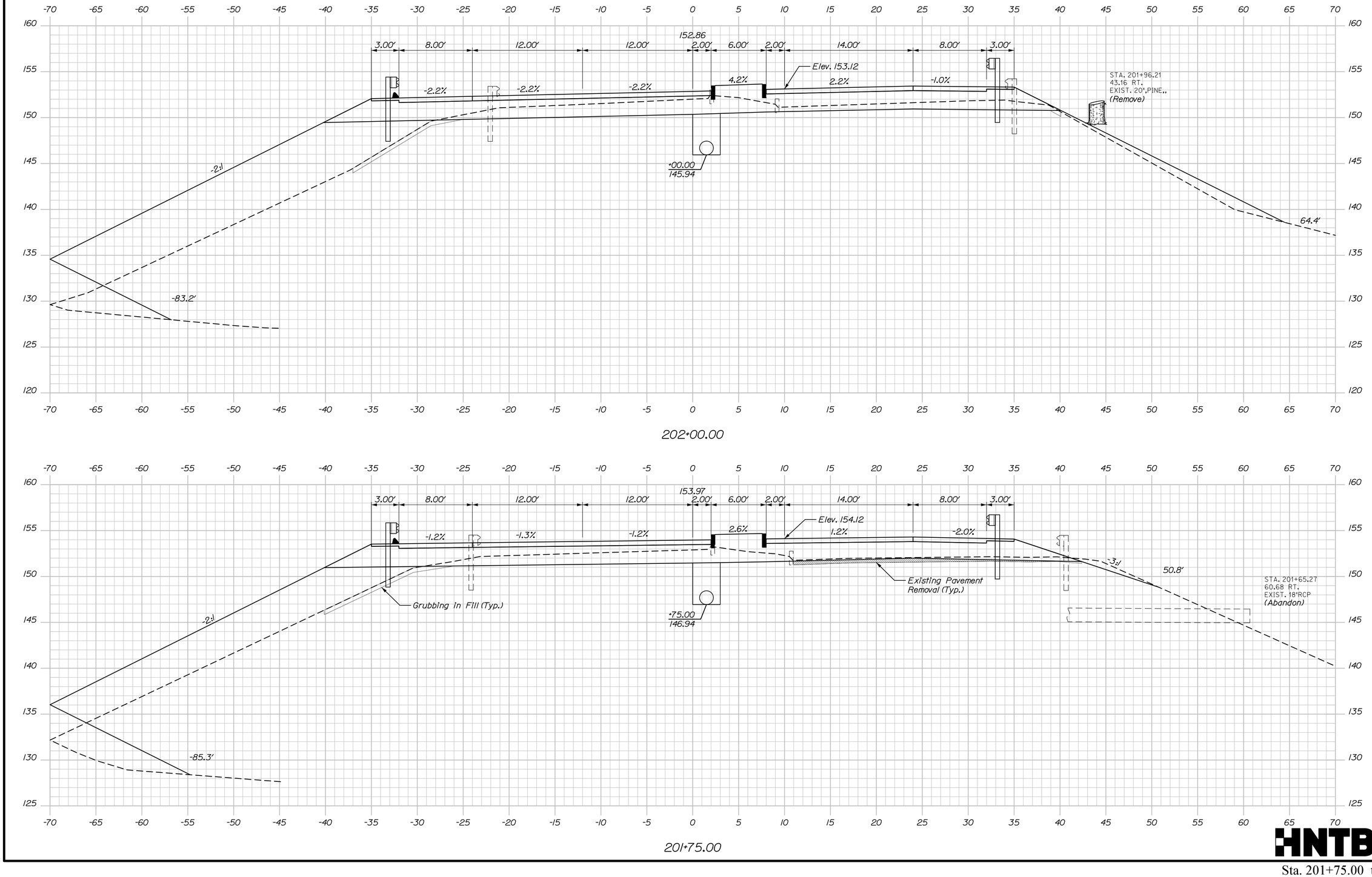
73

OF 144

HNTB

Sta. 201+30.00 to Sta. 201+50.00

Username:
Division:
Date:8/27/2021
Filename: Xsect_I295_SB Ramps.dgn



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kerstergen	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	LZD	08\21
DESIGN2-DETAILED2	DEB	
DESIGN3-DETAILED3	PEK	
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

I-295 SB ON/OFF RAMP
CROSS SECTIONS

SHEET NUMBER

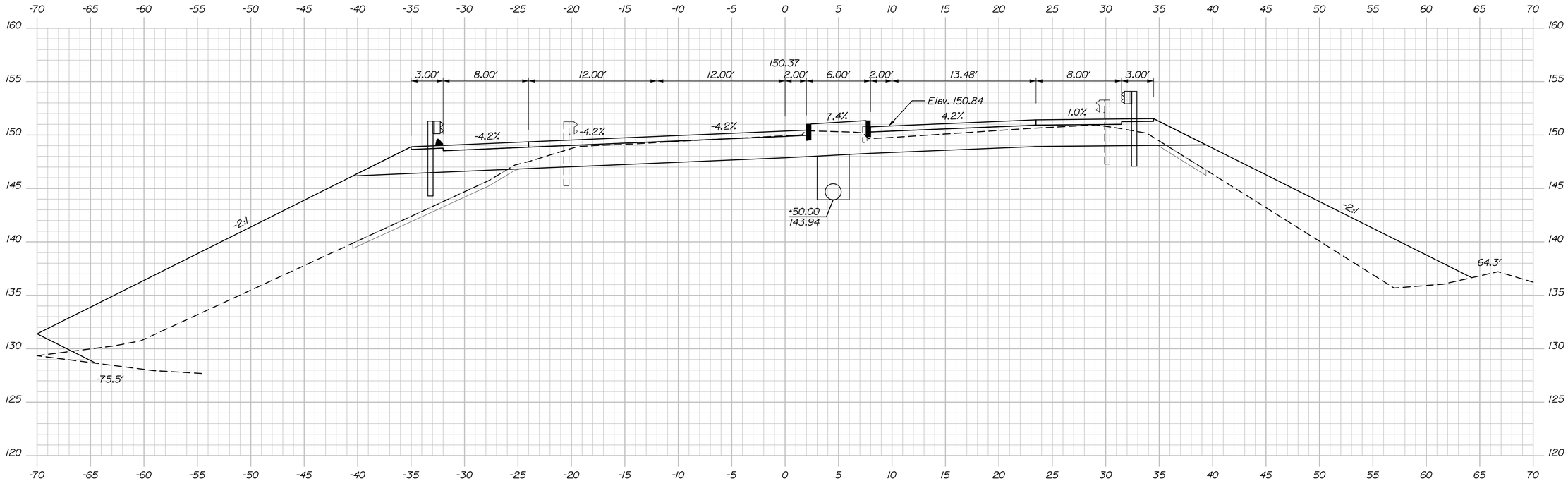
74

OF 144

HNTB

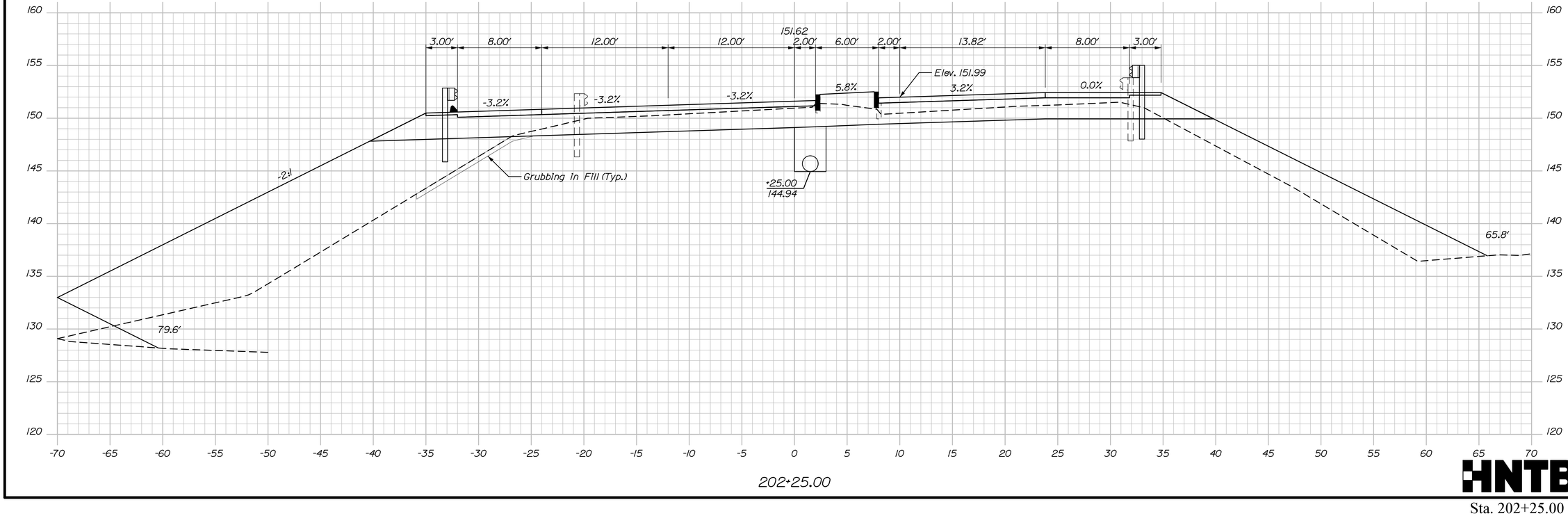
Sta. 201+75.00 to Sta. 202+00.00

Filename: Xsect_I295_SB Ramps.dgn Division: Username: Date:8/27/2021



202+50.00

Sta. 202+50.00
End Full Depth Construction
Begin Transition
(I-295 SB On and Off Ramp)



202+25.00

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kershaw-Gen	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	LZD	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

I-295 SB ON/OFF RAMP
CROSS SECTIONS

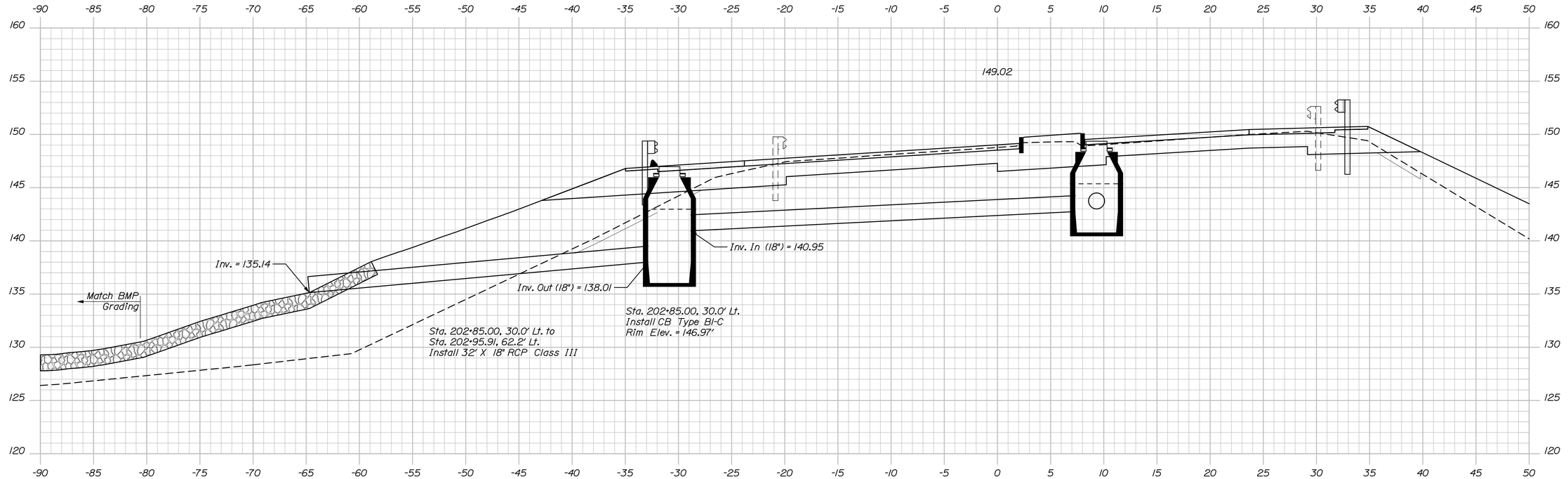
SHEET NUMBER

75

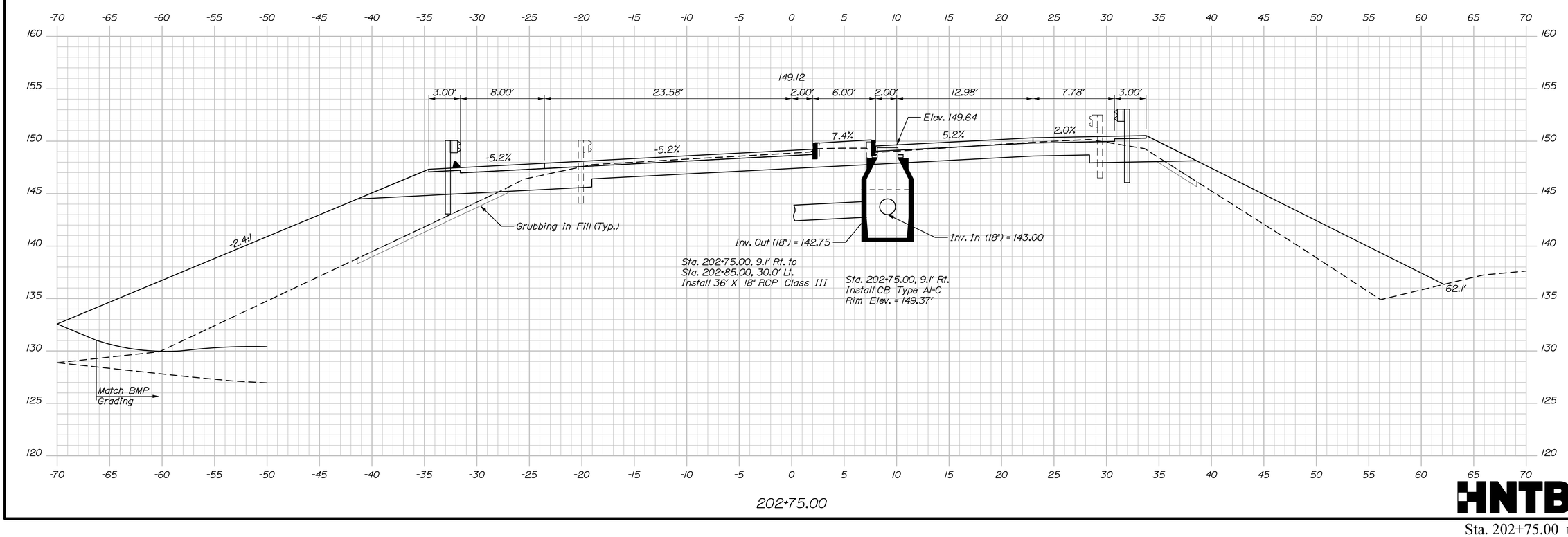
OF 144

Sta. 202+25.00 to Sta. 202+50.00

Filename: Xsect_I295_SB Ramps.dgn
Division:
Username:
Date:8/27/2021



202+77.00 (SKEWED)



202+75.00

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kersbergen	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	LZD	08\21
DESIGN2-DETAILED2	DEB	
DESIGN3-DETAILED3	PEK	
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

I-295 SB ON/OFF RAMP
CROSS SECTIONS

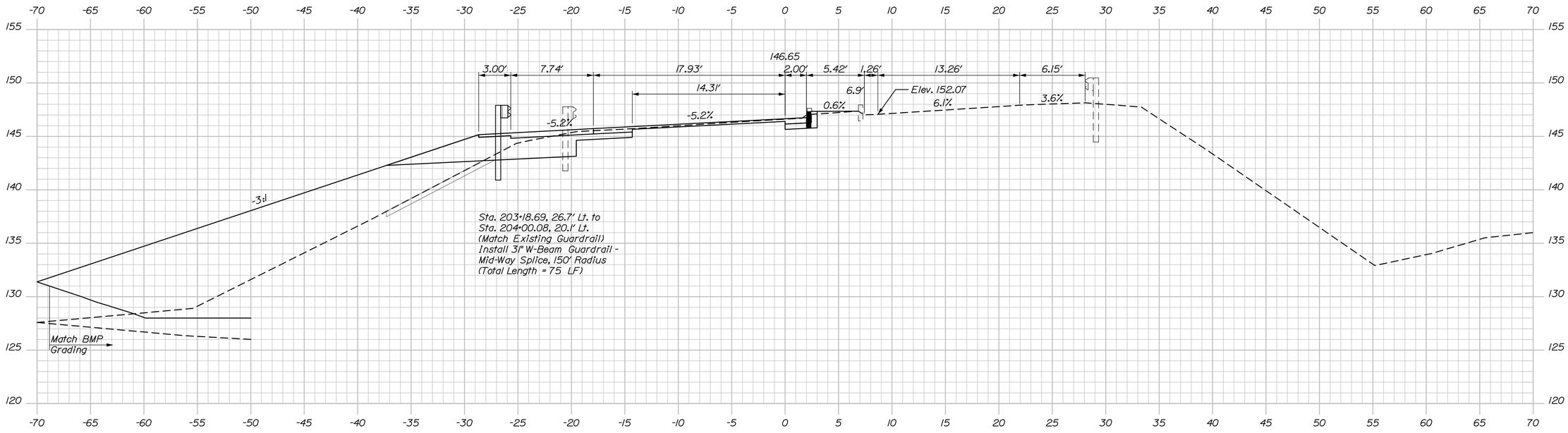
SHEET NUMBER

76

OF 144

Sta. 202+75.00 to Sta. 202+77.00

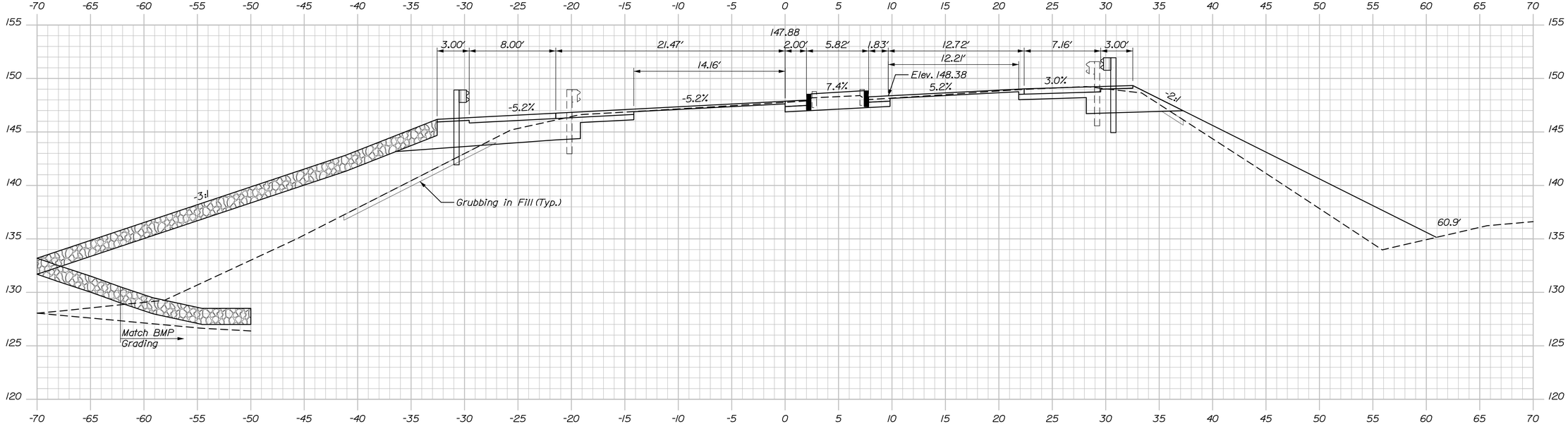
Date:8/27/2021
Username:
Division:
Filename: Xsect_I295_SB Ramps.dgn



203+25.00

Sta. 203+15.00
End 3" Overlay
Begin 1½" Overlay
(I-295 SB On Ramp)

Sta. 203+25.00
End Variable Width and Depth
Mill, Shim, & 1½" Overlay With
Variable Width Full Depth Construction
Match Existing
(I-295 SB On Ramp)



203+00.00

Sta. 203+00.00
End Transition
Begin Variable Width and Depth
Mill, Shim, & 3" Overlay With
Variable Width Full Depth Construction
(I-295 SB On and Off Ramp)

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

SIGNATURE

P.E. NUMBER

DATE

		BY	DATE
PROJ. MANAGER	M. Kershbergen		
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	LZD	PEK	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

APPROACH ROAD BRIDGE
INTERSTATE 295 CUMBERLAND
FREEPORT

I-295 SB ON/OFF RAMP CROSS SECTIONS

SHEET NUMBER

77

OF 144

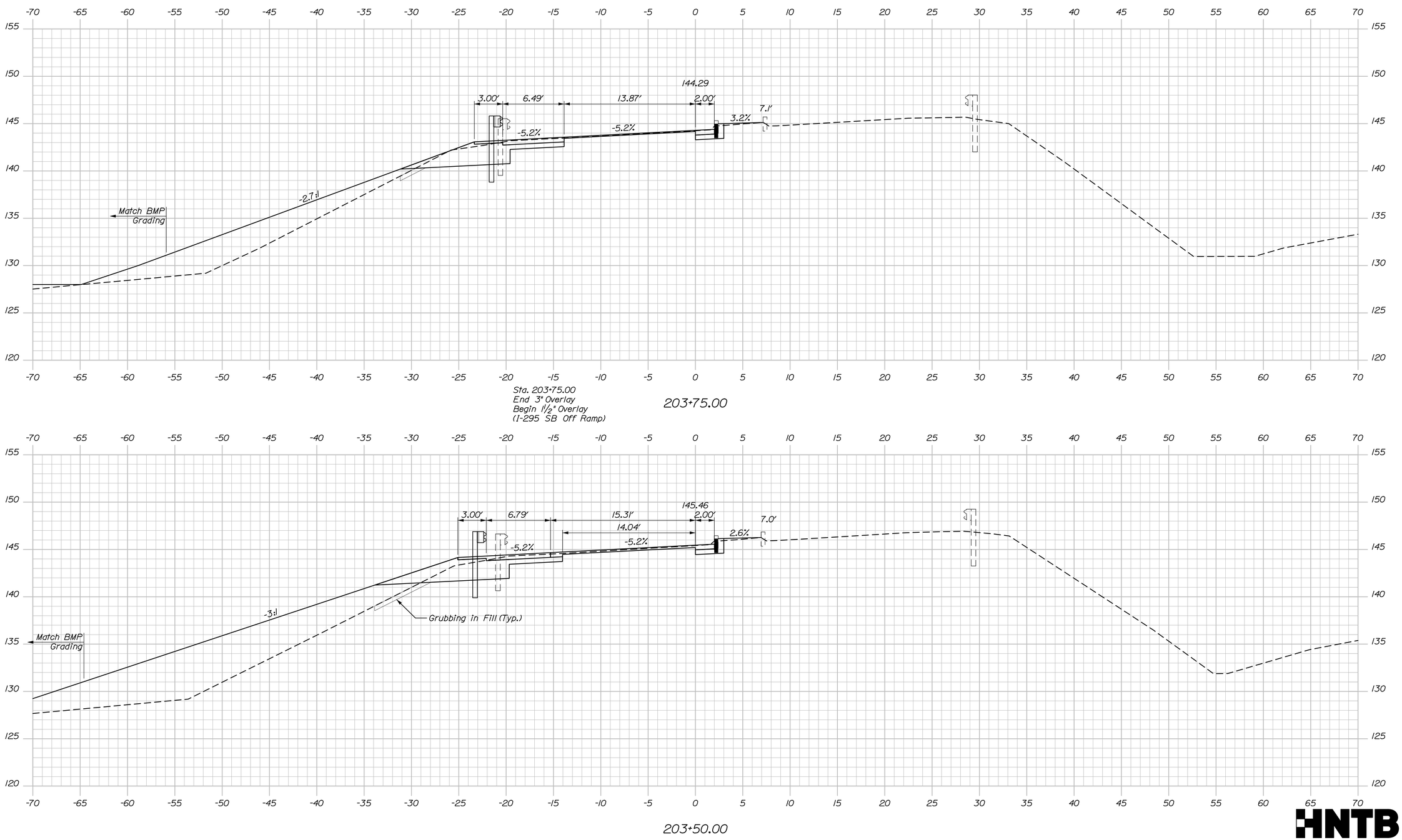
Sta. 203+00.00 to Sta. 203+25.00

Date:8/27/2021

Username:

Division:

Filename: Xsect_I295_SB Ramps.dgn



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kerstetgen	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	LZD	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

I-295 SB ON/OFF RAMP
CROSS SECTIONS

SHEET NUMBER

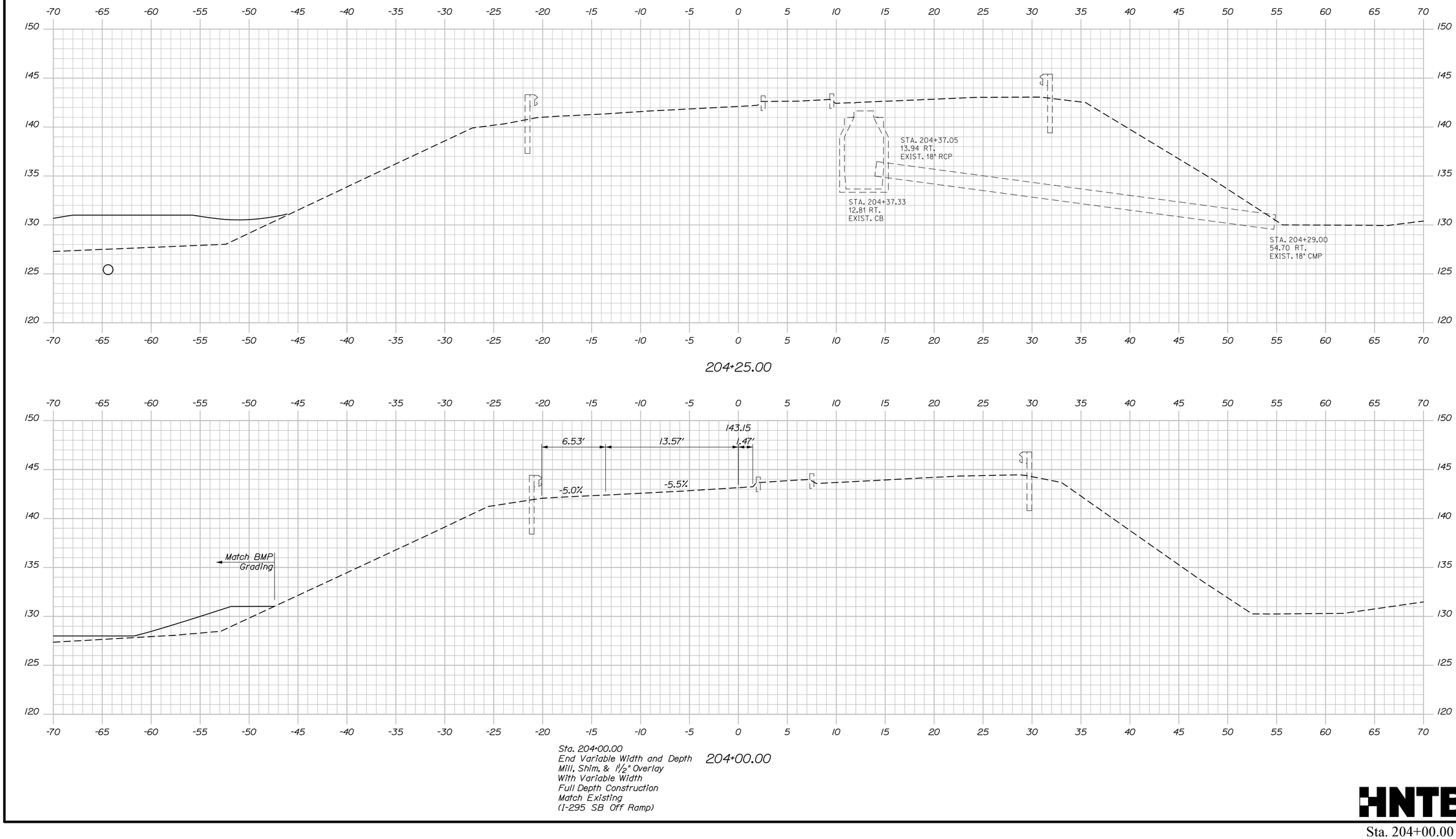
78

OF 144

HNTB

Sta. 203+50.00 to Sta. 203+75.00

Filename: Xsect_I295_SB Ramps.dgn Division: Username: Date:8/27/2021



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	M. Kerstetgen		
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	LZD	PEK	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

I-295 SB ON/OFF RAMP CROSS SECTIONS

SHEET NUMBER

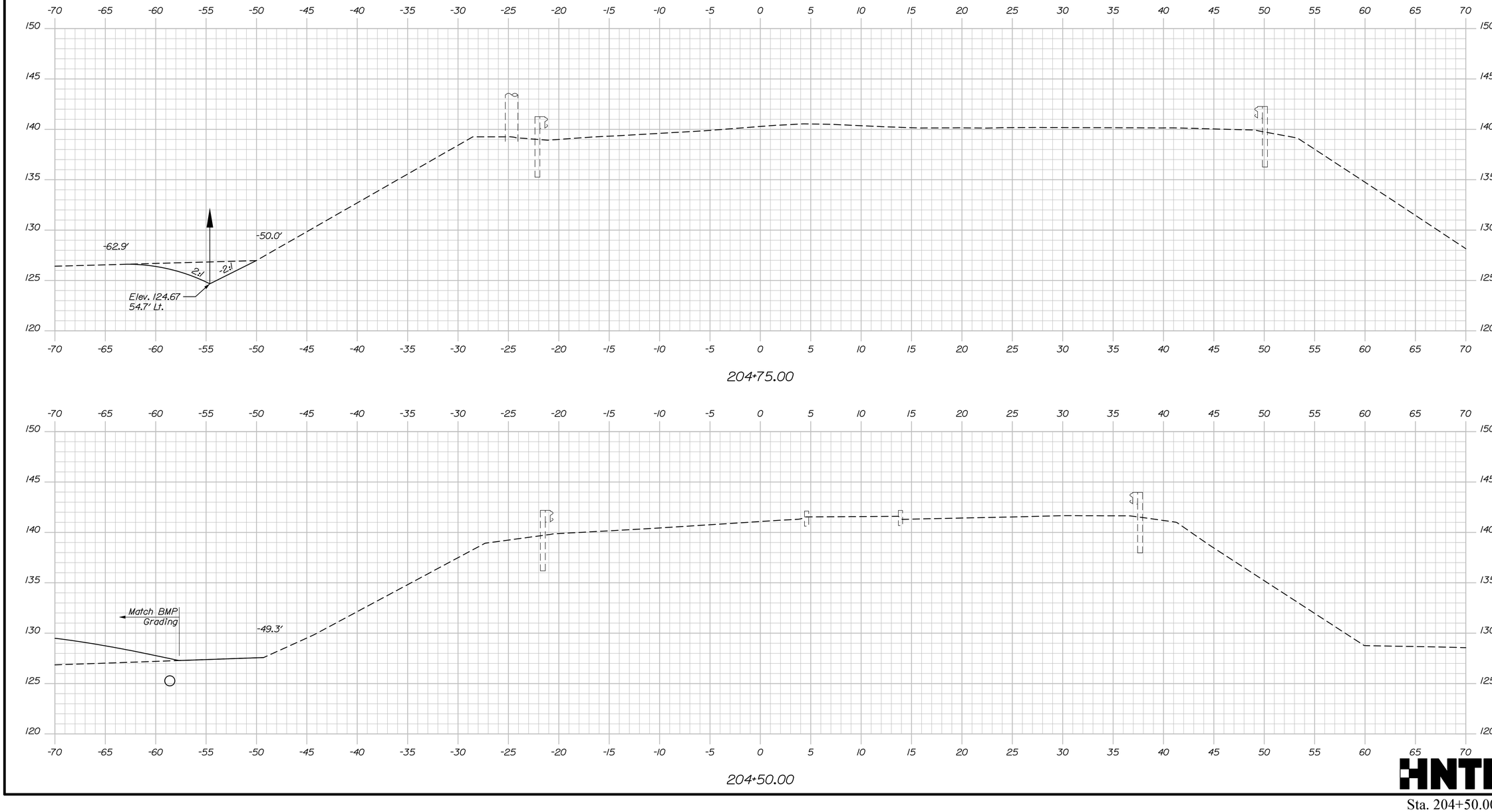
79

OF 144

HNTB

Sta. 204+00.00 to Sta. 204+25.00

Filename: Xsect_I295_SB Ramps.dgn Division: Username: Date:8/27/2021



Sta. 204+50.00 to Sta. 204+75.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

PROJ. MANAGER	M. Kershaw-gen	BY	DATE
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	LZD	PEK	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

I-295 SB ON/OFF RAMP
CROSS SECTIONS

SHEET NUMBER

80

OF 144

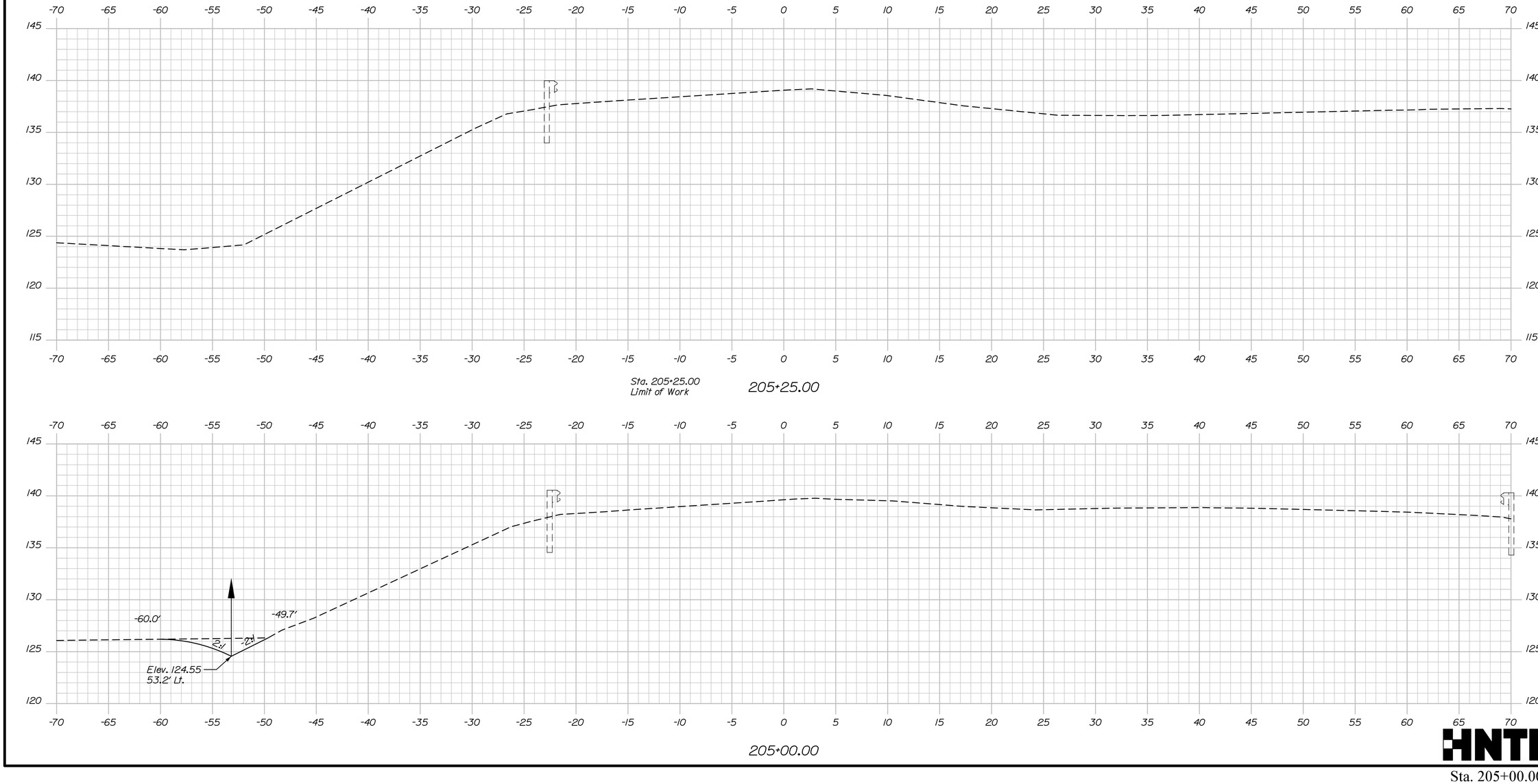
HNTB

Username:

Date:8/27/2021

Division:

Filename: Xsect_I295_SB Ramps.dgn



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721 — BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kerstetgen	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	LZD	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

I-295 SB ON/OFF RAMP CROSS SECTIONS

SHEET NUMBER

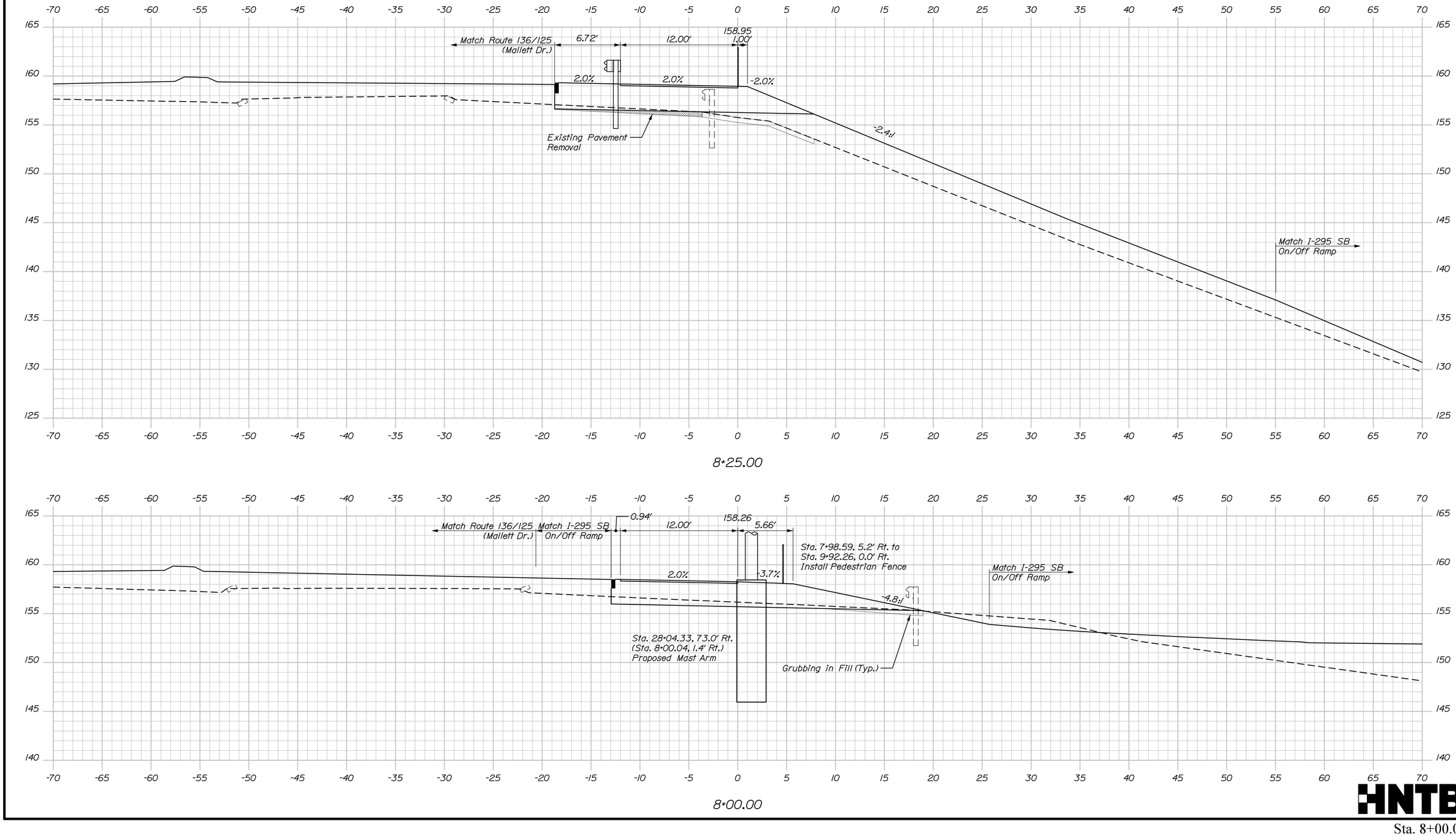
81

OF 144

HNTB

Sta. 205+00.00 to Sta. 205+25.00

Filename: Xsect_I295_SB Ramps.dgn Division: Username: Date:8/27/2021



HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	M. Kershaw-gen		
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	LZD	PEK	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

MULTI-USE PATH
CROSS SECTIONS

SHEET NUMBER

82

OF 144

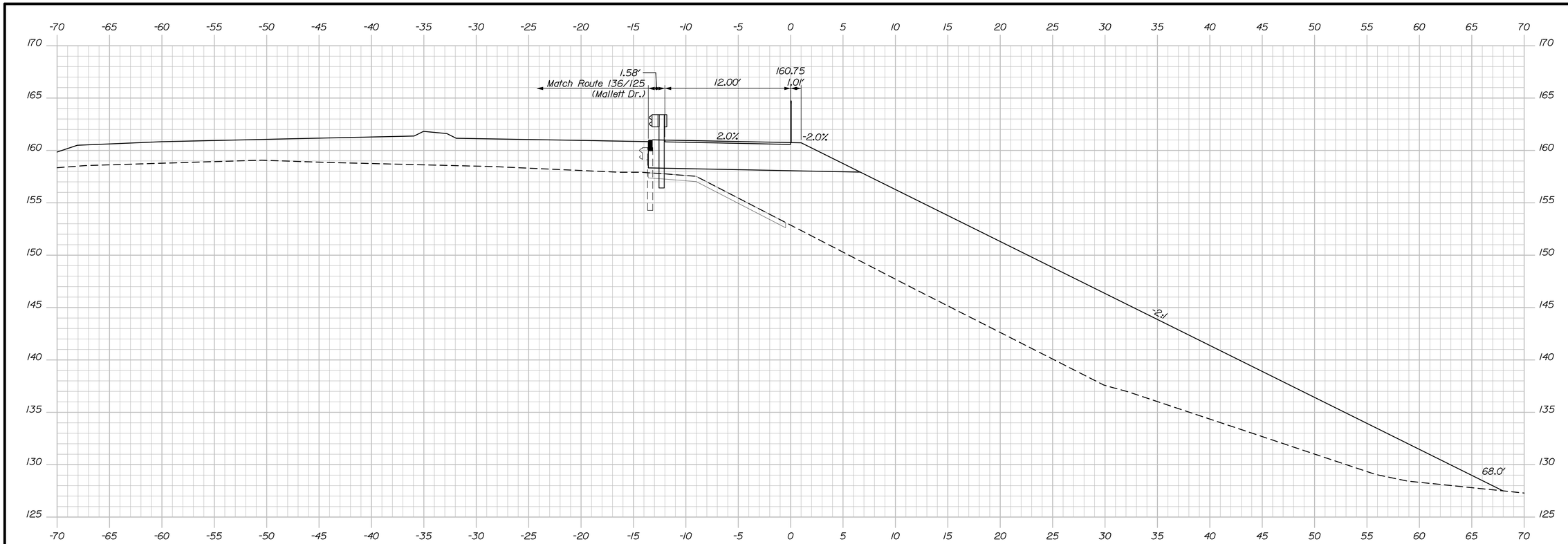
Sta. 8+00.00 to Sta. 8+25.00

Username:

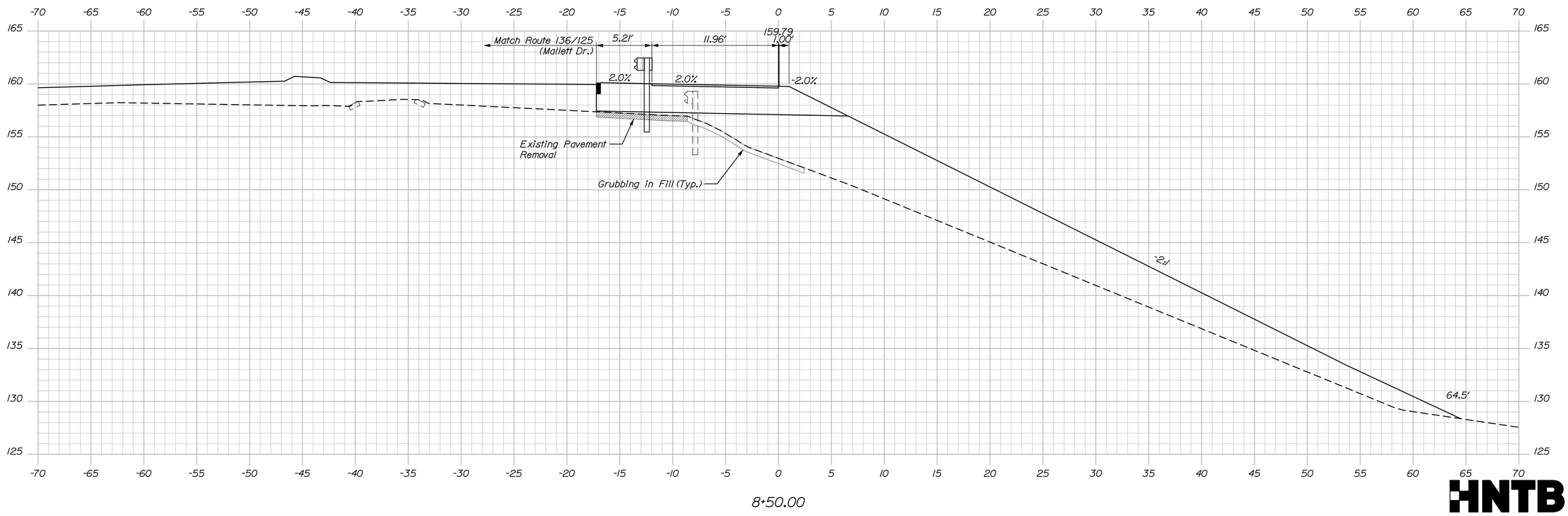
Division:

Date:8/27/2021

Filename: Xsect_Multi-Use Path.dgn



8+75.00



8+50.00

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

PROJ. MANAGER	M. Kershaw-Jensen
DESIGN-DETAILED	CDH
CHECKED-REVIEWED	LZD
DESIGN2-DETAILED2	
DESIGN3-DETAILED3	
REVISIONS 1	
REVISIONS 2	
REVISIONS 3	
REVISIONS 4	
FIELD CHANGES	

