

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION



UNION
KNOX COUNTY
ST. GEORGE RIVER BRIDGE
OVER
ST. GEORGE RIVER
ROUTE 17/HEALD HIGHWAY
FEDERAL AID PROJECT NO. 2715800
BRIDGE NO. 5893

SPECIFICATIONS

Design: Load and Resistance Factor Design per AASHTO LRFD Bridge Design Specifications, Tenth Edition 2024.

DESIGN LOADING

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

TRAFFIC DATA

Current (2023) AADT.....7130
Future (2043) AADT.....7840
DHV - % of AADT.....11%
Design Hour Volume.....862
Heavy Trucks (% of AADT).....9%
Heavy Trucks (% of DHV).....5%
Directional Distribution (% of DHV).....60%
18 kip Equivalent P 2.0.....527
18 kip Equivalent P 2.5.....502
Design Speed (mph).....45

HYDROLOGIC DATA

Drainage Area.....114.6 sq mi
Design Discharge (Q50).....5435 cfs
Check Discharge (Q100).....6095 cfs
Headwater Elevation (Q1.1).....49.1ft
Headwater Elevation (Q25).....53.5 ft
Headwater Elevation (Q50).....54.1ft
Headwater Elevation (Q100).....54.7ft
Discharge Velocity (Q1.1).....1.93 fps
Discharge Velocity (Q50).....4.50 fps
Discharge Velocity (Q100).....4.79 fps

MATERIALS

Concrete:
Decks & Curbs.....Class "A1"
Fill.....Class "Fill"
All Other.....Class "A"
Reinforcing:
Plain Reinforcing Steel.....ASTM A615, Grade 60
Glass Fiber Reinforcing Polymer (GFRP).....ASTM D7957
Low-Carbon Chromium Steel.....ASTM A1035, Type CS, Grade 100
Structural Steel
All Material (except as noted).....ASTM A709, Grade 50W (Unpainted)
High Strength Bolts.....ASTM F3125, Grade A325, Type 3

BASIC DESIGN STRESSES

Concrete:
Class "A" and Class "A1".....f'c = 4,000 psi
Class "Fill".....f'c = 3,000 psi
Reinforcing:
Plain Reinforcing Steel.....f y = 60,000 psi
Glass Fiber Reinforced Polymer
Minimum Tensile Strength.....f fu = 100,000 psi
Minimum Elastic Modulus.....E f = 8,700,000 psi
Minimum Nominal Design Tensile Strain.....ε fu = 1.1%
Low-Carbon Chromium Steel.....f y = 100,000 psi
Structural Steel
ASTM A709, Grade 50W.....Fy = 50,000 psi
ASTM F3125, Grade A325.....Fu = 120,000 psi

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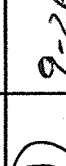
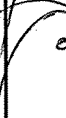
UTILITIES

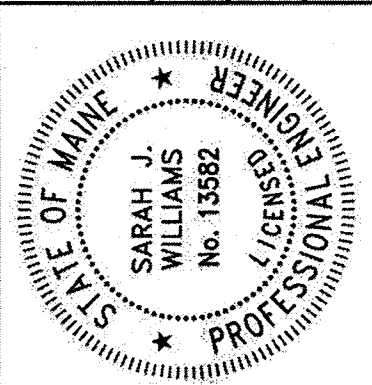
None Present

MAINTENANCE OF TRAFFIC

Maintain two lanes of traffic using on site special detour.

PROJECT LOCATION	St. George River Bridge (#5893) over St. George River. Located 0.23 of a mile east of Common Road. Latitude: 44°13'0.66" N, Longitude: 69°16' 41.38" W
OUTLINE OF WORK	Bridge Replacement and Associated Approach Work

STATE OF MAINE DEPARTMENT OF TRANSPORTATION	APPROVED	DATE
	COMMISSIONER: 	9-26-26
	CHIEF ENGINEER: 	9-25-26



	SIGNATURE	P.E. NUMBER	DATE
	13582	8/1/2026	

PROJECT INFORMATION		BRIDGE PROGRAM	
PROGRAM	PROJECT MANAGER	SIMONE ZIMMERMAN, PE	SARAH WILLIAMS, PE
DESIGNER	CONSULTANT	STANTEC	
PROJECT RESIDENT	CONTRACTOR		
PROJECT COMPLETION DATE			

UNION ST. GEORGE RIVER BRIDGE	TITLE SHEET
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SHEET NUMBER

1
OF 33



WIN 027158.00

ESTIMATED QUANTITIES			
ITEM NO.	DESCRIPTION	QTY	UNIT
201.11	CLEARING	0.9	AC
202.19	REMOVING EXISTING BRIDGE (540 CY)	1	LS
202.202	REMOVING PAVEMENT SURFACE	2820	SY
203.20	COMMON EXCAVATION	510	CY
203.25	GRANULAR BORROW	640	CY
206.082	STRUCTURAL EARTH EXCAVATION - MAJOR STRUCTURES, PLAN QUANTITY	410	CY
304.10	AGGREGATE SUBBASE COURSE - GRAVEL	520	CY
403.2081	HOT MIX ASPHALT - 12.5 MM NOMINAL MAX SIZE (POLYMER MODIFIED)	232	T
403.209	HOT MIX ASPHALT - 9.5 MM NOMINAL MAX SIZE (SIDEWALKS, DRIVES, ISLANDS & INCIDENTALS)	4	T
403.213	HOT MIX ASPHALT - 12.5 MM NOMINAL MAX SIZE (BASE AND INTERMEDIATE COURSE)	160	T
403.2131	HOT MIX ASPHALT - 12.5 MM NOMINAL MAX SIZE (BASE AND INTERMEDIATE COURSE POLYMER MODIFIED)	100	T
409.15	BITUMINOUS TACK COAT, APPLIED	190	G
461.131	TEMPORARY PAVEMENT	320	T
501.2391	DYNAMIC LOADING TEST, PROVIDING FOR	4	CD
501.54	STEEL H-BEAM PILES 117 LB/FT, DELIVERED	525	LF
501.541	STEEL H-BEAM PILES 117 LB/FT, IN PLACE	525	LF
501.90	PILE TIPS	10	EA
501.91	PILE SPLICES	10	EA
501.92	PILE DRIVING EQUIPMENT MOBILIZATION	1	LS
502.219	STRUCTURAL CONCRETE, ABUTMENTS AND RETAINING WALLS (182 CY)	1	LS
502.26	STRUCTURAL CONCRETE ROADWAY AND SIDEWALK SLAB ON STEEL BRIDGES (163 CY)	1	LS
502.31	STRUCTURAL CONCRETE APPROACH SLAB (24 CY)	1	LS
502.49	STRUCTURAL CONCRETE CURBS AND SIDEWALKS (21 CY)	1	LS
503.12	REINFORCING STEEL, FABRICATED AND DELIVERED	16900	LB
503.13	REINFORCING STEEL, PLACING	16900	LB
503.19	LOW-CARBON CHROMIUM REINFORCEMENT, FABRICATED AND DELIVERED	25400	LB
503.20	LOW-CARBON CHROMIUM REINFORCEMENT, PLACING	25400	LB
504.702	STRUCTURAL STEEL FABRICATED AND DELIVERED, WELDED (297300 LB)	1	LS
504.71	STRUCTURAL STEEL ERECTION (297300 LB)	1	LS
505.08	SHEAR CONNECTORS (1690 EA)	1	LS
507.0821	STEEL BRIDGE RAILING, 3 BAR (340 LF)	1	LS
507.0822	STEEL APPROACH RAIL, 3-BAR	4	EA
508.14	HIGH PERFORMANCE WATERPROOFING MEMBRANE (880 SY)	1	LS
510.10	SPECIAL DETOUR, VEHICULAR AND PEDESTRIAN TRAFFIC NOT SEPARATED	1	LS
511.07	COFFERDAM: ABUTMENT NO. 1	1	LS
511.07	COFFERDAM: ABUTMENT NO. 2	1	LS
512.081	FRENCH DRAINS (120 LF)	1	LS
515.21	PROTECTIVE COATING FOR CONCRETE SURFACES (230 SY)	1	LS
519.60	EXPANSION DEVICE - ASPHALTIC PLUG JOINT	64	LF
526.301	PORTABLE CONCRETE BARRIER, TYPE I (60 LF)	1	LS
527.34	WORK ZONE CRASH CUSHIONS	4	UN
530.30	GFRP, REINFORCEMENT BARS, FABRICATED & DELIVERED	39900	LF
530.31	GFRP, REINFORCEMENT BARS, PLACING	39900	LF
606.1301	31" W-BEAM GUARDRAIL - MID-WAY SPLICE - SINGLE FACED	525	LF
606.1304	31" W-BEAM GUARDRAIL - MID-WAY SPLICE, OVER 15' RADIUS	50	LF
606.1305	31" W-BEAM GUARDRAIL - MID-WAY SPLICE FLARED TERMINAL	1	EA
606.1721	BRIDGE TRANSITION - TYPE I	4	EA
606.265	TERMINAL END-SINGLE RAIL - GALVANIZED STEEL	2	EA
606.353	REFLECTORIZED FLEXIBLE GUARDRAIL MARKER	6	EA
610.08	PLAIN RIPRAP	1400	CY
610.18	STONE DITCH PROTECTION	12	CY
610.213	VOID-FILLED RIPRAP	390	CY
613.319	EROSION CONTROL BLANKET	640	SY
615.07	LOAM	51	CY
618.14	SEEDING METHOD NUMBER 2	9	UN
619.12	MULCH	9	UN
619.14	EROSION CONTROL MIX	110	CY
620.58	EROSION CONTROL GEOTEXTILE	2200	SY
627.733	4" WHITE OR YELLOW PAINTED PAVEMENT MARKING LINE	1700	LF
627.77	REMOVING EXISTING PAVEMENT MARKING	190	SF
627.78	TEMPORARY 4" PAINTED PAVEMENT MARKING LINE, WHITE OR YELLOW	2950	LF
629.05	HAND LABOR, STRAIGHT TIME	20	HR
631.12	ALL PURPOSE EXCAVATOR (INCLUDING OPERATOR)	20	HR
631.14	GRADER (INCLUDING OPERATOR)	20	HR
631.15	ROLLER, EARTH AND BASE COURSE (INCLUDING OPERATOR)	20	HR
631.172	TRUCK-LARGE (INCLUDING OPERATOR)	20	HR
639.18	FIELD OFFICE, TYPE A	1	EA
652.312	TYPE III BARRICADES	4	EA
652.33	DRUM	50	EA
652.34	CONE	100	EA
652.35	CONSTRUCTION SIGNS	400	SF
652.361	MAINTENANCE OF TRAFFIC CONTROL DEVICES	1	LS
652.38	FLAGGERS	520	HR
652.41	PORTABLE-CHANGEABLE MESSAGE SIGN	2	EA
656.75	TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL	1	LS
659.10	MOBILIZATION	1	LS
660.21	ON-THE-JOB TRAINING (BID)	1000	HR

GENERAL CONSTRUCTION NOTES

1. For easements, construction limits, and right of way lines, refer to the Right of Way Map.
2. The clearing limits as shown on the plans are approximate. The exact limits will be established in the field jointly by the Contractor and the Resident, prior to commencing clearing operations.
3. All utility facilities shall be adjusted by the respective utilities unless otherwise noted.
4. Existing signs within the Project limits shall be removed and reset as directed by the Resident. Payment for removal and reinstallation of existing signs will be considered incidental to the Contract. No separate payment will be made.
5. Do not excavate for Aggregate Subbase Course where existing material is suitable as determined by the Resident.
6. In areas where the Resident directs the Contractor not to excavate to the subgrade line shown on the plans, payment for removing existing pavement, grubbing, shaping, ditching, and compacting the existing subbase and layers of new subbase 6 inches or less thick will be made under appropriate equipment rental items.
7. All embankment material, except as otherwise shown, placed below EL. 54.10 shall be Granular Borrow meeting the requirements of Standard Specifications Subsection 703.19, Granular Borrow, for Material for Underwater Backfill, with the additional requirement that the maximum particle size be limited to 4 inches.
8. Place Void-Filled Riprap at and below EL. 47.50, unless noted otherwise, see Special Provision 610. Place Plain Riprap on sideslopes up to EL. 55.00, unless shown otherwise.
9. Place loam 2 inches deep on all new or reconstructed sideslopes or as directed by the Resident.
10. 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 Pay Item 619.14, Erosion Control Mix.
11. Place a 24 inch wide strip of Erosion Control Blanket on the sideslopes along the top of the riprap and behind the wingwalls.
12. Where it is apparent that runoff will cause continual erosion, Erosion Control Blanket, seeded gutters, riprap downspouts, and other gutters lined with Stone Ditch Protection shall be constructed after paving and shoulder work is completed. Payment will be made under the appropriate Contract items.
13. Guardrail posts as shown in the Standard Details shall be modified from the indicated length of 7 feet to a length of 8 feet with an embedment of 5.25 feet. Payment will be considered incidental to the guardrail pay items.
14. A MASH compliant guardrail end treatment shall be installed concurrently with the placement of each section of beam guardrail.
15. Protective Coating for Concrete Surfaces shall be applied to the following areas:

*All exposed surfaces of concrete curbs,
Fascias down to the drip notch,
Top of abutment backwalls and wingwalls, and
To one foot below the ground on vertical walls against earth.*

16. A 3-foot paved lip shall be placed at all unpaved entrances unless otherwise noted in the Plans or directed by the Resident.
17. Project information referred to below may be accessed at the following MaineDOT web address: <http://www.maine.gov/dot/doing-business/bid-opportunities>
18. The existing bridge plans may be accessed at the MaineDOT web address. The plans are reproductions of the original drawings as prepared for the construction of the bridge. It is very unlikely that the plans will show any construction field changes or any alterations which may have been made to the bridge during its life span.
19. Reports on hydrology and/or hydraulics applicable to the bridge site may be accessed at the MaineDOT web address. The reports are based on MaineDOT's interpretation of the information obtained for the subject site. No assurance is given that the information or the conclusions of the report will be representative of actual conditions at the time of construction.
20. The project geotechnical report titled: *Geotechnical Design Report St. George River Bridge No. 5893 Route 17 over St. George River MaineDOT WIN 27158.00* Union, Maine dated June 2026, may be accessed at the MaineDOT web address.

21. 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 Bidders' or Contractor's interpretations of, or conclusions drawn from, the geotechnical information. The boring logs contained in the plan set present factual and interpretive subsurface information collected at discrete locations. Data provided may not be representative of the subsurface conditions between the boring locations.

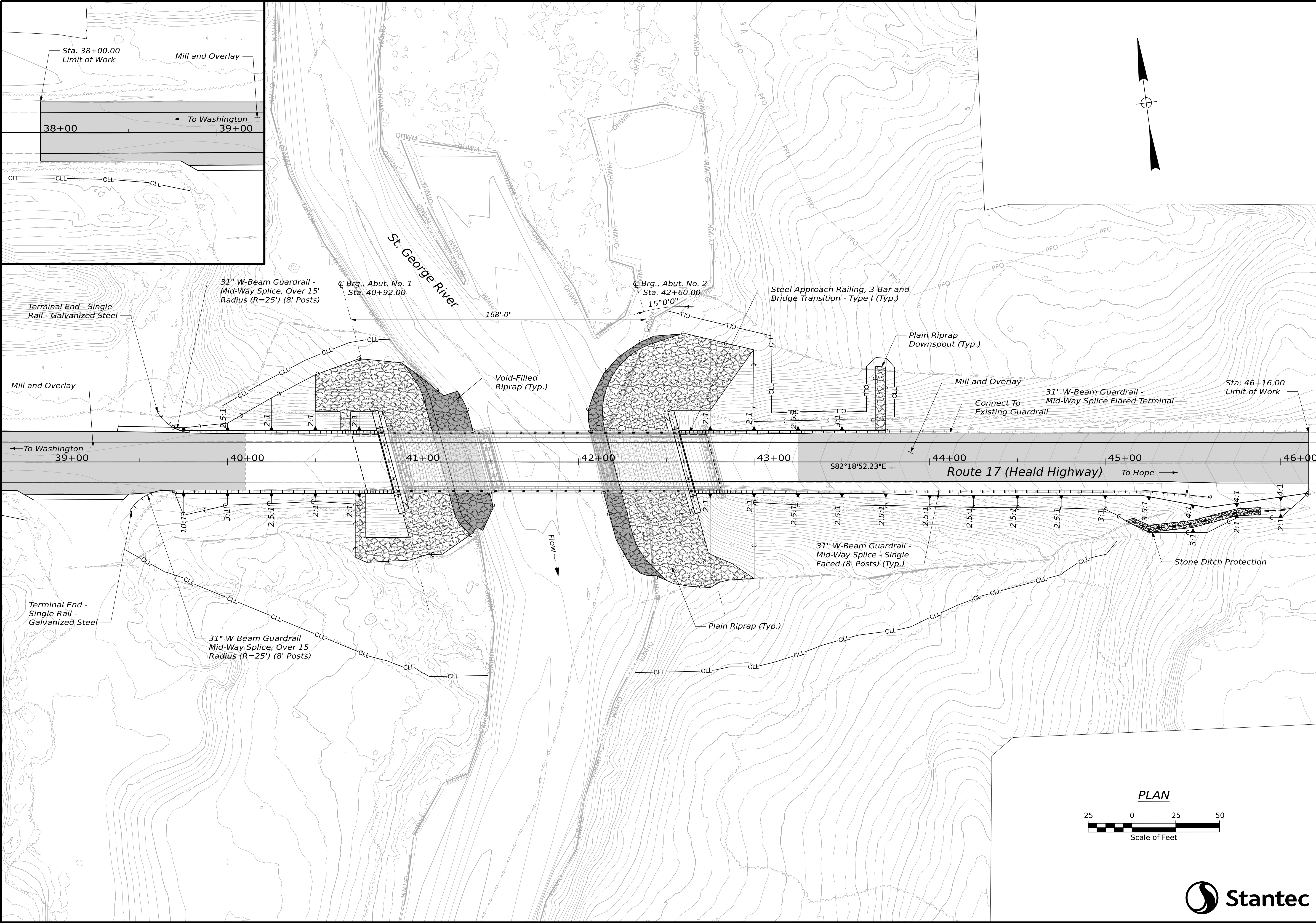
22. Quantities included for pay items measured and paid for by Lump Sum are estimated quantities and are provided by MaineDOT for informational purposes only. Lump Sum pay items will be paid for at the Contract Bid amount, with no addition or reduction in payment to the Contractor if the actual final quantities are different from the 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 a 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 adjustments will be made in accordance with Standard Specifications Section 109.7, Equitable Adjustments to Compensation and Time.

23. The existing bridge shall be removed by and become the property of the Contractor. The steel portions of the existing bridge may be 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.

24. Payment for excavation of existing embankment material located between the existing abutments and the new abutments and outside of the limits of Structural Earth Excavation shall be incidental to Removing Existing Bridge.

ST. GEORGE RIVER BRIDGE NO. 5893 CROSSING ST. GEORGE RIVER UNION										SHEET NUMBER																	
ESTIMATED QUANTITIES & GENERAL CONSTRUCTION NOTES										PROJ. MANAGER		S. ZIMMERMAN		BY		DATE		STATE OF MAINE DEPARTMENT OF TRANSPORTATION Federal Project No. 2715800 WIN 27158.00									
										DESIGN-DETAILED		PHH/CHL		PHH/CHL		AUG 2026											
										CHECKED-REVIEWED		SIW/JRH		SIW/JRH		AUG 2026											
										DESIGN-DETAILED02																	
										DESIGN-DETAILED03																	
										REVISIONS 1																	
										REVISIONS 2																	
REVISIONS 3								SIGNATURE		P.E. NUMBER																	
REVISIONS 4								DATE																			
FIELD CHANGES																											



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
Federal Project No. 2715800
WIN 27158.00

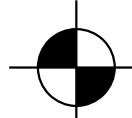
ST. GEORGE RIVER BRIDGE NO. 5893
CROSSING ST. GEORGE RIVER
UNION

GENERAL PLAN

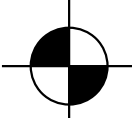
SHEET NUMBER
3
OF 33

PROJ. MANAGER	BY	DATE	SIGNATURE	P.E. NUMBER	DATE
S. ZIMMERMAN	PEB/CHL	AUG 2026			
DESIGN-DETAILED	PEB/CHL	AUG 2026			
CHECKED-REVIEWED	SWW/RH				
DESIGN-DETAILED02					
DESIGN-DETAILED03					
REVISIONS 1					
REVISIONS 2					
REVISIONS 3					
REVISIONS 4					
FIELD CHANGES					

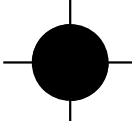
BORING LOCATION PLAN LEGEND

 **BB-USGR-101**

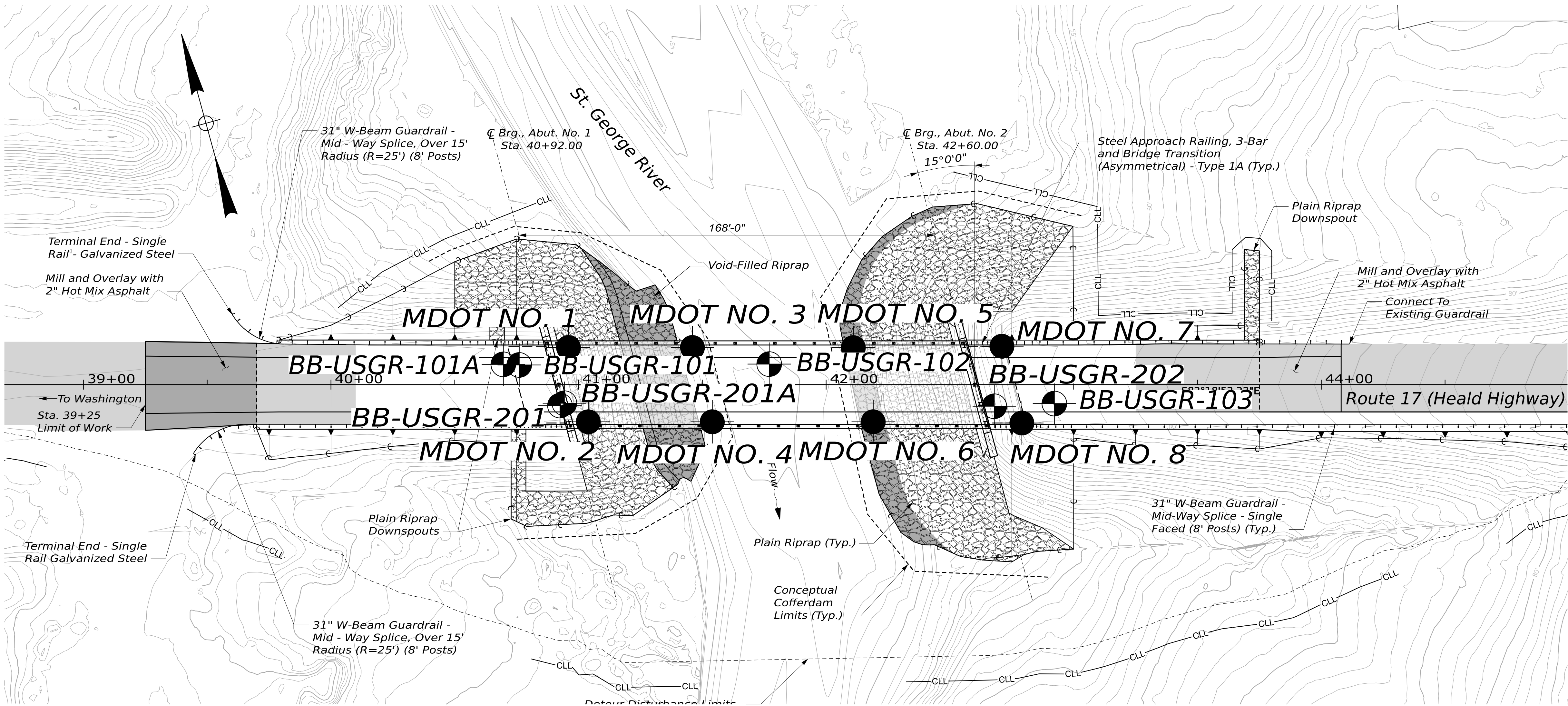
Location and designation of BB-USGR-100 series borings performed by New England Boring Contractors and observed by GZA personnel between May 28 and June 4, 2024.

