

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION



SPECIFICATIONS

Design: Load and Resistance Factor Design per AASHTO LRFD Bridge Design Specifications, 9th Edition 2020.

DESIGN LOADING

Live Load Maine Legal Loads

TRAFFIC DATA

Current (2019) AADT 3,380
Future (2029) AADT 3720
DHV - % of AADT 13
Design Hourly Volume 528
Heavy Trucks (% of AADT) 7%
Heavy Trucks (% of DHV) 2%
Directional Distribution (% of DHV) 53%
18 kip Equivalent P 2.0 136
18 kip Equivalent P 2.5 130
Design Speed (mph) 30

MATERIALS

Concrete (Unless otherwise noted) Class A
Plain Reinforcing Steel ASTM A615/A615M, Grade 60

Structural Steel:
All Material (except as noted) ASTM A709, Grade 50
Portal Bracing ASTM A709, Grade 36
High Strength Bolts ASTM F3125, Grade A325, Type 1

Timber:
Fender System Grade 1 Lumber, 2.5 pcf CCA
Timber Fender Bolts ASTM F1554, Grade 36
Sidewalk, Control House, Control House Deck Grade 1 Lumber

BASIC DESIGN STRESSES

Concrete f 'c = 4,000 psi
Reinforcing Steel F y = 60,000 psi
Timber Fbo = 1,000 psi Minimum

Structural Steel:
ASTM A 709, Grade 50 F y = 50,000 psi
ASTM A 709, Grade 36 F y = 36,000 psi
ASTM A 325 Fu = 120,000 psi

HYDROLOGIC DATA

Mean Lower Low Water (MLLW) -5.3 ft
Mean Low Water (MLW) -4.9 ft
Mean Tide Level (MTL) -0.6 ft
Mean High Water (MHW) 4.0 ft
Mean Higher High Water (MHHW) 4.4 ft

UTILITIES

Central Maine Power Company Spectrum
Fairpoint Communications MaineDOT Electrical Department

MAINTENANCE OF TRAFFIC

Signalized alternating one-way vehicular traffic. Open to marine traffic during construction, with intermittent closures permitted. Closed to marine traffic for electrical & mechanical systems replacement.

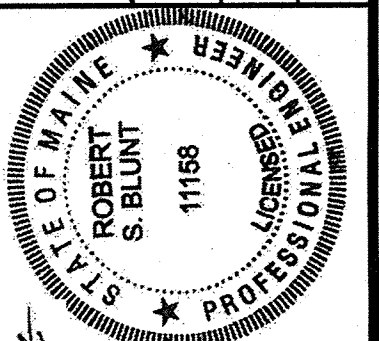
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SOUTHPORT-BOOTHBAY HARBOR
LINCOLN COUNTY
SOUTHPORT BRIDGE
OVER
TOWNSEND GUT/ATLANTIC OCEAN
ROUTE 27
FEDERAL PROJECT NO. 2309401
PROJECT LENGTH 0.034 mi.
BRIDGE NO. 2789

PROJECT LOCATION:	Route 27 over Townsend Gut/Atlantic Ocean at Southport-Boothbay Harbor Town Line Lat./Long. 43°50'33" N, 69°39'15" W
PROGRAM AREA:	Bridge
OUTLINE OF WORK:	Bridge Strengthening, Electrical & Mechanical Upgrades, Fender Systems Replacement, Control House Replacement, Replacement of Existing Barrier Gates and Traffic Warning and Control System

WIN 21751.01



STATE OF MAINE DEPARTMENT OF TRANSPORTATION	APPROVED	DATE 10-3-22
COMMISSIONER <i>Robert S. Blunt</i>		CHIEF ENGINEER <i>Jeffrey Noel Taylor</i>

PROJ. MANAGER J. STETSON, PE	DATE 8/19/22	BY RSLINT	SIGNATURE 1168	P.E. NUMBER August 19, 2022	DATE
DESIGN-DETAILED BCP	CHECKED-REVIEWED CTA	DESIGN-DETAILED DESIGN-DETAILED	REVISIONS 1	REVISIONS 2	REVISIONS 3
			REVISIONS 4	REVISIONS 5	FIELD CHANGES

SOUTHPORT BRIDGE ROUTE 27 OVER TOWNSEND GUT SOUTHPORT & BOOTHBAY HARBOR ME LINCOLN COUNTY	TITLE SHEET
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SHEET NUMBER 1 OF 48

ESTIMATED QUANTITIES				
ITEM NO.	DESCRIPTION	QUANTITY	UNIT	
202.01	Removing Structures and Obstructions, Existing Fender System	1	LS	
202.01	Removing Structures and Obstructions, Existing Steel Grid Deck	1	LS	
202.08	Removing Building No. 1 - Control House	1	LS	
202.12	Removing Existing Structural Concrete	5	CY	
202.27	Existing Machinery Removal and Demolition	1	LS	
202.56	Remove Existing Advance Warning Beacon	2	EA	
202.57	Removing Existing Warning Gate, Bridge Mounted	2	EA	
202.57	Removing Existing Warning Gate, Foundation Mounted	2	EA	
203.20	Common Excavation	270	CY	
203.35	Crushed Stone 3/4-inch	5	CY	
206.082	Structural Earth Excavation - Major Structures, Plan Quantity	20	CY	
304.10	Aggregate Subbase Course - Gravel	110	CY	
403.208	Hot Mix Asphalt, 12.5 mm Nominal Maximum Size	30	TON	
403.213	Hot Mix Asphalt, 12.5 mm Nominal Maximum Size (Base and Intermediate Base Course)	90	TON	
409.15	Bituminous Tack Coat, Applied	32	Gal	
501.239	Dynamic Loading Tests - Providing For	4	EA	
501.48	Steel H-beam Piles 74 lb/ft, Delivered	4750	LF	
501.481	Steel H-beam Piles 74 lb/ft, In Place	4750	LF	
501.90	Pile Tips	50	EA	
501.91	Pile Splices	50	EA	
501.92	Pile Driving Equipment Mobilization	1	LS	
502.219	Structural Concrete, Abutments and Retaining Walls	5 CY	1	LS
502.26	Structural Concrete Roadway and Sidewalk Slab on Steel Bridges	130 CY	1	LS
502.291	Saw Cut Grooving	5,100 SF	1	LS
502.49	Structural Concrete Curbs and Sidewalks	3 CY	1	LS
503.12	Reinforcing Steel, Fabricated and Delivered		34600	LB
503.13	Reinforcing Steel, Placing		34600	LB
503.17	Mechanical/Welded Splice		685	EA
504.70	Structural Steel Fabricated and Delivered	90,000 LB	1	LS
504.71	Structural Steel Erection	90,000 LB	1	LS
505.08	Shear Connectors	3,700 EA	1	LS
506.1705	Surface Preparation of Existing Structural Steel	1,500 SF	1	LS
506.1775	Field Painting, New and Existing Steel with Zinc Rich Paint		1	LS
507.0841	Steel Pipe Hand Railing	300 LF	1	LS
507.13	Temporary Bridge Rail		370	LF
515.21	Protective Coating for Concrete Surfaces	1,150 SY	1	LS
518.50	Repair of Upward Facing Surfaces - to Reinforcing Steel < 8 inches		50	SF
518.60	Repair of Vertical Surfaces < 8 inches		250	SF
518.70	Repair of Overhead Surfaces < 8 inches		50	SF
526.301	Temporary Concrete Barrier, Type I	610 LF	1	LS
526.305	Temporary Concrete Barrier, Braced Type I	370 LF	1	LS
526.34	Permanent Concrete Transition Barrier		4	EA
528.01	Structural Timber, Fabrication and Delivery	89,100 BF	1	LS
528.02	Structural Timber, Erection	89,100 BF	1	LS
530.02	Prefabricated Deck Panels		4900	SF
606.1722	Bridge Transition - Type II		6	EA
606.25	Terminal Connector		2	EA
606.55	Guardrail Type 3 - Single Rail		210	LF
609.11	Vertical Curb Type I		40	LF
610.08	Plain Riprap		115	CY
626.11	Precast Concrete Junction Box		2	EA
626.22	Non-Metallic Conduit		450	LF
626.221	Non-Metallic Conduit Concrete Encased		125	LF
626.251	Non-Metallic Under Pavement Conduit (Sch. 80 or Greater)		40	LF
626.43	30-inch Diameter Foundation		28	LF
626.451	42-inch Diameter Foundation		47	LF
627.733	4" White or Yellow Painted Pavement Marking Line		650	LF
627.75	White or Yellow Pavement & Curb Marking		50	SF
629.05	Hand Labor, Straight Time		20	HR
631.10	Air Compressor (Including Operator)		12	HR
631.11	Air Tool (Including Operator)		12	HR
631.12	All-Purpose Excavator (Including Operator)		12	HR
631.172	Truck-Large (Including Operator)		12	HR
639.18	Field Office Type A		1	EA
643.01	Traffic Signals and Gates, Movable Bridge Hybrid Warning and Resistance Gate		1	LS
643.60	Flashing Beacon at Eastbound Approach		1	LS
643.60	Flashing Beacon at Westbound Approach		1	LS
643.72	Temporary Traffic Signal		1	LS
643.80	Traffic Signals at Southport Bridge Route 27 over Townsend Gut		1	LS
643.92	Pedestal Pole		1	EA
643.94	Dual Purpose Pole with 35' Warning Beacon		2	EA
643.97	Wood Poles with Guys and Span Wire		1	EA
652.33	Drum		20	EA
652.34	Cone		20	EA
652.35	Construction Signs		300	SF
652.361	Maintenance of Traffic Control Devices	200 CD	1	LS
652.38	Flaggers		560	HR
655.3002	Bridge Control System		1	LS
659.10	Mobilization		1	LS
660.21	On-The-Job Training		1000	HR
815.00	Building: Control House		1	LS
860.1851	Live Load Rollers		1	LS
860.1863	End Jack Assemblies		1	LS
860.1864	End Seat Assemblies		1	LS
860.1865	Fully Closed Stops		1	LS
860.187	Miscellaneous Mechanical Repairs		1	LS

ESTIMATED QUANTITIES			
ITEM NO.	DESCRIPTION	QUANTITY	UNIT
860.231	Span Drive Machinery	1	LS
860.30	Functional Testing	1	LS
880.02	Bridge Balancing	1	LS
880.031	Balance Block - Steel	1	LS
910.301	Special Work - Staff Gauges	1	LS

GENERAL BRIDGE CONSTRUCTION NOTES

1. For easements, construction limits and right of way lines, refer to the Right of Way Plans.
2. All utility facilities shall be adjusted by the respective utilities unless otherwise noted.
3. Protective Coating for Concrete Surfaces shall be applied to the following areas:

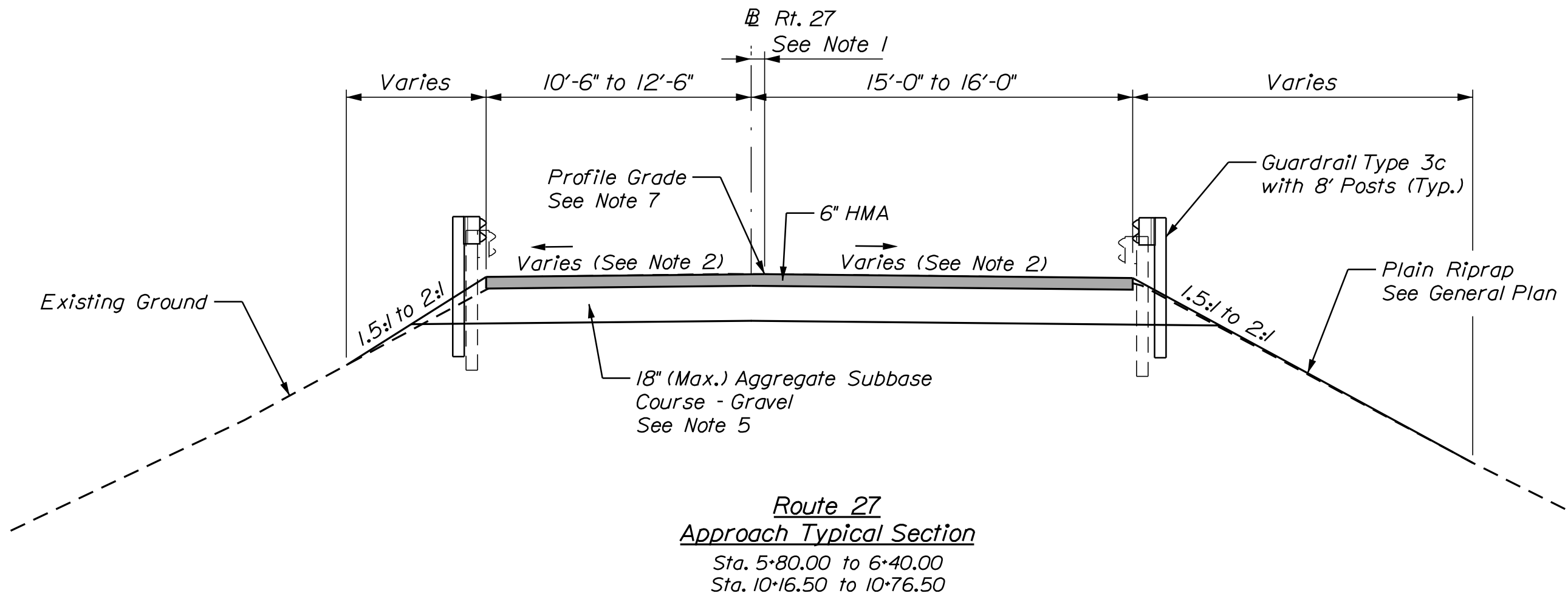
All exposed surfaces of existing and proposed concrete above the waterline.
4. Project information referred to below may be accessed at the following MaineDOT web address: <https://www.maine.gov/mdot/contractors/>
5. Bidders and Contractors may access the existing bridge plans at the MaineDOT web address. 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.
6. Bidders and Contractors may access a copy of the project geotechnical report at the MaineDOT web address.
7. 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.
8. 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.

9. All existing bridge materials and fender system timbers to be removed 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 existing fender system timbers are creosote treated. The Contractor is responsible for the containment, proper management, and disposal of all lead contaminated hazardous waste and creosote contaminated hasardous waste generated by the process of demolishing the bridge components and existing fender systems. The Contractor is responsible for implementing appropriate OSHA mandated personal protection standards related to this process. Once the existing bridge and fender system materials are removed, the Contractor is solely responsible for the care, custody, and control of the components of the existing bridge and fender system materials and any hazardous waste generated as a result of storage, recycling, or disposal of the bridge and fender system components. The Contractor shall recycle or reuse the steel in accordance with Maine Department of Environmental Protection's "Maine Hazardous Waste Management Regulations," Chapter 850. A copy of this regulation is available at the 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 materials and fender system will be considered incidental to the respective bridge and fender system removal pay items. The existing bridge and fender system materials shall be removed by and become the property of the Contractor.
10. The Contractor shall submit Fender Demolition Plans and Existing Grid Deck Demolition Plans to the Resident at least 10 business days prior to the start of demolition work. The plans shall outline the methods, equipment, and sequencing to be used to remove and dispose of all materials. No work related to the removal of the bridge materials shall be undertaken by the Contractor until MaineDOT has reviewed the plans for appropriateness and completeness. Payment for all work necessary for developing, submitting, and finalizing the Demolition Plans will be considered incidental to the respective removal pay items.
11. All new structural steel, excluding the fender system, shall be field painted with a minimum 10mil DFT of a Zinc Rich Paint and compatible topcoat sealer. Unless noted otherwise, the finish topcoat color of all steel shall be green and match the following Federal Standard 595C, light green, color number: 14272. This work shall conform to section 506 of the MaineDOT Standard Specification and shall be paid for under Item 506.1775, Field Paint New and Existing Steel with Zinc Rich Paint. The Contractor shall provide a sample of the coating for field verification of existing bridge color match.
12. The Contractor shall plan and conduct work so that upon completion of the project there is no drop-off from the edge of the shoulder pavement.
13. Do not excavate for Aggregate Subbase Course where existing material is suitable as determined by the Resident.
14. 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.



NOTES:

1. The proposed geometric layout shifts 1'-9" to the right from start of transition near Sta. 5+80.00 to start of bridge deck near Sta. 6+40.00. This proposed geometric layout shifts 1'-9" back to the left from end of bridge deck near Sta. 10+16.50 to end of approach near Sta. 10+76.50.
2. Cross slope shall transition from existing cross slopes at approach ends to -1.0% at bridge deck.
3. The pavement and subbase depths as shown on the plans are intended to be nominal.
4. See Sheet 35 for sidewalk details.
5. See Deck Over Backwall Detail on Sheet 23 for aggregate subbase transition.
6. Stationing is approximate.
7. The proposed profile shall match existing elevations at the start of each approach, and match proposed elevations of the top of bridge deck at the end of each approach. The Contractor shall lay out the profile and it will be accepted by the Resident.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2309401

WIN
21751.01

BRIDGE NO. 2789
BRIDGE PLANS

PROJ. MANAGER J. STETSON, PE
DESIGN-DETAILED BGP
CHECKED-REVIEWED CTA
DESIGN2-DETAILED02
DESIGN3-DETAILED03
REVISIONS 1
REVISIONS 2
REVISIONS 3
REVISIONS 4
FIELD CHANGES

DATE 8/19/22
BY
UPD
RBLNT

SIGNATURE 1158
P.E. NUMBER 11158
August 19, 2022
DATE

SOUTHPORT BRIDGE ROUTE 27
OVER TOWNSEND GUT

SOUTHPORT & BOOTHBAY HARBOR ME LINCOLN COUNTY

ESTIMATED QUANTITIES &
GENERAL NOTES

SHEET NUMBER

2

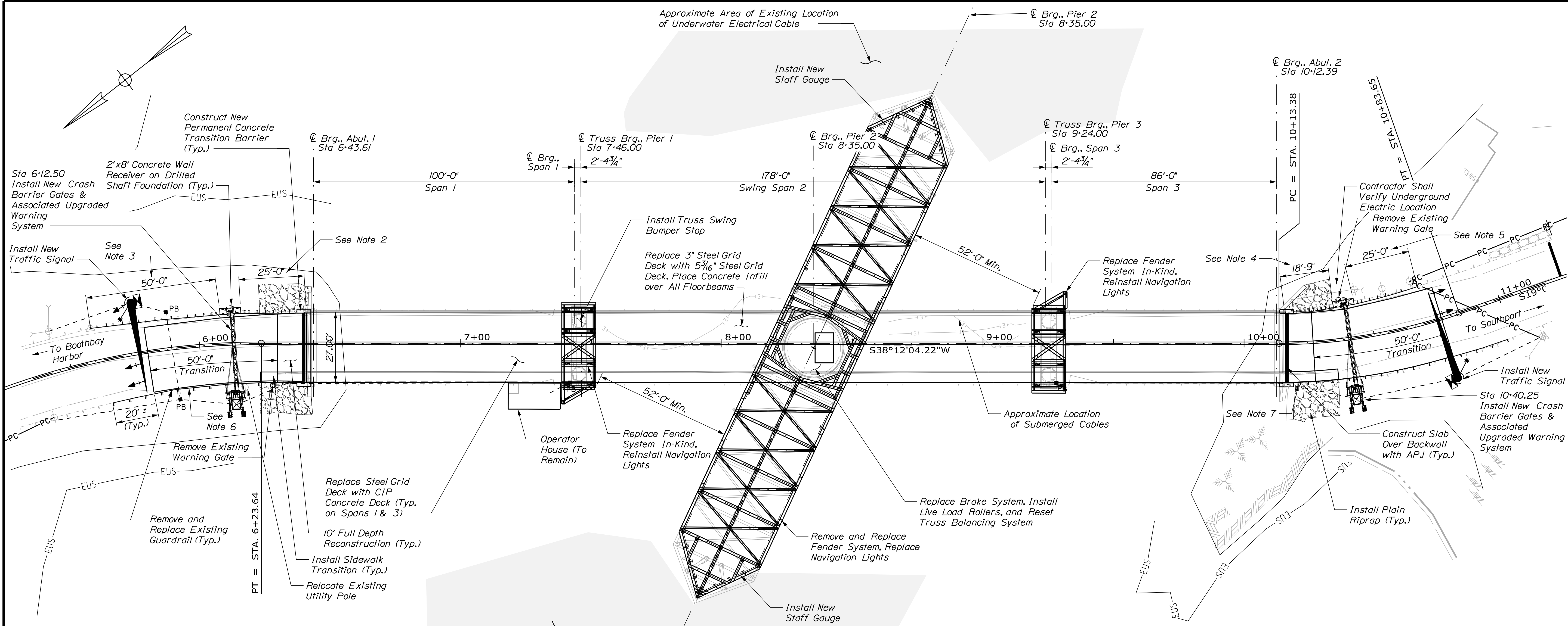
OF 48

Date: 9/21/2022

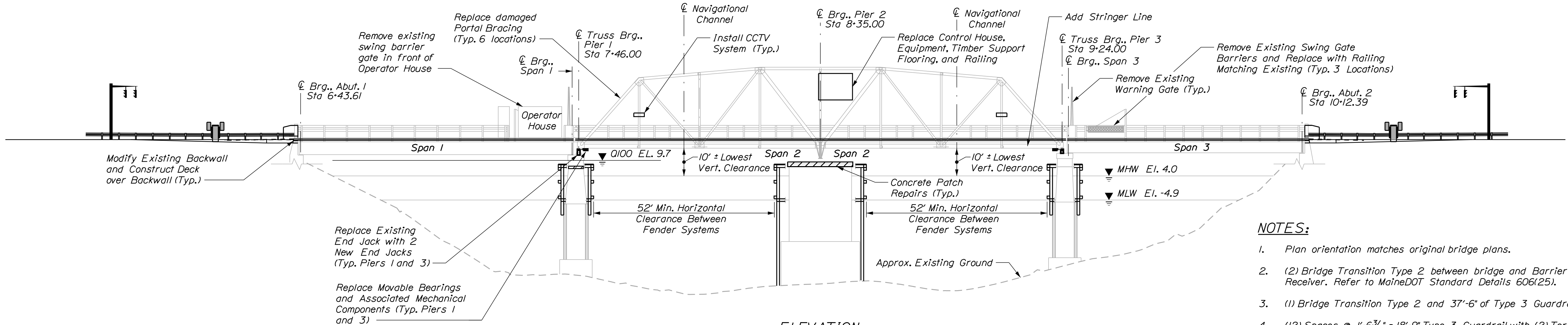
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Division: HIGHWAY

Filename: ...\\STA\\003_Plan_ELEV_01.dgn



PLAN



ELEVATION

(Navigation Lights not Shown)
(Utilities not Shown)

NOTES:

- Plan orientation matches original bridge plans.
- (2) Bridge Transition Type 2 between bridge and Barrier Gate Receiver. Refer to MaineDOT Standard Details 606(25).
- (1) Bridge Transition Type 2 and 37'-6" of Type 3 Guardrail.
- (12) Spaces @ 1'-6 3/4" = 18'-9" Type 3 Guardrail with (2) Terminal Connectors (one each end).
- (1) Bridge Transition Type 2 and 12'-6" of Type 3 Guardrail.
- (1) Bridge Transition Type 2 and 62'-6" of Type 3 Guardrail.
- (1) Bridge Transition Type 2 and 75'-0" of Type 3 Guardrail.

STATE OF MAINE DEPARTMENT OF TRANSPORTATION		2309401		BRIDGE PLANS	
SOUTHPORT BRIDGE ROUTE 27 OVER TOWNSEND GUT		SOUTHPORT & BOOTHBAY HARBOR ME		LINCOLN COUNTY	
GENERAL PLAN AND ELEVATION		SHEET NUMBER		3	
DATE		8/19/22		WIN	
BY		J. STETSON, PE		21751.01	
DESIGN-DETAILED		BSP		BRIDGE NO. 2789	
CHECKED-REVIEWED		CTA			
DESIGN-DETAILED		CTA			
DESIGN-DETAILED		CTA			
REVISIONS		1			
REVISIONS		2			
REVISIONS		3			
REVISIONS		4			
FIELD CHANGES					

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Southport Bridge No. 2789 Route 27 over Townsend Gut Southport - Boothbay Harbor, Maine		Boring No.: RP-SBTG-201 WIN: 21751.00	
Driver: New England Boring Contractors		Elevation (ft.): 49.0'		Auger ID/OD: 4" / 4.5"			
Operator: P. Schofield		Datum: NAVD 88		Sampler: Standard Splitpoon			
Logged By: E. Tome		Rig Type: Truck-Mounted Mobile Drill B-48		Hammer WL/Fall: N/A			
Date Start/Finish: 11/9/20-11/9/20		Driving Method: HSA		Core Barrel: HSA			
Boring Location: N26556, E501263		Casing ID/OD: 4" / 4.5"		Water Level: *		Not Encountered	
Hammer Efficiency Factor: 0.84		Hammer Type: Automatic ☒ Hydraulic ☐ Rope & Cathead ☐					
Deliveries: D - Split Spoon Sample MD - Unsuccessful Split Spoon Sample Attempt L - Thin Wall Tube Sample MU - Unsuccessful Thin Wall Tube Sample Attempt V - Field Vane Shear Test WP - Pocket Penetrometer NW - Unsuccessful Field Vane Shear Test Attempt		R - Rock Core Sample SSA - Solid Stem Auger HSA - Hollow Stem Auger BC - Barrel Core WCH - Weight of HMB, Hammer WPHC - Weight of Hole or Casing WOP - Weight of One Person		S _u - Peak/Remolded Field Vane Undrained Shear Strength (psi) C _u - Lab Vane Undrained Shear Strength (psi) q _u - Uncorrelated Compressive Strength (psi) N _u - Uncorrelated Blow Count (SP-58) H - Plastic Limit P - Plasticity Index WCH - Weight of HMB, Hammer WPHC - Weight of Hole or Casing WOP - Weight of One Person		T _v - Pocket Torque Shear Strength (psi) WC - Water Content, percent L - Liquid Limit P - Plastic Limit WCH - Weight of HMB, Hammer WPHC - Weight of Hole or Casing WOP - Weight of One Person	
Sample Information		Visual Description and Remarks		Laboratory Testing Result/ASHTO and Unified Class.			
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (1/6 in.) Strength per FGD (1)	Uncorrelated	Moisture (%)	Soil Description
0	1	24/13	0.6 - 2.6	14-14-19-9	25	35	HSA
							0'-0.6": Asphalt
							Top 9": Black/brown, dry, medium dense, fine to coarse SAND, some silt, trace gravel, (FBI)
							Bottom 4": Gray/white, dry, fine to coarse SAND, some gravel, trace silt, (Gravel Fill)
							Auger refusal at 3.0' indicates probable bedrock.
							Bottom of Exploration at 3.0 feet below ground surface.
5							
10							
15							
20							
25							
Remarks: 1. NEBC Automatic hammer serial #2705 Energy Transfer Ratio = .84% 2. The as-drilled location was measured from existing structural elements (N26556, E501263). Elevation was interpolated from existing contours and estimated to the nearest 0.5'. 3. The Grained Soil Descriptions on this log are based on plasticity estimated using visual/manual classification techniques at laboratory Alterburg Limit tests if available, rather than the Manual Standard based percentages passing specific grain sizes.							
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.: RP-SBTG-201			

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Southport Bridge No. 2789 Route 27 over Townsend Gut Southport - Boothbay Harbor, Maine		Boring No.: RP-SBTG-202 WIN: 21751.00	
Driver: New England Boring Contractors		Elevation (ft.): 58.0'		Auger ID/OD: 4" / 4.5"			
Operator: P. Schofield		Datum: NAVD 88		Sampler: N/A			
Logged By: E. Tome		Rig Type: Truck-Mounted Mobile Drill B-48		Hammer WL/Fall: N/A			
Date Start/Finish: 11/9/20-11/9/20		Driving Method: HSA		Core Barrel: HSA			
Boring Location: N26225, E501058		Casing ID/OD: 4" / 4.5"		Water Level: *		Not Encountered	
Hammer Efficiency Factor: N/A		Hammer Type: Automatic ☐ Hydraulic ☐ Rope & Cathead ☐					
Deliveries: D - Split Spoon Sample MD - Unsuccessful Split Spoon Sample Attempt L - Thin Wall Tube Sample MU - Unsuccessful Thin Wall Tube Sample Attempt V - Field Vane Shear Test WP - Pocket Penetrometer NW - Unsuccessful Field Vane Shear Test Attempt		R - Rock Core Sample SSA - Solid Stem Auger HSA - Hollow Stem Auger BC - Barrel Core WCH - Weight of HMB, Hammer WPHC - Weight of Hole or Casing WOP - Weight of One Person		S _u - Peak/Remolded Field Vane Undrained Shear Strength (psi) C _u - Lab Vane Undrained Shear Strength (psi) q _u - Uncorrelated Compressive Strength (psi) N _u - Uncorrelated Blow Count (SP-58) H - Plastic Limit P - Plasticity Index WCH - Weight of HMB, Hammer WPHC - Weight of Hole or Casing WOP - Weight of One Person		T _v - Pocket Torque Shear Strength (psi) WC - Water Content, percent L - Liquid Limit P - Plastic Limit WCH - Weight of HMB, Hammer WPHC - Weight of Hole or Casing WOP - Weight of One Person	
Sample Information		Visual Description and Remarks		Laboratory Testing Result/ASHTO and Unified Class.			
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (1/6 in.) Strength per FGD (1)	Uncorrelated	Moisture (%)	Soil Description
0							0'-0.7": Asphalt
							0.7'-5.5": Brown/tan, dry, fine to coarse SAND, trace gravel, trace silt, (FBI)
							Auger refusal at 5.5' indicates probable bedrock.
							Bottom of Exploration at 5.5 feet below ground surface.
5							
10							
15							
20							
25							
Remarks: 1. The as-drilled location was measured from existing structural elements (N26225, E501058). Elevation was interpolated from existing contours and estimated to the nearest 0.5'. 2. Soil descriptions are based on soil recovered from auger flights.							
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.: RP-SBTG-202			