BY	DATE
DEB	08\21
PEK	08\21

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

MULTI-USE PATH
CROSS SECTIONS

SHEET NUMBER

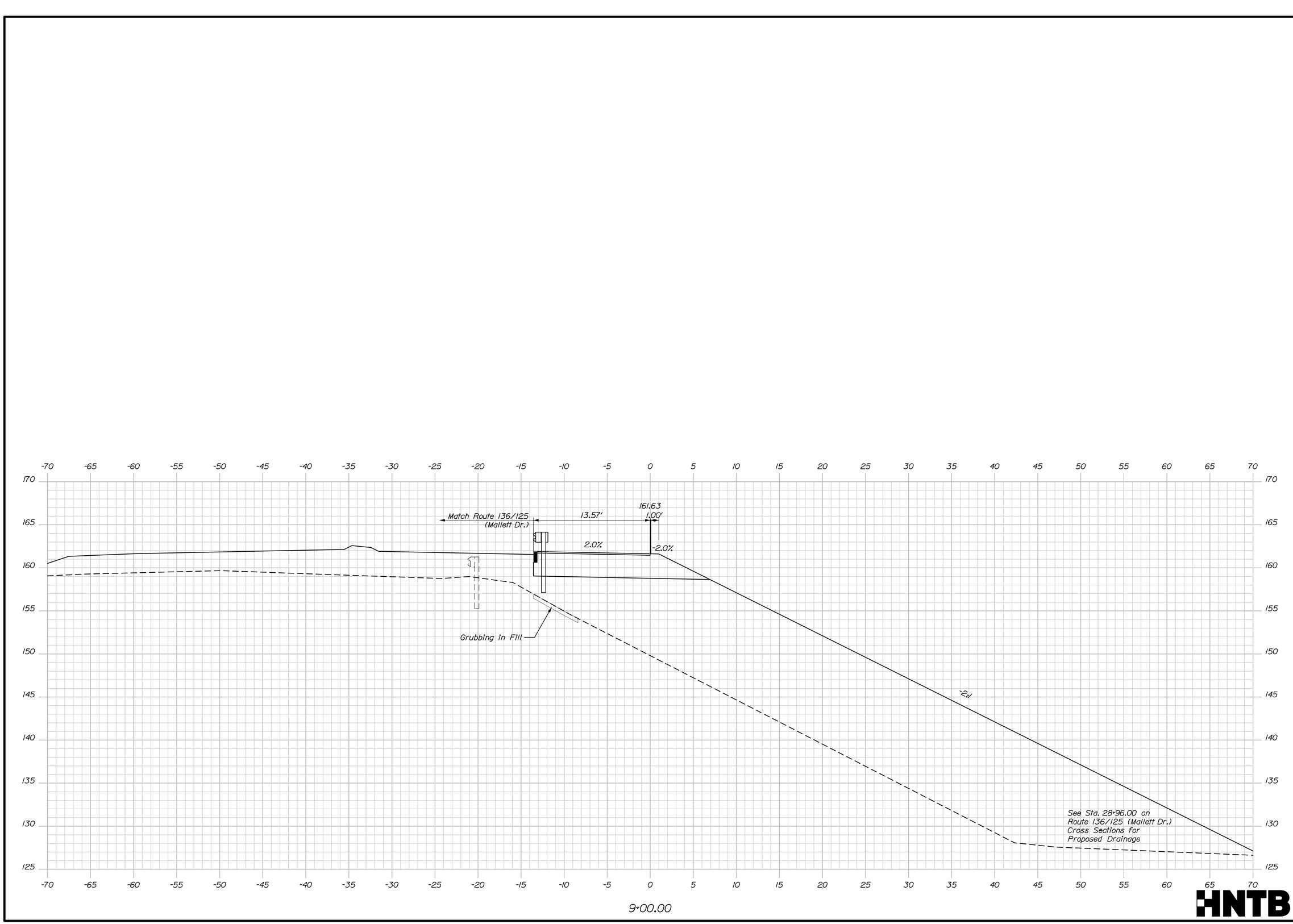
83

OF 144

Sta. 8+50.00 to Sta. 8+75.00

Filename: Xsect_Multi-Use Path.dgn
Division:
Username:
Date:8/27/2021

Filename: Xsect_Multi-Use Path.dgn Division: Username: Date:8/27/2021



PROJ. MANAGER	M. Kerbergen	BY	DATE
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	LZD	PEK	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN
021726.00

BRIDGE No. 5721 BRIDGE PLANS

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

MULTI-USE PATH CROSS SECTIONS

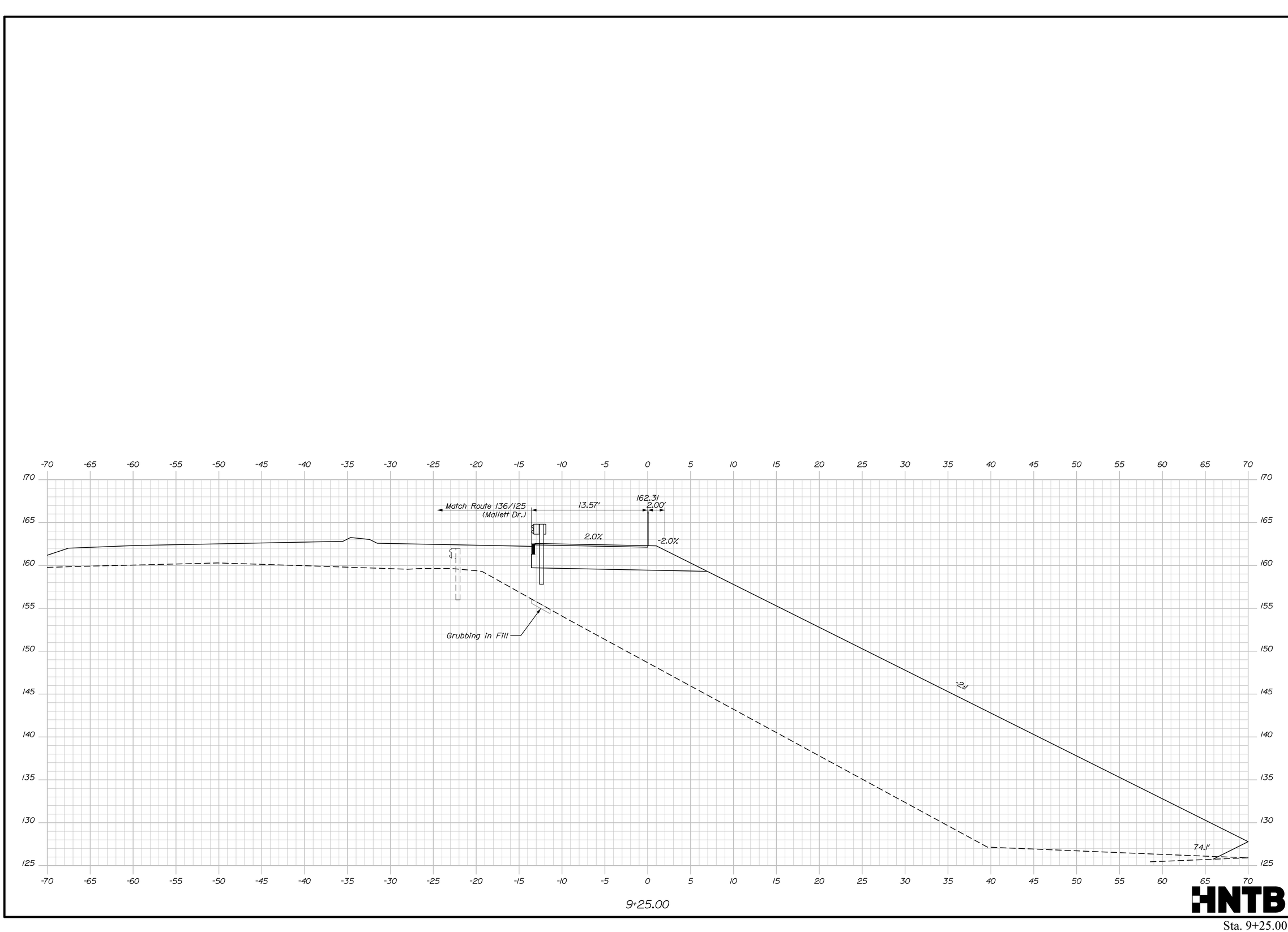
SHEET NUMBER

84

OF 144

Sta. 9+00.00 to Sta. 9+00.00

Filename: Xsect_Multi-Use Path.dgn Division: Username: Date:8/27/2021



PROJ. MANAGER	M. Kerstergen	BY	DATE
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	LZD	PEK	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN
021726.00

BRIDGE No. 5721 BRIDGE PLANS

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

MULTI-USE PATH CROSS SECTIONS

SHEET NUMBER

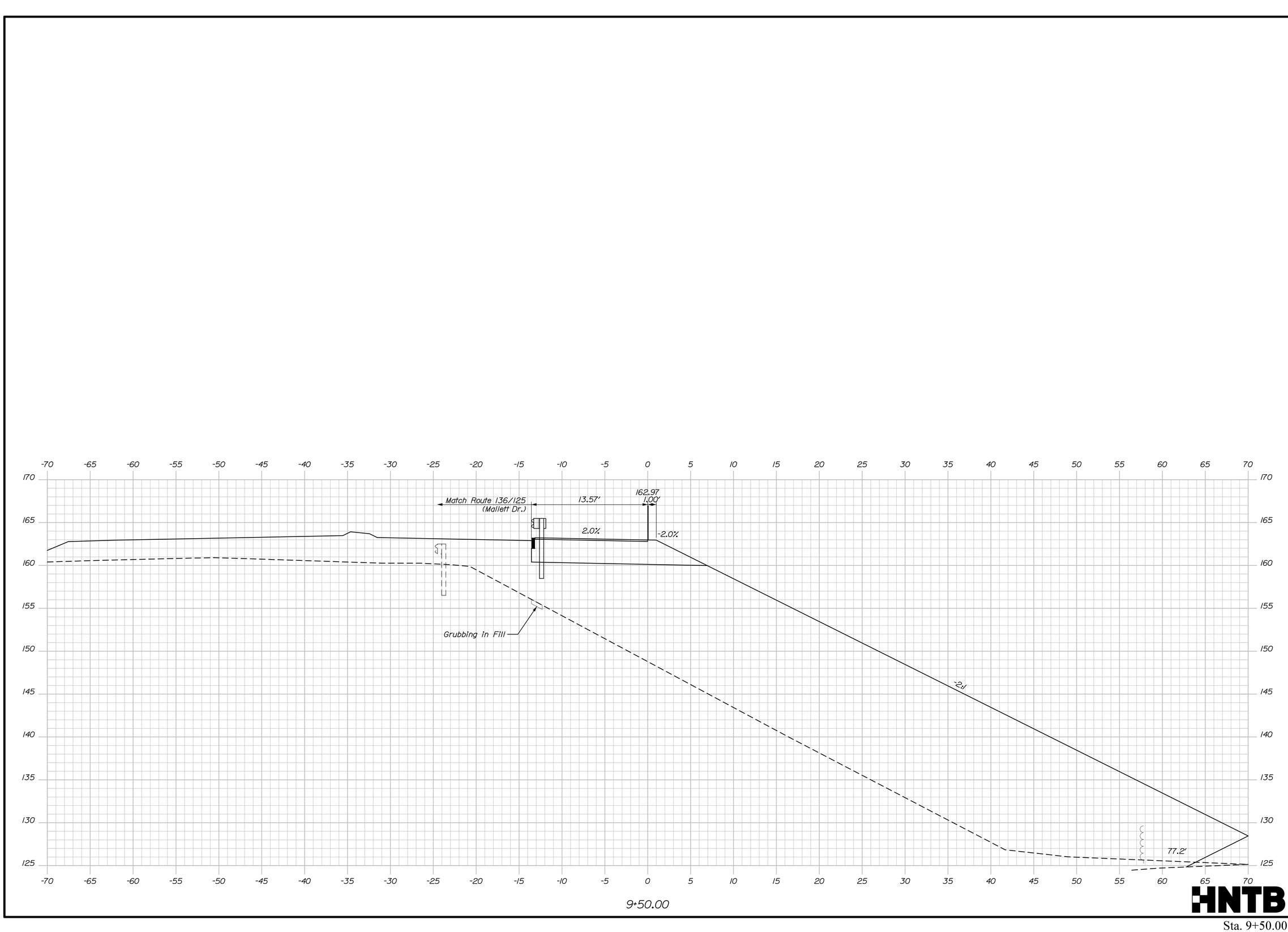
85

OF 144

HNTB

Sta. 9+25.00 to Sta. 9+25.00

Filename: Xsect_Multi-Use Path.dgn Division: Username: Date:8/27/2021



PROJ. MANAGER	M. Kerstergen	BY	DATE
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	LZD	PEK	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN
021726.00

BRIDGE No. 5721 BRIDGE PLANS

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

MULTI-USE PATH CROSS SECTIONS

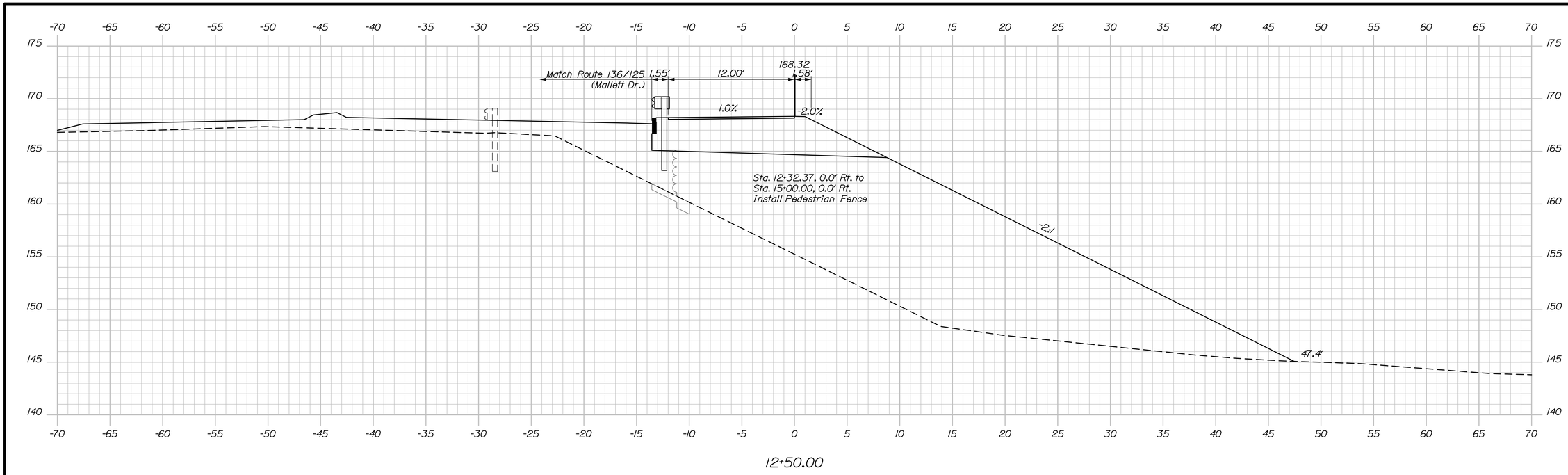
SHEET NUMBER

86

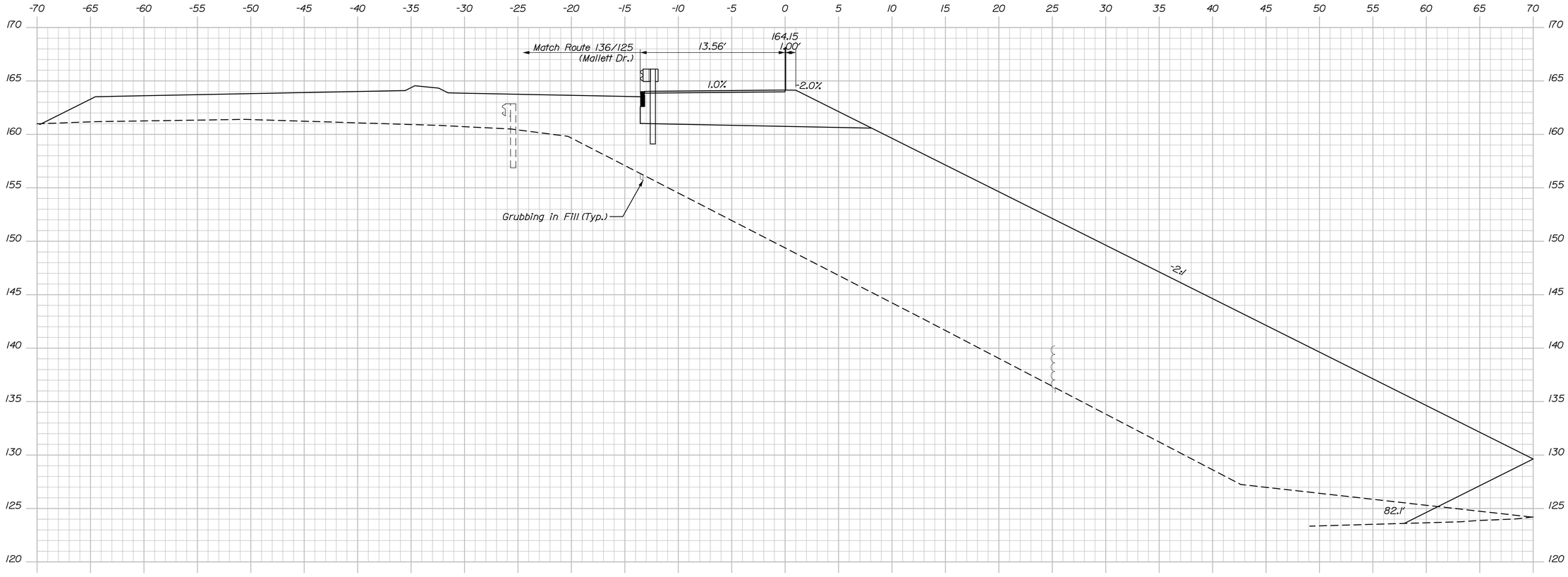
OF 144

HNTB

Sta. 9+50.00 to Sta. 9+50.00



12+50.00



9+75.00

Sta. 9+75.00 to Sta. 12+50.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

BRIDGE No. 5721

WIN 021726.00

BRIDGE PLANS

SIGNATURE

P.E. NUMBER

DATE

PROJ. MANAGER	M. Kerstetter	BY
DESIGN-DETAILED	CDH	DEB
CHECKED-REVIEWED	LZD	PEK
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

DATE
08\21
08\21

APPROACH ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

MULTI-USE PATH CROSS SECTIONS

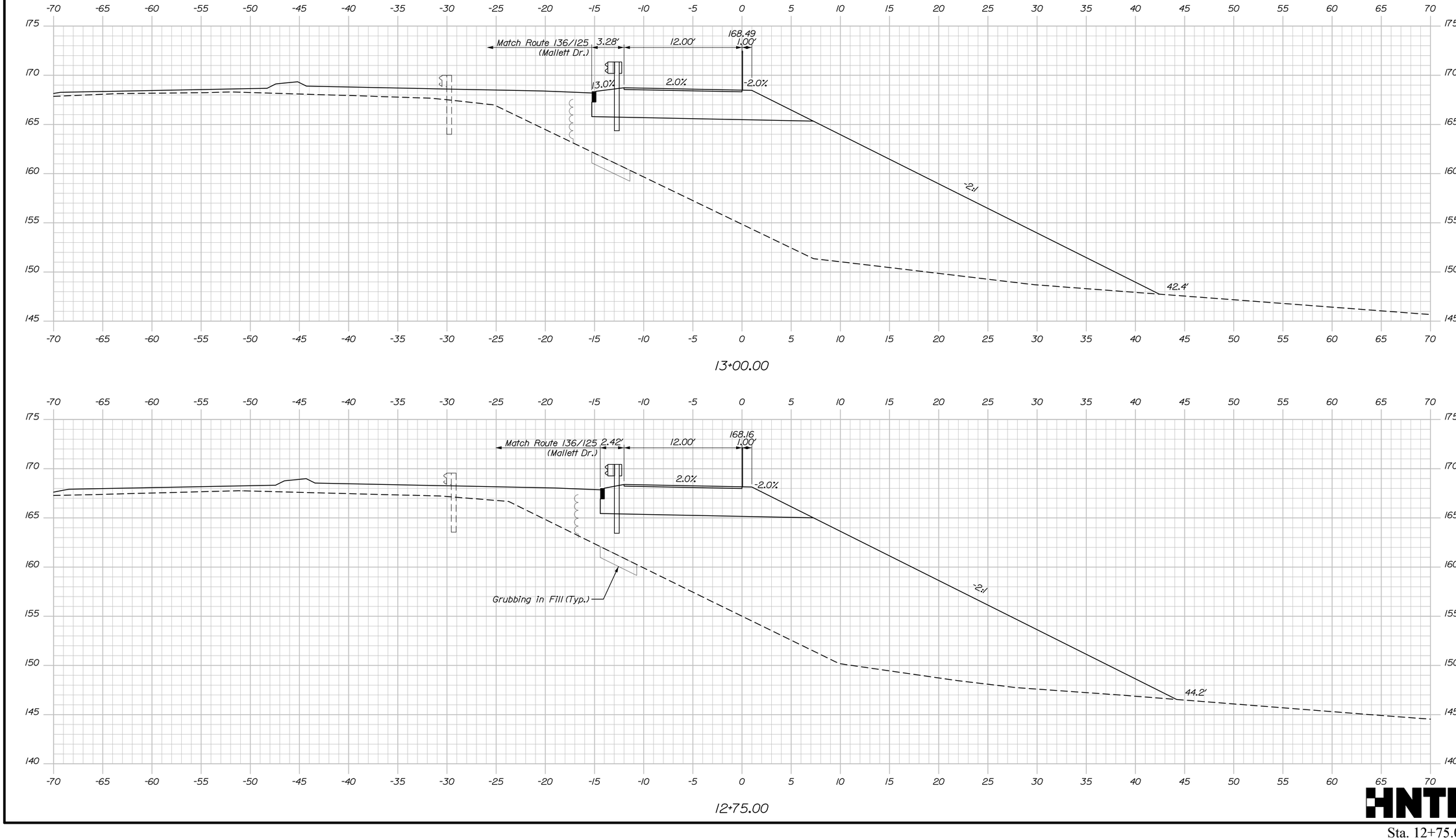
SHEET NUMBER

87

OF 144

HNTB

Date:8/27/2021
Username:
Division:
Filename: Xsect_Multi-Use Path.dgn



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	M. Kershaw-gen		
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	LZD	PEK	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

MULTI-USE PATH
CROSS SECTIONS

SHEET NUMBER

88

OF 144

HNTB

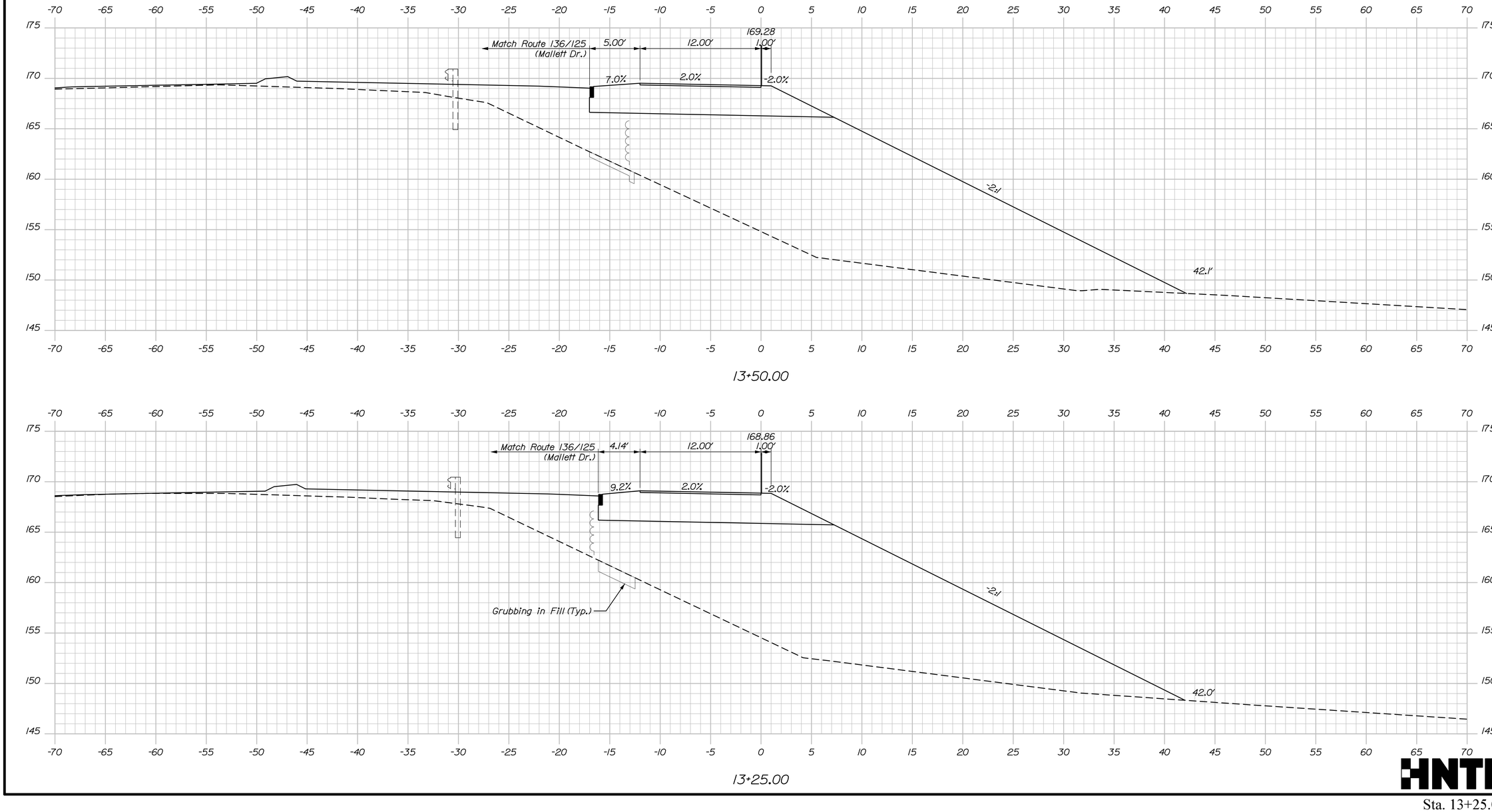
Sta. 12+75.00 to Sta. 13+00.00

Username:

Division:

Date:8/27/2021

Filename: Xsect_Multi-Use Path.dgn



Sta. 13+25.00 to Sta. 13+50.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kerstetter	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	LZD	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

MULTI-USE PATH
CROSS SECTIONS

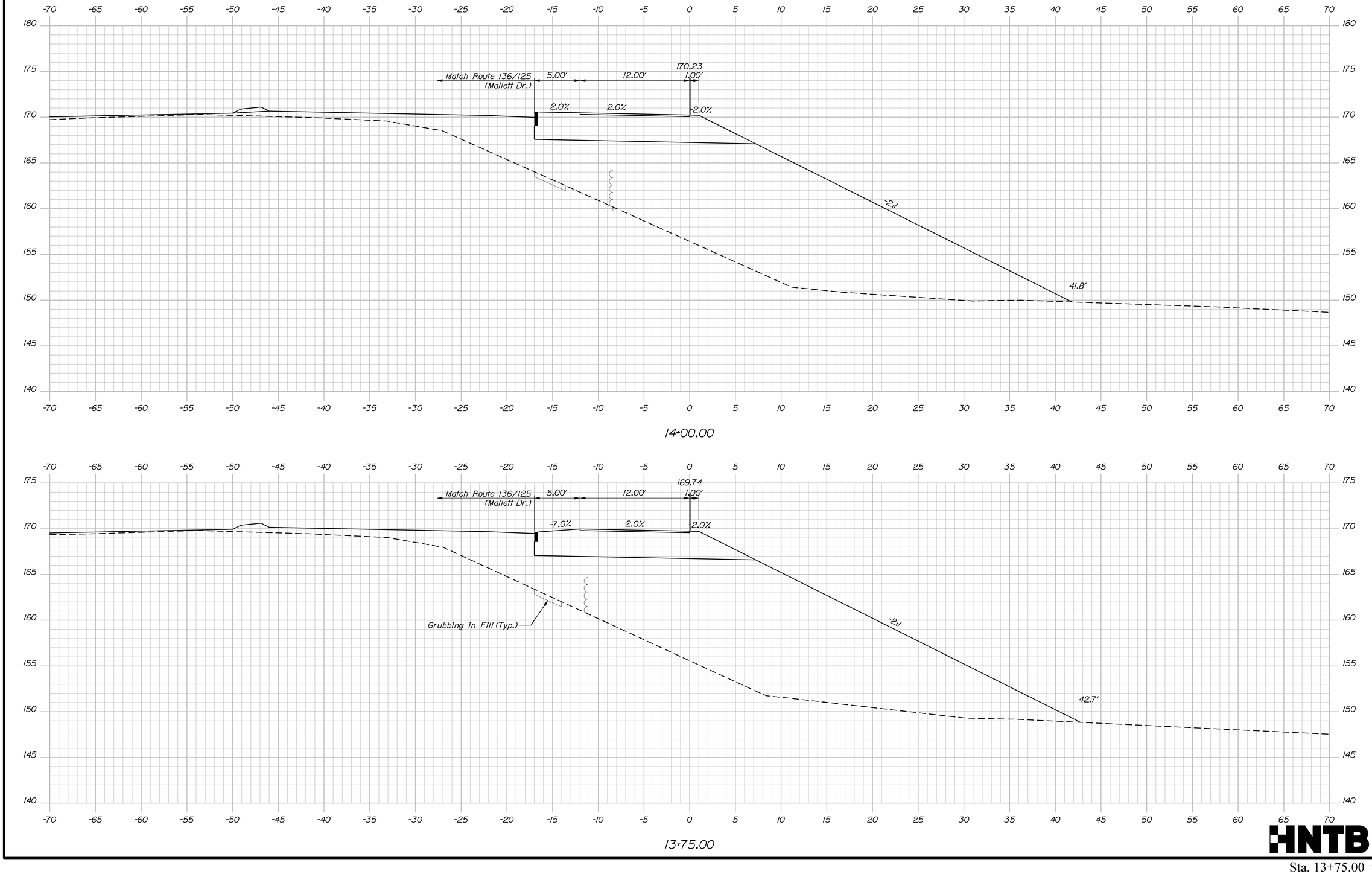
SHEET NUMBER

89

OF 144

HNTB

Filename: Xsect_Multi-Use Path.dgn
Division:
Username:
Date:8/27/2021



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kerstetgen	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	LZD	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

MULTI-USE PATH CROSS SECTIONS

SHEET NUMBER

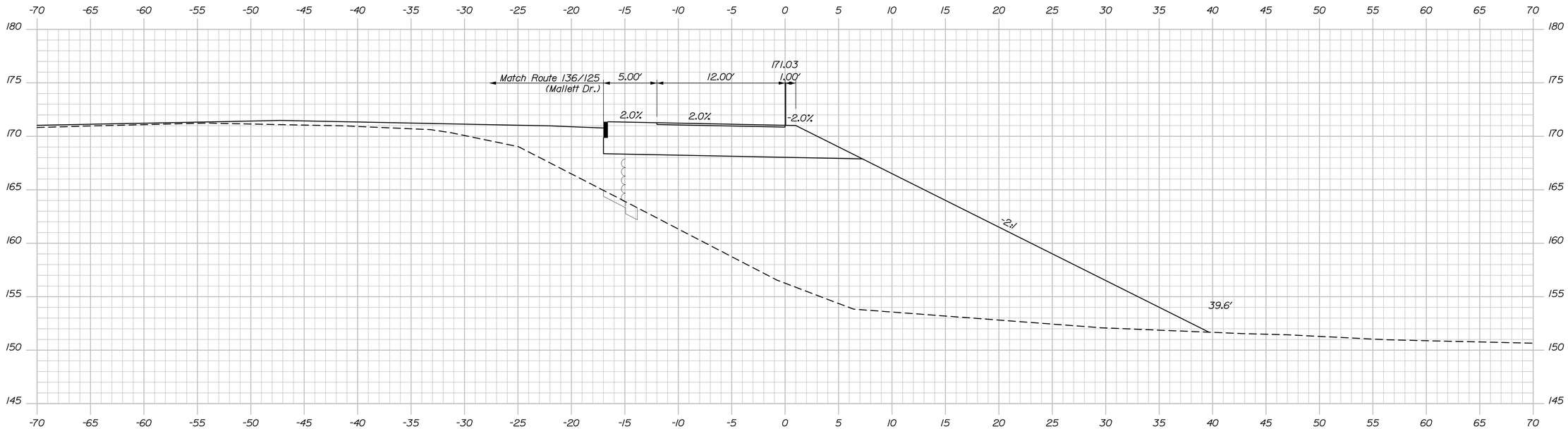
90

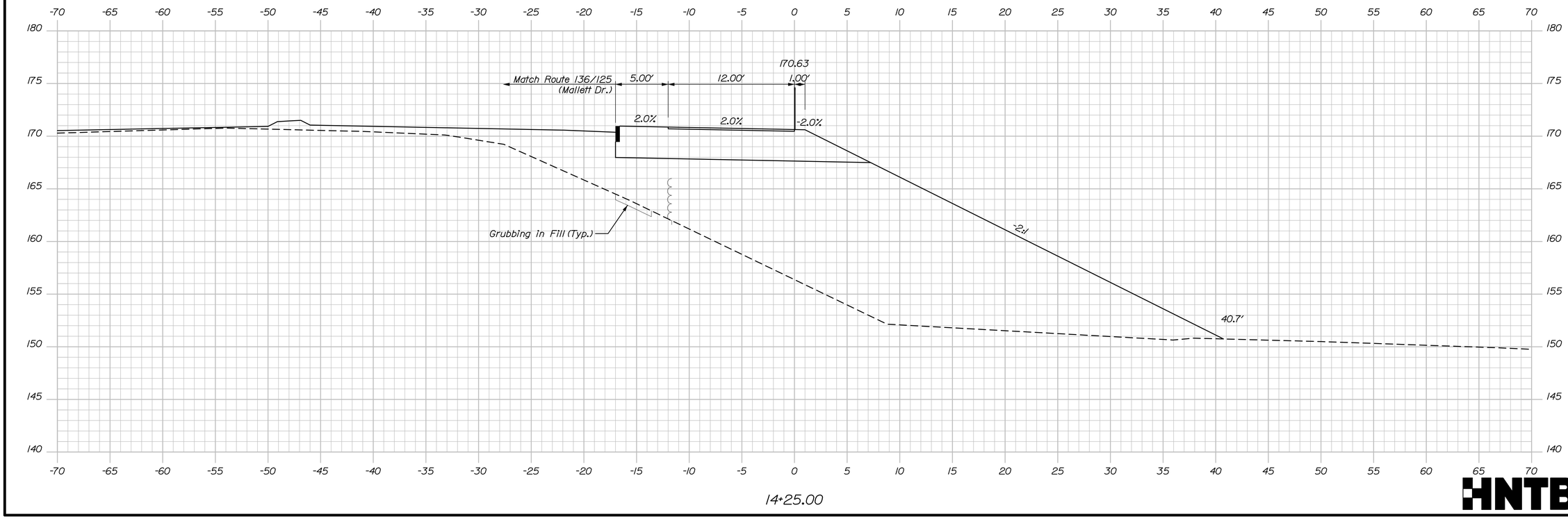
OF 144

HNTB

Sta. 13+75.00 to Sta. 14+00.00

Filename: Xsect_Multi-Use Path.dgn Division: Username: Date:8/27/2021





STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kershaw-Jergen	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	LZD	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

MULTI-USE PATH
CROSS SECTIONS

SHEET NUMBER

91

OF 144

HNTB

Date:8/27/2021

Username:

Division:

Filename: Xsect_Multi-Use Path.dgn

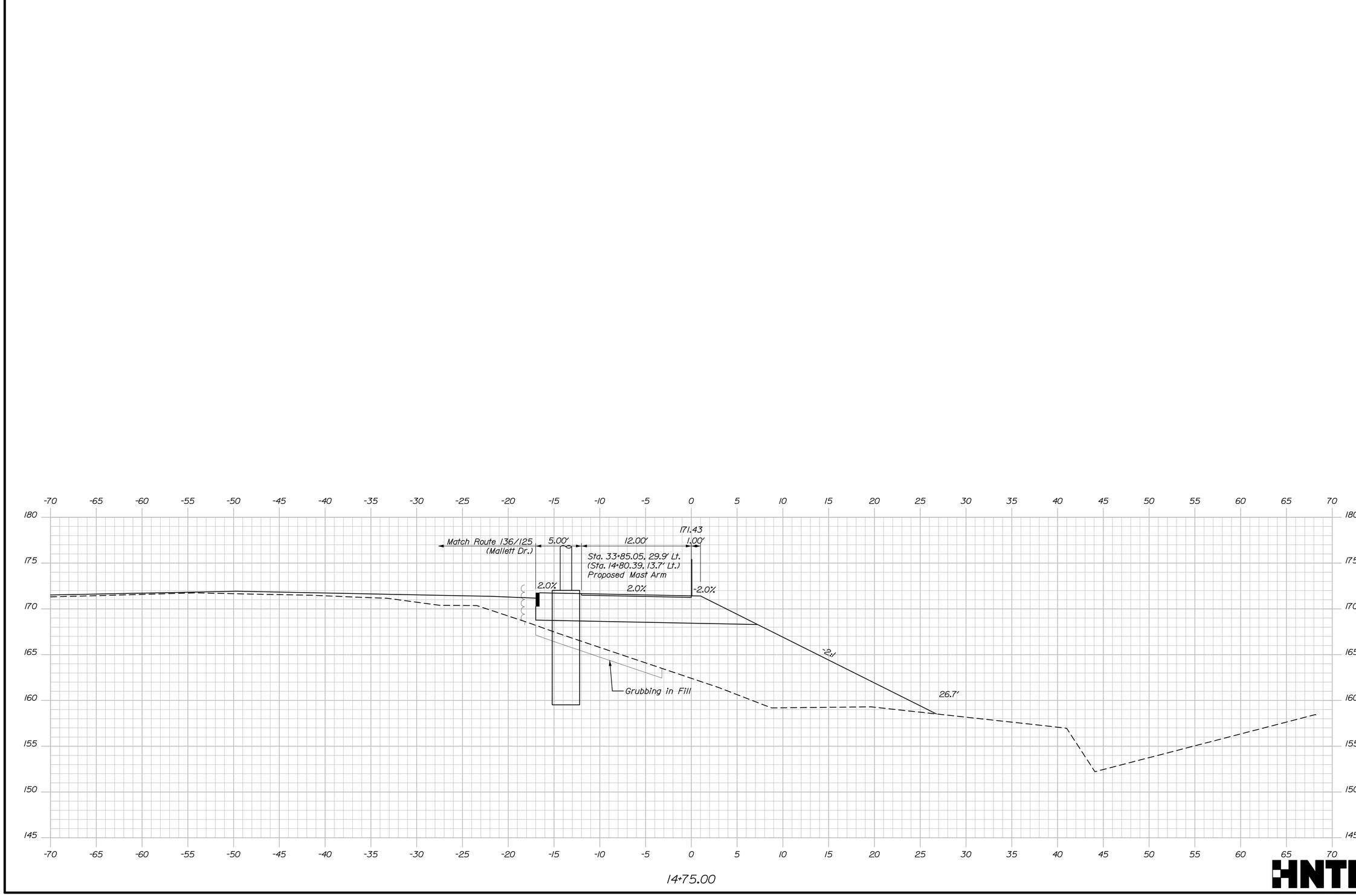
Sta. 14+25.00 to Sta. 14+50.00

Username:

Date:8/27/2021

Division:

Filename: Xsect_Multi-Use Path.dgn



PROJ. MANAGER	M. Kerstetter	BY	DATE
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	LZD	PEK	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

SIGNATURE

P.E. NUMBER

DATE

02172600

WIN
021726.00

BRIDGE No. 5721

BRIDGE PLANS

APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

MULTI-USE PATH CROSS SECTIONS

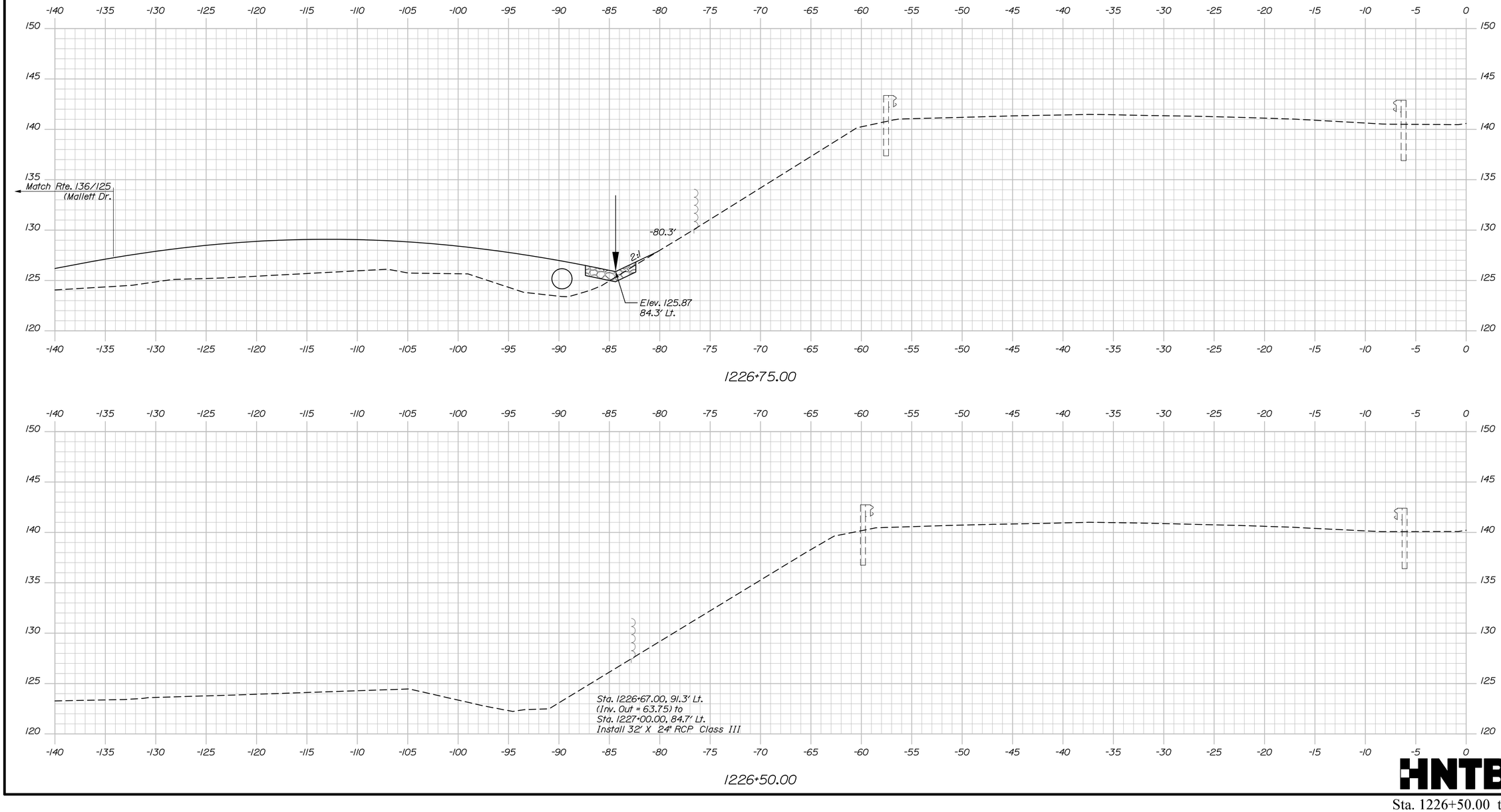
SHEET NUMBER

92

OF 144

HNTB

Sta. 14+75.00 to Sta. 14+75.00



Sta. 1226+50.00 to Sta. 1226+75.00

Username:

Division:

Date:8/27/2021

Filename: Xsect_I-295.dgn

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN
021726.00

BRIDGE No. 5721

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	M. Kershbergen		
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	LZD	PEK	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

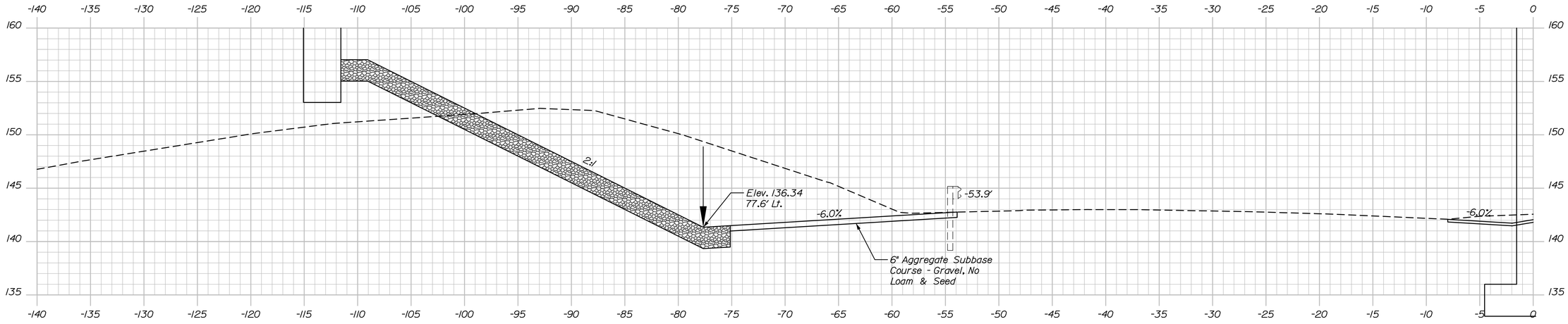
I-295 SOUTHBOUND
CROSS SECTIONS

SHEET NUMBER

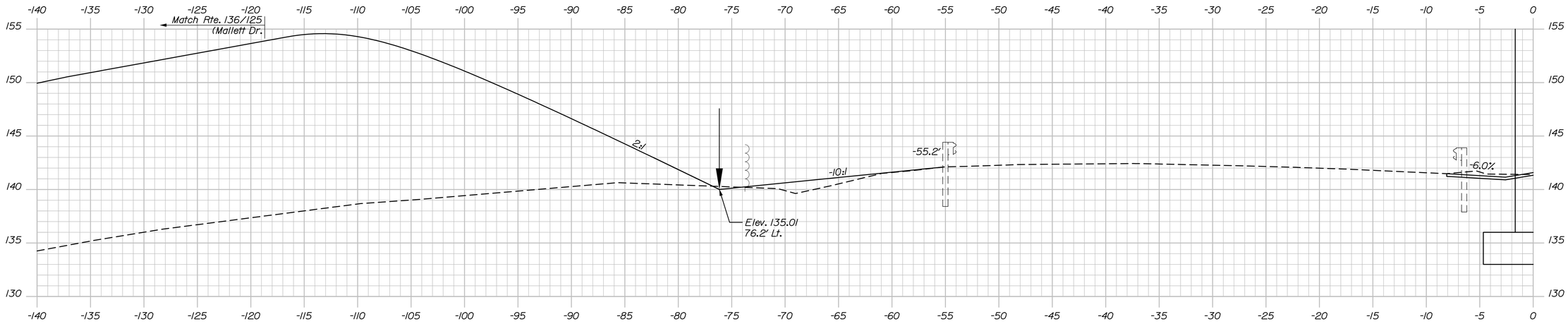
93

OF 144

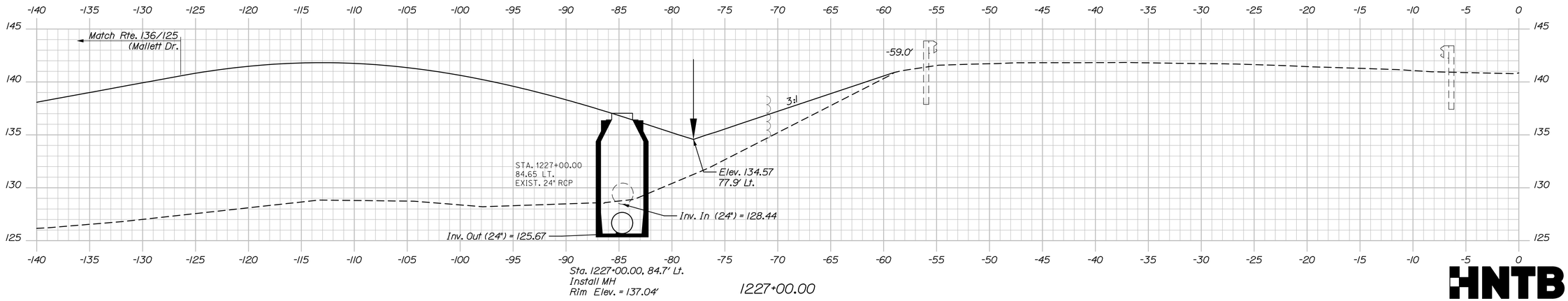
HNTB



1227+50.00



1227+25.00



1227+00.00

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE PLANS

BRIDGE No. 5721

	SIGNATURE	P.E. NUMBER	DATE

PROJ. MANAGER	M. Kerstetgen	BY	DATE
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	LZD	PEK	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