 **BB-USGR-201**

Location and designation of BB-USGR-200 series borings performed by Seaboard Drilling, LLC of Bangor, Maine and observed by GZA personnel between December 16 and 17, 2025.

 **MDOT NO. 1**

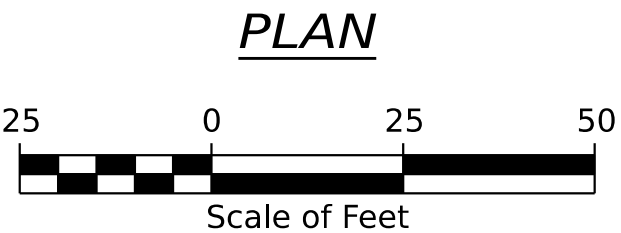
Location and designation of historic borings performed and observed by MaineDOT in September of 1959.



NOTES

1) Base map developed from electronic files provided by Stantec on February 2, 2026 (Alignment_HealdHwy.dgn, Bridge.dgn, Union_Ground_082324.dgn, and Grading_Bridge.dgn).

2) The as-drilled locations of the BB-USGR-100 and -200 series test borings were surveyed and provided by MaineDOT in electronic files (2D Borings Union 27158.00.dgn and Borings 1-29-2026.dgn) on July 9, 2024 and February 2, 2026, respectively.



PRELIMINARY
NOT FOR CONSTRUCTION

PREPARED BY:


ST. GEORGE RIVER BRIDGE NO. 5893
CROSSING ST. GEORGE RIVER
UNION

SHEET NUMBER

5
OF 32

PROJ. MANAGER	DATE	BY	DATE
CHECKED-REVIEWED	FEB 2026	KGK	
DESIGNED-DETAILED		KGK	
DESIGNED-DETAILED			
DESIGNED-DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			


SIGNATURE
10957
P.E. NUMBER
8/12/2026
DATE

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
Federal Project No. 2715800
WIN 27158.00



4) This generalized interpretive soil and rock profile is intended to convey trends in subsurface conditions. The boundaries between strata are approximate and idealized, and have been developed by interpretations of widely spaced explorations and samples. Actual soil transitions may vary and are probably more erratic. Boring data are shown for borings drilled off alignment. Soil and rock descriptions are based on BB-USGR-100 and -200 series borings. For more specific information refer to the exploration logs.



SHEET NUMBER

Maine Department of Transportation				Project St. George River Bridge No. 5893		Boring No. : BB-USGR-101A	
Soil/Rock Exploration Log				Location Union, Maine		VIN: 27158_00	
US CUSTOMARY UNITS							
Driller: New England Boring Contractors		Elevation (ft.) 68.4		Auger 10/00			
Operator: B. Groom		Datum: NAVD88		Sampler: Standard Split Spoon			
Logged By: J. Cozens		Rig Type: Track-Mounted Mobile B-53		Hammer wt./Fall: 140#/30"			
Date Start/Finish: 5-29-24 / 5-30-24		Drilling Method: SA / Drive & Wash		Core Barrel: ND			
Boring Location: Sta. 40+75.4, 8.2' LT		Casing: 10/0.4 5"		Water Level: 17.4'			
Hammer Efficiency Factor: 0.76				Hammer Type: Automatic ☒ Hydraulic ☐ Rope & Cathode ☐			
Definitions B = Split Spoon Sample HS = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample NI = Unsuccessful Thin Wall Squeeze Attempt F = Field Vane Shear Test, σ_v = Pocket Penetration/MDR/C = Weight of Rods or Casing NI = Unsuccessful Field Squeeze Shear Test Attempt				R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger BC = Roller Cone NI = Unsuccessful Thin Wall Squeeze Attempt F = Field Vane Shear Test, σ_v = Pocket Penetration/MDR/C = Weight of Rods or Casing NI = Unsuccessful Field Squeeze Shear Test Attempt			
Sample Information				Visual Description and Remarks			
Depth (ft.)	Sample No.	Pen. Alloc. (in.)	Sample Depth (ft.)	Blows / 6 in. Squeeze (Casing Length) (C) RBD (C)	Uncorrected N _u	Corrected N _u	Laboratory Testing Results/ASHTD and Unified Class
-30	1B	24/22	29.0 - 31.0	2-2-2-4	4	5	Drill. wet, loose, Silty fine to medium SAND, with rootlets. (Alluvial Sand/Silt)
	2B	24/6	31.0 - 33.0	8-14-15-14	29	37	Dark brown, wet, medium dense. Fine to coarse SAND, some gravel, little silt. (Alluvial Sand/Silt)
	U1	24/20	34.0 - 36.0				Cuttings turned to grey clay at 34' 0".
-35	V1						At 36' 0": V1 unable to push 55mm x 110mm vane to full depth, probable sand and/or gravel seams.
-40	3D	24/18	41.0 - 43.0	WDH-40-12-8	52	66	3D (Top 15"): Dark grey, wet, soft, Silty CLAY, with occasional sand partings. (Marine Clay)
	4B	24/8	44.0 - 46.0	2-2-5-12	7	9	3D (Bottom 3"): Grey, wet, Sandy GRAVEL, trace silt. (Glacial Till)
-45							Dark grey, wet, loose, Fine to medium SAND, trace silt. (Glacial Till)
	5B	24/13	49.0 - 51.0	3-27-50-68	77	98	Grey, wet, very dense, Fine to coarse SAND, some silt, some gravel. (Glacial Till)
Remarks:							
1. Automatic hammer NEBC #23 with an energy transfer ratio = 0.76. 2. Water level measured with casing. 3. A' casing refusal at 49.0'. Intersected with 3" casing to 57.4'. 4. As-drilled boring locations were surveyed by MaineDOT in the field (1/26/95, N. 1600136, IC) and provided in an electronic file (25 Boring Union 27158 00.dgn) on July 9, 2024.							
Stratification lines represent approximate boundaries between soil types; transitions may be gradual. * Water level readings have been made at 1 min and under conditions static. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.						Boring No. of ?? Page No. : BB-USGR-101A	

Maine Department of Transportation				Project St. George River Bridge No. 5893		Boring No. : BB-USGR-101A	
Soil/Rock Exploration Log				Location: Union, Maine		WIN: 27158.00	
US CUSTOMARY UNITS							
Driller: New England Boring Contractors		Elevation (ft.): 68.4		Auger ID/OD:			
Operator: B. Grom		Datum: NAV88		Sampler:		Standard SplitSpoon	
Logged By: J. Czozens		Rig Type: Track-Mounted Mobile B-53		Hammer Wt./Fall: 140#/30"			
Date Start/Finish: 5/29-24 / 5/30-24		Drilling Method: SSA / Drive & Wash		Core Barrel: ND			
Boring Location: Sta. 40+75 & 8.2' LT		Casing ID/OD: 4.0/4.5"		Water Level*:		17.4'	
Hammer Efficiency Factor* 0.76		Hammer Type: Automatic ☒ Hydraulic ☐ Rope & Casing ☐					
R = Rock Core Sample SSA = Solid Stem Auger WSA = Waller Stem Auger RC = Roller Core NU = Unsuccessful Th = Thin L = Large S = Small F = Field U = Unsuccessful		S = Penetrationless Field Test (see shear strength test) L = Lab Value W = Water Content U = Liquid Limit P = Plastic Limit C = Consolidation G = Grain Size Analysis E = Consolidation Test					
R = Rock Core Sample SSA = Solid Stem Auger WSA = Waller Stem Auger RC = Roller Core NU = Unsuccessful Th = Thin L = Large S = Small F = Field U = Unsuccessful		S = Penetrationless Field Test (see shear strength test) L = Lab Value W = Water Content U = Liquid Limit P = Plastic Limit C = Consolidation G = Grain Size Analysis E = Consolidation Test					
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Maine Department of Transportation				Project St. George River Bridge No. 5893		Boring No. : BB-USGR-102	
Soil/Rock Exploration Log				Location Union, Maine		WIN: 27158.00	
US CUSTOMARY UNITS							
Driller: New England Boring Contractors		Elevation (ft.) 36.9		Auger ID/OD:			
Operator: B. Groom		Datum: NAVD88		Sampler:		Standard Split/Spoon	
Logged By: J. Cozens		Rig type: Truck-Mounted Mobile B-53		Hammer wt./Fall: 140#/30"			
Date Start/Finish: 5/31-24 / 5/31-24		Drilling Method: SSA / Drive & Wash		Core Barrel: ND			
Boring Location: Sta. 41+77.0, 8.8' LT		Casing ID/OD: 4.0/4.5"		Water Level: -6'			
Hammer Efficiency Factor: 0.76		Hammer Type: Automatic ☒ Hydraulic ☐ Rope & Catched ☐					
Definitions: B = Split Spoon Sample MB = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample NU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Tube Shear Test W = Unsuccessful Field Tube Shear Test Attempt		R = Rock Core Sample SSA = Split Stem Auger MB = Mobile Stem Auger RC = Roller Core W = Weight of MBIS Hammer WMCV = Weight of Rods or Casing WWT = Weight of Wire Person		S ₁ = Transformed Field Tube Shear Strength (psi) S ₂ (psi) = Lab Tube Undrained Shear Strength (psi) S ₃ = Unconfined Compressive Strength (ksi) N = Number of Bore Fluid SPI Inviscous N _u = SPMT Uncorrected Corrected for Hammer Efficiency N _u = SPMT Uncorrected Corrected for Hammer Efficiency		I _u = Pocket Force Shear Strength (psi) W = Water Content, percent L _u = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test	
Sample Information				Visual Description and Remarks			
Depth (ft.)	Sample No.	Pen. (ft.)	Sample Depth (ft.)	Blows (6 in. / ft.)	Sample Length (ft.)	Sample ID	Sample Description
0							
5	1D	24/6	4.0 - 6.0	2-4-2-4	6	8	27
							26
							19
							77
10	2D	24/23	9.0 - 11.0	WDM-VMB-18-3	18	23	10
							18
							17
							27
15	3D	24/0	14.0 - 16.0	63-9-21-5	30	38	32
							ND
20	R1	61/61	18.0 - 23.1	RWD = 95%			ND
							18.0
							16.4
							20.3
							21.1
							22.1
							23.1
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Maine Department of Transportation					Project: St. George River Bridge No. 3893		Boring No.: BB-USGR-103				
Soil/Rock Exploration Log					Location: Union, Maine		WIN: 27158.00				
US CUSTOMARY UNITS											
Driller:		New England Boring Contractors			Elevation (ft.): 77.6		Auger: 10D/10D				
Operator:		B. Greene			Datum: NAVD89		Sampler: Standard Split-Spoon				
Lagging By:		R. Franklin			Rig Type: Track-Mounted Mobile B-53		Hammer Wt./Fall: 140#/30"				
Date Start/Finish:		5-31-24 / 5-31-24			Drilling Method: Drive & Wash		Core Barrel: ND				
Boring Location:		Sta. 42+92.2, B.1 RT			Casing 10D/10: 0.0/4.5'		Water Level*: 18.8'				
Hammer Efficiency Factor: 0.76					Hammer Type: Automatic ☐ Hydraulic ☐		Rope & Cathrod ☐				
Definitions: R = Rock Core Sample SA = Split Spoon Sample HS = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test PP = Pocket Penetration Test F = Field Test W = Weight of One Person					Abbreviations: S _u = Peak/Retained Field Vane Undrained Shear Strength (psf) S _{u,lap} = Lab Vane Undrained Shear Strength (psf) N _u = Unconfined Compressive Strength (psf) N _{u,corrected} = Raw Field SPT Result Hammer Efficiency Factor = Rig SPT/Fld. Anvil Calibration Value N ₆₀ = SPT Uncorrected Corrected for Hammer Efficiency N ₆₀ = Hammer Efficiency Factor x SPT/60 Uncorrected C = Consolidation Test						
Sample Information											
Depth (ft.)	Sample No.	Pen./RVC (in.)	Sample Depth (ft.)	Blows (6 in. SPT) or RVC (2.0)	Uncorrected	N ₆₀	Coring Blows	Elevation (ft.)	Geologic Log	Visual Description and Remarks	Laboratory Testing Results/ ASTM and Unified Class
0								55.8		Top 12" Asphalt	
10	1D	24/15	1.0 - 3.0	10-17-16-32	33	42		55.8		Brown, moist, dense, fine to coarse SAND, trace silt, trace gravel, (FILL).	GR24-S-260 A-1-b), SM VC=3.4%
5	2D	24/8	4.0 - 6.0	17-10-11-12	21	27		68		Brown, moist, medium dense, fine to coarse SAND, some gravel, little silt, (FILL).	
10	3D	24/3	9.0 - 11.0	7-10-4-3	14	18		78		Grey, moist, medium dense, GRAVEL, some sand, (FILL).	
15	4D	24/8	14.0 - 16.0	12-13-14-23	27	34		55		Grey/brown, moist, dense, Gravely fine to coarse SAND, little silt, (FILL).	GR24-S-2604 A-1-b), SM VC=19.2%
20	5D	20/7	16.0 - 17.7	79-12-20-19	32	41		366		Brown, moist, dense, fine to coarse SAND, little gravel, little silt, (FILL).	
25	6D	24/13	19.0 - 21.0	18-18-9-9	27	34		46		Brown, wet, dense, fine to coarse SAND, some silt, little gravel, (FILL).	GR24-S-2605 A-2-4(c)), SM VC=6.3%
30	7D	24/4	24.0 - 26.0	10-5-7-14	12	15		60		7D (Top 2"): Grey, medium dense, SAND, trace silt, (FILL).	
Remarks:											
1. Automatic Hammer NEC #23 at 10 in energy transfer ratio = 0.76. 2. Water level measured within casing at completion of drilling, before removal of casing. 3. Aspirated boring locations were surveyed by MaineDOT in the field (162362.6N, 1602365.4E) and provided in an electronic file (C3 Boring Union 27158.00.dgn) on July 9, 2024.											
Stratification lines represent approximate boundaries between soil types; transitions may be gradual. * Water level readings have been made at 1 feet and under conditions listed. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.										Boring No. 1 of ?? Page Number: BB-USGR-103	

Maine Department of Transportation				Project: St. George River Bridge #5993		Boring No. 1		BB-USGR-201	
Soil/Rock Exploration Log				Location: Union, Maine		WIN:		27158.00	
US CUSTOMARY UNITS									
Driller: Seaboard Drilling		Elevation (ft.): 69.0		Auger 1D/OD		4" ID		Split Spoon	
Operator: R. Hackett		Depth: 30.0		HAMBB		Sampler:		Split Spoon	
Logged By: S. Miller		Rig Type: Dierchich B-50 ATW		Hammer wt./Fall: 140/30					
Date Start/Finish: 12/16/2025-12/17/2025		Drilling Method: Drive & Wash		Core Barrel:					
Boring Location: Sta. 40+92.5, 8.6' RT		Casing 1D/OD: 4"/4.5"		Water Level*: 26.5'					
Hammer Efficiency Factor: 1.011		Hammer Type: Automatic ☒ Hydraulic ☐ Rope & Cathode ☐							
Definitions: R = Rock Core Sample SA = Split Stem Auger HS = Hollow Stem Auger U = Thin Wall Tube Sample M = Unconfined T = Thin Wall Tube Sample PP = Pocket Penetration W = Water Content L = Liquid Limit P = Plastic Limit C = Consistency G = Grain Size Analysis S = Standard Penetration Test N = Number of Blows E = Efficiency Factor F = Factor A = Area V = Volume W = Weight D = Diameter H = Height L = Length T = Thickness S = Strength P = Pressure T = Temperature R = Resistance S = Stiffness E = Elasticity M = Modulus G = Gravity A = Acceleration F = Frequency V = Velocity C = Capacity U = Utilization I = Index R = Ratio P = Percentage S = Significance L = Limit M = Maximum M = Minimum A = Average S = Standard D = Deviation C = Coefficient F = Factor A = Area V = Volume W = Weight D = Diameter H = Height L = Length T = Thickness S = Strength P = Pressure T = Temperature R = Resistance S = Stiffness E = Elasticity M = Modulus G = Gravity A = Acceleration F = Frequency V = Velocity C = 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Maine Department of Transportation				Project St. George River Bridge No. 5993		Boring No. : BB-USGR-103	
Soil/Rock Exploration Log				Location Union, Maine		WIN: 27158.00	
US CUSTOMARY UNITS							
Driller: New England Boring Contractors		Elevation (ft.): 77.6		Auger ID/DD: WJN			
Operator: B. Grom		Datum: NAVD88		Sampler: Standard Split Spoon			
Logged By: R. Franklin		Rig Type: Track-Mounted Mobile B-53		Hammer Wt./Fall: 140#/30"			
Date Start/Finish: 5-31-24 / 5-31-24		Drilling Method: Drive & Wash		Core Barrel: NO			
Boring Location: Sta. 42+92.2, B.1' RT		Casing ID/DD: 4.0/4.5"		Water Level*: 18.8'			
Hammer Efficiency Factor: 0.76		Hammer Type: Automatic ☒ Hydraulic ☐ Rope & Cathode ☐					
Definitions: B = Split Spoon Sample H = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test PP = Pocket Penetrometer W = Unsuccessful Field Vane Shear Test Attempt		R = Rock Core Sample SA = Solid Stem Auger HSA = Hollow Stem Auger BC = Baller Core WBT = Weight of 100 lb. Hammer W = Weight of Road or Casing W = Weight of Dr. Pipe		S _u = Peak/Retained Field Vane Undrained Shear Strength (psf) S _u (lab) = Lab Vane Undrained Shear Strength (psf) N ₆₀ = Unconfined Compression Strength (psf) Nuncorrected = Raw Field SPT N-value Hammer Efficiency Factor = R ₆₀ Specific Anvil Calibration Value N ₆₀ = SPT Nuncorrected Corrected for Hammer Efficiency N ₆₀ = Hammer Efficiency Factor x Nuncorrected		T _c = Pocket Torque Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test	
Sample Information				Visual Description and Remarks			
Depth (ft.)	Sample No.	Pen./Blow (ft.)	Sample Depth (ft.)	Blow CFS (ft.)	Blow CFS (ft.)	Blow CFS (ft.)	Blow CFS (ft.)
0							
0	R1	60/8	27.3 ± 32.3	RDD = 0%			
30							
30							
30	R2	30/30	32.3 ± 34.8	RDD = 63%			
35							
35	R3	33/33	34.8 ± 37.6	RDD = 100%			
40							
40	R4	60/56	37.6 ± 42.6	RDD = 93%			
45							
45							
50							
Remarks:							
1. Automatic hammer NEBC R63 with an energy transfer ratio = 0.76. 2. Water level measured within casing at completion of drilling, before removal of casing. 3. And/or level measured after removal of casing. 4. And/or level measured after removal of casing.							
Stratification lines represent approximate boundaries between soil types; transitions may be gradual. * Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.							
Maine Department of Transportation				Project St. George River Bridge #5993		Boring No. : BB-USGR-201A	
Soil/Rock Exploration Log				Location Union, Maine		WIN: 27158.00	
US CUSTOMARY UNITS							
Driller: Seaboard Drilling		Elevation (ft.): 69.1		Auger ID/DD: 4" OD			
Operator: R. Hackett		Datum: NAVD88		Sampler: Split spoon			
Logged By: S. Miller		Rig Type: Dierckh B-50 ATV		Hammer Wt./Fall: 140/30			
Date Start/Finish: 1/12/2026-1/13/2026		Drilling Method: SSA/Drive & Wash		Core Barrel: NO			
Boring Location: Sta. 40+94.3, 7.5' RT		Casing ID/DD: 4.7/4.5", 3"/3.3"		Water Level*: 26.5'			
Hammer Efficiency Factor: 1.011		Hammer Type: Automatic ☒ Hydraulic ☐ Rope & Cathode ☐					
Definitions: B = Split Spoon Sample H = Unsuccessful Split Spoon Sample Attempt U = Thin Wall Tube Sample MU = Unsuccessful Thin Wall Tube Sample Attempt V = Field Vane Shear Test PP = Pocket Penetrometer W = Unsuccessful Field Vane Shear Test Attempt		R = Rock Core Sample SA = Solid Stem Auger HSA = Hollow Stem Auger BC = Baller Core WBT = Weight of 100 lb. Hammer W = Weight of Road or Casing W = Weight of Dr. Pipe		S _u = Peak/Retained Field Vane Undrained Shear Strength (psf) S _u (lab) = Lab Vane Undrained Shear Strength (psf) N ₆₀ = Unconfined Compression Strength (psf) Nuncorrected = Raw Field SPT N-value Hammer Efficiency Factor = R ₆₀ Specific Anvil Calibration Value N ₆₀ = SPT Nuncorrected Corrected for Hammer Efficiency N ₆₀ = Hammer Efficiency Factor x Nuncorrected		T _c = Pocket Torque Shear Strength (psf) WC = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test	
Sample Information				Visual Description and Remarks			
Depth (ft.)	Sample No.	Pen./Blow (ft.)	Sample Depth (ft.)	Blow CFS (ft.)	Blow CFS (ft.)	Blow CFS (ft.)	Blow CFS (ft.)
0							
0							
5							
5							
10							
10							
15							
15							
20							
20							
25							
25							
30							
Remarks:							
1. Fine grained soil descriptions on this log are based on plasticity estimates used classification techniques or laboratory Atterberg Limit Test if available, rather than the Unified Soil Classification System. 2. Automatic hammer Seaboard SNEBC Energy Transfer Ratio = 1.011. 3. Water level measured after removal of casing. 4. The drilled boring location was surveyed by MaineDOT in the field (261351 DN, 1600158 SD) and provided in an electronic file (Borings 1-29-2026) on February 2, 2026.							
Stratification lines represent approximate boundaries between soil types; transitions may be gradual. * Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.				Page 2 of ??		Boring No. : BB-USGR-201A	

[illegible]