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Southport Bridge No. 2789 Route 27 over Townsend Gut Southport - Boothbay Harbor, Maine		Boring No.: RP-SBTG-203A WIN: 21751.00	
Driver: New England Boring Contractors		Elevation (ft.): 49.5'		Auger ID/OD: 4" / 4.5"			
Operator: P. Schofield		Datum: NAVD 88		Sampler: N/A			
Logged By: E. Tome		Rig Type: Truck-Mounted Mobile Drill B-48		Hammer WL/Fall: N/A			
Date Start/Finish: 11/9/20-11/9/20		Driving Method: HSA		Core Barrel: HSA			
Boring Location: N26057, E501030		Casing ID/OD: 4" / 4.5"		Water Level: *		Not Encountered	
Hammer Efficiency Factor: N/A		Hammer Type: Automatic ☐ Hydraulic ☐ Rope & Cathead ☐					
Deliveries: D - Split Spoon Sample MD - Unsuccessful Split Spoon Sample Attempt L - Thin Wall Tube Sample MU - Unsuccessful Thin Wall Tube Sample Attempt V - Field Vane Shear Test WP - Pocket Penetrometer NW - Unsuccessful Field Vane Shear Test Attempt		R - Rock Core Sample SSA - Solid Stem Auger HSA - Hollow Stem Auger BC - Barrel Core WCH - Weight of HMB, Hammer WPHC - Weight of Hole or Casing WOP - Weight of One Person		S _u - Peak/Remolded Field Vane Undrained Shear Strength (psi) C _u - Lab Vane Undrained Shear Strength (psi) q _u - Uncorrelated Compressive Strength (psi) N _u - Uncorrelated Blow Count (SP-58) H - Plastic Limit P - Plasticity Index WCH - Weight of HMB, Hammer WPHC - Weight of Hole or Casing WOP - Weight of One Person		T _v - Pocket Torque Shear Strength (psi) WC - Water Content, percent L - Liquid Limit P - Plastic Limit WCH - Weight of HMB, Hammer WPHC - Weight of Hole or Casing WOP - Weight of One Person	
Sample Information		Visual Description and Remarks		Laboratory Testing Result/ASHTO and Unified Class.			
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (1/6 in.) Strength per FGD (1)	Uncorrelated	Moisture (%)	Soil Description
0							0'-0.7": Asphalt
							0.7'-2.0": Brown, dry, fine to coarse SAND, some gravel, trace silt, (FBI)
							Auger refusal at 2.0' indicates probable bedrock.
							Bottom of Exploration at 2.0 feet below ground surface.
5							
10							
15							
20							
25							
Remarks: 1. The as-drilled location was measured from existing structural elements (N26057, E501030). Elevation was interpolated from existing contours and estimated to the nearest 0.5'. 2. Soil descriptions are based on soil recovered from auger flights.							
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.: RP-SBTG-203A			

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Southport Bridge No. 2789 Route 27 over Townsend Gut Southport - Boothbay Harbor, Maine		Boring No.: RP-SBTG-205 WIN: 21751.00	
Driver: New England Boring Contractors		Elevation (ft.): 18.5'		Auger ID/OD: 4" / 4.5"			
Operator: P. Schofield		Datum: NAVD 88		Sampler: N/A			
Logged By: E. Tome		Rig Type: Truck-Mounted Mobile Drill B-48		Hammer WL/Fall: N/A			
Date Start/Finish: 11/9/20-11/9/20		Driving Method: HSA		Core Barrel: HSA			
Boring Location: Sta. 4+47.5' LT		Casing ID/OD: 4" / 4.5"		Water Level: *		Not Encountered	
Hammer Efficiency Factor: N/A		Hammer Type: Automatic ☐ Hydraulic ☐ Rope & Cathead ☐					
Deliveries: D - Split Spoon Sample MD - Unsuccessful Split Spoon Sample Attempt L - Thin Wall Tube Sample MU - Unsuccessful Thin Wall Tube Sample Attempt V - Field Vane Shear Test WP - Pocket Penetrometer NW - Unsuccessful Field Vane Shear Test Attempt		R - Rock Core Sample SSA - Solid Stem Auger HSA - Hollow Stem Auger BC - Barrel Core WCH - Weight of HMB, Hammer WPHC - Weight of Hole or Casing WOP - Weight of One Person		S _u - Peak/Remolded Field Vane Undrained Shear Strength (psi) C _u - Lab Vane Undrained Shear Strength (psi) q _u - Uncorrelated Compressive Strength (psi) N _u - Uncorrelated Blow Count (SP-58) H - Plastic Limit P - Plasticity Index WCH - Weight of HMB, Hammer WPHC - Weight of Hole or Casing WOP - Weight of One Person		T _v - Pocket Torque Shear Strength (psi) WC - Water Content, percent L - Liquid Limit P - Plastic Limit WCH - Weight of HMB, Hammer WPHC - Weight of Hole or Casing WOP - Weight of One Person	
Sample Information		Visual Description and Remarks		Laboratory Testing Result/ASHTO and Unified Class.			
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (1/6 in.) Strength per FGD (1)	Uncorrelated	Moisture (%)	Soil Description
0							0'-0.7": Asphalt
							0.7'-4.5": Brown, dry, gravelly fine to coarse SAND, trace silt, (FBI)
							Auger refusal at 4.5' indicates probable bedrock.
							Bottom of Exploration at 4.5 feet below ground surface.
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Remarks: 1. The as-drilled location was measured from existing structural elements (N25655, E501018). Elevation was interpolated from existing contours and estimated to the nearest 0.5'. 2. Soil descriptions are based on soil recovered from auger flights.							
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.: RP-SBTG-205			

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Southport Bridge No. 2789 Route 27 over Townsend Gut Southport - Boothbay Harbor, Maine		Boring No.: RP-SBTG-201 WIN: 21751.00	
Driver: New England Boring Contractors		Elevation (ft.): 47.0'		Auger ID/OD: 4" / 4.5"			
Operator: P. Schofield		Datum: NAVD 88		Sampler: N/A			
Logged By: E. Tome		Rig Type: Truck-Mounted Mobile Drill B-48		Hammer WL/Fall: N/A			
Date Start/Finish: 11/9/20-11/9/20		Driving Method: HSA		Core Barrel: HSA			
Boring Location: N26442, E501094		Casing ID/OD: 4" / 4.5"		Water Level: *		Not Encountered	
Hammer Efficiency Factor: N/A		Hammer Type: Automatic ☐ Hydraulic ☐ Rope & Cathead ☐					
Deliveries: D - Split Spoon Sample MD - Unsuccessful Split Spoon Sample Attempt L - Thin Wall Tube Sample MU - Unsuccessful Thin Wall Tube Sample Attempt V - Field Vane Shear Test WP - Pocket Penetrometer NW - Unsuccessful Field Vane Shear Test Attempt		R - Rock Core Sample SSA - Solid Stem Auger HSA - Hollow Stem Auger BC - Barrel Core WCH - Weight of HMB, Hammer WPHC - Weight of Hole or Casing WOP - Weight of One Person		S _u - Peak/Remolded Field Vane Undrained Shear Strength (psi) C _u - Lab Vane Undrained Shear Strength (psi) q _u - Uncorrelated Compressive Strength (psi) N _u - Uncorrelated Blow Count (SP-58) H - Plastic Limit P - Plasticity Index WCH - Weight of HMB, Hammer WPHC - Weight of Hole or Casing WOP - Weight of One Person		T _v - Pocket Torque Shear Strength (psi) WC - Water Content, percent L - Liquid Limit P - Plastic Limit WCH - Weight of HMB, Hammer WPHC - Weight of Hole or Casing WOP - Weight of One Person	
Sample Information		Visual Description and Remarks		Laboratory Testing Result/ASHTO and Unified Class.			
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (1/6 in.) Strength per FGD (1)	Uncorrelated	Moisture (%)	Soil Description
0							0'-0.8": Asphalt
							Brown/tan, dry, fine to coarse SAND, trace gravel, trace silt, (FBI)
							4.0'-5.5": Gravel Fill
							5.5'-10.5": Brown, silt, & CLAY.
							Auger refusal at 10.5' indicates probable bedrock.
							Bottom of Exploration at 10.5 feet below ground surface.
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Remarks: 1. The as-drilled location was measured from existing structural elements (N26442, E501094). Elevation was interpolated from existing contours and estimated to the nearest 0.5'. 2. Soil descriptions are based on soil recovered from auger flights.							
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.: RP-SBTG-201			

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Southport Bridge No. 2789 Route 27 over Townsend Gut Southport - Boothbay Harbor, Maine		Boring No.: RP-SBTG-203 WIN: 21751.00	
Driver: New England Boring Contractors		Elevation (ft.): 51.0'		Auger ID/OD: 4" / 4.5"			
Operator: P. Schofield		Datum: NAVD 88		Sampler: N/A			
Logged By: E. Tome		Rig Type: Truck-Mounted Mobile Drill B-48		Hammer WL/Fall: N/A			
Date Start/Finish: 11/9/20-11/9/20		Driving Method: HSA		Core Barrel: HSA			
Boring Location: N26066, E501048		Casing ID/OD: 4" / 4.5"		Water Level: *		Not Encountered	
Hammer Efficiency Factor: N/A		Hammer Type: Automatic ☐ Hydraulic ☐ Rope & Cathead ☐					
Deliveries: D - Split Spoon Sample MD - Unsuccessful Split Spoon Sample Attempt L - Thin Wall Tube Sample MU - Unsuccessful Thin Wall Tube Sample Attempt V - Field Vane Shear Test WP - Pocket Penetrometer NW - Unsuccessful Field Vane Shear Test Attempt		R - Rock Core Sample SSA - Solid Stem Auger HSA - Hollow Stem Auger BC - Barrel Core WCH - Weight of HMB, Hammer WPHC - Weight of Hole or Casing WOP - Weight of One Person		S _u - Peak/Remolded Field Vane Undrained Shear Strength (psi) C _u - Lab Vane Undrained Shear Strength (psi) q _u - Uncorrelated Compressive Strength (psi) N _u - Uncorrelated Blow Count (SP-58) H - Plastic Limit P - Plasticity Index WCH - Weight of HMB, Hammer WPHC - Weight of Hole or Casing WOP - Weight of One Person		T _v - Pocket Torque Shear Strength (psi) WC - Water Content, percent L - Liquid Limit P - Plastic Limit WCH - Weight of HMB, Hammer WPHC - Weight of Hole or Casing WOP - Weight of One Person	
Sample Information		Visual Description and Remarks		Laboratory Testing Result/ASHTO and Unified Class.			
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (1/6 in.) Strength per FGD (1)	Uncorrelated	Moisture (%)	Soil Description
0							0'-0.7": Asphalt
							0.7'-2.5": Brown, dry, fine to coarse SAND, some gravel, trace silt, (FBI)
							Auger refusal at 2.5' indicates probable bedrock.
							Bottom of Exploration at 2.5 feet below ground surface.
5							
10							
15							
20							
25							
Remarks: 1. The as-drilled location was measured from existing structural elements (N26066, E501048). Elevation was interpolated from existing contours and estimated to the nearest 0.5'. 2. Soil descriptions are based on soil recovered from auger flights.							
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.: RP-SBTG-203			

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Southport Bridge No. 2789 Route 27 over Townsend Gut Southport - Boothbay Harbor, Maine		Boring No.: RP-SBTG-204 WIN: 21751.00	
Driver: New England Boring Contractors		Elevation (ft.): 34.0'		Auger ID/OD: 4" / 4.5"			
Operator: P. Schofield		Datum: NAVD 88		Sampler: N/A			
Logged By: E. Tome		Rig Type: Truck-Mounted Mobile Drill B-48		Hammer WL/Fall: N/A			
Date Start/Finish: 11/9/20-11/9/20		Driving Method: HSA		Core Barrel: HSA			
Boring Location: N25861, E500981		Casing ID/OD: 4" / 4.5"		Water Level: *		Not Encountered	
Hammer Efficiency Factor: N/A		Hammer Type: Automatic ☐ Hydraulic ☐ Rope & Cathead ☐					
Deliveries: D - Split Spoon Sample MD - Unsuccessful Split Spoon Sample Attempt L - Thin Wall Tube Sample MU - Unsuccessful Thin Wall Tube Sample Attempt V - Field Vane Shear Test WP - Pocket Penetrometer NW - Unsuccessful Field Vane Shear Test Attempt		R - Rock Core Sample SSA - Solid Stem Auger HSA - Hollow Stem Auger BC - Barrel Core WCH - Weight of HMB, Hammer WPHC - Weight of Hole or Casing WOP - Weight of One Person		S _u - Peak/Remolded Field Vane Undrained Shear Strength (psi) C _u - Lab Vane Undrained Shear Strength (psi) q _u - Uncorrelated Compressive Strength (psi) N _u - Uncorrelated Blow Count (SP-58) H - Plastic Limit P - Plasticity Index WCH - Weight of HMB, Hammer WPHC - Weight of Hole or Casing WOP - Weight of One Person		T _v - Pocket Torque Shear Strength (psi) WC - Water Content, percent L - Liquid Limit P - Plastic Limit WCH - Weight of HMB, Hammer WPHC - Weight of Hole or Casing WOP - Weight of One Person	
Sample Information		Visual Description and Remarks		Laboratory Testing Result/ASHTO and Unified Class.			
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blows (1/6 in.) Strength per FGD (1)	Uncorrelated	Moisture (%)	Soil Description
0							0'-0.7": Asphalt
							0.7'-4.0": Brown, dry, gravelly fine to coarse SAND, trace silt, (FBI)
							Auger refusal at 5.0' indicates probable bedrock.
							4.0'-5.0": Brown, dry, fine to medium SAND, trace gravel, trace silt, (FBI)
							Auger refusal at 5.0' indicates probable bedrock.
							Bottom of Exploration at 5.0 feet below ground surface.
5							
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25							
Remarks: 1. The as-drilled location was measured from existing structural elements (N25861, E500981). Elevation was interpolated from existing contours and estimated to the nearest 0.5'. 2. Soil descriptions are based on soil recovered from auger flights.							
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.: RP-SBTG-204			

Maine Department of Transportation Soil/Rock Exploration Log US CUSTOMARY UNITS				Project: Southport Bridge No. 2789 Route 27 over Townsend Gut Southport - Boothbay Harbor, Maine		Boring No.: RP-SBTG-205 WIN: 21751.00	
Driver: New England Boring Contractors		Elevation (ft.): 18.5'		Auger ID/OD: 4" / 4.5"			
Operator: P. Schofield		Datum: NAVD 88		Sampler: N/A			
Logged By: E. Tome		Rig Type: Truck-Mounted Mobile Drill B-48		Hammer WL/Fall: N/A			
Date Start/Finish: 11/9/20-11/9/20		Driving Method: HSA		Core Barrel: HSA			
Boring Location: Sta. 4+47.5' LT		Casing ID/OD: 4" / 4.5"		Water Level: *		Not Encountered	
Hammer Efficiency Factor: N/A		Hammer Type: Automatic ☐ Hydraulic ☐ Rope & Cathead ☐					
Deliveries: D - Split Spoon Sample MD - Unsuccessful Split Spoon Sample Attempt L - Thin Wall Tube Sample MU - Unsuccessful Thin Wall Tube Sample Attempt V - Field Vane Shear Test WP - Pocket Penetrometer 							

Maine Department of Transportation				Project: Southport Bridge No. 2789 Route 27 over Townsend Gut Southport - Boothbay Harbor, Maine		Boring No.: BB-SBTG-201	
Soil/Rock Exploration Log US CUSTOMARY UNITS				Location:		WIN: 21751.00	
Driller:	New England Boring Contractors			Elevation (ft.):	17.0'	Auger ID/DD:	
Operator:	P. Schofield			Datum:	NAVD 88	Sampler:	Standard Split Spoon
Logged By:	E. Toms			Rig Type:	Truck-Mounted Mobile Drill B-48	Hammer Wt./ft.fall:	140/30"
Date Start/Finish:	11/12/20-11/13/20			Driving Method:	Drive & Wash	Cone Barrel:	NK
Boring Location:	Sta. 5+47, 2' RT			Coring ID/DD:	474.5"	Water Level:	20.0'
Hammer Efficiency Factor:	0.84			Hammer Type:	Automatic ☒ Hydraulic ☐ Rope & Cathead ☐		
Deletions:				Notes:			
D - Split Spoon Sample				R - Rock Core Sample			
MD - Unsuccessful Split Spoon Sample Attempt				SD - Solid Stem Auger			
U - Too Wet To Take Sample				HSA - Hollow Stem Auger			
MU - Unsuccessful Thin Wall Tube Sample Attempt				RC - Rock Core			
V - Field Vane Shear Test				WCH - Weight of Hole, Hammer			
MW - Unsuccessful Field Vane Shear Test Attempt				WCHC - Weight of Hole or Coring			
NKC - Unsuccessful Field Vane Shear Test Attempt				NKC - Hammer Efficiency Factor/ROH/uncorrected			
NKC - Hammer Efficiency Factor/ROH/uncorrected				NKC - Hammer Efficiency Factor/ROH/uncorrected			
Sample Information							
Depth (ft.)	Sample No.	Pen./Rec. (in.)	Sample Depth (ft.)	Blow (1/4 in./ft.)	Blow (1/4 in./ft.)	Blow (1/4 in./ft.)	Blow (1/4 in./ft.)
0	10	24/12	0.5 - 2.5	20-20-14-9	34	48	
							0-0.5' Asphalt
5	20	24/9	4.0 - 6.0	8-7-6-6	13	18	
							Brown, wet, medium dense, fine to coarse SAND, some silt, trace gravel, (f.f.).
10	30	24/13	9.0 - 11.0	2-3-4-3	7	10	
							Brown, wet, stiff, Silty CLAY, little fine to medium sand, (f.f.).
15	40	24/6	14.0 - 16.0	8-5-3-4	8	11	
							Brown, wet, medium dense, fine to coarse SAND, some silt, trace gravel, (f.f.).
20	50	17/8	19.0 - 20.4	5-17-100-4"	R	NK	
	R1	60/44	20.5 - 25.5	RQD - 22%			
25							Top 4": Gray/black, wet, fine to coarse SAND, little silt, (f.f.).
							Bottom 4": Black, wet, GRAVEL, some fine to coarse sand, little silt, with shells, (weathered bedrock).
30							Split spoon refusal at 20.4". Advanced 4" coring and roller cone to 20.5" and set up to core.
							R1 Hard, fresh, aphonic, grey, (SCHST) joints are extremely close to moderately spaced, horizontal to vertical, undulating, rough, fresh to decomposed, moderately wide.
35							Rock Quality - Very Poor
							Recovery - 74%
40							Rock Core Times (min/sec): 20.5-21.5' (2:08), 21.5-22.5' (2:36), 22.5-23.5' (2:37), 23.5-24.5' (2:40), 24.5-25.5' (2:41)
							Bottom of Exploration at 25.5 feet below ground surface.
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1. Automatic hammer NERC 203 Energy Transfer Ratio: 0.895.
2. Five-Grained Soil Descriptions on this log are based on visually estimated using visual-manual classification techniques or laboratory methods and tests if available, rather than the Mohr-Coulomb Standard based percentages passing specific grain sizes.
3. The on-dry-dredge location was measured from existing structural elements (N12234, 1/05084). Ground surface/mudline elevation measured 54.6' below the top of bridge deck.
4. Stratification lines represent apparent boundaries between soil types. Translators may be ground.
5. Note: Water content values have been made at times and under conditions listed. Compaction fluctuations may occur due to conditions other than those stated in the test methodology notes made.

Page 1 of 1
Boring No.: BB-SBTG-102

1. Midge elevation measured relative to the Iddel board surveyed by ManEdOT.
2. Boring locations were surveyed by ManEdOT (N025279, E008085).
3. Field cores consisted of Geopier rectangular vials with a rod diameter of 65mm. Raw torque readings were converted to unbraked shear strength.
4. Fine-Grained Soil Descriptions on this log are based on statistically estimated using visual-manual classification techniques or laboratory Atterberg Limit tests if available, rather than the ManEdOT Standard based percentages passing specific grain sizes.

Stratigraphic units represent approximate boundaries between soil types; transitions may be gradual.
Water level readings have been made both times and under conditions stable. Groundwater fluctuations may occur due to conditions after field access to the bore is terminated and the well closed.

Page 1 of 1
Boring No.: BB-SRTG-204

1. Automatic machine NEBC D303 Energy Transfer Ratio = 0.895.
2. Fine-Grained Soil Descriptions on this log are based on statistics estimated using visual-manual classification techniques or laboratory Atterberg Limits test, if available, rather than the Modified Standard based percentages pointing specific grain sizes.
3. The soil-colored log was measured from existing structural elements (H25310, H250800). Ground surface/mudline elevation measured 52.5' below true top of bridge deck.
4. OC - Organic Content results from laboratory testing.

Stratification lines represent approximate boundaries between soil types; variations may be gradual.
Water level readings have been made at times and under conditions listed. Gravel/bedrock fluctuations may occur due to conditions after those upon which the log measurements were made.

Page 1 of 1
BB-SBTC-103

1. Automatic harmonic noise ≥ 0.25 Energy Transfer Ratio $\geq 0.85\%$.
2. Fine-grained Soil Descriptions on this log are based on plasticity estimated using visual-mound classification techniques or laboratory Atterberg Limits test if available, rather than the Modified Standard based percentages passing specific grain sizes.
3. The ge-located location was measured from existing structural elements IM25266, E15007661. Ground surface/mudline elevation measured 48.5' below the top of bridge deck.

Water level lines represent approximate boundaries between soil types; transitions may be gradual.
Soil core wall readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those stated on this log.

Page 1 of 1
Boring No.: BB-SRTG-104

Maine Department of Transportation				Project:		Boring No.:	
Soil/Bore Exploration Log				Southeast Bridge No. 2789		BB-SBTG-105	
US CUSTOMARY UNITS				Route 27 over Townsend Gut		WIN:	
Location:				Southeast - Boothbay Harbor, Maine		21751.00	
Driller:		New England Boring Contractors		Elevation (ft.):		28.0	
Operator:		B. Enay / D. Shore		Datum:		NAVD 88	
Logged By:		M. Walsh		Rig Type:		Track Mounted	
Date Start/Finish:		6/13/19-6/13/19		Drilling Method:		Drive & Wash	
Boring Location:		Sta. 93.1, R' L'		Coring (ft./D):		4.4/5', 3.3/5'	
Hommer Efficiency Factor:		0.895		Hommer Type:		Automatic Hydraulic Rope & Cathead	
Deviator:		F - Rock Core Sample		Automatic		☐ Plain/Reamed (see note) ☐ Standard Shear Strength Test ☐ S - Split Spoon Sample ☐ U - Unconsolidated Soil Sample ☐ W - Wet Wall Test Sample ☐ M - Unconsolidated Wet Wall Test Sample Attached ☐ V - Field Vane Shear Test ☐ GP - Tuckert Penetrometer ☐ MU - Unconsolidated Field Vane Shear Test (At-Risk)	
F - Rock Core Sample		SSA - Split Stem Auger		Hydraulic		☐ R - Water Content, percent ☐ L - Liquid Limit ☐ P - Plastic Limit ☐ NQ - Plasticity Index ☐ C - Cationic Test	
SSA - Split Stem Auger		HSA - Hollow Stem Auger		Rope & Cathead		☐ T - Pocket Torque Shear Strength Test ☐ MC - Water Content, percent ☐ L - Liquid Limit ☐ P - Plastic Limit ☐ NQ - Plasticity Index ☐ C - Cationic Test	
HSA - Hollow Stem Auger		WBC - Weight of 140lb. Hammer		Rope & Cathead		☐ T - Pocket Torque Shear Strength Test ☐ MC - Water Content, percent ☐ L - Liquid Limit ☐ P - Plastic Limit ☐ NQ - Plasticity Index ☐ C - Cationic Test	
WBC - Weight of 140lb. Hammer		WBC - Weight of 140lb. Hammer		Rope & Cathead		☐ T - Pocket Torque Shear Strength Test ☐ MC - Water Content, percent ☐ L - Liquid Limit ☐ P - Plastic Limit ☐ NQ - Plasticity Index ☐ C - Cationic Test	
WBC - Weight of 140lb. Hammer		WBC - Weight of 140lb. Hammer		Rope & Cathead		☐ T - Pocket Torque Shear Strength Test ☐ MC - Water Content, percent ☐ L - Liquid Limit ☐ P - Plastic Limit ☐ NQ - Plasticity Index ☐ C - Cationic Test	
WBC - Weight of 140lb. Hammer		WBC - Weight of 140lb. Hammer		Rope & Cathead		☐ T - Pocket Torque Shear Strength Test ☐ MC - Water Content, percent ☐ L - Liquid Limit ☐ P - Plastic Limit ☐ NQ - Plasticity Index ☐ C - Cationic Test	
WBC - Weight of 140lb. Hammer		WBC - Weight of 140lb. Hammer		Rope & Cathead		☐ T - Pocket Torque Shear Strength Test ☐ MC - Water Content, percent ☐ L - Liquid Limit ☐ P - Plastic Limit ☐ NQ - Plasticity Index ☐ C - Cationic Test	
WBC - Weight of 140lb. Hammer		WBC - Weight of 140lb. Hammer		Rope & Cathead		☐ T - Pocket Torque Shear Strength Test ☐ MC - Water Content, percent ☐ L - Liquid Limit ☐ P - Plastic Limit ☐ NQ - Plasticity Index ☐ C - Cationic Test	
WBC - Weight of 140lb. Hammer		WBC - Weight of 140lb. Hammer		Rope & Cathead		☐ T - Pocket Torque Shear Strength Test ☐ MC - Water Content, percent ☐ L - Liquid Limit ☐ P - Plastic Limit ☐ NQ - Plasticity Index ☐ C - Cationic Test	
WBC - Weight of 140lb. Hammer		WBC - Weight of 140lb. Hammer		Rope & Cathead		☐ T - Pocket Torque Shear Strength Test ☐ MC - Water Content, percent ☐ L - Liquid Limit ☐ P - Plastic Limit ☐ NQ - Plasticity Index ☐ C - Cationic Test	
WBC - Weight of 140lb. Hammer		WBC - Weight of 140lb. Hammer		Rope & Cathead		☐ T - Pocket Torque Shear Strength Test ☐ MC - Water Content, percent ☐ L - Liquid Limit ☐ P - Plastic Limit ☐ NQ - Plasticity Index ☐ C - Cationic Test	
WBC - Weight of 140lb. Hammer		WBC - Weight of 140lb. Hammer		Rope & Cathead		☐ T - Pocket Torque Shear Strength Test ☐ MC - Water Content, percent ☐ L - Liquid Limit ☐ P - Plastic Limit ☐ NQ - Plasticity Index ☐ C - Cationic Test	
WBC - Weight of 140lb. Hammer		WBC - Weight of 140lb. Hammer		Rope & Cathead		☐ T - Pocket Torque Shear Strength Test ☐ MC - Water Content, percent ☐ L - Liquid Limit ☐ P - Plastic Limit ☐ NQ - Plasticity Index ☐ C - Cationic Test	
WBC - Weight of 140lb. Hammer		WBC - Weight of 140lb. Hammer		Rope & Cathead		☐ T - Pocket Torque Shear Strength Test ☐ MC - Water Content, percent ☐ L - Liquid Limit ☐ P - Plastic Limit ☐ NQ - Plasticity Index ☐ C - Cationic Test	
WBC - Weight of 140lb. Hammer		WBC - Weight of 140lb. Hammer		Rope & Cathead		☐ T - Pocket Torque Shear Strength Test ☐ MC - Water Content, percent ☐ L - Liquid Limit ☐ P - Plastic Limit ☐ NQ - Plasticity Index ☐ C - Cationic Test	
WBC - Weight of 140lb. Hammer		WBC - Weight of 140lb. Hammer		Rope & Cathead		☐ T - Pocket Torque Shear Strength Test ☐ MC - Water Content, percent ☐ L - Liquid Limit ☐ P - Plastic Limit ☐ NQ - Plasticity Index ☐ C - Cationic Test	
WBC - Weight of 140lb. Hammer		WBC - Weight of 140lb. Hammer		Rope & Cathead		☐ T - Pocket Torque Shear Strength Test ☐ MC - Water Content, percent ☐ L - Liquid Limit ☐ P - Plastic Limit ☐ NQ - Plasticity Index ☐ C - Cationic Test	
WBC - Weight of 140lb. Hammer		WBC - Weight of 140lb. Hammer		Rope & Cathead		☐ T - Pocket Torque Shear Strength Test ☐ MC - Water Content, percent ☐ L - Liquid Limit ☐ P - Plastic Limit ☐ NQ - Plasticity Index ☐ C - Cationic Test	
WBC - Weight of 140lb. Hammer		WBC - Weight of 140lb. Hammer		Rope & Cathead		☐ T - Pocket Torque Shear Strength Test ☐ MC - Water Content, percent ☐ L - Liquid Limit ☐ P - Plastic Limit ☐ NQ - Plasticity Index ☐ C - Cationic Test	
WBC - Weight of 140lb. Hammer		WBC - Weight of 140lb. Hammer		Rope & Cathead		☐ T - Pocket Torque Shear Strength Test ☐ MC - Water Content, percent ☐ L - Liquid Limit ☐ P - Plastic Limit ☐ NQ - Plasticity Index ☐ C - Cationic Test	
WBC - Weight of 140lb. Hammer		WBC - Weight of 140lb. Hammer		Rope & Cathead		☐ T - Pocket Torque Shear Strength Test 	

Maine Department of Transportation						Project:		Boring No.:	
Soil/Borehole Exploration Log						Southeast Bridge No. 2789 Route 27 over Townsend Gut		BB-SBTG-205	
US CUSTOMARY UNITS						Location:		WIN:	
						Southport - Boothbay Harbor, Maine		21751.00	
Date:	New England Boring Contractors					Elevation (ft.):	17.0'	Auger Ø/D:	
Operator:	P. Schofield					Datum:	NAD83	Sampler:	Standard Split Spoon
Lagged By:	E. Tome					Rig Type:	Truck Mounted Mobile Drill B-48	Hammer Wt./Fall:	142"/30"
Date Start/Finish:	11/11/20-11/11/20					Drilling Method:	Drive & Wash	Cone Barrel:	NX
Boring Location:	Sta. 10+33, 0' --					Casing Ø/D:	4" x 4.5"	Water Level *:	8.0'
Hammer Efficiency Factor:	0.84					Hammer Type:	Automatic	□ Rope & Cathode	□
Deleted:						F - Rock Core Sample	% = Non-Recovered Feet (see Undrilled Core Strength List)		
P - Split Spoon Sample						SFA - Solid Stem Auger	L - Low Value (Undrilled Core Strength List)		
M - Unconsolidated Split Spoon Sample Attempt						ISA - Inside Stem Auger	U - Unclassified Compressive Strength (ksi)		
W - The Wall Test Sample						RC - Rubber Core	N - Plastic Limit		
MI - Unconsolidated Thin Wall Tube Sample Attempt						WMA - Weight of Moist Hammer	H - Hammer Efficiency Factor		
V - Field Vane Shear Tests						WBSC - Weight of Blow or Casing	N ₆₀ - SPT Blows per Foot (See Notes)		
NY - Unconsolidated Field Vane Shear Test Attempts						WOP - Weight of One Person	N _u - Hammer Efficiency Factor/Unconsolidated		
Sample Information						Visual Description and Remarks			
Depth (ft.)	Sample No.	Top-Bot. (ft.)	Length (ft.)	Remarks (ft. of Sample) / (ft. of RCD)	Unclassified	Coring Status	Correlation	Notes	Laboratory Testing Results/AAG/H and Unified Class.
0	10	24/18	0.5 - 2.5	14:10-8:30	18	25	9.5	0'-0": Asphalt Tan/brown, moist, medium dense, fine to coarse SAND, some gravel, trace silt, (F8).	O-25 A-1-a, SP-5M WC-1*
5	20	24/18	4.0 - 6.0	1:2-2:2	4	6		Brown, wet, medium stiff, Silty CLAY, trace fine sand, (F8).	A-6, CL LI=54 PI=19 PH=25 WC-31*
	R1	60/59	8.5 - 13.5	RCD + 75ft			9.0	Casing refusal at 8.0'. Advanced roller cone to 8.5' and set up to core. R1 Very hard, fresh, medium to coarse grained, black/grey/orange, PEGMATITE, joints are very close to moderately spaced, horizontal to moderately dipping, undulating, rough, fresh to discolorated, tight to moderately wide. Rock Quality = Fair Recovery = Good Rock Core Times (min/sec): 8.5-9.5' (2:33), 9.5-10.5' (2:30), 10.5-11.5' (2:33), 11.5-12.5' (2:30), 12.5-13.5' (2:50) R2 Hard, coarse grained, black/grey, PEGMATITE, hard, the grained, grey/blue, SCHIST from 17.0-18.1'. Joints are very close to moderately spaced, horizontal to moderately dipping, undulating, rough, fresh to discolorated, tight to moderately wide. Rock Quality = Good Recovery = Fair Rock Core Times (min/sec): 13.5-14.5' (2:20), 14.4-15.5' (2:03), 15.5-16.5' (1:54), 16.5-17.5' (1:58), 17.5-18.2' (2:26)	8-0
-15	R2	60/57	13.5 - 18.5	RCD + 85ft			0.0		-17.0
-20							-1.5	Bottom of Exploration at 18.5 feet below ground surface.	-18.5

Remarks:

- 1. NEBC Automatic Hammer serial #2705 Energy Transfer Ratio = .84*
- 2. The oil-drilled location was measured from existing structural elements (N25182, E1600709). Elevation was interpolated from existing contours and estimated to the nearest 0.5'.
- 3. Fine-Grained Soil Descriptions on this log are based on pilot studies using visual/manual classification techniques or laboratory Atterberg limit tests if available, rather than the Modified Standard based percentages possessing specific grain sizes.
- 4. Water level measured after approximately 10 minutes of stabilization time with casing in place.