APPROACH ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

I-295 SOUTHBOUND CROSS SECTIONS

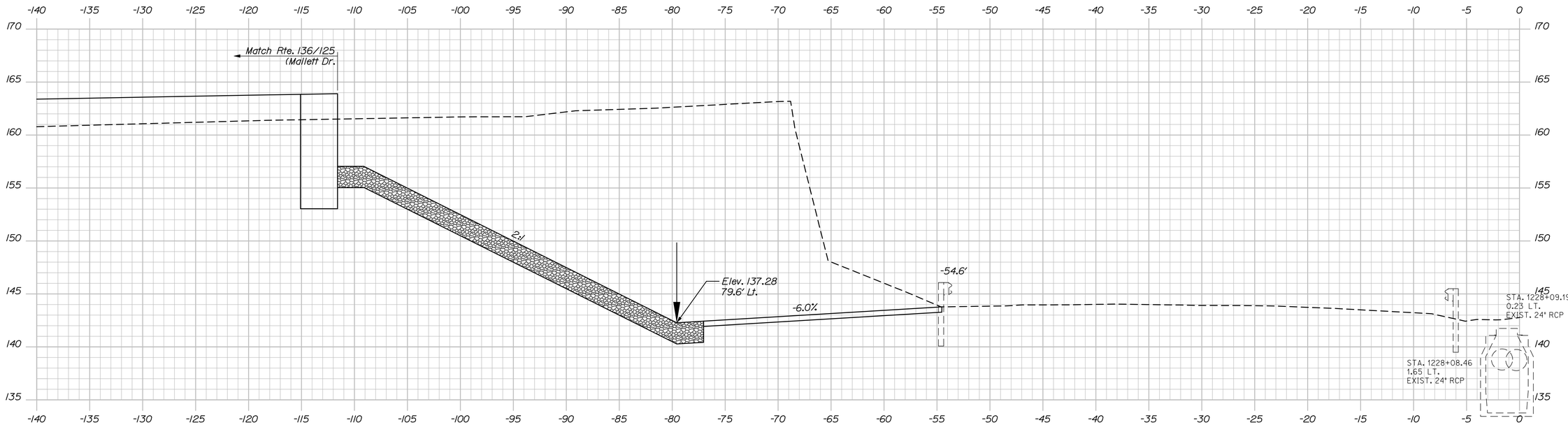
SHEET NUMBER

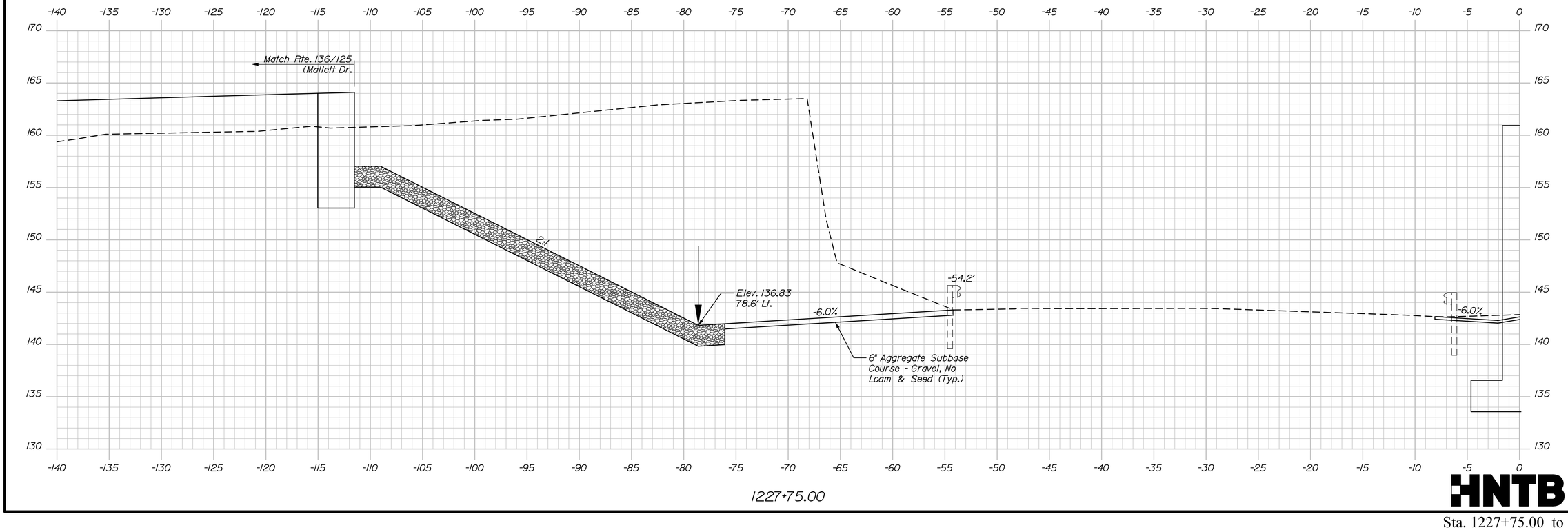
94

OF 144

Sta. 1227+00.00 to Sta. 1227+50.00

Filename: Xsect_I-295.dgn Division: Username: Date:8/27/2021





STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kershaw	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	LZD	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

I-295 SOUTHBOUND
CROSS SECTIONS

SHEET NUMBER

95

OF 144

HNTB

Sta. 1227+75.00 to Sta. 1228+00.00

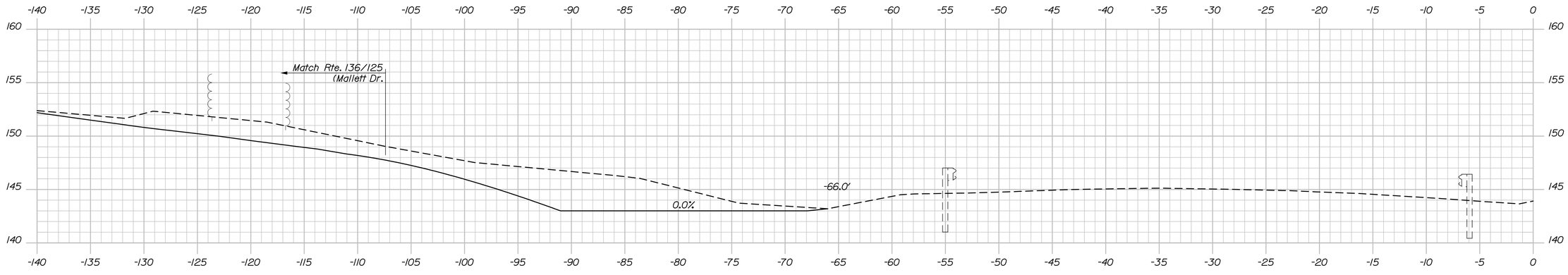
Filename: Xsect_I-295.dgn Division: Username: Date:8/27/2021

Date:8/27/2021

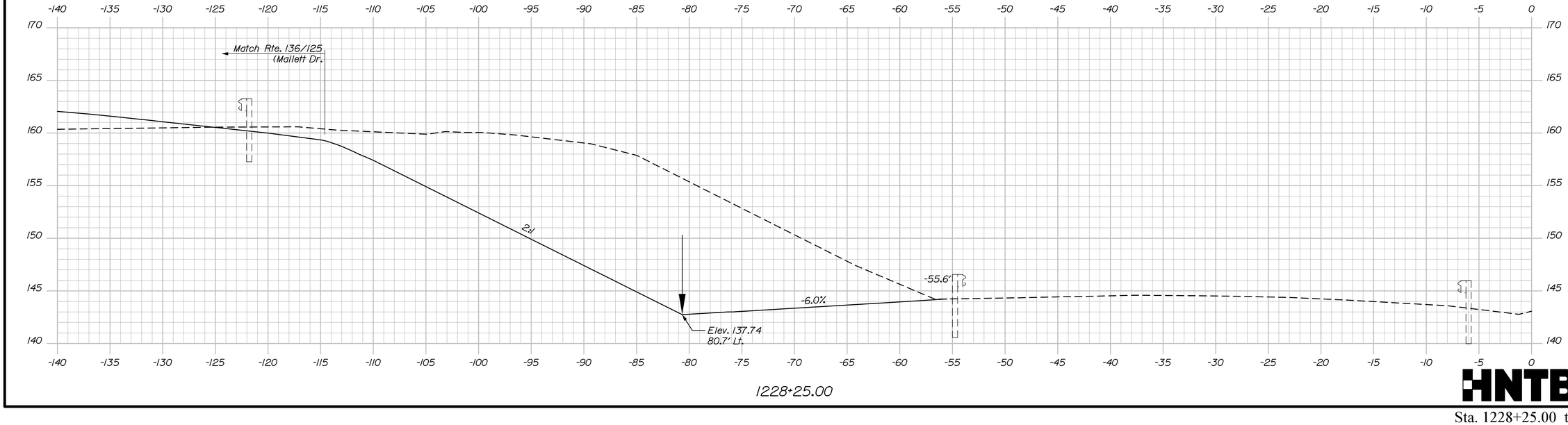
Username:

Division:

Filename: Xsect_I-295.dgn



1228+50.00



1228+25.00

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN
021726.00

BRIDGE No. 5721

BRIDGE PLANS

PROJ. MANAGER	M. Kershaw	BY	DATE
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	LZD	PEK	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

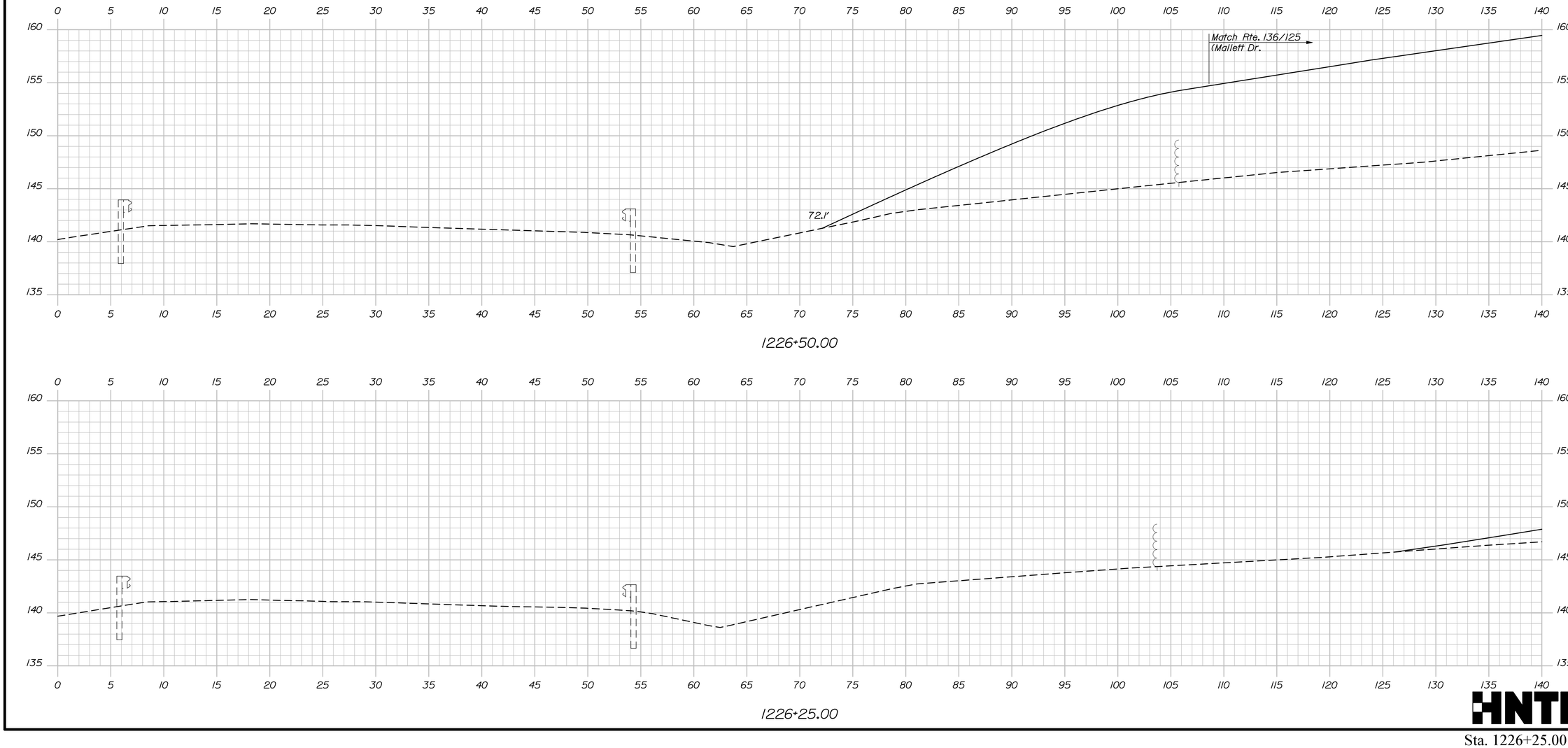
I-295 SOUTHBOUND
CROSS SECTIONS

SHEET NUMBER

96

OF 144

Sta. 1228+25.00 to Sta. 1228+50.00



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN
021726.00

BRIDGE No. 5721

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kerstetter	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	LZD	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

I-295 NORTHBOUND CROSS SECTIONS

SHEET NUMBER

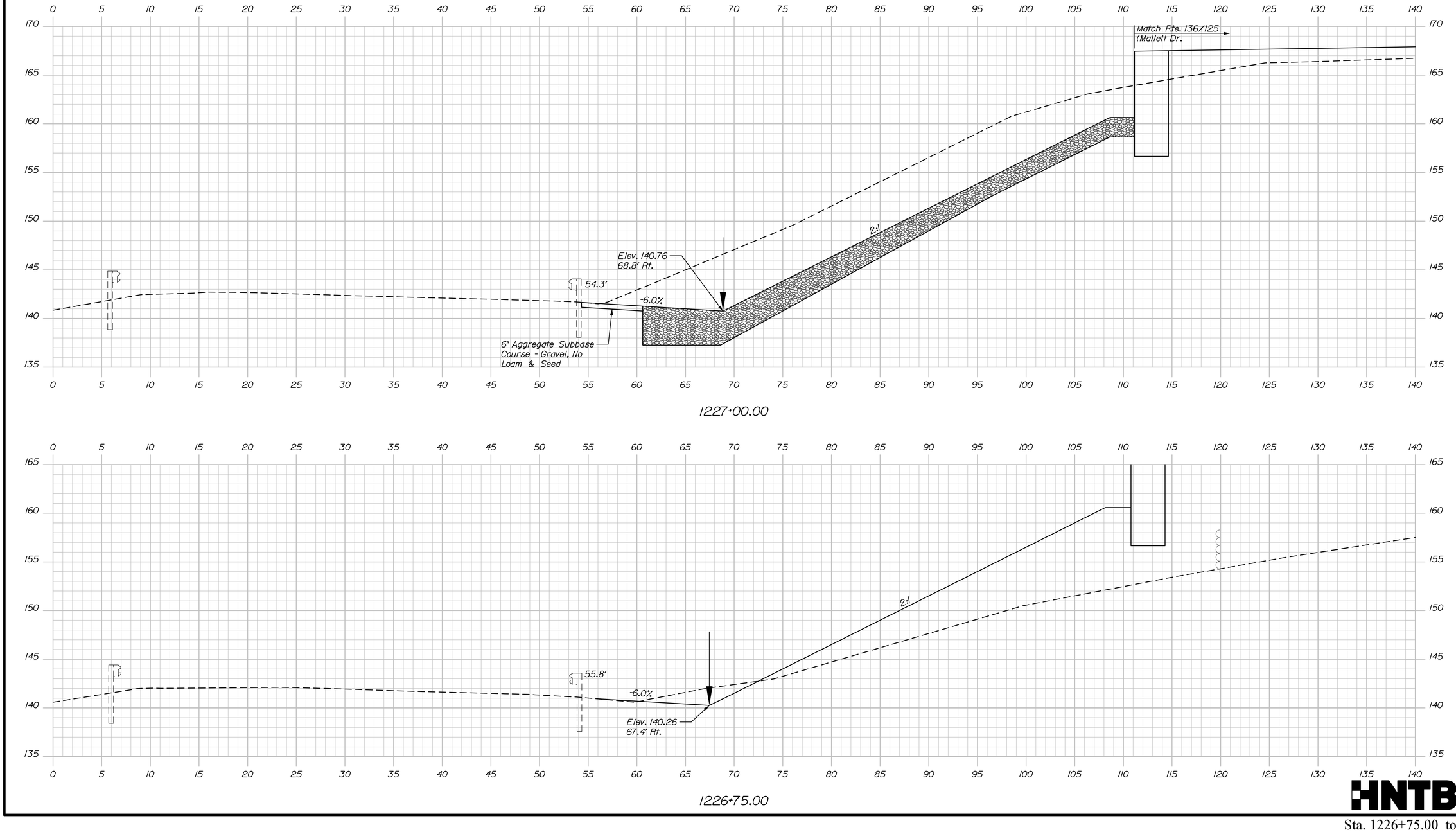
97

OF 144

HNTB

Sta. 1226+25.00 to Sta. 1226+50.00

Filename: Xsect_I-295.dgn Division: Username: Date:8/27/2021



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

PROJ. MANAGER	M. Kershbergen	BY	DATE
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	LZD	PEK	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

I-295 NORTHBOUND CROSS SECTIONS

SHEET NUMBER

98

OF 144

HNTB

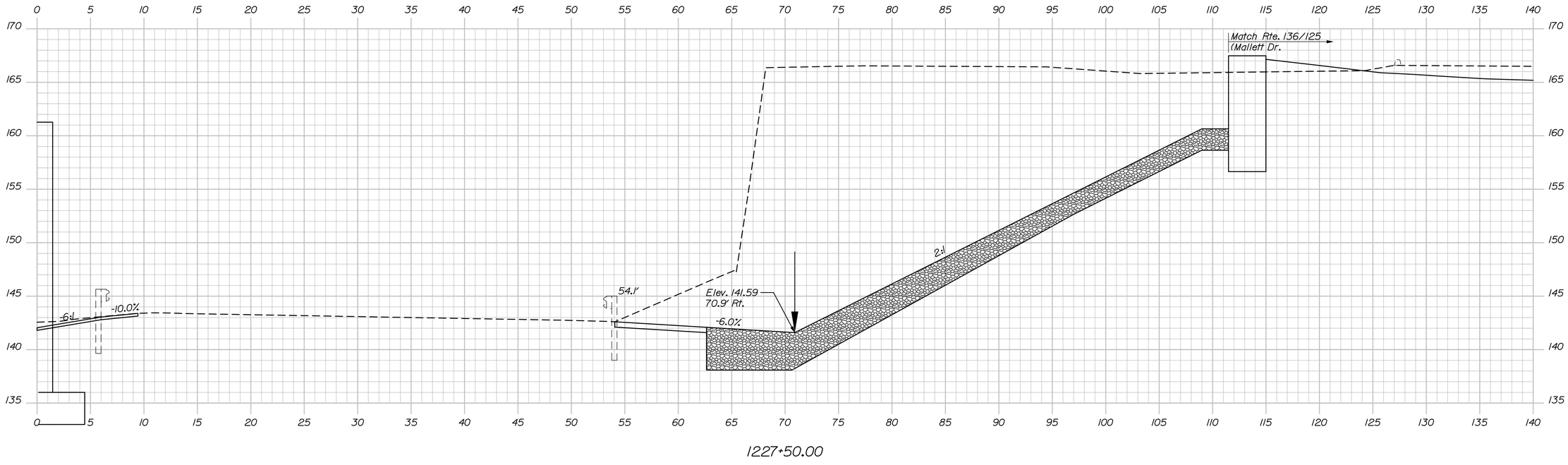
Sta. 1226+75.00 to Sta. 1227+00.00

Username:

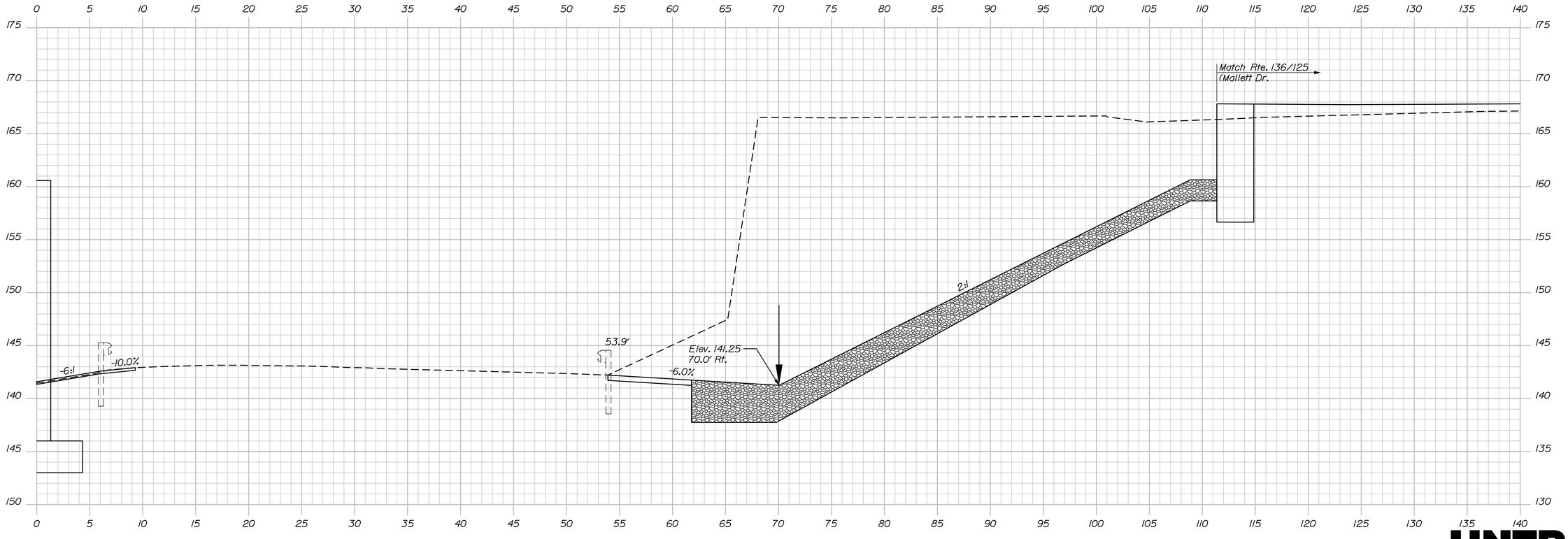
Date:8/27/2021

Division:

Filename: Xsect_I-295.dgn



1227+50.00



1227+25.00

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN
021726.00

BRIDGE No. 5721

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kerstergen	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	LZD	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

I-295 NORTHBOUND
CROSS SECTIONS

SHEET NUMBER

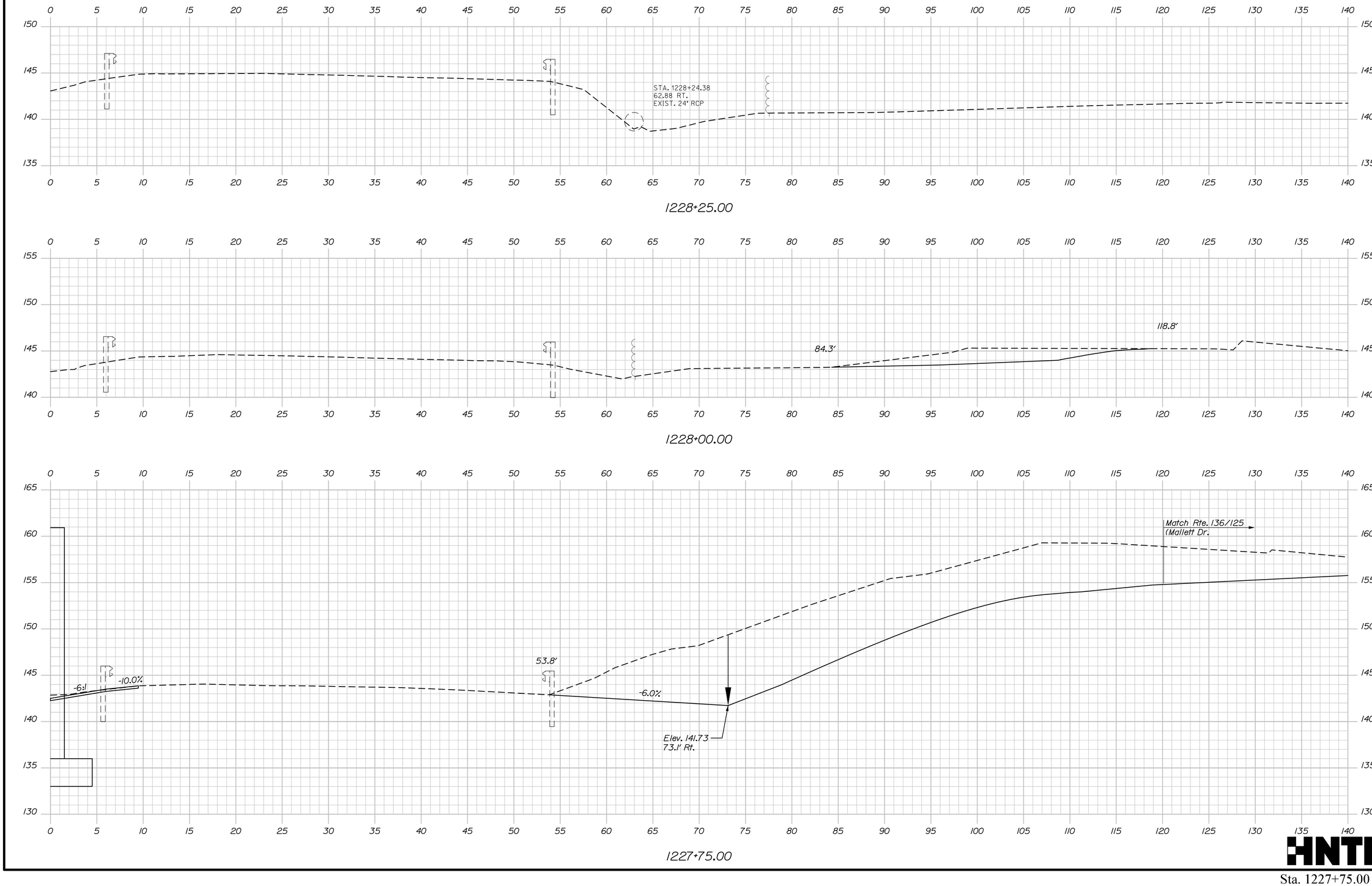
99

OF 144

HNTB

Sta. 1227+25.00 to Sta. 1227+50.00

Date:8/27/2021
Username:
Division:
Filename: Xsect_I-295.dgn



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN
021726.00

BRIDGE No. 5721

BRIDGE PLANS

PROJ. MANAGER	M. Kershaw		
DESIGN-DETAILED	CDH	DEB	08\21
CHECKED-REVIEWED	LZD	PEK	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

BY | DATE | SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

I-295 NORTHBOUND
CROSS SECTIONS

SHEET NUMBER

100

OF 144

HNTB

Sta. 1227+75.00 to Sta. 1228+25.00

Username:

Division:

Date:8/27/2021

Filename: Xsect_I-295.dgn

Filename: 101_Traffic Control Plan_Stage 1.dgn Username: Division: Date:8/27/2021

Stage I Traffic Control Notes:

1. The Traffic Control Plan is conceptual and is to be used for reference only. The Contractor shall design and submit traffic control plans for approval.

2. Construction of the widened roadway on Mallett Dr. from approximate Sta. 28+00 Rt. to 38+25, additional approach work on Mallett Dr., and the I-295 SB Off Ramp Widening will need to occur during Stage I in preparation of Stage 2.

3. The required work zones to construct the work in Note 2 are not shown. These activities are anticipated to occur with methods not impacting traffic operations or utilizing short term traffic control operations with flaggers if needed which include: additional lane shifts, lane closures, and temporary ramp closures. This plan shows meant long term traffic control necessary to complete the bridge work during this stage.

4. Traffic Control along I-295 is not shown.

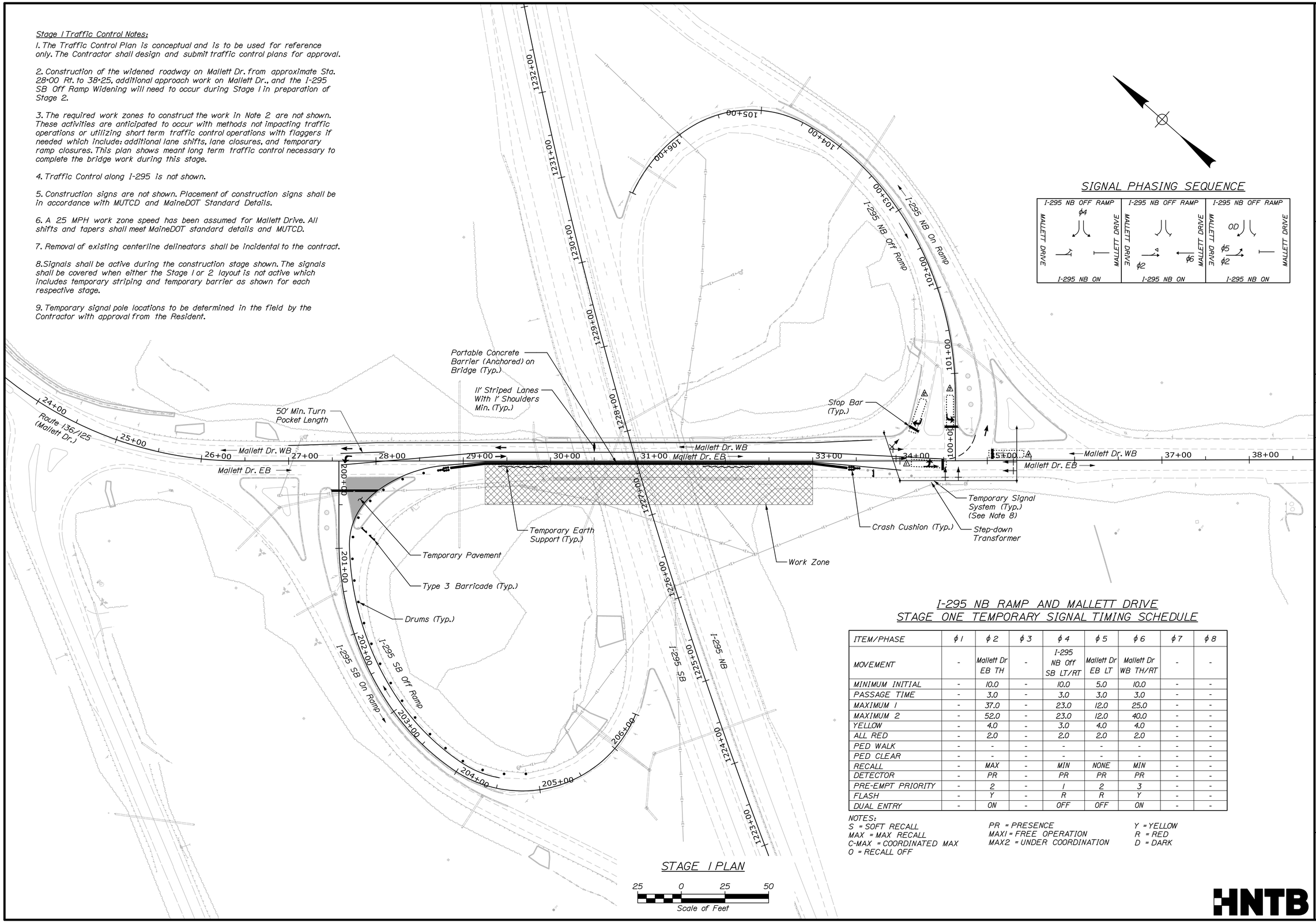
5. Construction signs are not shown. Placement of construction signs shall be in accordance with MUTCD and MaineDOT Standard Details.

6. A 25 MPH work zone speed has been assumed for Mallett Drive. All shifts and tapers shall meet MaineDOT standard details and MUTCD.

7. Removal of existing centerline delineators shall be incidental to the contract.

8.Signals shall be active during the construction stage shown. The signals shall be covered when either the Stage I or 2 layout is not active which includes temporary striping and temporary barrier as shown for each respective stage.

9. Temporary signal pole locations to be determined in the field by the Contractor with approval from the Resident.



STAGE I PLAN

25 0 25 50
Scale of Feet

SIGNAL PHASING SEQUENCE

I-295 NB RAMP AND MALLETT DRIVE
STAGE ONE TEMPORARY SIGNAL TIMING SCHEDULE

ITEM/PHASE	φ1	φ2	φ3	φ4	φ5	φ6	φ7	φ8
MOVEMENT	-	Mallett Dr EB TH	-	I-295 NB Off SB LT/RT	Mallett Dr EB LT	Mallett Dr WB TH/RT	-	-
MINIMUM INITIAL	-	10.0	-	10.0	5.0	10.0	-	-
PASSAGE TIME	-	3.0	-	3.0	3.0	3.0	-	-
MAXIMUM 1	-	37.0	-	23.0	12.0	25.0	-	-
MAXIMUM 2	-	52.0	-	23.0	12.0	40.0	-	-
YELLOW	-	4.0	-	3.0	4.0	4.0	-	-
ALL RED	-	2.0	-	2.0	2.0	2.0	-	-
PED WALK	-	-	-	-	-	-	-	-
PED CLEAR	-	-	-	-	-	-	-	-
RECALL	-	MAX	-	MIN	NONE	MIN	-	-
DETECTOR	-	PR	-	PR	PR	PR	-	-
PRE-EMPT PRIORITY	-	2	-	1	2	3	-	-
FLASH	-	Y	-	R	R	Y	-	-
DUAL ENTRY	-	ON	-	OFF	OFF	ON	-	-

NOTES:
S = SOFT RECALL
MAX = MAX RECALL
C-MAX = COORDINATED MAX
0 = RECALL OFF

PR = PRESENCE
MAX1 = FREE OPERATION
MAX2 = UNDER COORDINATION

Y = YELLOW
R = RED
D = DARK

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

PROJ. MANAGER	M. Kerstbergen
DESIGN-DETAILED	DEB
CHECKED-REVIEWED	CDH
DESIGN2-DETAILED2	LZD
DESIGN3-DETAILED3	

	BY	DATE
REVISIONS 1	DEB	08\21
REVISIONS 2	PEK	08\21
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

ROUTE 136/125 (MALLETT DR.)
TRAFFIC CONTROL PLAN

SHEET NUMBER

101

OF 144

HNTB

Stage 2 Traffic Control Notes:

1. The Traffic Control Plan is conceptual and is to be used for reference only. The Contractor shall design and submit traffic control plans for approval.

2. The required work zones to construct the remaining approaches and ramps are not shown. These activities are anticipated to occur with methods not impacting traffic operations or utilizing short term traffic control operations with flaggers if needed which include: additional lane shifts, lane closures, and temporary ramp closures. This plan shows long term traffic control necessary to complete the bridge work during this stage.

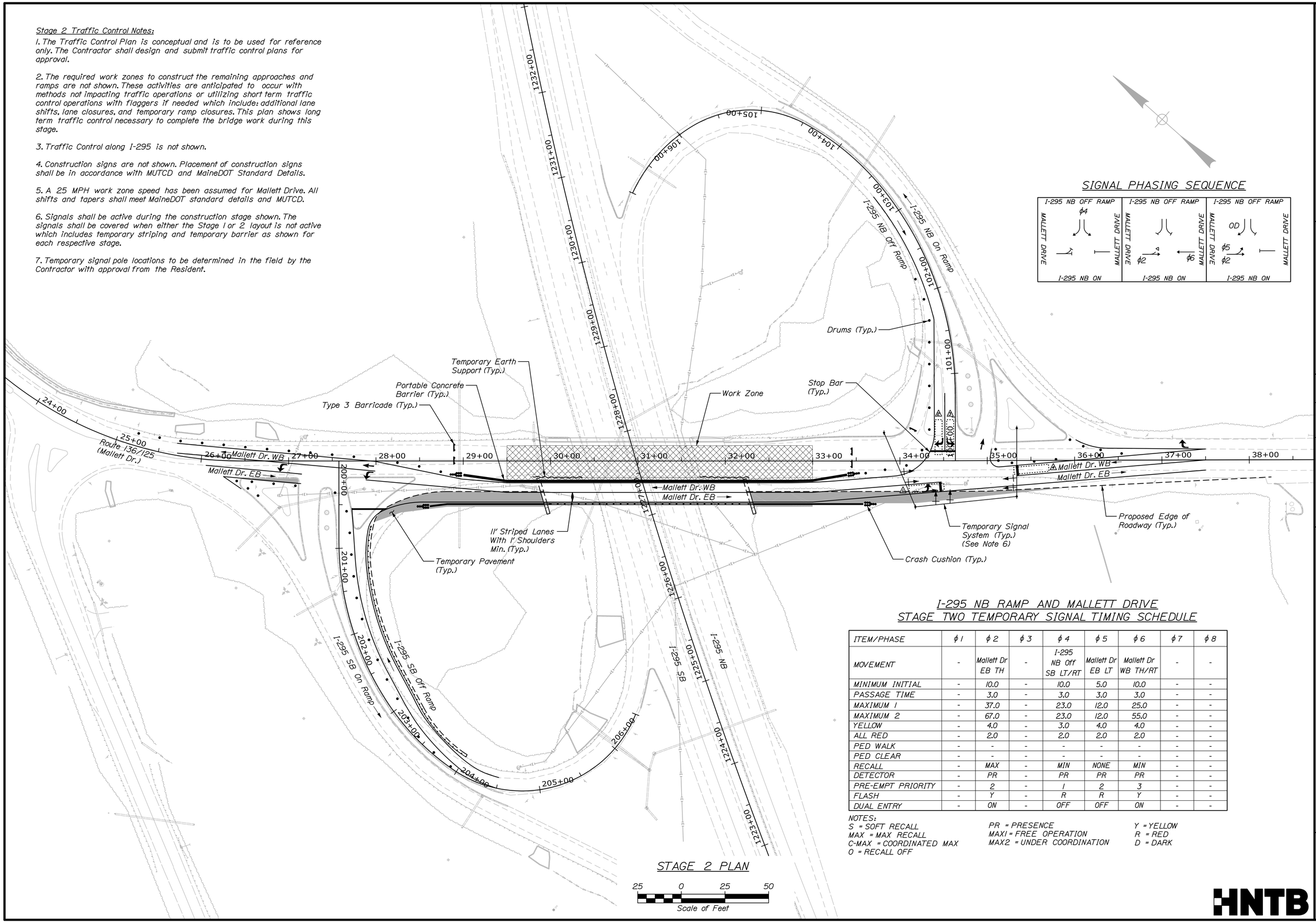
3. Traffic Control along I-295 is not shown.

4. Construction signs are not shown. Placement of construction signs shall be in accordance with MUTCD and MaineDOT Standard Details.

5. A 25 MPH work zone speed has been assumed for Mallett Drive. All shifts and tapers shall meet MaineDOT standard details and MUTCD.

6. Signals shall be active during the construction stage shown. The signals shall be covered when either the Stage 1 or 2 layout is not active which includes temporary striping and temporary barrier as shown for each respective stage.

7. Temporary signal pole locations to be determined in the field by the Contractor with approval from the Resident.



SIGNAL PHASING SEQUENCE

I-295 NB RAMP AND MALLETT DRIVE
STAGE TWO TEMPORARY SIGNAL TIMING SCHEDULE

ITEM/PHASE	ϕ 1	ϕ 2	ϕ 3	ϕ 4	ϕ 5	ϕ 6	ϕ 7	ϕ 8
MOVEMENT	-	Mallett Dr EB TH	-	I-295 NB Off SB LT/RT	Mallett Dr EB LT	Mallett Dr WB TH/RT	-	-
MINIMUM INITIAL	-	10.0	-	10.0	5.0	10.0	-	-
PASSAGE TIME	-	3.0	-	3.0	3.0	3.0	-	-
MAXIMUM 1	-	37.0	-	23.0	12.0	25.0	-	-
MAXIMUM 2	-	67.0	-	23.0	12.0	55.0	-	-
YELLOW	-	4.0	-	3.0	4.0	4.0	-	-
ALL RED	-	2.0	-	2.0	2.0	2.0	-	-
PED WALK	-	-	-	-	-	-	-	-
PED CLEAR	-	-	-	-	-	-	-	-
RECALL	-	MAX	-	MIN	NONE	MIN	-	-
DETECTOR	-	PR	-	PR	PR	PR	-	-
PRE-EMPT PRIORITY	-	2	-	1	2	3	-	-
FLASH	-	Y	-	R	R	Y	-	-
DUAL ENTRY	-	ON	-	OFF	OFF	ON	-	-

NOTES:
S = SOFT RECALL
MAX = MAX RECALL
C-MAX = COORDINATED MAX
0 = RECALL OFF

PR = PRESENCE
MAX1 = FREE OPERATION
MAX2 = UNDER COORDINATION

Y = YELLOW
R = RED
D = DARK

STAGE 2 PLAN

25 0 25 50
Scale of Feet

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

PROJ. MANAGER	M. Kershaw-Bergen	BY	DATE
DESIGN-DETAILED	COH	DEB	08\21
CHECKED-REVIEWED	LZD	PEK	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

ROUTE 136/125 (MALLETT DR.)
TRAFFIC CONTROL PLAN

SHEET NUMBER
102
OF 144

Filename: 102_Traffic ControlPlan_Stage 2.dgn Division: Username: Date:8/27/2021

SIGNAL NOTES

1. Where noted on the plans, all new vehicular signal heads shall be equipped with new led lenses 12 inches in diameter and equipped with new 5-inch louvered back plates, including 3-inch retroreflectivity.

2. All new signal heads shall be fix mounted to mast arms with astrobrackets, or mounted to mast arm poles.

3. The bottom of the housing of new signal faces shall be at least 17 feet but not more than 19 feet above the pavement grade at the center of the roadway.

4. Traffic work shall be completed in a manner and order that will cause the minimum disruption to traffic.

5. All materials shown on the plans are for general information only. The contractor shall prepare their own material schedules based upon plan review. All schedules shall be verified in the field by the contractor prior to ordering materials or performing work.

6. The contractor shall furnish and install the traffic signal controllers, cabinets, and other various equipment items shown on the plans. The traffic signal controllers supplied under this contract shall be ethernet equipped advanced transportation controllers as detailed in MaineDOT Standard Specification 718.07. All control cabinets supplied under this contract shall be advanced traffic control cabinets as described in MaineDOT standard specification 718.08.

The contractor shall be solely responsible for providing the project with working and fully configured traffic signal controllers for each intersection, delivery, connected vehicle system, installation of the central and local intersection communication interface, and coordination with the MaineDOT office of information technology. In addition the contractor shall furnish and install the light-based emergency vehicle preemption system compatible with the preemption emitters owned by the municipal fire department, noting that the system shall be configured such that preemption or priority control can also be initiated through dedicated short-range communications (dsrc)/4glte 5g through a roadside unit by way of an approaching authorized vehicle with an on-board unit.

7. The system shall support communication to advance transportation controller, associated equipment and vehicle detection as shown in the plans. Intersection controllers shall be capable of communicating with the system, at a rate of once-per-second. All connections to the cloud-based central management system shall be via a secure VPN network. For all other project intersections, communications from the cloud-based system to the on-street traffic signal controllers shall be made through the field monitoring unit.

8. The Contractor shall furnish and install non-invasive stop line and advanced vehicle detection as shown in the plans. As payment for this work, the contractor shall submit a lump sum bid per intersection for non-invasive stop line and non-invasive advance detection (where applicable). Advanced detection shall be capable of multiple dilemma zones, with multiple outputs per zone. This unit shall not be a combination unit, stop bar/advance. The vehicle detectors are to be connected to the intersection traffic controller for local vehicle detection and remotely teleconnected to the MaineDOT traffic management center to allow visual confirmation and adjustment of the detection zones as shown in the plans. Work shall be constructed and paid for as outlined in special provision 643.

The non-invasive vehicle detection zones shown in the plans are for illustrative purposes only. Final detection zones shall be located in the field and approved by MaineDOT and the engineer.

The location of detection devices shown in the plans are conceptual. The actual number of detection devices and mounting locations shall be per manufacturer recommendation.

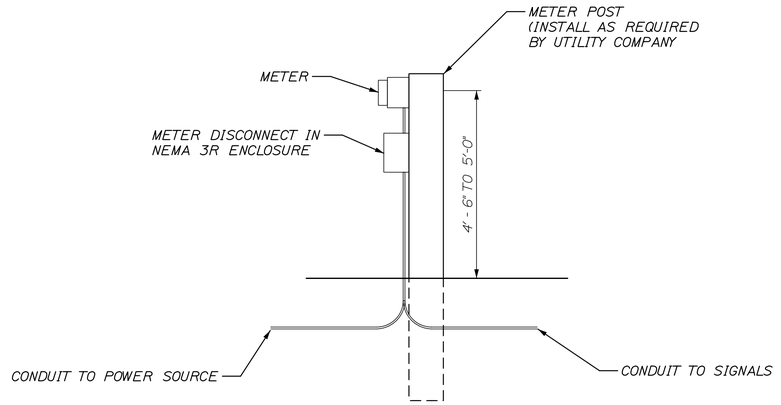
The Resident reserves the right to direct the Contractor to adjust the video detector mounting height for local conditions identified during or after installation. No additional cost will be allowed for field adjusting the pipe extensions or rewiring as necessary. This work will be incidental to the 643.21 and/or 643.22 item.

The contractor shall re-inspect each signalized intersection during the acceptance testing period and certify detectors are functioning properly before final acceptance is granted.

9. New traffic signal control cabinet, mast arm pole, or pedestal pole foundations shall be constructed in locations shown on the plans. The proposed foundations as shown are to be within existing right-of-way or proposed easements to avoid underground conflicts based on available information provided during design; however, the contractor may, upon consultation and approval from the Resident, relocate cabinet and traffic signal pole foundations as needed to avoid unanticipated conflicts as long as the final location meets the guidelines in section 4e.08 of the Manual Of Uniform Traffic Control Devices (MUTCD), does not violate ADA, and the structure is installed completely within the existing right-of-way or available easements.

Where new control cabinet foundations are called for in the plans, each foundation shall provide sufficient conduit sweeps to service the signalized intersection while meeting the National Electrical Code Chapter 9, Table 1 requirements for conduit fill. In addition, a spare 1-1/2" diameter conduit shall be installed in each new control cabinet foundation and run to the nearest service pole and capped for future use.

10. The Resident and MaineDOT 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. It is the sole opinion, to the plans or specifications.



SERVICE DETAIL

NOT TO SCALE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721 BRIDGE PLANS

SIGNATURE

P.E. NUMBER

DATE

			BY	DATE
PROJ. MANAGER	M. Kersbergen			
DESIGN-DETAILED	CDH		DEB	08\21
CHECKED-REVIEWED	LZD		PEK	08\21
DESIGN2-DETAILED2				
DESIGN3-DETAILED3				
REVISIONS 1				
REVISIONS 2				
REVISIONS 3				
REVISIONS 4				
FIELD CHANGES				

APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

PROPOSED
SIGNAL NOTES

SHEET NUMBER

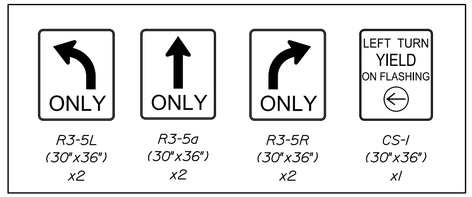
103

OF 144

HNTB

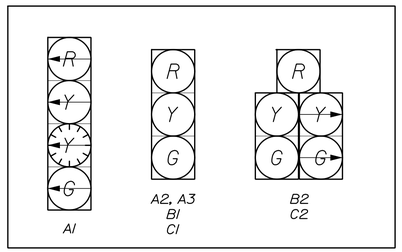
Date:8/27/2021 Username: Division: Filename: 103_SignalNotes.dgn

PROPOSED OVERHEAD SIGNS



R3-5L (30"x36") x2 | R3-5a (30"x36") x2 | R3-5R (30"x36") x2 | CS-1 (30"x36") x1

PROPOSED SIGNALS



A1 | A2, A3 B1 C1 | B2 C2

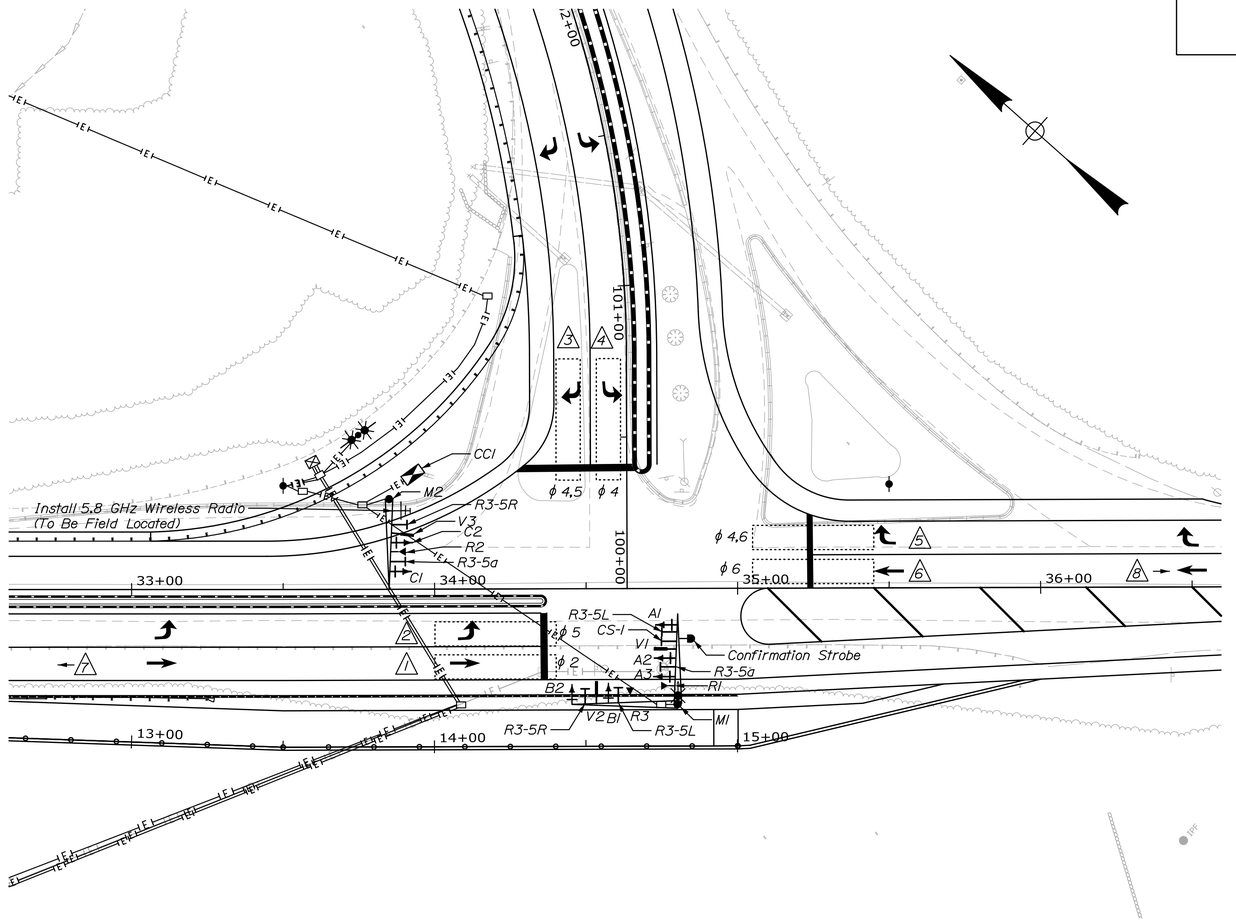
NOTE:
All indication shall be 12" Light Emitting Diodes (LED) with 5" louvered retroreflective backplates.