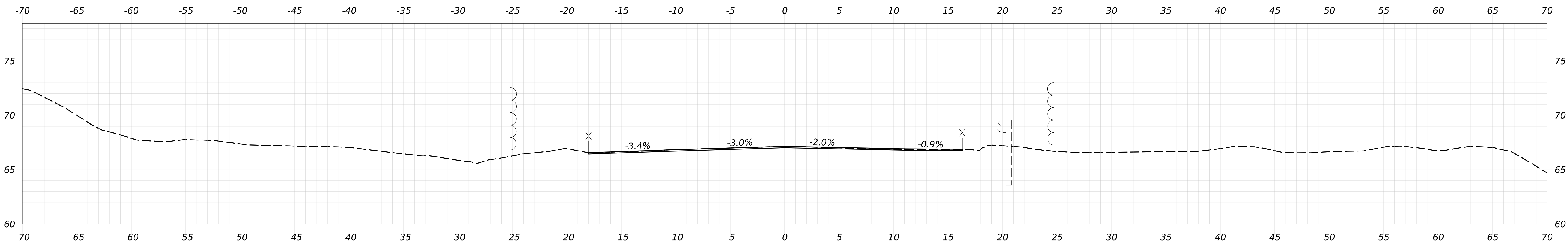
Maine Department of Transportation						Project: St. George River Bridge #0893		Boring No.: BB-USGR-201A				
Soil/Rock Exploration Log						Location: Union, Maine		WIN: 27158.00				
US CUSTOMARY UNITS												
Driller:	Seaboard Drilling				Elevation (ft.):	69.1		Auger ID/OD:	4" OD			
Operator:	R. Hackett				Datum:	MVD88		Sampler:	Split spoon			
Logged By:	S. Miller				Rig type:	Dielectric D-50 ATV		Hammer Wt./Fall:	140/30			
Base Start/Finish:	1/12/2006-1/13/2006				Drilling Method:	SSA/Drive & Wash		Core Barrel:	NO			
Boring Location:	Sta. 40+94.3, 7.5' RT				Casing ID/OD:	47/4.5", 37/3.5"		Water Level:	26.5'			
Hammer Efficiency Factor: 1.01				Hammer Type:				Automatic ☒ Hydraulic ☐ Rope & Cathead ☐				
Definitions:						S _u = Psor/Amplified Field Vane Unsurpassed Shear Strength (psf) S _u (lab) = Lab Vane Unsurpassed Shear Strength (psf) N ₆₀ = Unconfined Compressive Strength (lbf/in ²) N ₆₀ = Unconfined Compressive Strength (lbf/in ²) N ₆₀ = Unsurpassed = Box Field SPT Result Hammer Efficiency Factor = Rig Specific Annual Calibration Value N ₆₀ = SPT Noncorrected Corrected for Hammer Efficiency N ₆₀ = Hammer Efficiency Factor x N ₆₀ Noncorrected W = Grain Size Analysis C = Consolidation Test						
D = Split Spoon Sample MS = Unconsolidated Split Spoon Sample Attempt U = Thin Wall Tube Sample NU = Unconsolidated Thin Wall Tube Sample Attempt V = Field Vane Shear Test PP = Pocket Penetration Test W = Unsuccessful Field Vane Shear Test Attempt						R = Rock Core Sample SSA = Split Stem Auger HSA = Hollow Stem Auger RC = Roller Cone WBT = Weight of 140 lb. Hammer WPC = Weight of Rod or Casing WPT = Weight of One Person						
Sample Information												
Depth (ft.)	Sample No.	Open, R/C: (in)	Sample Depth (ft.)	Blows / C/S (in)	Shear Capacity (psf) or RQD (%)	Unconsolidated	N ₆₀	Coring Blows	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/ASTM and Unified Class
30												
35	U1	24/24	35.0 - 37.0						34.1		U1: Grey, Silty CLAY. 65 x 130 mm Insitu Field Vane Readings: V1: 226 in-lbs/43 in-lbs V2: 235 in-lbs/40 in-lbs	35.0-
40	V1		37.6 - 38.0		S _u = 516/99 psf							
	V2		38.6 - 39.0		S _u = 538/91 psf							
45	1D	24/12	45.0 - 47.0	16-9-16-9	25	42	86		24.6		Increase in resistance of RC at 44.5" indicates change in strata. Grey, wet, dense, Clayey GRAVEL, little sand (Glacial Till) Recovery may be wash from overlying clay.	44.5-
							95					
							153					
							204					
							115					
50	2B	24/7	50.0 - 52.0	8-9-9-7	18	30	32				Grey, wet, medium dense, GRAVEL, little sand (Glacial Till)	
							74					
							109					
							115				4" casing broke at 54" depth on probable cobbles or boulder, began advancing 3" casing through 4". Grey, wet, Silty Fine to medium SAND, trace gravel (Glacial Till)	
55	3B	15/12	55.0 - 56.3	39-58-50/3"	R		82					
60												
Remarks:												
1. Fine grained soil descriptions on this log are based on plasticity estimated using visual classification techniques or laboratory Atterberg Limit Test if available. 2. Water level readings have been made at 1 hrs and under conditions plasticity. Greater fluctuations may occur due to conditions other than those presented on this log. 3. Water level readings for remainder of casing. 4. The described boring location was surveyed by MaineDOT in the field (261351.DN, 1600158.SE) and provided in an electronic file (Borings 1-29-2006) on February 2, 2006.												
Stratification lines represent approximate boundaries for soil types; transitions may be gradual.										Page 2 of 77		
Water level readings have been made at 1 hrs and under conditions plasticity. Greater fluctuations may occur due to conditions other than those presented on this log.										Boring No.: BB-USGR-201A		

Maine Department of Transportation				Project St. George River Bridge #893		Boring No.: BB-USGR-202							
Soil/Rock Exploration Log US CUSTOMARY UNITS				Location Union, Maine		WIN: 27158.00							
Driller:		Seaboard Drilling		Elevation (ft.):	66.9	Auger ID/OD: 4" / 2"							
Operator:		R. Hackett		Datum:	MVD88	Sampler: Split Spoon							
Logged By:		S. Miller		Rig Type:	Dierich D-50 ATV	Hammer wt./Fall: 140/30							
Date Start/Finish:		1/1/2026-1/14/2026		Drilling Method:	Drive & Wash	Core Barrel: ND							
Boring Location:		Sta. 42+67.9, 8.8' RT		Casing ID/OD:	4"/4.5"	Water Level*: 10.2'							
Hammer Efficiency Factor: 1.011				Hammer Type:		Automatic ☒ Hydraulic ☐ Rge & Cathead ☐							
Corrections:				S _p = Normalized Field Tube Unadjusted Shear Strength (psi) T _{sp} (adj) = Lab Value Unadjusted Shear Strength (psi) N _u = Unadjusted Compression Strength (ksi) N _u = Unadjusted Bulk Field SPI Result N _u = Unadjusted Rig Specific Small Correlation Value N _u = SPI Unadjusted Corrected for Hammer Efficiency N _u = Hammer Efficiency Factor/BSPT Unadjusted									
W = Unadjusted Split Spoon Strength Attempt U = Thin Wall Side Spike M = Unadjusted Fall Tube Shear Stress F = Field Tube Shear Test WU = Unadjusted Field Tube Shear Stress Attempt				R = Rock Core Sampler SSA = Solid Stem Auger MS = Hollow Stem Auger RC = Roller Cone MB = Weighted 142 lb. Hammer PP = Pocket Penetration WUC = Weight of Rods or Casing WUW = Weight of One Person									
Sample Information													
Depth (ft.)	Sample No.	Pen. Rec. (in)	Sample Depth (ft.)	Blows C/S (in)	Strengths (psi)	Gravel (%)	N-unadjusted	N _u	Casing Breaks	Elevation (ft.)	Graphic Log	Visual Description and Remarks	Laboratory Testing Results/AASHTO and Unified Class
30												Dark grey, wet, dense, fine to coarse SAND, some silt, some gravel. (Glacial Till)	GR26-S-283 A-2-4(0), SH WC=29.02
	6D	24/10	31.0 - 33.0	7-10-12-16	R2 = 37					33.0			
35	R1	60/54	34.9 - 39.9	R20 = 77%						33.9		Increased drilling resistance and casing refusal at 33.9'. Advanced RC to 34.9' and set up to core. R1: Hard, fresh, fine grained, grey GNEISS. Primary joints are close to moderately spaced, low angle, unloading rough, fresh, partially open to open, sand infilling. -PENINSULT FIRMATION- Rock Quality = Good Recovery = 90% Rock Core Times (min/sec): 34.9-35.9' (2:22), 35.9-36.9' (1:53), 36.9-37.9' (1:55), 37.9-38.9' (2:15), 38.9-39.9' (2:16) R2: Hard, fresh, fine grained, grey GNEISS. Primary joints are close to moderately spaced, low angle, unloading rough, fresh, partially open to moderately w/d, sand infilling. -PENINSULT FIRMATION- Rock Quality = Good Recovery = 100% Rock Core Times (min/sec): 39.9-40.9' (2:10), 40.9-41.9' (2:10), 41.9-42.9' (2:29), 42.9-43.9' (2:18), 43.9-44.5' (1:55)	
40	R2	55/59	39.9 - 44.5	R20 = 81%						33.4			
45										32.4		Bottom of Exploration at 44.5 feet below ground surface	
50													
55													
60													
Remarks:													
1. Fine grained soil descriptions on this log are based on plasticity estimated using visual classification techniques or laboratory Atterberg Limit Test if available, rather than the Unified standard based percentages passing specific grain sizes. 2. Automatic hammer Seaboard GNEISS Energy Transfer Ratio = 1.011 3. Water level measured since casing upon completion of boring, depth is from top of ground above the borehole. 4. Bridge deck cores and C casing inserted to ground which was measured to be 9' below top of deck. Boring elevation equal to top of ground. 5. The as-drilled boring location was surveyed by MaineDOT in the file (261326.6N, 160230.6E) and provided in an electronic file (Borings 1-29-2026) on February 2, 2026.													
Stratification Lines represent approximate boundaries between soil types; transitions may be gradual. * Water level readings have been made at times and under conditions other than those present at the time measurements were made. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.												Page 2 of 77	
												Boring No.: BB-USGR-202	

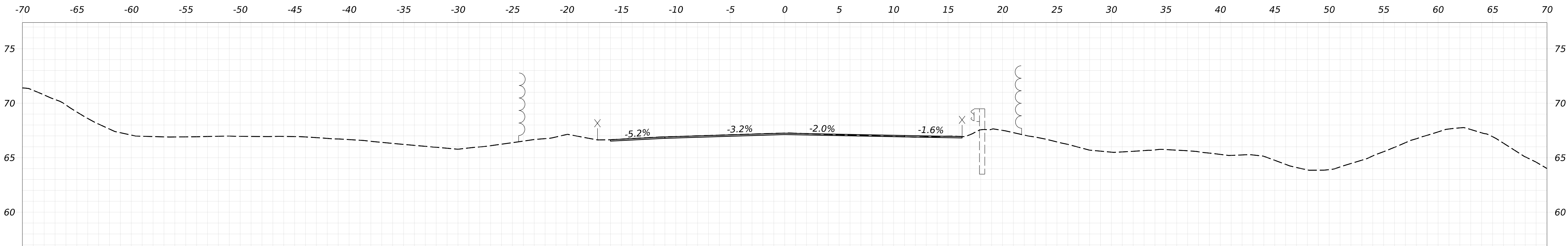
Maine Department of Transportation				Project: St. George River Bridge #0993		Boring No. BB-USGR-201A	
Soil/Rock Exploration Log US CUSTOMARY UNITS				Location: Union, Maine		WIN: 27158.00	
Driller: Seaboard Drilling		Elevation (ft.): 69.1		Auger 10/OD		4" OD	
Operator: K. Hackett		Datum: NAVD88		Sampler:		Split: spoon	
Logged by: S. Miller		Rig Type: Dearth D-50 ATV		Hammer Mt. Fall:		140/30	
Date Start/Finish: 1/12/2006		Drilling Method: SSA/Drive L Wash		Core Barrel:		140/30	
Boring Location: Sta. 40+94.3, 7.5' RT		Casing 10/OD: 74.5", 3" 3/5"		Water Level*: 26.5'			
Hammer Efficiency Factor: 1.011		Hammer Type: Automatic ☒ Hydraulic ☐ Rope & Cathead ☐					
Definitions: D = Split Spoon Sample MS = Unsuccessful Split Spoon Sample Attempt U = This Well Take Sample NS = Unsuccessful, Thin Well Take Sample Attempt V = Field Vane Shear Test PP = Pocket Penetration Test W = Unsuccessful Field Vane Shear Test Attempt		R = Rock Core Sample SSA = Split Stem Auger HSA = Helical Stem Auger R = Roller Core WPM = Weight of 140 lb. Hammer WPMG = Weight of Rods or Casing WPMG = Weight of Rods or Casing		T _u (top) = Lab Vane Unsheared Shear Strength (psf) T _u (bot) = Lab Vane Unsheared Shear Strength (psf) S _u = Unconfined Compressive Strength (psf) N _u = Uncorrected - Raw Field SPT Result Hammer Efficiency Factor = Rig Specific (see Calibration Worksheet) N _u = SPT Uncorrected Corrected for Hammer Efficiency N _u = Hammer Efficiency Factor/SPT/N _u Uncorrected			
				T _u (top) = Lab Vane Unsheared Shear Strength (psf) T _u (bot) = Lab Vane Unsheared Shear Strength (psf) S _u = Unconfined Compressive Strength (psf) N _u = Uncorrected - Raw Field SPT Result Hammer Efficiency Factor = Rig Specific (see Calibration Worksheet) N _u = SPT Uncorrected Corrected for Hammer Efficiency N _u = Hammer Efficiency Factor/SPT/N _u Uncorrected			
				T _u (top) = Lab Vane Unsheared Shear Strength (psf) T _u (bot) = Lab Vane Unsheared Shear Strength (psf) S _u = Unconfined Compressive Strength (psf) N _u = Uncorrected - Raw Field SPT Result Hammer Efficiency Factor = Rig Specific (see Calibration Worksheet) N _u = SPT Uncorrected Corrected for Hammer Efficiency N _u = Hammer Efficiency Factor/SPT/N _u Uncorrected			
				T _u (top) = Lab Vane Unsheared Shear Strength (psf) T _u (bot) = Lab Vane Unsheared Shear Strength (psf) S _u = Unconfined Compressive Strength (psf) N _u = Uncorrected - Raw Field SPT Result Hammer Efficiency Factor = Rig Specific (see Calibration Worksheet) N _u = SPT Uncorrected Corrected for Hammer Efficiency N _u = Hammer Efficiency Factor/SPT/N _u Uncorrected			
				T _u (top) = Lab Vane Unsheared Shear Strength (psf) T _u (bot) = Lab Vane Unsheared Shear Strength (psf) S _u = Unconfined Compressive Strength (psf) N _u = Uncorrected - Raw Field SPT Result Hammer Efficiency Factor = Rig Specific (see Calibration Worksheet) N _u = SPT Uncorrected Corrected for Hammer Efficiency N _u = Hammer Efficiency Factor/SPT/N _u Uncorrected			
				T _u (top) = Lab Vane Unsheared Shear Strength (psf) T _u (bot) = Lab Vane Unsheared Shear Strength (psf) S _u = Unconfined Compressive Strength (psf) N _u = Uncorrected - Raw Field SPT Result Hammer Efficiency Factor = Rig Specific (see Calibration Worksheet) N _u = SPT Uncorrected Corrected for Hammer Efficiency N _u = Hammer Efficiency Factor/SPT/N _u Uncorrected			
				T _u (top) = Lab Vane Unsheared Shear Strength (psf) T _u (bot) = Lab Vane Unsheared Shear Strength (psf) S _u = Unconfined Compressive Strength (psf) N _u = Uncorrected - Raw Field SPT Result Hammer Efficiency Factor = Rig Specific (see Calibration Worksheet) N _u = SPT Uncorrected Corrected for Hammer Efficiency N _u = Hammer Efficiency Factor/SPT/N _u Uncorrected			
				T _u (top) = Lab Vane Unsheared Shear Strength (psf) T _u (bot) = Lab Vane Unsheared Shear Strength (psf) S _u = Unconfined Compressive Strength (psf) N _u = Uncorrected - Raw Field SPT Result Hammer Efficiency Factor = Rig Specific (see Calibration Worksheet) N _u = SPT Uncorrected Corrected for Hammer Efficiency N _u = Hammer Efficiency Factor/SPT/N _u Uncorrected			
				T _u (top) = Lab Vane Unsheared Shear Strength (psf) T _u (bot) = Lab Vane Unsheared Shear Strength (psf) S _u = Unconfined Compressive Strength (psf) N _u = Uncorrected - Raw Field SPT Result Hammer Efficiency Factor = Rig Specific (see Calibration Worksheet) N _u = SPT Uncorrected Corrected for Hammer Efficiency N _u = Hammer Efficiency Factor/SPT/N _u Uncorrected			
				T _u (top) = Lab Vane Unsheared Shear Strength (psf) T _u (bot) = Lab Vane Unsheared Shear Strength (psf) S _u = Unconfined Compressive Strength (psf) N _u = Uncorrected - Raw Field SPT Result Hammer Efficiency Factor = Rig Specific (see Calibration Worksheet) N _u = SPT Uncorrected Corrected for Hammer Efficiency N _u = Hammer Efficiency Factor/SPT/N _u Uncorrected			
				T _u (top) = Lab Vane Unsheared Shear Strength (psf) T _u (bot) = Lab Vane Unsheared Shear Strength (psf) S _u = Unconfined Compressive Strength (psf) N _u = Uncorrected - Raw Field SPT Result Hammer Efficiency Factor = Rig Specific (see Calibration Worksheet) N _u = SPT Uncorrected Corrected for Hammer Efficiency N _u = Hammer Efficiency Factor/SPT/N _u Uncorrected			
				T _u (top) = Lab Vane Unsheared Shear Strength (psf) T _u (bot) = Lab Vane Unsheared Shear Strength (psf) S _u = Unconfined Compressive Strength (psf) N _u = Uncorrected - Raw Field SPT Result Hammer Efficiency Factor = Rig Specific (see Calibration Worksheet) N _u = SPT Uncorrected Corrected for Hammer Efficiency N _u = Hammer Efficiency Factor/SPT/N _u Uncorrected			
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				T _u (top) = Lab Vane Unsheared Shear Strength (psf) T _u (bot) = Lab Vane Unsheared Shear Strength (psf) S _u = Unconfined Compressive Strength (psf) N _u = Uncorrected - Raw Field SPT Result Hammer Efficiency Factor = Rig Specific (see Calibration Worksheet) N _u = SPT Uncorrected Corrected for Hammer Efficiency N _u = Hammer Efficiency Factor/SPT/N _u Uncorrected			
				T _u (top) = Lab Vane Unsheared Shear Strength (psf) T _u (bot) = Lab Vane Unsheared Shear Strength (psf) S _u = Unconfined Compressive Strength (psf) N _u = Uncorrected - Raw Field SPT Result Hammer Efficiency Factor = Rig Specific (see Calibration Worksheet) N _u = SPT Uncorrected Corrected for Hammer Efficiency N _u = Hammer Efficiency Factor/SPT/N _u Uncorrected			
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				T _u (top) = Lab Vane Unsheared Shear Strength (psf) T _u (bot) = Lab Vane Unsheared Shear Strength (psf) S _u = Unconfined Compressive Strength (psf) N _u = Uncorrected - Raw Field SPT Result Hammer Efficiency Factor = Rig Specific (see			

Maine Department of Transportation				Project St. George River Bridge #0893		Boring No.: BB-USGR-202																	
Soil/Rock Exploration Log US CUSTOMARY UNITS				Location Union, Maine		WIN: 27158.00																	
Driller:		Seaboard Drilling		Elevation (ft.): 66.9		Auger ID/DD: 4" DD																	
Operator:		R. Hockett		Datum: NAD83		Sampler: Spl spoon																	
Logger By:		S. Miller		Rig Type: Bough ch D-50 ATV		Moisture at / Soil: 140.30																	
Date Start/Finish: 1/14/2026-1/14/2026				Drilling Method Drive & Wash		Core Barrel: NO																	
Boring Location: Sta: 42+67.9, B * RT				Casing ID/DD: 4"/4.5"		Water Level*: 10.2'																	
Hummer Efficiency Factor: 1.011				Hammer Type: Automatic ☒ Hydraulic ☐ Rope & Cathrod ☐																			
Definitions:				R = Rock Core Sample S = Split Stem Auger HSA = Hollow Stem Auger V = Vertical Taper Sample RP = Pocket Penetration Test W = Water Content, percent LL = Liquid Limit PL = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test																			
B = Split Spoon Sample				N = Non-uncorrected Field Shear Strength (psf) U _{max} = Maximum Undrained Shear Strength (psf) U _c = Corrected Compressive Strength (ksi) Uncorrected = Raw Field SPI Review Hummer Efficiency Factor x Rig Specific Annular Calibration Value = SPI Uncorrected Corrector for Hummer Efficiency N _p = Hummer Efficiency Factor x 600 = uncorrected																			
PB = Uncorrected Split Spoon Sample Attempt																							
U = Thin Wall Tube Sample				HC = Water Content																			
MU = Unconsolidated Thin Wall Tube Sample Attempt				WTR = Weight of 140lb. Hammer																			
V = Field Shear Test				RP = Pocket Penetration Test																			
W = Unconsolidated Field Shear Test Attempt				WTR = Weight of 140lb. Hammer																			
				N _p = SPI Uncorrected Corrector for Hummer Efficiency																			
				N _p = Hummer Efficiency Factor x 600 = uncorrected																			
				C = Consolidation Test																			
Simple Information																							
Depth (ft.)		Sample No.		Pen./Acc. (in)		Sample Depth (ft.)		Blows (/6 in) - Deeper than 10 ft. or add (.2) or add (.2)		Uncorrected		N _p		Casing Blows		Elevation (ft.)		Gravel Log		Visual Description and Remarks		Laboratory Results/ ACQTD and Unified Class	
0		10		24/3		0.0 - 2.0		1-2-1-2		3		5		32						Brown, wet, loose, fine to coarse SAND, little gravel, little silt. (FILL)			
														15									
														18									
														39									
5														35									
		2D		24/5		6.0 - 8.0		7-7-7-7		14		24		26						Brown, wet, medium dense, fine to coarse SAND, some gravel. Little silt. (FILL)			
														52									
														57									
-10														49									
		3C		24/11		11.0 - 13.0		8-5-3-3		10		17		37						Dark brown, moist, medium dense, Silty fine to coarse SAND, trace gravel. (FILL)		GAGS-5-SM A=2-4(0), PL WC=13.5%	
														30									
														47									
														68									
-15														72									
		4D		24/12		16.0 - 18.0		16-5-4-5		9		15		52						Brown, moist, Silty fine to coarse SAND, trace gravel. (FILL)		CL LL=26 PL=15 FI=11 WC=23.3% BGU=7.0	
														59						4D (Bottom 8") Grey, moist, stiff to very stiff, Clayey SILT, trace sand, trace gravel, trace organics (Marine Clay)			
														37									
-20														42									
		5D		24/19		21.0 - 23.0		1-2-1-2		3		5		30						Grey, wet, medium stiff, Clayey SILT, some sand		GAGS-5-BBS A=4(0), PL WC=23.8%	
														38									
														42									
-25														200/B*									
														RC						Heavy drilling action from 24.7-29.3' indicates cobbles and boulders. (Probable Glacial Till)		Testing-	
														42.2									
Remarks:																							
1. Fine grained soil descriptions on this log are based on plasticity estimated using visual classification techniques or Laboratory Atterberg Limit Test if available, rather than the MoDOT standard blow percentages passing specific grain sizes.																							
2. Automatic Hammer Seaboard SDR60 Energy Transfer Ratio = 1.011																							
3. Water level measured relative to casing upon completion of boring, depth is from top of ground below the bridge.																							
4. Bridge jack core used casing lowered to ground which was measured to be 1 mile west of track. Boring elevation equal to top of ground																							
5. The water-level boring location was surveyed by MoDOT in the field (RD105, 60, 100000, 4C) and provided in an electronic file (BB-grn-1-29-2026) on February 2, 2026.																							
Soilification 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 ??																		Boring No.: BB-USGR-202					

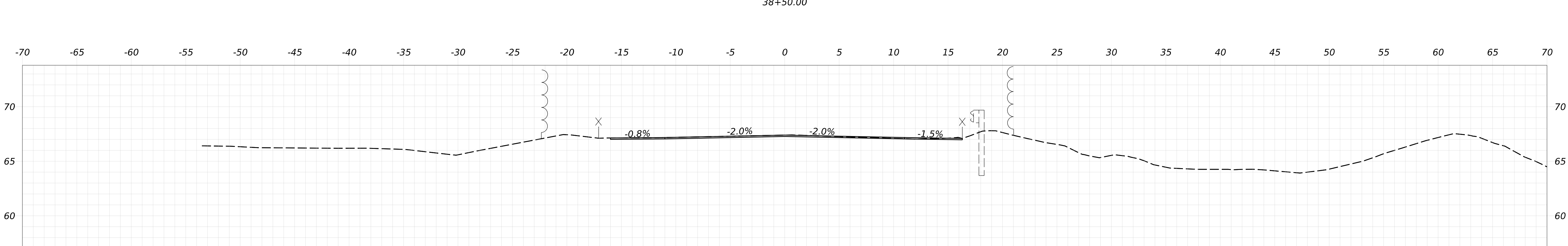
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38+75.00