Stratification lines represent approximate boundaries between litho types - boreholes may be graded.
* Water level readings have been made at times and under conditions suitable. Characteristic fluctuations may occur due to conditions other than those present at the time measurements were made.

Page 1 of 1
 Boring No.: BB-SBTG-205

Maine Department of Transportation						Project Location:		Boring No.: BB-SBTG-206		
Soil/Brock Exploration Log U.S. CUSTOMARY UNITS						Location: Southern Bridge No. 2789 Route 27 over Townsend Cut Southport - Boothbay Harbor, Maine		Well: 21751.00		
Driller:		New England Boring Contractors		Elevation (ft.):		11.0'		August 01/00		
Operator:		R. Schofield		Datum:		NAVD 88		Sampler:		Standard Splitpoon
Logged By:		E. Tome		Rig Type:		Truck Mounted Mobile Drill B-48		Hammer W/L/Fall:		140"/30"
Date Start/Finish:		10/10/2010-10/10/20		Driving Method:		Drive & Wash		Core Barrel:		NK
Boring Location:		Sta. 10+56, 1% RT		Casing (O/D):		4"x4.5"		Water Level +/-:		14.0'
Hammer Efficiency Factor:		0.84		Hammer Type:		Automatic ☒ Hydraulic ☐		Rope & Cathode:		☐
Remarks:		R = Rock Core Sample SSA = Solid Stem Auger HSA = Hollow Stem Auger RC = River Cone Nuc = Weight of Hole, Hammer WOLC = Weight of Rope or Casing RF = Weight of One Foot		S _u = Undrained Shear Strength (psi) S _u (sat) = Lab Vane Undrained Shear Strength (psi) q _p = Uncorrected Compressive Strength (psi) N _{sp} = Uncorrected - Raw Field SPT N-value Efficiency Factor = % Specific Anvil Correction Value N _{sp} = SPT Nuncorrected Corrected for Hammer Efficiency N _{sp} Hammer Efficiency Factor Bottom uncorrected		T _v = Pocket Torque Shear Strength (psi) WC = Water Content percent L = Liquid Limit P = Plastic Limit PI = Plasticity Index G = Grain Size Analysis C = Consolidation Test				
Sample Information										
Depth (ft.)	Sample No.	Flow Rate (in.)	Sample Depth (ft.)	Notes (see log)	Shower (lb./sq. ft.)	Coring Speed (rpm)	Coring Bit (in.)	Grain Log	Visual Description and Remarks	
5	10	24/19	0.6 - 2.6	27-19-15.2	34	45	RD	16.4		Top 0'-0" Asphalt Bottom 6" Black, wet, fine to coarse SAND, some gravel, little silt, (fill). Made 1" Asphalt Bottom 8" Brown, dry, fine to coarse SAND, little gravel, trace silt, (fill).
	20	24/15	4.0 - 6.0	2-2-1-2	3	4				Brown, wet, medium stiff, Silty CLAY, little sand, (fill).
	30	24/14	9.0 - 11.0	1-WOH-B-13	8	11				Top 6" Brown, wet, Silty CLAY, little sand, (fill). Bottom 6" Black, wet, fine to coarse SAND, some gravel, some silt, trace organic silt, Harbor Bottom Sand. Made 1" Asphalt
15	40	24/18	14.0 - 16.0	1-4-5-7	9	13		2.8		Top 2" Grey, wet, Silty fine to coarse SAND, some gravel, Harbor Bottom Sand. Bottom 1" Grey, wet, soft, Silty CLAY, trace organic fibers, Marine Clay.
	50	24/20	19.0 - 21.0	4-8-7-8	15	21				Grey, wet, very soft, Silty CLAY, trace fine sand, (Marine Clay).
25	RI	60/S1	24.0 - 29.0	R00 - 72'				-6.5		Casing refusal at 24.0'. Roller cone advanced to 24.0' and set up to core. RI Very hard, trash, fine to medium grained, black/ grey/white banded, SOHST Joints are very close to moderately spaced, horizontal to moderately dipping, undulating, rough discolored, partially open to moderately wet. Rock Quality = Fair Recovery = 85% Rock Core Times (min/sec) 24.0-25.0' (11/56), 25.0-26.0' (12/59), 26.0-27.0' (12/25), 27.0-28.0' (13/30), 28.0-29.0' (14/30)
30								-12.0		Bottom of Exploration at 29.0 feet below ground surface.
Remarks:										
1. NEPC Automatic Hammer serial #2705 Energy Transfer Ratio = .842										
2. The corralled location was measured from existing structural elements IN25155, (E50678). Elevation was interpolated from existing contours and estimated to the nearest 0.5'.										
3. Fine-Grained Soil Descriptions on this log are based on plasticity estimated using visual-moist classification techniques or laboratory Atterberg Limit tests if available, rather than the Unified Soil Classification System based percentages passing specific grain sizes.										
4. Water level measured after approximately 10 minutes of stabilization time with casing in place.										
5. NEPC Automatic Hammer serial #2705 Energy Transfer Ratio = .842										
6. Water level readings have been made at times and under conditions listed. Groundwater fluctuations may occur due to conditions other than those stated on the log cover sheets and code.										
Disturbance lines represent approximate boundaries between soil layers. Transition may be gradual.									Page 1 of 1	
7. Water level readings have been made at times and under conditions listed. Groundwater fluctuations may occur due to conditions other than those stated on the log cover sheets and code.									Boring No.: BB-SBTG-206	

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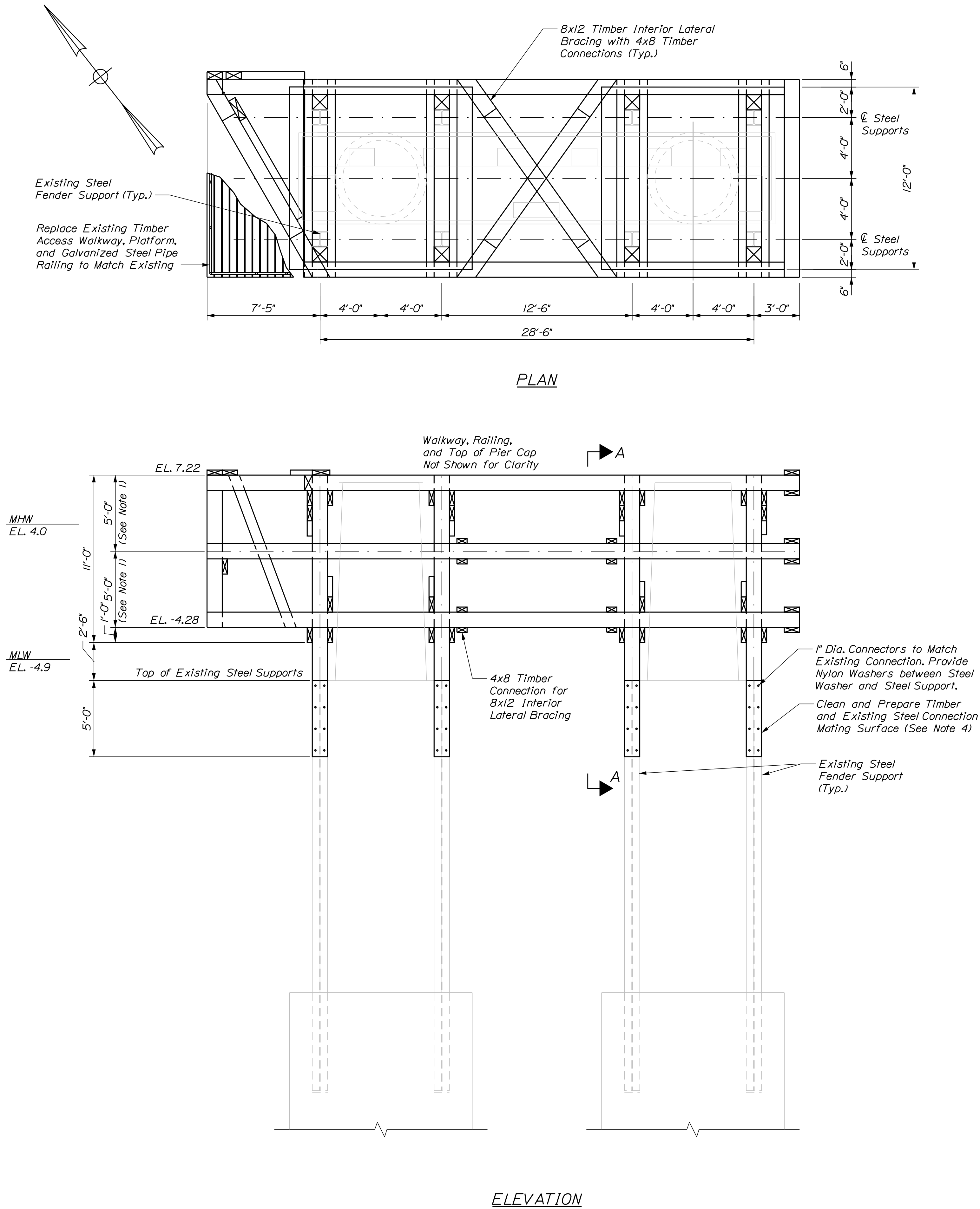
SHEET NUMBER			SOUTHPORT BRIDGE ROUTE 27 OVER TOWNSEND GUT SOUTHPORT & BOOTHBAY HARBOR ME LINCOLN COUNTY			PROJ. MANAGER DESIGN-DETAILED CHECKED-REVIEWED DESIGN2-DETAILED2 DESIGN3-DETAILED3 REVISIONS 1 REVISIONS 2 REVISIONS 3 REVISIONS 4 FIELD CHANGES		J. STETSON N.WILLIAMS A.BLAISSDELL C.SNOW		BY N.WILLIAMS C.SNOW		DATE AUG 2022 AUG 2022		STATE OF MAINE ANDREW R. BLAISSDELL 10957 PROFESSIONAL ENGINEER 08/19/2022		STATE OF MAINE DEPARTMENT OF TRANSPORTATION		BRIDGE NO. 2789		WIN 21751.00		BRIDGE PLAN	
10			BORING LOGS 4													SIGNATURE		P.E. NUMBER		DATE			
OF 48																							

Date: 8/19/2022

Username:

Division: BRIDGE

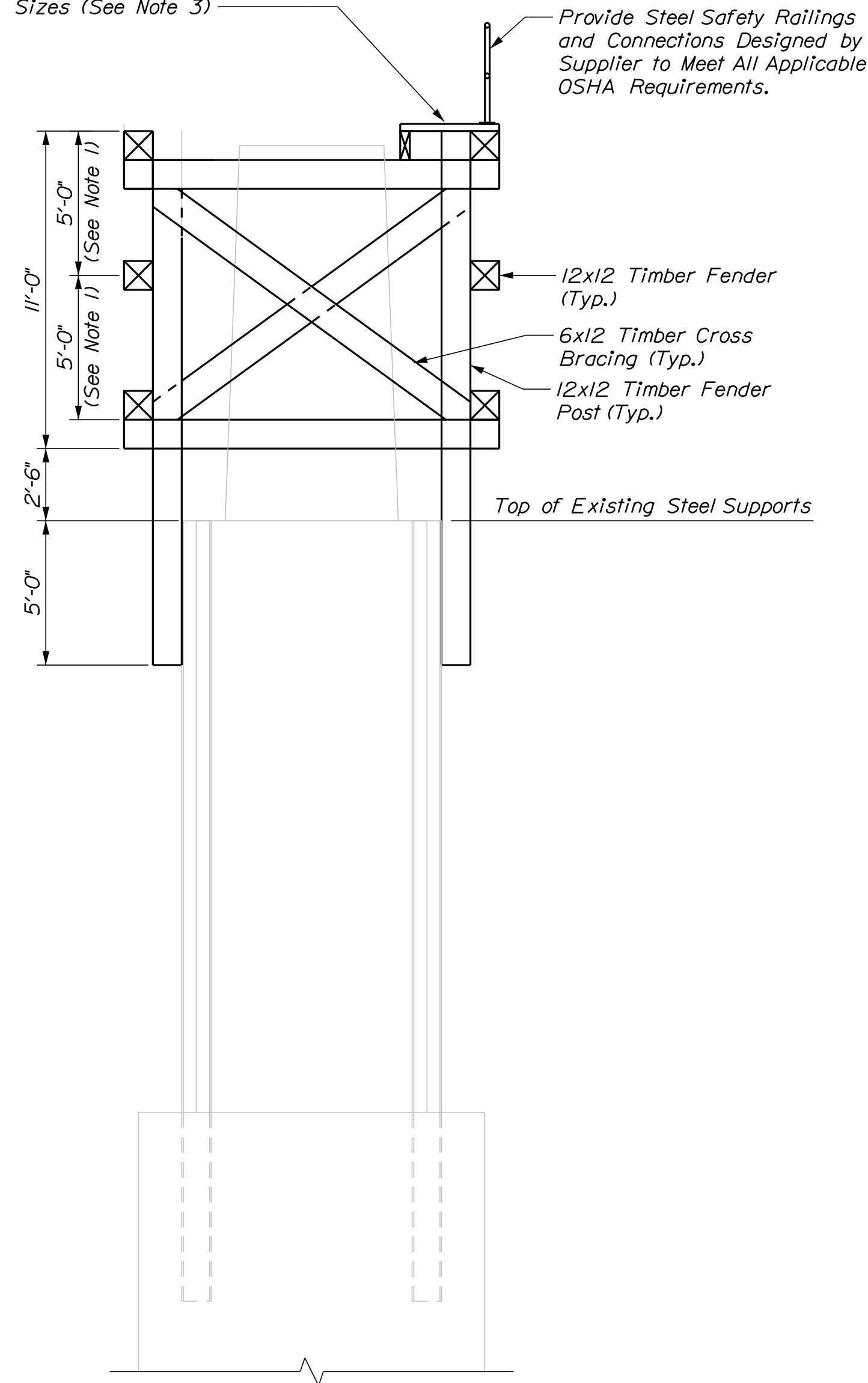
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NOTES:

1. Replace Existing Timber Fender System in kind with members and connectors of the same size and spacing as existing, with the exception of the fender timber spacing as shown. Refer to the 1939 original plans and 1985 rehabilitation plans for member and connector details and material schedule.
2. All fender timber connectors shall be galvanized.
3. Proposed timber walkway and railing is not completely shown, but shall be replaced in kind. The contractor shall submit construction drawings to the Resident for review and approval at least two weeks prior to installation.
4. The Contractor shall remove all deleterious materials from the existing steel supports at least two months prior to ordering materials for the fender system replacements. Each steel support shall be inspected by the Contractor Representative and the Contractor's Dive Team to verify removal of deleterious materials and structural adequacy for the new timber connections. The Resident shall be notified at least two weeks prior to this activity and provided access during the inspections.
5. Timber walkway fasteners not shown for clarity. Contractor shall select appropriate length fastener. Fasteners shall be Phenoxx RSS 305 or 316 stainless steel $\frac{7}{16}$ " dia., or approved equal.

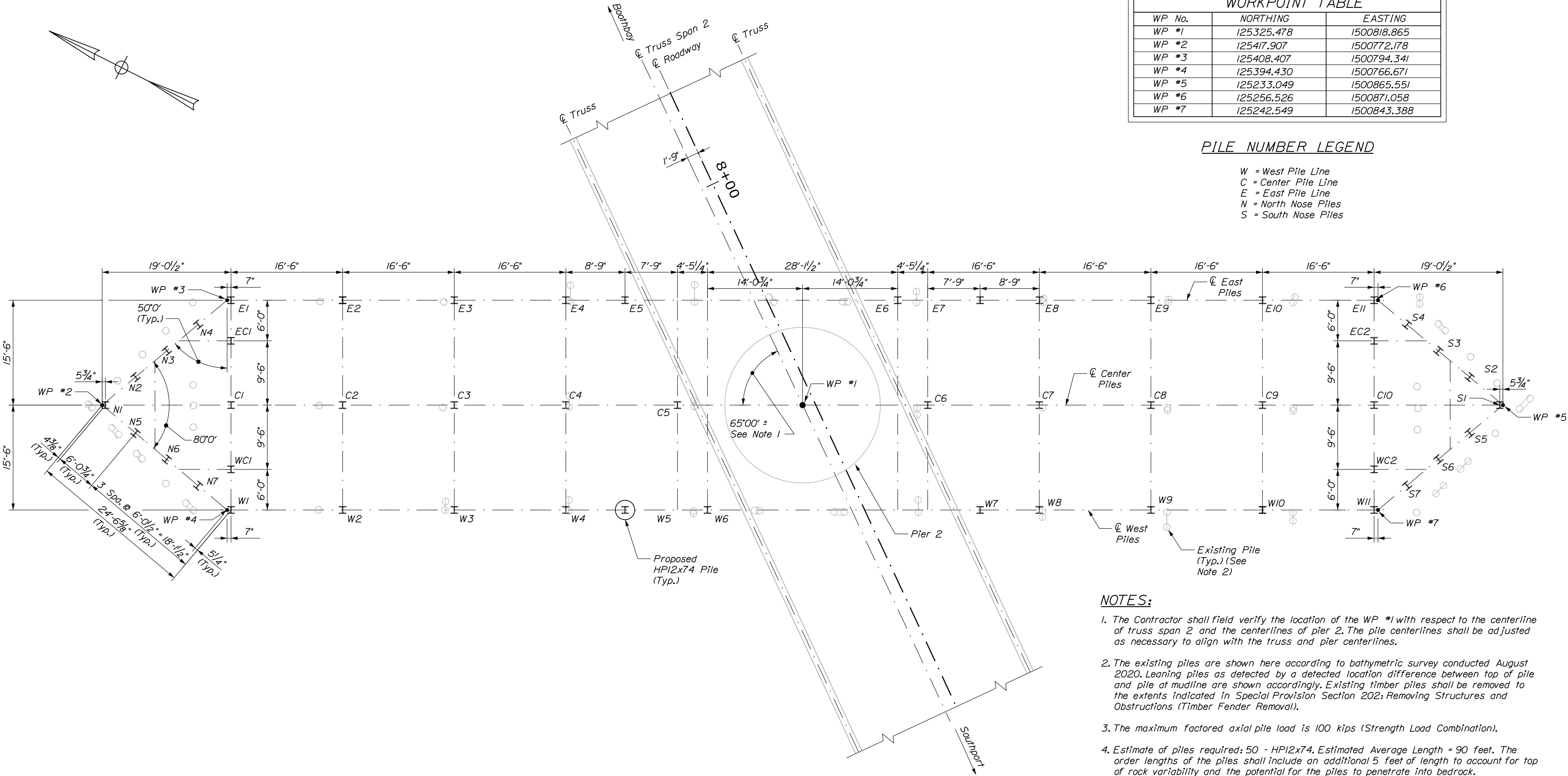
Construct Proposed Worker Access Walkway to Match Existing Layout and Member Sizes (See Note 3)



STATE OF MAINE DEPARTMENT OF TRANSPORTATION		2309401		BRIDGE NO. 2789		BRIDGE PLANS	
SOUTHPORT BRIDGE ROUTE 27 OVER TOWNSEND GUT		LINCOLN COUNTY		PIER 1		FENDER SYSTEM	
SHEET NUMBER		11		OF 48			
PROJ. MANAGER		J. STETSON, PE		BY		DATE	
DESIGN-DETAILED		BSP		UPD		8/19/22	
CHECKED-REVIEWED		CTA		RSBLNT		8/19/22	
DESIGN-DETAILED		CTA		RSBLNT		8/19/22	
DESIGN-DETAILED		CTA		RSBLNT		8/19/22	
REVISIONS		1		P.E. NUMBER		11158	
REVISIONS		2		P.E. NUMBER		11158	
REVISIONS		3		P.E. NUMBER		11158	
REVISIONS		4		P.E. NUMBER		11158	
FIELD CHANGES				DATE		August 19, 2022	

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
PROFESSIONAL ENGINEER
ROBERT S. BLUNT
11158
August 19, 2022

Signature: *Robert S. Blunt*
Date: 8/19/22



PILE LAYOUT PLAN

WORKPOINT TABLE		
WP No.	NORTHING	EASTING
WP #1	125325.478	1500818.865
WP #2	125417.907	1500772.178
WP #3	125408.407	1500794.341
WP #4	125394.430	1500766.671
WP #5	125233.049	1500865.551
WP #6	125256.526	1500871.058
WP #7	125242.549	1500843.388

PILE NUMBER LEGEND

W = West Pile Line
C = Center Pile Line
E = East Pile Line
N = North Nose Piles
S = South Nose Piles

NOTES:

- The Contractor shall field verify the location of the WP #1 with respect to the centerline of truss span 2 and the centerlines of pier 2. The pile centerlines shall be adjusted as necessary to align with the truss and pier centerlines.
- The existing piles are shown here according to bathymetric survey conducted August 2020. Leaning piles as detected by a detected location difference between top of pile and pile at mudline are shown accordingly. Existing timber piles shall be removed to the extents indicated in Special Provision Section 202: Removing Structures and Obstructions (Timber Fender Removal).
- The maximum factored axial pile load is 100 kips (Strength Load Combination).
- Estimate of piles required: 50 - HPI2x74. Estimated Average Length = 90 feet. The order lengths of the piles shall include an additional 5 feet of length to account for top of rock variability and the potential for the piles to penetrate into bedrock.
- H-pile material shall be ASTM A572, Grade 50.
- Piles may be installed using a vibratory hammer and should be advanced until the pile tips are on or near bedrock. Four production piles shall be selected including two among pile N1 through N7 and two among S1 through S7 for retapping using an impact hammer. The piles selected for retapping shall be tested by agents of the Department using dynamic load testing methods. Satisfactory retap tests shall be completed before installation of additional piles. Additional requirements are provided in Special Provision SP501, Vibratory Pile Installation and Retapping.
- The Contractor shall submit to the Department, for review and acceptance, their proposed pile driving equipment with a completed "Pile and Driving Equipment Data Form," Figure 1, of Standard Specification 501-Foundation Piles. A form shall be submitted for both the proposed vibratory hammer and retap test impact hammer. Acceptance of the proposed pile driving equipment by the Department will be based on Department-conducted wave equation analyses. If the Department-conducted wave equation analyses show that the proposed driving systems are unacceptable, the Contractor shall modify or replace the proposed driving equipment in an amendment of the OCP, at their own expense, until subsequent wave equation analyses by the Department indicate the pile can be driven to the required nominal resistance without damage. The required nominal resistance for the piles is the maximum factored axial pile load divided by a resistance factor equal to 0.5 per LRFD specifications.
- The Contractor shall provide access for the agents of the Department to perform four (4) dynamic load tests with signal matching during retapping with an impact hammer, as specified in Special Provision SP501, Vibratory Pile Installation and Retapping. The retapped piles shall be the first four piles driven.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2309401

WIN
21751.01

BRIDGE NO. 2789
BRIDGE PLANS

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
PROFESSIONAL ENGINEER
ROBERT S. BLUNT
11158

SIGNATURE
1158

P.E. NUMBER
August 19, 2022

DATE

PROJ. MANAGER
J. STETSON, PE

BY
UPD
RSLNT

DESIGN-DETAILED
BSP

CHECKED-REVIEWED
CTA

DESIGN-DETAILED
DET2

DESIGN-DETAILED
DET3

REVISIONS
1

REVISIONS
2

REVISIONS
3

REVISIONS
4

FIELD CHANGES

SOUTHPORT BRIDGE ROUTE 27
OVER TOWNSEND GUT

SOUTHPORT & BOOTHBAY HARBOR ME
LINCOLN COUNTY

PIER 2 FENDER SYSTEM
PILE LAYOUT

SHEET NUMBER

12

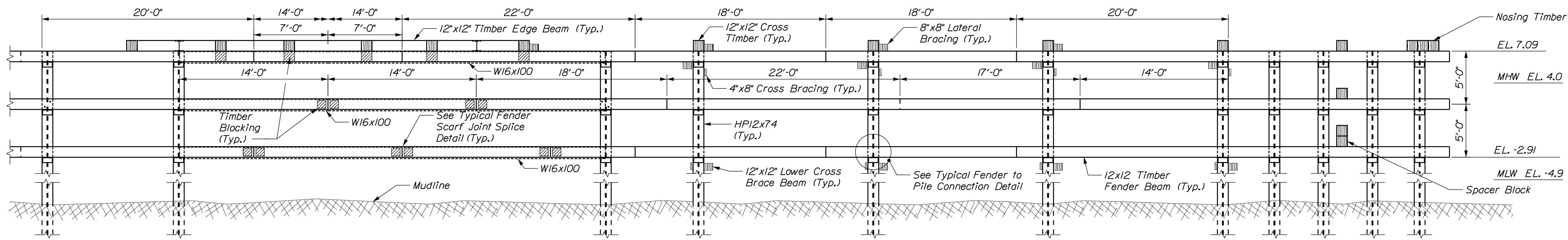
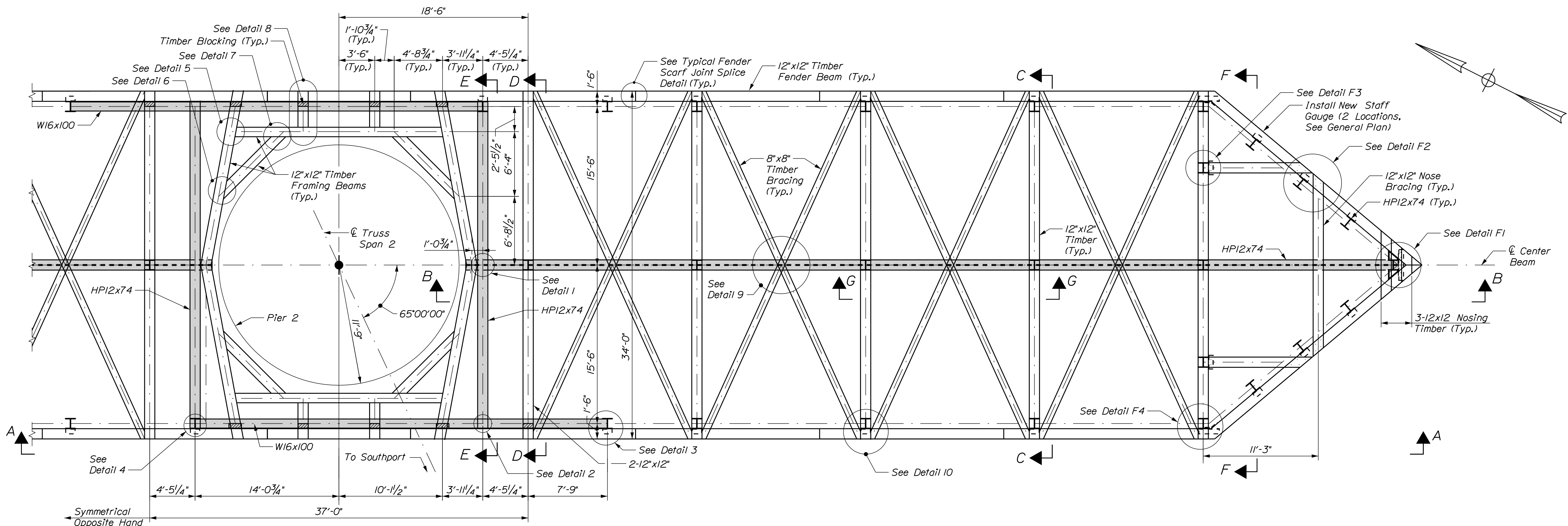
OF 48

Date: 8/19/2022

Username:

Division: BRIDGE

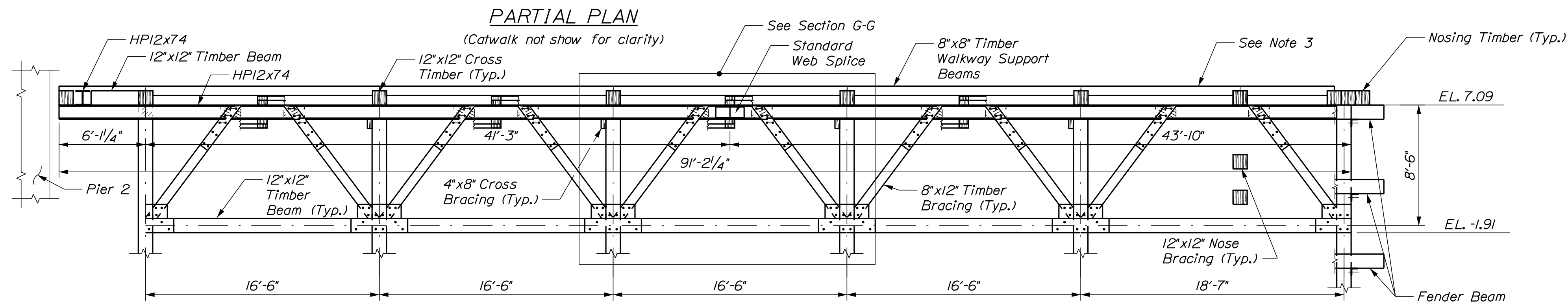
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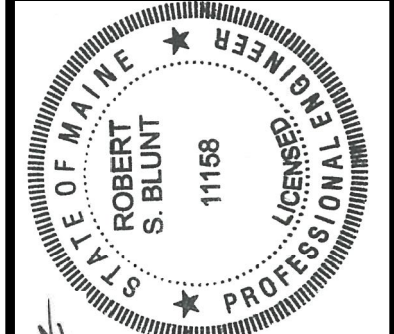
VIEW A-A
(Catwalk not shown for clarity, See Pier 2 Catwalk Details)

NOTES:

1. South end of fender system shown, north end of fender system similar by opposite hand.
2. See Pier 2 Fender System Details sheets for Sections C-C, D-D, E-E, F-F, G-G; Details 1 through 10; Details F1 through F4; and Typical Fender Scarf Joint Splice.
3. For catwalk details see Pier 2 Fender System Catwalk Details sheet.
4. Steel fabrication shop drawings for all structural steel shall be submitted to the Department for review and approval prior to fabrication.
5. All timber fender connectors shall be 1" dia. and hot-dip galvanized in accordance with ASTM A153.
6. The Contractor shall use carriage bolt heads for all connectors at the outside face of fender beams. The Contractor may opt to use countersunk heads in lieu of carriage bolt heads as approved by the Resident.