DETECTOR SCHEDULE

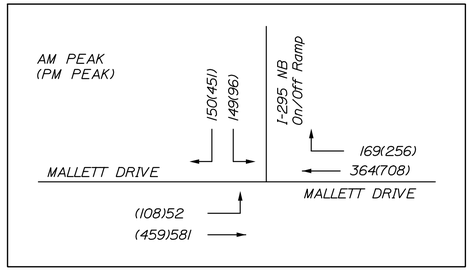
DETECTOR ZONE NO.	LOCATION	ϕ CALLED	ϕ EXIT	MODE A= ADV B= SL	DELAY TIME
1	Mallett Dr EB Thru	2	2	B	-
2	Mallett Dr EB Left	5	5	B	-
3	I-295 NB Off Rt	4	4	B	5
4	I-295 NB Off Lt	4	4	B	-
5	Mallett Dr WB Thru	6	6	B	-
6	Mallett Dr WB Right	6	6	B	15
7	Mallett Drive EB	2	2	A	-
8	Mallett Drive WB	6	6	A	-

SIGNAL PLAN LEGEND

	Existing	Proposed
Mast Arm & Steel Pole On Foundation		
Signal Head		
Pedestrian Signal Head		
Pedestrian Push Button & Sign		
Control Cabinet & Foundation		
Junction Box		
Mast Arm Or Span Wire Mounted Sign		
Detector Zone		
Non-Invasive Detection		
Preemption Receiver		
Preemption Confirmation Strobe		
3" Underground Conduit	EI	EI
5.8 GHZ Wireless Radio		
High Mast Light		



2022 SYSTEM DESIGN VOLUMES



STRUCTURE LIST

STRUCTURE	DESCRIPTION	FOUNDATION	STATION/OFFSET
CC1	CONTROLLER CABINET	L48" X W36" X H48"	33+94.36 42.9' LT
M1	30' MAST ARM 35' MAST ARM	36" DIAMETER x 12'-6"	34+80.17 38.3' RT
M2	30' MAST ARM	36" DIAMETER x 12'-6"	33+85.05 29.9' LT

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721 | BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kershbergen	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	DEB	08\21
DESIGN2-DETAILED2	LZD	
DESIGN3-DETAILED3	PEK	
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

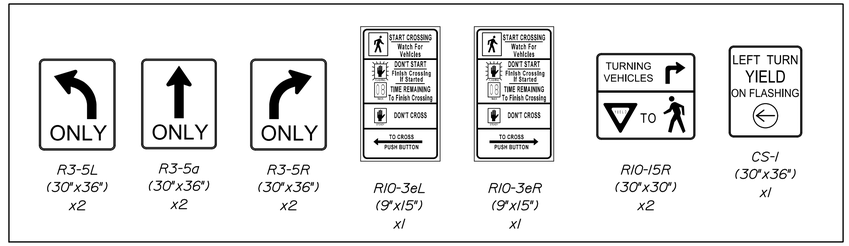
APPROACH ROAD BRIDGE
INTERSTATE 295 CUMBERLAND
FREEPORT

NB ON/OFF RAMP
SIGNAL PLAN

SHEET NUMBER
104
OF 144

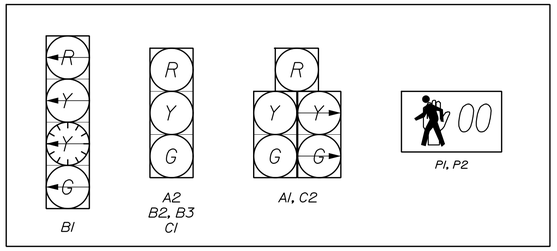
Filename: 104_SignalPlan_I-295 NB Ramps.dgn Division: Username: Date:8/27/2021

PROPOSED SIGNS



R3-5L (30"x36") x2 | R3-5a (30"x36") x2 | R3-5R (30"x36") x2 | R10-3eL (9"x15") x1 | R10-3eR (9"x15") x1 | R10-15R (30"x30") x2 | CS-1 (30"x36") x1

PROPOSED SIGNALS



B1 | A2 B2, B3 C1 | A1, C2 | P1, P2

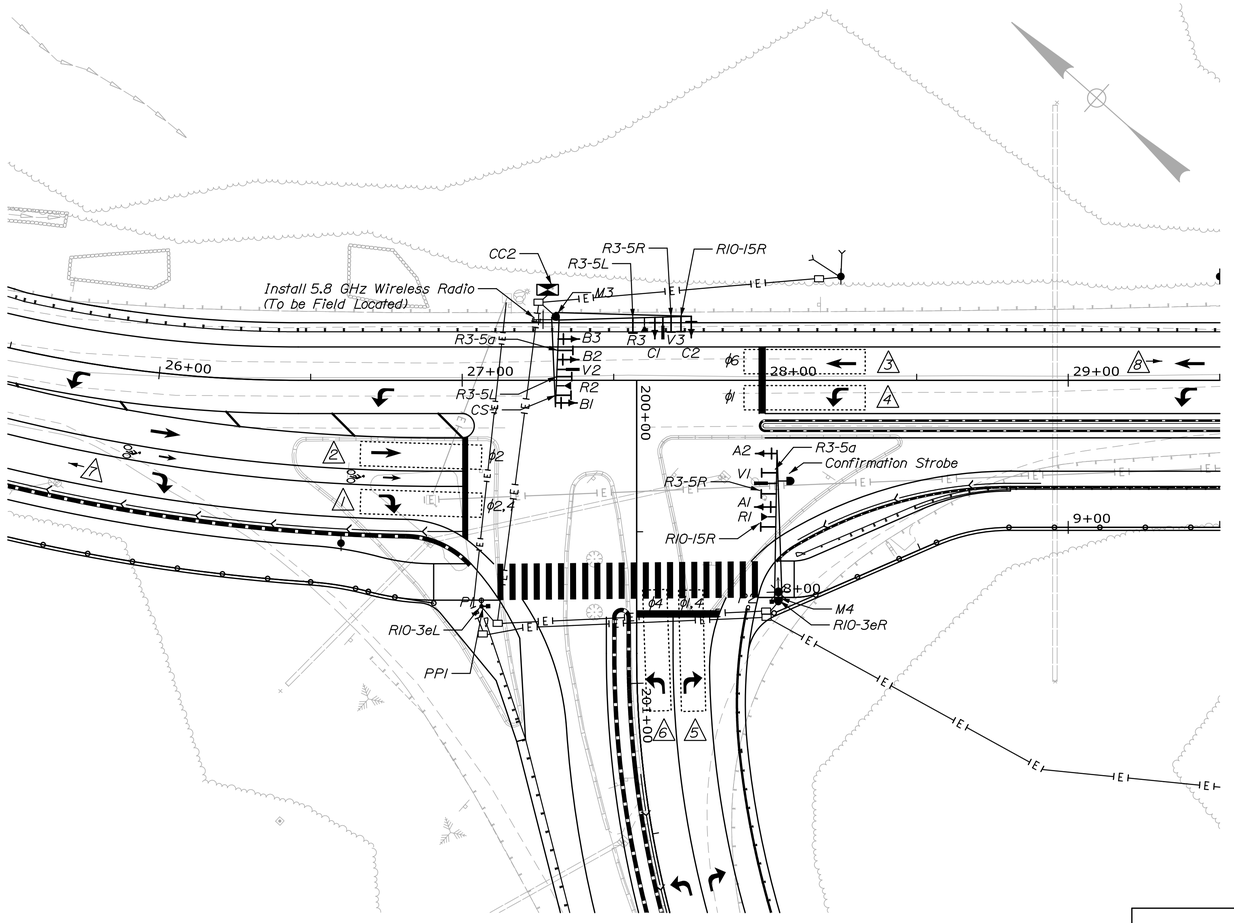
NOTE:
All indication shall be 12" Light Emitting Diodes (LED) with 5" louvered retroreflective backplates.

DETECTOR SCHEDULE

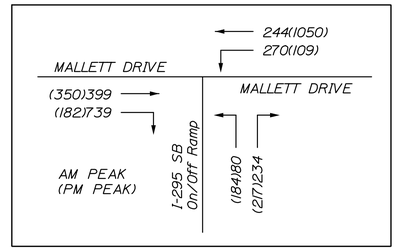
DETECTOR ZONE NO.	LOCATION	ϕ CALLED	ϕ EXIT	MODE A= ADV B= SL	DELAY TIME
1	Mallett Dr EB Rt	2	2	B	15
2	Mallett Dr EB Thru	2	2	B	-
3	Mallett Dr WB Thru	6	6	B	-
4	Mallett Dr WB Lt	1	1	B	-
5	I-295 SB Off Rt	4	4	B	5
6	I-295 SB Off Lt	4	4	B	-
7	Mallett Dr EB Thru	2	2	A	-
8	Mallett Dr WB Thru	6	6	A	-

SIGNAL PLAN LEGEND

	Existing	Proposed
Mast Arm & Steel Pole On Foundation		
Signal Head		
Pedestrian Signal Head		
Pedestrian Push Button & Sign		
Control Cabinet & Foundation		
Junction Box		
Mast Arm Or Span Wire Mounted Sign		
Detector Zone		
Non-Invasive Detection		
Preemption Receiver		
Preemption Confirmation Strobe		
3" Underground Conduit		
5.8 GHZ Wireless Radio		



2022 SYSTEM DESIGN VOLUMES



STRUCTURE LIST

STRUCTURE	DESCRIPTION	FOUNDATION	STATION/OFFSET
CC2	CONTROLLER CABINET	L48" X W36" X H48"	27+28.20 29.8' LT
PPI	8' PEDESTAL POLE	24" DIAMETER	27+06.40 74.6' RT
M3	30' MAST ARM 45' MAST ARM	36" DIAMETER x 12'-6"	27+30.77 21.1' LT
M4	50' MAST ARM	36" DIAMETER x 12'-6"	28+04.33 73.0' RT

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

PROJ. MANAGER	M. Kerbergen
DESIGN-DETAILED	CDH
CHECKED-REVIEWED	CZD
DESIGN2-DETAILED2	
DESIGN3-DETAILED3	

BY	DATE
DEB	08\21
PEK	08\21

REVISIONS	BY	DATE
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

SB ON/OFF RAMP
SIGNAL PLAN

SHEET NUMBER
105
OF 144

Filename: 105_SignalPlan_I-295 SB Ramps.dgn Division: Username: Date:8/27/2021

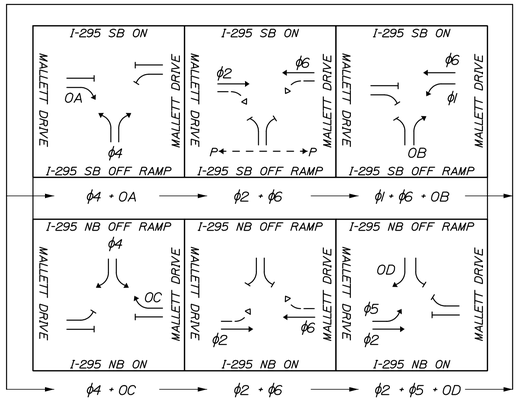
Filename: 106_SignalDiagrams & Tables.dgn Division: Username: Date:8/27/2021

EQUIPMENT AND WORK ITEMS

	Mallett Drive and I-295 NB	Mallett Drive and I-295 SB
FURNISH AND INSTALL NEW ATCC MAINEDOT 32/48 SPEC GROUND MOUNT CABINET AND ATC CONTROLLER COMPLETE WITH ALL ANCILLARY EQUIPMENT AND WIRING INCLUDING FIELD MONITORING UNIT WITH INTEGRATION INTO CLOUD BASED CENTRAL MANAGEMENT SYSTEM	1	1
FURNISH AND INSTALL ONE-WAY 3-SECTION, 12-INCH TRAFFIC SIGNAL HEADS WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE WITH 3-INCH RETROREFLECTIVITY MOUNTED ON MAST ARMS WITH ASTRO-BRACKETS	4	4
FURNISH AND INSTALL ONE-WAY 4-SECTION, 12-INCH TRAFFIC SIGNAL HEADS WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE WITH 3-INCH RETROREFLECTIVITY MOUNTED ON MAST ARMS WITH ASTRO-BRACKETS	1	1
FURNISH AND INSTALL ONE-WAY 5-SECTION 12-INCH TRAFFIC SIGNAL HEADS WITH LED MODULES, TUNNEL VISORS, AND 5-INCH LOUVERED BACK PLATE WITH 3-INCH RETROREFLECTIVITY MOUNTED ON MAST ARMS WITH ASTRO-BRACKETS	2	2
FURNISH AND INSTALL 5.8 GHZ WIRELESS RADIO UNIT WITH (2) FLAT PANEL ANTENNAES (LUMP SUM ITEM 643.90)	1	1
FURNISH AND INSTALL MAST ARM MOUNTED SIGNS	7	9
FURNISH AND INSTALL ONE-WAY 16" x 18" LED TOP MOUNTED COUNTDOWN PEDESTRIAN SIGNAL HEAD WITH ADA COMPLIANT ACCESSIBLE PEDESTRIAN SIGNAL (APS) PUSH BUTTON AND RIO-3e INFORMATION SIGN	-	2
FURNISH AND INSTALL 4-CHANNEL PRE-EMPTION PHASE SELECTOR ASSEMBLY WITH 3 LIGHT-BASED PRE-EMPTION RECEIVERS AND CONFIRMATION STROBE WITH CABLES.	1	1
FURNISH AND INSTALL SIGNAL CABLE IMPLEMENT LOCAL AND SYSTEM SIGNAL TIMINGS	1	1
FURNISH AND INSTALL PRECAST CONCRETE JUNCTION BOX (ITEM 626.11)	3	4
FURNISH AND INSTALL METALLIC CONDUIT (ITEM 626.21)	27	27
FURNISH AND INSTALL (3-INCH) NON-METALLIC CONDUIT (ITEM 626.22)	161	302
FURNISH AND INSTALL CONTROLLER CABINET FOUNDATION (ITEM 626.38)	1	1
FURNISH AND INSTALL 24" FOUNDATION (ITEM 626.421)	-	1
FURNISH AND INSTALL 36" FOUNDATION (ITEM 626.44)	2	2
FURNISH AND INSTALL NON-INVASIVE STOP BAR VEHICLE DETECTION SYSTEM FOR 3 APPROACHES, COMPLETE (ITEM 643.21)	1	1
FURNISH AND INSTALL NON-INVASIVE ADVANCE VEHICLE DETECTION SYSTEM FOR RAMP APPROACH, COMPLETE (ITEM 643.22)	1	1
FURNISH AND INSTALL MAST ARM POLE W/ 30' ARM AND 45' ARM (ITEM 643.91)	-	1
FURNISH AND INSTALL MAST ARM POLE W/ 50' ARM AND LUMINAIRE ARM (ITEM 643.94)	-	1
FURNISH AND INSTALL MAST ARM POLE W/ 30' ARM, 35' ARM, AND LUMINAIRE ARM (ITEM 643.94)	1	-
FURNISH AND INSTALL MAST ARM POLE W/ 30' ARM (Item 643.91)	1	-
FURNISH AND INSTALL 8-FOOT PEDESTAL POLE (ITEM 643.92)	-	1
FURNISH AND INSTALL DUAL MODEL DSRC/C-V2X (ITEM 654.351)	1	1

NOTES:
1. QUANTITIES ARE APPROXIMATE AND FOR INFORMATIONAL PURPOSES ONLY
2. ADDITIONAL JUNCTION BOXES TO BE INSTALLED FOR LIGHTING

SIGNAL PHASING SEQUENCE



NEMA RING AND BARRIER



OVERLAP PHASING

OVL A = φ4
OVL B = φ1
OVL C = φ4
OVL D = φ5

EMERGENCY VEHICLE PREEMPTION OPERATION SOUTHBOUND RAMP

ID	PREEMPT ASSIGNMENT	RECEIVER PRIORITY	ACTIVE PHASE
R1	2	2	2
R2	3	3	1
R3	1	1	4

EMERGENCY VEHICLE PREEMPTION OPERATION NORTHBOUND RAMP

ID	PREEMPT ASSIGNMENT	RECEIVER PRIORITY	ACTIVE PHASE
R1	2	2	5
R2	3	3	6
R3	1	1	4

PREEMPTION NOTES

1. EMERGENCY VEHICLE PREEMPTION SIGNALS SHALL BE TRANSMITTED BY OPTICAL EMITTERS AND/OR BY A DUAL MODE DSRC/C-V2X ON-BOARD UNIT (OBU) MOUNTED IN EMERGENCY VEHICLES COMMUNICATING WITH THE PROPOSED DUAL MODE DSRC/C-V2X ROAD SIDE UNIT (RSU) AND/OR RECEIVED BY OPTICAL DETECTORS LOCATED AT THE INTERSECTION.

2. PREEMPTION SIGNALS SHALL BE SERVICED ON A PRIORITY BASIS WITH RECEIVERS ASSIGNED DESCENDING PRIORITIES (1 = HIGHEST, 4 = LOWEST).

3. IN RESPONSE TO A PREEMPTION SIGNAL RECEIVED AT AN INTERSECTION BY AN OPTICAL DETECTOR AND/OR RSU, THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD THE EMERGENCY ACTIVE PHASE GREEN FOR A MINIMUM OF 10 SECOND OR UNTIL THE PREEMPTION SIGNAL CEASES. THE CONTROLLER SHALL THEN TIME PREEMPTION PHASE CLEARANCE (3.5 SECONDS YELLOW AND 3.0 SECONDS RED) AND SERVICE SUBSEQUENT EMERGENCY ACTIVE PHASES AS NECESSARY. AT THE COMPLETION OF THE PREEMPTION CYCLE, THE CONTROLLER SHALL TIME THE PREEMPTION CLEARANCE AND RESUME NORMAL SIGNAL OPERATION.

4. MINIMUM GREEN AND NORMAL VEHICLE CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PREEMPTION DEMAND.

5. CONFIRMATION STROBES SHALL BE ILLUMINATED WHENEVER ANY PREEMPTION GREEN IS ON.

I-295 NB RAMP AND MALLETT DRIVE SIGNAL TIMING SCHEDULE

ITEM/PHASE	φ1	φ2	φ3	φ4	φ5	φ6	φ7	φ8
MOVEMENT	-	Mallett Dr EB TH	-	I-295 NB Off SB LT/RT	Mallett Dr EB LT	Mallett Dr WB TH/RT	-	-
MINIMUM INITIAL	-	10.0	-	10.0	5.0	10.0	-	-
PASSAGE TIME	-	3.0	-	3.0	3.0	3.0	-	-
MAXIMUM 1	-	63.0	-	27.0	18.0	45.0	-	-
MAXIMUM 2	-	74.0	-	16.0	24.0	50.0	-	-
YELLOW	-	4.0	-	3.0	4.0	4.0	-	-
ALL RED	-	2.0	-	2.0	3.0	2.0	-	-
PED WALK	-	-	-	-	-	-	-	-
PED CLEAR	-	-	-	-	-	-	-	-
RECALL	-	C-MAX	-	MIN	NONE	C-MIN	-	-
DETECTOR	-	PR	-	PR	PR	PR	-	-
PRE-EMPT PRIORITY	-	2	-	1	2	3	-	-
FLASH	-	Y	-	R	R	Y	-	-
DUAL ENTRY	-	ON	-	OFF	OFF	ON	-	-

I-295 SB RAMP AND MALLETT DRIVE SIGNAL TIMING SCHEDULE

ITEM/PHASE	φ1	φ2	φ3	φ4	φ5	φ6	φ7	φ8
MOVEMENT	Mallett Dr WB LT	Mallett Dr EB TH/RT	-	I-295 SB Off NB LT/RT	-	Mallett Dr WB TH	-	-
MINIMUM INITIAL	5.0	10.0	-	10.0	-	10.0	-	-
PASSAGE TIME	3.0	3.0	-	3.0	-	3.0	-	-
MAXIMUM 1	17.0	37.0	-	36.0	-	54.0	-	-
MAXIMUM 2	15.0	38.0	-	37.0	-	53.0	-	-
YELLOW	4.0	4.0	-	3.0	-	4.0	-	-
ALL RED	3.0	2.0	-	3.0	-	2.0	-	-
PED WALK	5.0	5.0	-	-	-	5.0	-	-
PED CLEAR	25.0	25.0	-	-	-	25.0	-	-
RECALL	NONE	C-MIN	-	NONE	-	C-MIN	-	-
DETECTOR	PR	PR	-	PR	-	PR	-	-
PRE-EMPT PRIORITY	3	2	-	1	-	3	-	-
FLASH	R	Y	-	R	-	Y	-	-
DUAL ENTRY	OFF	ON	-	OFF	-	ON	-	-

NOTES:
S = SOFT RECALL
MAX = MAX RECALL
C-MAX = COORDINATED MAX
O = RECALL OFF
CONCURRENT PED CLEARANCE SHALL "FLASH" THROUGH YELLOW

PR = PRESENCE
MAX1 = FREE OPERATION
MAX2 = UNDER COORDINATION

Y = YELLOW
R = RED
D = DARK

NOTE:
ALL SIGNAL TIMINGS ARE INITIAL AND SHOULD BE REFINED USING THE SPM SOFTWARE AFTER INSTALLATION AND MONITORED ROUTINELY TO ENSURE OPTIMAL OPERATIONS.

COORDINATION CYCLE/SPLIT/OFFSET SCHEDULE

	MALLETT AND I-295 NB	MALLETT AND I-295 SB	
CYCLE LENGTH	108	108	COORDINATION MODE SET TO FIXED FORCE-OFF
OFFSET (BEGIN YELLOW)	10	0	
COORDINATED PHASE	φ2	φ6	
SPLIT TIME φ1	0	92	
SPLIT TIME φ2	37	48	
SPLIT TIME φ3	0	0	
SPLIT TIME φ4	16	6	
SPLIT TIME φ5	93	0	
SPLIT TIME φ6	37	48	
SPLIT TIME φ7	0	0	
SPLIT TIME φ8	0	0	

NOTE: COORDINATION BEGINS ON YELLOW

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE PLANS

BRIDGE No. 5721

	BY	DATE
PROJ. MANAGER	M. Kerstbergen	
DESIGN-DETAILED	CDH	08\21
CHECKED-REVIEWED	LZD	08\21
DESIGN2-DETAILED2	DEB	
DESIGN3-DETAILED3	PEK	
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

ROUTE 136/125 (MALLETT DR.)
SIGNAL DIAGRAMS & TABLES

SHEET NUMBER
106
OF 144

Lighting General Notes:

1. Scope of Work - Install highway lighting and traffic monitoring cameras as shown on these plans. Install new power service, lighting control cabinet and service disconnect enclosure. Furnish and install conduit, junction boxes, foundations, LED luminaires, wiring, and related hardware. Remove existing junction boxes, lighting hardware and foundations where noted on plans.

2. All existing interchange lighting shall remain active until the new lighting installations are approved by MaineDOT to be activated.

3. Existing high mast light pole 10 and luminaires shall be carefully removed and reinstalled as shown on the lighting plans. Payment for removal, transport and reinstallation of the high mast pole and luminaires will be incidental to Item 634.160. Payment for removal of foundation will be made under Item 626.36. Abandon existing conduit where noted on plans.

4. All materials and workmanship shall conform to applicable provisions of the current editions of the Maine Department of Transportation Standard Specifications and Standard Details, National Electrical Code (N.E.C.) and any requirements of the power company.

5. The Contractor shall visit the site prior to bidding to ensure awareness of site conditions that could affect the bid.

6. The Contractor shall field verify pole locations to avoid natural and built site features that would conflict with proper installation of pole foundations.

7. Install new 240v service and multi circuit control cabinet as shown on these plans and in the standard details. The meter and a meter disconnect in a separate NEMA 3R enclosure shall be installed on the side of the lighting control cabinet. The cabinet and disconnect enclosure shall be lockable. The service cabinet, disconnect enclosure and other enclosures for electrical components shall be marked with arc flash hazard labels indicating hazard type 1, 2, 3 or 4 and the appropriate PPE required.

8. High mast lighting circuit 1 and circuit 2 are to be photocell activated by a photocell on the lighting control cabinet. Luminaires to be installed on traffic signal mast arm poles are to be photocell activated by photocells on the traffic signal controller cabinets.

9. Luminaires S-1 and S-2 installed on traffic signal mast arm poles are to be wired with the traffic signal power and not connected to the high mast lighting control cabinet. Install lighting contactors, thermal magnetic circuit breakers and related hardware and wiring in the respective traffic signal cabinets to serve luminaires S-1 and S-2.

10. The photometric grid shown on the plans assumes installation by the electric utility of luminaires U-1 and U-2 on new utility poles proposed to be installed on the project. Those luminaires are shown on the plans for information only and are not included in the scope of work of the MaineDOT contractor.

11. Existing high mast lighting circuits shall be rewired as shown on the plans. Circuit 1 will include high mast poles 1, 6, 7, 8 and 9. Circuit 2 will include high mast poles, 2, 3, 4, 5, 10 and 11.

12. New lighting fixture voltage shall be 240 volts.

13. New lighting fixtures S-1 and S-2 shall be IES full cutoff, light emitting diode (LED) fixtures, IES distribution type 3. LED modules shall be IP66 rated.

14. Attach lighting fixtures S-1 and S-2 to the respective traffic signal mast arm pole columns with a minimal length horizontal galvanized steel pipe tenon, 2-inch nominal diameter, at 30 mounting height. Installation on bracket arms will not be allowed.

15. New lighting fixtures S-1 and S-2 shall be gasketed and have surge protection and a double fuse kit. All fixtures shall be gray. The lighting layout was done using American Electric Lighting Autobahn Series ATB0 luminaires, catalog number: ATB0 P301 R3 4K, 2 luminaires on 2 traffic signal mast arm poles.

16. LED color temperature for new fixtures installed shall be 4000K. If different fixtures are proposed, they shall be IES full cutoff, type 3 IES distribution LED luminaires. The Contractor must demonstrate that the proposed fixtures will reasonably equal the light levels and distributions shown on the plans, in the opinion of MaineDOT.

17. Alternative LED luminaires must be of a make and model pre-approved by MaineDOT's chief electrician and consistent with the maintenance inventory of lighting hardware of the department unless otherwise approved. Evaluation by MaineDOT of alternative LED luminaires that may be proposed by the Contractor for substitution will require submittal of the following, at minimum:

- IES LM-79-19 absolute testing report for the proposed alternative luminaire;
- IES LM-80-20 testing report for LED chips to be used in the alternative luminaire, documenting testing for a minimum of 8500 hours;
- IES TM-21-19 report for projected long term lumen maintenance, including incremental lumen depreciation table at 25 degrees celsius to a minimum of 50,000 hours;
- IES photometric file from the manufacturer for the proposed alternative luminaire;
- Photometric plot, overlaid on the layout of the luminaire locations for this specific project, showing illumination grid values and illumination statistics for each of the lighting zones.
- Values of factors used for calculation of the assumed light loss factor;
- Specification data regarding optics, chromatic color temperature, driver, surge protection, housing and gasketing.

18. The new foundation for relocated high mast pole 10 shall have anchor bolts of the same number, diameter and spacing as the existing in order to match the bolt circle of the pole base. Anchor bolts shall be placed to provide the orientation of luminaires on the lowering ring shown on the lighting plan. The bolt pattern shall be subject to approval of the resident before concrete placement is allowed. Anchor bolts shall be carefully secured to prevent displacement during foundation concrete placement.

19. Snug-tight condition of anchor bolts shall be defined as between 20 and 30 percent of the verification torque value determined by the formula in FHWA publication NHI 05-036. Additional tightening beyond snug-tight condition shall be done in accordance with section 643.05 of the MaineDOT Standard Specifications.

20. New power service conduit required between the power source and the meter shall be rigid metal conduit. Other new buried conduit shall be 2 inch minimum diameter unless noted. Requirement of larger conduit size shall be determined by the Contractor in accordance with conduit fill requirements of the National Electrical Code. All conduit in the highway right of way shall be schedule 80 unless concrete-encased. If schedule 40 PVC conduit encased in concrete is used, concrete encasement will be incidental to payment for conduit.

21. Conduit under existing pavement, if otherwise not shown on the plans to be disturbed by roadway reconstruction, shall be hydraulically jacked or directional bored to at least ten feet beyond the edge of pavement. Conduit installed under existing pavement will be paid under Item 626.251 for the pavement width plus 20 feet. No trenching across existing paved roadway lanes or shoulders will be allowed. Minimum burial depth for all conduit shall be 36 inches.

22. Bushings shall be installed on all conduit terminations.

23. Pull wire shall be installed in all new conduit.

24. All exposed rigid conduit fittings and hardware shall be galvanized, except non-conductive bushings for connection of rigid metal conduit to aluminum cabinets.

25. Secondary circuit wiring shall be stranded copper XHHW-2. all wiring shall be No. 8 AWG or larger wire size. Wire sizes noted on the plans are Approximate. Final wire sizing shall be performed by the Contractor in conformance with N.E.C. requirements based on electrical loads of actual electrical components to be installed.

26. The wire in conduits shall be continuous with no splices between poles, except as noted. Junction boxes shown on the plans are shown in approximate locations and are intended for use only as pull boxes for wire pulling access unless otherwise noted. Actual number and locations may vary and shall be subject to approval of the Resident prior to installation.

27. Cap and/or seal exposed ends of conduit to prevent intrusion of moisture or rodents.Payment for non-metallic conduit will be made under item 626.22, except conduit jacked or directional bored under existing pavement and extending to 20 feet beyond the edge of pavement will be paid under Item 626.251.

28. All light poles shall be bonded to the grounding conductor.

29. Metal frames and conductive covers of junction boxes shall be bonded to the grounding conductor.

30. All foundations for lighting shall have a ground rod located in or adjacent to the foundation that is bonded to the grounding conductor. The ground wire for the ground rod shall exit through a half-inch diameter conduit in the foundation. Payment for ground rods and ground wire conduit in foundations shall be included in Item 634.160, highway lighting.

31. Payment under Item 626.21, Item 626.251 and Item 626.22 will include bushings, fittings, pull wire, and other necessary hardware related to the conduit.

32. Payment under Item 634.160, Highway Lighting, will include all materials, labor and equipment necessary to provide a fully functioning highway lighting system, including wood posts and enclosures for above ground splicing, except those items to be paid under other related bid items in the contract.

33. Curing boxes and all required concrete testing labor, materials, and equipment will be considered incidental to payment under Section 626 foundation items.

34. Stationing shown for lighting related items is approximate and may be adjusted by the Resident in the field in consultation with the Engineer.

35. Upon completion of this project, the Contractor shall furnish to MaineDOT a set of as-built plans for future reference and system maintenance.

36. Furnish and install Axis Q6074-E PTZ network cameras (2 total) on southwest and northeast sides of high mast pole 1 luminaire lowering ring, with sufficient slack in power and communications cabling in pole to accommodate raising and lowering of the ring.

37. Install lockable NEMA 4X above ground splice boxes on 6x6 pressure-treated wood posts where noted on plans. Mount splice boxes at 4 feet above grade. In splice box for circuit 1 and camera wiring, install cable modem, power over ethernet (POE) injector and switch, breaker, and all other necessary incidental components for power and communications for cameras. Cameras and all related components shall be surge protected.

38. Communications cable for cameras shall be shielded CAT5E cable, outside rated. Maximum allowable length of CAT5E cable run will be 300, including at least 160 in high mast pole 1.

39. Install coaxial cable communications drop from the power source pole to the lighting control cabinet. Install coaxial cable for transmission of camera video communications from the cabinet to the cable modem in the splice box. Coaxial cable shall be RGLL/U quad-shield cable with nominal impedance of 75 ohms. Cable shall be rated for outside installation. Cable installation shall include ethernet-over-coax adapters if needed to support acceptable transmission of data to and from cameras.

40. Payment for furnishing and installing traffic monitoring cameras will be incidental to payment under Item 634.160 and will include cameras; power, communications, and any other necessary incidental wiring for operation of cameras; cable modem; power over ethernet injector and switch; and all other incidental labor, materials, and equipment necessary for a fully functioning traffic monitoring camera system.

LUMINAIRE SCHEDULE

Symbol	Label	QTY	Catalog Number	Description	Lamp	Number Lamps	Lumens Per Lamp	LLF	Wattage
	A	2	HMLED3 PK1 40K XXXXX X M	High Mast LED III PK1 40K Type M (Existing)	LED	2	30094	0.85	418
	B	2	HMLED3 PK2 40K XXXXX X M	High Mast LED III PK2 40K Type M (Existing)	LED	2	42633	0.85	638
	C	1	HMLED3 PK3 40K XXXXX X AW	High Mast LED III PK3 40K Type AW (Existing)	LED	3	64738	0.85	1425
	D	2	ATB0 P202 R3 4K	Autobahn Small P202 Package Roadway Type III 4000K/5000K	LED	1	7237	0.85	49
	E	2	ATB0 P301 R3 4K	Autobahn Small P301 Package Roadway Type III 4000K/5000K (BY OTHERS)	LED	1	10819	0.85	67

Statistics

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Mallett 25+00-29+00	+	0.8 fc	1.4 fc	0.2 fc	7.0:1	4.0:1
Mallett 29+00-33+00	+	0.5 fc	0.9 fc	0.2 fc	4.5:1	2.5:1
Mallett 33+00-37+00	+	0.7fc	1.6 fc	0.2 fc	8.0:1	3.5:1
Northbound Ramps	+	0.5 fc	0.8 fc	0.3 fc	2.7:1	1.7:1
Southbound Ramps	+	0.3 fc	0.8 fc	0.2 fc	4.0:1	1.5:1

CONDUIT SUMMARY

CIRCUIT 1

Station	Pole	Breakaway	Distance (Ft)	Wire Size: 240 Volts, # 6 AWG Stranded Copper XHHW-2 / Remarks
JB5	-	-	187	10 Fixtures — 8.71 Amps
Splice box for Poles 1,6,7,8, & 9	1,6,7, 8, & 9	-		Directional Bore

CIRCUIT 2

Station	Pole	Breakaway	Distance (Ft)	Wire Size: 240 Volts, # 4 AWG Stranded Copper XHHW-2 / Remarks
New Cabinet 33+60, 42.0' Lt.	-	-	5	13 Fixtures — 16.48 Amps
JB6	-	-	84	
JB7	-	-	265	Directional Bore
Splice box for Poles 2, 3, 4, & 5	-	-		
			89	Schedule 80 or Concrete Encased
JB6	-	-	640	Directional Bore
JB5	-	-	96	Schedule 80 or Concrete Encased
JB2	-	-	106	Schedule 80 or Concrete Encased
JB1	-	-		
Existing Junction box at high mast	11	-	18	
JB6	-	-		
33+75, 51.0' Lt.	10	-		

NOTE: JB3 and JB4 Omitted

CAMERA CIRCUIT

Station	Pole	Breakaway	Distance (Ft)	Wire Size: 240 Volts, # 4 AWG Stranded Copper XHHW-2 / Remarks
New Cabinet 33+60, 42.0' Lt.			5	2 Cameras
JB6	-	-	89	Schedule 80 or concrete encased
JB5	-	-	187	Directional Bore
Splice box for Poles 1,6,7,8, & 9	-	-	100	Directional Bore
Existing Junction box at high mast	-	-	5	
Existing high mast pole 1	-	-		

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE PLANS

BRIDGE No. 5721

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

4226
P.E. NUMBER

8/27/21
DATE

	BY	DATE
PROJ. MANAGER	M. Kershaw	
DESIGN-DETAILED	ALG	08\21
CHECKED-REVIEWED	ALG	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

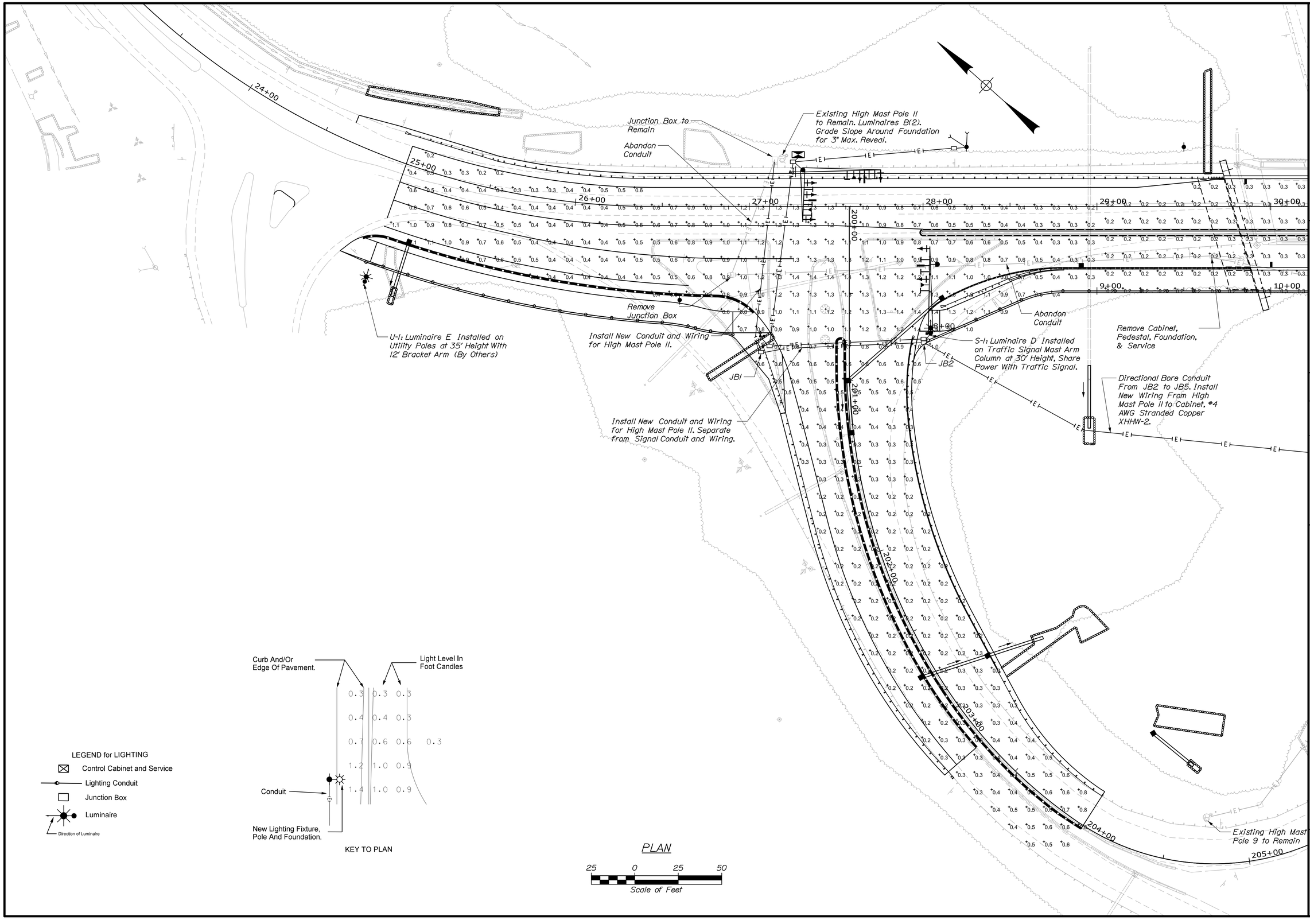
APPROACH ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

LIGHTING NOTES

SHEET NUMBER
107
OF 144

Date:8/27/2021
Username:
Division:
Filename: 107_Lighting Notes.dgn

Filename: 108_Lighting Plan 1.dgn Division: Username: Date:8/27/2021



LEGEND for LIGHTING

- Control Cabinet and Service
- Lighting Conduit
- Junction Box
- Luminaire
- Direction of Luminaire

KEY TO PLAN

PLAN

25 0 25 50

Scale of Feet

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE PLANS

BRIDGE No. 5721

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

4226 P.E. NUMBER

SIGNATURE

8/27/21 DATE

	BY	DATE
PROJ. MANAGER	M. Kerstetter	
DESIGN-DETAILED	ALG	08\21
CHECKED-REVIEWED	ALG	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

LIGHTING PLAN 1

SHEET NUMBER

108

OF 144

Maintain Existing Conduit and Wiring From Existing Junction Box to Existing High Mast Poles 2, 3, 4 & 5. Luminaires A(2)

Existing Conduit to Poles 3, 4, & 5

Existing High Mast Pole 2 to Remain. Luminaires C(3)

Remove Existing Junction Box. Install Above Ground NEMA 3R Splice Box on 6" X 6" Wood Post. Splice Existing Wiring For Poles 2, 3, 4, & 5 to New Wiring in New Conduit.

Abandon Conduit

Directional Bore New Conduit. Install New Wiring to Cabinet for Existing High Mast Poles 2, 3, 4, & 5 (Circuit 2). New Wiring Shall be #4 AWG Stranded Copper XHHW-2

Remove 90' High Mast Pole 10. Reinstall on New Foundation at Sta. 33+75, 51.0' Lt. Transfer Luminaires B(2). Install New Wiring to Cabinet (Circuit 2), #4 AWG Stranded Copper XHHW-2.

Sta. 33+60, 42.0' Lt. Install New Cabinet, Pedestal, & Service on 2' X 4' Controller Cabinet Foundation

Buried Power Service and Coax Service Drop

Power Source

Install New Conduit and Wiring to Cabinet for Circuit 1, Share Conduit with Wiring for High Mast Pole 11.

U-2: Luminaire E Installed on Utility Pole at 35' Height With 12' Bracket Arm (By Others)

Install New 2" Conduit for Cameras

Abandon Conduit and Remove Junction Box

S-2: Luminaire D Installed on Traffic Signal Mast Arm Column at 30' Height, Share Power With Traffic Signal

Abandon Conduit

Install New Lighting Conduit for Circuit 1. Install New Wiring to Cabinet for Existing High Mast Poles 1, 6, 7, 8, & 9. New Wiring Shall be #6 AWG Stranded Copper XHHW-2 (Circuit 1)

Maintain Existing Lighting Conduit and Wiring to Existing High Mast Poles 1, 6, 7, 8, & 9.

Remove Junction Box. Install Above Ground NEMA 3R Splice Box on 6" X 6" Wood Post. Splice Existing Wiring for Poles 1, 6, 7, 8 & 9 to New Wiring in New Conduit.

Install New 2" Conduit for Cameras Install Wiring for Power and Communications for Cameras From Splice Box to Cabinet

Existing High Mast Light Pole 1 to Remain. Luminaires A(2). Install 2 Traffic Monitoring Cameras on Lowering Ring

Directional Bore Conduit From JB2 to JB5. Install New Wiring From High Mast Pole 11 to Cabinet. #4 AWG Stranded Copper XHHW-2.

Directional Bore New 2" Conduit for Cameras. Install Communications Cable to Cameras.

Maintain Existing Conduit and Wiring to Existing High Mast Poles 6, 7, & 8. Luminaires A(2)

Maintain Conduit

Existing Conduit to Poles 6, 7, & 8.

JB5 JB6 JB7

1230+00 1229+00 1228+00 1227+00 1226+00 1103+00 1102+00 1101+00 1100+00

10+00 11+00 12+00 13+00 14+00 15+00 30+00 31+00 32+00 33+00 34+00 35+00 36+00 37+00

LEGEND for LIGHTING

- Control Cabinet and Service
- Lighting Conduit
- Junction Box
- Luminaire
- Direction of Luminaire

Curb And/Or Edge Of Pavement.

Light Level In Foot Candles

Conduit

New Lighting Fixture, Pole And Foundation.