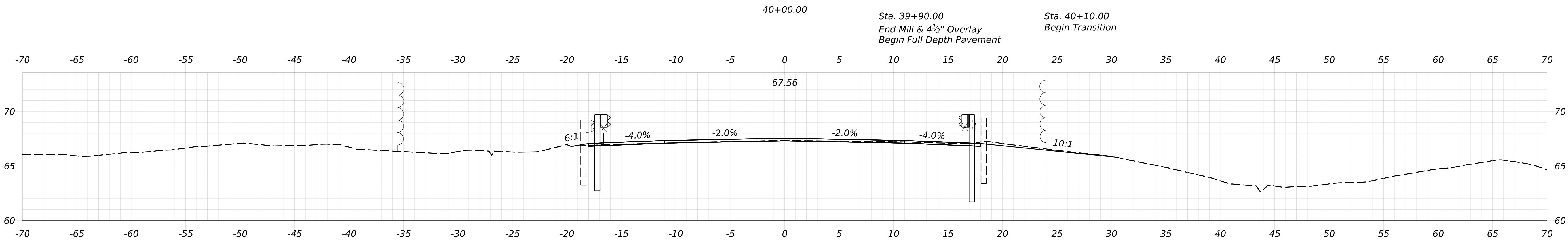
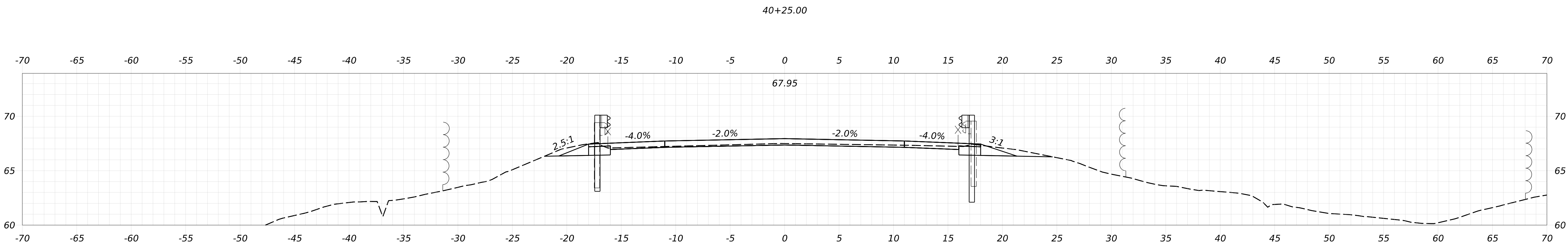
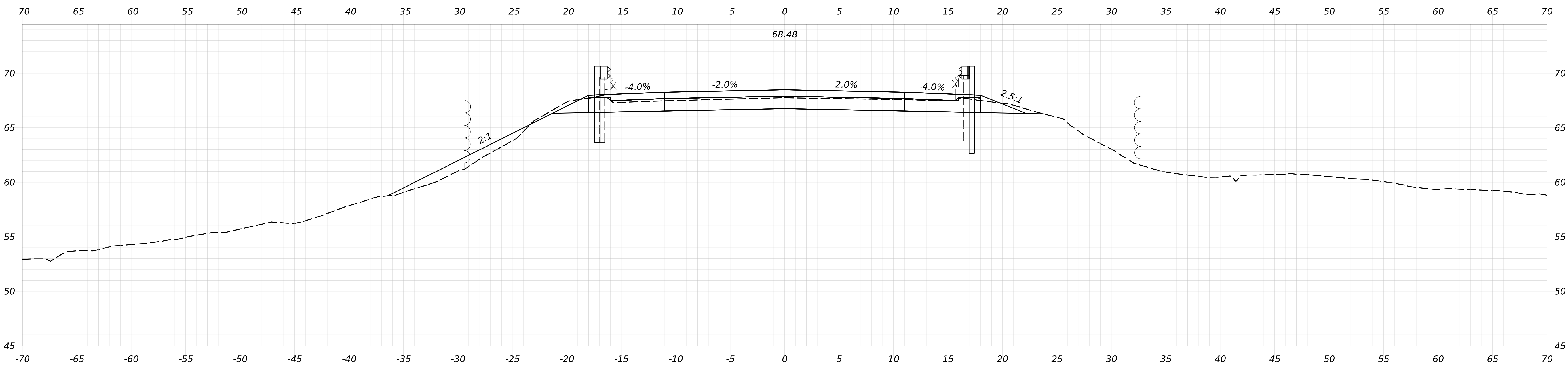
38+50.00



38+25.00



STATE OF MAINE DEPARTMENT OF TRANSPORTATION	Federal Project No. 2715800		WIN 27158.00	
	ST. GEORGE RIVER BRIDGE NO. 5893 CROSSING ST. GEORGE RIVER UNION			
SHEET NUMBER		11		OF 33
PROJ. MANAGER	S. ZIMMERMAN	BY	DATE	SIGNATURE
DESIGN-DETAILED	CHL	CHL	AUG 2026	
CHECKED-REVIEWED	SWW/PH	SWW/PH	AUG 2026	
DESIGN-DETAILED2				
DESIGN-DETAILED3				
REVISIONS 1				
REVISIONS 2				
REVISIONS 3				
REVISIONS 4				
FIELD CHANGES				



Sta. 39+60.27, 28.07' LT
Install Terminal End - Single
Rail - Galvanized Steel

Sta. 39+60.27, 28.07' LT to Sta. 39+81.18,16.37' LT
Install 25' 31" W-Beam Guardrail - Mid-Way Splice,
Over 15' Radius (R=25') (8' Posts)

Sta. 39+81.18,16.37' LT to Sta. 40+56.18, 16.00' LT
Install 75' 31" W-Beam Guardrail - Mid-Way
Splice - Single Faced (8' Posts)

39+75.00

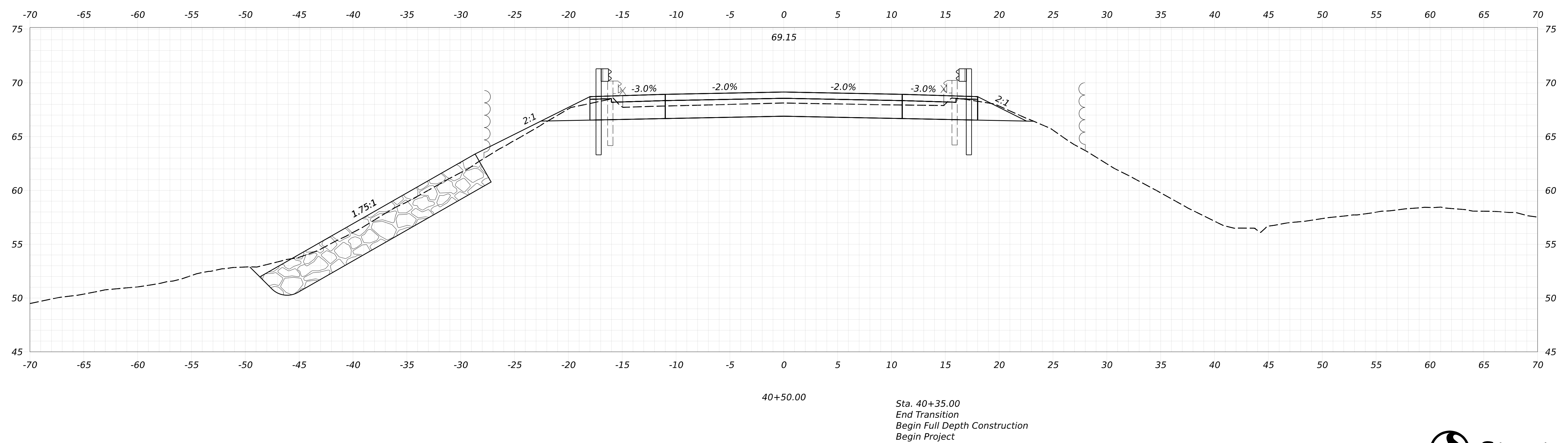
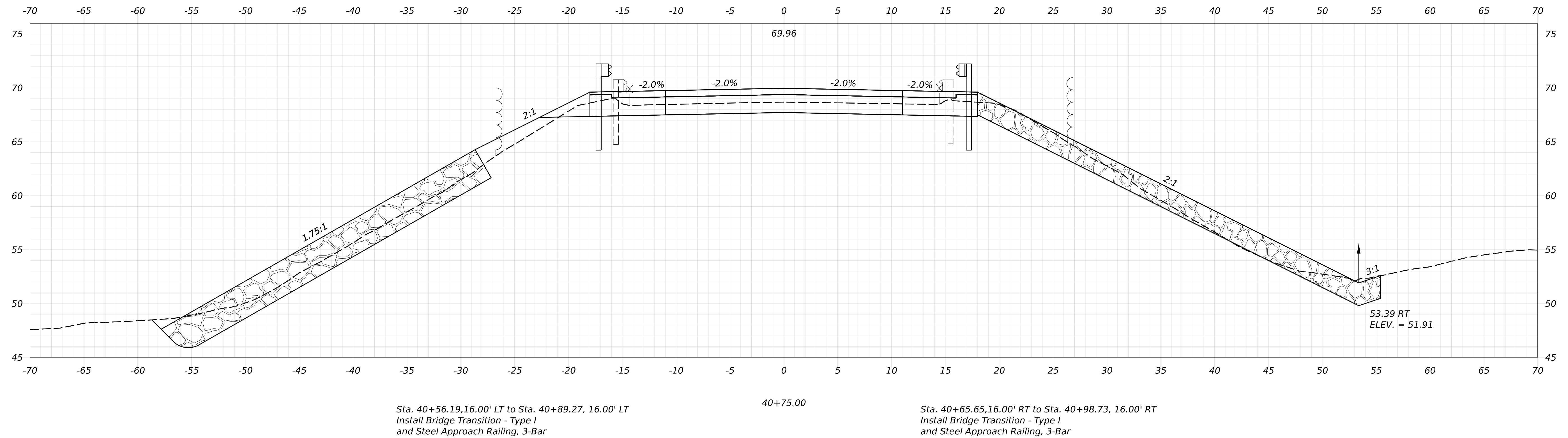
Sta. 39+65.00
End Mill & 1½" Overlay
Begin Mill & 3" Overlay

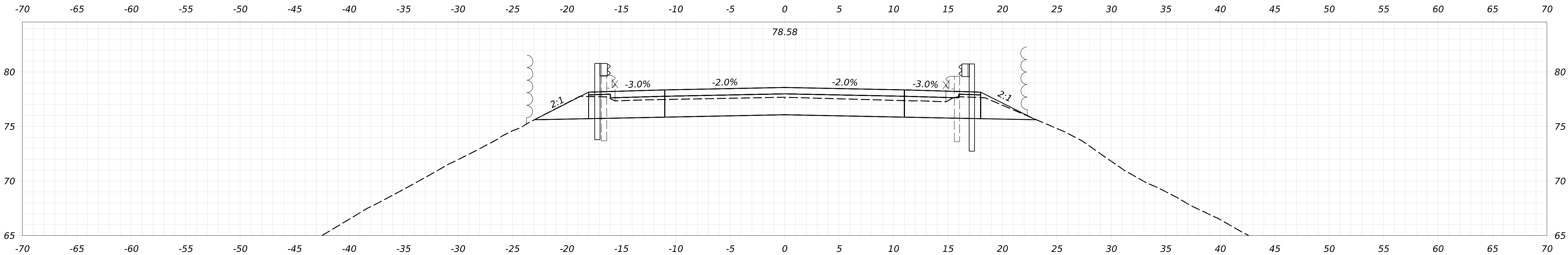
Sta. 39+75.00
End Mill & 3" Overlay
Begin Mill & 4½" Overlay

Sta. 39+65.65, 16.00' RT to Sta. 40+65.65, 16.00' RT
Install 100' 31" W-Beam Guardrail - Mid-Way
Splice - Single Faced (8' Posts)



ST. GEORGE RIVER BRIDGE NO. 5893 CROSSING ST. GEORGE RIVER UNION				PROJ. MANAGER		S. ZIMMERMAN		BY		DATE		STATE OF MAINE DEPARTMENT OF TRANSPORTATION	
CROSS SECTIONS				DESIGN-DETAILED		CHL		AUG 2026					
				CHECKED-REVIEWED		SAW/JRH		AUG 2026		SIGNATURE			
				DESIGN-DETAILED2									
				DESIGN-DETAILED3						P.E. NUMBER			
				REVISIONS 1									
				REVISIONS 2								WIN 27158.00	
				REVISIONS 3						DATE			
				REVISIONS 4									
				FIELD CHANGES									
SHEET NUMBER				13		OF		33					



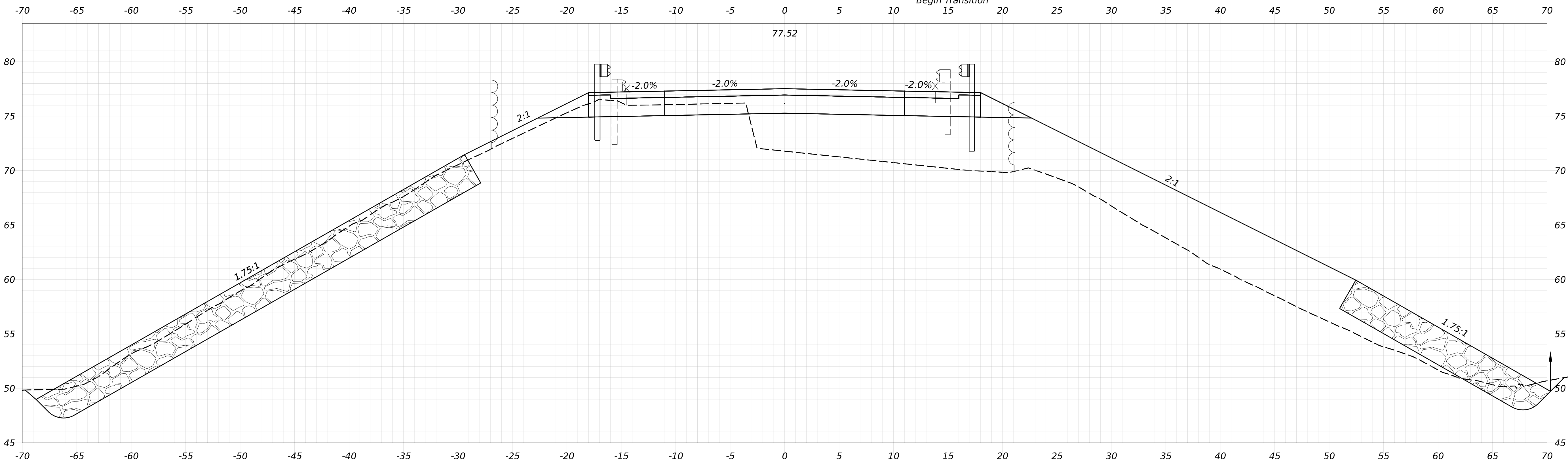


Sta. 42+86.35, 16.00' LT to Sta. 44+11.34, 16.38' LT
Install 75' 31" W-Beam Guardrail - Mid-Way
Splice - Single Faced (8' Posts)

43+00.00

Sta. 43+00.00
End Project
End Full Depth Construction
Begin Transition

Sta. 42+95.81, 16.00' RT to Sta. 45+20.81', 16.00' RT
Install 225' 31" W-Beam Guardrail - Mid-Way
Splice - Single Faced (8' Posts)



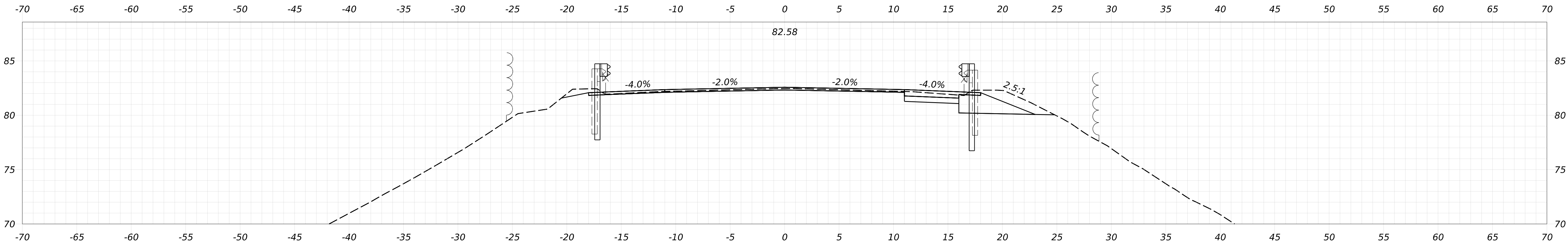
Sta. 42+53.27, 16.00' LT to Sta. 42+86.35, 16.00' LT
Install Steel Approach Railing, 3-Bar and Bridge
Transition - Type I

42+75.00

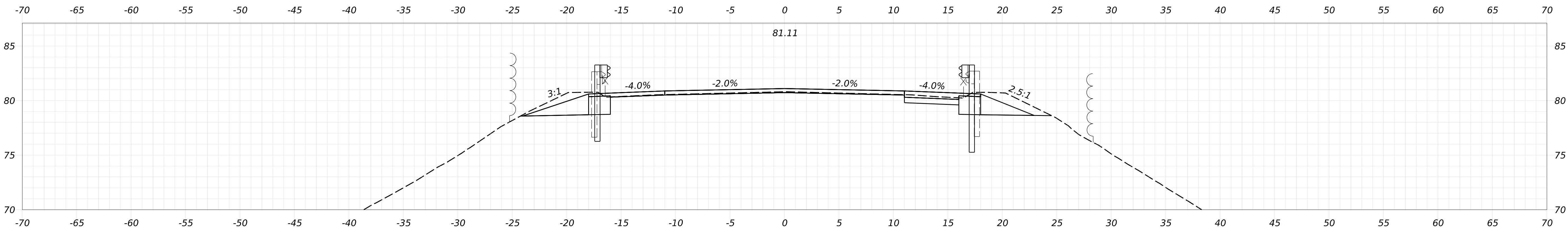
Sta. 42+62.72, 16.00' RT to Sta. 42+95.84, 16.00' RT
Install Steel Approach Railing, 3-Bar and Bridge
Transition - Type I



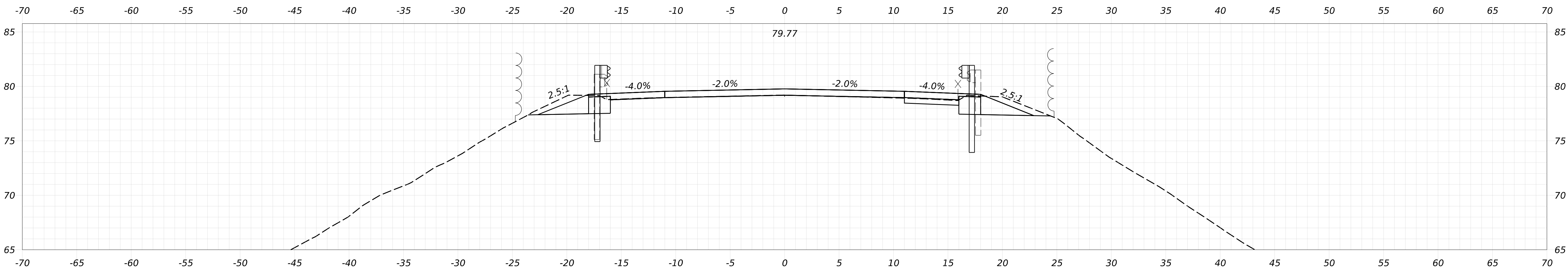
STATE OF MAINE DEPARTMENT OF TRANSPORTATION		FEDERAL PROJECT NO. 2715800		WIN 27158.00	
ST. GEORGE RIVER BRIDGE NO. 5893 CROSSING ST. GEORGE RIVER UNION		CROSS SECTIONS			
SHEET NUMBER		15 OF 33			
PROJ. MANAGER	BY	DATE	SIGNATURE	P.E. NUMBER	DATE
S. ZIMMERMAN	CHL	AUG 2026			
DESIGN-DETAILED	CHL	AUG 2026			
CHECKED-REVIEWED	SWH/PH				
DESIGN-DETAILED	SWH/PH				
DESIGN-DETAILED					
REVISIONS 1					
REVISIONS 2					
REVISIONS 3					
REVISIONS 4					
FIELD CHANGES					



43+75.00
Sta. 43+75.00
End Mill & 3" Overlay
Begin Mill & 1½" Overlay



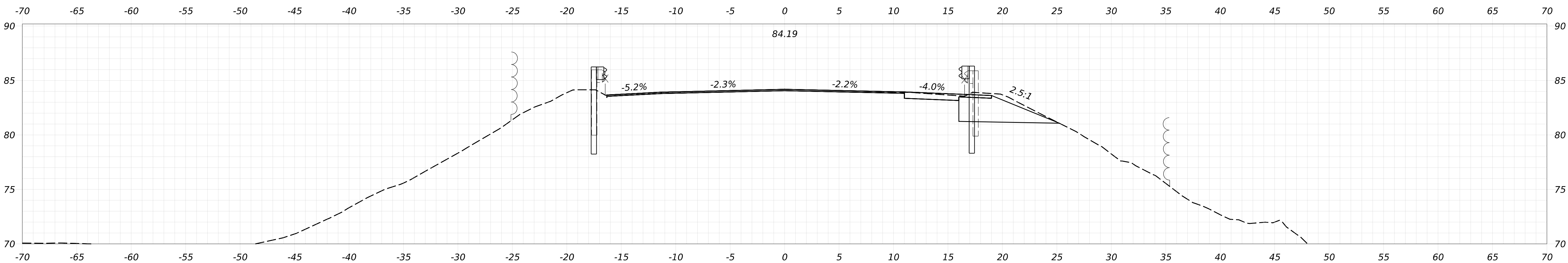
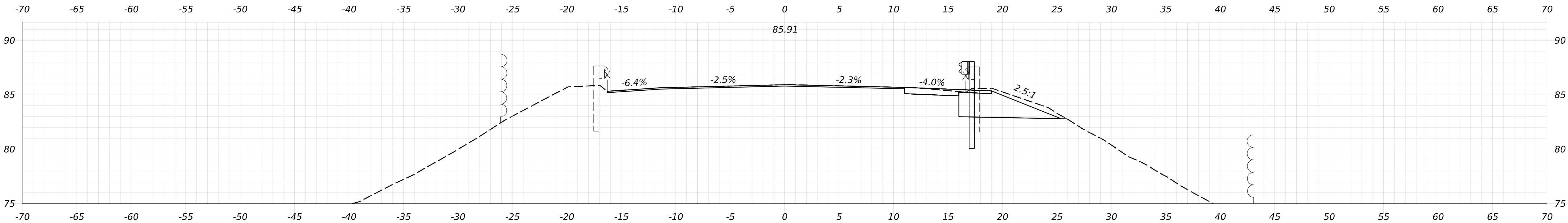
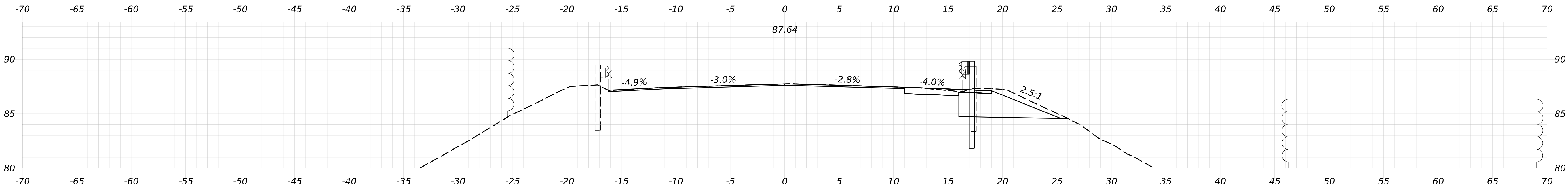
43+50.00
Sta. 43+45.00
Begin Mill & 4½" Overlay
Sta. 43+55.00
End Mill & 4½" Overlay
Begin Mill & 3" Overlay