VIEW B-B
(Catwalk not shown for clarity)



SIGNATURE
1158
P.E. NUMBER
August 19, 2022
DATE

PROJ. MANAGER	J. STETSON, PE	DATE	8/19/22
DESIGN-DETAILED	BSP	BY	UPD
CHECKED-REVIEWED	CTA	REPLANT	REPLANT
DESIGN-DETAILED	DESIGN-DETAILED	REVISIONS	1
REVISIONS	2	REVISIONS	3
REVISIONS	4	REVISIONS	5
FIELD CHANGES		FIELD CHANGES	

SOUTHPORT BRIDGE ROUTE 27
OVER TOWNSEND GUT
SOUTHPORT & BOOTHBAY HARBOR ME
LINCOLN COUNTY
PIER 2 FENDER SYSTEM
PLAN & ELEVATIONS

SHEET NUMBER

13

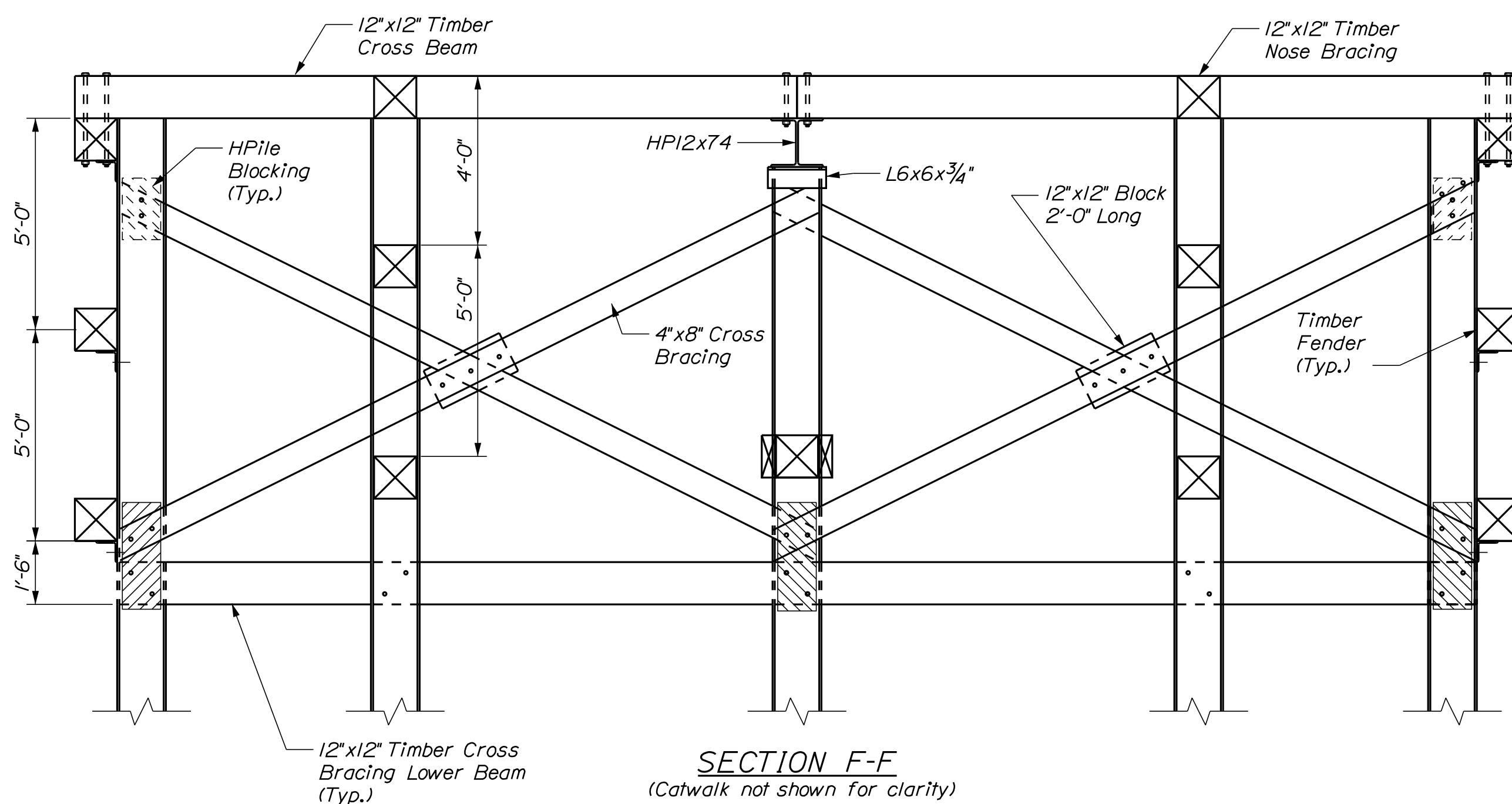
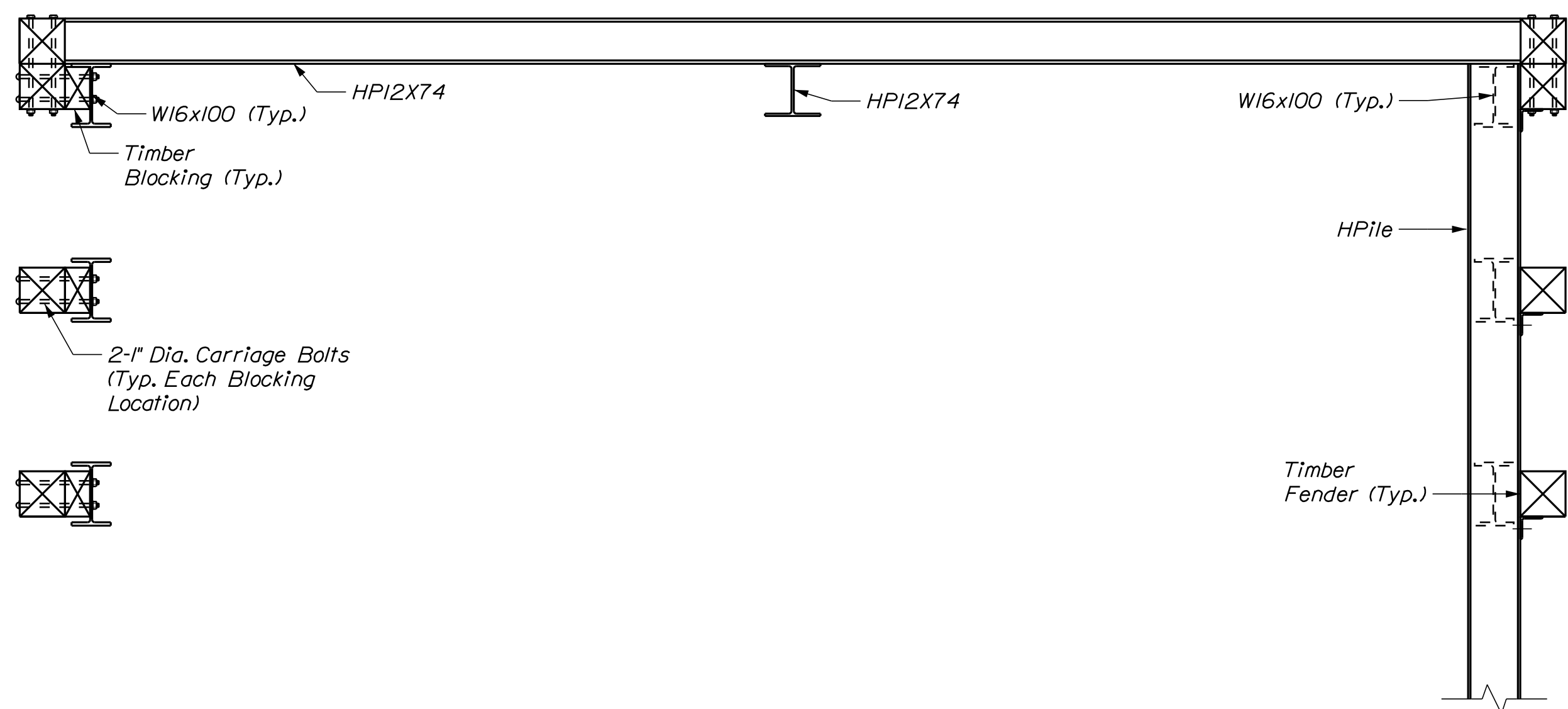
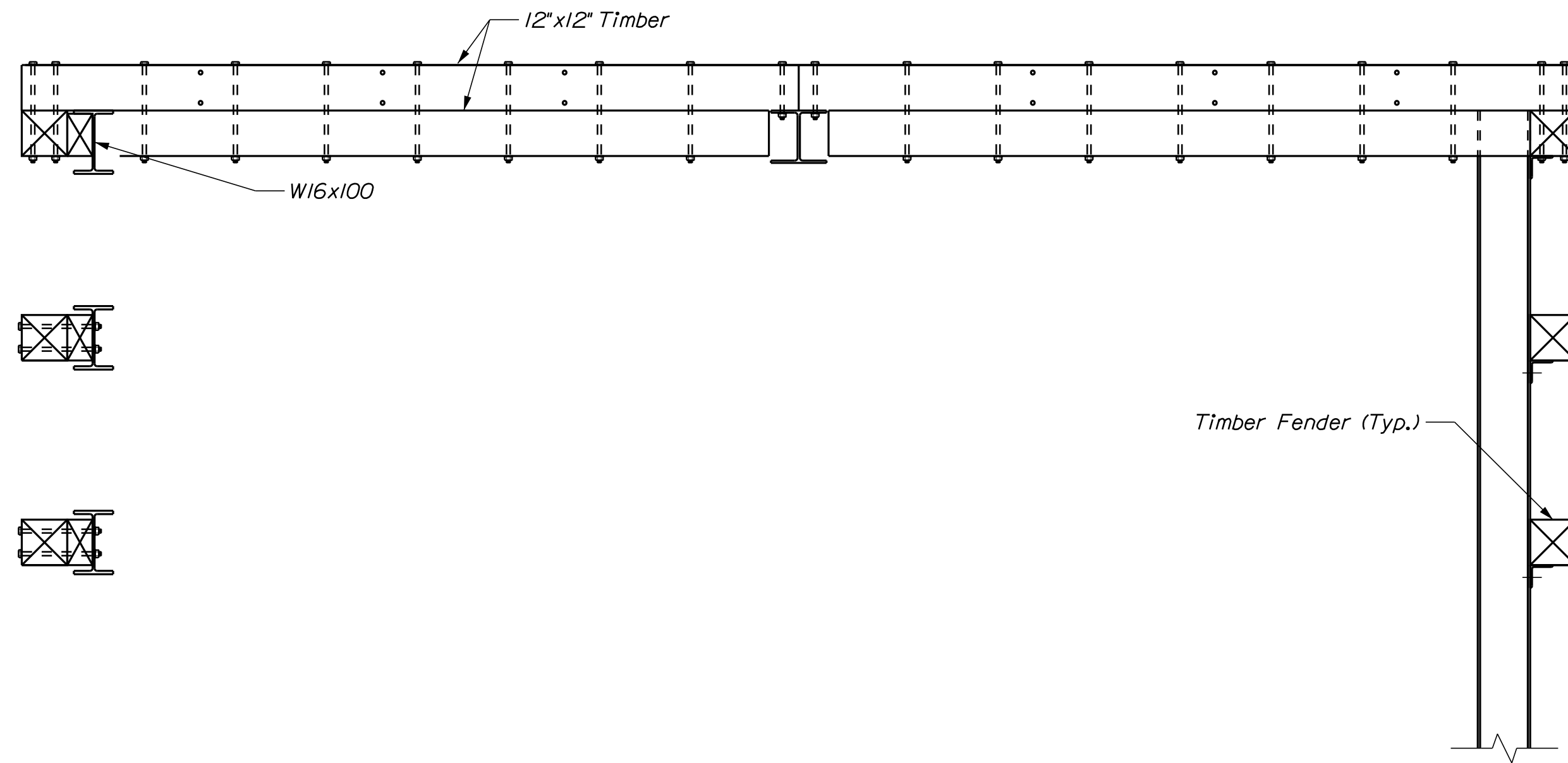
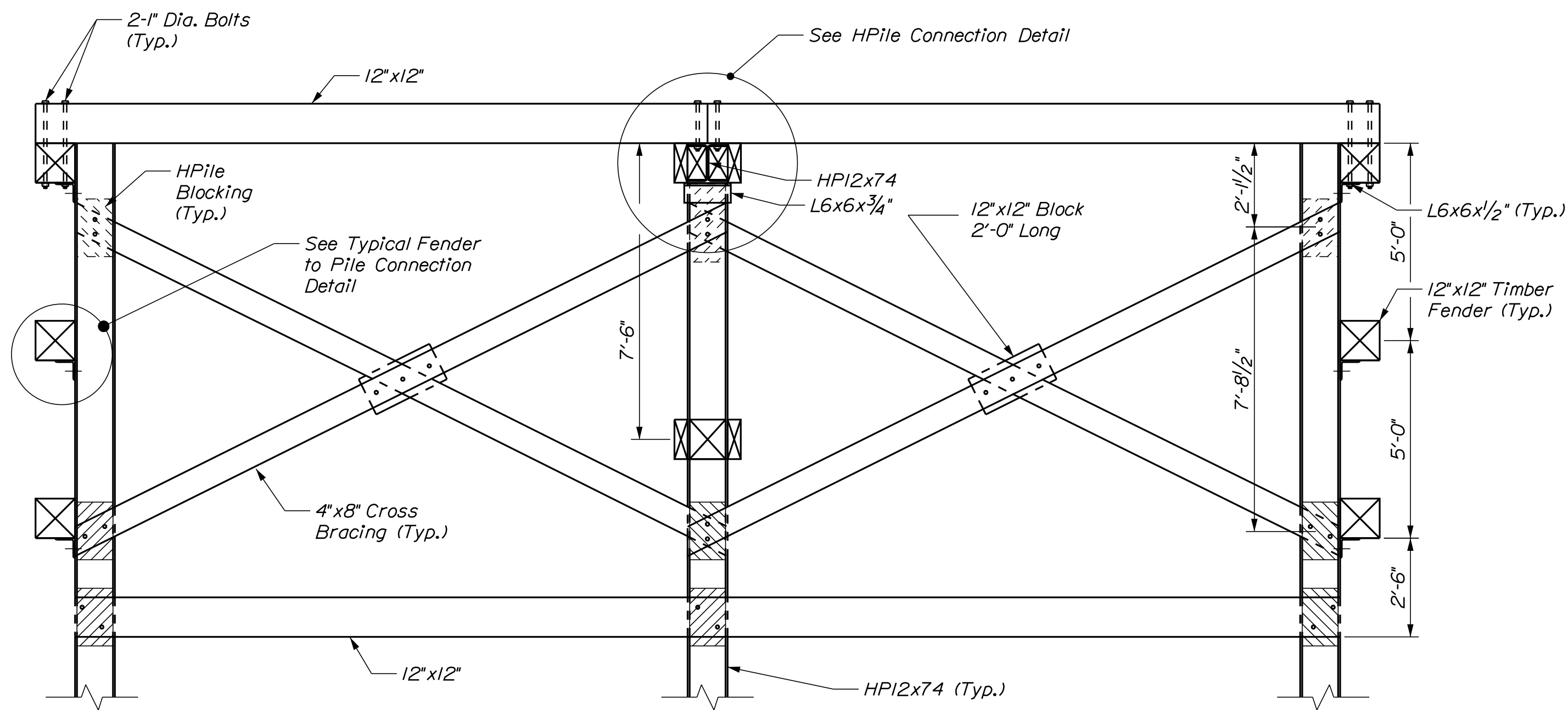
OF 48

Date:8/19/2022

Username:

Division: BRIDGE

Filename: ...\\014_Pier_2_Fender-Det_01.dgn

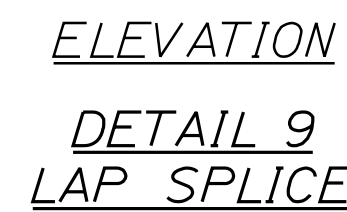


STATE OF MAINE DEPARTMENT OF TRANSPORTATION		2309401		BRIDGE NO. 2789		WIN		21751.01		BRIDGE PLANS	
SOUTHPORT BRIDGE ROUTE 27 OVER TOWNSEND GUT		LINCOLN COUNTY		SOUTHPORT & BOOTHBAY HARBOR ME		PIER 2 FENDER SYSTEM DETAILS (1 OF 5)		SHEET NUMBER		14 OF 48	
PROJ. MANAGER J. STETSON, PE		DESIGN-DETAILED BGP		CHECKED-REVIEWED CTA		DESIGN-DETAILED BGP		DESIGN-REVIEWED CTA		DESIGN-REVIEWED CTA	
BY		BY		BY		BY		BY		BY	
DATE		DATE		DATE		DATE		DATE		DATE	
8/19/22		8/19/22		8/19/22		8/19/22		8/19/22		8/19/22	
SIGNATURE		SIGNATURE		SIGNATURE		SIGNATURE		SIGNATURE		SIGNATURE	
1158		1158		1158		1158		1158		1158	
P.E. NUMBER		P.E. NUMBER		P.E. NUMBER		P.E. NUMBER		P.E. NUMBER		P.E. NUMBER	
August 19, 2022		August 19, 2022		August 19, 2022		August 19, 2022		August 19, 2022		August 19, 2022	
DATE		DATE		DATE		DATE		DATE		DATE	
11158		11158		11158		11158		11158		11158	
REVISIONS 1		REVISIONS 1		REVISIONS 1		REVISIONS 1		REVISIONS 1		REVISIONS 1	
REVISIONS 2		REVISIONS 2		REVISIONS 2		REVISIONS 2		REVISIONS 2		REVISIONS 2	
REVISIONS 3		REVISIONS 3		REVISIONS 3		REVISIONS 3		REVISIONS 3		REVISIONS 3	
REVISIONS 4		REVISIONS 4		REVISIONS 4		REVISIONS 4		REVISIONS 4		REVISIONS 4	
FIELD CHANGES		FIELD CHANGES		FIELD CHANGES		FIELD CHANGES		FIELD CHANGES		FIELD CHANGES	

Robert S. Blunt
P.E. No. 11158
August 19, 2022



1. All connection plates, angles, and hardware shall be incidental to pile fabrication, delivery, and installation items. Timber connection hardware shall be incidental to timber items.
2. After tightening the timber fender connection bolts, the Contractor shall topcoat the washer, nut and exposed threads with an underwater epoxy compatible with galvanized hardware. The epoxy coating shall be a color match to the exposed steel. If a matching color is not available the Contractor shall use brown or black.



1. *All connection plates, angles, and hardware shall be incidental to pile fabrication, delivery, and installation items. Timber connection hardware shall be incidental to timber items.*
2. *After tightening the timber fender connection bolts, the Contractor shall topcoat the washer, nut and exposed threads with an underwater epoxy compatible with galvanized hardware. The epoxy coating shall be a color match to the exposed steel. If a matching color is not available the Contractor shall use brown or black.*



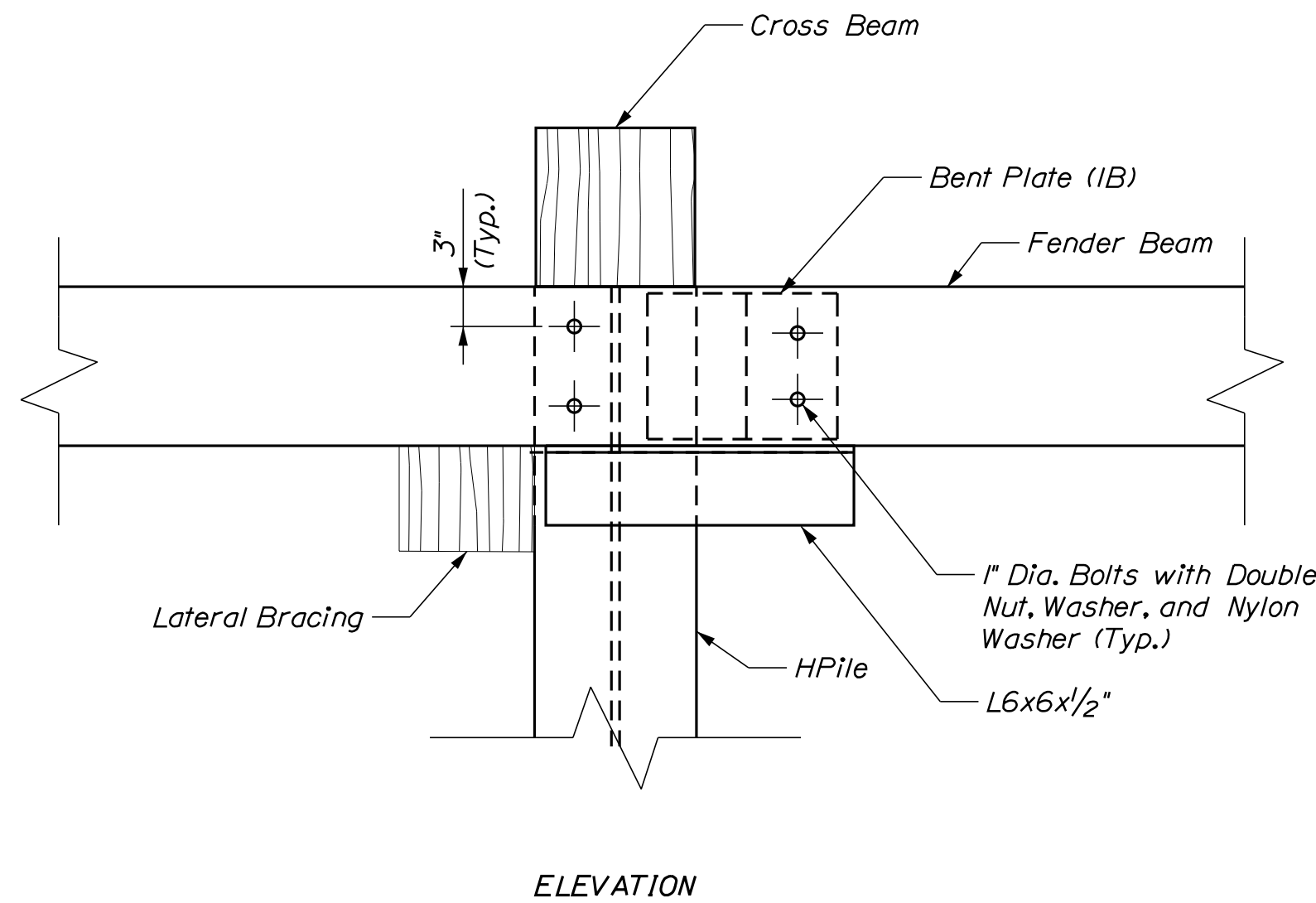
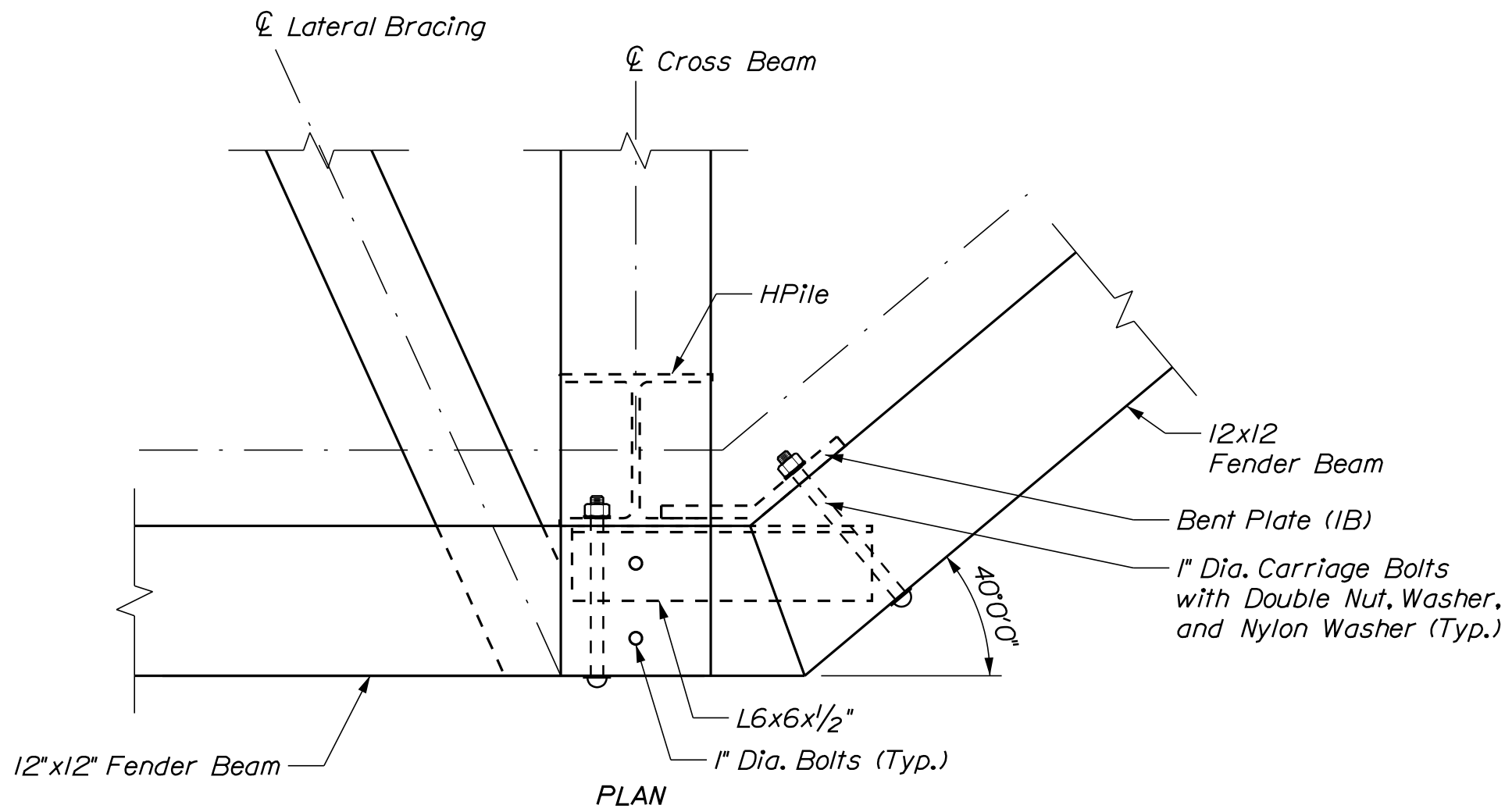
- 1. All connection plates, angles, and hardware shall be incidental to pile fabrication, delivery, and installation items. Timber connection hardware shall be incidental to timber items.*
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Date:8/19/2022