KEY TO PLAN

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

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

P.E. NUMBER 4226

SIGNATURE

DATE 8/27/21

	BY	DATE
PROJ. MANAGER	M. Kerstbergen	
DESIGN-DETAILED	ALC	CDH 08\21
CHECKED-REVIEWED	ALC	SMH 08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

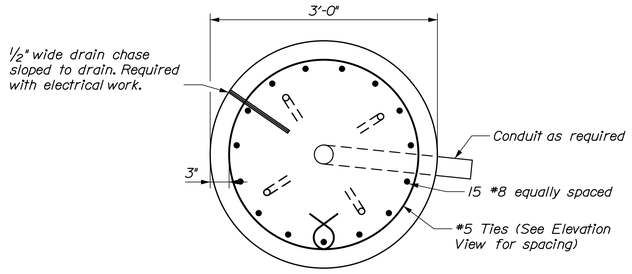
LIGHTING PLAN 2

SHEET NUMBER

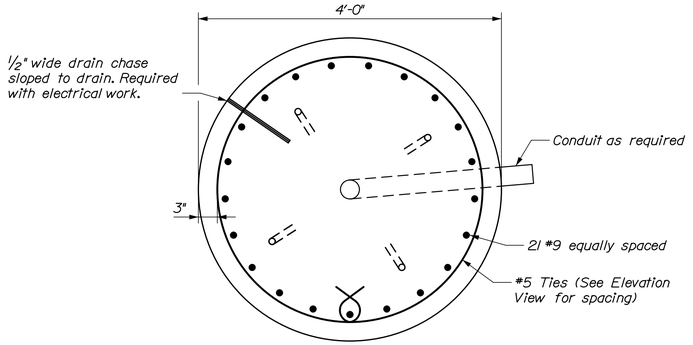
109

OF 144

Filename: 109_Lighting Plan 2.dgn Division: Username: Date:8/27/2021



36" DIAMETER DRILLED SHAFT SECTION



48" DIAMETER DRILLED SHAFT SECTION

LIGHTING AND SIGNAL FOUNDATION NOTES

1. All reinforcing steel shall be uncoated and comply with ASTM A615, Grade 60.

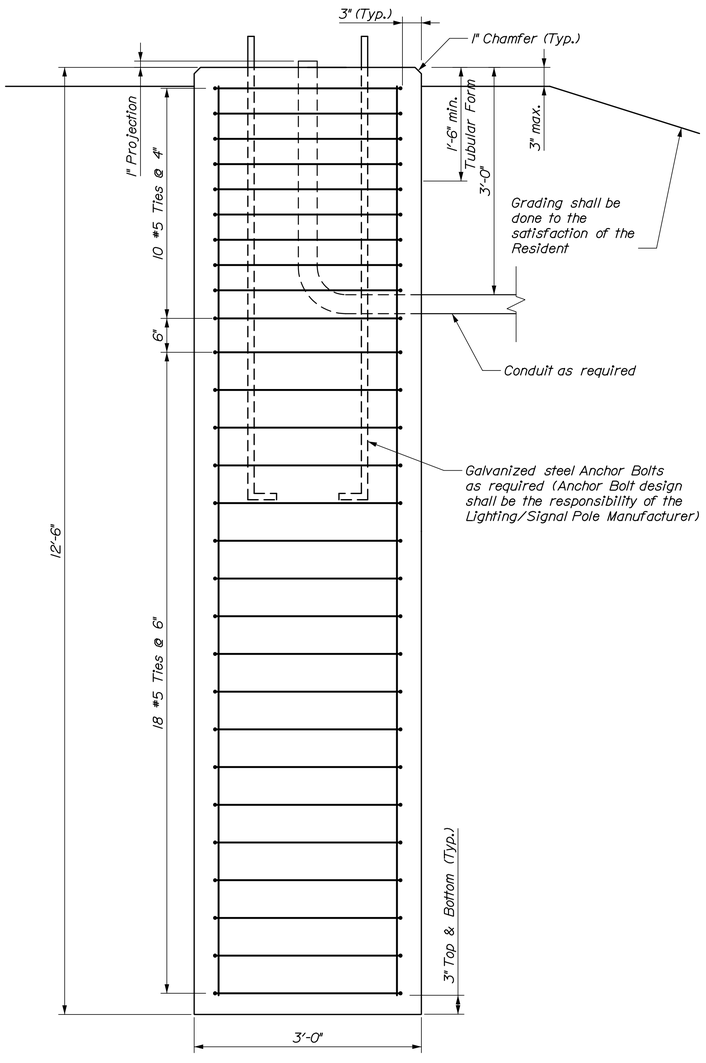
2. All shafts are governed by the Extreme Event Limit State. The preliminary factored design axial, shear, moment, and torsion assumed for each foundation are as follows:

   M1 & M3: Pu = 11 kip, Vu = 4 kip, Mu = 206 ft-kip, Tu = 127 ft-kip

   M2 & M4: Pu = 10 kip, Vu = 5 kip, Mu = 176 ft-kip, Tu = 142 ft-kip

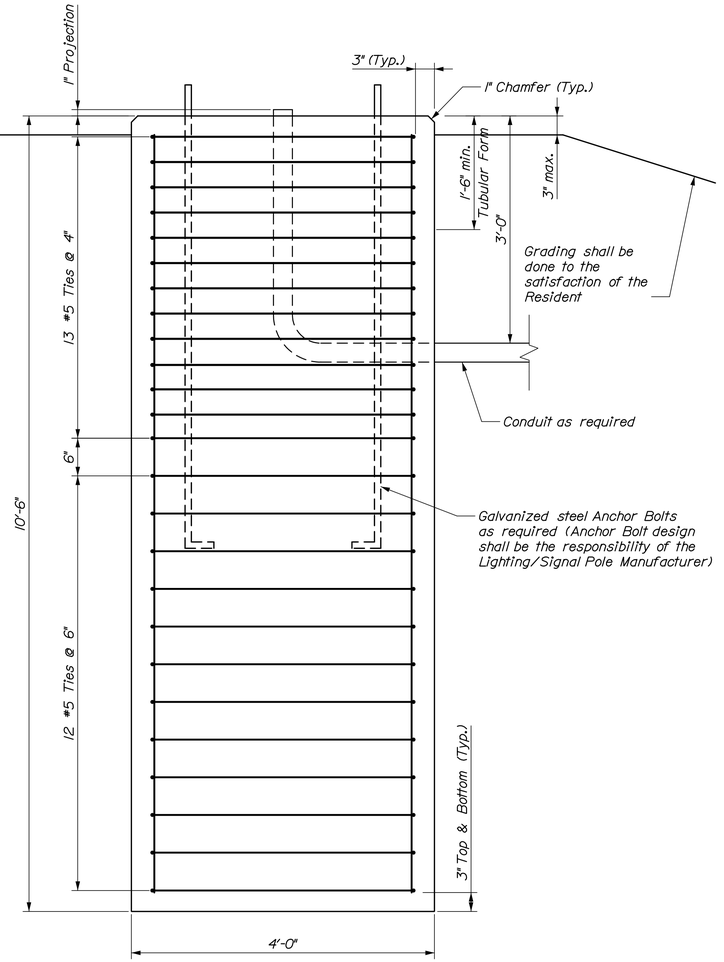
   48" Diameter Shaft: Pu = 8 kip, Vu = 5 kip, Mu = 245 ft-kip, Tu = 0 ft-kip

3. All shafts meet a top of shaft deflection limit of less than ½" at the Service Limit State.



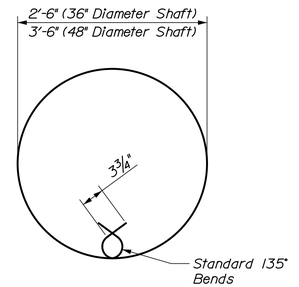
36" DIAMETER DRILLED SHAFT ELEVATION VIEW

For Structures: M1, M2, M3, & M4



48" DIAMETER DRILLED SHAFT ELEVATION VIEW

For High Mast Lighting



TIES DETAIL

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	M. Kershaw		
DESIGN-DETAILED	DG	DG	08\21
CHECKED-REVIEWED	LZD	SMH	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

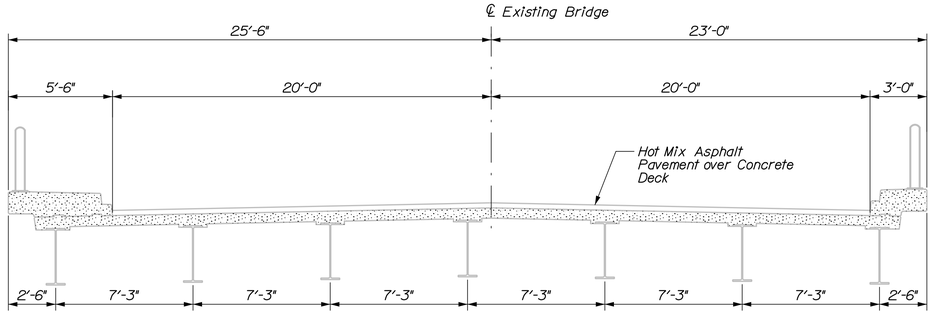
MAST ARM AND LIGHTING FOUNDATION DETAILS

SHEET NUMBER

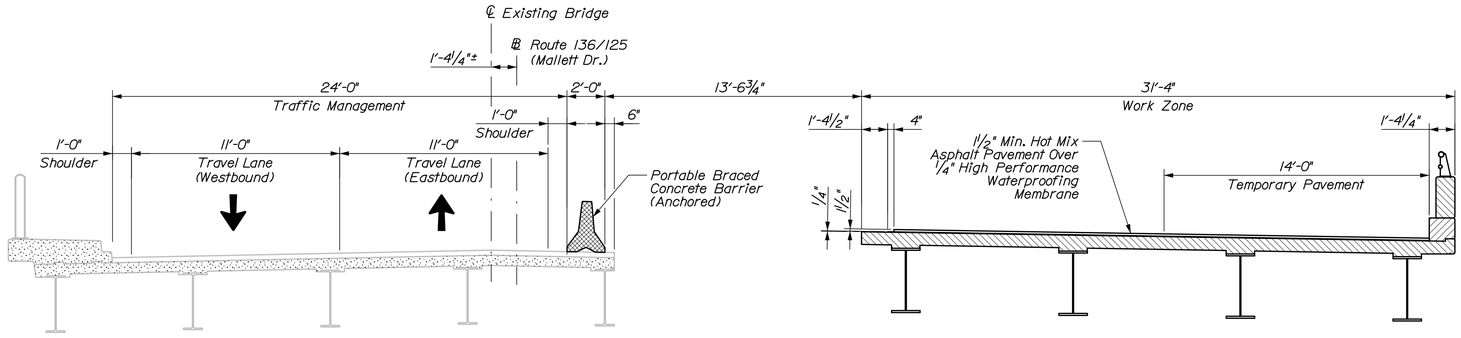
110

OF 144

Filename: 110_Mast Arm and Light Foundations.dgn Division: Username: Date:8/27/2021

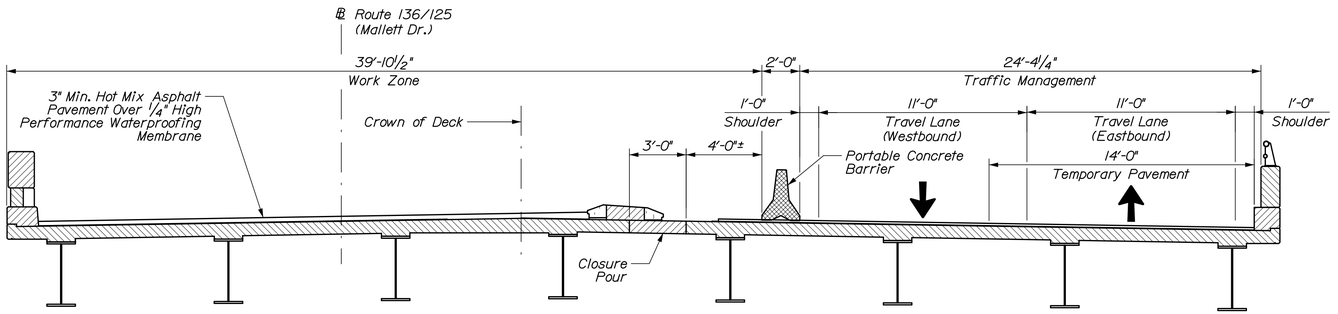


EXISTING SECTION



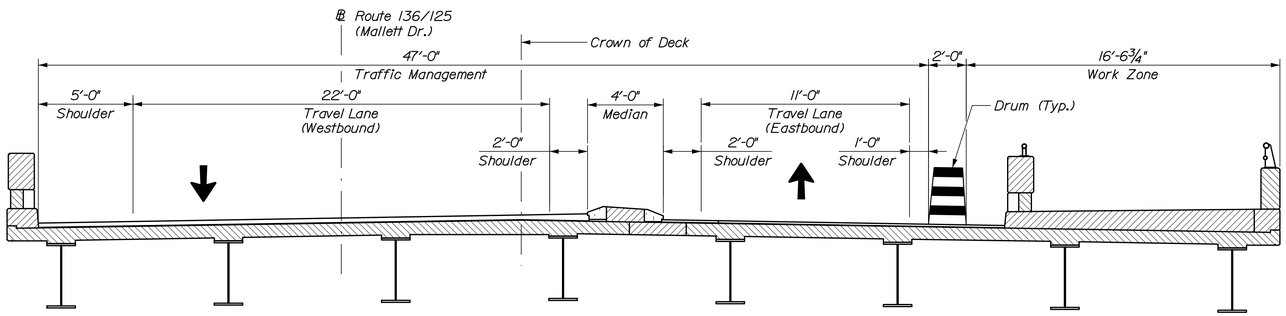
STAGE I CONSTRUCTION

(Section Shown Near Abutment I)



STAGE 2 CONSTRUCTION

(Section Shown Near Abutment I)



STAGE 3 CONSTRUCTION

(Section Shown Near Abutment I)

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

PROJ. MANAGER	M. Kerstbergen		
DESIGN-DETAILED	JS	CW	08\21
CHECKED-REVIEWED	AR	KOS	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

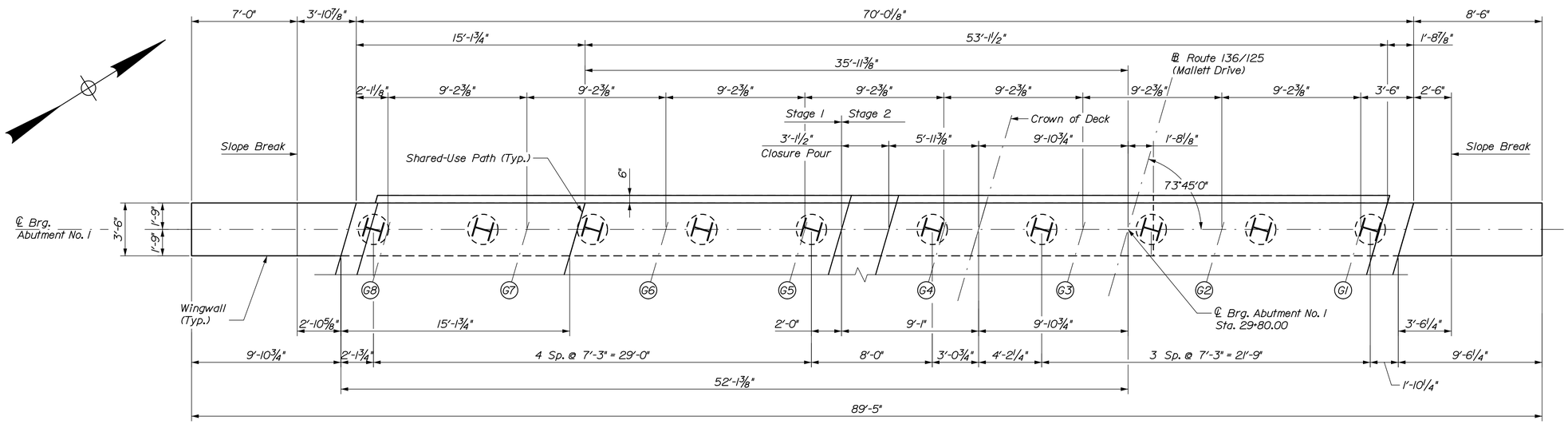
CONSTRUCTION STAGING

SHEET NUMBER

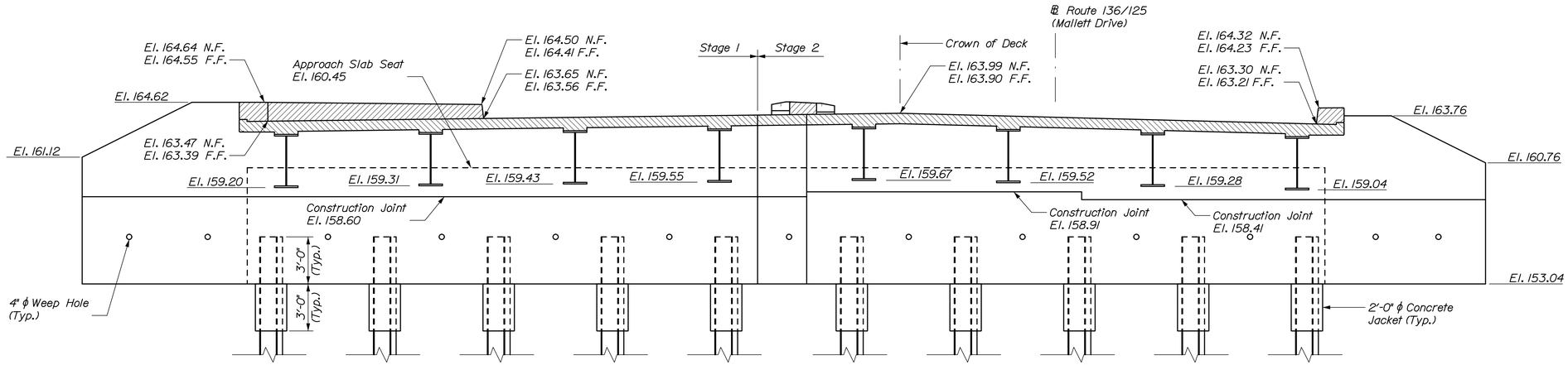
111

OF 144

Filename: 111_Construction Staging.dgn Division: Username: Date:8/27/2021



ABUTMENT NO. 1 PLAN



ABUTMENT NO. 1 ELEVATION

(Barriers not shown for clarity)

PILE NOTES

1. The maximum factored axial pile load is 456 kips (including 51 kips maximum allowed for downdrag) at the Strength I Limit State for Abutment 1, and 445 kips (including 42 kips maximum allowed for downdrag) at Strength I Limit for Abutment 2.

2. Estimate of in-place piles required:

   Abutment No. 1: 10 - HP 14 x 89 @ 34.0 to 38.0 feet
   Abutment No. 2: 10 - HP 14 x 89 @ 7.0 to 13.0 feet

The order lengths of the piles shall include an additional 5 feet of length for each test pile to accommodate dynamic pile testing equipment.

3. Abutment No. 2 H-piles require excavation and installation into rock sockets in accordance with Special Provision 501 - Pre-Excavation for Piles. Installation and testing of driven H-piles at Abutment No. 1 and Abutment No. 2 shall be in accordance with Section 501 of the Standard Specifications. Piles shall be driven to the required nominal resistance on or within bedrock.

4. H-pile material shall be ASTM A572, Grade 50.

5. Pile splices are prohibited on piles less than 30 feet long.

6. All piles at abutments shall be equipped with a pile tip in accordance with Standard Specifications Subsections 501.048, Prefabricated Pile Tips and 711.10 H-Beam Piles, Spliced and Tips.

7. Piles shall not be out of position shown by more than 2 inches in any direction.

8. The Contractor shall perform and submit a wave equation analysis for review and acceptance by the Resident. The maximum allowable driving stress is 0.90 times Fy. The submittal analyses shall include the proposed stopping criteria based on the wave equation analysis and the proposed driving system.

9. The Contractor shall perform a total of 2 dynamic load tests, one at Abutment 1 and one at Abutment 2, with 24-hour (minimum) restrike tests to confirm the nominal resistance of the piles. The required nominal resistance for the pile is the factored axial pile load divided by a resistance factor of 0.65 per LRFD Specifications. The dynamic test shall be performed on the first production pile driven at each abutment.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

PROJ. MANAGER	M. Kersbergen		
DESIGN-DETAILED	LJS	CW	08\21
CHECKED-REVIEWED	AR	KOS	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295 CUMBERLAND
FREEPORT

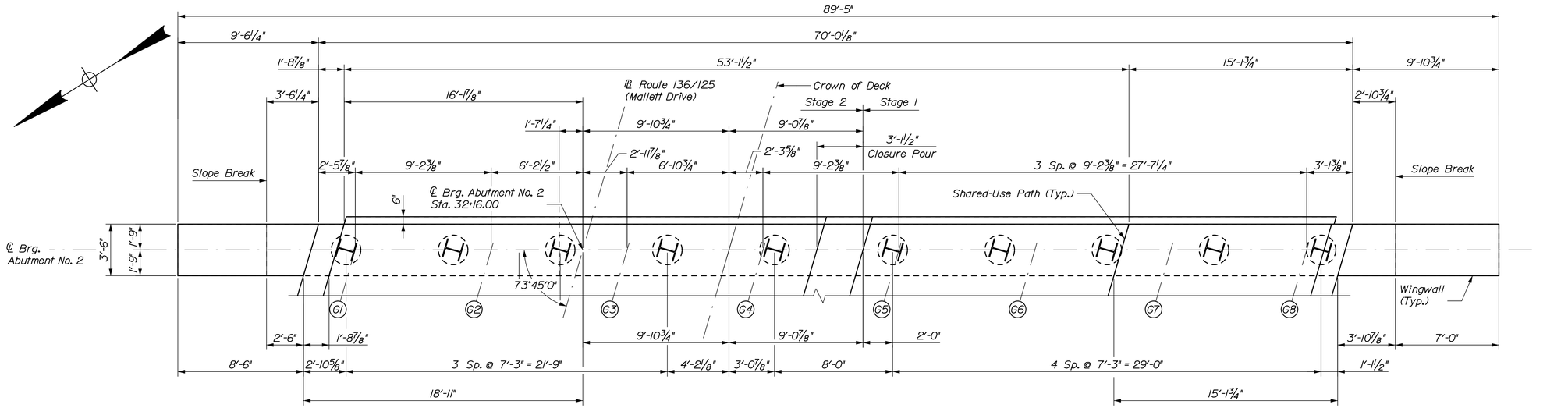
ABUTMENT 1
PLAN AND ELEVATION

SHEET NUMBER

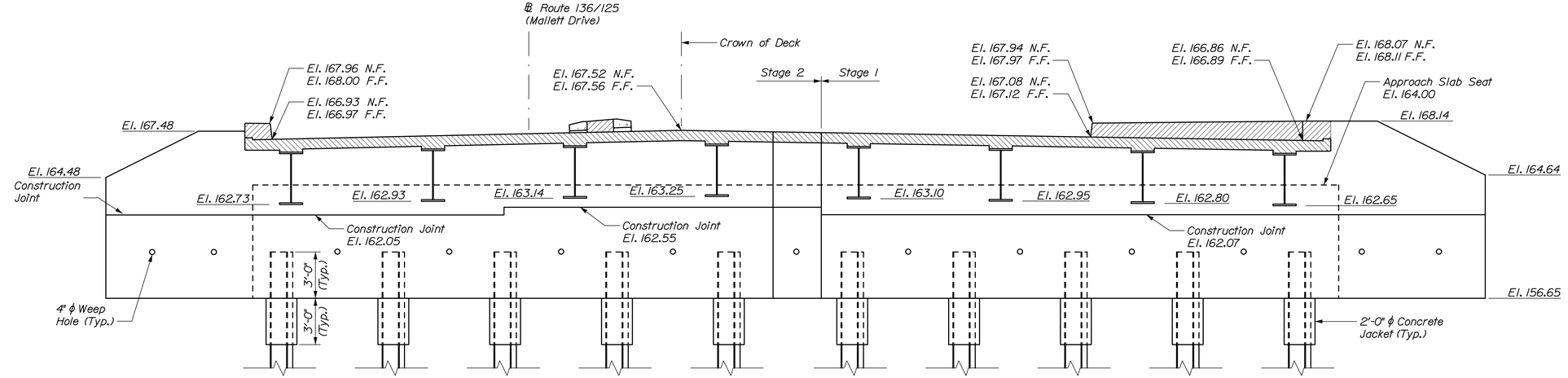
112

OF 144

Filename: 112_Abutment 1 Plan and Elevation.dgn Division: Username: Date:9/9/2021

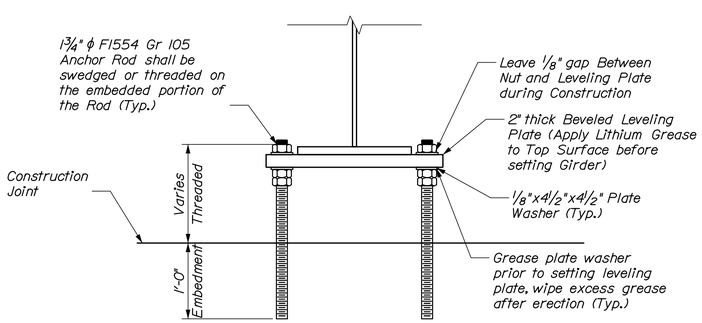


ABUTMENT NO. 2 PLAN

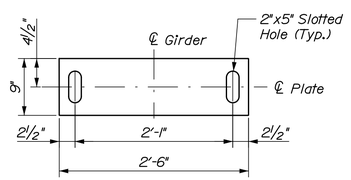


ABUTMENT NO. 2 ELEVATION

(Barriers nto shown for clarity)



GIRDER SUPPORT DETAIL



LEVELING PLATE

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kerstbergen	
DESIGN-DETAILED	JS	08\21
CHECKED-REVIEWED	AR	08\21
DESIGN2-DETAILED2	KOS	
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

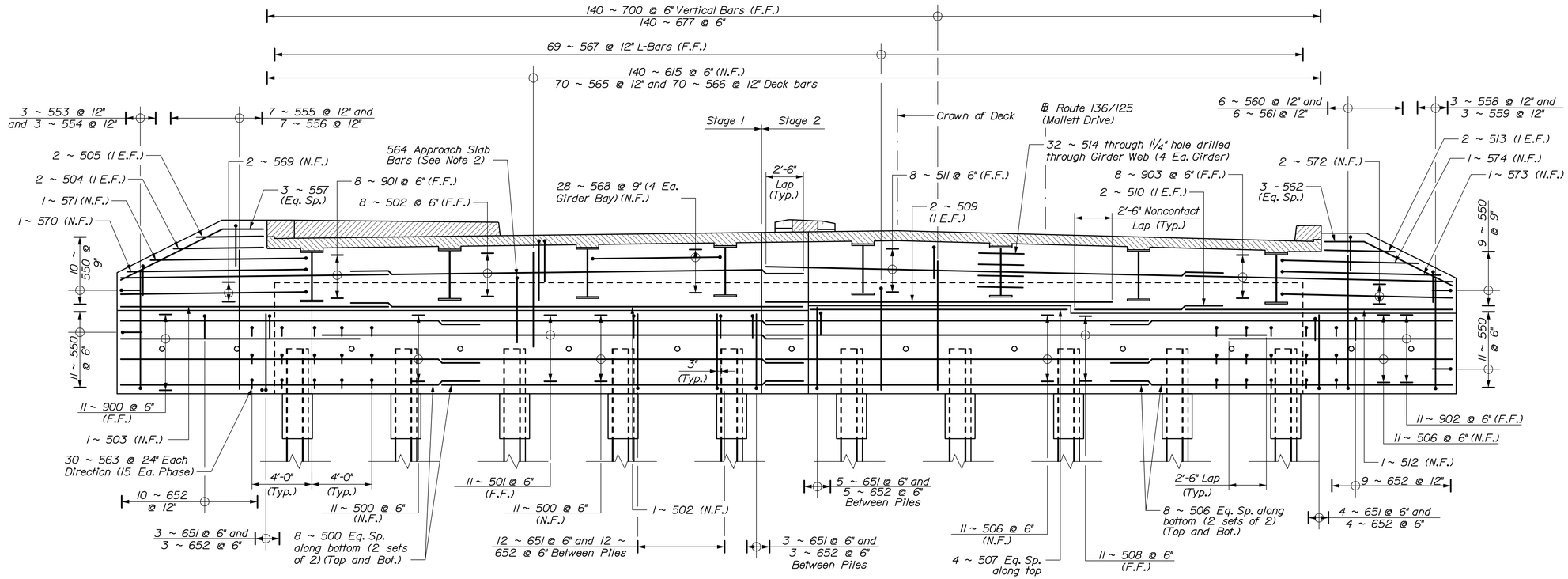
ABUTMENT 2
PLAN AND ELEVATION

SHEET NUMBER

113

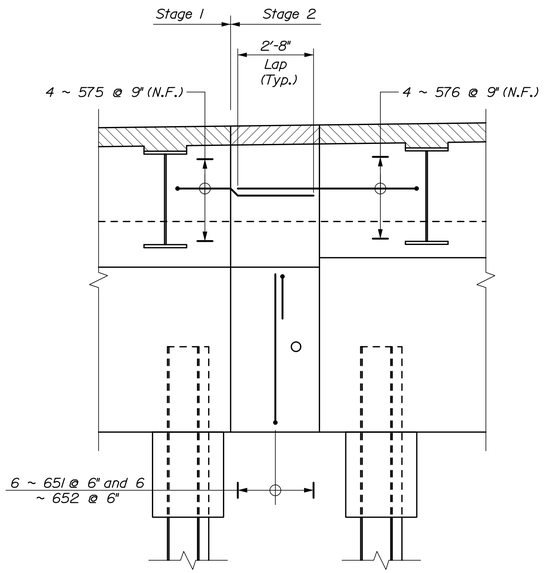
OF 144

Filename: 113_Abutment 2 Plan and Elevation.dgn Division: Username: Date:8/27/2021



ABUTMENT REINFORCEMENT ELEVATION

(Abutment 1 Shown, Abutment 2 Opposite Hand)



CLOSURE POUR REINFORCEMENT

(Raised Median Not Shown)

ABUTMENT REINFORCEMENT NOTES

1. Reinforcement bar marks are similar for Abutments 1 and 2. For full bar marks per Abutment, refer to Reinforcing Schedules.

2. See Approach Slab Plan for 564 bars extending into the Approach Slab.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

PROJ. MANAGER	M. Kershbergen		
DESIGN-DETAILED	JS	CW	08\21
CHECKED-REVIEWED	AR	KOS	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

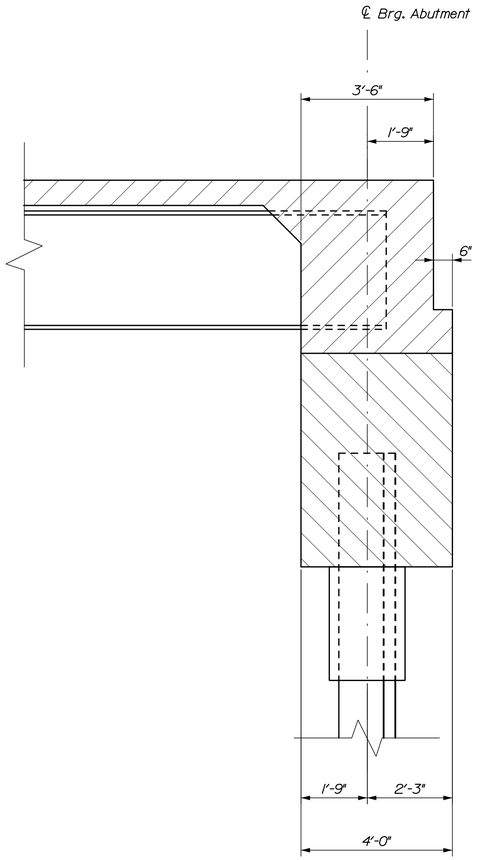
ABUTMENT REINFORCEMENT ELEVATION

SHEET NUMBER

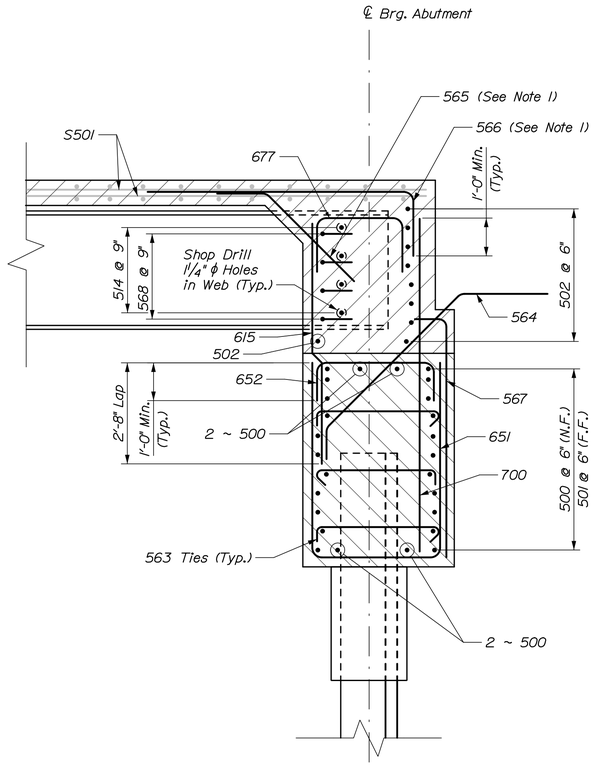
114

OF 144

Filename: 114_Abutment Reinf Elevation.dgn Division: Username: Date:8/27/2021

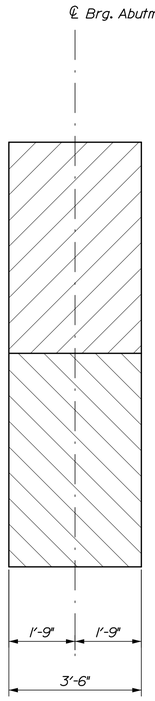


ABUTMENT
TYPICAL SECTION

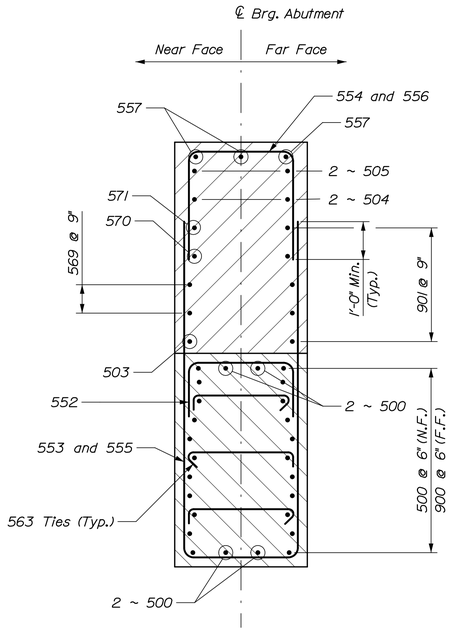


ABUTMENT
TYPICAL REINFORCING SECTION

(Phase I Reinforcement Shown,
Phase 2 Reinforcement Similar)



ABUTMENT
WINGWALL SECTION



ABUTMENT
WINGWALL REINFORCING SECTION

(Phase I Reinforcement Shown,
Phase 2 Reinforcement Similar)

NOTES

1. Lap 565 and 566 Deck bars with S501ss bars in deck.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721 BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	M. Kershbergen		
DESIGN-DETAILED	JS	CW	08\21
CHECKED-REVIEWED	AR	KOS	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

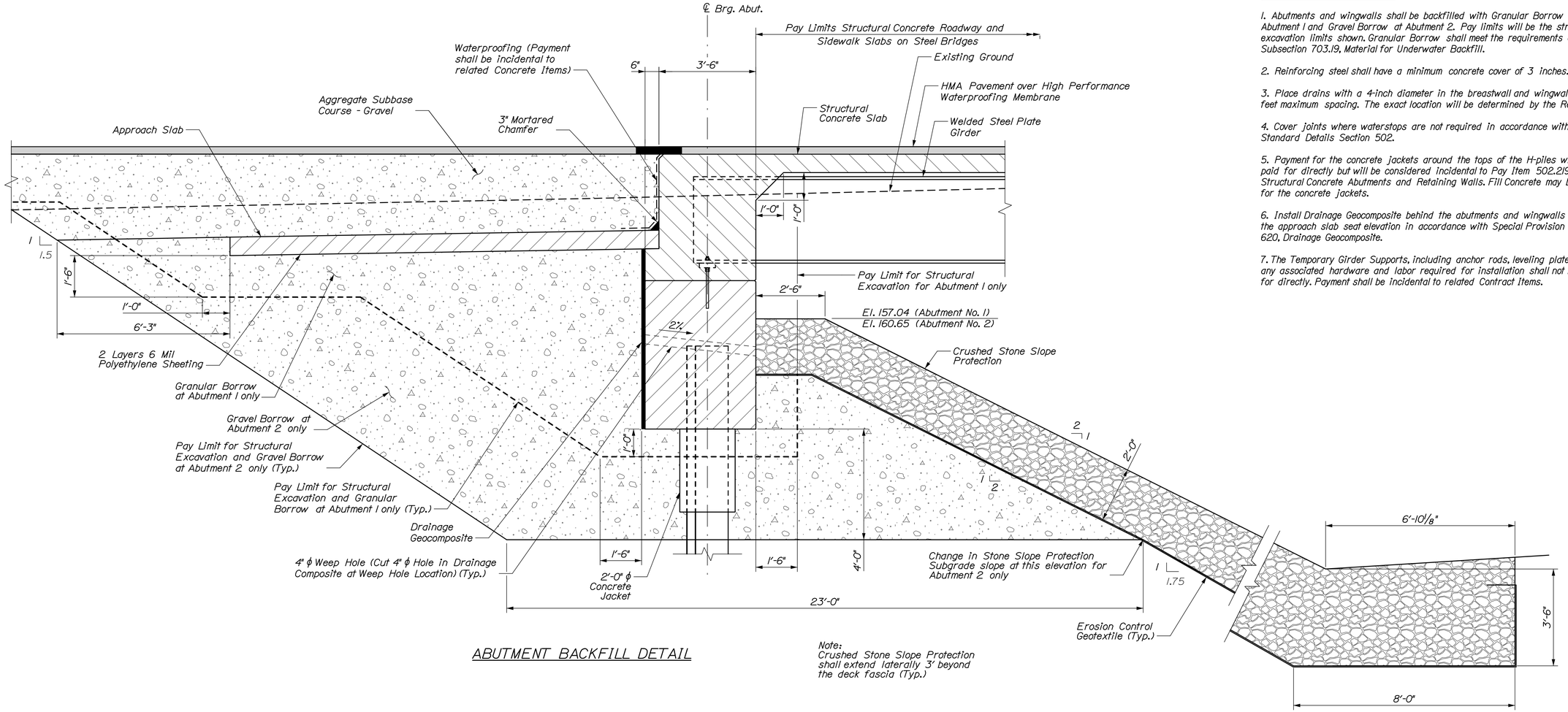
ABUTMENT REINFORCEMENT SECTIONS

SHEET NUMBER

115

OF 144

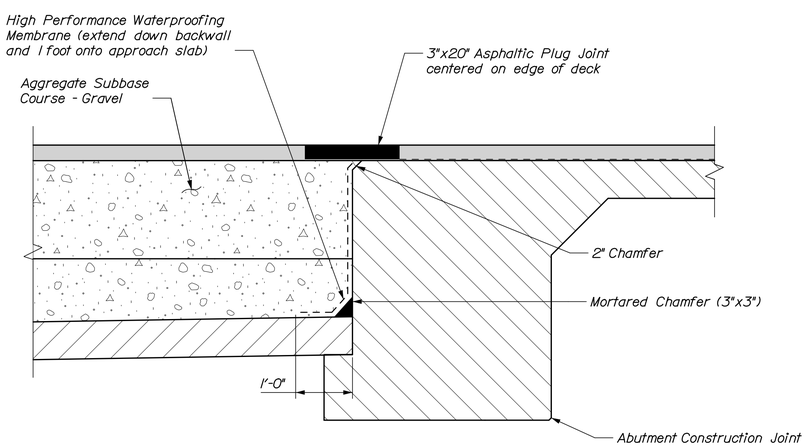
Filename: 115_Abutment Reinf Sections.dgn Division: Username: Date:8/27/2021



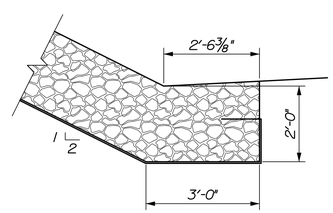
ABUTMENT BACKFILL DETAIL

Note:
Crushed Stone Slope Protection shall extend laterally 3' beyond the deck fascia (Typ.)

BACKFILL DETAIL AT ABUTMENT 2



ABUTMENT SLAB SEAT AND JOINT



BACKFILL DETAIL AT ABUTMENT 1

ABUTMENT NOTES

1. Abutments and wingwalls shall be backfilled with Granular Borrow at Abutment 1 and Gravel Borrow at Abutment 2. Pay limits will be the structural excavation limits shown. Granular Borrow shall meet the requirements of Subsection 703.19, Material for Underwater Backfill.

2. Reinforcing steel shall have a minimum concrete cover of 3 inches.

3. Place drains with a 4-inch diameter in the breastwall and wingwalls at 10 feet maximum spacing. The exact location will be determined by the Resident.

4. Cover joints where waterstops are not required in accordance with Standard Details Section 502.

5. Payment for the concrete jackets around the tops of the H-piles will not be paid for directly but will be considered incidental to Pay Item 502.219, Structural Concrete Abutments and Retaining Walls. Fill Concrete may be used for the concrete jackets.

6. Install Drainage Geocomposite behind the abutments and wingwalls up to the approach slab seat elevation in accordance with Special Provision Section 620, Drainage Geocomposite.

7. The Temporary Girder Supports, including anchor rods, leveling plates, and any associated hardware and labor required for installation shall not be paid for directly. Payment shall be incidental to related Contract Items.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

		BY	DATE
PROJ. MANAGER	M. Kershergen		
DESIGN-DETAILED	JS	CW	08\21
CHECKED-REVIEWED	AR	KOS	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

ABUTMENT DETAILS

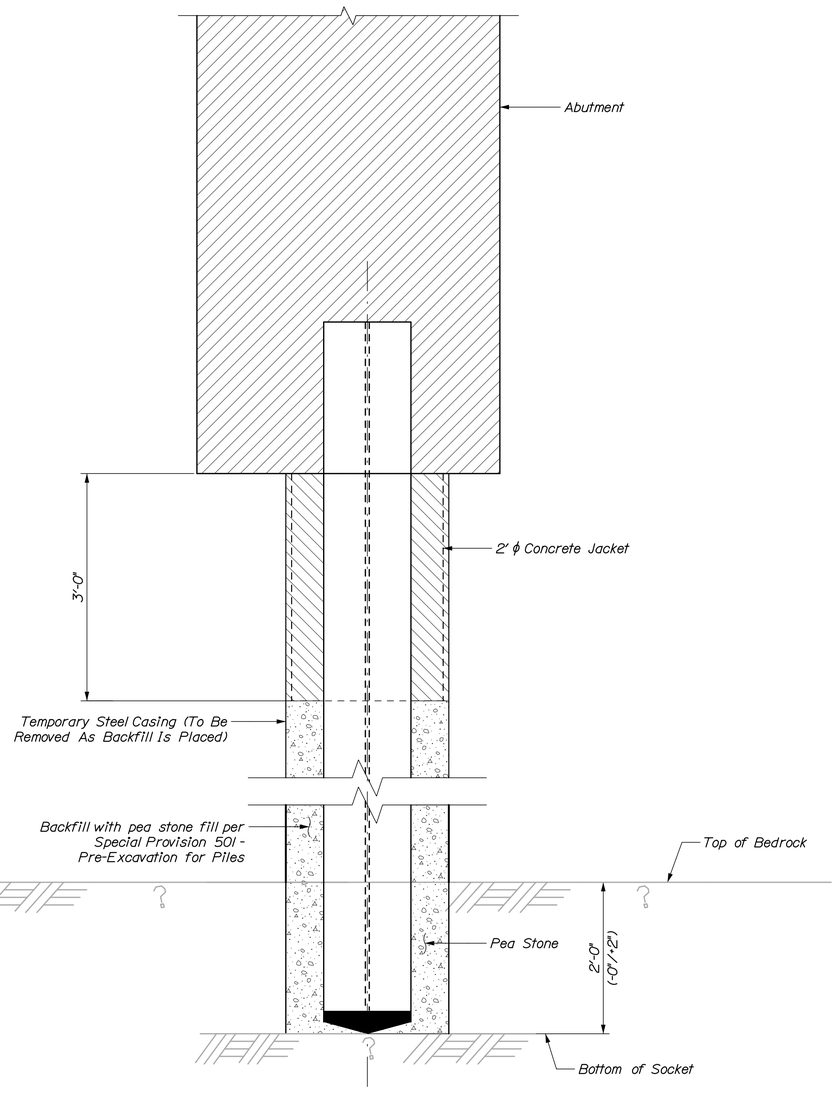
SHEET NUMBER

116

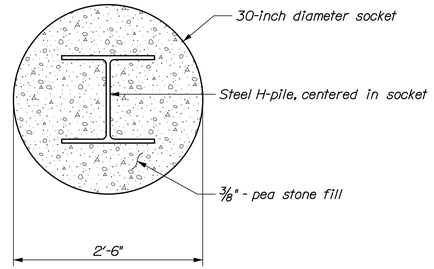
OF 144

HNTB

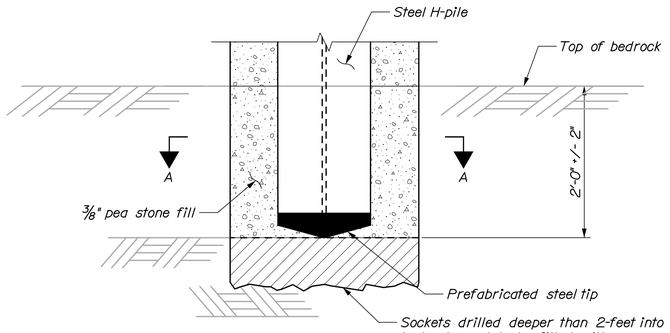
Date:9/13/2021
Username:
Division:
Filename: 116_Abutment Details.dgn



ROCK SOCKETED PILE DETAIL
(Abut. No. 2 only)



SECTION A-A



ROCK SOCKETED PILE BASE DETAIL
(Abut. No. 2 only)

Username:

Date:9/9/2021

Division:

Filename: 117_Pile Details.dgn

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN
021726.00

BRIDGE No. 5721

BRIDGE PLANS

PROJ. MANAGER	M. Kershaw	BY	DATE
DESIGN-DETAILED	JS	CW	08\21
CHECKED-REVIEWED	AR	KOS	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

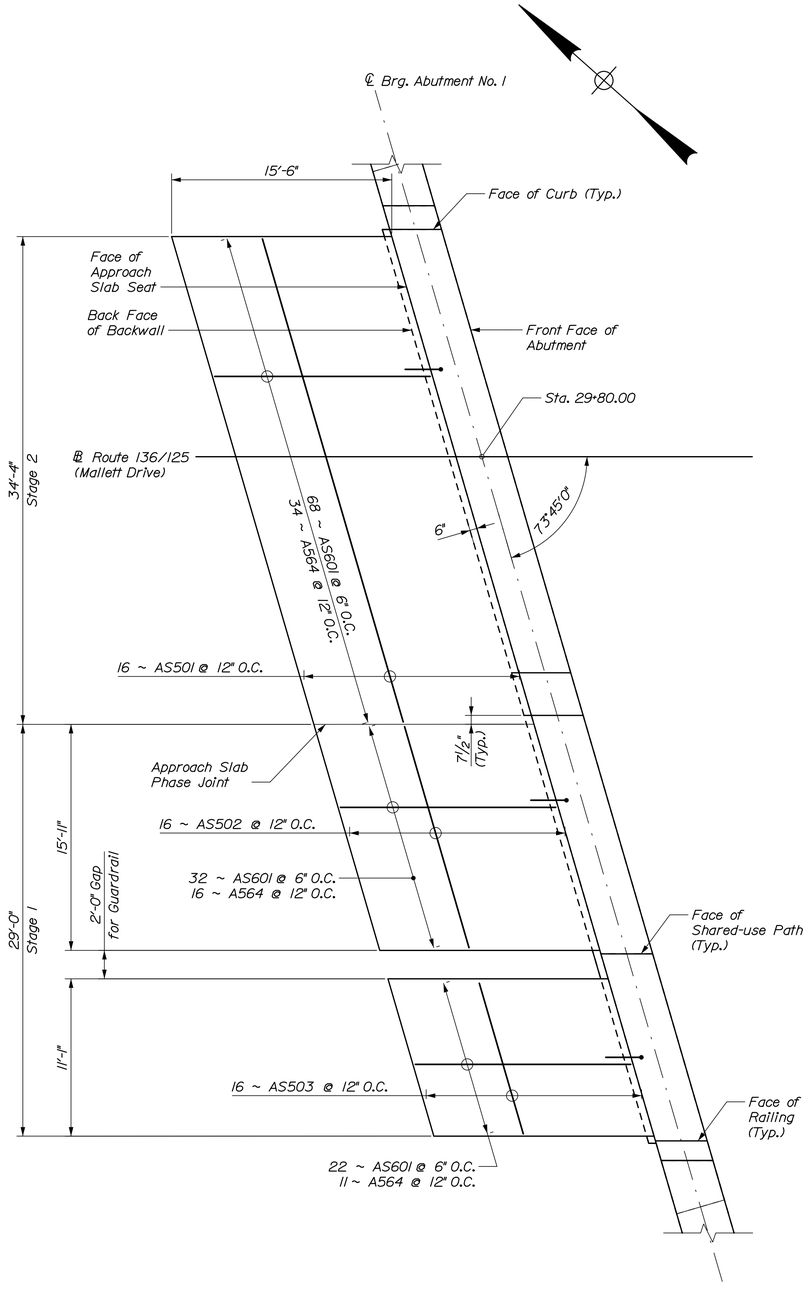
PILE DETAILS

SHEET NUMBER

117

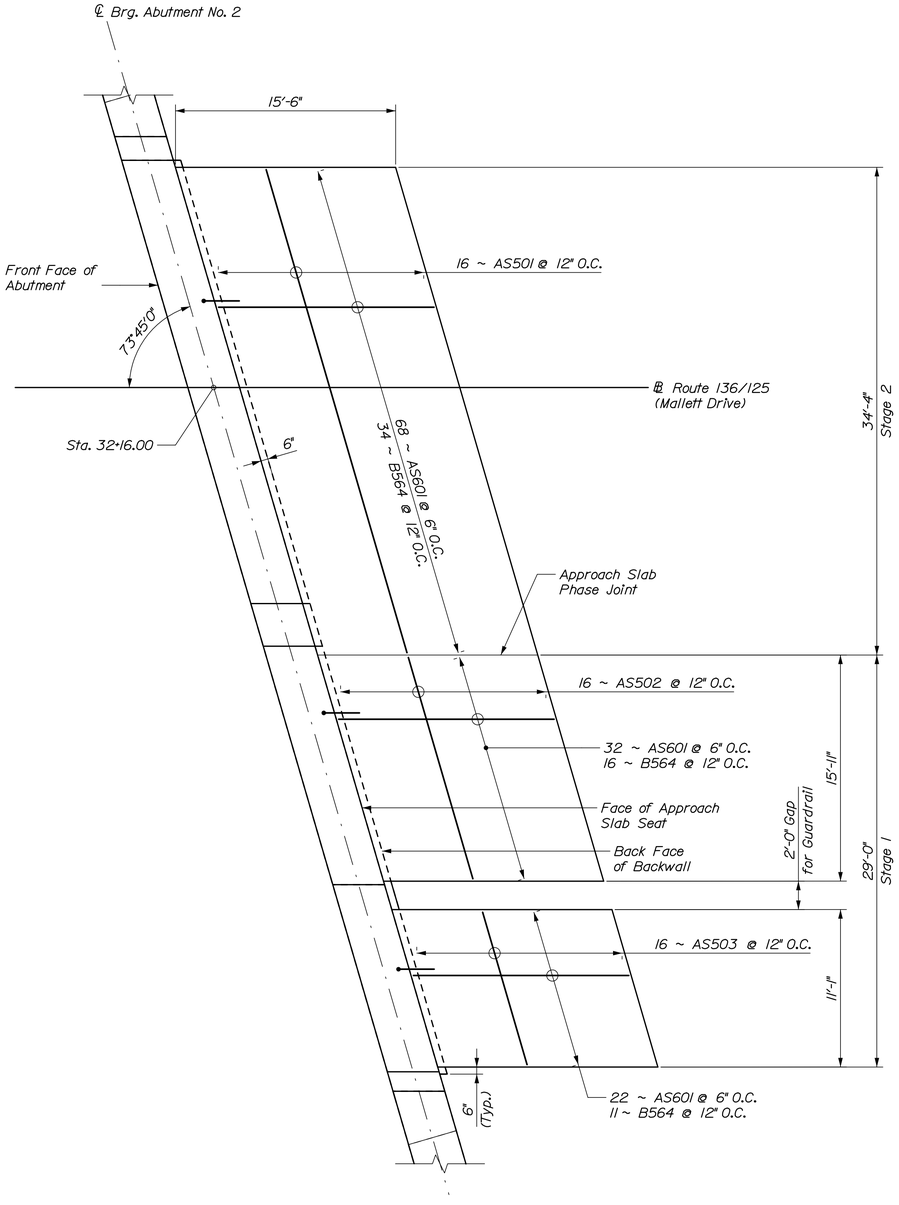
OF 144

HNTB



ABUTMENT NO. 1 APPROACH SLAB PLAN

(Abutment No. 1 Bar Marks shown, Abutment No. 2 Bar Marks similar)