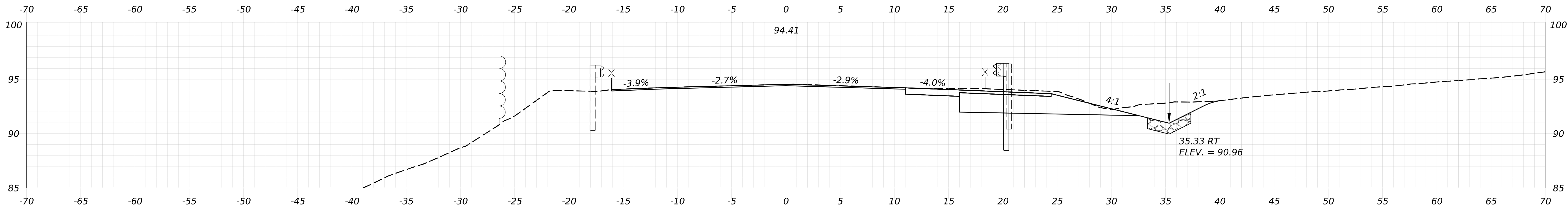
43+25.00
Sta. 43+25.00
End Transition



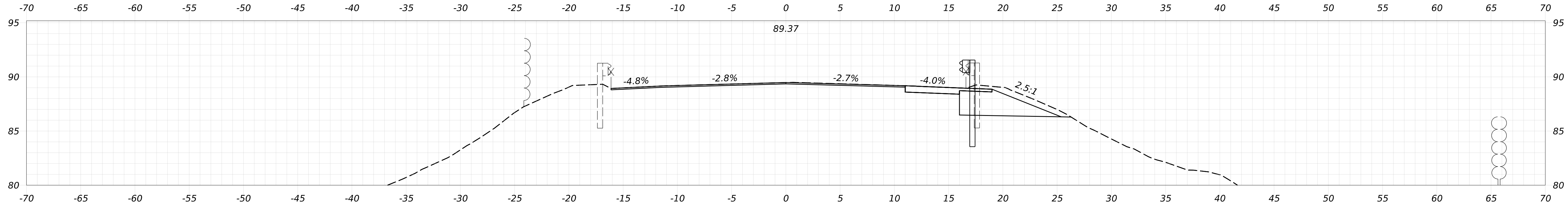
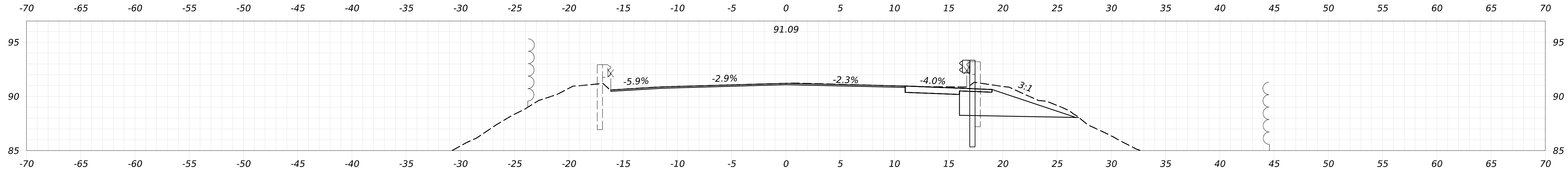
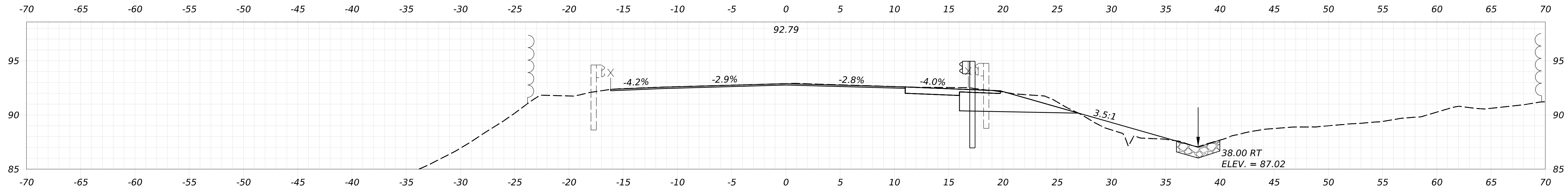
STATE OF MAINE		DEPARTMENT OF TRANSPORTATION		Federal Project No. 2715800		WIN 27158.00	
ST. GEORGE RIVER BRIDGE NO. 5893		CROSSING ST. GEORGE RIVER		UNION		CROSS SECTIONS	
SHEET NUMBER		16		OF		33	
PROJ. MANAGER	5. ZIMMERMAN	BY	DATE	SIGNATURE	P.E. NUMBER	DATE	
DESIGN-DETAILED	CHL	CHL	AUG 2026				
CHECKED-REVIEWED	SWW/PH	SWW/PH	AUG 2026				
DESIGN-DETAILED2							
DESIGN-DETAILED3							
REVISIONS 1							
REVISIONS 2							
REVISIONS 3							
REVISIONS 4							
FIELD CHANGES							



STATE OF MAINE		DEPARTMENT OF TRANSPORTATION		Federal Project No. 2715800		WIN 27158.00	
ST. GEORGE RIVER BRIDGE NO. 5893		CROSSING ST. GEORGE RIVER		UNION		CROSS SECTIONS	
SHEET NUMBER		17		OF		33	
PROJ. MANAGER	S. ZIMMERMAN	BY	DATE	SIGNATURE	P.E. NUMBER	DATE	
DESIGN-DETAILED	CHL	CHL	AUG 2026				
CHECKED-REVIEWED	SWW/PH	SWW/PH	AUG 2026				
DESIGN-DETAILED2							
DESIGN-DETAILED3							
REVISIONS 1							
REVISIONS 2							
REVISIONS 3							
REVISIONS 4							
FIELD CHANGES							

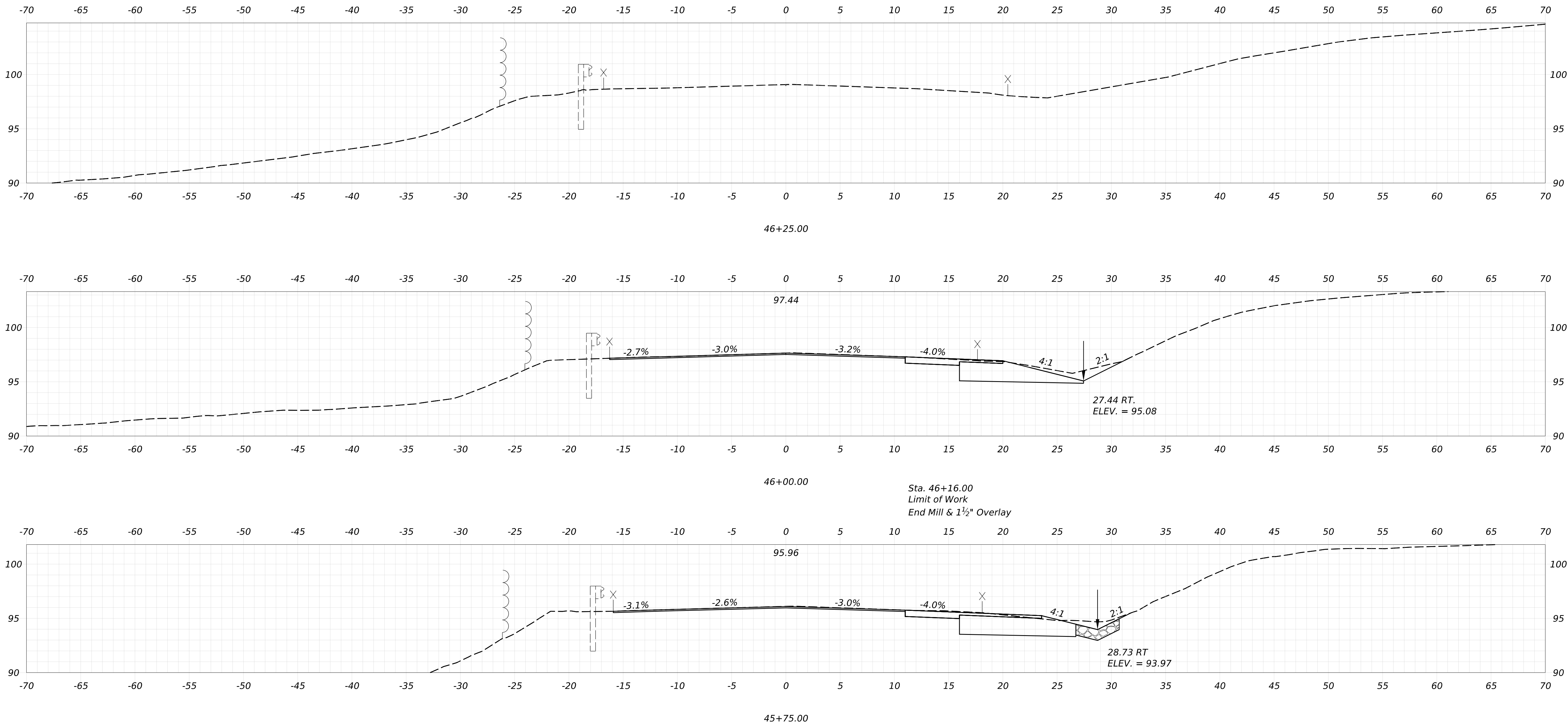


Sta. 45+20.81, 16.00' RT
Install 31" W-Beam Guardrail - Mid-Way Splice Flared Terminal



PROJ. MANAGER	DESIGN-DETAILED	CHECKED-REVIEWED	BY	DATE	SIGNATURE	P.E. NUMBER	DATE
S. ZIMMERMAN	CHL	CHL	CHL	AUG 2026			
	DESIGN-DETAILED	CHL	CHL	AUG 2026			
	DESIGN-DETAILED	CHL	CHL				
	DESIGN-DETAILED	CHL	CHL				
	DESIGN-DETAILED	CHL	CHL				
	DESIGN-DETAILED	CHL	CHL				
	DESIGN-DETAILED	CHL	CHL				
	DESIGN-DETAILED	CHL	CHL				
	DESIGN-DETAILED	CHL	CHL				





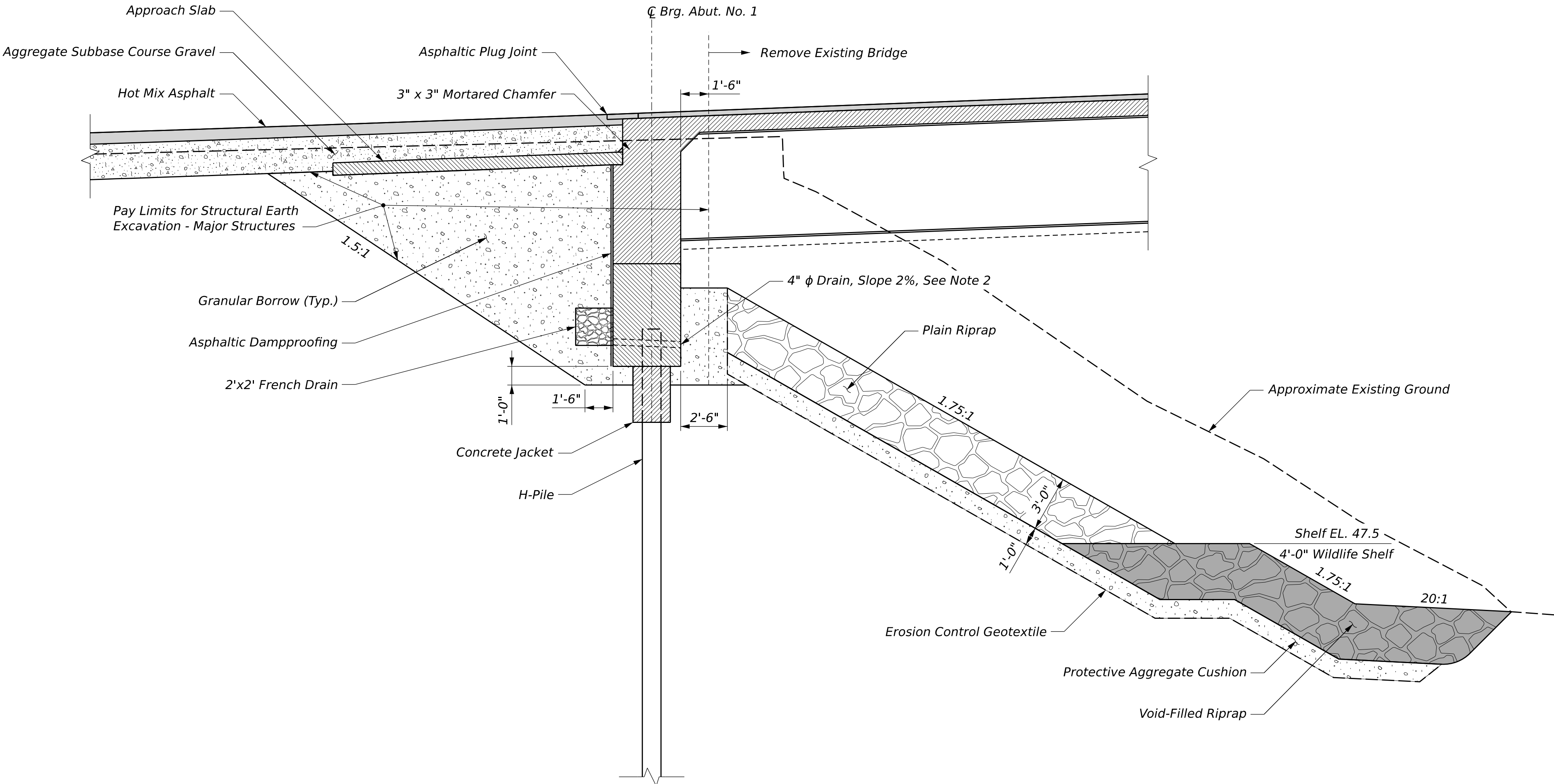
STATE OF MAINE		DEPARTMENT OF TRANSPORTATION	
Federal Project No. 2715800		WIN 27158.00	
SIGNATURE		P.E. NUMBER	
DATE		DATE	
PROJ. MANAGER	BY	DATE	
DESIGN-DETAILED	CHL	AUG 2026	
CHECKED-REVIEWED	CHL	AUG 2026	
DESIGN-DETAILED2	SWW/PH		
DESIGN-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			
ST. GEORGE RIVER BRIDGE NO. 5893 CROSSING ST. GEORGE RIVER UNION		CROSS SECTIONS	
SHEET NUMBER		19	
		OF 33	

ABUTMENT NOTES

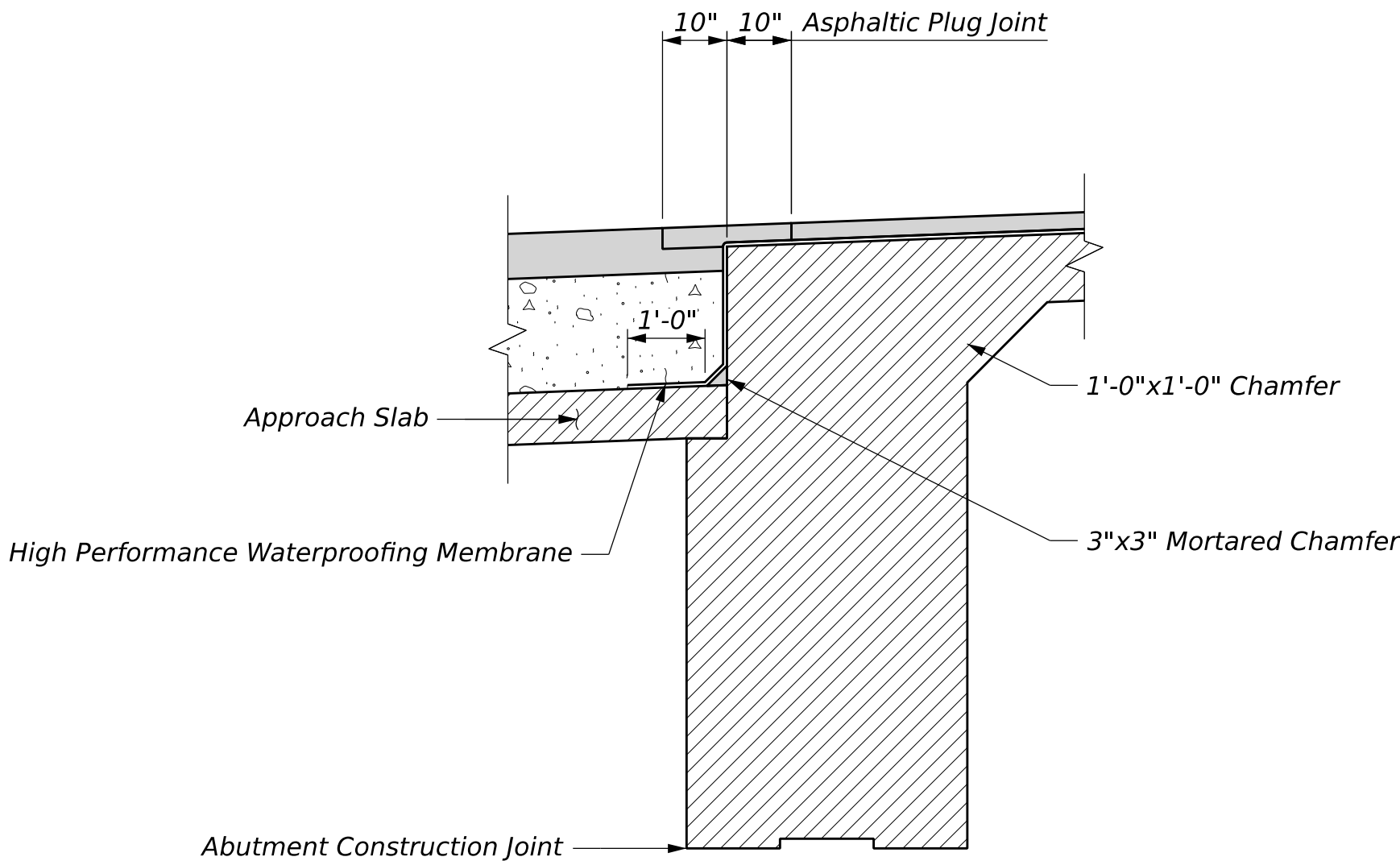
1. Reinforcing steel shall have a minimum concrete cover of 2 inches unless otherwise noted.
2. Place drains with a 4-inch diameter in the pilecap at 10 feet maximum spacing. The exact location will be determined by the Resident.
3. Cover joints where waterstops are not required in accordance with Standard Details Section 502.
4. 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.
5. Asphalt Dampproofing shall be applied to the far face of wingwalls up to 1 foot below grade.
6. Asphaltic Dampproofing shall meet the requirements of either ASTM D449 Type II, ASTM D1227 Type II - Class I, or ASTM D1227 Type III - Class I. The Product shall be applied in accordance with the manufacturer's recommendations.
7. Payment for Asphaltic Dampproofing and Mortared Chamfer at the joint between the Approach Slab and the End Diaphragm will not be made directly, but will be considered incidental to related Contract Items.
8. Payment for Temporary Girder Supports, including anchor rods, leveling plates, any associated hardware, and labor required for installation will not be made directly, but will be considered incidental to Pay Item No. 502.219, Structural Concrete, Abutments and Retaining Walls.

PILE NOTES

1. The maximum factored pile load is 400 kips at the Strength Limit State.
2. Piles shall be driven to the required resistance on or within bedrock in accordance with Standard Specification Section 501.
3. Estimate of piles required:
- Abutment No. 1: 5 ~ HP14x117 @ 60 feet
Abutment No. 2: 5 ~ HP14x117 @ 45 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.
4. H-Pile material shall be ASTM A572, Grade 50.
5. H-Pile splices shall be in accordance with Standard Detail 501(03).
6. All piles 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 (or 711.01 Steel Pipe Piles, Splices 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 to the Department, for review and acceptance, their proposed pile driving equipment with a compiled "Pile Driving and Equipment Data Form," Figure 1, of Standard Specification Section 501.042, Equipment for Driving Piles. Approval of the proposed pile driving equipment by the Department will be based on the Department - conducted wave equation analyses and the criteria specified in Section 501 and Subsection 501.042, Equipment for Driving Piles. If the Department - conducted wave equation analyses show that the proposed system(s) is unacceptable, the Contractor shall modify or replace the proposed driving equipment in an amendment of the QCP, at their own expense, until subsequent wave equation analyses by the Department indicate the pile can be driven to the required resistance, without damage or excessive blows.
9. The Contractor shall provide access for the agents of the Department to perform (2) dynamic load tests with signal matching and restrrike, as specified in Special Provision 501 - Dynamic Loading Test, to confirm the nominal resistance of the piles. The dynamic pile load tests shall be completed on the first production pile at Abutment 1 and Abutment 2. The required nominal resistance for the piles are the maximum factored axial pile load divided by 0.65 for the controlling Strength Limit State. The Contractor may drive production piles to the preliminary driving criteria, however pile cut-off shall not be permitted until completion of restrrike testing and establishment of the final driving criteria.
10. Pile splices shall not be permitted in the upper 15 feet of the piles.