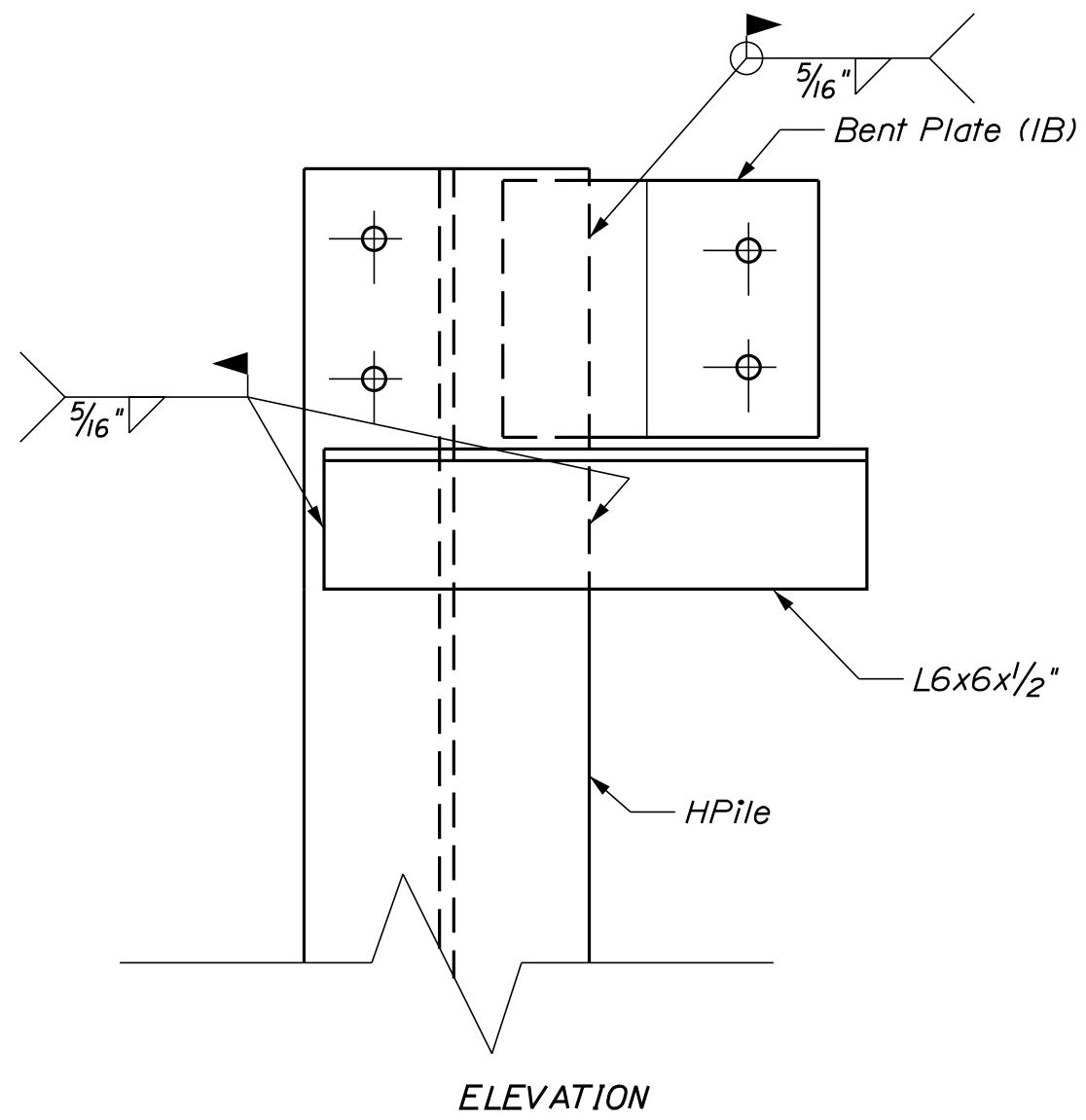
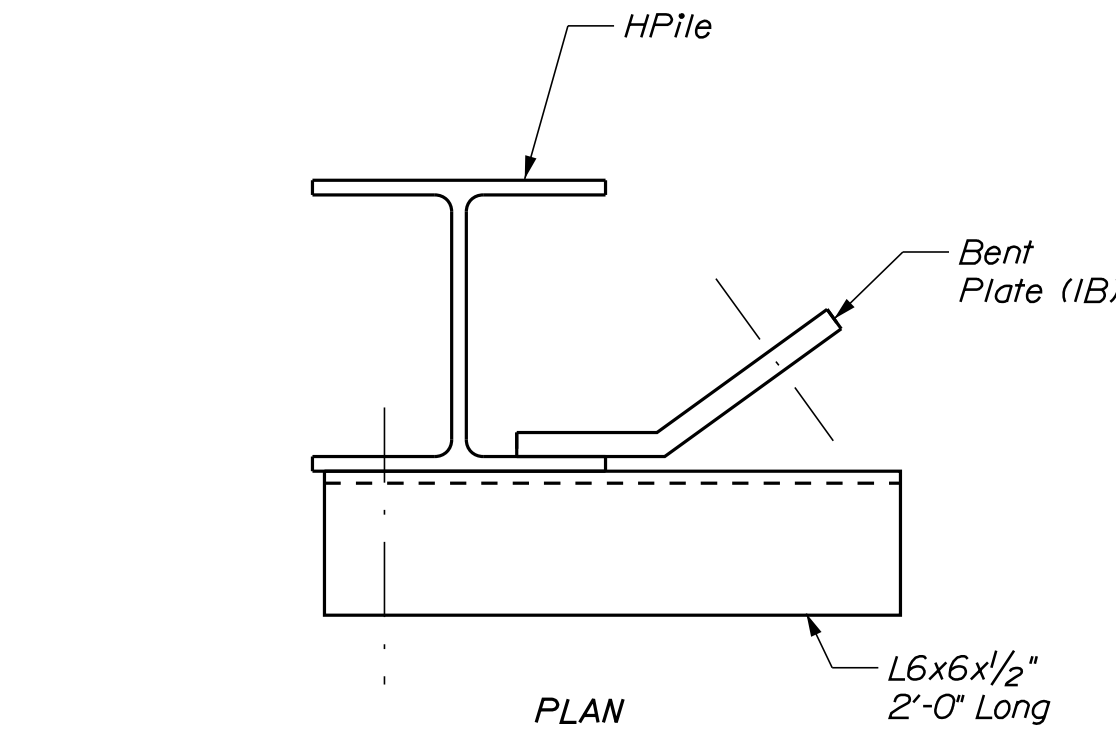
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Division: BRIDGE

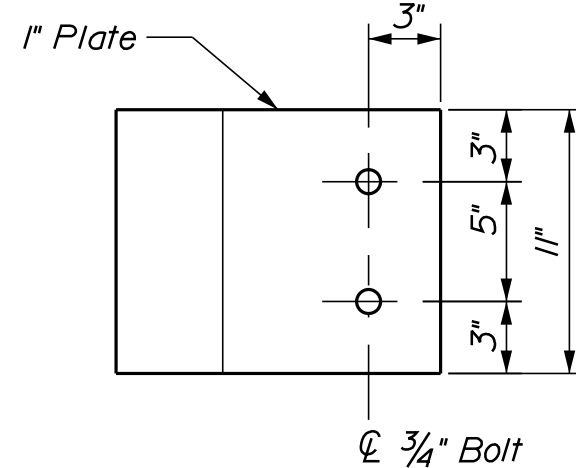
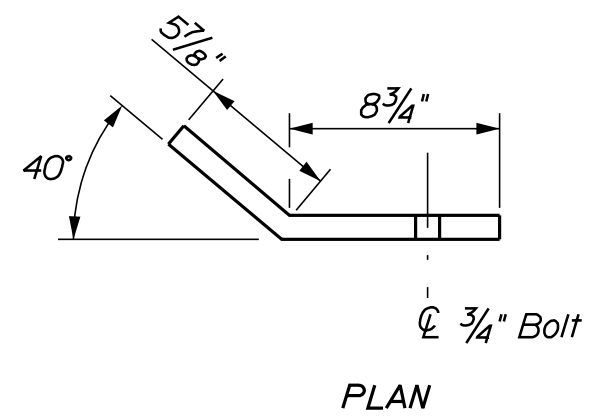
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**CONNECTION
DETAIL F4**
(3 Locations Per Pile,
4 Piles Total,
2 Opposite Hand,
Top Connection Shown)



**ASSEMBLY
DETAIL F4**



BENT PLATE (IB)

NOTES:

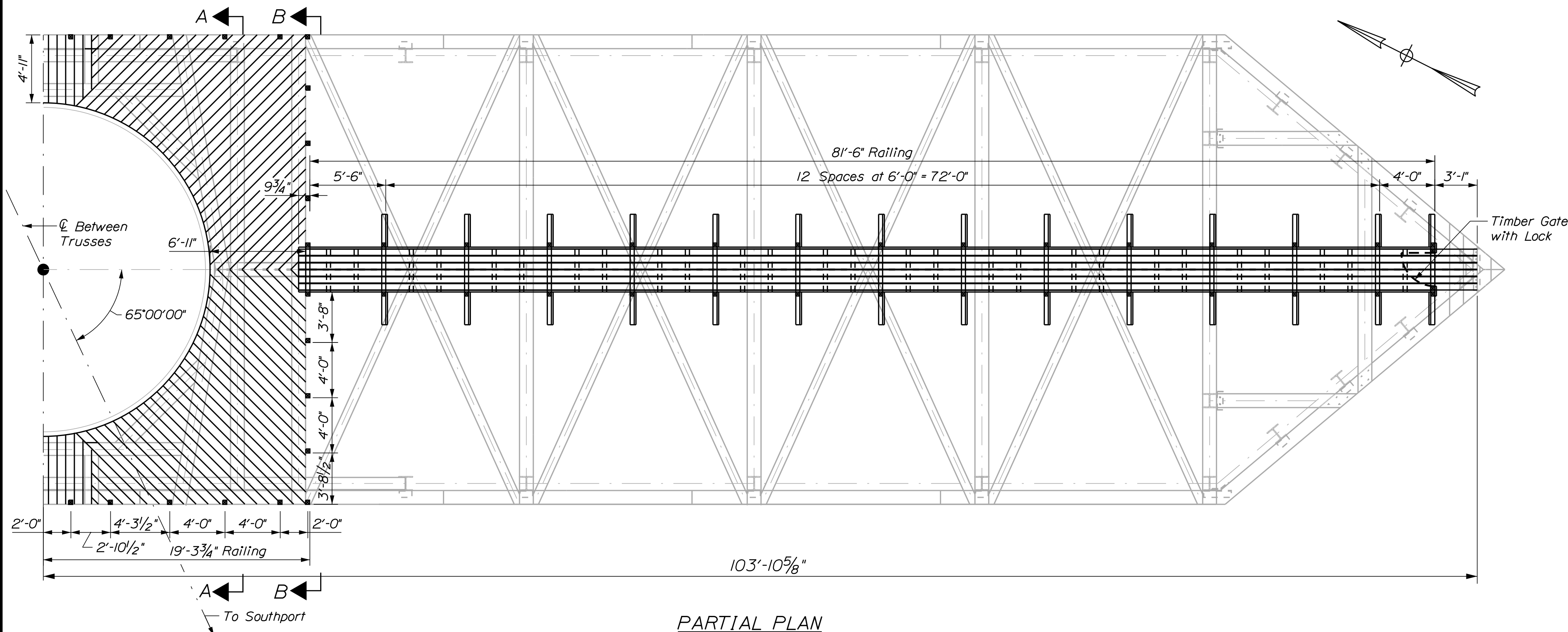
1. All connection plates, angles, and hardware shall be incidental to pile fabrication, delivery, and installation items. Timber connection hardware shall be incidental to timber items.
2. After tightening the timber fender connection bolts, the Contractor shall topcoat the washer, nut and exposed threads with an underwater epoxy compatible with galvanized hardware. The epoxy coating shall be a color match to the exposed steel. If a matching color is not available the Contractor shall use brown or black.

STATE OF MAINE DEPARTMENT OF TRANSPORTATION		2309401		BRIDGE NO. 2789		WIN 21751.01		BRIDGE PLANS	
SOUTHPORT BRIDGE ROUTE 27 OVER TOWNSEND GUT SOUTHPORT & BOOTHBAY HARBOR ME LINCOLN COUNTY		PIER 2 FENDER SYSTEM DETAILS (5 OF 5)		SHEET NUMBER 18 OF 48		PROJ. MANAGER J. STETSON, PE DESIGN-DETAILED BGP CHECKED-REVIEWED CTA DESIGN2-DETAILED2 DESIGN3-DETAILED3 REVISIONS 1 REVISIONS 2 REVISIONS 3 REVISIONS 4 FIELD CHANGES		DATE 8/19/22 BY UPD RBLUNT SIGNATURE 1158 P.E. NUMBER August 19, 2022 DATE	
SOUTHPORT BRIDGE ROUTE 27 OVER TOWNSEND GUT SOUTHPORT & BOOTHBAY HARBOR ME LINCOLN COUNTY		PIER 2 FENDER SYSTEM DETAILS (5 OF 5)		SHEET NUMBER 18 OF 48		PROJ. MANAGER J. STETSON, PE DESIGN-DETAILED BGP CHECKED-REVIEWED CTA DESIGN2-DETAILED2 DESIGN3-DETAILED3 REVISIONS 1 REVISIONS 2 REVISIONS 3 REVISIONS 4 FIELD CHANGES		DATE 8/19/22 BY UPD RBLUNT SIGNATURE 1158 P.E. NUMBER August 19, 2022 DATE	

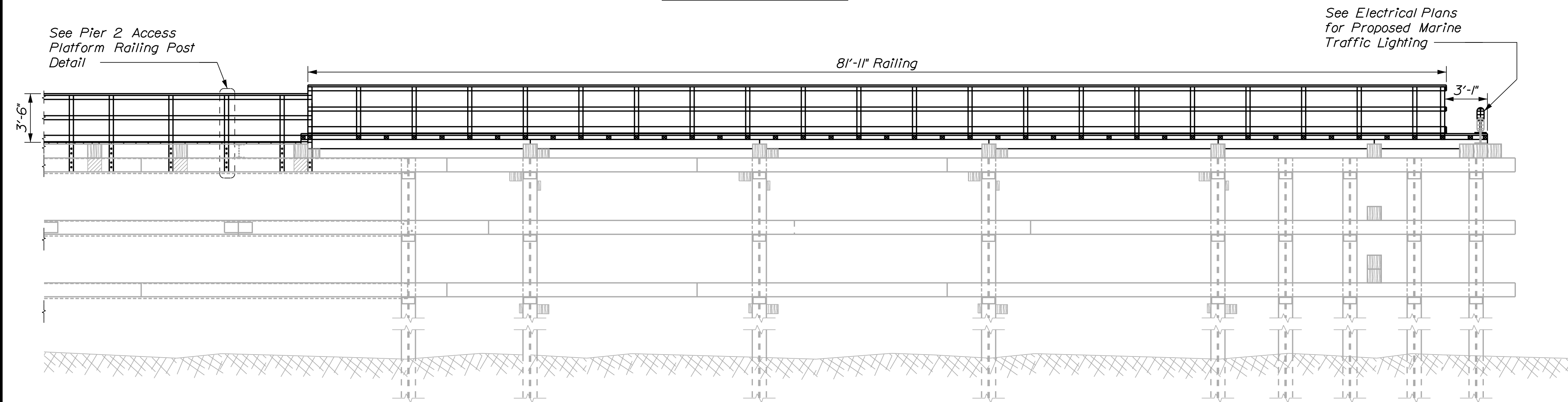
Date: 8/19/2022

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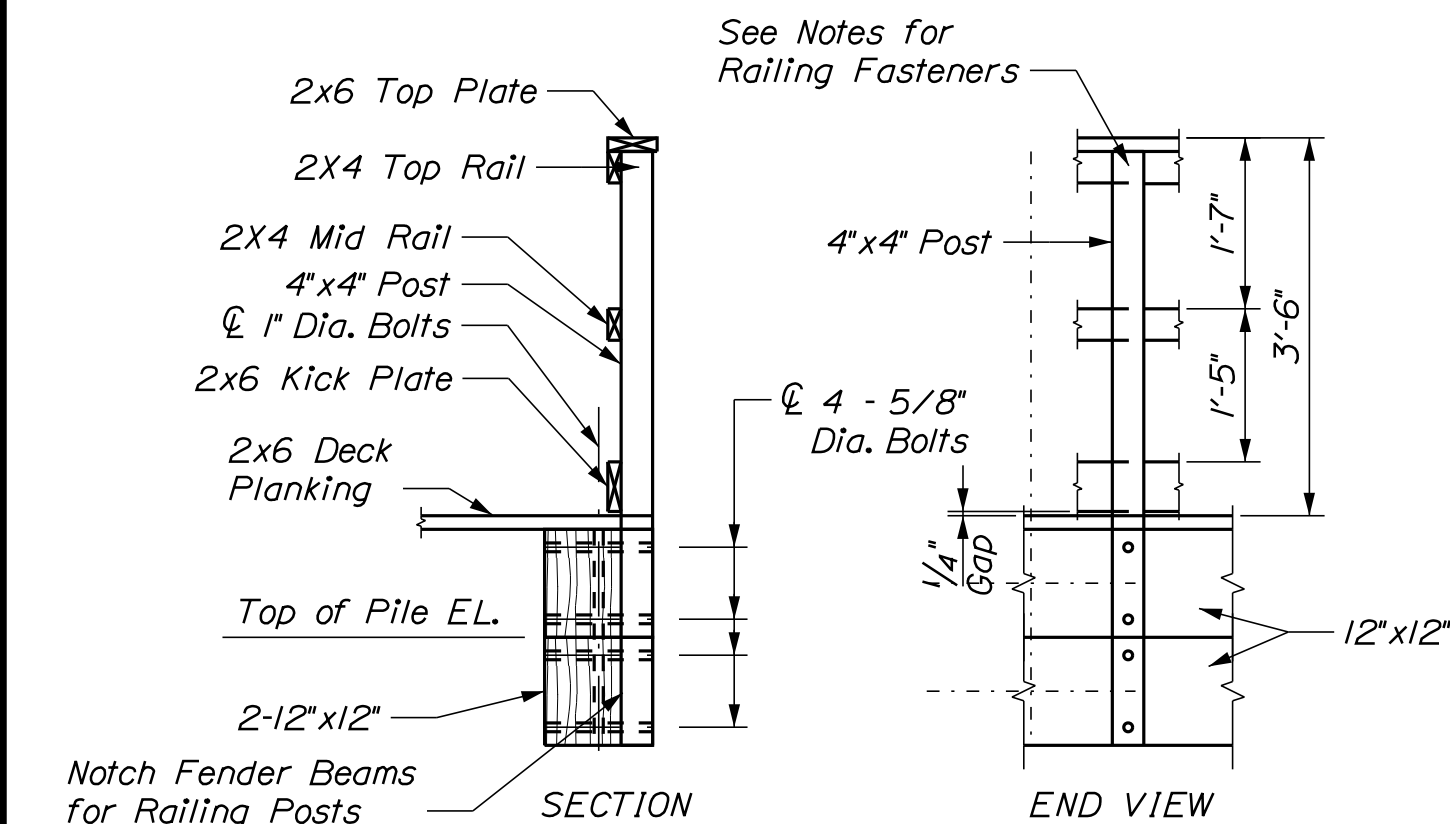
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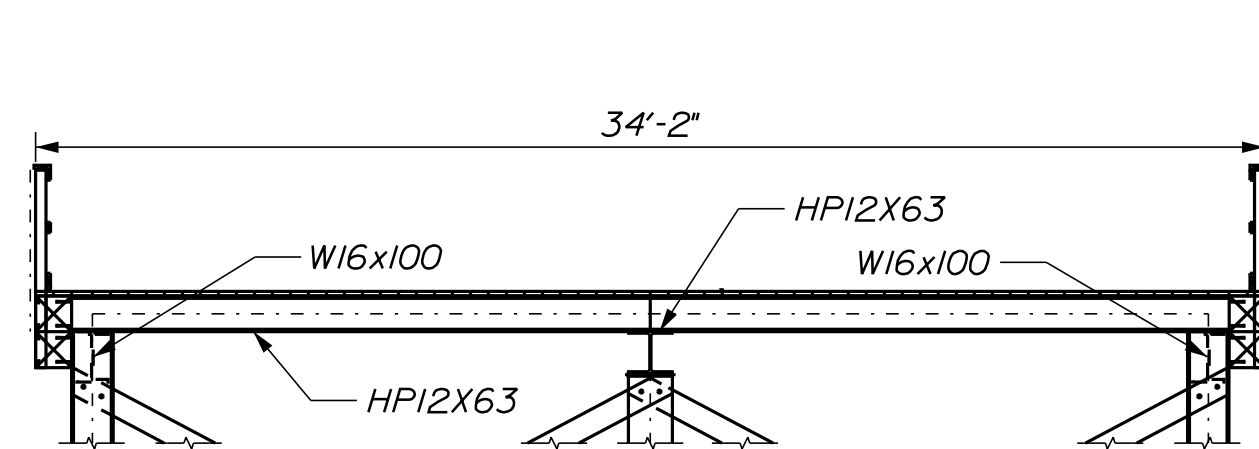
PARTIAL PLAN
CATWALK DECKING



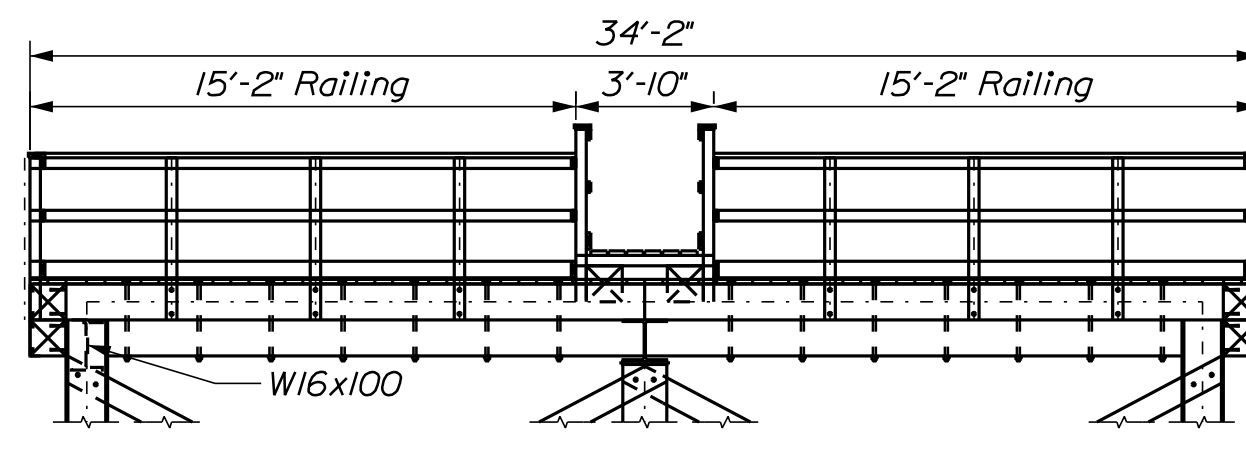
PARTIAL ELEVATION
CATWALK DECKING



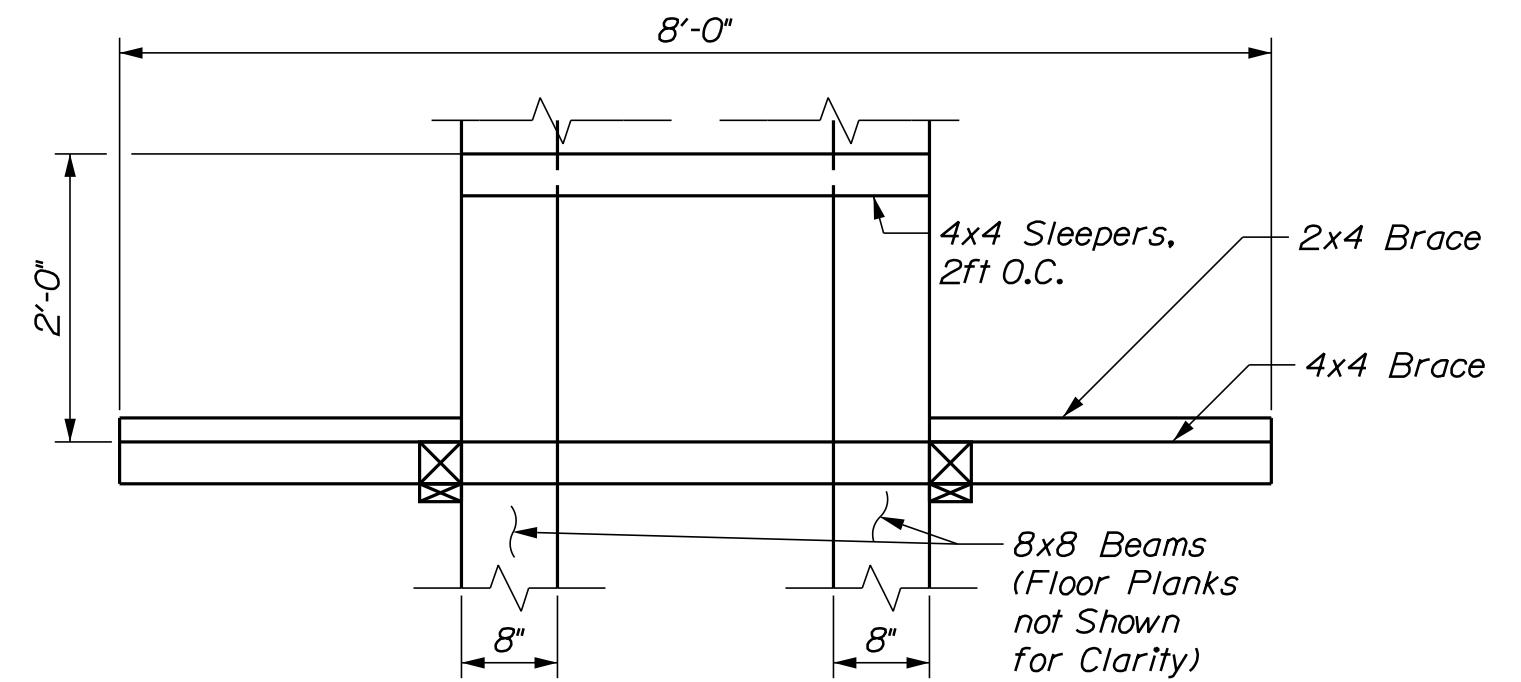
PIER 2 ACCESS PLATFORM
RAILING POST DETAIL



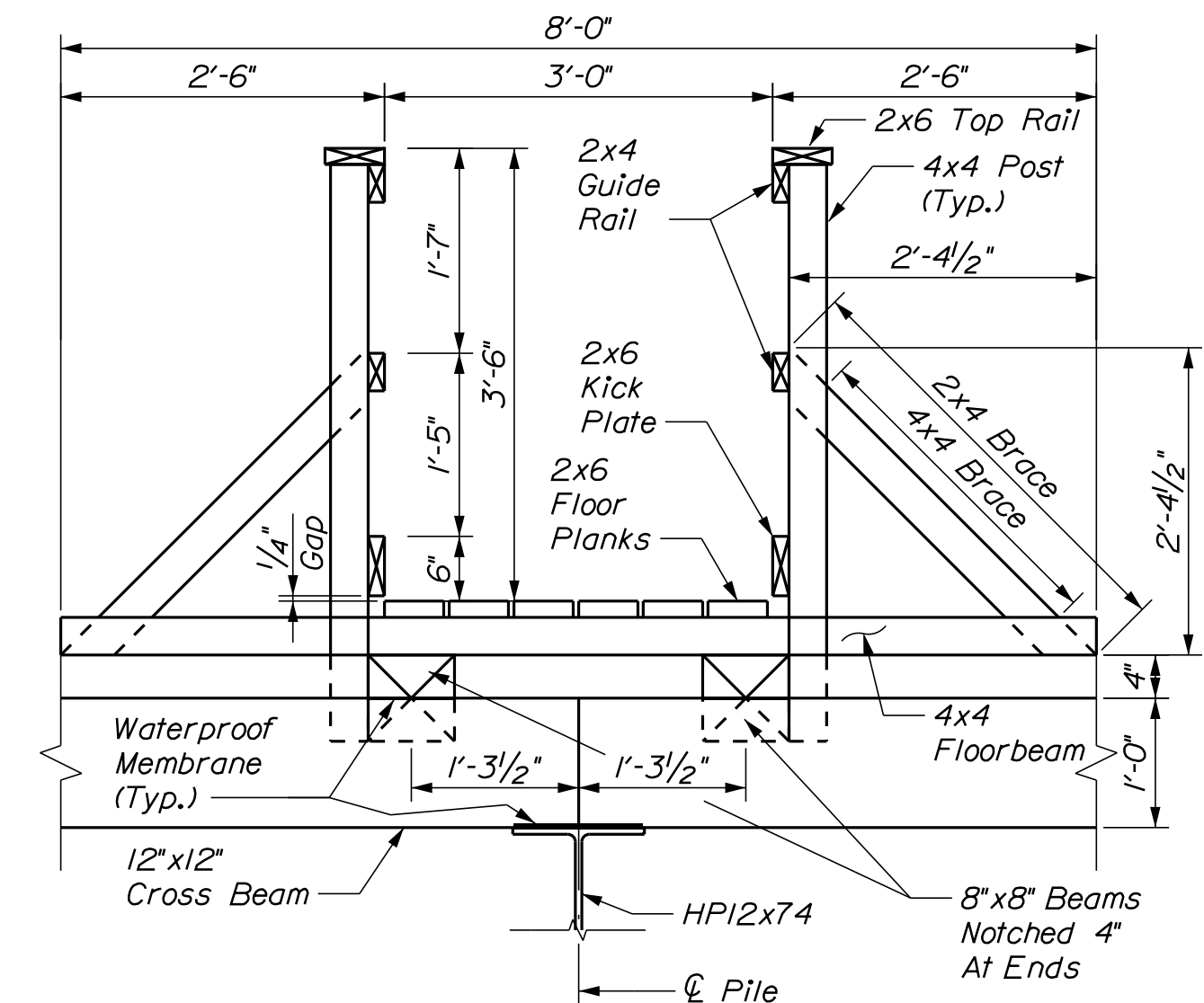
SECTION A-A



SECTION B-B



CATWALK PLAN

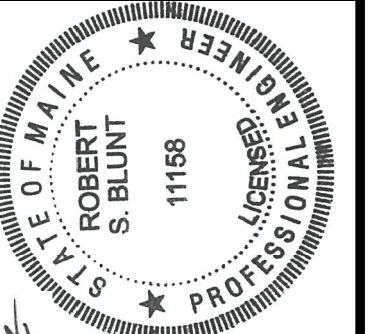


CATWALK
TYPICAL SECTION

NOTES:

1. Timber walkway fasteners not shown for clarity. Contractor to select appropriate length fastener. Fasteners shall be Pheinox RSS 305 or 316 stainless steel 5/16" diam., or approved equal.
2. The Contractor may substitute galvanized pipe railing in lieu of the timber railing around the pier 2 access platform. The Contractor shall submit pipe railing shop drawings to the Department at least 14 days prior to fabrication and installation. No additional payment shall be made for this substitution.
3. Contractor to submit "gate design and details" to Resident for final approval.