ABUTMENT NO. 2 APPROACH SLAB PLAN

(Abutment No. 1 Bar Marks shown, Abutment No. 2 Bar Marks similar)

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

PROJ. MANAGER	M. Kershbergen	BY	DATE
DESIGN-DETAILED	JS	CW	08\21
CHECKED-REVIEWED	LM	KOS	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

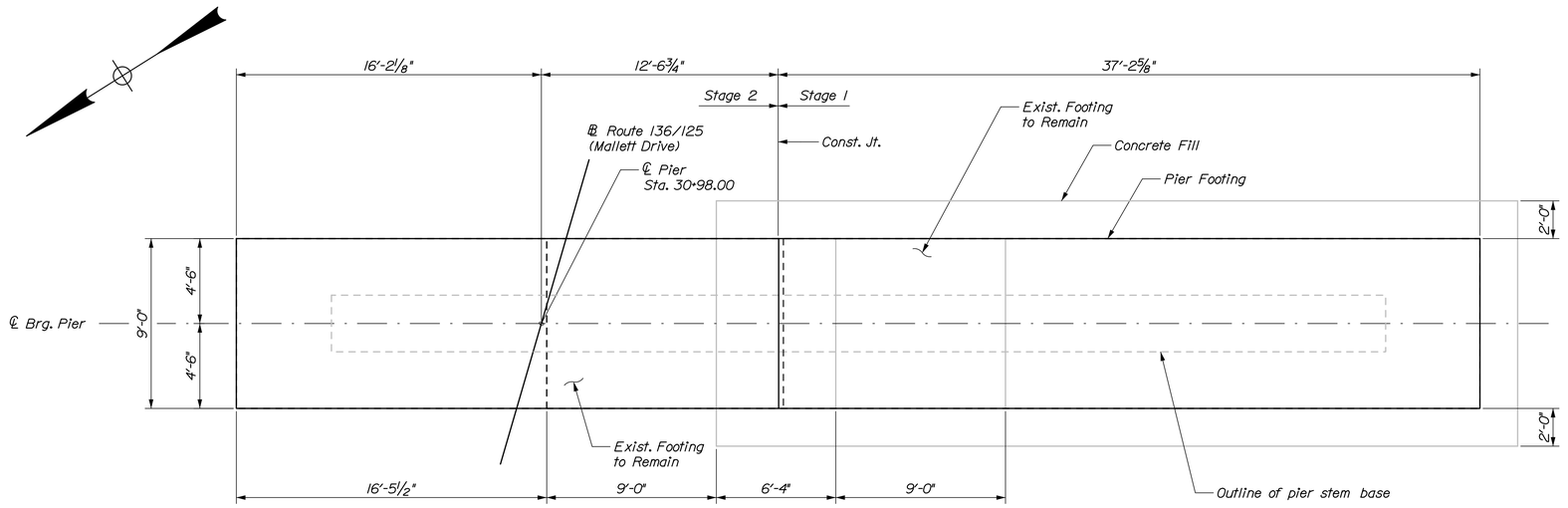
APPROACH SLAB PLAN

SHEET NUMBER

118

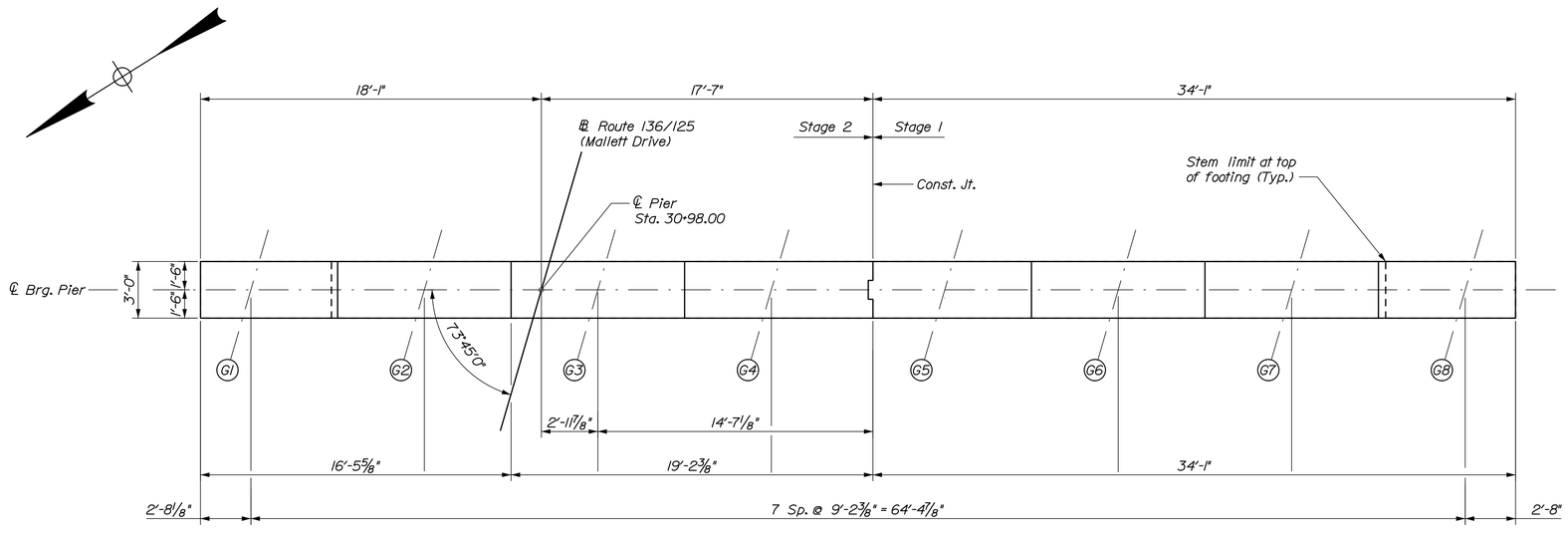
OF 144

Username:
Division:
Date:8/27/2021
Filename: 118_Approach Slab Plan.dgn



PIER FOOTING PLAN

(Fill Concrete shown screened for clarity)



PIER STEM PLAN

PIER DESIGN CRITERIA

1. Controlling AASHTO Load Combination Strength I.

2. Wind: 115 mph or 0.051 ksf.

PIER NOTES

1. The maximum factored applied footing pressure is 16.5 ksf at the Strength I Limit State.

2. Reinforcing steel shall have a minimum concrete cover of 2 inches in the stem and 3 inches in the footing unless otherwise noted.

3. The bedrock and its surface will vary in elevation, nature, slope, and degree of fracturing. The top of bedrock shown corresponds to the boring. Actual bedrock elevations will vary. After foundation excavations are completed and all unsound bedrock removed, the Contractor shall survey the foundation bedrock and provide the surveyed bedrock elevations to the Resident for review and approval by the Engineer.

4. At the option of the Resident, bedrock which protrudes above a horizontal plane 12 inches below the proposed bottom of footing elevation may be removed. Payment for bedrock removal shall be made under Item No. 206.092 Structural Rock Excavation Major Structures.

5. Pier footing concrete shall be placed on bedrock cleaned of all weathered rock, loose fractured rock and soil. The bedrock subgrade shall be confirmed to be relatively level. Where the bedrock slope exceeds 4H:1V, the bedrock surface shall be benched to create level steps or made completely level. The Resident shall approve the bedrock subgrade prior to the placement of the pier footing concrete.

6. Prior to placing pier footing concrete, the bedrock subgrade shall be washed with high-pressure water and air.

7. Where the prepared bedrock surface is below the bottom of footing elevation shown on the plans, concrete fill may be placed to fill the void. Concrete fill shall be Class F111 concrete.

8. Payment for Concrete Formliner is considered incidental to related Contract Items.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

SIGNATURE

P.E. NUMBER

DATE

	BY	DATE
PROJ. MANAGER	M. Kerstergen	
DESIGN-DETAILED	JS	CW 08\21
CHECKED-REVIEWED	JM	KOS 08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

PIER PLAN

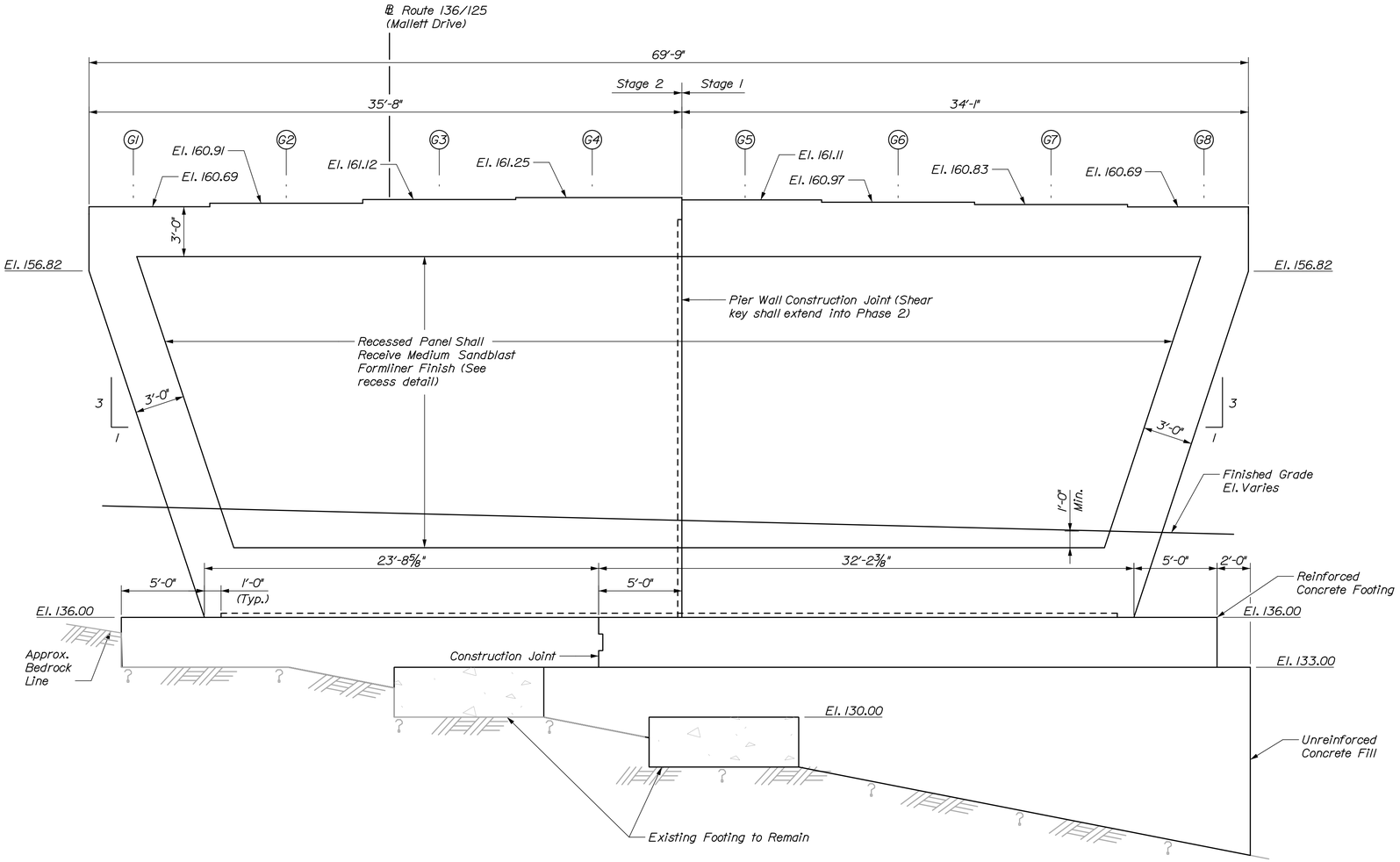
SHEET NUMBER

119

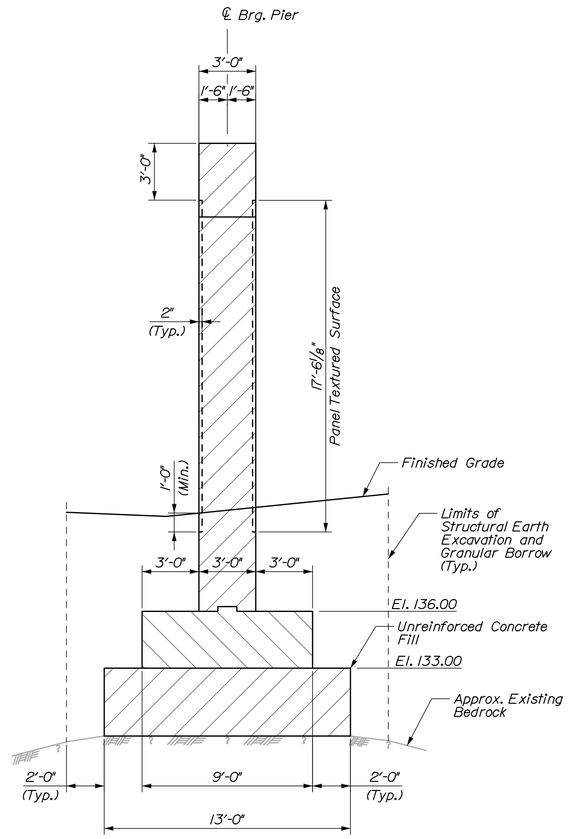
OF 144

HNTB

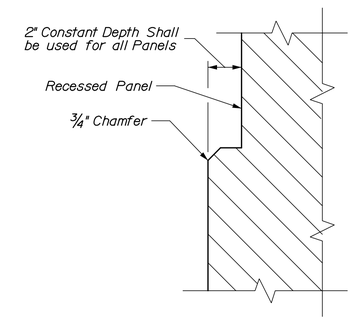
Filename: 119_Pier Plan.dgn Username: Division: Date:9/9/2021



PIER ELEVATION



TYPICAL PIER SECTION



RECESS DETAIL

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kerstbergen	
DESIGN-DETAILED	JS	08\21
CHECKED-REVIEWED	CW	08\21
DESIGN2-DETAILED2	KOS	
DESIGN3-DETAILED3	JM	
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

PIER ELEVATION AND SECTION

SHEET NUMBER

120

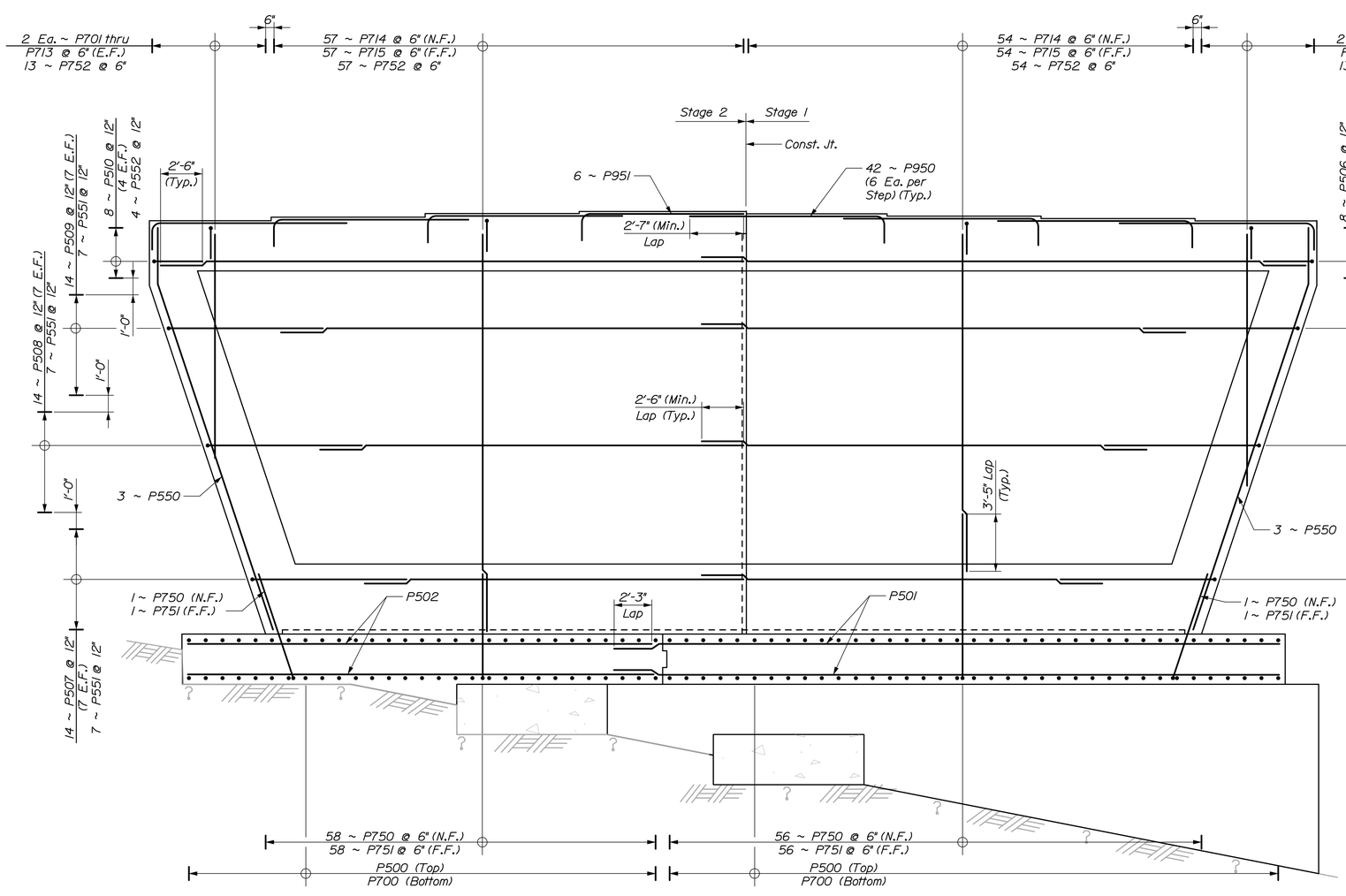
OF 144

Date:9/9/2021

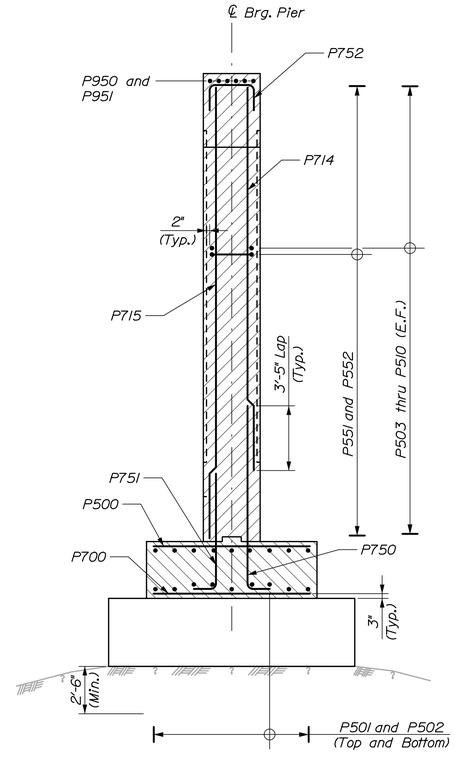
Username:

Division:

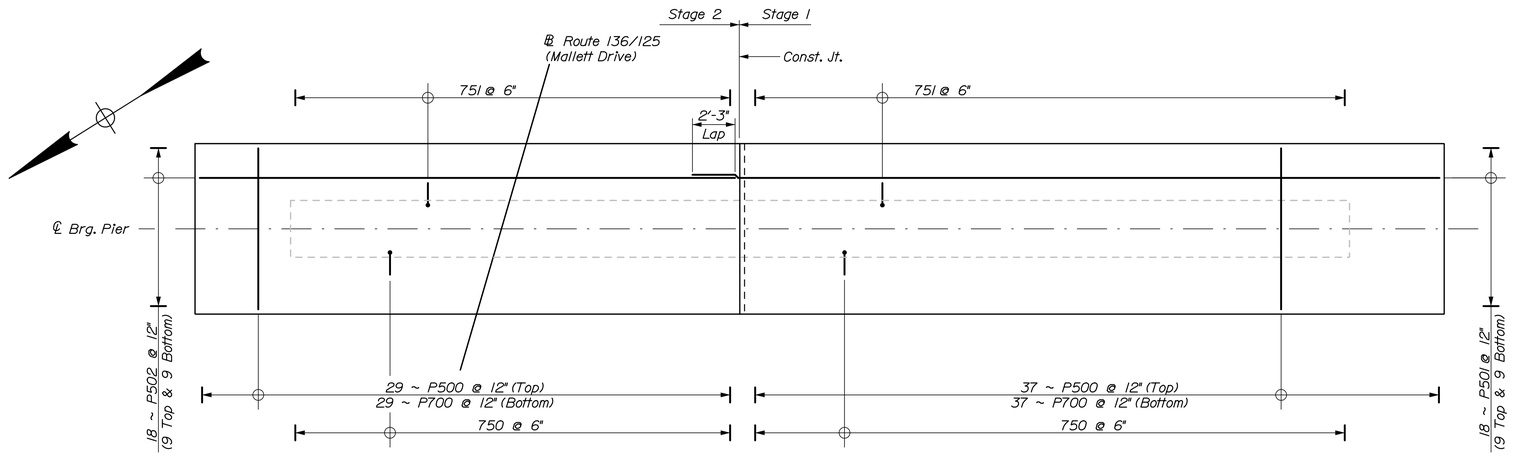
Filename: 120_Pier Elevation and Section.dgn



PIER REINFORCING ELEVATION



PIER REINFORCING SECTION



PIER FOOTING REINFORCING PLAN

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

PROJ. MANAGER	M. Kershaw	BY	DATE
DESIGN-DETAILED	JS	CW	08\21
CHECKED-REVIEWED	JM	KOS	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

PIER REINFORCEMENT

SHEET NUMBER

121

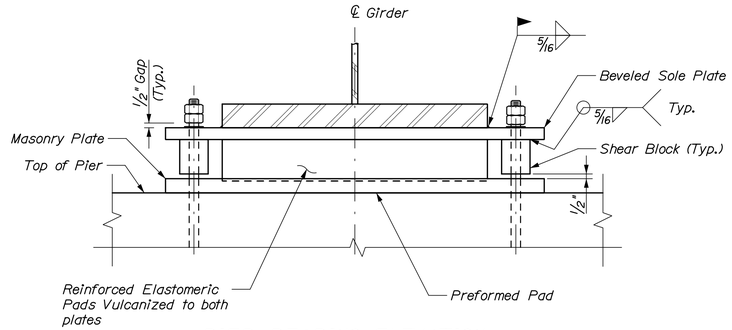
OF 144

Username:

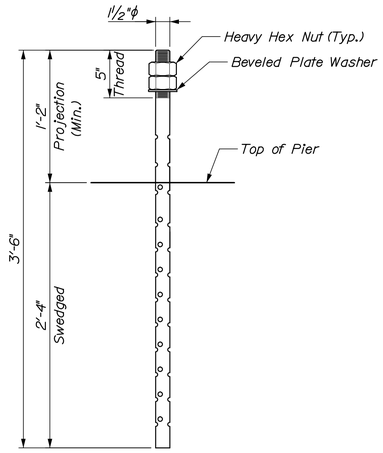
Division:

Date:8/27/2021

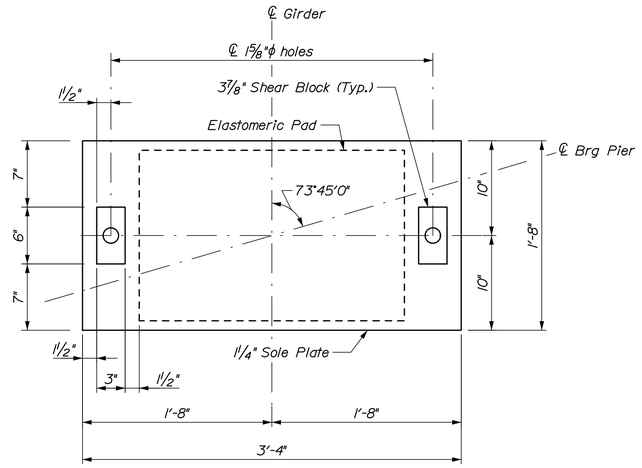
Filename: 121_Pier Reinforcement.dgn



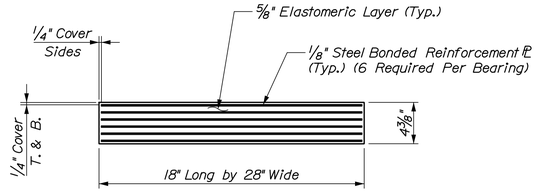
PIER BEARING ELEVATION



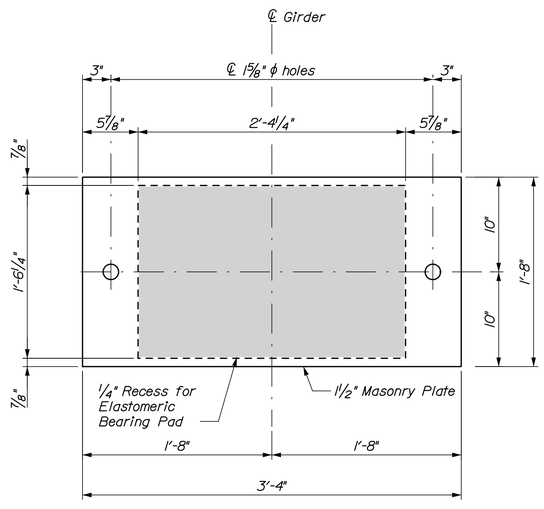
ANCHOR ROD DETAIL



SOLE PLATE PLAN
Looking up at bottom of Sole Plate



PIER ELASTOMERIC BEARING PAD
(8 REQUIRED)



MASONRY PLATE PLAN

ELASTOMERIC BEARING NOTES

1. The shear modulus of the elastomer shall be 130 psi.

2. Vulcanization of the elastomer to the steel plates shall be done during the primary mold process. Sole plate shall be vulcanized to the elastomer.

3. Masonry plates, sole plates and shear blocks shall meet the requirements of ASTM A709, Grade 50. Anchor rods shall meet the requirements of ASTM F 1554, Grade 105 and shall be swedged on the embedded portion of the rod.

4. Masonry plates shall be galvanized or metalized in accordance with Section 506. Sole plates for steel superstructures shall be treated in the same manner as the structural steel. Anchor rods, washers, nuts and shear blocks shall be galvanized to ASTM A153 or ASTM B695, Class 50, Type 1.

5. All bearings shall be marked prior to shipping. The marks shall include the bearing location on the bridge and a direction arrow that points upstation. All marks shall be permanent and shall be visible after the bearing is installed.

6. Bearings shall be covered during shipping and at any time prior to installation that the bearings may be exposed to sunlight.

7. All necessary precautions shall be taken to protect bearing components from field weld flash and splatter. 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 the use of temperature indicating crayons or other suitable means.

8. Upset the threads on the anchor rod after assembly.

9. The Contractor shall not weld the girders to the sole plate until after all adjustments have been made in accordance with Standard Specification 523.09.4.

10. The "Bearing Design Load" for each bearing as noted in Standard Specifications, subsection 523.23.4, is 567 kips. This is the total load for the Service I load combination, without impact.

BEARING DESIGN CRITERIA AT PIER	
Unfactored Dead Load	352 Kips
Unfactored Live Load (without impact)	211 Kips

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

PROJ. MANAGER	M. Kerstbergen		
DESIGN-DETAILED	AR	CW	08\21
CHECKED-REVIEWED	JS	KOS	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

ELASTOMERIC BEARING DETAILS

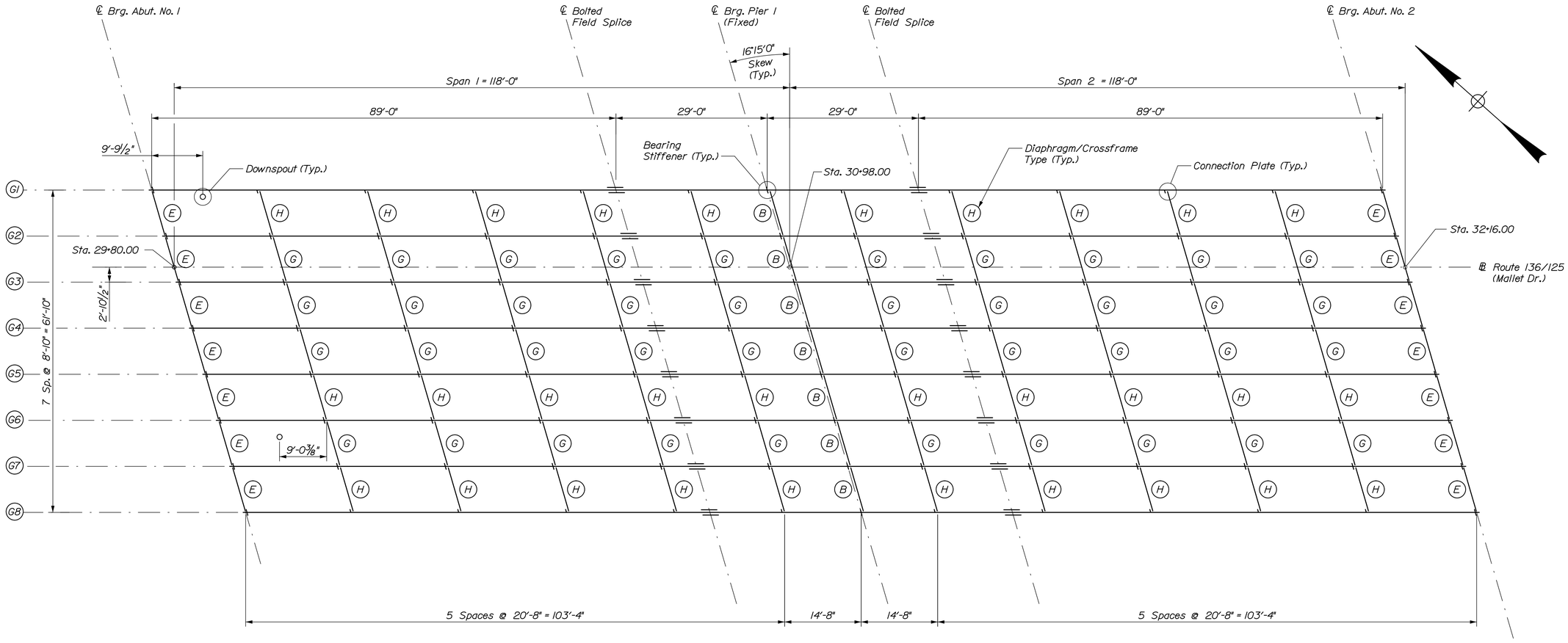
SHEET NUMBER

122

OF 144

HNTB

Filename: 122_ElastomericBearingDetails.dgn Division: Username: Date:8/27/2021



FRAMING PLAN

STRUCTURAL STEEL NOTES:

1. Camber ordinates, as shown on "Steel Deflection and Camber Tables" Sheet, are computed to compensate for all dead load deflections and for the curvature of 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 not be less than 1 foot from transverse butt welds in the web plates and no transverse web or flange butt welds shall be located within 1 foot 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 trasnverse shop splice and field splice shall be at least 20 feet in length unless otherwise shwon 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. Intermediate crossframe connection plates may be either plumb or normal to the top flange.

6. Filler plates may be steel conforming to the requirements of ASTM A 709, Grade 36.

7. Structural steel was designed with a vertical construction load of 50 lb/sf and a lateral wind velocity of 115 mph.

8. All bolts, nuts, and washers shall be hot dip galvanized in accordance with ASTM A153.

9. Bolted field splice connections shall be made using ⅞" diameter ASTM A325 high strength bolts. Bolt hole size shall be 15/16" diameter. Field splice bolt threads shall be excluded from the shear plane.

10. Bolted diaphragm or cross frame connections shall be made using ⅞" diameter ASTM A325 Type 1 H.S. bolts. Hole size shall be 13/16" diameter. The minimum edge distance shall be 1½" unless otherwise noted. Oversized or short-slotted holes are not permitted. Bolt threads shall be excluded from the shear plane of cross frame or diaphragm connections.

11. Ends of girder webs shall be vertical under full dead load.

12. At the Contractor's option, the diaphragms and cross frames may be Hot-Dipped Galvanized in accordance with Standard Specifications Section 506, Shop Applied Protective Coating, as approved by the Fabrication Engineer. Payment will be considered incidental to Item 506.9104, Thermal Spray Coating (Shop Applied), no separate payment will be made.

13. At the Contractor's option, all Structural Steel may be Hot-Dipped Galvanzied in accordance with Standard Specifications Section 506, Shop Applied Protective Coating, as apporved by the Fabrication Engineer. Double Hot-Dipped galvanizing shall be approved by the Fabrication Engineer. Payment will be considered incidental to Item 506.9104, Thermal Spray Coating (Shop Applied), no separate payment will be made.

14. The intermediate cross frames that may be present between Stage I and Stage II shall not be installed until 72 hours following the placement of the Stage II slab.

15. The intermediate cross frames must be in place and bolts tightened prior to proceeding with the closure placement.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

PROJ. MANAGER	M. Kersbergen		
DESIGN-DETAILED	LJM	08\21	
CHECKED-REVIEWED	JS	08\21	
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

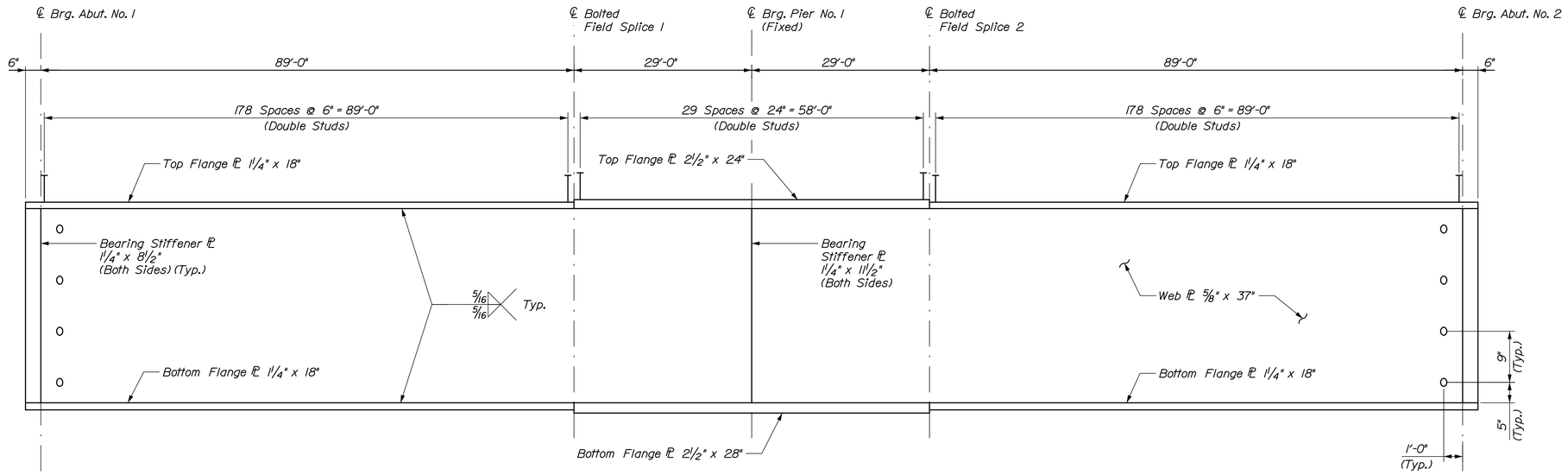
FRAMING PLAN

SHEET NUMBER

123

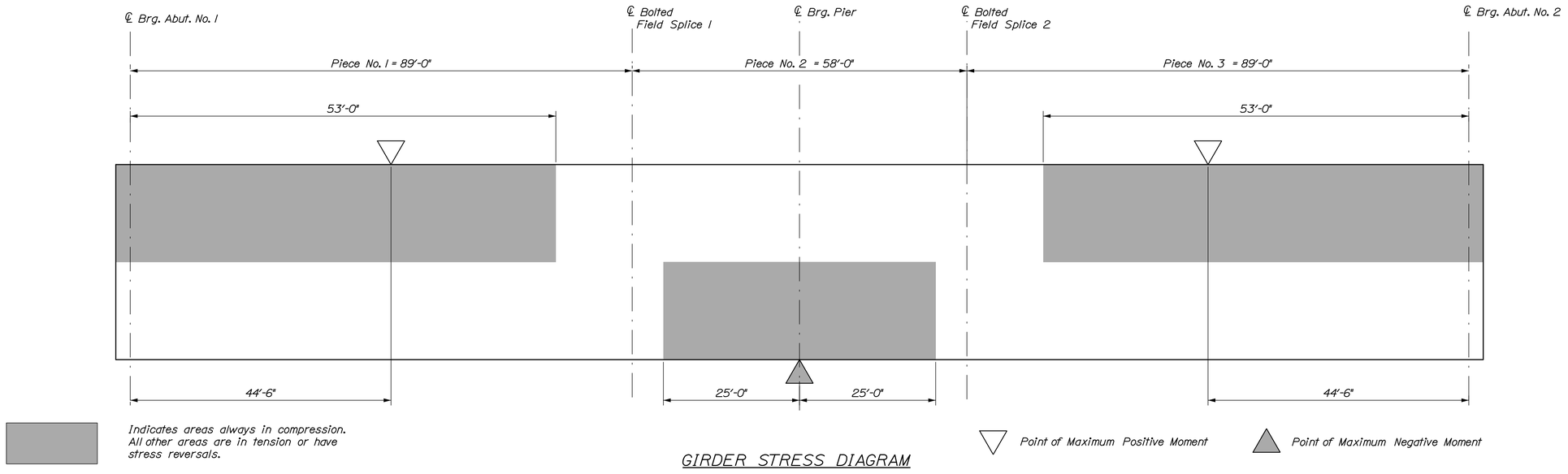
OF 144

Filename: 123_Framing Plan.dgn Division: Username: Date:8/27/2021



GIRDER ELEVATION

(776 Studs per Girder, 6208 Studs Total)



GIRDER STRESS DIAGRAM

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

	M. Kerbergen	DATE
PROJ. MANAGER		
DESIGN-DETAILED	LJM	08\21
CHECKED-REVIEWED	JS	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

BY: CW, KOS

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

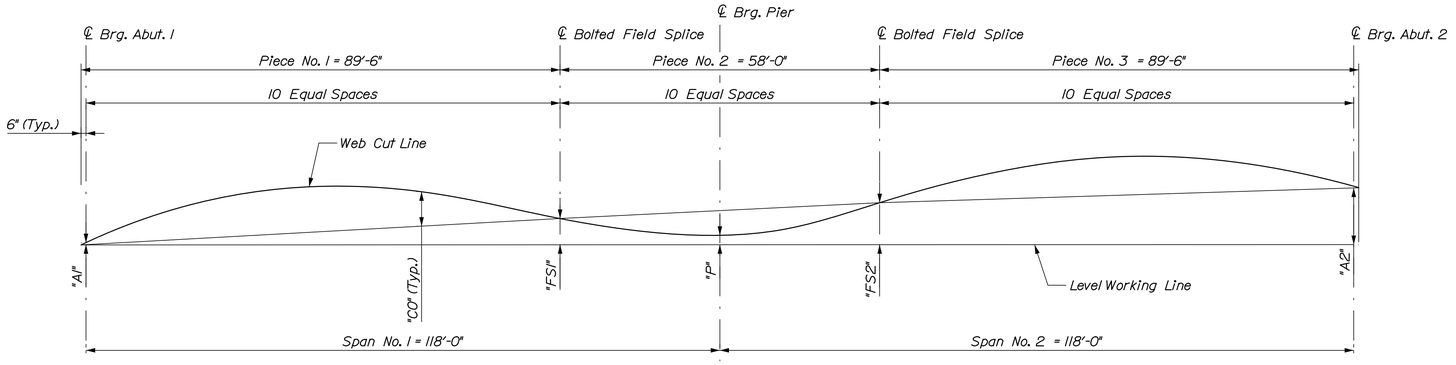
GIRDER ELEVATION AND STRESS DIAGRAM

SHEET NUMBER

124

OF 144

Filename: 124_Girder Elevation and Stress Diagram.dgn Division: Username: Date:8/27/2021



CAMBER DIAGRAM

TABLE OF CAMBER DIMENSIONS (Feet)						
GIRDER	"A1"	"FS1"	"P"	"FS2"	"A2"	GIRDER
G1	0.00	1.94	2.32	2.83	3.69	G1
G2	0.00	1.94	2.29	2.81	3.65	G2
G3	0.00	1.92	2.27	2.78	3.62	G3
G4	0.00	1.90	2.25	2.75	3.58	G4
G5	0.00	1.88	2.23	2.73	3.55	G5
G6	0.00	1.87	2.20	2.70	3.52	G6
G7	0.00	1.85	2.18	2.67	3.48	G7
G8	0.00	1.82	2.16	2.63	3.45	G8

TABLE OF CAMBER ORDINATES "CO" (INCHES)																				
		Piece No. 1										Piece No. 2									
GIRDER	℄ A1	0.10L	0.20L	0.30L	0.40L	0.50L	0.60L	0.70L	0.80L	0.90L	"FS1"	0.10L	0.20L	0.30L	0.40L	℄ P	0.60L	0.70L	0.80L	0.90L	"FS2"
G1-8	0.00	1.34	2.49	3.35	3.86	3.98	3.73	3.12	2.23	1.15	0.00	-0.27	-0.53	-0.74	-0.89	-0.95	-0.89	-0.74	-0.53	-0.27	0.00

TABLE OF CAMBER ORDINATES "CO" (INCHES)												
		Piece No. 3										
GIRDER	"FS2"	0.10L	0.20L	0.30L	0.40L	0.50L	0.60L	0.70L	0.80L	0.90L	℄ A2	GIRDER
G1-8	0.00	1.01	1.96	2.71	3.24	3.40	3.25	2.79	2.04	1.08	0.00	G1-8

TABLE OF DEFLECTIONS ~ GIRDER 1 (Inches)																				
	℄ A1	0.10xL	0.20xL	0.30xL	0.40xL	0.50xL	0.60xL	0.70xL	0.80xL	0.90xL	℄ P	0.10xL	0.20xL	0.30xL	0.40xL	0.50xL	0.60xL	0.70xL	0.80xL	0.90xL	℄ A2
Steel Dead Load	0.00	-0.24	-0.44	-0.57	-0.61	-0.56	-0.45	-0.30	-0.16	-0.05	0.00	-0.05	-0.16	-0.30	-0.45	-0.56	-0.61	-0.57	-0.44	-0.24	0.00
Fluid Dead Load	0.00	-0.73	-1.33	-1.70	-1.81	-1.66	-1.30	-0.85	-0.43	-0.13	0.00	-0.13	-0.43	-0.85	-1.30	-1.66	-1.81	-1.70	-1.33	-0.73	0.00
Superimposed Dead Load	0.00	-0.42	-0.77	-0.99	-1.07	-1.00	-0.80	-0.54	-0.28	-0.08	0.00	-0.08	-0.28	-0.54	-0.80	-1.00	-1.07	-0.99	-0.77	-0.42	0.00

TABLE OF DEFLECTIONS ~ GIRDERS 2 THRU 7 (Inches)																				
	℄ A1	0.10xL	0.20xL	0.30xL	0.40xL	0.50xL	0.60xL	0.70xL	0.80xL	0.90xL	℄ P	0.10xL	0.20xL	0.30xL	0.40xL	0.50xL	0.60xL	0.70xL	0.80xL	0.90xL	℄ A2
Steel Dead Load	0.00	-0.24	-0.44	-0.57	-0.61	-0.56	-0.45	-0.30	-0.16	-0.05	0.00	-0.05	-0.16	-0.30	-0.45	-0.56	-0.61	-0.57	-0.44	-0.24	0.00
Fluid Dead Load	0.00	-0.87	-1.58	-2.03	-2.15	-1.97	-1.55	-1.01	-0.52	-0.15	0.00	-0.15	-0.52	-1.01	-1.55	-1.97	-2.15	-2.03	-1.58	-0.87	0.00
Superimposed Dead Load	0.00	-0.40	-0.73	-0.94	-1.01	-0.94	-0.76	-0.51	-0.27	-0.08	0.00	-0.08	-0.27	-0.51	-0.76	-0.94	-1.01	-0.94	-0.73	-0.40	0.00

TABLE OF DEFLECTIONS ~ GIRDER 8 (Inches)																				
	℄ A1	0.10xL	0.20xL	0.30xL	0.40xL	0.50xL	0.60xL	0.70xL	0.80xL	0.90xL	℄ P	0.10xL	0.20xL	0.30xL	0.40xL	0.50xL	0.60xL	0.70xL	0.80xL	0.90xL	℄ A2
Steel Dead Load	0.00	-0.24	-0.44	-0.57	-0.61	-0.56	-0.45	-0.30	-0.16	-0.05	0.00	-0.05	-0.16	-0.30	-0.45	-0.56	-0.61	-0.57	-0.44	-0.24	0.00
Fluid Dead Load	0.00	-0.70	-1.27	-1.62	-1.72	-1.58	-1.24	-0.81	-0.41	-0.12	0.00	-0.12	-0.41	-0.81	-1.24	-1.58	-1.72	-1.62	-1.27	-0.70	0.00
Superimposed Dead Load	0.00	-0.43	-0.78	-1.00	-1.08	-1.01	-0.81	-0.55	-0.29	-0.08	0.00	-0.08	-0.29	-0.55	-0.81	-1.01	-1.08	-1.00	-0.78	-0.43	0.00

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kershaw	
DESIGN-DETAILED	JJM	08\21
CHECKED-REVIEWED	JS	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

STEEL DEFLECTION AND CAMBER TABLES

SHEET NUMBER

125

OF 144

Filename: 125_SteelDeflection and Camber Tables.dgn Division: Username: Date:8/27/2021

GIRDER	BOTTOM OF SLAB ELEVATIONS - SPAN 1										
	℄ Brg. Abut. 1	0.10xL	0.20xL	0.30xL	0.40xL	0.50xL	0.60xL	0.70xL	0.80xL	0.90xL	℄ Brg. Pier
G1	162.62	163.00	163.34	163.65	163.91	164.13	164.31	164.47	164.62	164.77	164.94
G2	162.86	163.24	163.60	163.91	164.17	164.38	164.55	164.70	164.84	164.99	165.16
G3	163.10	163.48	163.83	164.14	164.40	164.61	164.78	164.92	165.06	165.21	165.37
G4	163.25	163.63	163.97	164.28	164.54	164.75	164.91	165.06	165.20	165.34	165.50
G5	163.13	163.51	163.85	164.16	164.41	164.62	164.78	164.93	165.06	165.20	165.36
G6	163.02	163.39	163.73	164.03	164.28	164.49	164.65	164.79	164.93	165.06	165.22
G7	162.90	163.27	163.61	163.91	164.16	164.36	164.52	164.66	164.79	164.93	165.08
G8	162.78	163.14	163.46	163.75	164.00	164.20	164.37	164.51	164.65	164.79	164.94

GIRDER	BOTTOM OF SLAB ELEVATIONS - SPAN 2										
	℄ Brg. Pier	0.10xL	0.20xL	0.30xL	0.40xL	0.50xL	0.60xL	0.70xL	0.80xL	0.90xL	℄ Brg. Abut. 2
G1	164.94	165.13	165.34	165.55	165.75	165.93	166.08	166.18	166.25	166.29	166.31
G2	165.16	165.35	165.56	165.77	165.98	166.16	166.31	166.41	166.47	166.50	166.52
G3	165.37	165.56	165.77	165.98	166.18	166.36	166.51	166.61	166.67	166.71	166.72
G4	165.50	165.69	165.89	166.10	166.30	166.48	166.62	166.73	166.79	166.82	166.83
G5	165.36	165.54	165.75	165.95	166.15	166.33	166.47	166.58	166.64	166.67	166.68
G6	165.22	165.40	165.60	165.81	166.01	166.18	166.32	166.42	166.49	166.52	166.53
G7	165.08	165.26	165.46	165.66	165.86	166.03	166.17	166.27	166.34	166.37	166.38
G8	164.94	165.12	165.31	165.50	165.69	165.85	165.99	166.09	166.16	166.20	166.23