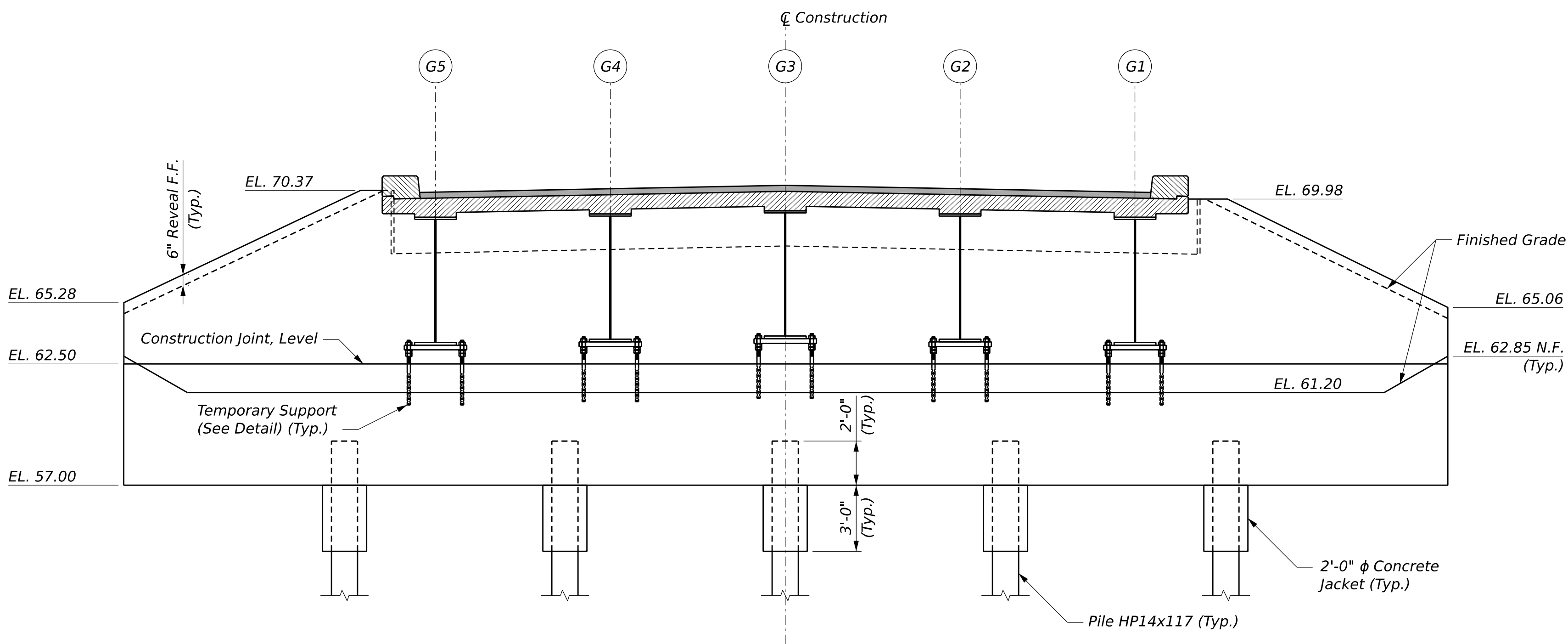
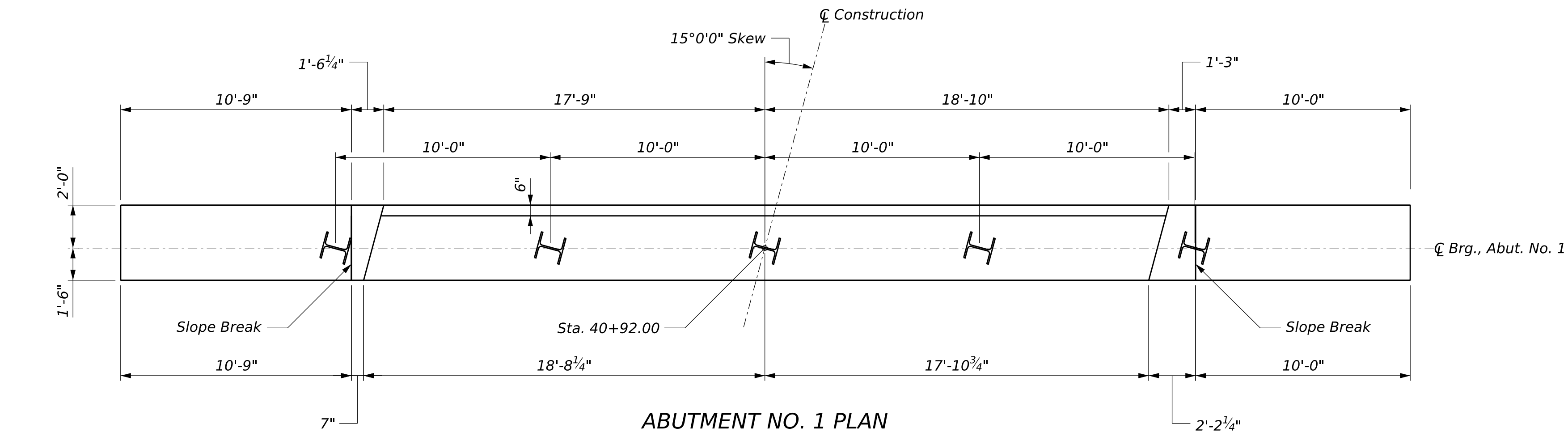
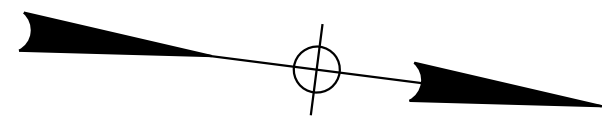
ABUTMENT BACKFILL DETAIL



APPROACH SLAB DETAIL

SHEET NUMBER				20				OF 33					
ST. GEORGE RIVER BRIDGE NO. 5893 CROSSING ST. GEORGE RIVER UNION				ABUTMENT DETAILS				PROJ. MANAGER S. ZIMMERMAN				DATE	
								DESIGN-DETAILED PEH		BY PEH		AUG 2026	
								CHECKED-REVIEWED KLW		BY KLW		AUG 2026	
								DESIGN-DETAILED2					
								DESIGN-DETAILED3					
								DESIGN-DETAILED3				SIGNATURE	
								REVISIONS 1		P.E. NUMBER			
								REVISIONS 2					
								REVISIONS 3					
								REVISIONS 4					
								FIELD CHANGES		DATE			
								STATE OF MAINE					
								DEPARTMENT OF TRANSPORTATION					
								Federal Project No. 2715800					
								WIN 27158.00					



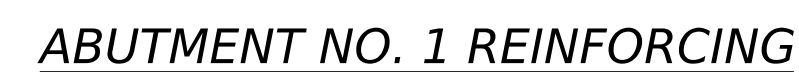


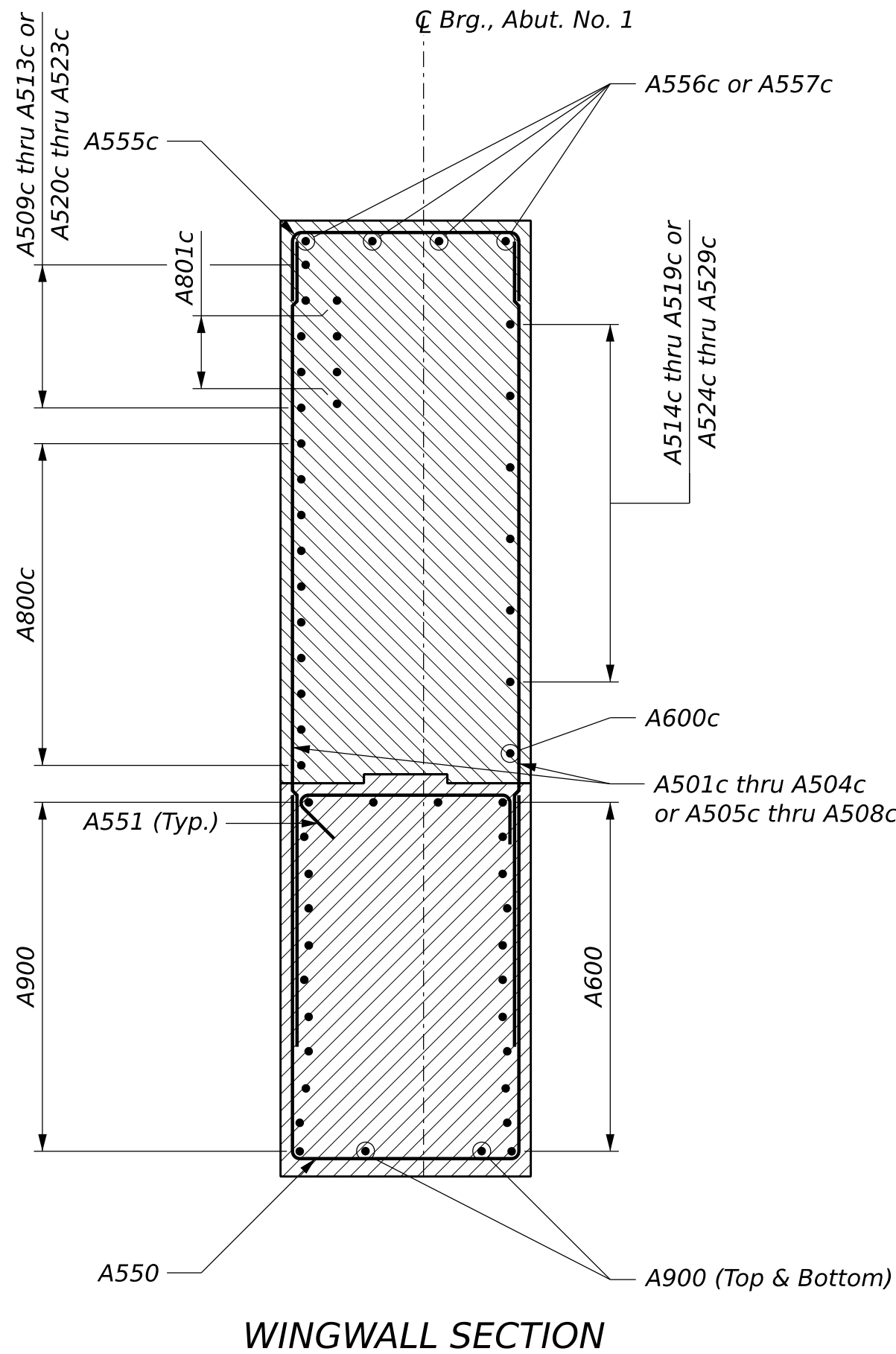
ABUT. NO. 1 BOTTOM OF GIRDER ELEVATIONS	
Girder	Elevation
G1	63.22
G2	63.45
G3	63.68
G4	63.60
G5	63.53



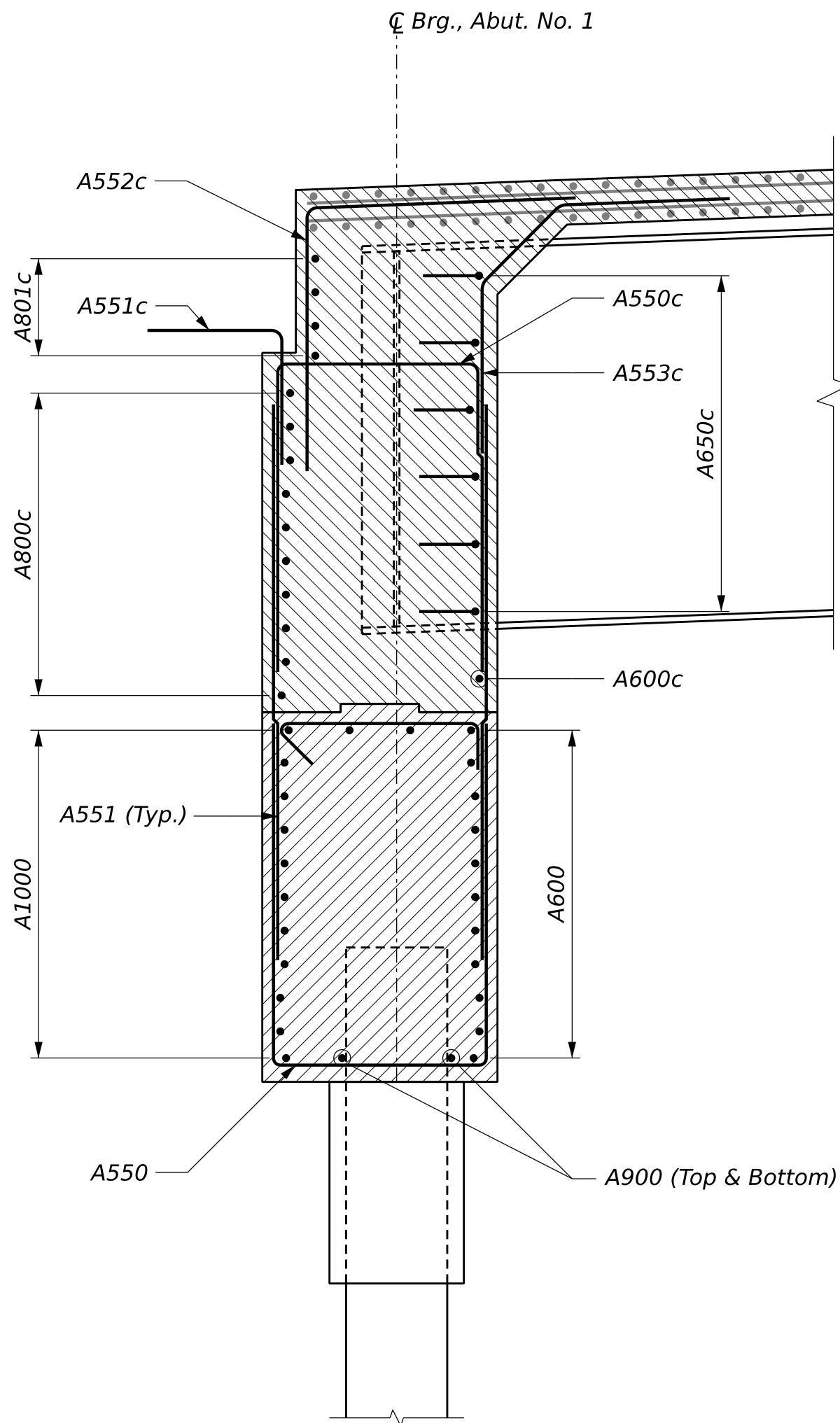
STATE OF MAINE DEPARTMENT OF TRANSPORTATION Federal Project No. 2715800 WIN 27158.00	<table><tr><td>PROJ. MANAGER</td><td>S. ZIMMERMAN</td><td>BY</td><td>DATE</td></tr><tr><td>DESIGN-DETAILED</td><td>PEH</td><td>PEH</td><td>AUG 2026</td></tr><tr><td>CHECKED-REVIEWED</td><td>KLW</td><td>SIW</td><td>AUG 2026</td></tr><tr><td>DESIGN-DETAILED</td><td></td><td></td><td></td></tr><tr><td>DESIGN-DETAILED</td><td></td><td></td><td></td></tr><tr><td>REVISIONS 1</td><td></td><td></td><td></td></tr><tr><td>REVISIONS 2</td><td></td><td></td><td></td></tr><tr><td>REVISIONS 3</td><td></td><td></td><td></td></tr><tr><td>REVISIONS 4</td><td></td><td></td><td></td></tr><tr><td>FIELD CHANGES</td><td></td><td></td><td></td></tr></table>	PROJ. MANAGER	S. ZIMMERMAN	BY	DATE	DESIGN-DETAILED	PEH	PEH	AUG 2026	CHECKED-REVIEWED	KLW	SIW	AUG 2026	DESIGN-DETAILED				DESIGN-DETAILED				REVISIONS 1				REVISIONS 2				REVISIONS 3				REVISIONS 4				FIELD CHANGES				SIGNATURE
		PROJ. MANAGER	S. ZIMMERMAN	BY	DATE																																					
DESIGN-DETAILED	PEH	PEH	AUG 2026																																							
CHECKED-REVIEWED	KLW	SIW	AUG 2026																																							
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REVISIONS 4																																										
FIELD CHANGES																																										
		P.E. NUMBER																																								
		DATE																																								