STATE OF MAINE	BRIDGE PLANS
DEPARTMENT OF TRANSPORTATION	
2309401	
WIN	21751.01
BRIDGE NO. 2789	



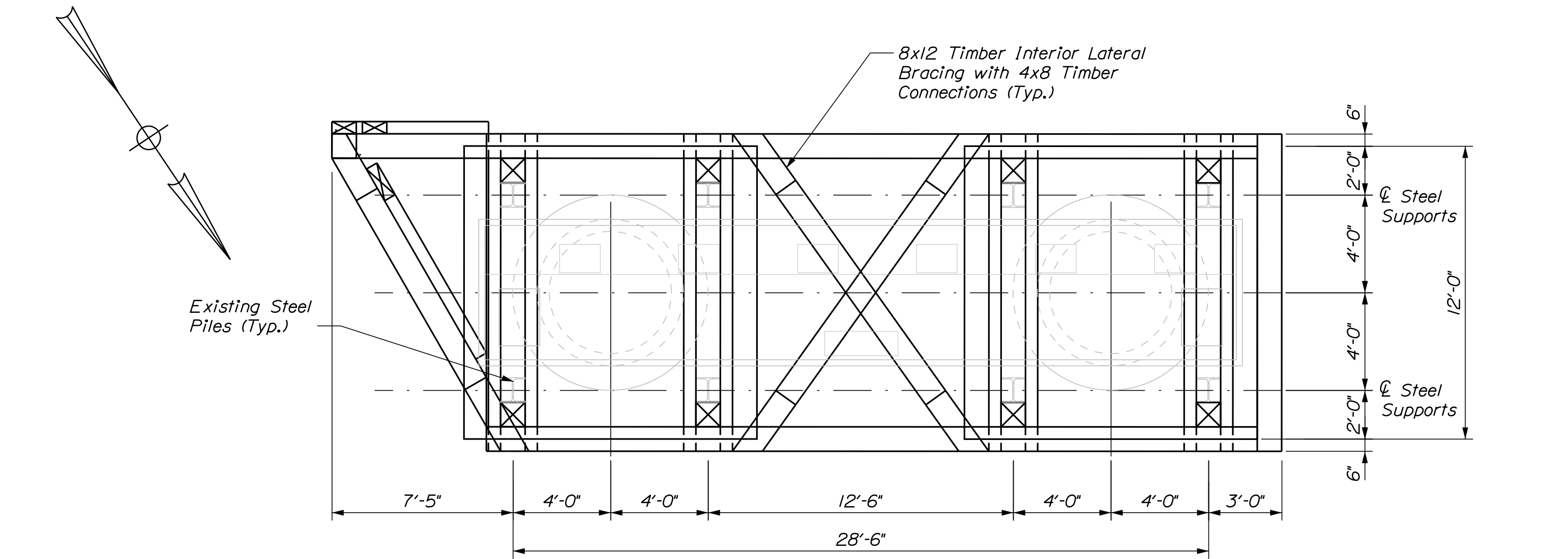
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DESIGN-DETAILED	BSP	BY	UPD
CHECKED-REVIEWED	CTA	BY	RBLUNT
DESIGN-DETAILED	CTA	DATE	8/19/22
DESIGN-DETAILED	CTA	DATE	8/19/22
REVISIONS	1	DATE	August 19, 2022
REVISIONS	2	DATE	
REVISIONS	3	DATE	
REVISIONS	4	DATE	
FIELD CHANGES		DATE	

SOUTHPORT BRIDGE ROUTE 27	LINCOLN COUNTY
OVER TOWNSEND GUT	
SOUTHPORT & BOOTHBAY HARBOR ME	
PIER 2 FENDER SYSTEM	
CATWALK	

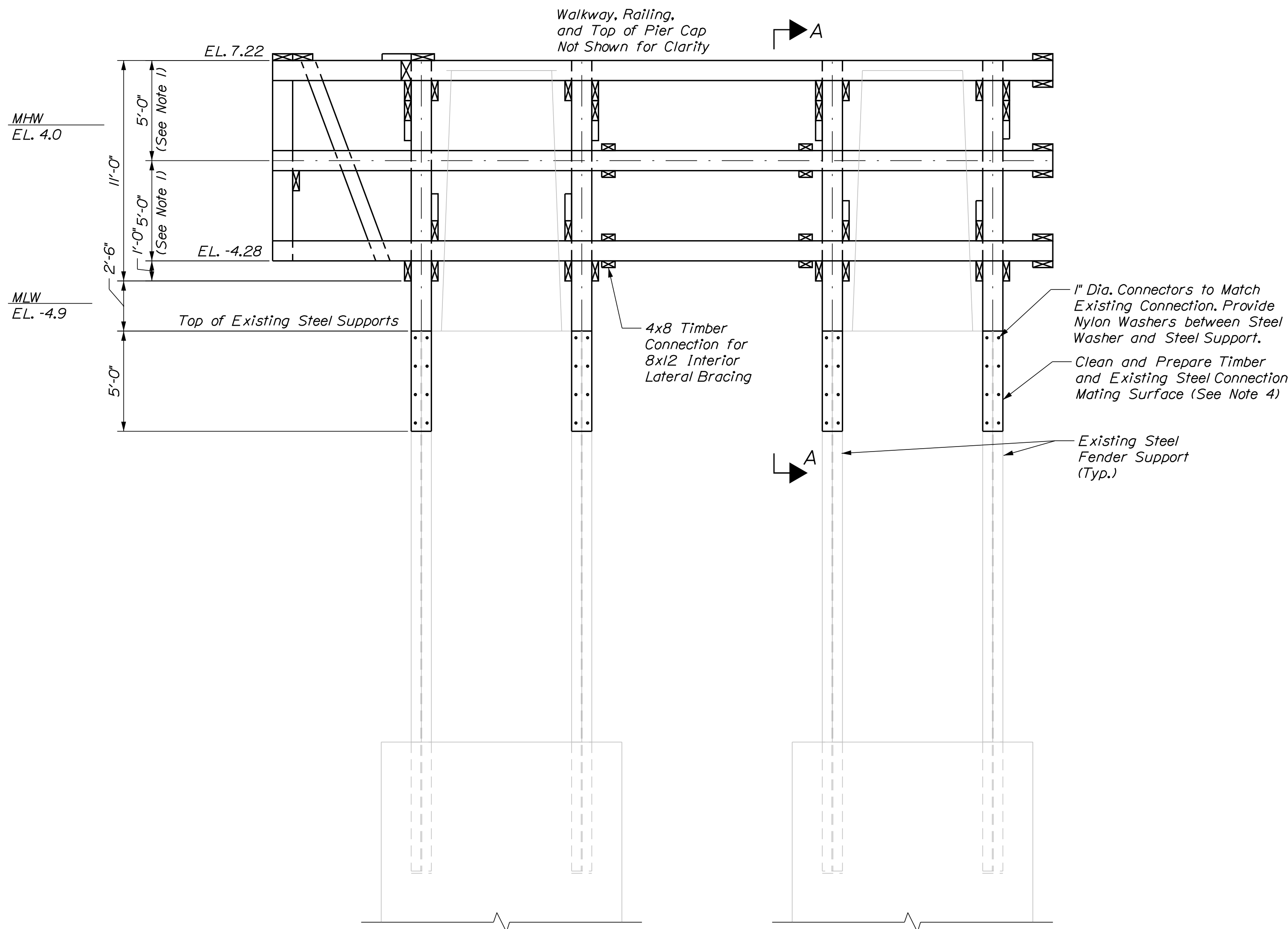
SHEET NUMBER

19

OF 48



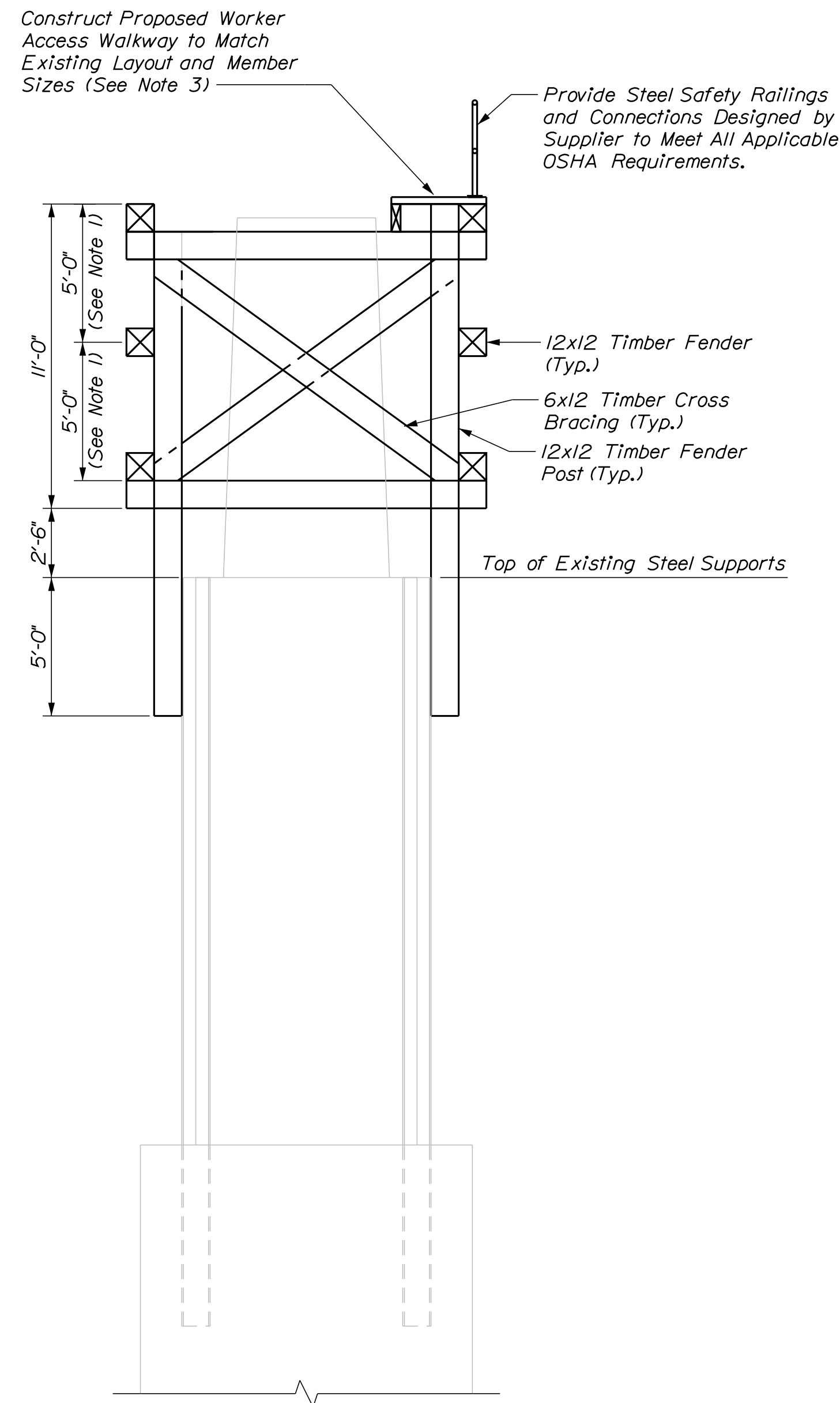
PLAN



ELEVATION

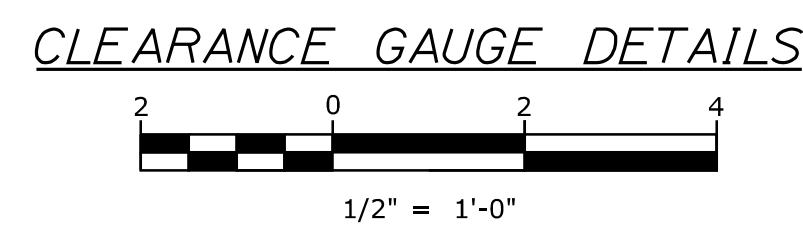
NOTES:

1. Replace Existing Timber Fender System in kind with members and connectors of the same size and spacing as existing, with the exception of the fender timber spacing as shown. Refer to the 1939 original plans and 1985 rehabilitation plans for member and connector details and material schedule.
2. All fender timber connectors shall be galvanized.
3. Proposed timber walkway and railing is not completely shown, but shall be replaced in kind. The contractor shall submit construction drawings to the Resident for review and approval at least two weeks prior to installation.
4. The Contractor shall remove all deleterious materials from the existing steel supports at least two months prior to ordering materials for the fender system replacements. Each steel support shall be inspected by the Contractor Representative and the Contractor's Dive Team to verify removal of deleterious materials and structural adequacy for the new timber connections. The Resident shall be notified at least two weeks prior to this activity and provided access during the inspections.
5. Timber walkway fasteners not shown for clarity. Contractor shall select appropriate length fastener. Fasteners shall be Phenoxy RSS 305 or 316 stainless steel $\frac{3}{16}$ " dia., or approved equal.

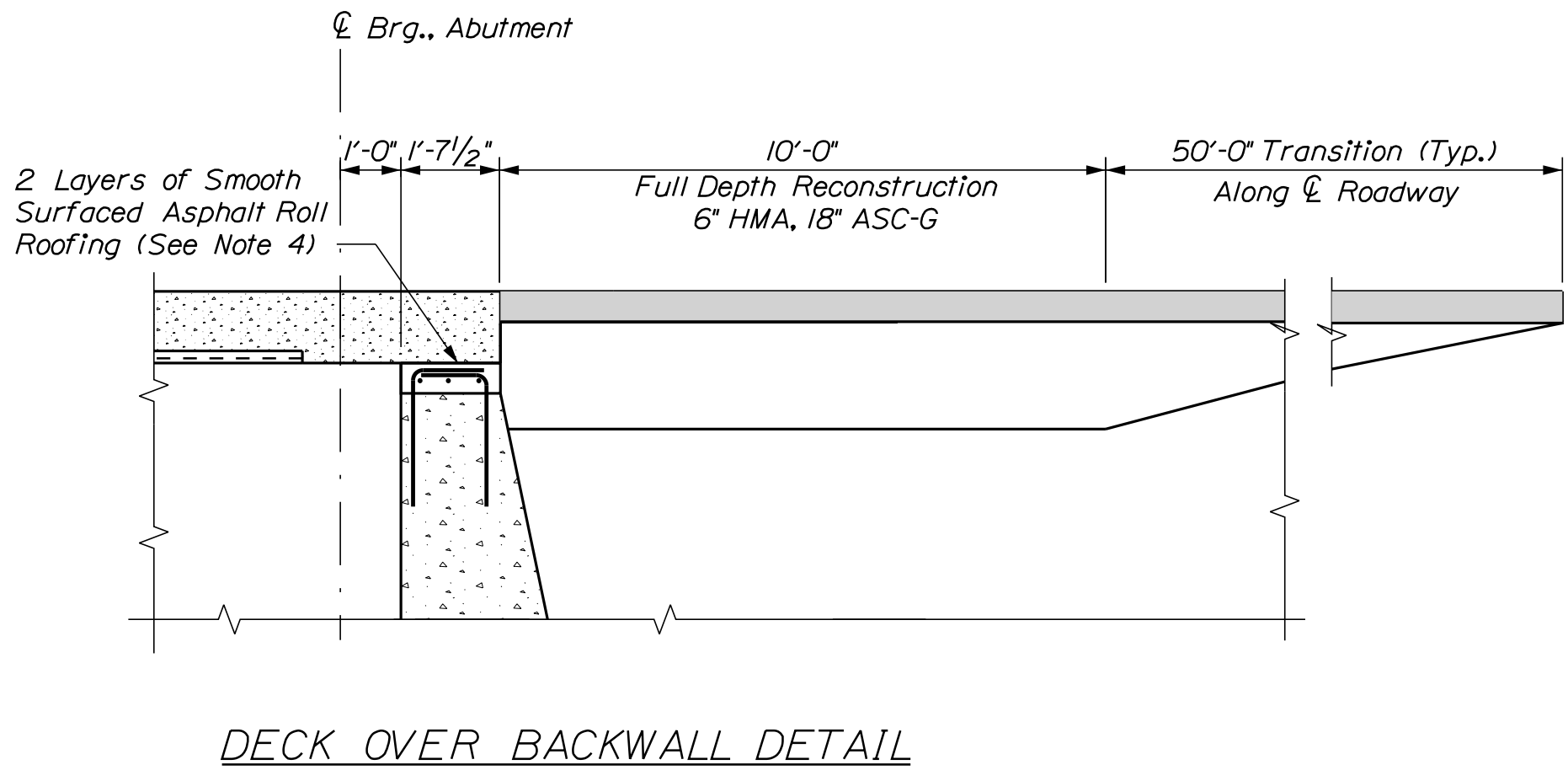
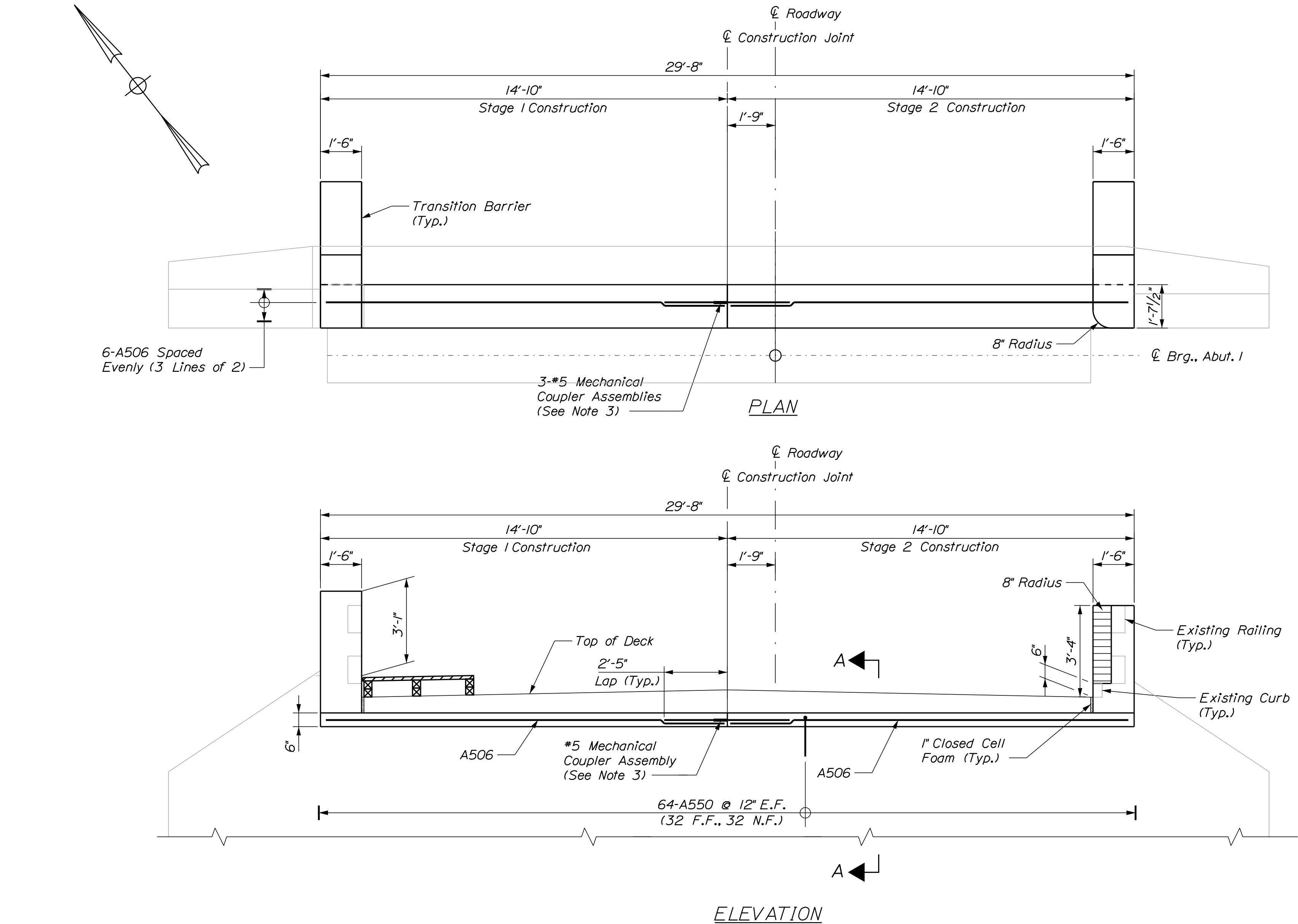


SECTION A-A

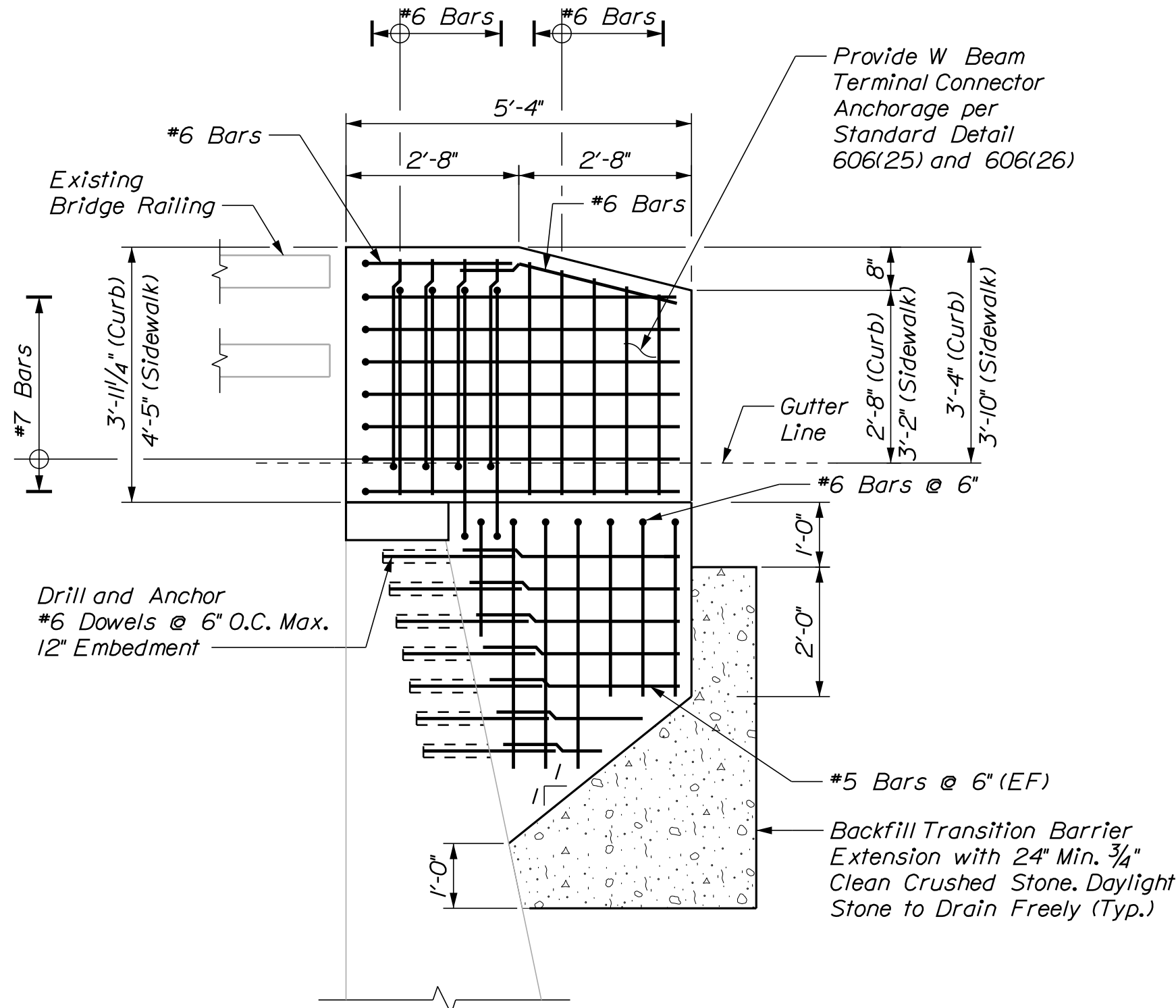
STATE OF MAINE DEPARTMENT OF TRANSPORTATION	2309401	WIN	21751.01	BRIDGE NO. 2789	BRIDGE PLANS
STATE OF MAINE DEPARTMENT OF TRANSPORTATION PROFESSIONAL ENGINEER ROBERT S. BLUNT 11158 August 19, 2022 SIGNATURE 11158 P.E. NUMBER August 19, 2022 DATE					
SOUTHPORT BRIDGE ROUTE 27 OVER TOWNSEND GUT SOUTHPORT & BOOTHBAY HARBOR ME LINCOLN COUNTY PIER 3 FENDER SYSTEM					
SHEET NUMBER 20 OF 48					



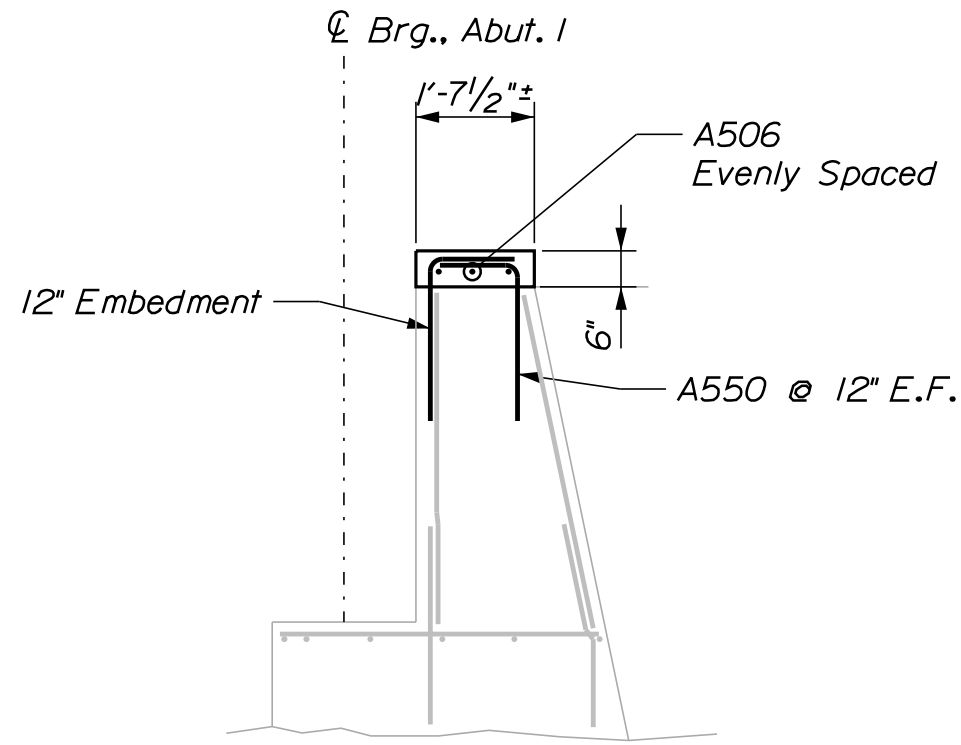
1. See General Plan and Elevation sheet for staff gauge installation locations.