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

SIGNATURE

P.E. NUMBER

DATE

PROJ. MANAGER	M. Kerstetter	BY
DESIGN-DETAILED	JS	CW
CHECKED-REVIEWED	AR	KOS
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

DATE
08\21
08\21

APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

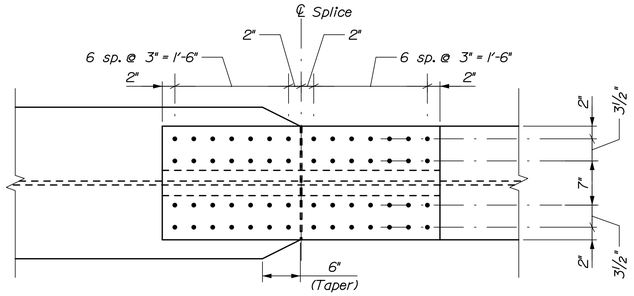
BOTTOM OF SLAB ELEVATIONS

SHEET NUMBER

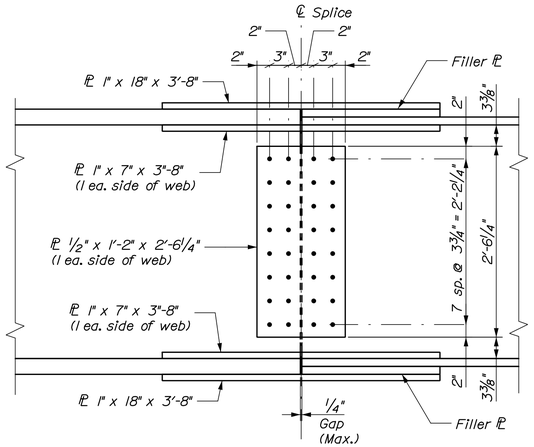
126

OF 144

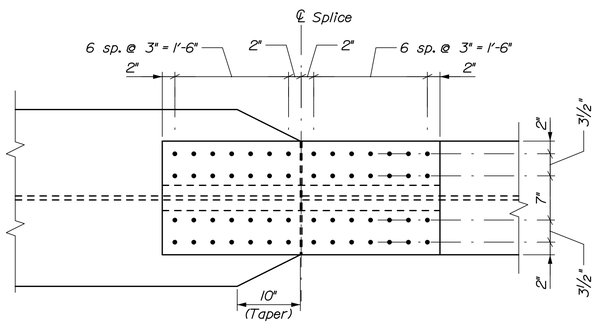
Filename: 126_Bottom of Slab Elevations.dgn Division: Username: Date:8/27/2021



PLAN - TOP FLANGE



ELEVATION



PLAN - BOTTOM FLANGE

BOLTED FIELD SPLICE

(Field Splice 2 Shown; Field Splice 1 is Opposite Hand)

Username:

Division:

Date:8/27/2021

Filename: 127_Structural Steel Details.dgn

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

PROJ. MANAGER	M. Kerstbergen	BY	DATE
DESIGN-DETAILED	JS	CW	08\21
CHECKED-REVIEWED	LM	KOS	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

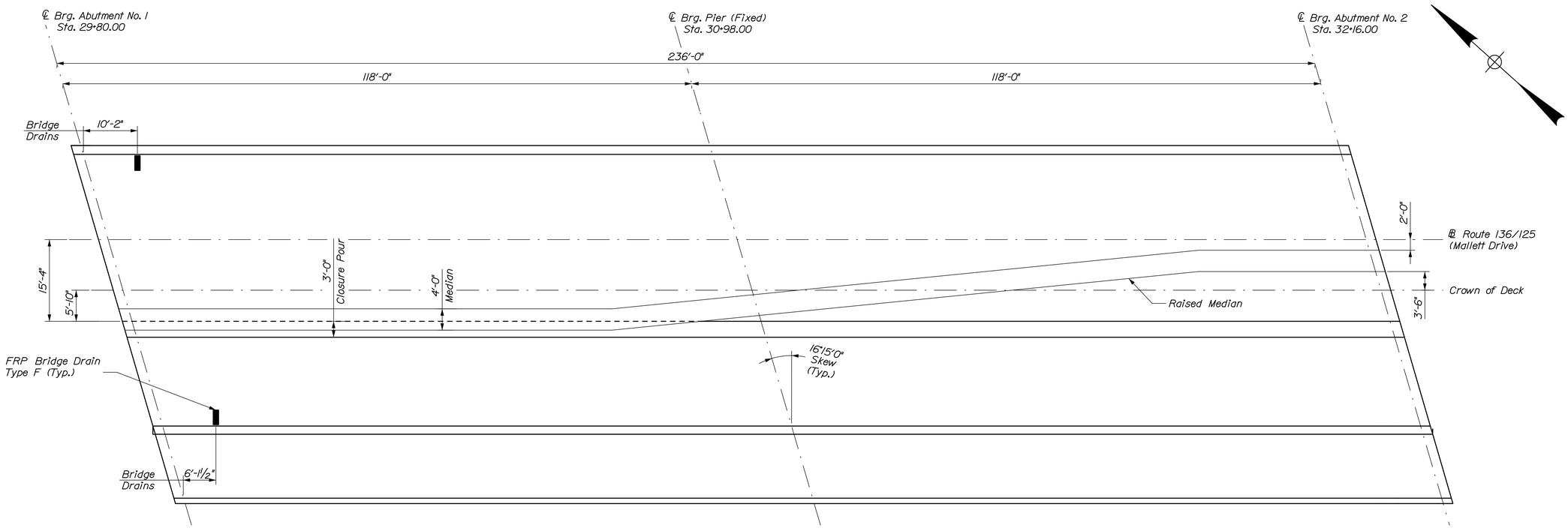
APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

STRUCTURAL STEEL DETAILS

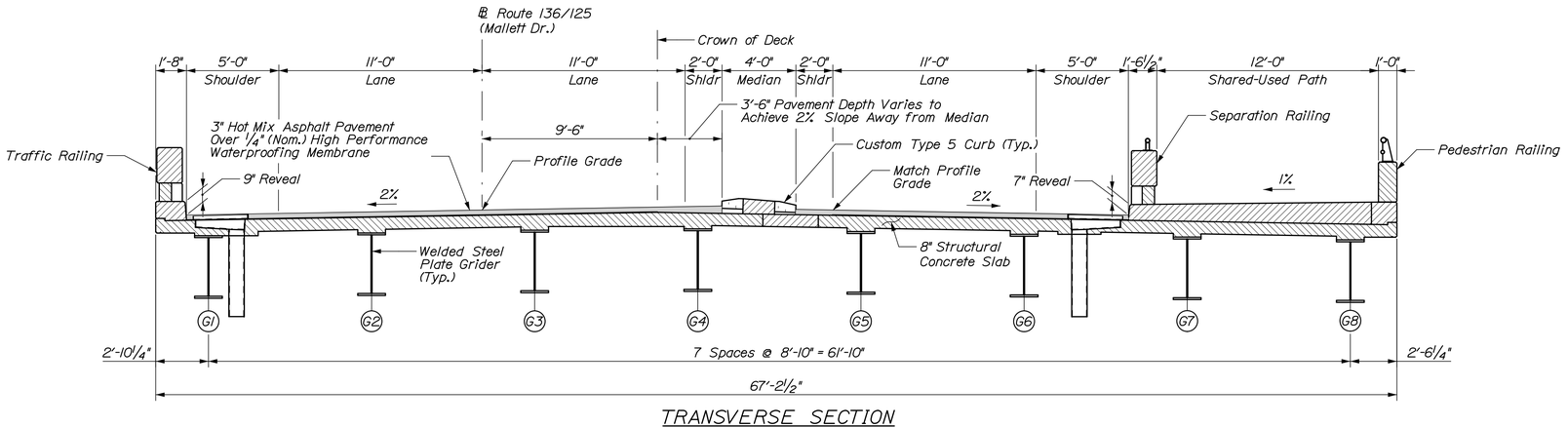
SHEET NUMBER

127

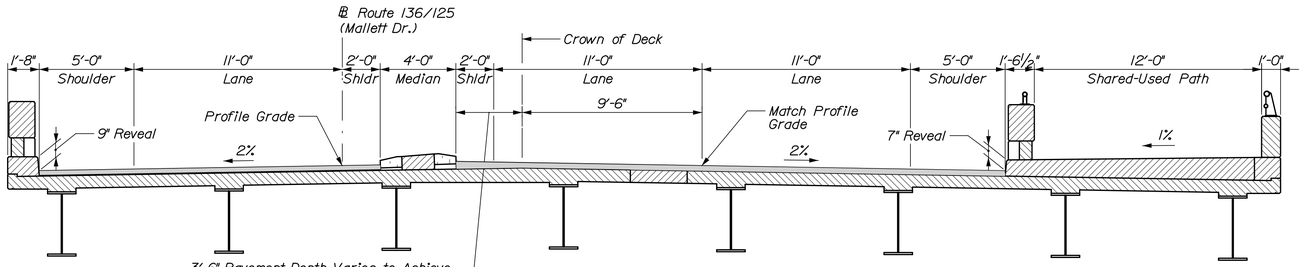
OF 144



SUPERSTRUCTURE PLAN



TRANSVERSE SECTION
(Section Shown Near Abutment 1)



TRANSVERSE SECTION
(Section Shown Near Abutment 2)

SUPERSTRUCTURE NOTES

1. The theoretical blocking used for design of the structure is 4 1/2 inches at the centerline of bearing of the abutments and piers. Refer to Standard Detail 502 for blocking details.

2. Reinforcing steel shall have a minimum concrete cover of 2 inches unless otherwise noted.

3. Adjust reinforcing steel to fit around the bridge drains in a manner approved by the Resident. Do not cut transverse reinforcing bars.

4. Form a one inch V-groove on the fascias at the horizontal joint between the curb and slab.

5. The use of Precast Concrete Panels will not be allowed on this project.

6. Threaded inserts shall be stainless steel and of sufficient strength to meet the Standard Specifications of Grade 75 reinforcement.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kerbergen	
DESIGN-DETAILED	AR	CW 08\21
CHECKED-REVIEWED	JS	KOS 08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

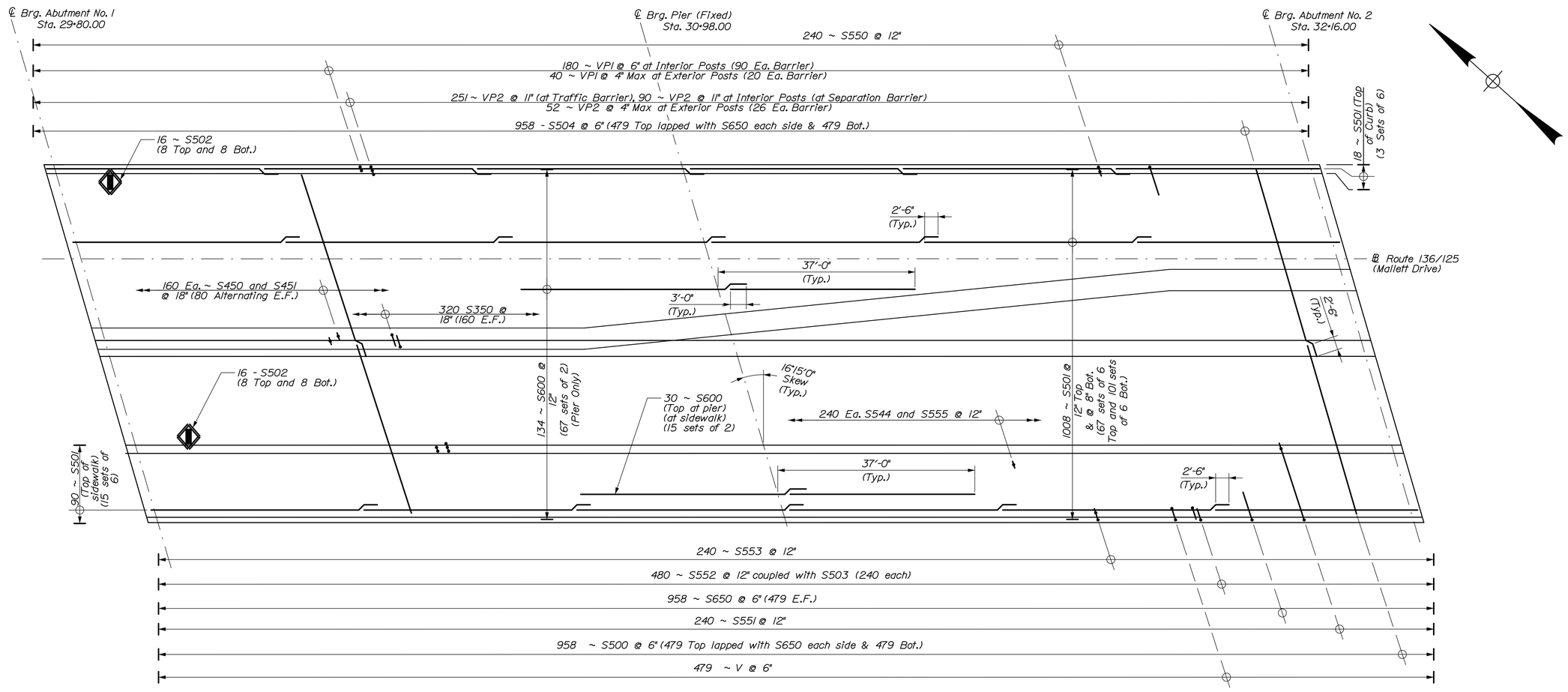
DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

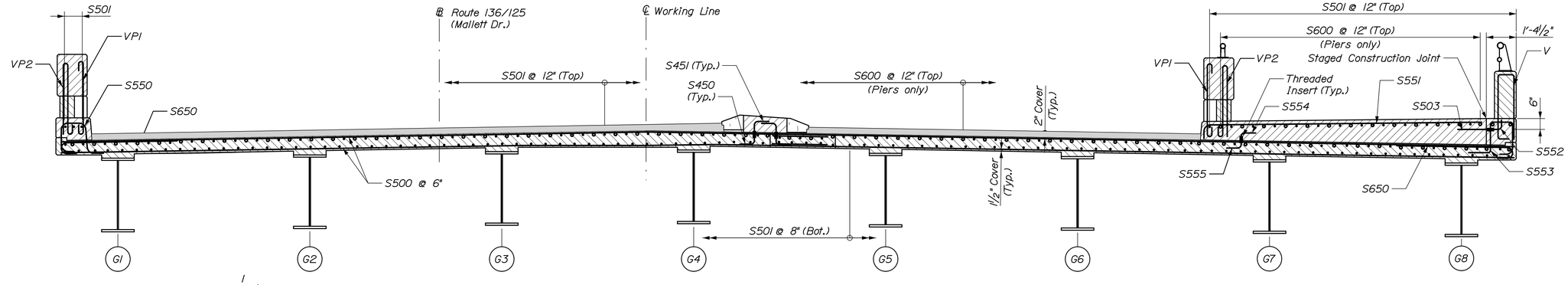
SUPERSTRUCTURE
PLAN AND SECTION

SHEET NUMBER
128
OF 144

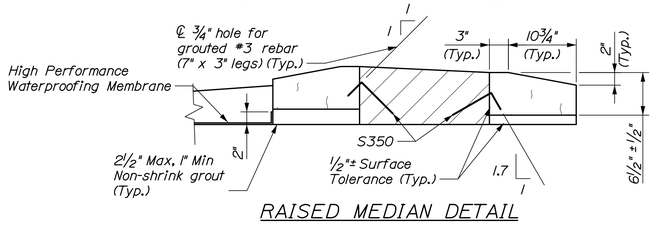
Filename: 128_Superstructure Plan.dgn Division: Username: Date:8/27/2021



SUPERSTRUCTURE REINFORCING PLAN



TRANSVERSE REINFORCEMENT SECTION



RAISED MEDIAN DETAIL

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kersbergen	
DESIGN-DETAILED	AR	08\21
CHECKED-REVIEWED	JS	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

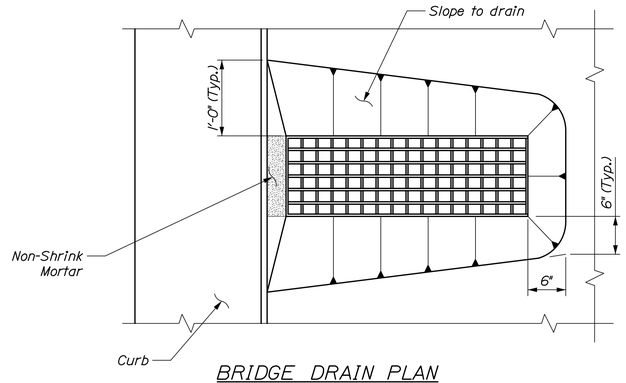
SUPERSTRUCTURE REINFORCING

SHEET NUMBER

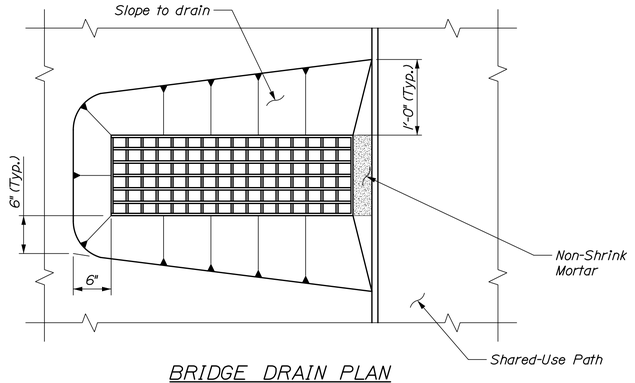
129

OF 144

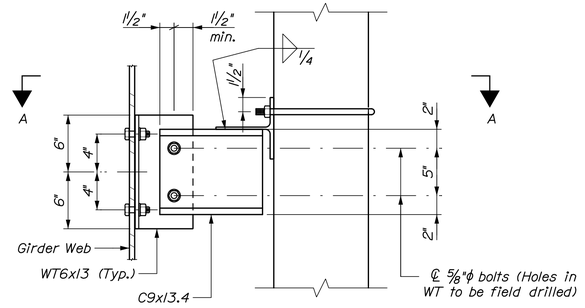
Filename: 129_Superstructure Reinforcing.dgn Division: Username: Date:8/27/2021



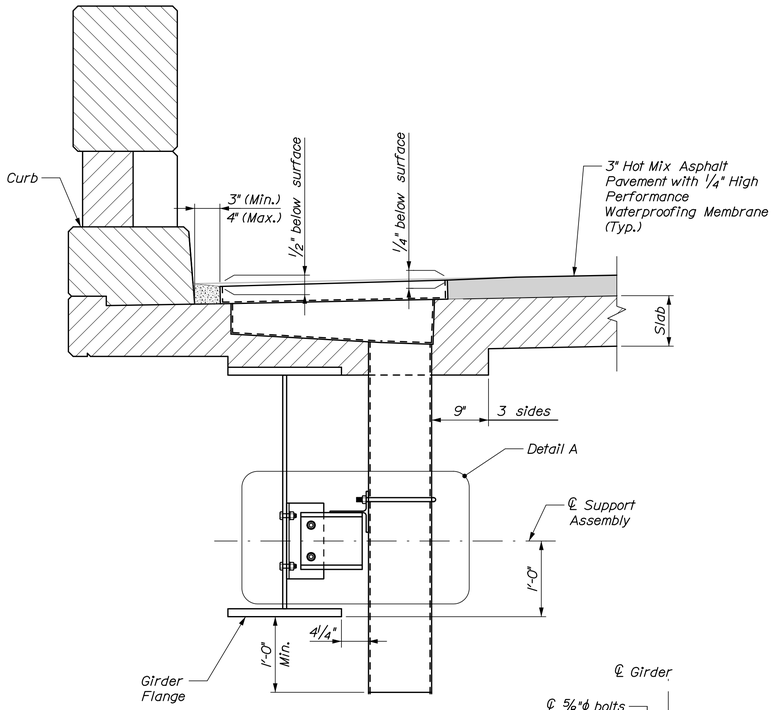
BRIDGE DRAIN PLAN AT CURB



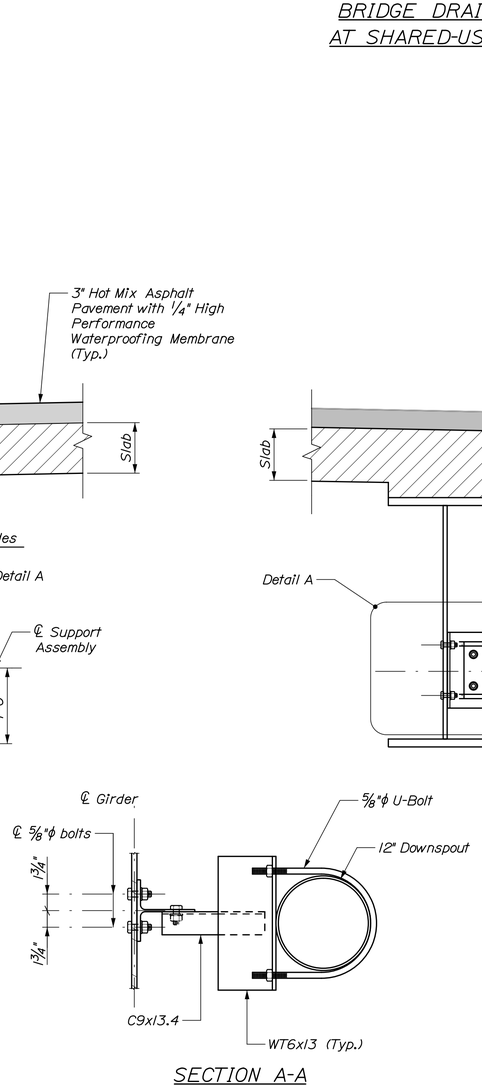
BRIDGE DRAIN PLAN AT SHARED-USE PATH



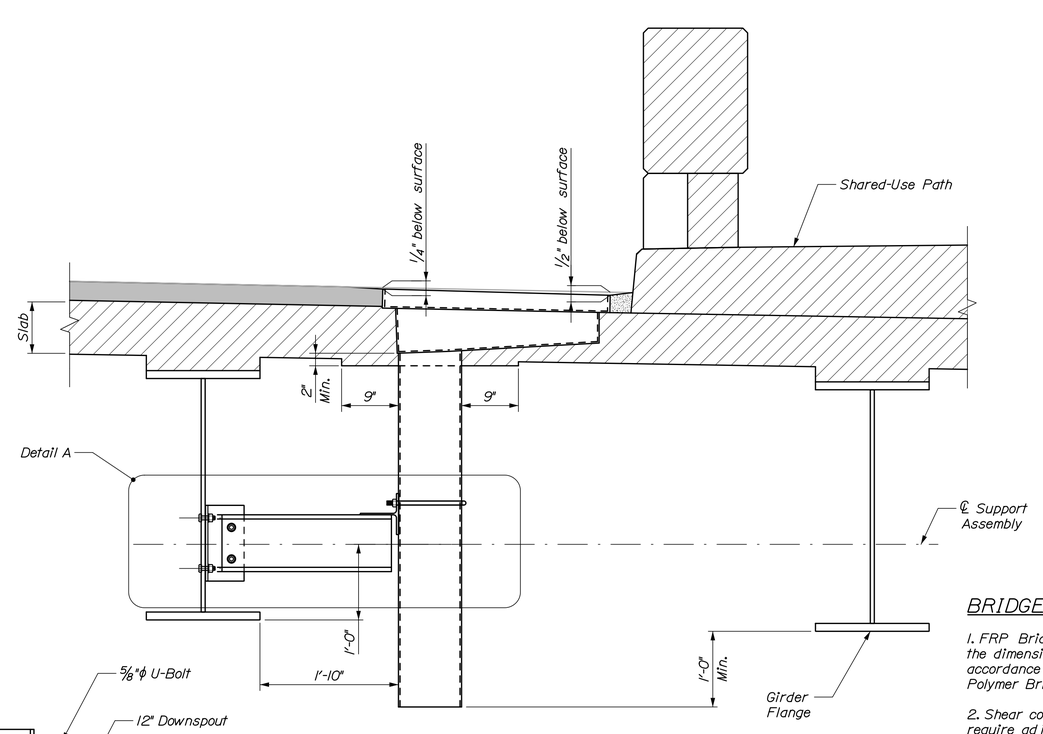
DETAIL A



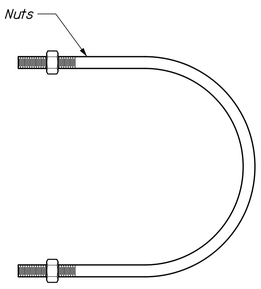
BRIDGE DRAIN ELEVATION AT CURB



SECTION A-A



BRIDGE DRAIN ELEVATION AT SHARED-USE PATH



U-BOLT DETAIL

BRIDGE DRAIN NOTES

1. FRP Bridge Drains shall be designed and detailed based on the dimensions for the bridge drain details shown, and in accordance with Special Provision Section 502, Fiber Reinforced Polymer Bridge Drain and Downspout.

2. Shear connectors welded to the top flange of steel beams may require adjustment to clear the bridge drains. No extra payment will be made for needed adjustment to the connectors.

3. Support Assembly components and hardware shall meet the grade and protective coating requirements identified on Standard Detail 502(24).

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

PROJ. MANAGER	M. Kersbergen		
DESIGN-DETAILED	AR	CW	08\21
CHECKED-REVIEWED	JS	KOS	08\21
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

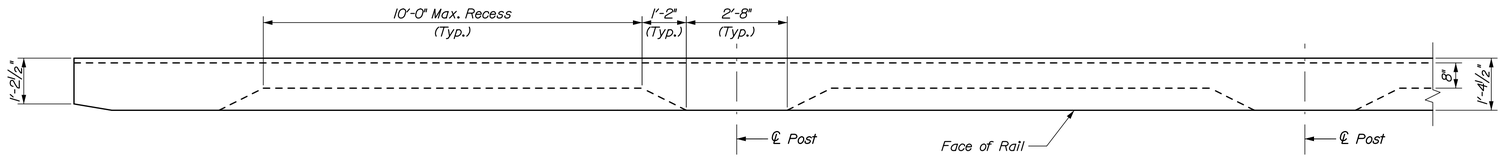
BRIDGE DRAIN DETAILS

SHEET NUMBER

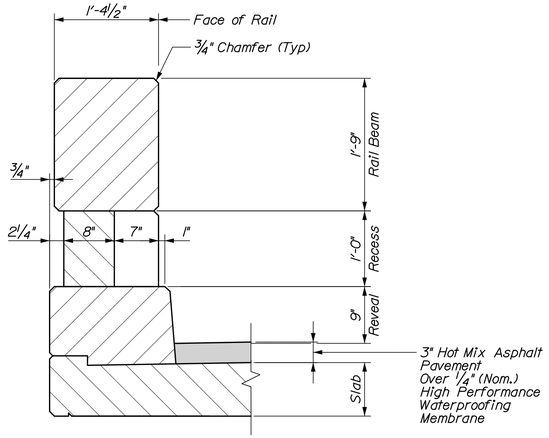
130

OF 144

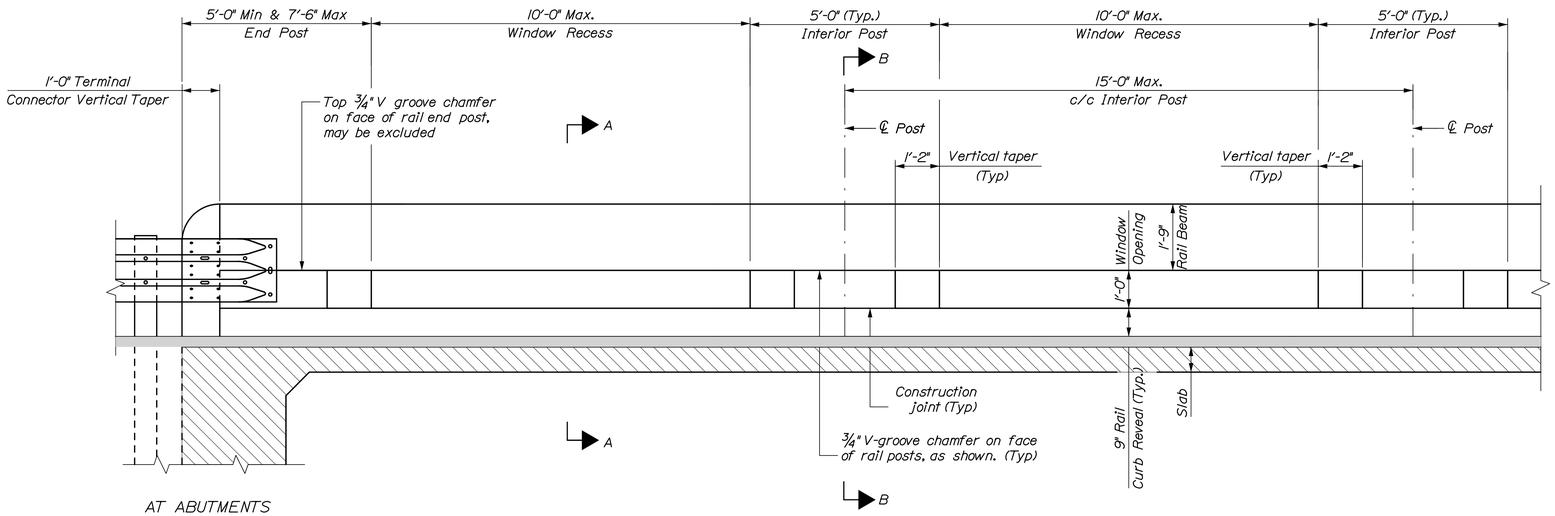
Filename: 130_Bridge Drain Details.dgn Division: Username: Date:8/27/2021



PLAN OF RAIL

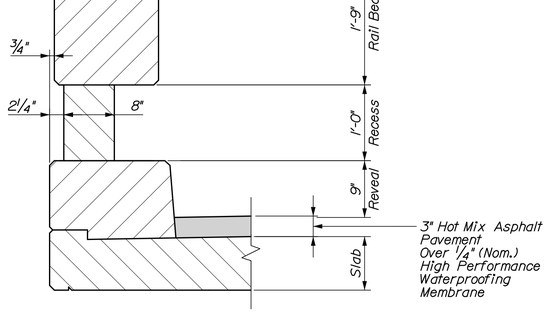


AT INTERIOR POST

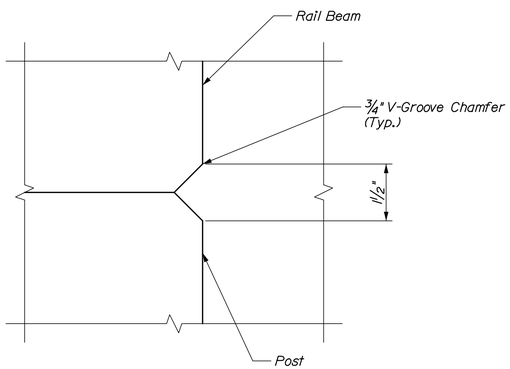


AT ABUTMENTS

ROADWAY ELEVATION OF RAIL



AT RECESS



V-GROOVE CHAMFER DETAIL

CONCRETE BARRIER RAILING NOTES

1. All work shall conform to supplemental specification section 526 - concrete barrier and related special provisions.

2. Vertical surfaces and recesses shall be plumb.

3. All contraction joints shall be located over the pier and centered on an interior post. Do not extend reinforcing through the contraction joint.

4. Reinforcing steel shall have a minimum cover of 2 inches.

5. Payment for guardrail anchorage will be considered incidental to the applicable concrete barrier pay item.

6. All reinforcement shall be stainless steel, Grade 75.

7. Provide reinforcing bar laps where required as follows:
   #4 = 2'-5"
   #5 = 3'-0"
   #6 = 3'-7"

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kershaw	
DESIGN-DETAILED	JS	CW 08\21
CHECKED-REVIEWED	SMH	SMH 08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

TRAFFIC RAILING
1 OF 2

SHEET NUMBER

131

OF 144

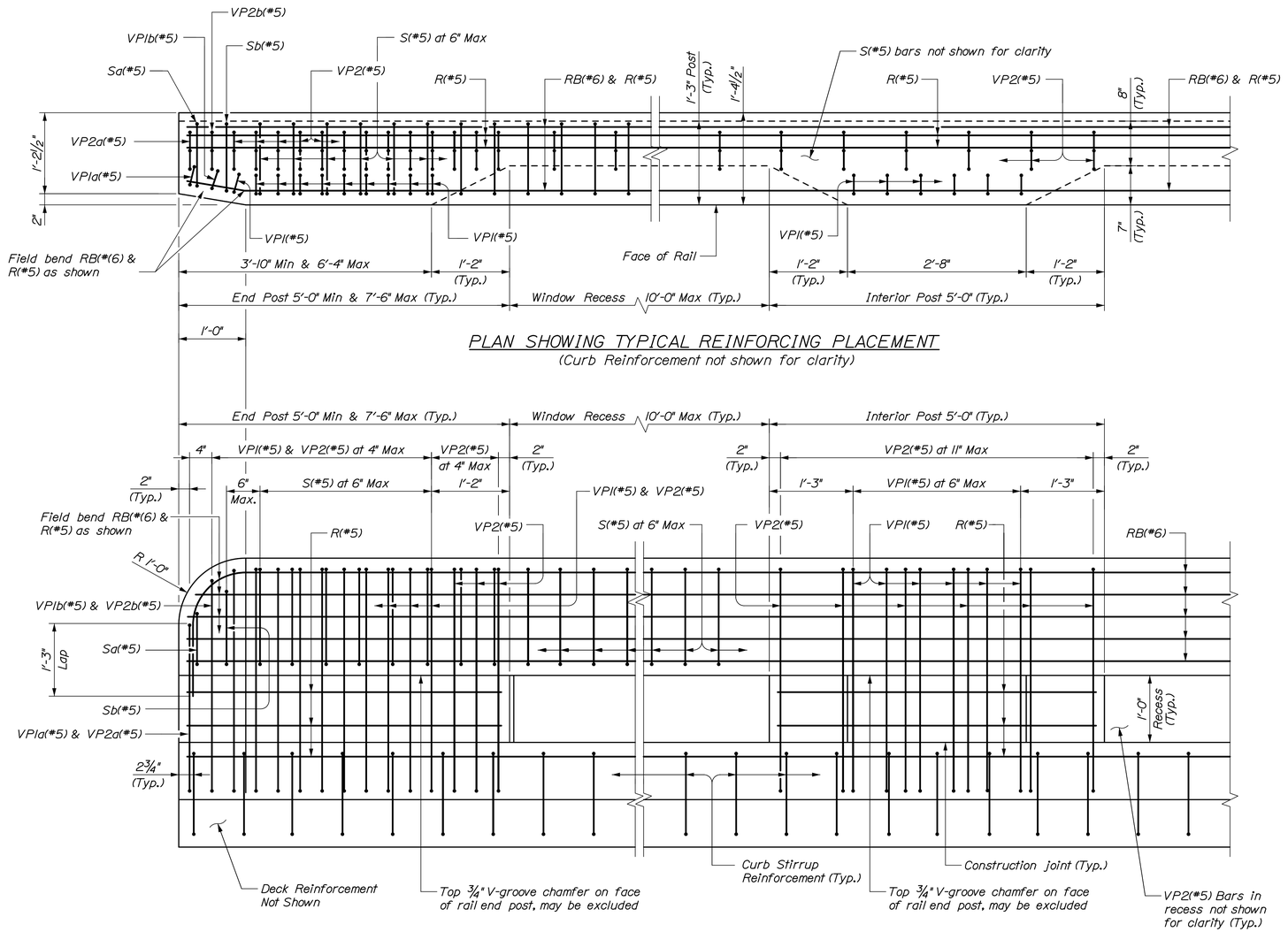
HNTB

Date:8/27/2021

Username:

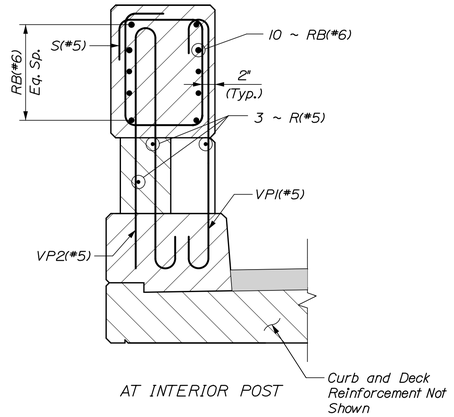
Division:

Filename: 131_Traffic Railing 1 of 2.dgn

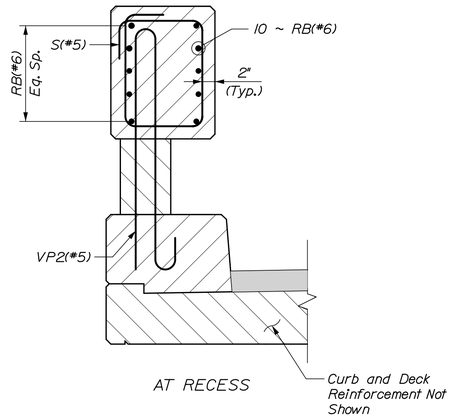


PLAN SHOWING TYPICAL REINFORCING PLACEMENT
(Curb Reinforcement not shown for clarity)

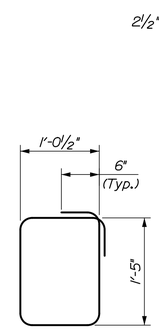
ELEVATION SHOWING TYPICAL REINFORCING PLACEMENT



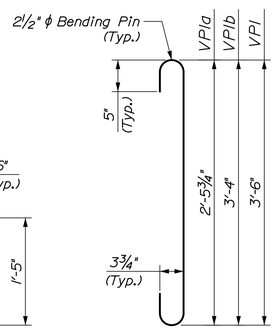
AT INTERIOR POST



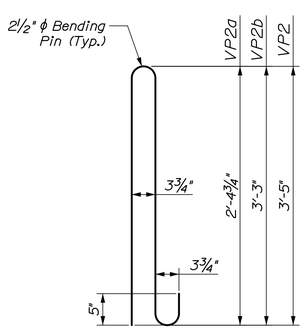
AT RECESS



BARS S(#5)
(Total Length = 5'-11")



BARS VPI(#5)
(Total Length VPI = 4'-4")
(Total Length VPIa = 3'-3 3/4")
(Total Length VPIb = 4'-2")



BARS VP2(#5)
(Total Length VP2 = 7'-3")
(Total Length VP2a = 5'-2 1/2")
(Total Length VP2b = 6'-11")

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kershberger	
DESIGN-DETAILED	JS	08\21
CHECKED-REVIEWED	SMH	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

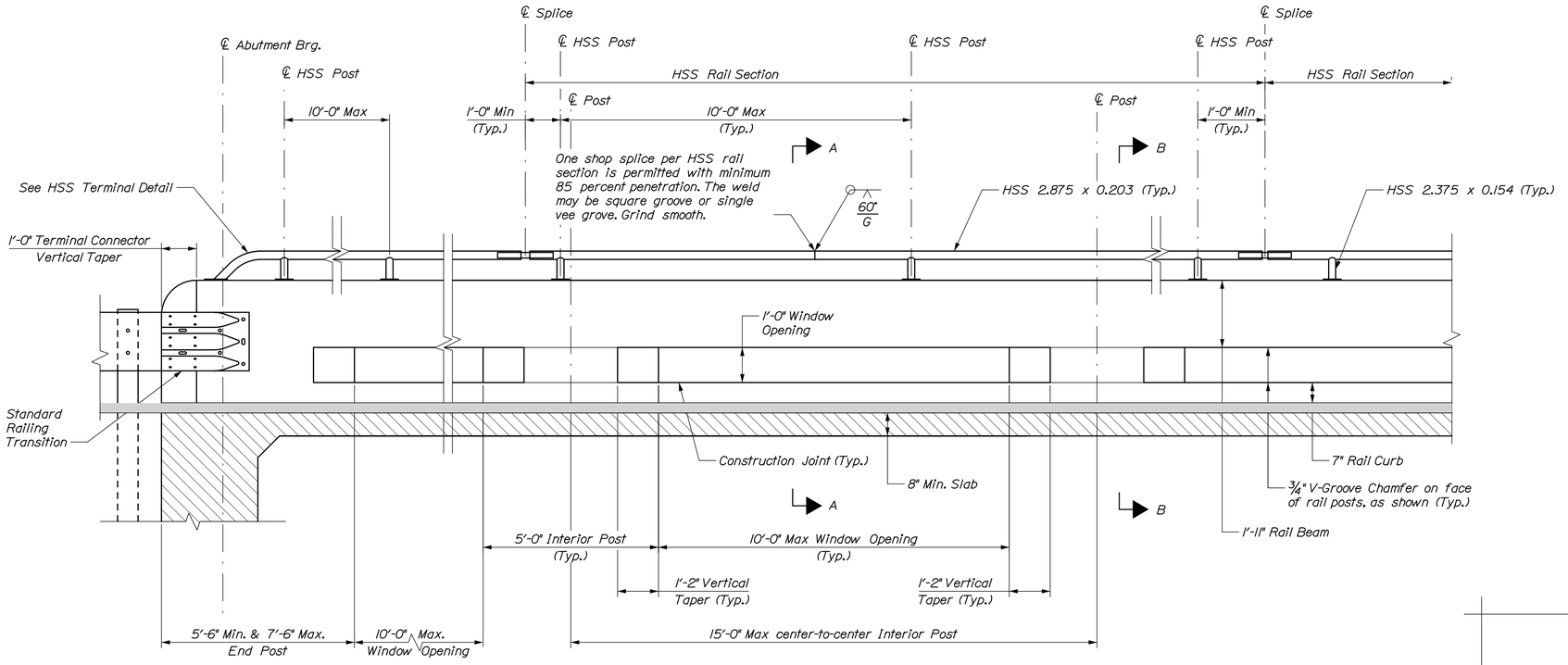
APPROACH ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

TRAFFIC RAILING
2 OF 2

SHEET NUMBER
132
OF 144

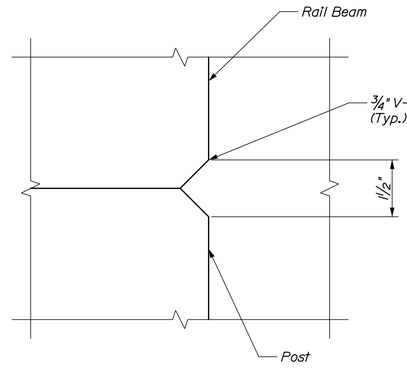
HNTB

Filename: 132_Traffic Railing 2 of 2.dgn Division: Username: Date:8/27/2021

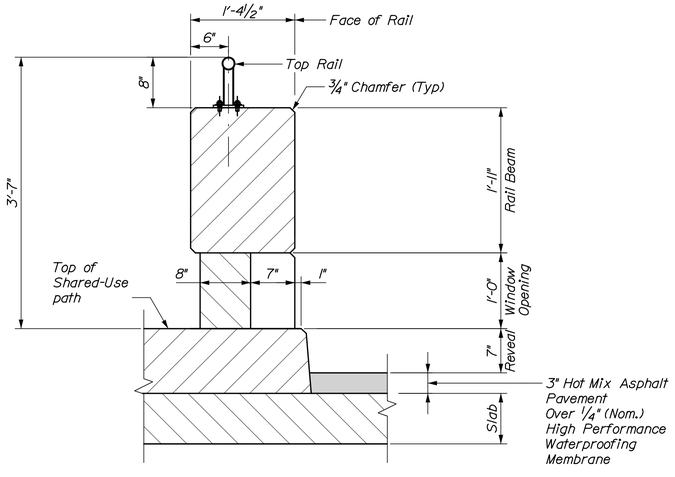


AT ABUTMENTS

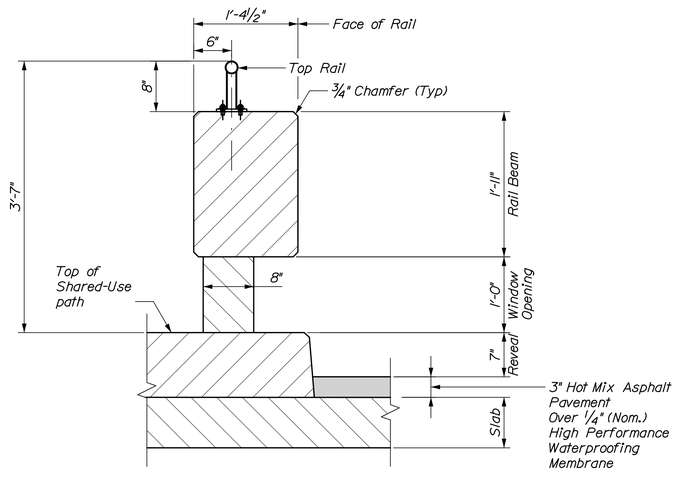
SEPARATION RAILING ELEVATION



V-GROOVE CHAMFER DETAIL



AT INTERIOR POST



AT WINDOW OPENING

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

PROJ. MANAGER	M. Kerstergen		
DESIGN-DETAILED	JS	08\21	
CHECKED-REVIEWED	SMH	08\21	
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

SEPARATION RAILING
1 OF 3

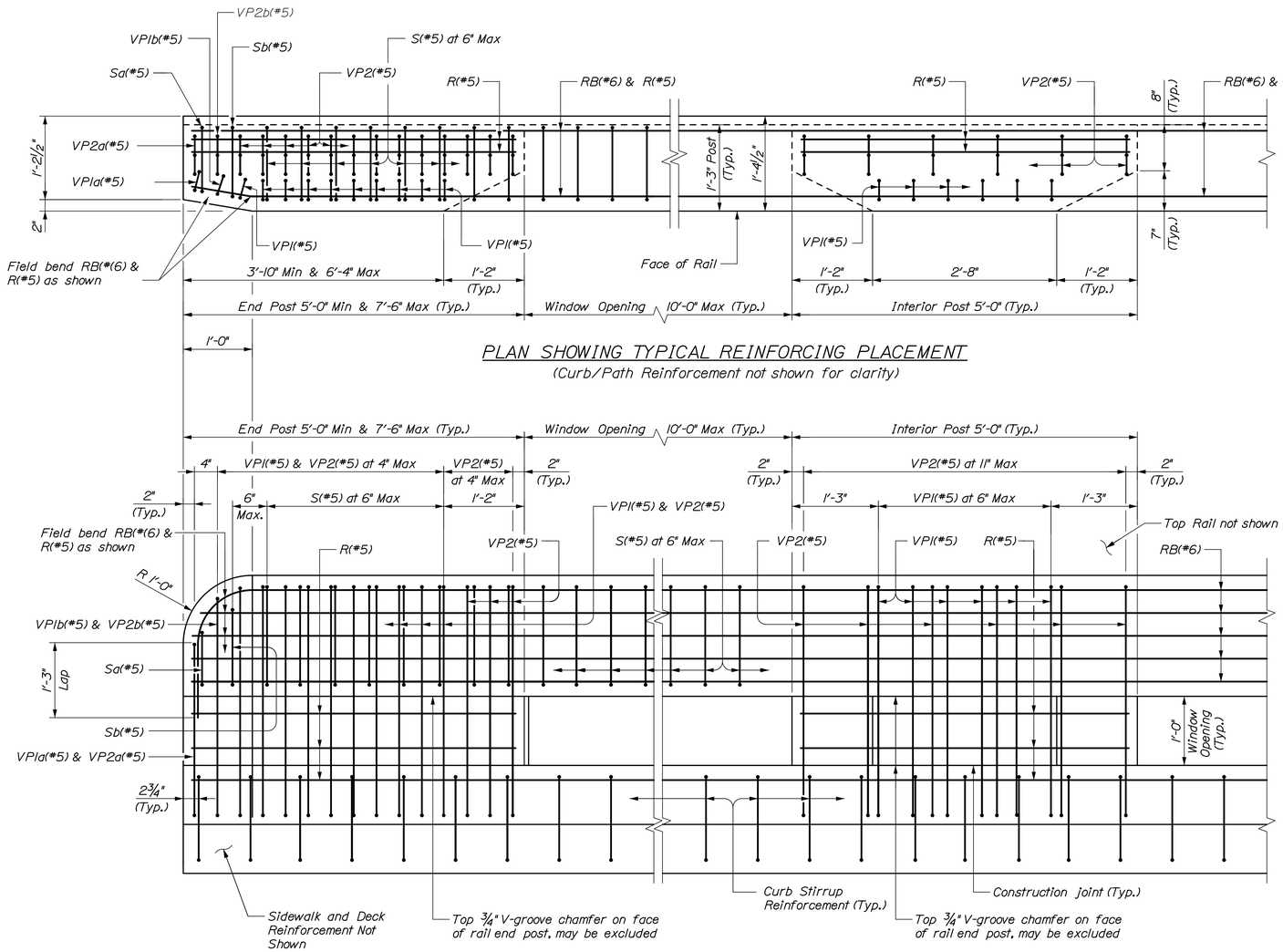
SHEET NUMBER

133

OF 144

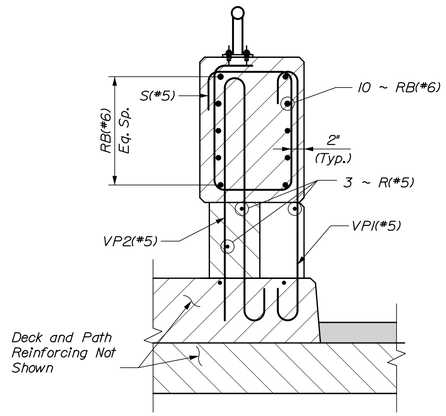
HNTB

Filename: 133_Separation Railing 1 of 3.dgn Division: Username: Date:8/27/2021



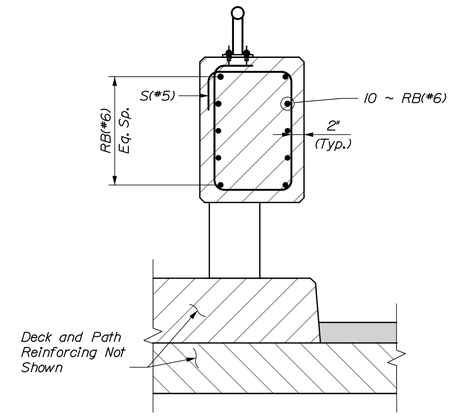
PLAN SHOWING TYPICAL REINFORCING PLACEMENT

(Curb/Path Reinforcement not shown for clarity)

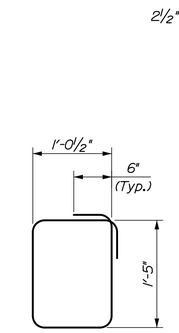


AT INTERIOR POST

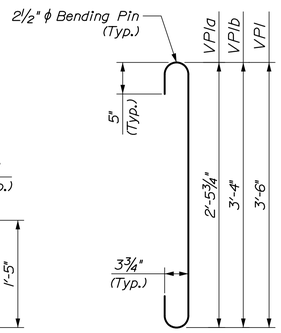
ELEVATION SHOWING TYPICAL REINFORCING PLACEMENT



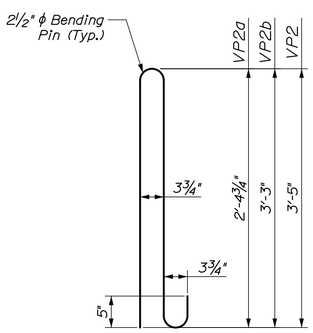
AT WINDOW OPENING



BARS S(#5)
(Total Length = 5'-11")



BARS VPI(#5)
(Total Length VPI = 4'-4")
(Total Length VPIa = 3'-3¾")
(Total Length VPIb = 4'-2")



BARS VP2(#5)
(Total Length VP2 = 7'-3")
(Total Length VP2a = 5'-2½")
(Total Length VP2b = 6'-11")

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kerstbergen	
DESIGN-DETAILED	JS	08\21
CHECKED-REVIEWED	SMH	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295 CUMBERLAND
FREEPORT

SEPARATION RAILING
2 OF 3

SHEET NUMBER

134

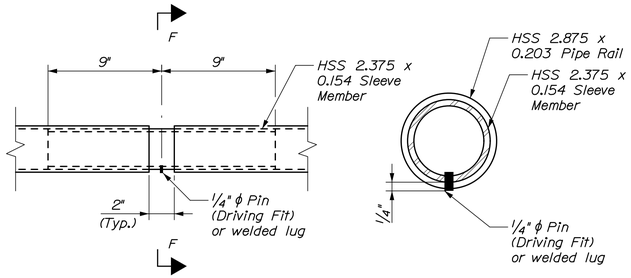
OF 144

Date:8/27/2021

Username:

Division:

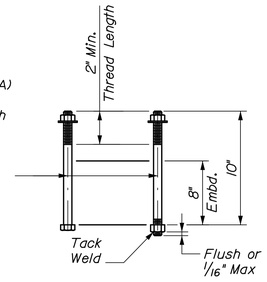
Filename: 134_Separation Railing 2 of 3.dgn



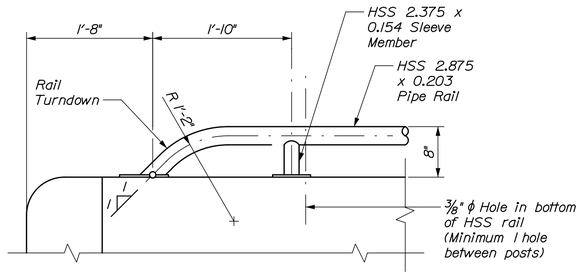
AT SPLICE JOINT SECTION F-F

PIPE SPLICE DETAILS

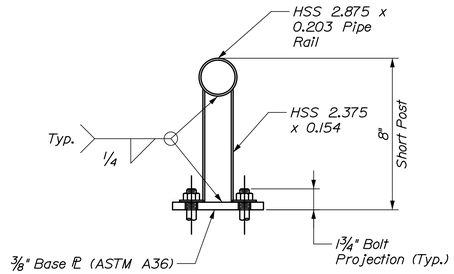
℄ 5/8" ϕ hex head anchor bolt or threaded rod (ASTM A307 Gr A) with one hardened steel washer (ASTM F436) placed under each hex nut (ASTM A563). One additional hex nut must be furnished and tack welded for each threaded rod



CAST-IN-PLACE ANCHOR BOLT OPTION



HSS RAIL TERMINAL DETAIL



TRANSVERSE SECTION

HAND RAIL NOTES

1. Provide ASTM A1085, A500 Gr B or A53 Gr B for all HSS.

2. Hot-dip Galvanize all metal components of steel rail system.

3. HSS rail sections must include not less than two posts, and no more than five.

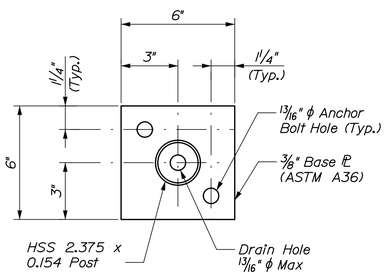
4. Round or chamfer exposed edges of HSS rail and HSS rail posts to approximately 1/16" by grinding.