ST. GEORGE RIVER BRIDGE NO. 5893 CROSSING ST. GEORGE RIVER UNION	ABUTMENT NO. 1 PLAN & ELEVATION
SHEET NUMBER	
21	
OF 33	



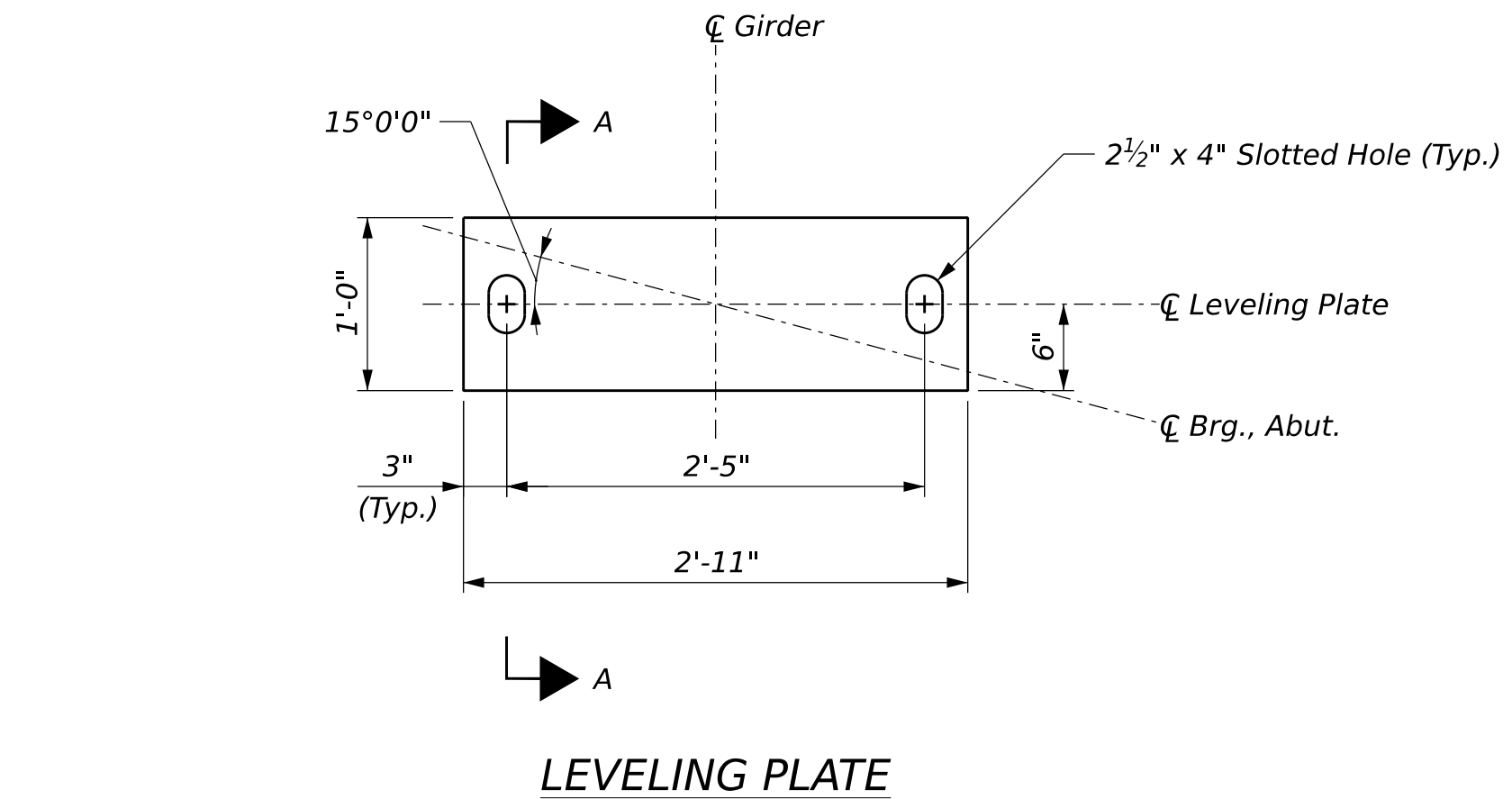


WINGWALL SECTION

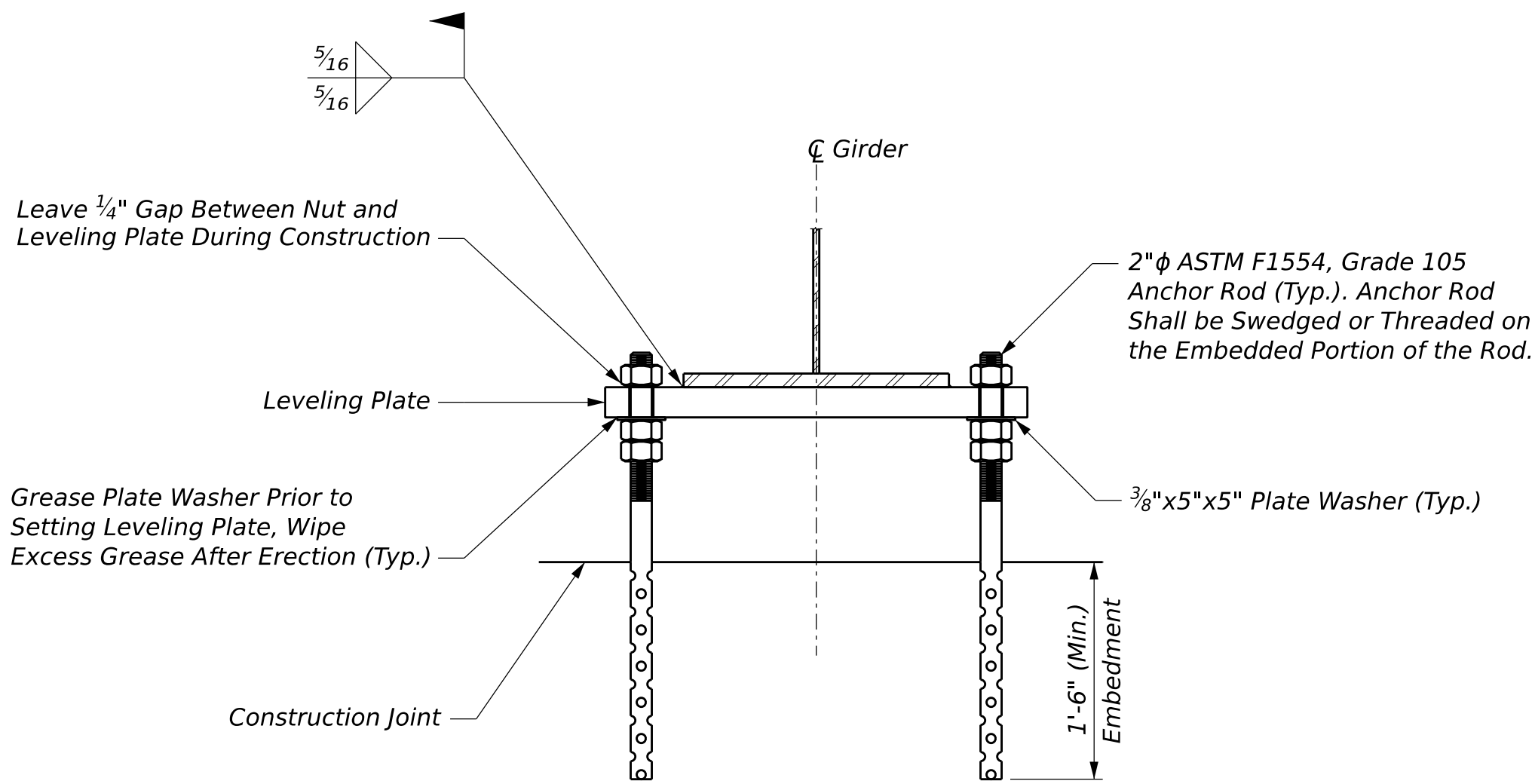


ABUTMENT SECTION

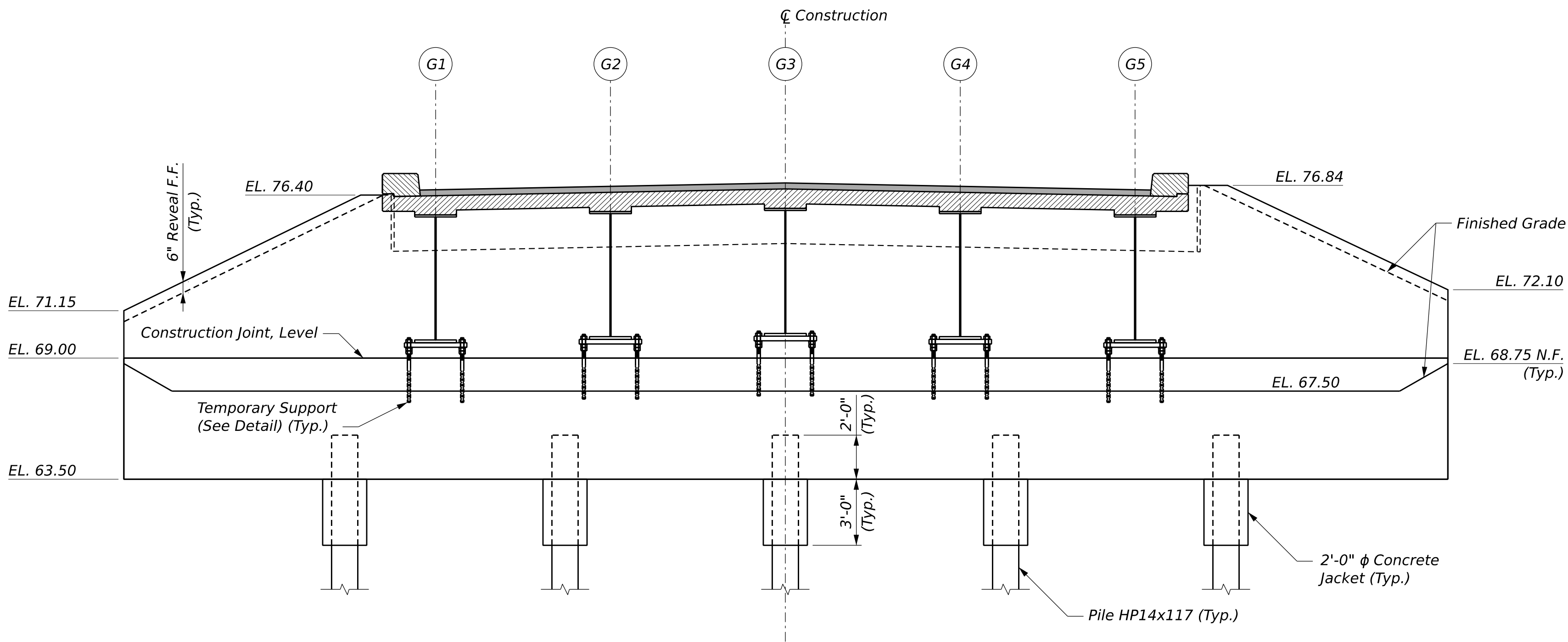
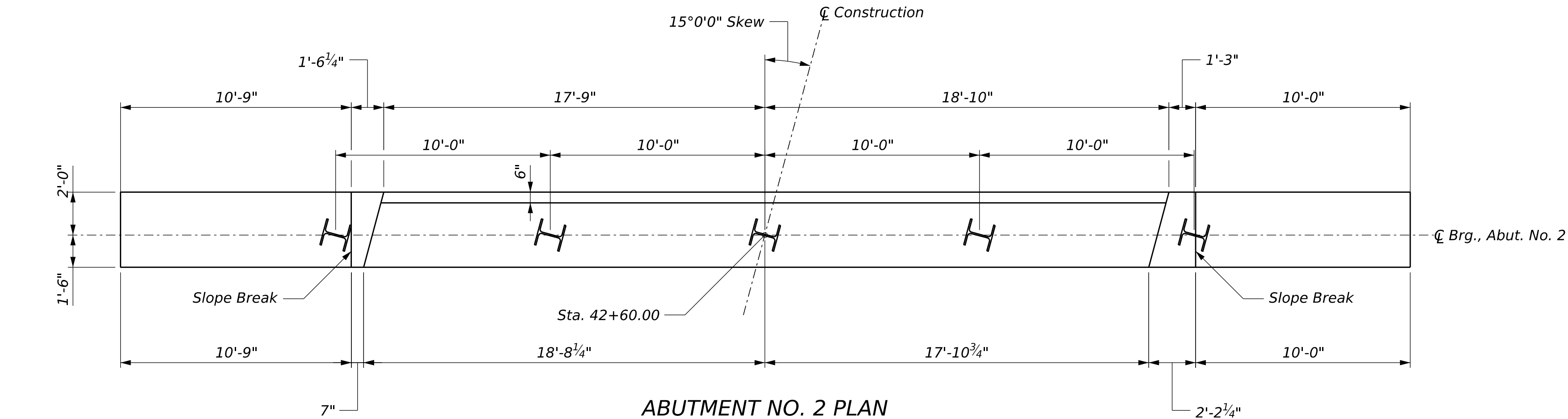
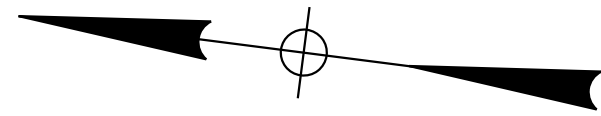
(Steel Cross Frames Not Shown for Clarity)



LEVELING PLATE

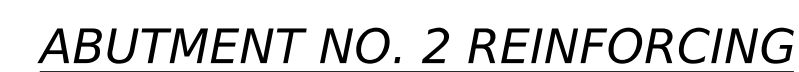


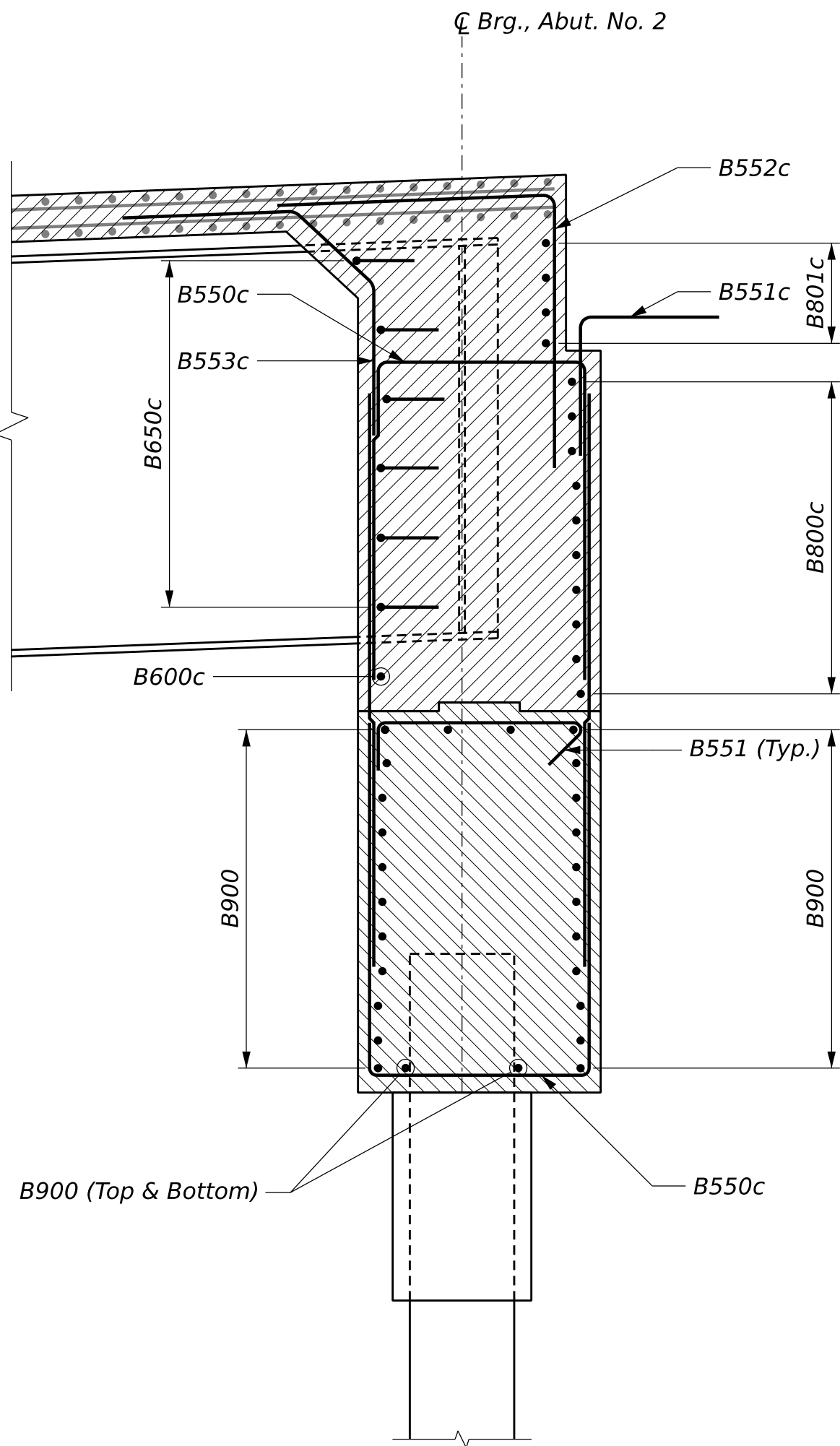
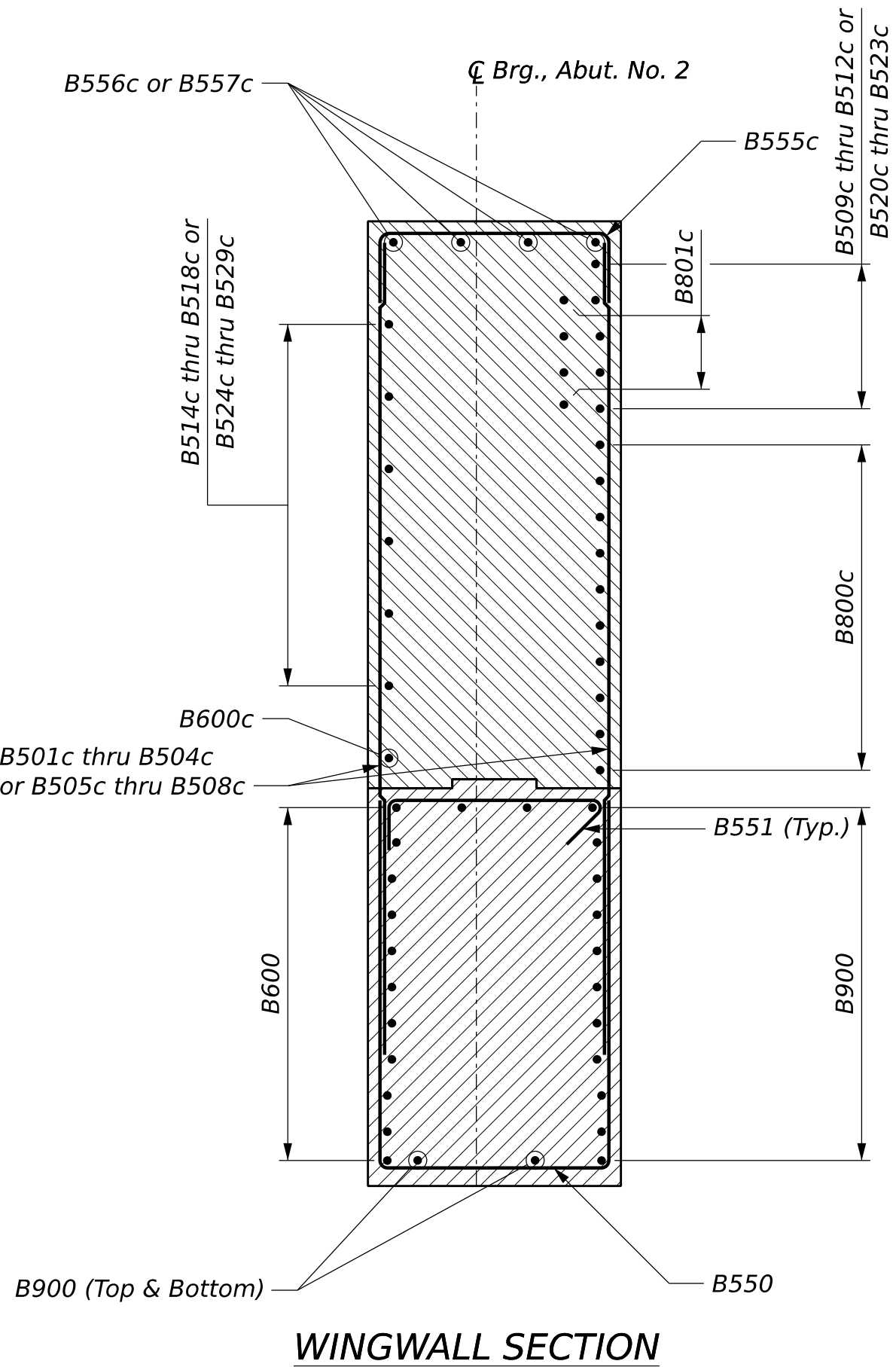
GIRDER SUPPORT DETAIL



ABUT. NO. 2 BOTTOM OF GIRDER ELEVATIONS	
Girder	Elevation
G1	69.57
G2	69.80
G3	70.03
G4	69.95
G5	69.88





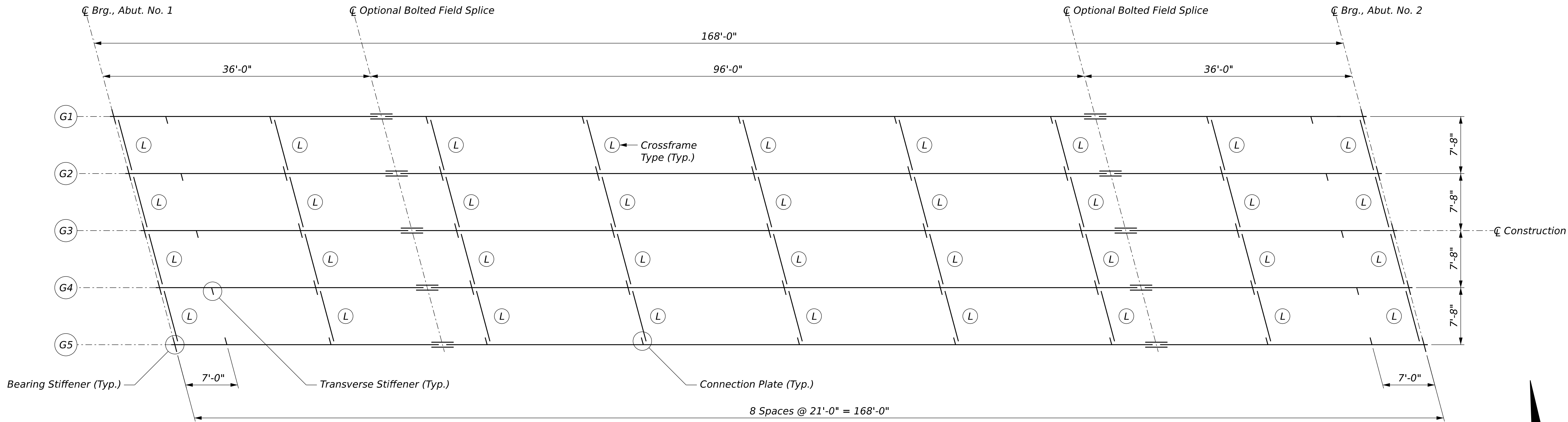


ABUTMENT SECTION

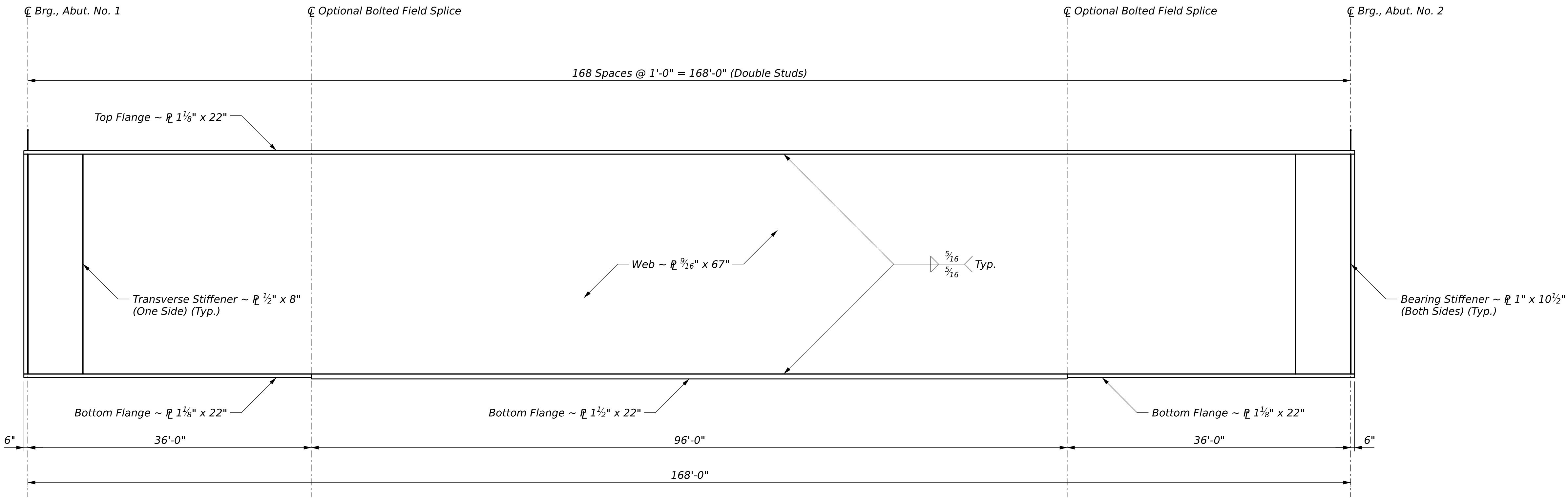
(Steel Cross Frames Not Shown for Clarity)



STATE OF MAINE DEPARTMENT OF TRANSPORTATION Federal Project No. 2715800 WIN 27158.00				
	PROJ. MANAGER	S. ZIMMERMAN	BY	DATE
	DESIGN-DETAILED	PEH	PEH	AUG 2026
ST. GEORGE RIVER BRIDGE NO. 5893 CROSSING ST. GEORGE RIVER UNION ABUTMENT NO. 2 SECTIONS	CHECKED-REVIEWED	KLW	SIW	AUG 2026
	DESIGN-DETAILED			
	DESIGN-DETAILED			
SHEET NUMBER 26 OF 33	REVISIONS 1			SIGNATURE
	REVISIONS 2			P.E. NUMBER
	REVISIONS 3			DATE
	REVISIONS 4			
	FIELD CHANGES			



FRAMING PLAN

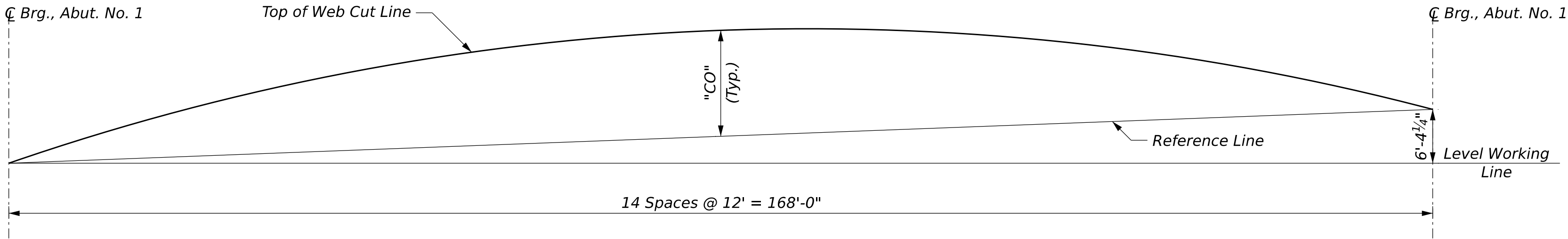


GIRDER ELEVATION

338 Studs Per Girder, 1690 Studs Total
Girder Shown Exaggerated Vertically by a Factor of 5 For Clarity



STATE OF MAINE DEPARTMENT OF TRANSPORTATION		Federal Project No. 2715800		WIN 27158.00	
ST. GEORGE RIVER BRIDGE NO. 5893 CROSSING ST. GEORGE RIVER UNION		FRAMING PLAN			
SHEET NUMBER		27 OF 33			
PROJ. MANAGER	DESIGN-DETAILED	CHECKED-REVIEWED	BY	DATE	SIGNATURE
S. ZIMMERMAN	PEH	PAG	PEH	AUG 2026	
DESIGN-DETAILED	DESIGN-DETAILED	DESIGN-DETAILED	SIW	AUG 2026	
REVISIONS 1	REVISIONS 2	REVISIONS 3			P.E. NUMBER
REVISIONS 4	FIELD CHANGES				DATE



CAMBER DIAGRAM

TABLE OF CAMBER ORDINATES "CO" (INCHES)															
GIRDER	☐ Brg., Abut. No. 1	12'	24'	36'	48'	60'	72'	84'	96'	108'	120'	132'	144'	156'	☐ Brg., Abut. No. 2
G1-G5	0"	2 7⁄16"	4 3⁄4"	6 3⁄4"	8 3⁄8"	9 5⁄8"	10 3⁄8"	10 5⁄8"	10 3⁄8"	9 5⁄8"	8 3⁄8"	6 3⁄4"	4 3⁄4"	2 7⁄16"	0"

BOTTOM OF SLAB ELEVATIONS															
GIRDER	☐ Brg., Abut. No. 1	12'	24'	36'	48'	60'	72'	84'	96'	108'	120'	132'	144'	156'	☐ Brg., Abut. No. 2
G1	69.20	69.80	70.40	70.98	71.53	72.06	72.56	73.03	73.47	73.87	74.25	74.60	74.93	75.24	75.55
G2	69.43	70.03	70.63	71.21	71.76	72.29	72.79	73.26	73.70	74.10	74.48	74.83	75.16	75.48	75.78
G3	69.66	70.26	70.86	71.44	71.99	72.52	73.02	73.49	73.93	74.34	74.71	75.07	75.39	75.71	76.01
G4	69.58	70.19	70.78	71.36	71.92	72.45	72.95	73.42	73.85	74.26	74.64	74.99	75.32	75.63	75.93
G5	69.51	70.11	70.71	71.29	71.84	72.37	72.87	73.34	73.78	74.18	74.56	74.91	75.24	75.56	75.86

DEAD LOAD DEFLECTIONS (INCHES)																
GIRDER	DEAD LOAD COMPONENT	☐ Brg., Abut. No. 1	12'	24'	36'	48'	60'	72'	84'	96'	108'	120'	132'	144'	156'	☐ Brg., Abut. No. 2
G1-G5	Steel Dead Load	0.00	0.63	1.22	1.73	2.16	2.47	2.66	2.73	2.66	2.47	2.16	1.73	1.22	0.63	0.00
	Fluid Dead Load	0.00	1.38	2.67	3.81	4.73	5.42	5.84	5.99	5.84	5.42	4.73	3.81	2.67	1.38	0.00
	Superimposed Dead Load	0.00	0.44	0.85	1.21	1.50	1.72	1.86	1.90	1.86	1.72	1.50	1.21	0.85	0.44	0.00

STRUCTURAL STEEL NOTES

1. Camber ordinates, as shown, 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 be not 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 transverse shop splice and a field splice shall be at least 20 feet in length unless otherwise shown on the Plans.
4. Bearing stiffeners shall be plumb after erection and dead loading of the structure. Intermediate web stiffeners may be either plumb or normal to the top flange.
5. Intermediate crossframe or diaphragm connection plates may be either plumb or normal to the top flange.
6. Filler plates may be steel conforming to the requirements of ASTM A709, Grade 36.
7. Coat girder ends and cross frames to a distance of 10 feet from each Abutment centerline of bearing in accordance with Standard Specifications Section 506, Shop Applied Protective Coating - Steel (Zinc Rich Coating System), except NEPCOAT Qualified Products List C may be used. Payment for the coating will be incidental to Pay Item 504.702.
8. After placement of the superstructure concrete, thoroughly clean the abutments of all stains with a method approved by the Resident. Payment will be considered incidental to related Contract items.
9. Provide a drip bar at Abutment 1 on all girders in accordance with Standard Detail 504(10).
10. Structural steel was designed with a vertical construction load of 50 lb/sf and a lateral wind velocity during construction of 80 mph.
11. Bolted field splice connections shall be made using 7⁄8 inch ASTM F3125, Grade A325 Type 3 high strength bolts. Bolt hole size shall be 15⁄16 inch diameter. Field splice bolt threads shall be excluded from the shear plane.
12. The splice was designed with a Class B slip coefficient.
13. Ends of girder webs shall be vertical under full dead load.