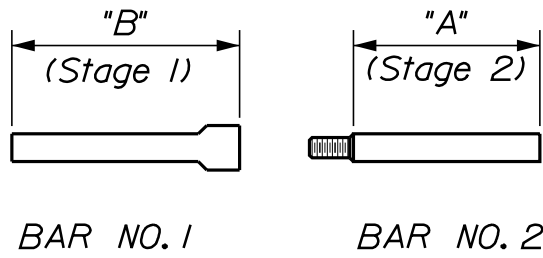
STRAIGHT BARS				BENT BARS							TYPE
MARK	QTY.	LENGTH	LOCATION	MARK	QTY.	LENGTH	TYPE	A	B	LOCATION	A B L
A506	6	14'-6"	Abutment 1	A550	64	2'-7"	L	1'-4"	1'-3"	Abutment 1	



TRANSITION BARRIER ELEVATION



SECTION A-A



Location	Bar Size	Dim "A"	Dim "B"	Quantity (Ea.)
Abut. No. 1 Seat	#5	2'-5"	2'-5"	3

MECHANICAL CONNECTOR ASSEMBLY DETAIL

- NOTES
- The Contractor shall submit shop drawings and reinforcing schedule for the transition barriers to the Engineer for approval. The transition barrier reinforcement shall be in accordance with MaineDOT Standard Details 526(16), 526(17). Payment for transition barrier reinforcing steel and drilling and grouting of anchor dowels shall be incidental to Item 526.34, Permanent Concrete Transition Barrier.
 - All reinforcement shall have a minimum clearance of 2".
 - Mechanical Coupler Assembly shall be paid for under Item 503.17, Mechanical/Welded Splice.
 - Smooth Surfaced Asphalt Roll Roofing and Closed Cell Foam shall be incidental to deck over backwall detail items.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
2309401
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BRIDGE NO. 2789

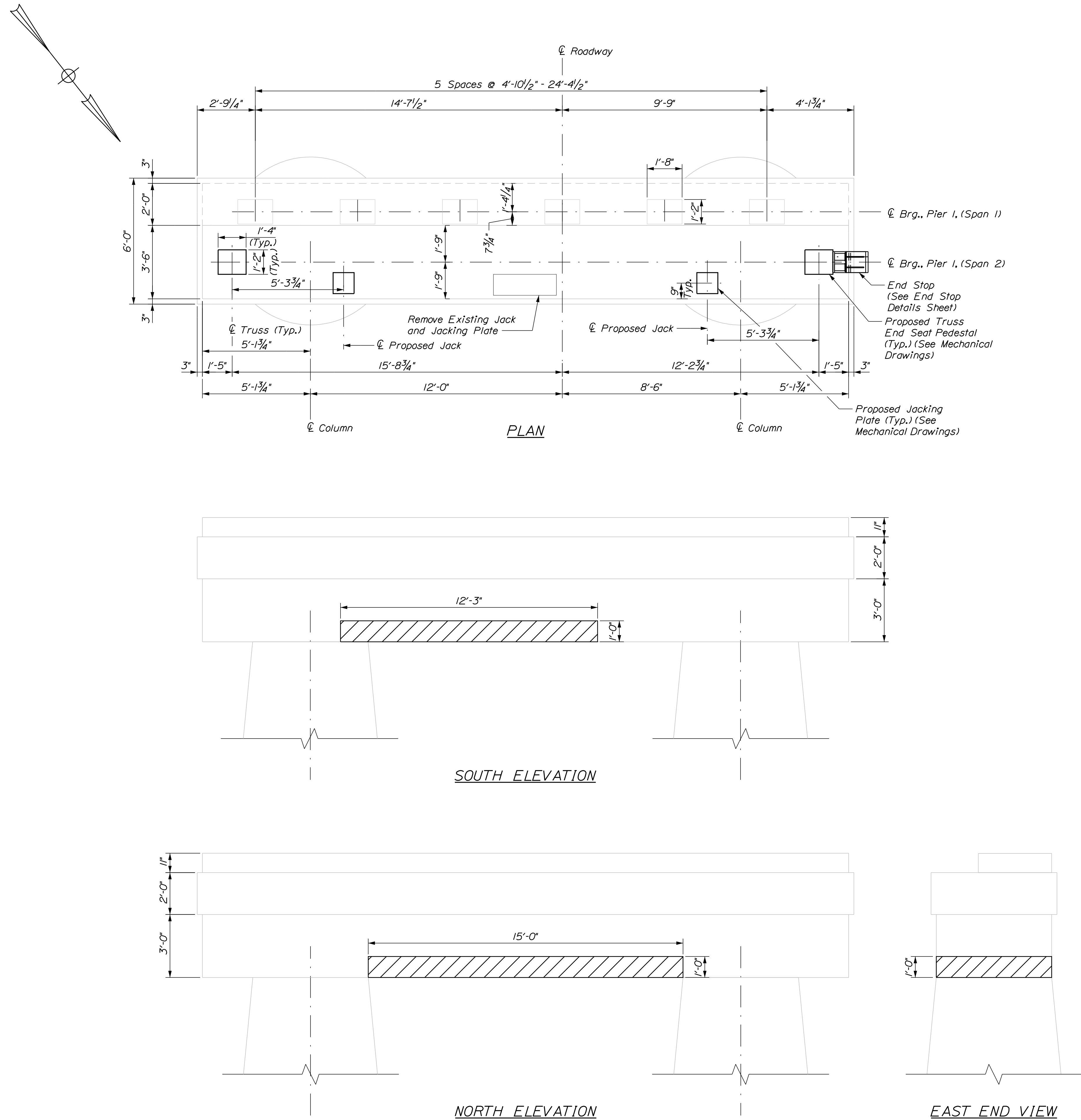
PROF. QUALIFIED ENGINEER
ROBERT S. BLUNT
11158
August 19, 2022

SIGNATURE
11158
P.E. NUMBER
August 19, 2022
DATE

SOUTHPORT BRIDGE ROUTE 27
OVER TOWNSEND GUT
SOUTHPORT & BOOTHBAY HARBOR ME LINCOLN COUNTY

ABUTMENT 1
RECONSTRUCTION DETAILS

SHEET NUMBER
23
OF 48



NOTES

1. All dimensions shall be field verified by the Contractor prior to fabrication.
2. Shop drawings for bumper stop mounting assembly shall be submitted to the Department Engineer for review and approval prior to fabrication.

KEY



Limit of Repair of Concrete Surfaces

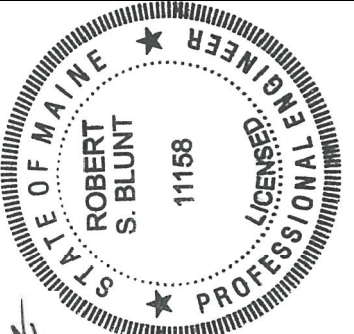
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2309401

21751.01

BRIDGE NO. 2789

BRIDGE PLANS



<i>Robert J. Blum</i>	SIGNATURE
11158	P.E. NUMBER
August 19, 2022	DATE

PROJ. MANAGER	J. STETSON, PE	BY	DATE
DESIGN-DETAILED	BGP	DPD	8/19/22
CHECKED-REVIEWED	CTA	RSBLNT	8/19/22
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

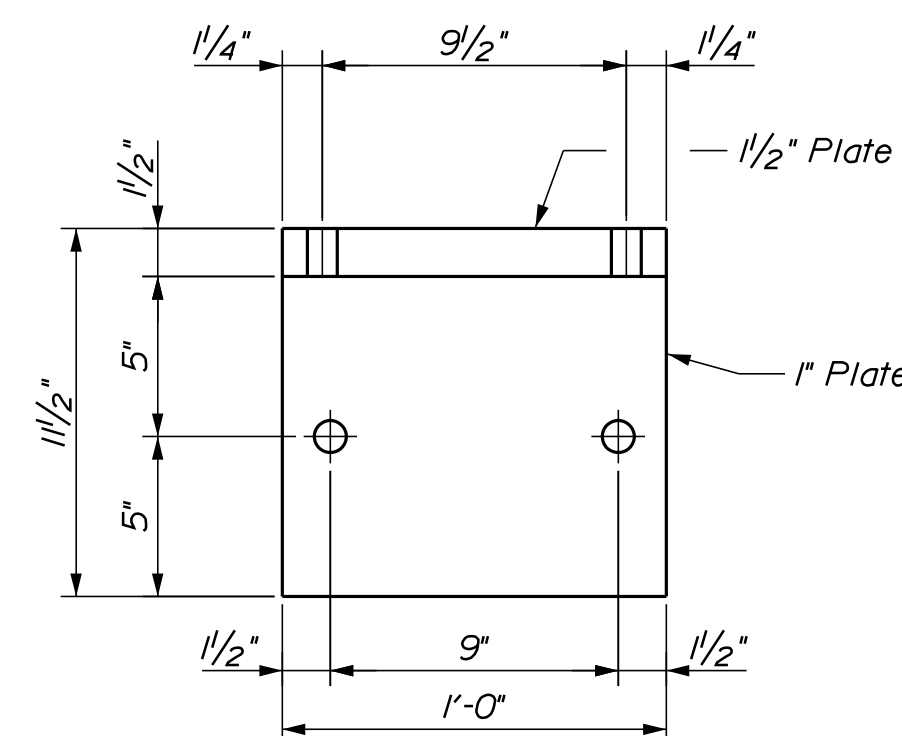
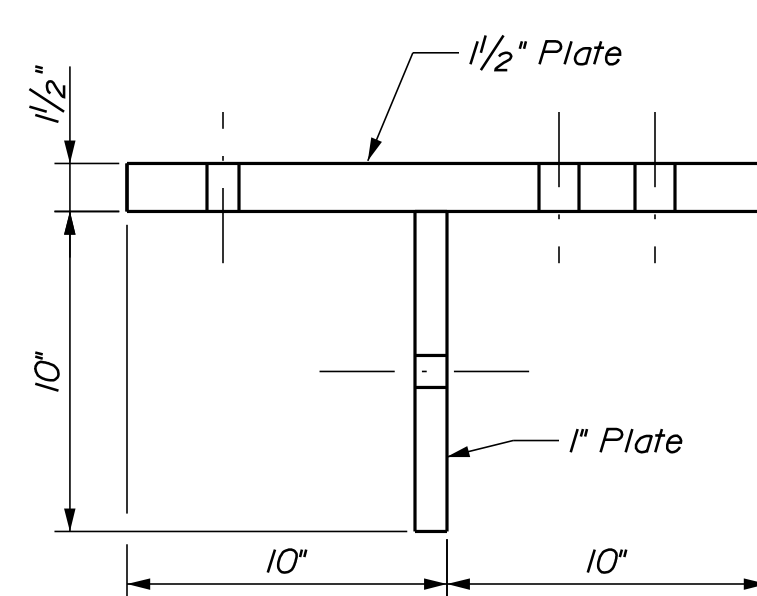
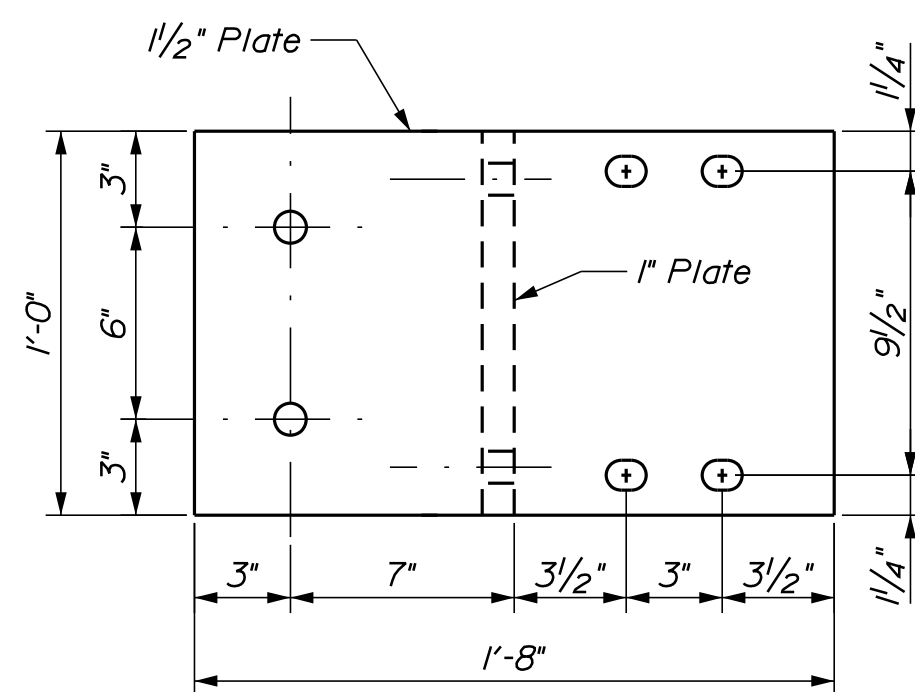
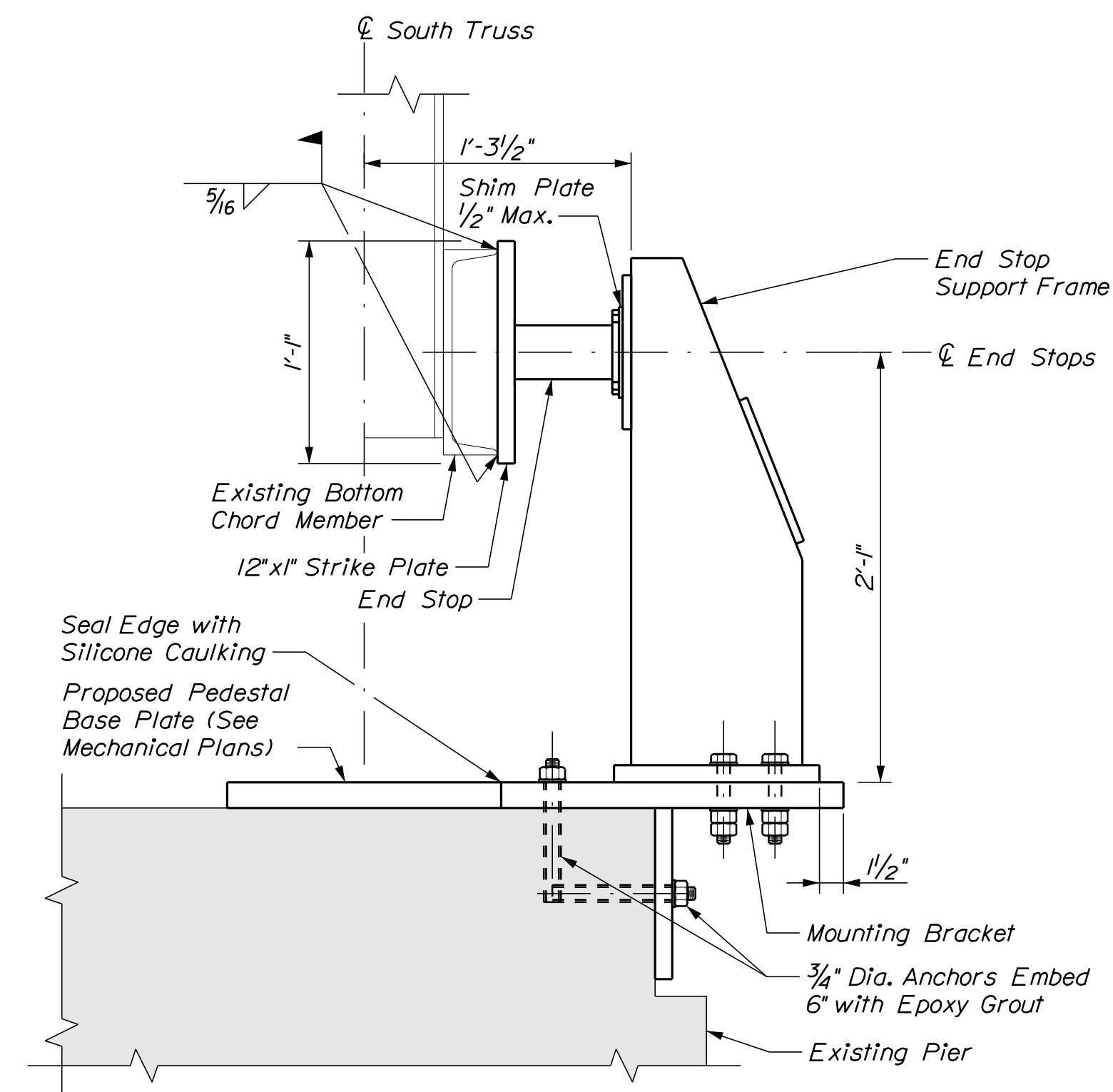
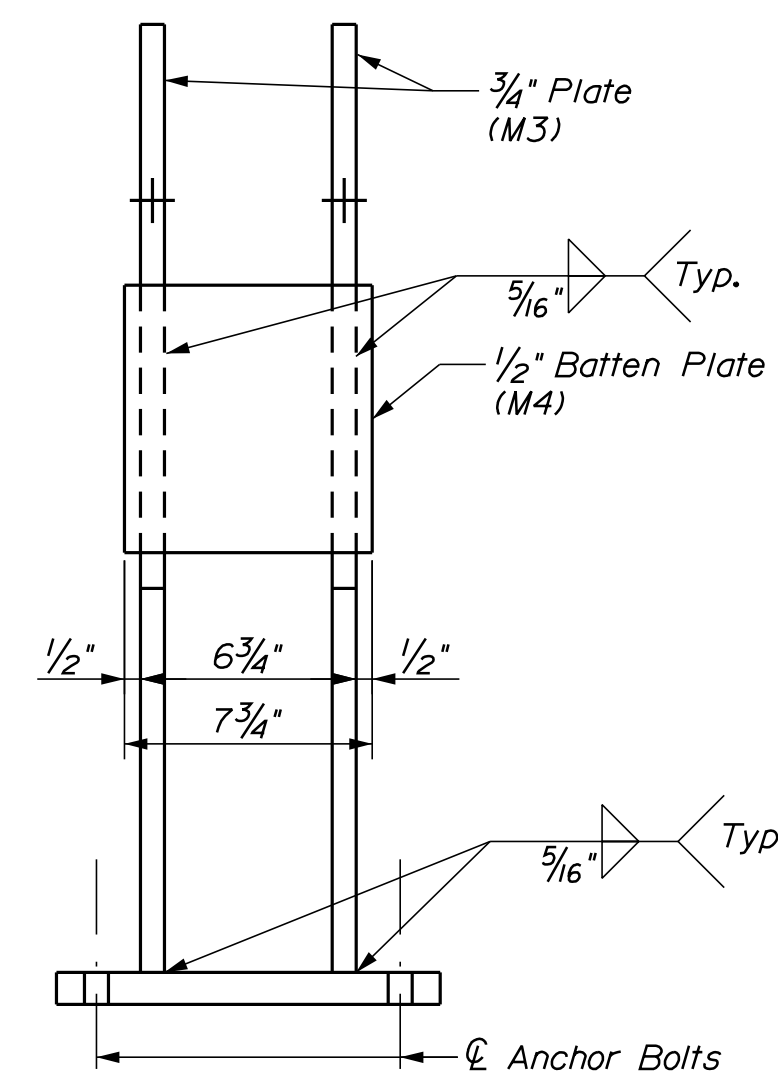
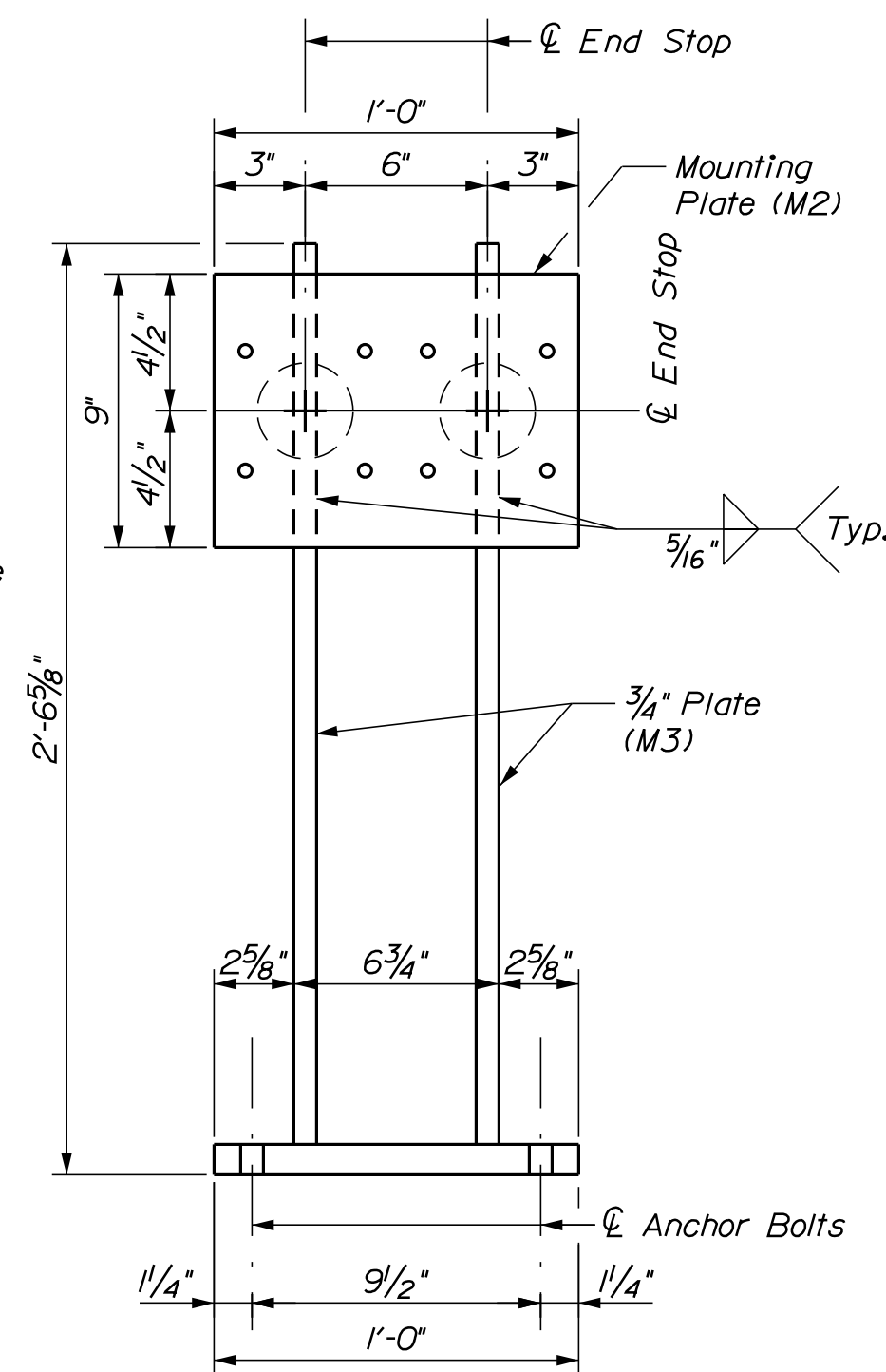
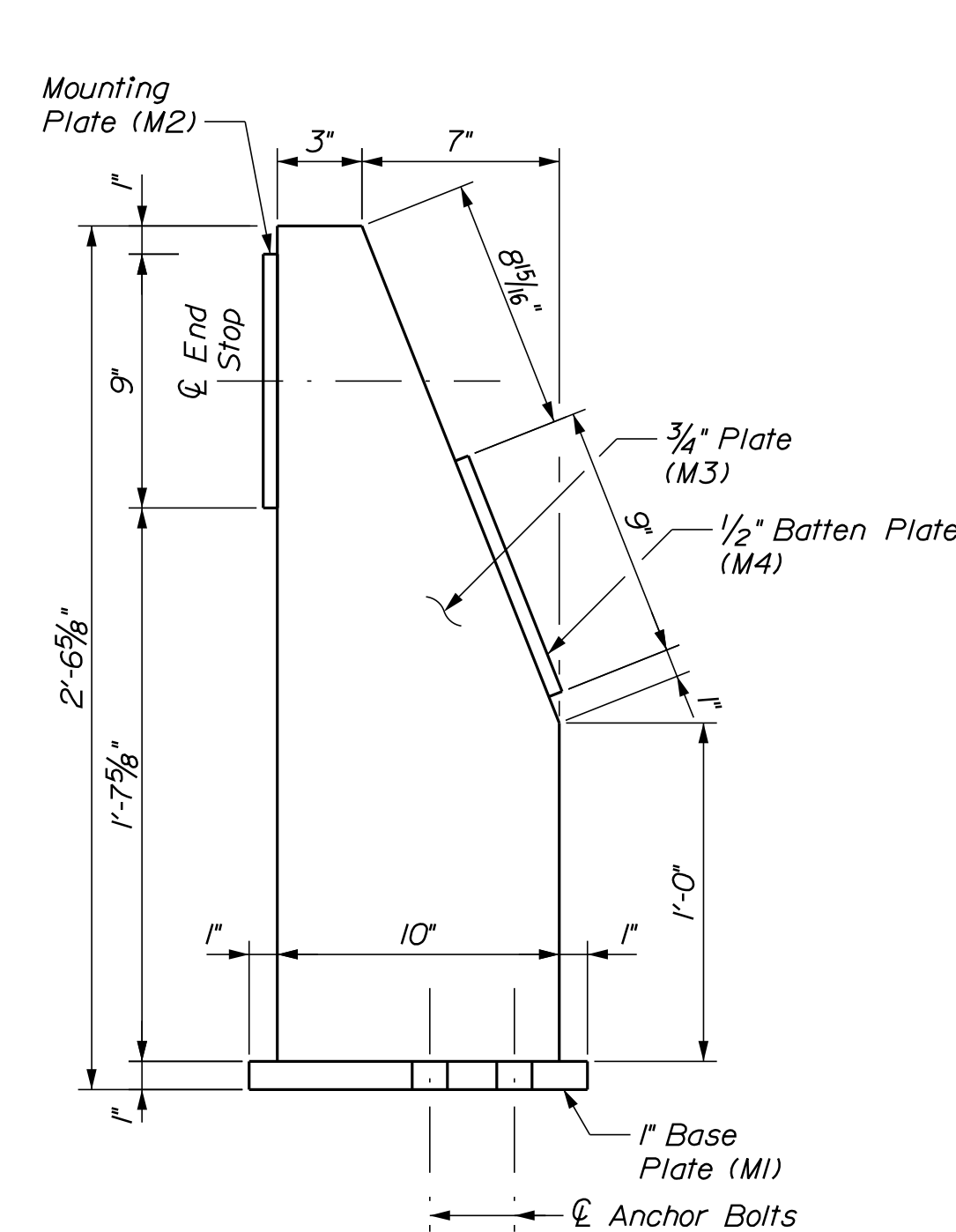
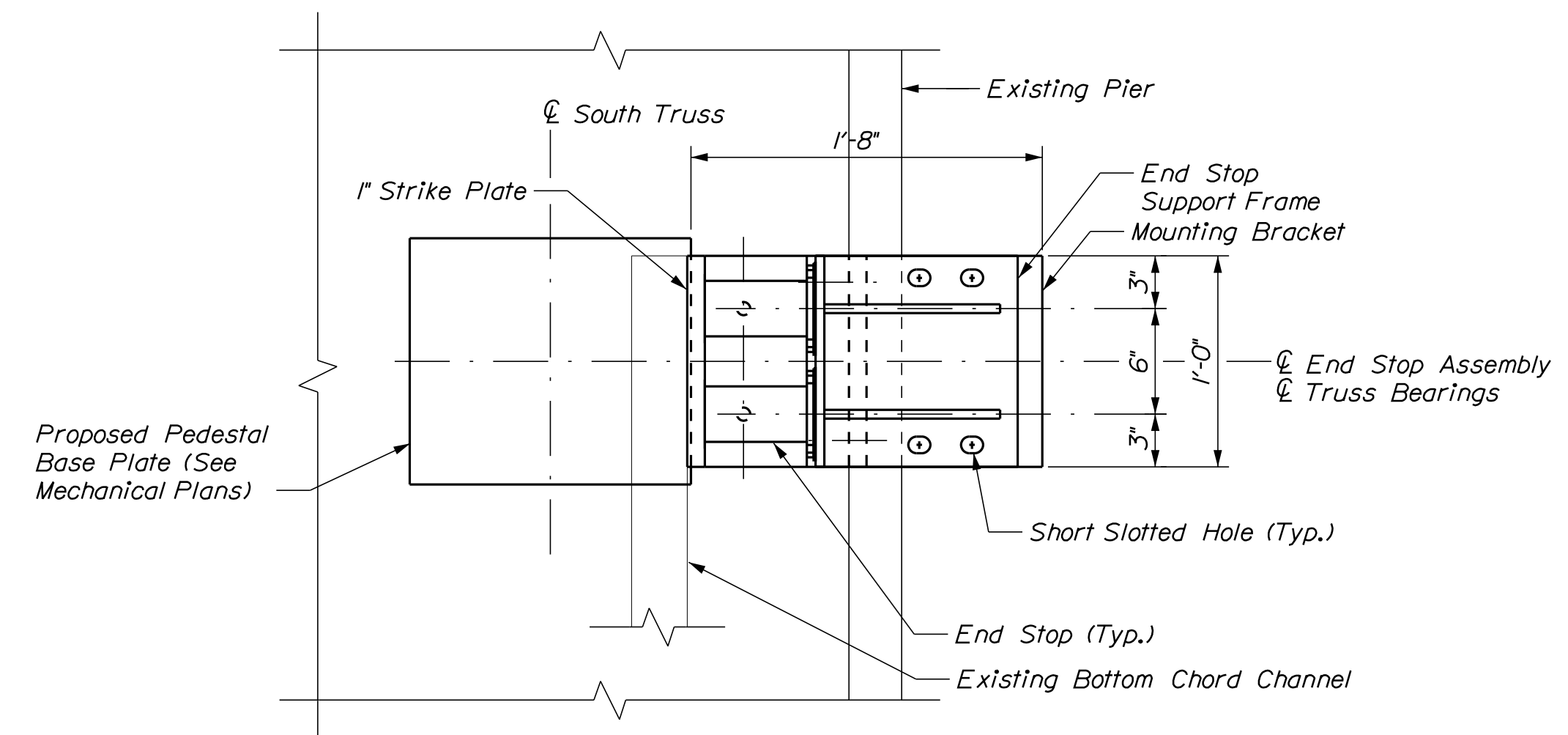
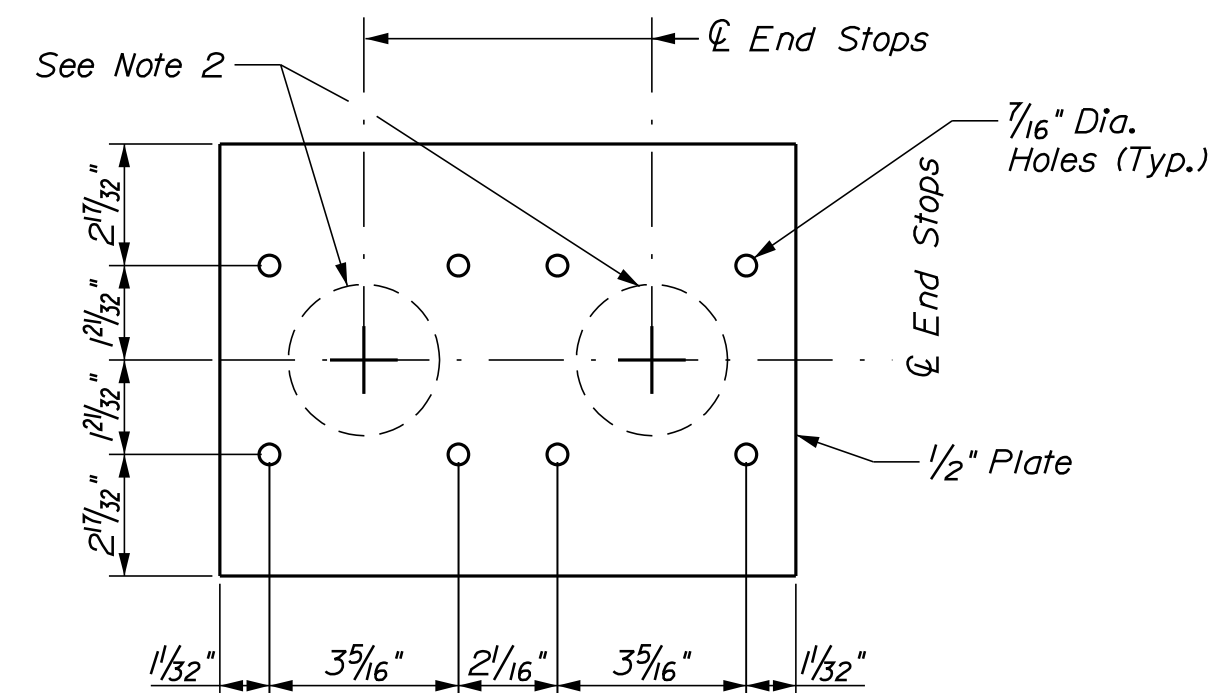
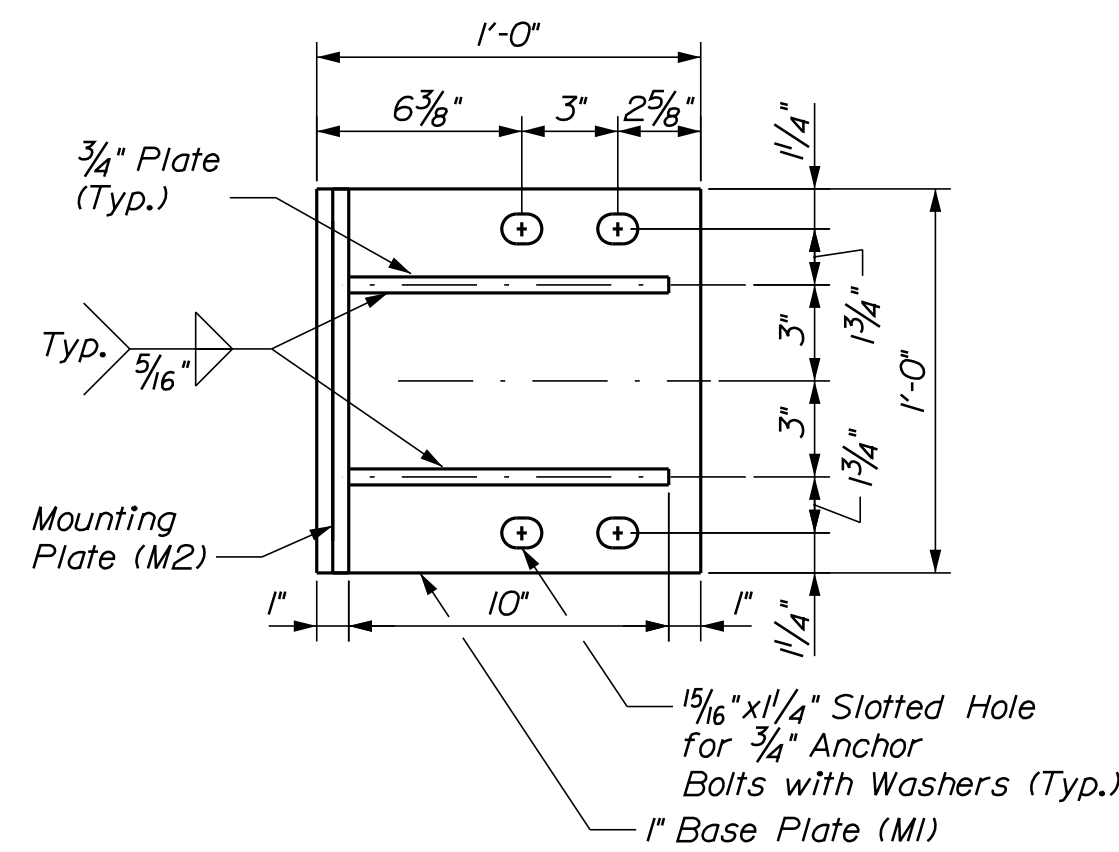
SOUTHPORT BRIDGE ROUTE 27
OVER TOWNSEND GUT
SOUTHPORT & BOOTHBAY HARBOR ME LINCOLN COUNTY