5. Anchor bolts must be 5/8" Dia ASTM A307 Gr A fully threaded rods with one hex nut and one hardened steel washer (ASTM F436) each. Nuts must conform to ASTM A563 requirements. Embed fully threaded rods into parapet wall with an approved adhesive from the Qualified Products List. Minimum adhesive anchor embedment depth is 3". Anchor adhesive chosen must be able to achieve a nominal bond strength in tension of a single anchor, Na, of 5 kips (edge distance must be accounted for).

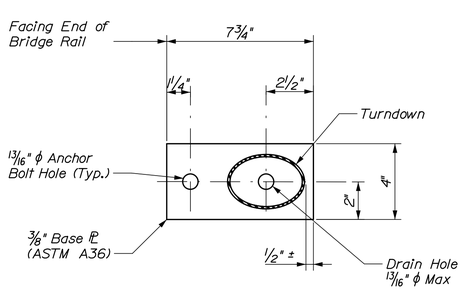
6. Optional cast-in-place anchor bolts must be 5/8" Dia ASTM A307 Gr A bolts (or threaded rods with one tack welded hex nut each) with one hex nut and one hardened steel washer (ASTM F436) at each bolt. Nuts must conform to ASTM A563 requirements.

NOTE

1. See Traffic Railing for Concrete Barrier Railing notes.



POST BASE PLATE PLAN



RAIL TURNDOWN BASE PLATE PLAN

HSS RAIL DETAILS

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721 BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kerstetgen	
DESIGN-DETAILED	JS	08\21
CHECKED-REVIEWED	SMH	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

SEPARATION RAILING
3 OF 3

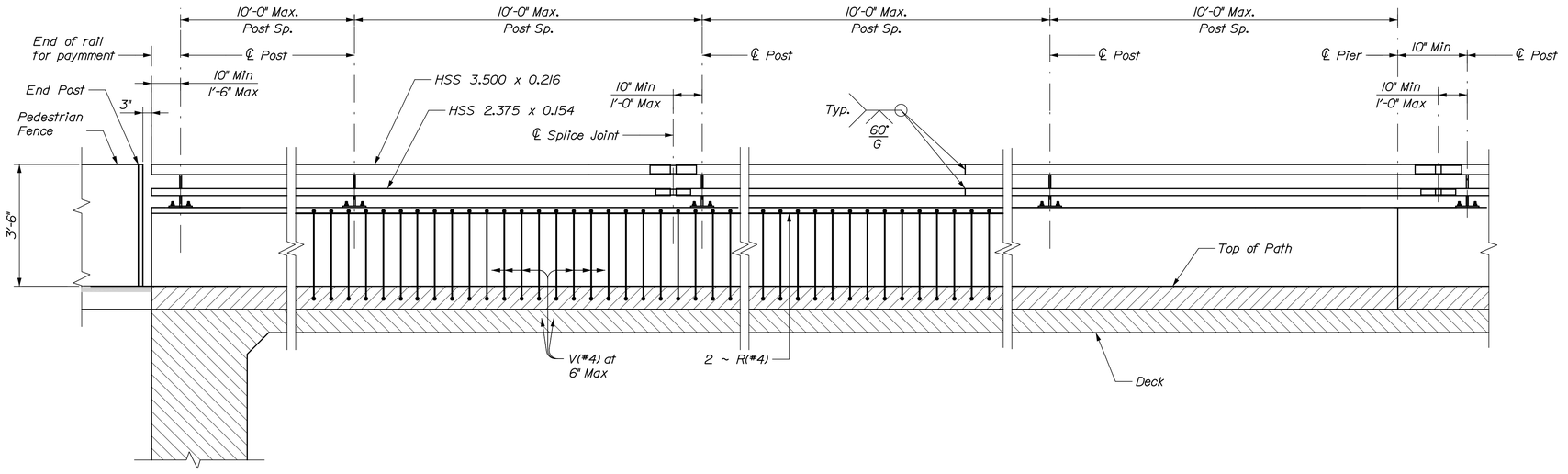
SHEET NUMBER

135

OF 144

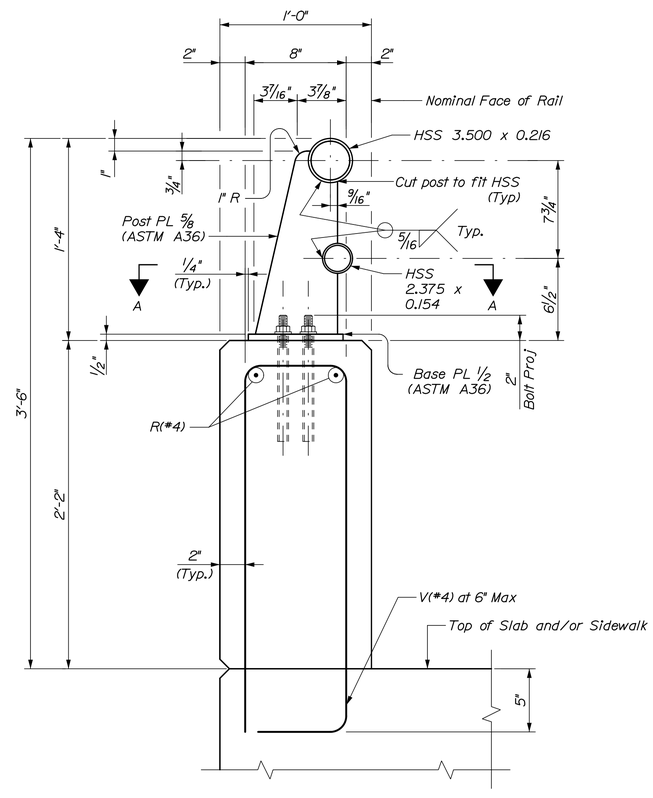
HNTB

Filename: 135_Separation Railing 3 of 3.dgn Division: Username: Date:8/27/2021

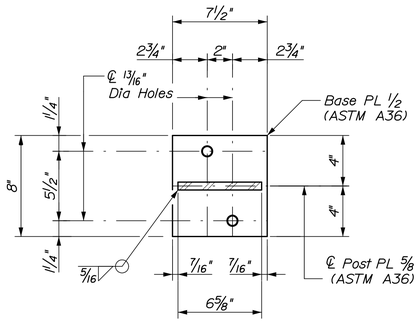


AT ABUTMENTS

PATH ELEVATION OF RAIL

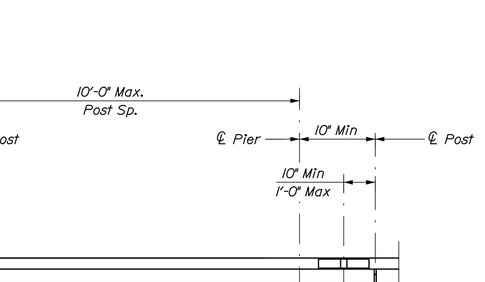


SECTION

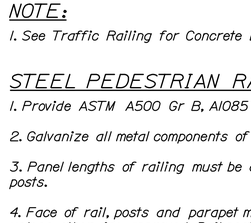


SECTION A-A

Showing base plate detail



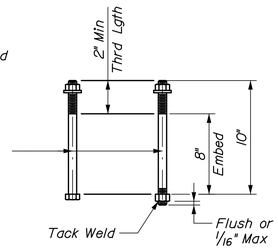
AT SPLICES JOINTS



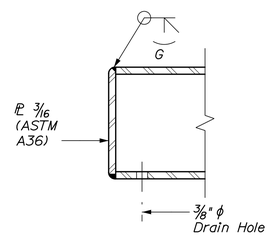
SECTION B-B

PIPE SPLICE DETAIL

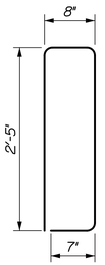
℄ 5/8" ϕ hex head anchor bolt or threaded rod (ATSM A307 Gr A) with one hardened steel washer (ASTM F436) placed under each hex nut (ASTM A563). One additional hex nut must be furnished and tack welded for each threaded rod.



CAST-IN-PLACE ANCHOR BOLT OPTIONS



RAIL CAP DETAIL



BARS V (#4)
(Total Length = 6'-1")

NOTE:

1. See Traffic Railing for Concrete Barrier Railing Notes

STEEL PEDESTRIAN RAILING NOTES:

1. Provide ASTM A500 Gr B, A1085 or A53 Gr B for all HSS.

2. Galvanize all metal components of steel rail system.

3. Panel lengths of railing must be attached to a minimum of three posts.

4. Face of rail, posts and parapet must be vertical transversely unless otherwise approved. Rail posts must be perpendicular to top of adjacent concrete parapet grade.

5. Round or chamfer all exposed edges of steel components 1/16" by grinding prior to galvanizing.

6. Anchor bolts must be 5/8" Dia ASTM A307 Gr A fully threaded rods with one hex nut and one hardened steel washer (ASTM F436). Nuts must conform to ASTM A563 requirements. Embed fully threaded rods into parapet using an approved anchorage adhesive per the Qualified Products List. Minimum adhesive anchor embedment depth is 7". Anchor adhesive chosen must be able to achieve a nominal bond strength in tension of a single anchor, Na, 8.5 kips (edge distance must be accounted for). Submit signed and sealed calculations or the manufacturer's published literature showing the proposed anchor adhesive's ability to develop this load to the Engineer for approval prior to use.

7. Optional cast-in-place anchor bolts must be 5/8" Dia ASTM A307 Gr A with one hardened steel washer (ASTM F436) placed under each hex nut or ASTM A307 Gr A threaded rods with one tack welded hex nut each and with one hex nut with one hardened steel washer (ASTM F436) each. Nuts must conform to ASTM A563 requirements.

8. One shop splice per steel rail panel is permitted (with minimum 85 percent penetration). The weld may be square groove or single vee groove. Grind smooth.

9. For all rails, submit Working Drawings showing section lengths, splice locations, rail post spacing and anchor bolt setting for approval.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE PLANS

BRIDGE No. 5721

SIGNATURE

P.E. NUMBER

DATE

	BY	DATE
PROJ. MANAGER	M. Kerstetter	
DESIGN-DETAILED	JS	08\21
CHECKED-REVIEWED	SMH	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

PEDESTRIAN RAILING DETAILS

SHEET NUMBER

136

OF 144

HNTB

Date:8/27/2021

Username:

Division:

Filename: 136_Pedestrian Railing Details.dgn

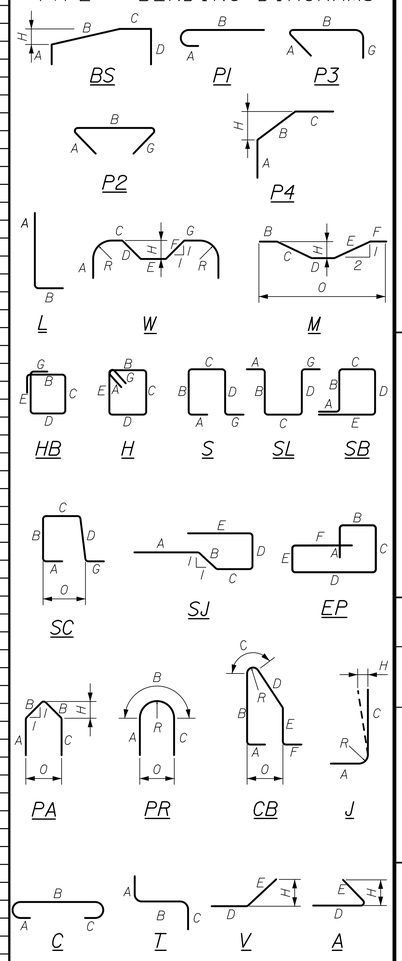
STRAIGHT BARS

MARK	QTY.	LENGTH	LOCATION
			ABUTMENT 1
A500	30	24'-0"	Phase 1 Pile Cap - Long & in WW (T&B, NF)
A501	11	32'-1"	Phase 1 Pile Cap - Long (FF)
A502	9	30'-4"	Phase 1 Stem - Long (FF & 1 on NF)
A503	1	18'-1"	Phase 1 Stem - Long in WW (NF)
A504	2	6'-0"	Phase 1 Stem - Long in WW (NF&FF)
A505	2	4'-5"	Phase 1 Stem - Long in WW (NF&FF)
A506	30	24'-3"	Phase 2 Pile Cap - Long (T&B and NF)
A507	4	17'-2"	Phase 2 Pile Cap - Long (T)
A508	11	33'-7"	Phase 2 Pile Cap - Long (FF)
A509	2	23'-5"	Phase 2 Stem - Long (NF&FF)
A510	2	10'-1"	Phase 2 Stem - Long (NF&FF)
A511	8	30'-10"	Phase 2 Stem - Long (FF)
A512	1	17'-10"	Phase 2 Stem - Long in WW (NF)
A513	2	4'-8"	Phase 2 Stem - Long in WW (NF&FF)
A514	32	3'-0"	Dowels through girder holes (N.F.)
A615	140	6'-5"	Vertical Bars (N.F.)
A700	140	9'-0"	Pile Cap - Vertical (FF)
A900	11	15'-11"	Phase 1 Pile Cap - Long in WW (FF)
A901	8	18'-1"	Phase 1 Stem - Long in WW (FF)
A902	11	14'-11"	Phase 2 Pile Cap - Long in WW (FF)
A903	8	17'-10"	Phase 2 Stem - Long in WW (FF)
			ABUTMENT 2
B500	30	24'-0"	Phase 1 Pile Cap - Long & in WW (T&B, NF)
B501	11	32'-1"	Phase 1 Pile Cap - Long (FF)
B502	9	30'-4"	Phase 1 Stem - Long (FF & 1 on NF)
B503	1	18'-1"	Phase 1 Stem - Long in WW (NF)
B504	2	6'-0"	Phase 1 Stem - Long in WW (NF&FF)
B505	2	4'-5"	Phase 1 Stem - Long in WW (NF&FF)
B506	30	24'-3"	Phase 2 Pile Cap - Long (T&B and NF)
B507	4	17'-2"	Phase 2 Pile Cap - Long (T)
B508	11	33'-7"	Phase 2 Pile Cap - Long (FF)
B509	2	23'-5"	Phase 2 Stem - Long (NF&FF)
B510	2	10'-1"	Phase 2 Stem - Long (NF&FF)
B511	8	30'-10"	Phase 2 Stem - Long (FF)
B512	1	17'-10"	Phase 2 Stem - Long in WW (NF)
B513	2	4'-8"	Phase 2 Stem - Long in WW (NF&FF)
B514	32	3'-0"	Dowels through girder holes (N.F.)
B615	140	6'-5"	Vertical Bars (N.F.)
B700	140	9'-0"	Pile Cap - Vertical (FF)
B900	11	15'-11"	Phase 1 Pile Cap - Long in WW (FF)
B901	8	18'-1"	Phase 1 Stem - Long in WW (FF)
B902	11	14'-11"	Phase 2 Pile Cap - Long in WW (FF)
B903	8	17'-10"	Phase 2 Stem - Long in WW (FF)

BENT BARS

MARK	QTY.	LENGTH	TYPE	A	B	C	D	E	F	G	H	O	R	LOCATION
								ABUTMENT 1						
A550	41	5'-0"	S	0'-0"	1'-0"	3'-0"	1'-0"			0'-0"				Wingwall - Side U-Bars
A553	3	18'-0"	S	0'-0"	7'-6"	3'-0"	7'-6"			0'-0"				Phase 1 WW - Vertical U-Bars
A554	3	7'-6"	S	0'-0"	2'-3"	3'-0"	2'-3"			0'-0"				Phase 1 WW - Vertical U-Bars (T)
A555	7	21'-4"	S	0'-0"	9'-2"	3'-0"	9'-2"			0'-0"				Phase 1 WW - Vertical U-Bars
A556	7	8'-10"	S	0'-0"	2'-11"	3'-0"	2'-11"			0'-0"				Phase 1 WW - Vertical U-Bars (T)
A557	3	10'-0"	P4		7'-6"	2'-6"					3'-4 1/4"			Phase 1 WW - Top Bent Bar
A558	3	17'-4"	S	0'-0"	7'-2"	3'-0"	7'-2"			0'-0"				Phase 2 WW - Vertical U-Bars
A559	3	7'-4"	S	0'-0"	2'-2"	3'-0"	2'-2"			0'-0"				Phase 2 WW - Vertical U-Bars (T)
A560	6	20'-8"	S	0'-0"	8'-10"	3'-0"	8'-10"			0'-0"				Phase 2 WW - Vertical U-Bars
A561	6	7'-10"	S	0'-0"	2'-5"	3'-0"	2'-5"			0'-0"				Phase 2 WW - Vertical U-Bars (T)
A562	3	8'-8"	P4		6'-5"	2'-3"					2'-10 1/2"			Phase 2 WW - Top Bent Bar
A563	30	3'-11 3/4"	P3	0'-5 1/2"	3'-0"					0'-6"				Pile Cap - Ties
A564	61	9'-1 3/4"	P4	1'-0"	5'-7 3/4"	2'-6"					4'-0"			Pile Cap - Approach Slab Bars
A565	70	9'-6"	P4	0'-0"	3'-6"	6'-0"					2'-5 1/2"			Stem - Deck Bars
A566	70	12'-9"	L	10'-3"	2'-6"									Stem - Deck Bars
A567	69	7'-8"	L	6'-10"	0'-10"									Pile Cap - Vertical L-bars (F.F)
A568	28	10'-3"	S	0'-0"	0'-10"	8'-7"	0'-10"			0'-0"				Stem - Bent bars between girders
A569	2	13'-3"	L	12'-5"	0'-10"									Phase 1 Wingwall - Horiz. L-Bars
A570	1	12'-9"	L	11'-11"	0'-10"									Phase 1 Wingwall - Horiz. L-Bars
A571	1	11'-2"	L	10'-4"	0'-10"									Phase 1 Wingwall - Horiz. L-Bars
A572	2	12'-3"	L	11'-5"	0'-10"									Phase 2 Wingwall - Horiz. L-Bars
A573	1	11'-5"	L	10'-7"	0'-10"									Phase 2 Wingwall - Horiz. L-Bars
A574	1	9'-11"	L	9'-1"	0'-10"									Phase 2 Wingwall - Horiz. L-Bars
A575	4	5'-8"	L	4'-10"	0'-10"									Closure Pour - L-Bars
A576	4	7'-2"	L	6'-4"	0'-10"									Closure Pour - L-Bars
A651	117	12'-8"	S	0'-0"	4'-10"	3'-0"	4'-10"			0'-0"				Pile Cap - Vertical U-Bars
A652	136	6'-2"	S	0'-0"	1'-7"	3'-0"	1'-7"			0'-0"				Pile Cap - U-Bar Caps
A677	140	7'-6"	S	0'-0"	2'-3"	3'-0"	2'-3"			0'-0"				Stem - U-Bar Caps
								ABUTMENT 2						
B550	41	5'-0"	S	0'-0"	1'-0"	3'-0"	1'-0"			0'-0"				Wingwall - Side U-Bars
B553	3	18'-0"	S	0'-0"	7'-6"	3'-0"	7'-6"			0'-0"				Phase 1 WW - Vertical U-Bars
B554	3	7'-6"	S	0'-0"	2'-3"	3'-0"	2'-3"			0'-0"				Phase 1 WW - Vertical U-Bars (T)
B555	7	21'-4"	S	0'-0"	9'-2"	3'-0"	9'-2"			0'-0"				Phase 1 WW - Vertical U-Bars
B556	7	8'-10"	S	0'-0"	2'-11"	3'-0"	2'-11"			0'-0"				Phase 1 WW - Vertical U-Bars (T)
B557	3	10'-0"	P4		7'-6"	2'-6"					3'-4 1/4"			Phase 1 WW - Top Bent Bar
B558	3	17'-4"	S	0'-0"	7'-2"	3'-0"	7'-2"			0'-0"				Phase 2 WW - Vertical U-Bars
B559	3	7'-4"	S	0'-0"	2'-2"	3'-0"	2'-2"			0'-0"				Phase 2 WW - Vertical U-Bars (T)
B560	6	20'-8"	S	0'-0"	8'-10"	3'-0"	8'-10"			0'-0"				Phase 2 WW - Vertical U-Bars
B561	6	7'-10"	S	0'-0"	2'-5"	3'-0"	2'-5"			0'-0"				Phase 2 WW - Vertical U-Bars (T)
B562	3	8'-8"	P4		6'-5"	2'-3"					2'-10 1/2"			Phase 2 WW - Top Bent Bar
B563	30	3'-11 3/4"	P3	0'-5 1/2"	3'-0"					0'-6"				Pile Cap - Ties
B564	61	9'-1 3/4"	P4	1'-0"	5'-7 3/4"	2'-6"					4'-0"			Pile Cap - Approach Slab Bars
B565	70	9'-6"	P4	0'-0"	3'-6"	6'-0"					2'-5 1/2"			Stem - Deck Bars
B566	70	12'-9"	L	10'-3"	2'-6"									Stem - Deck Bars
B567	69	7'-8"	L	6'-10"	0'-10"									Pile Cap - Vertical L-bars (F.F)
B568	28	10'-3"	S	0'-0"	0'-10"	8'-7"	0'-10"			0'-0"				Stem - Bent bars between girders
B569	2	13'-3"	L	12'-5"	0'-10"									Phase 1 Wingwall - Horiz. L-Bars
B570	1	12'-9"	L	11'-11"	0'-10"									Phase 1 Wingwall - Horiz. L-Bars
B571	1	11'-2"	L	10'-4"	0'-10"									Phase 1 Wingwall - Horiz. L-Bars
B572	2	12'-3"	L	11'-5"	0'-10"									Phase 2 Wingwall - Horiz. L-Bars
B573	1	11'-5"	L	10'-7"	0'-10"									Phase 2 Wingwall - Horiz. L-Bars
B574	1	9'-11"	L	9'-1"	0'-10"									Phase 2 Wingwall - Horiz. L-Bars
B575	4	5'-8"	L	4'-10"	0'-10"									Closure Pour - L-Bars
B576	4	7'-2"	L	6'-4"	0'-10"									Closure Pour - L-Bars
B651	117	12'-8"	S	0'-0"	4'-10"	3'-0"	4'-10"			0'-0"				Pile Cap - Vertical U-Bars
B652	136	6'-2"	S	0'-0"	1'-7"	3'-0"	1'-7"			0'-0"				Pile Cap - U-Bar Caps
B677	140	7'-6"	S	0'-0"	2'-3"	3'-0"	2'-3"			0'-0"				Stem - U-Bar Caps

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 A955, GRADE 75

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

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 scheduled on the plans.

3. All reinforcing shall be stainless steel unless otherwise noted.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE PLANS

BRIDGE No. 5721

	BY	DATE
PROJ. MANAGER	M. Kerstbergen	
DESIGN-DETAILED	CW	08\21
CHECKED-REVIEWED	KOS	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

REINFORCING SCHEDULE ABUTMENTS

SHEET NUMBER

137

OF 144

Filename: 137_Reinforcing Schedule Abutments.dgn Division:

Username:

Date:8/27/2021

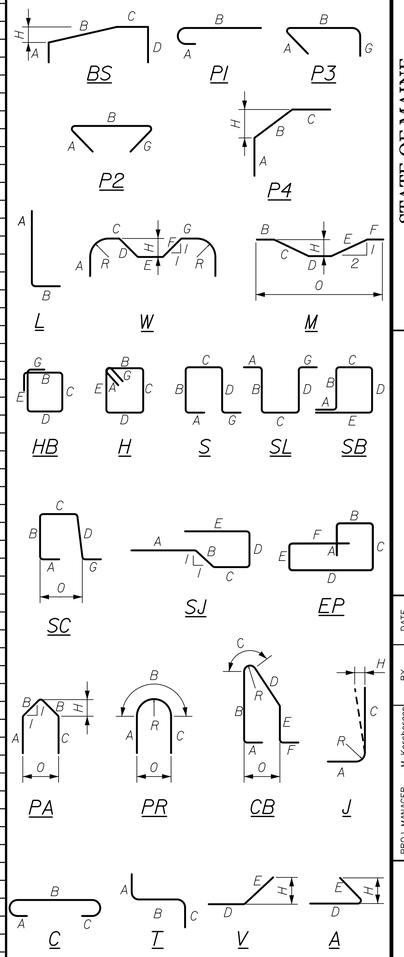
STRAIGHT BARS

MARK	QTY.	LENGTH	LOCATION	MARK	QTY.	LENGTH	LOCATION
			PIER				
P500	66	8'-6"	Pile Cap - Trans (T)				
P501	18	39'-6"	Phase 1 Pile Cap - Long (T&B)				
P502	18	28'-3"	Phase 2 Pile Cap - Long (T&B)				
P503	14	24'-11"	Phase 1 Stem - Long (EF)				
P504	14	27'-3"	Phase 1 Stem - Long (EF)				
P505	14	29'-7"	Phase 1 Stem - Long (EF)				
P506	8	36'-1"	Phase 1 Stem - Long (EF)				
P507	14	23'-8"	Phase 2 Stem - Long (EF)				
P508	14	25'-12"	Phase 2 Stem - Long (EF)				
P509	14	28'-4"	Phase 2 Stem - Long (EF)				
P510	8	34'-10"	Phase 2 Stem - Long (EF)				
P700	66	8'-6"	Pile Cap - Trans (B)				
P701	4	5'-7"	Stem - Vertical (EF)				
P702	4	7'-1"	Stem - Vertical (EF)				
P703	4	8'-7"	Stem - Vertical (EF)				
P704	4	10'-1"	Stem - Vertical (EF)				
P705	4	11'-7"	Stem - Vertical (EF)				
P706	4	13'-1"	Stem - Vertical (EF)				
P707	4	14'-7"	Stem - Vertical (EF)				
P708	4	16'-1"	Stem - Vertical (EF)				
P709	4	17'-7"	Stem - Vertical (EF)				
P710	4	19'-1"	Stem - Vertical (EF)				
P711	4	20'-7"	Stem - Vertical (EF)				
P712	4	22'-1"	Stem - Vertical (EF)				
P713	4	23'-7"	Stem - Vertical (EF)				
P714	III	20'-11"	Stem - Vertical (NF)				
P715	III	24'-4"	Stem - Vertical (FF)				

BENT BARS

MARK	QTY.	LENGTH	TYPE	A	B	C	D	E	F	G	H	O	R	LOCATION
							PIER							
P550	6	25'-5"	P4	0'-0"	21'-9"	3'-8"					7'-2 3/4"			Stem - Side S&T Bars
P551	42	21'-4"	S	0'-0"	9'-4"	2'-8"	9'-4"			0'-0"				Stem - Horizontal U-Bars
P552	8	8'-8"	S	0'-0"	3'-0"	2'-8"	3'-0"			0'-0"				Stem - Horizontal U-Bars
P750	113	11'-0"	L	9'-10"	1'-2"									Pile Cap - Vertical (NF)
P751	113	7'-7"	L	6'-5"	1'-2"									Pile Cap - Vertical (FF)
P752	137	6'-6"	S	0'-0"	1'-11"	2'-8"	1'-11"			0'-0"				Stem - Vertical U-Bars
P950	42	13'-2"	L	11'-7"	1'-7"									Stem - Horizontal Bars (T)
P951	6	11'-3"	L	9'-8"	1'-7"									Stem - Horizontal Bars (T)

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 A955, GRADE 75

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

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 scheduled on the plans.

3. All reinforcing shall be stainless steel unless otherwise noted.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kerstbergen	
DESIGN-DETAILED	JS	08\21
CHECKED-REVIEWED	UM	KOS 08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
FREEPORT CUMBERLAND

REINFORCING SCHEDULE PIERS

SHEET NUMBER

138

OF 144

Username:

Date:8/27/2021

Division:

Filename: 138_Reinforcing Schedule Pier.dgn

Username:

Date:8/27/2021

Filename: 139_Reinforcing Schedule Superstructure.dgn

Division:

STRAIGHT BARS

MARK	QTY.	LENGTH	LOCATION
			SUPERSTRUCTURE DECK
S500	958	35'-3"	Transverse - Deck
S501	1116	42'-0"	Longitudinal - Deck, Sidewalk and Curb
S502	32	3'-0"	Scuppers
S503	240	1'-6"	Sidewalk
S504	958	37'-2"	Transverse - Deck
S600	164	38'-6"	Longitudinal - Deck and Sidewalk (over pier only)
			APPROACH SLAB
AS501	32	35'-5"	Longitudinal Bar
AS502	32	16'-3"	Longitudinal Bar
AS503	32	11'-3"	Longitudinal Bar
AS601	244	15'-2"	Transverse Bar

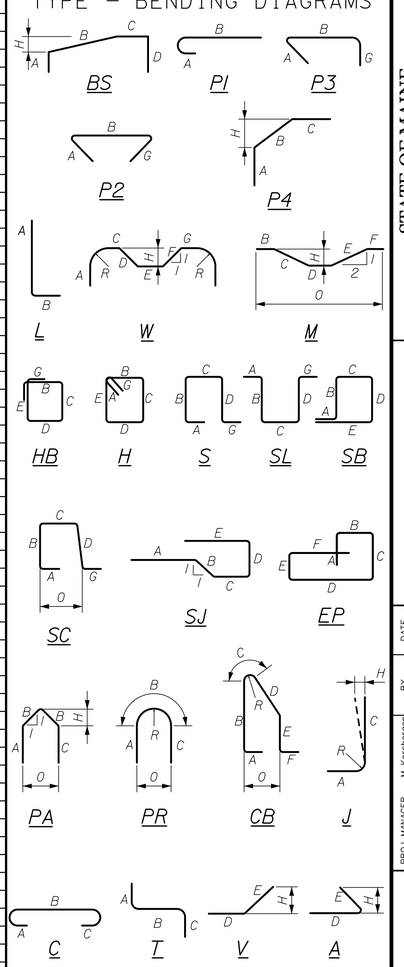
BENT BARS

MARK	QTY.	LENGTH	TYPE	A	B	C	D	E	F	G	H	O	R	LOCATION
							SUPERSTRUCTURE DECK							
S350	320	0'-10"	L	0'-7"	0'-3"									Raised Median
V	479	6'-1"	See sheet 138											Pedestrian Railing
S450	160	1'-2"	L	0'-6"	0'-8"									Raised Median
S451	160	1'-1"	L	0'-5"	0'-8"									Raised Median
VP1	220	4'-4"	See sheet 134 and 136											Traffic Railing and Separation Railing
VP1a	4	3'-3 3/4"	See sheet 134 and 136											Traffic Railing and Separation Railing
VP1b	4	4'-2"	See sheet 134 and 136											Traffic Railing and Separation Railing
VP2	393	7'-10 1/2"	See sheet 134 and 136											Traffic Railing and Separation Railing
VP2a	4	5'-2 1/2"	See sheet 134 and 136											Traffic Railing and Separation Railing
VP2b	4	6'-11"	See sheet 134 and 136											Traffic Railing and Separation Railing
S550	240	5'-9 1/2"	SC	0'-10"	1'-4 3/4"	1'-4"	1'-4 3/4"			0'-10"		1'-5 3/8"		Curb

MARK	QTY.	LENGTH	LOCATION

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 A955, GRADE 75

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

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 scheduled on the plans.

3. All reinforcing shall be stainless steel unless otherwise noted.

HNTB

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

02172600

WIN 021726.00

BRIDGE No. 5721

BRIDGE PLANS

	BY	DATE
PROJ. MANAGER	M. Kersbergen	
DESIGN-DETAILED	AR	08\21
CHECKED-REVIEWED	JS	08\21
DESIGN2-DETAILED2		
DESIGN3-DETAILED3		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

SIGNATURE

P.E. NUMBER

DATE

APPROACH ROAD BRIDGE
INTERSTATE 295
CUMBERLAND
FREEPORT

REINFORCING SCHEDULE SUPERSTRUCTURE

SHEET NUMBER

139

OF 144

Filename: ...\00\ROW\MSTA\001_RWPLAN1.dgn Username: Mark.Poulin Date:9/7/2021 Division: BRIDGE

PLAN LEGEND

Town, County, State	New R/W Along Existing R/W	Sanitary Sewer	Traveled Way	Cut Line	Fill Line
Approx. Property Lines P.L.	Building	Telephone Line	Ditch	Stonewall	Retaining Wall
Existing Right of Way	Clearing Limit Line	Electric Line	Catch Basin	Baseline 10+00 11+00 12+00	
Limits of Wrought Portion L.O.W.P.	Trees Conifer Deciduous	Water Line	Manhole	Monument	Traverse Point
Control Of Access C.O.A.	Tree Line Bush Line	Underdrain Line	Sewer Manhole	Iron Rod Found IRF	Pipe Found IPF
New Right of Way	Water Edge	Gas Line	Utility Pole	Replacement Pin Set	
New Easement	Ledge Rock/Boulder Flag Pole	Guardrail	Fire Hydrant		
New Temporary Rights	Fence CHAIN LINK BARB WIRE STOCKADE	Culvert	Curbing		
New R/W Within Existing R/W	Sign Well Mailbox				

Existing / Proposed

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

25 0 25 50 75 100
Scale of Feet

STATE OF MAINE
REGISTRY OF DEEDS
COUNTY _____
RECEIVED _____, _____
at _____h_____m_____M and
recorded in Plan Bk _____, Pg._____
Attest: _____
REGISTER

ROUTE 136/125 (MALLETT DR.)
CURVE DATA #1
PI = 24+30.97
D = 13°19'28.6"
Δ = 65°28'41.3" Lt.
R = 430.00'
L = 491.41'
T = 276.47'
E = 81.21'

INTERSTATE SELF-STORAGE OF FREEPORT, LLC

ROBERT C. GRAY

GLENN R. FREEMAN
KEELIE J. FREEMAN

STATE AID HIGHWAY NO. 3 / ROUTE 125 / ROUTE 136 / DURHAM ROAD

STATE AID HIGHWAY NO. 4 / DURHAM ROAD

STATE AID HIGHWAY NO. 7 / ROUTE 125 / ROUTE 136 / MALLETT DRIVE

TO DURHAM

EXISTING CONSTRUCTION EASEMENT - SEE S.H.C. FILE NO. 3-114

R/W (REF. FILE 3-114, SHEET 10) C.O.A. STATIONS & OFFSETS HELD

R/W (COPIED FROM PIN 12782.00) S.H.C. FILE NO. 3-114 SHEET 11

C.O.A.

PT = STA. 26+45.91

S48°20'44.17"W 200.00

PBMK 151 BM-151 AN UP CMP3/15/13

PT = STA. 8+80.46
PC = STA. 8+55.86
PT = STA. 8+16.00
PC = STA. 8+04.93
PC = STA. 200+90.13

MULTI-USE PATH
CURVE DATA #1
PI = 8+30.55
D = 212°12'23.7"
Δ = 25°39'42.6" Lt.
R = 27.00'
L = 11.07'
T = 5.61'
E = 0.58

I-295 SB ON/OFF RAMP
APPROACH ROAD INTERCHANGE BRIDGE
OVER
INTERSTATE 295

BRIDGE NO. 5721 WIN 021726.00

GRID NORTH

ITEM	CHECKED
EXISTING CONDITION PLAN	TECH
FINAL RIGHT OF WAY	
AREAS	

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
16 STATE HOUSE STATION - AUGUSTA, ME 04333-0016 - 207-624-3460
FREEPORT
RIGHT OF WAY MAP

REVISIONS			
NO.	DATE	DESCRIPTION	BY

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

BRUCE A. VAN NOTE
COMMISSIONER
JOYCE NOEL TAYLOR
CHIEF ENGINEER
DATE

OFFICE USE ONLY
PLANS NOT TO BE RECORDED

STATE HIGHWAY "95" & STATE AID HIGHWAY NO. 7
INTERSTATE 295 & ROUTE 125/ROUTE 136/MALLETT DRIVE
FREEPORT CUMBERLAND COUNTY
STATE PROJECT NO. 21726.00

AUGUST 2021 | RIGHT-OF-WAY MAP
SCALE 1" = 25' | SHEET 1 OF 5

SHEET NUMBER
140
OF 144

Filename: ...\00\ROW\MSTA\002_RWPLAN2.dgn Division: BRIDGE Username: Mark.Poulin Date:9/7/2021

PLAN LEGEND

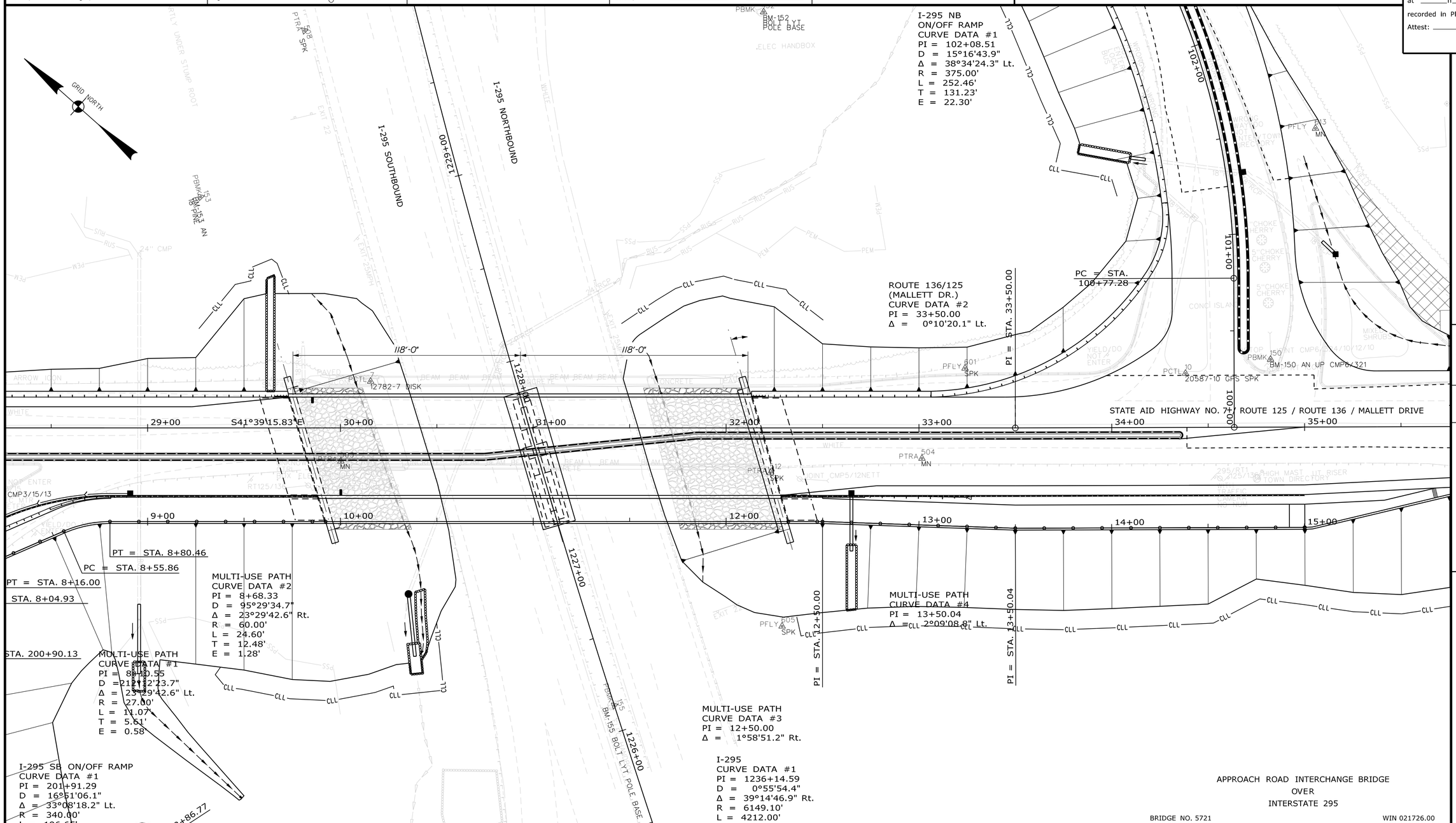
Town, County, State	New R/W Along Existing R/W	Existing / Proposed	Existing / Proposed
Approx. Property Lines P.L.	Building	Sanitary Sewer	Traveled Way
Existing Right of Way	Clearing Limit Line	Telephone Line	Ditch
Limits of Wrought Portion L.O.W.P.	Trees Conifer / Deciduous	Electric Line	Catch Basin
Control Of Access C.O.A.	Tree Line / Bush Line	Water Line	Manhole
New Right of Way	Water Edge	Underdrain Line	Sewer Manhole
New Easement	Ledge / Rock/Boulder / Flag Pole	Gas Line	Utility Pole
New Temporary Rights	Fence CHAIN LINK / BARB WIRE / STOCKADE	Guardrail	Fire Hydrant
New R/W Within Existing R/W	Sign / Well / Mailbox	Culvert	Curbing

Cut Line / Fill Line	
Stonewall / Retaining Wall	
Baseline 10+00 11+00 12+00	
Monument / Traverse Point	
Iron Rod Found IRF / Pipe Found IPF	
Replacement Pin Set	

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

25 0 25 50 75 100
Scale of Feet

STATE OF MAINE
REGISTRY OF DEEDS
COUNTY _____
RECEIVED _____, _____
at _____h_____m_____M and
recorded in Plan Bk _____, Pg._____
Attest: _____
REGISTER



APPROACH ROAD INTERCHANGE BRIDGE
OVER
INTERSTATE 295

BRIDGE NO. 5721 WIN 021726.00

ITEM	CHECKED
EXISTING CONDITION PLAN	
FINAL RIGHT OF WAY	
AREAS	

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
16 STATE HOUSE STATION - AUGUSTA, ME 04333-0016 - 207-624-3460
FREEPORT
RIGHT OF WAY MAP

REVISIONS			
NO.	DATE	DESCRIPTION	BY

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

BRUCE A. VAN NOTE
COMMISSIONER
JOYCE NOEL TAYLOR
CHIEF ENGINEER
DATE

OFFICE USE ONLY
PLANS NOT TO BE RECORDED

STATE HIGHWAY "95" & STATE AID HIGHWAY NO. 7
INTERSTATE 295 & ROUTE 125/ROUTE 136/MALLETT DRIVE
FREEPORT CUMBERLAND COUNTY
STATE PROJECT NO. 21726.00

AUGUST 2021	RIGHT-OF-WAY MAP	
SCALE 1"= 25'	SHEET 2 OF 5	

SHEET NUMBER
141
OF 144