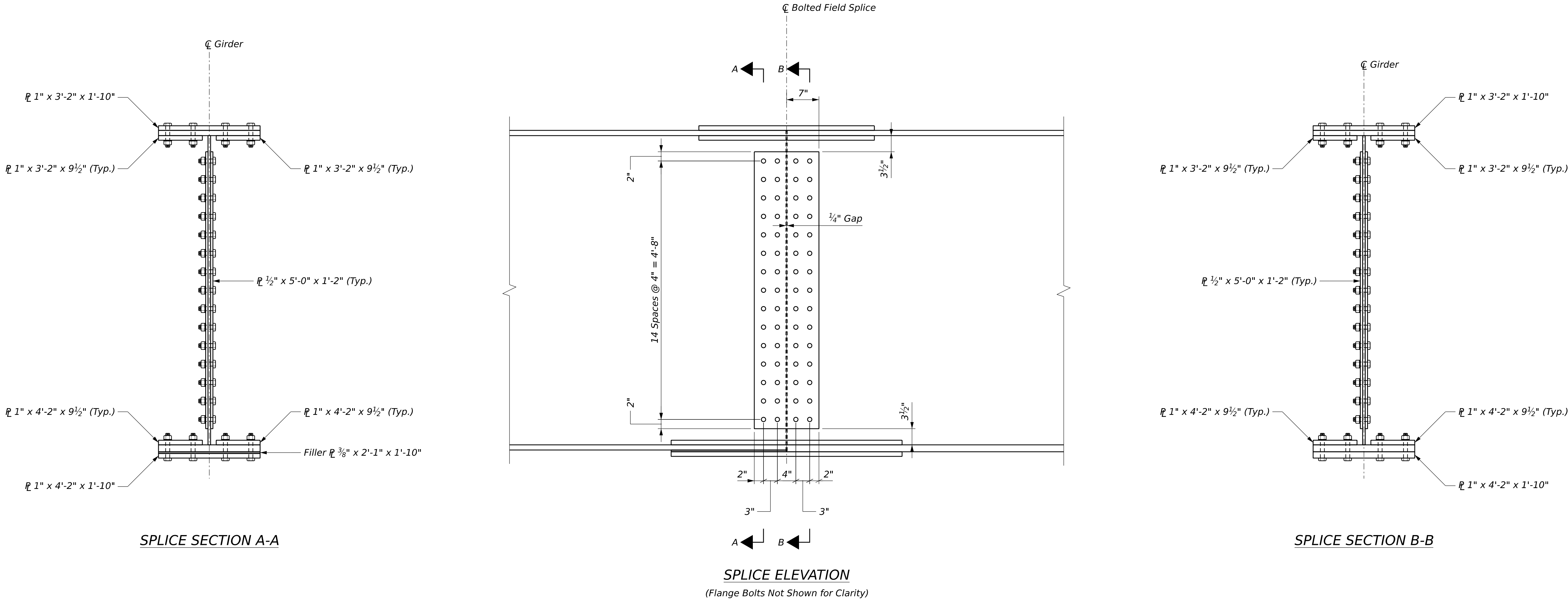
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
Federal Project No. 2715800
WIN 27158.00

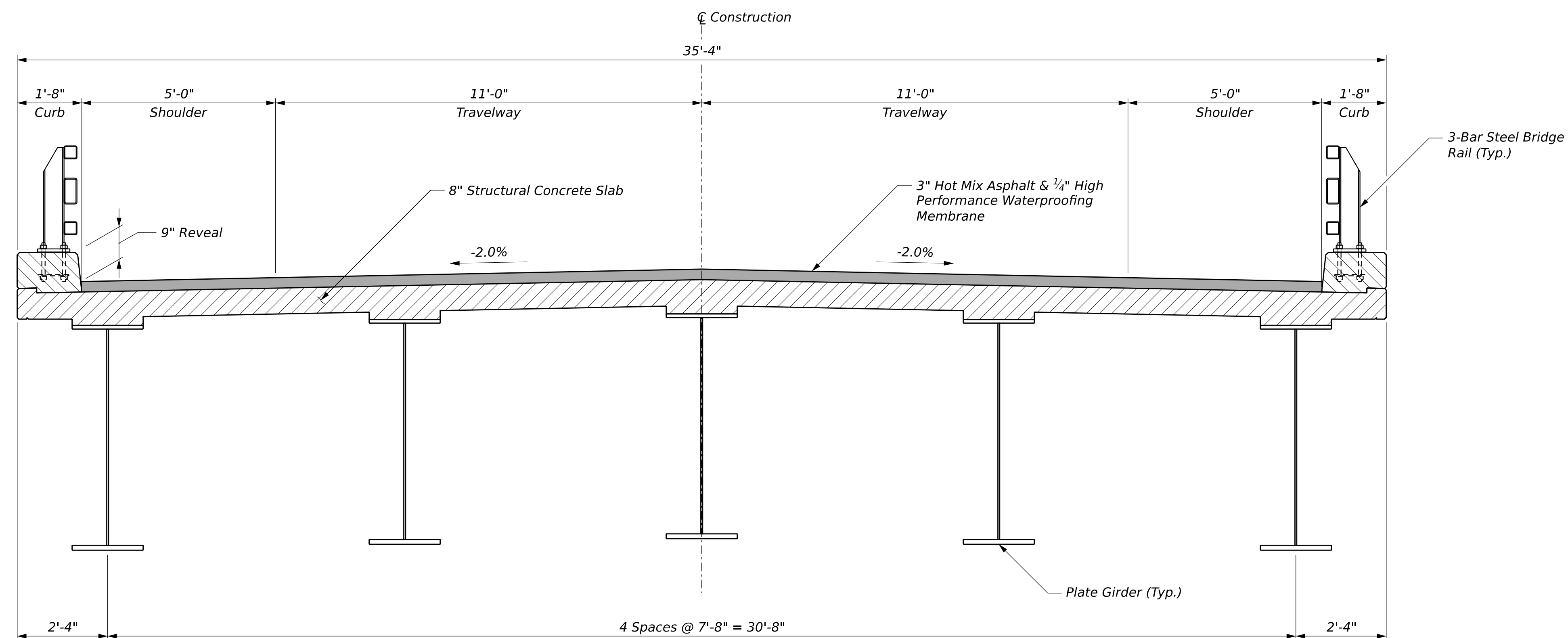
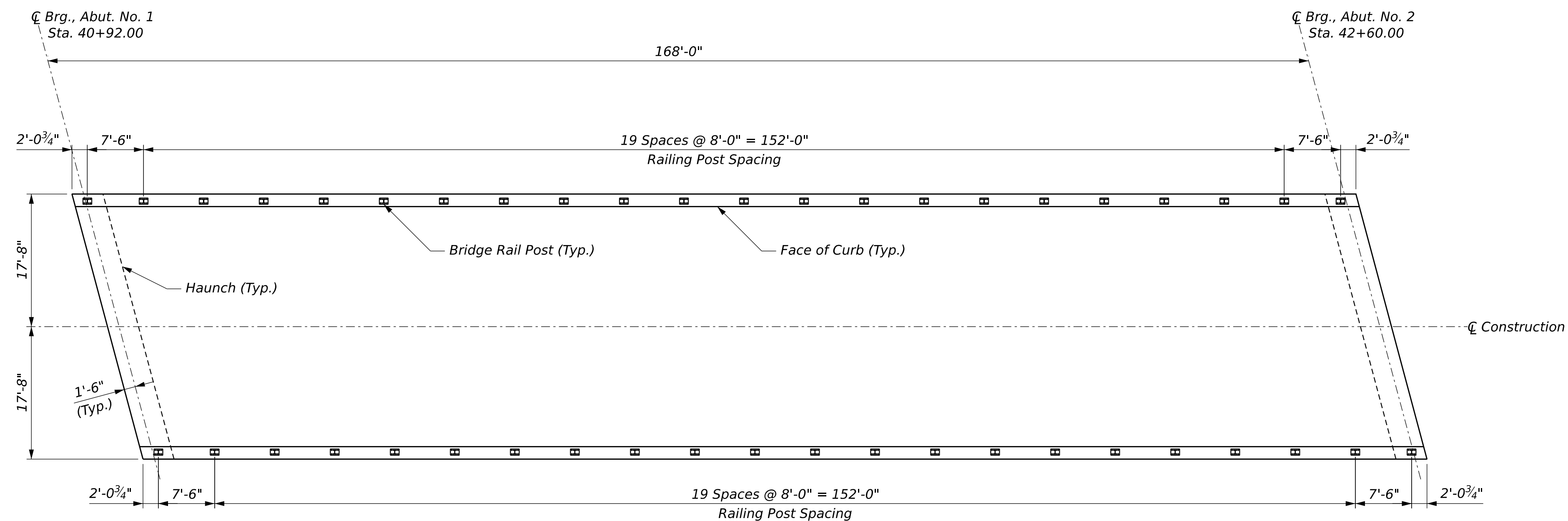
ST. GEORGE RIVER BRIDGE NO. 5893
CROSSING ST. GEORGE RIVER
UNION

STRUCTURAL STEEL DETAILS

SHEET NUMBER

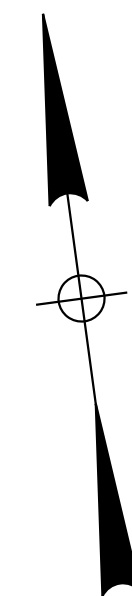
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OF 33



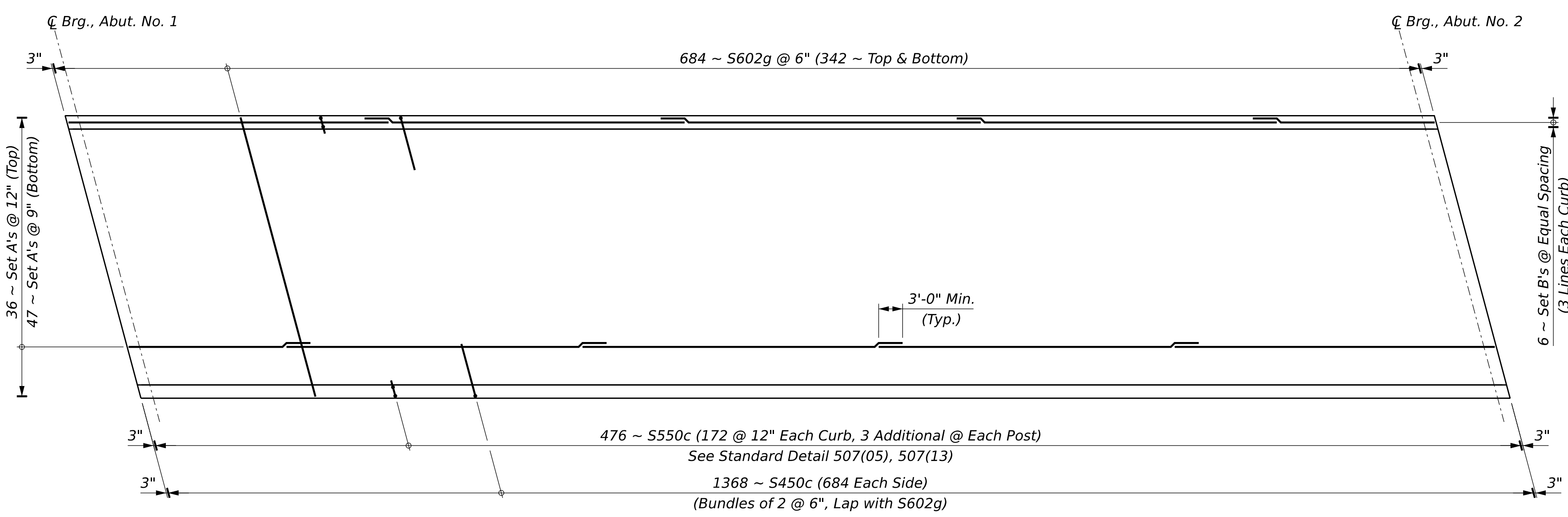


SUPERSTRUCTURE NOTES

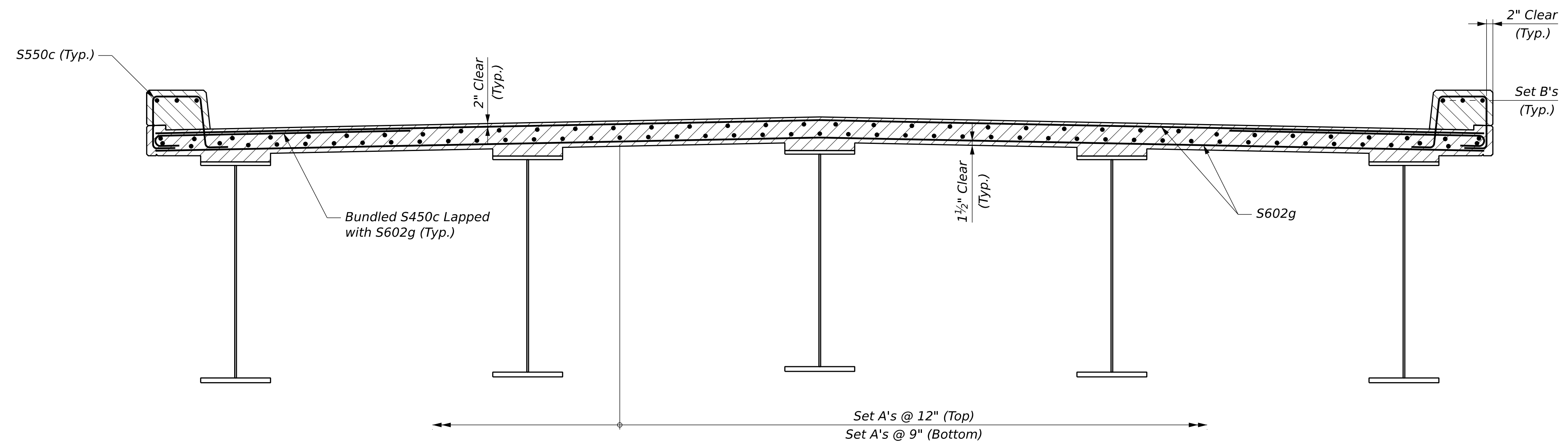
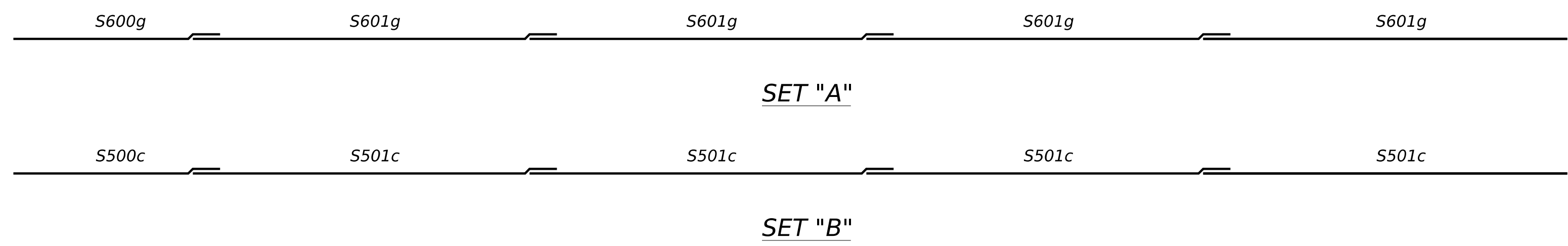
- 1. The theoretical blocking used for design of the structure is 3⁵/₈ inch at the centerline of bearing of the abutments. Refer to Standard Detail 502(03) for blocking details.*
- 2. Reinforcing steel shall have a minimum concrete cover of 2 inches unless otherwise noted.*
- 3. Form a one inch V-groove on the fascias at the horizontal joint between the curb and slab.*
- 4. The superstructure slab concrete shall be placed continuously and shall be kept plastic until the entire placement has been made.*
- 5. Precast Concrete Deck Panels are not allowed on this project.*



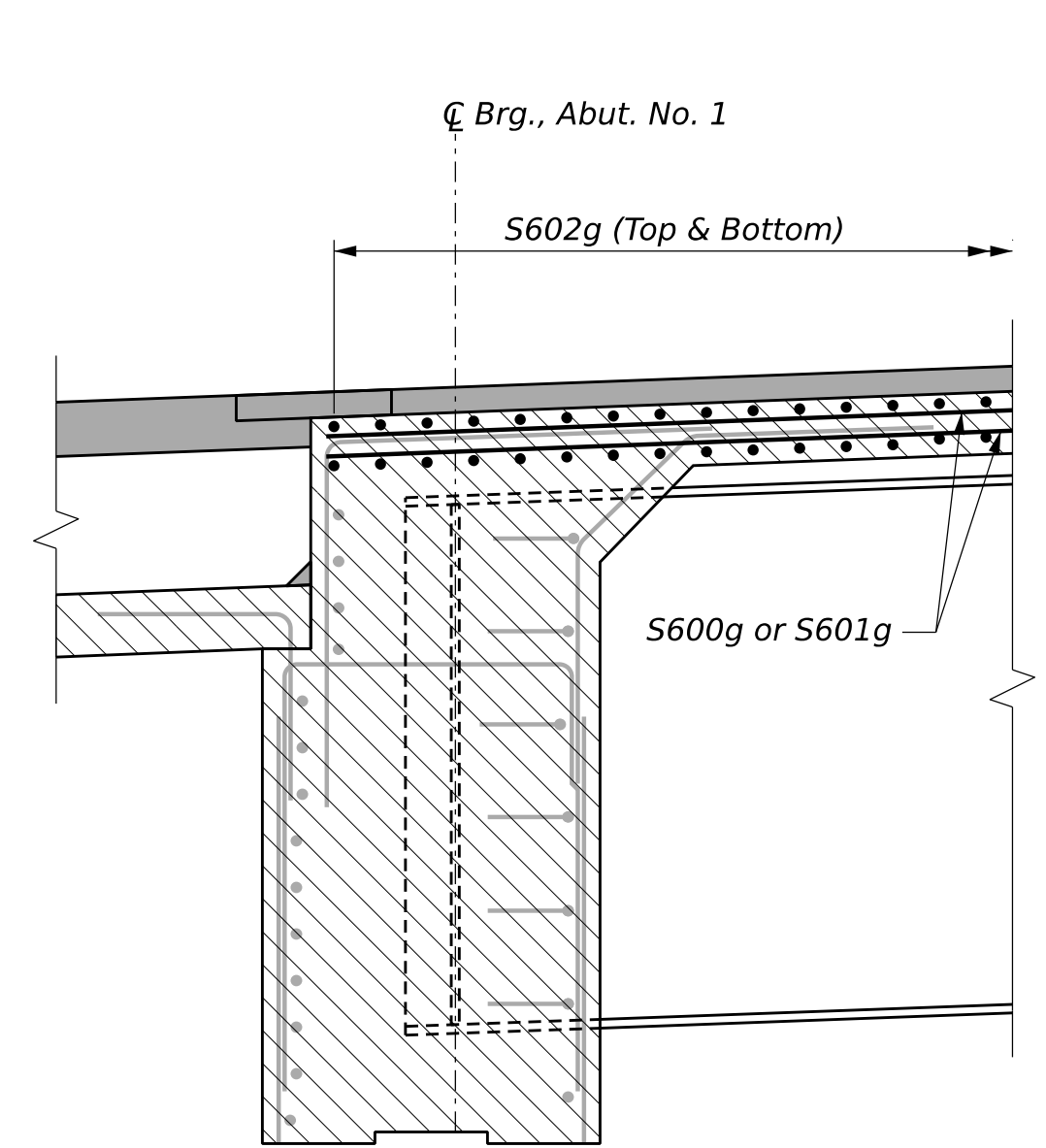
ST. GEORGE RIVER BRIDGE NO. 5893 CROSSING ST. GEORGE RIVER UNION	PROJ. MANAGER	S. ZIMMERMAN	BY	DATE
	DESIGN-DETAILED	PBH	PBH	AUG 2026
SUPERSTRUCTURE PLAN	CHECKED-REVIEWED	PAG	SW	AUG 2026
	DESIGN-2-DETAILED2			SIGNATURE
	DESIGN-3-DETAILED3			
	REVISIONS 1			P.E. NUMBER
	REVISIONS 2			
	REVISIONS 3			
	REVISIONS 4			DATE
	FIELD CHANGES			
STATE OF MAINE DEPARTMENT OF TRANSPORTATION Federal Project No. 2715800 WIN 27158.00				



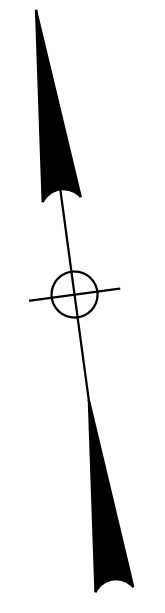
SUPERSTRUCTURE REINFORCING PLAN



TRANSVERSE REINFORCING SECTION



PARTIAL LONGITUDINAL SECTION
(Abutment Reinforcing Shown Screened for Clarity)
(Abut. No. 1 Shown, Abut. No. 2 Opposite Hand)



STATE OF MAINE DEPARTMENT OF TRANSPORTATION Federal Project No. 2715800 WIN 27158.00	SIGNATURE P.E. NUMBER DATE	PROJ. MANAGER DESIGN-DETAILED CHECKED-REVIEWED DESIGN-DETAILED REVISIONS 1 REVISIONS 2 REVISIONS 4 FIELD CHANGES	BY PBH SAA	DATE AUG 2026 AUG 2026
		ST. GEORGE RIVER BRIDGE NO. 5893 CROSSING ST. GEORGE RIVER UNION SUPERSTRUCTURE REINFORCING PLAN SHEET NUMBER 31 OF 33		

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

New R/W Along Existing R/W

Building
Trees
Water Edge
Ledge
Fence
Sign

Clearing Limit Line
Conifer
Deciduous
Bush Line
Rock/Boulder
Flag Pole
CHAIN LINK
BARB WIRE
STOCKADE
Well
Mailbox

ExistingProposed

Sanitary Sewer
Com. Line UG
Electric Line
Water Line
Underdrain Line
Gas Line
Guardrail
Culvert

ExistingProposed

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

ExistingProposed

Cut Line
Stonewall
Baseline
Monument
Iron Rod Set

Fill Line
Retaining Wall
Traverse Point
Pipe Found

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.

250100

0255075100

Scale of Feet

STATE OF MAINE
REGISTRY OF DEEDS

COUNTY OF
RECEIVED
AT
AND RECORDED IN
PLAN BOOK
(OR FILE NO.)
ATTEST:

The plan view shows a section of State Highway 30, also known as Route 17 or Route 131, running horizontally across the middle of the sheet. Stationing is marked along the highway from 39+00 to 46+00. The highway is flanked by various property parcels, many of which are shaded in light gray. Key features include:
- **St. George River**: Flows from the top left towards the bottom center, crossing the highway under the bridge.
- **St. George Bridge**: Located between stations 45+00 and 46+00, crossing the river.
- **Easements and Easements**: Numerous areas are labeled as 'EASEMENT' or 'EASE', often with specific area measurements (e.g., 0.29± AC, 0.40± AC).
- **Property Owners**: Several owners are named, including Daniel E. Beauchemin, Joshua M. Perry, Ruthie A. Perry, Cross Realty, LLC, and Sennebec Holdings, LLC.
- **Geographical Features**: The St. George River, a concrete pad, and various slopes and limits are indicated.
- **Stationing and Alignment**: The highway alignment is shown with stationing and a bearing of S82°18'52.23"E.
- **Notes and References**: A note at the bottom left refers to existing right of way references from a 1960 plan book. Another note mentions a prescriptive easement for highway purposes.

REVISIONS				PLAN FILED IN PLAN BOOK				COUNTY RECORD				DALE F. DOUGHTY COMMISSIONER WILLIAM A. PULVER CHIEF ENGINEER MAY 2026 DATE		STATE HIGHWAY "30" ROUTE 17 / ROUTE 30 / HEALD HIGHWAY UNION KNOX COUNTY WORK IDENTIFICATION NO. (W.I.N.) 27158.00 MAY 2026 SCALE 1"= 25'		RIGHT-OF-WAY MAP SHEET 1 OF 1 D.O.T. FILE NO. 7-186		SHEET NUMBER 33 OF 33	
NO.	DATE	DESCRIPTION	BY	NO.	GRANTOR	INSTRUMENT	DATE	BOOK	PAGE										

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