PIER 1 CONCRETE
PATCH REPAIR DETAILS

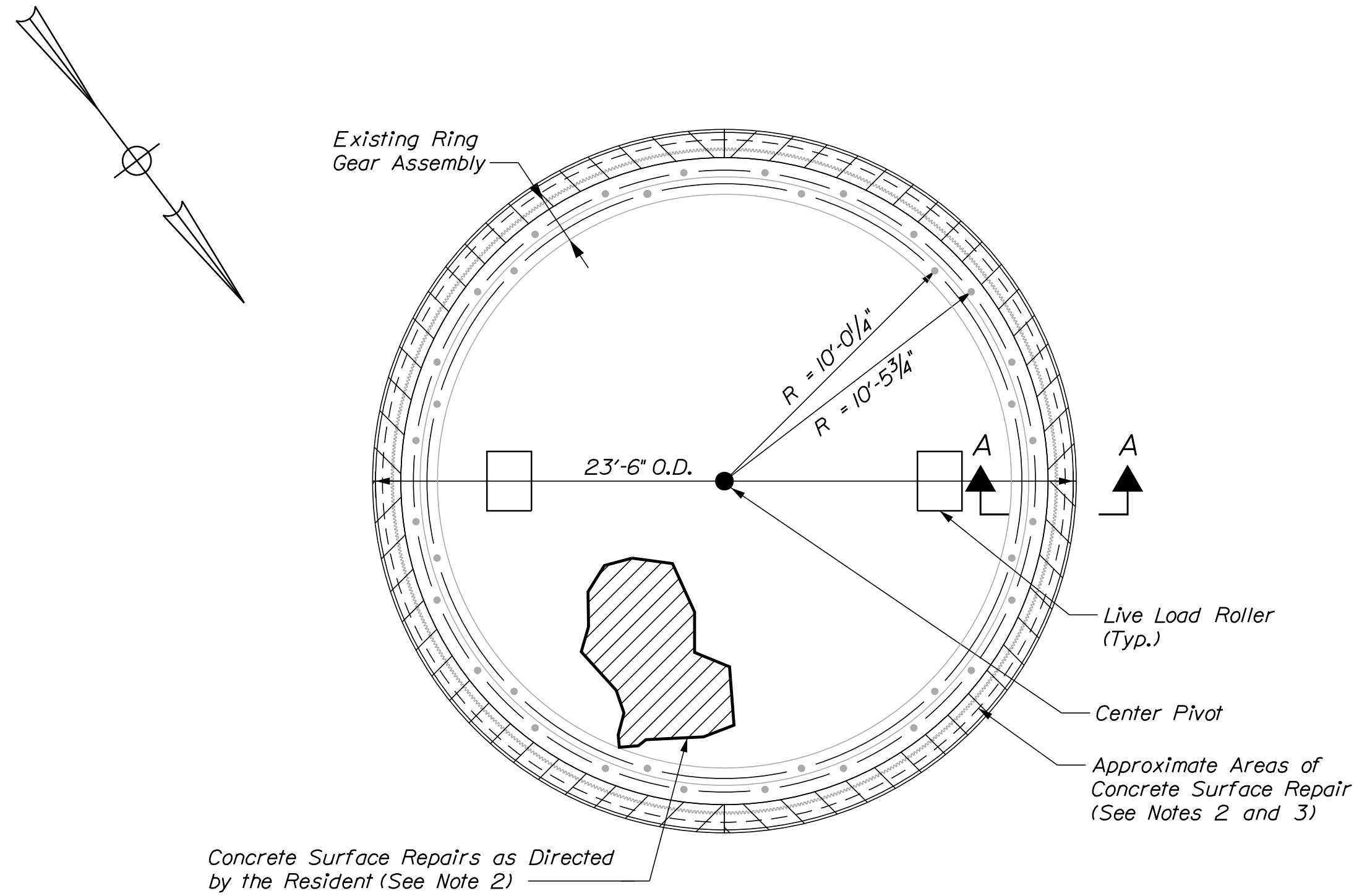
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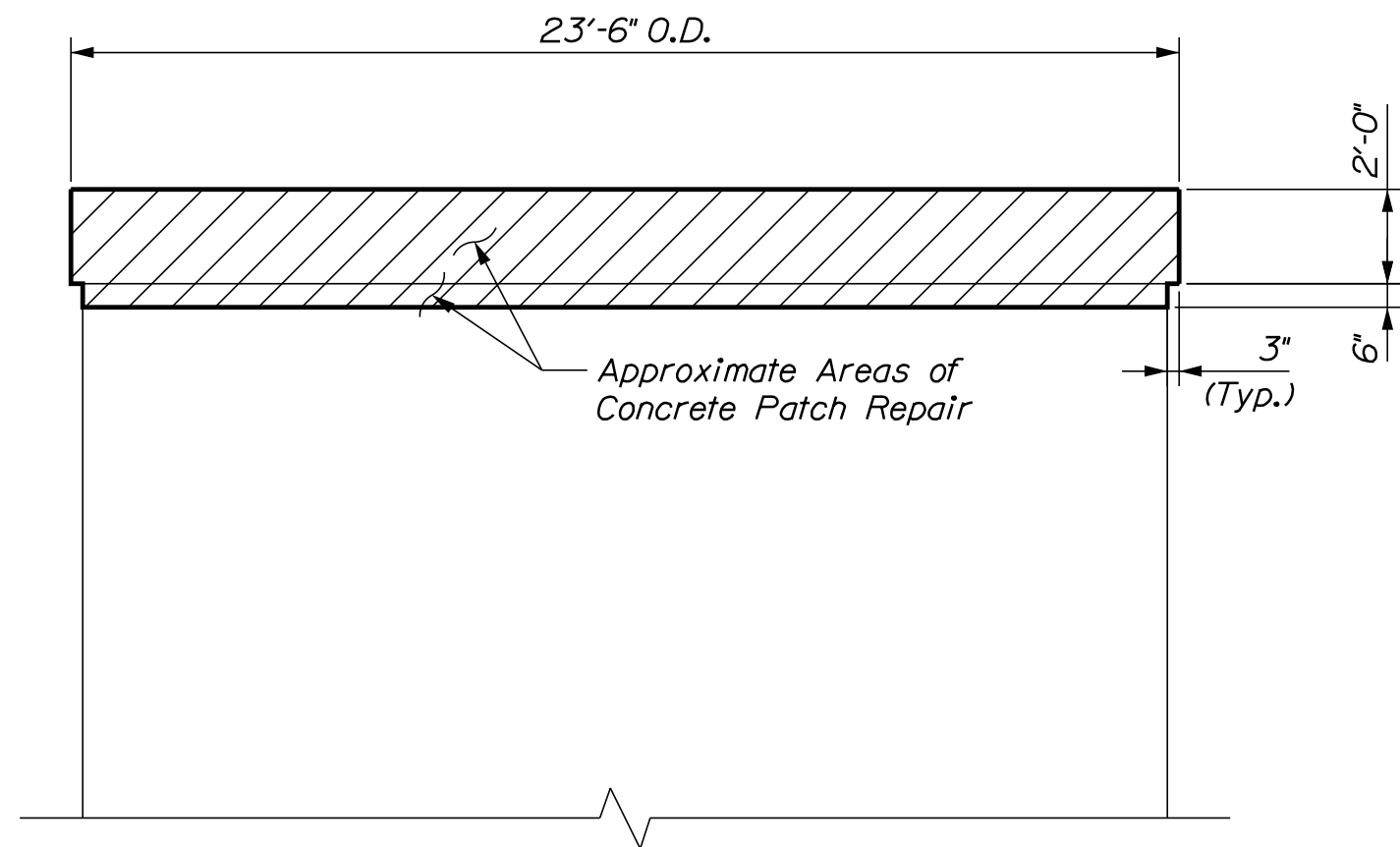
OF 48



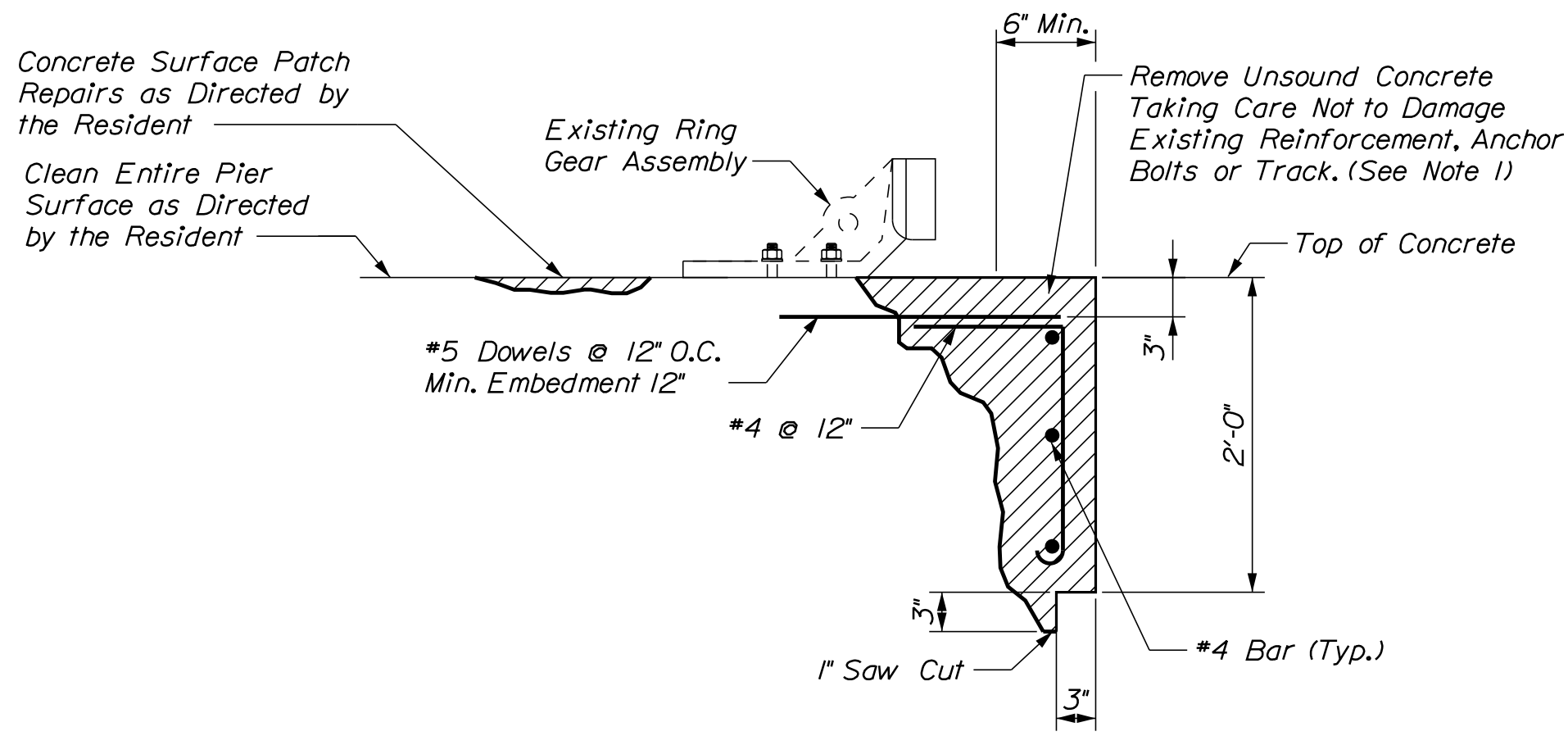
- NOTES:



PLAN

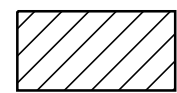


ELEVATION



Section A-A

KEY



Limit of Repair of Concrete Surfaces

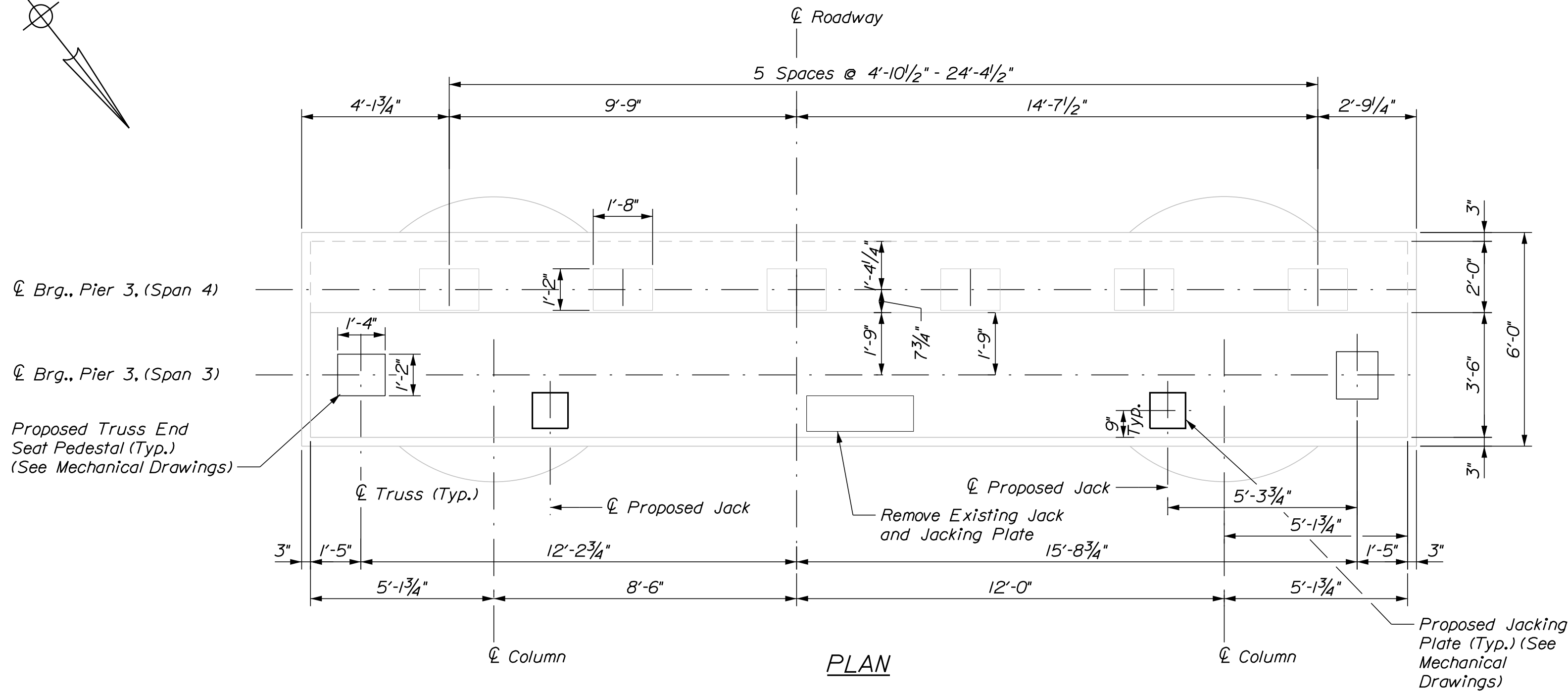
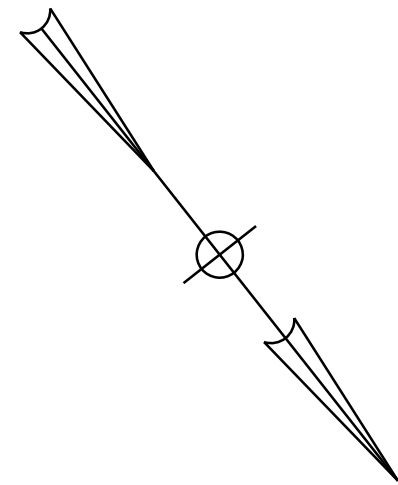
NOTES:

1. Concrete may be removed to a maximum of 1 1/2" of the ring gear bearing contact width. If unsound concrete is found beyond this limit, the Department must be notified, and a removal plan developed prior to commencing further removal of concrete.
2. Precise location of concrete patch repairs shall be determined in the field and approved by the Resident.
3. Reinforcement shop drawings for vertical surface repairs shall be submitted to the Department at least 14 days prior to fabrication.

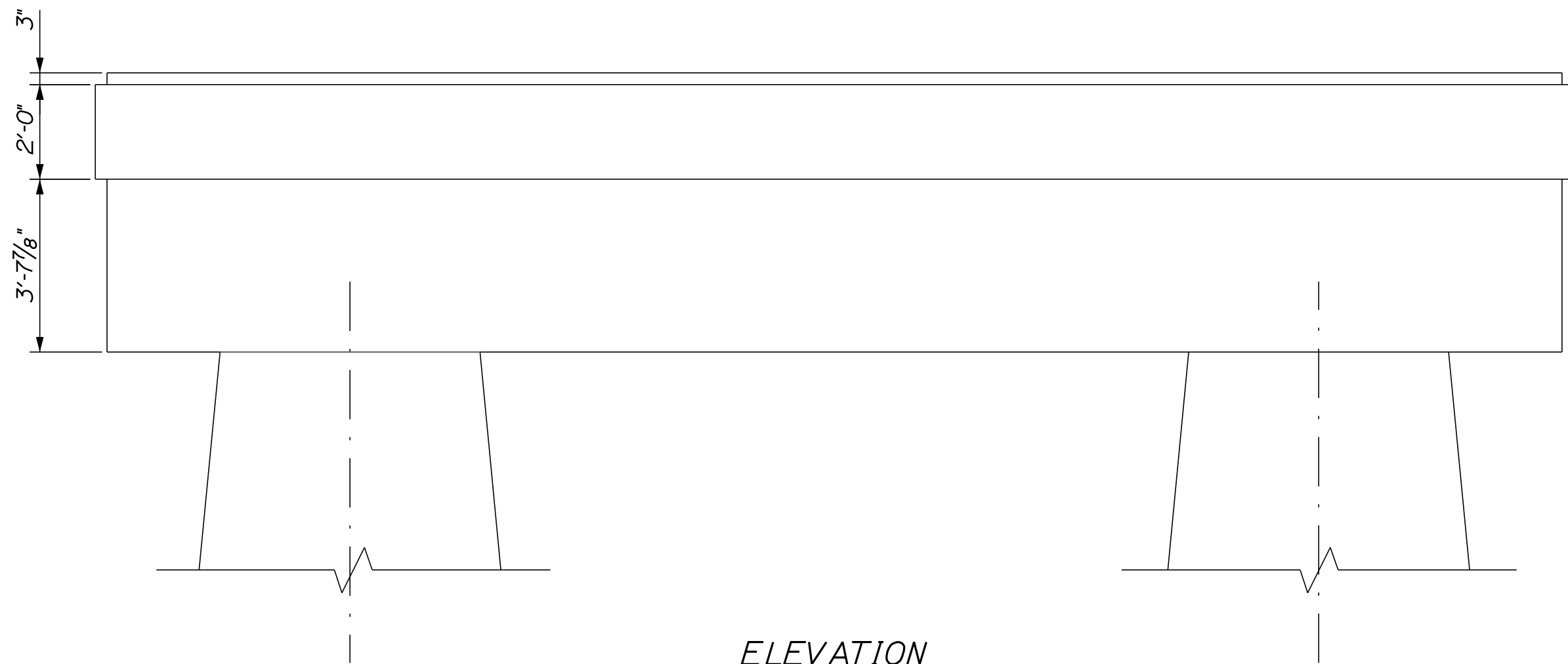
STATE OF MAINE DEPARTMENT OF TRANSPORTATION		2309401		BRIDGE NO. 2789		WIN		21751.01		BRIDGE PLANS	
SOUTHPORT BRIDGE ROUTE 27 OVER TOWNSEND GUT SOUTHPORT & BOOTHBAY HARBOR ME LINCOLN COUNTY		PIER 2 CONCRETE PATCH REPAIR DETAILS		SHEET NUMBER		26		OF 48			
PROJ. MANAGER J. STETSON, PE		DESIGN-DETAILED BGP		CHECKED-REVIEWED CTA		DESIGN2-DETAILED2		DESIGN3-DETAILED3		REVISIONS 1	
BY		UPD		RBLUNT						REVISIONS 2	
DATE		8/19/22		8/19/22						REVISIONS 3	
SIGNATURE		1158		1158						REVISIONS 4	
P.E. NUMBER		August 19, 2022		August 19, 2022						FIELD CHANGES	
DATE											

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
PROFESSIONAL ENGINEER
ROBERT S. BLUNT
1158
August 19, 2022

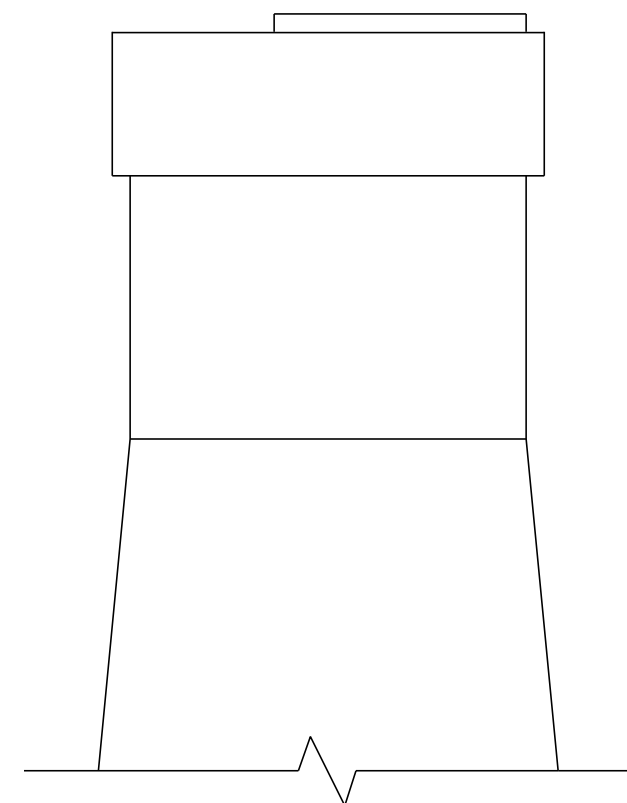
Robert S. Blunt



PLAN



ELEVATION



SECTION A-A

STATE OF MAINE DEPARTMENT OF TRANSPORTATION	2309401		BRIDGE NO. 2789	WIN	21751.01	BRIDGE PLANS
SOUTHPORT BRIDGE ROUTE 27 OVER TOWNSEND GUT SOUTHPORT & BOOTHBAY HARBOR ME LINCOLN COUNTY	PIER 3 DETAILS		SHEET NUMBER			
	27		OF 48			

PROJ. MANAGER

J. STETSON, PE

DESIGN-DETAILED

BOGP

CHECKED-REVIEWED

CTA

DESIGN2-DETAILED2

DESIGN3-DETAILED3

REVISIONS

1

REVISIONS

2

REVISIONS

3

REVISIONS

4

FIELD CHANGES

DATE

8/19/22

BY

UPD
RBLUNT

SIGNATURE

1158

P.E. NUMBER

August 19, 2022

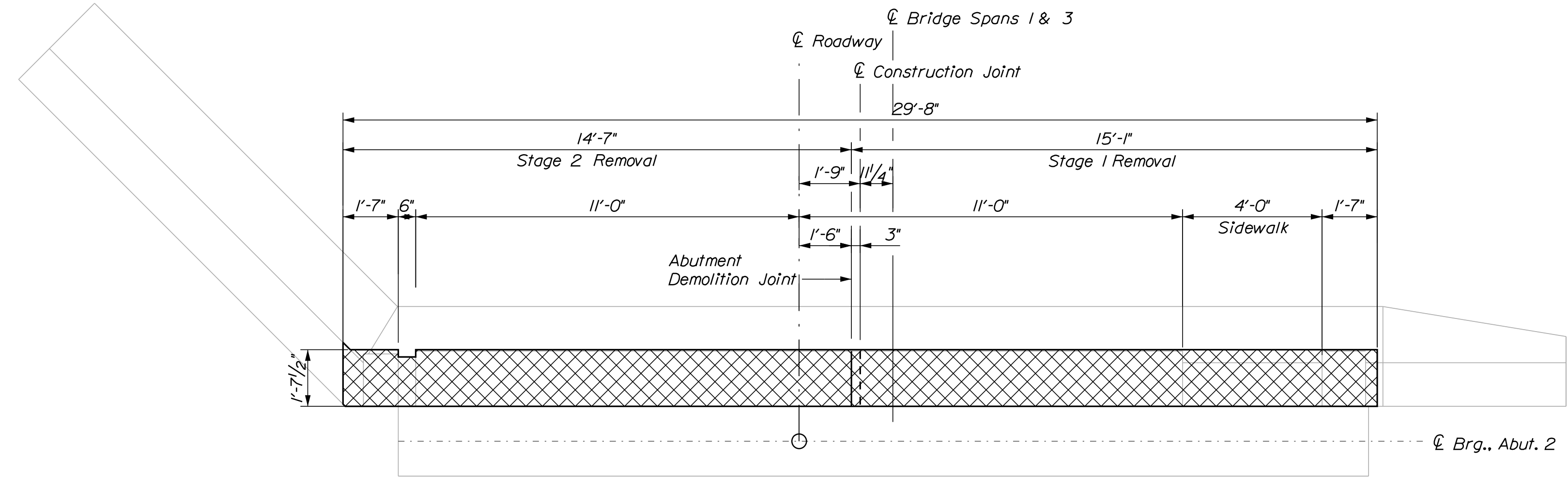
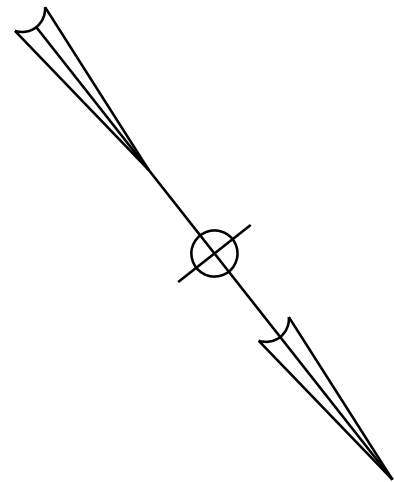
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STATE OF MAINE

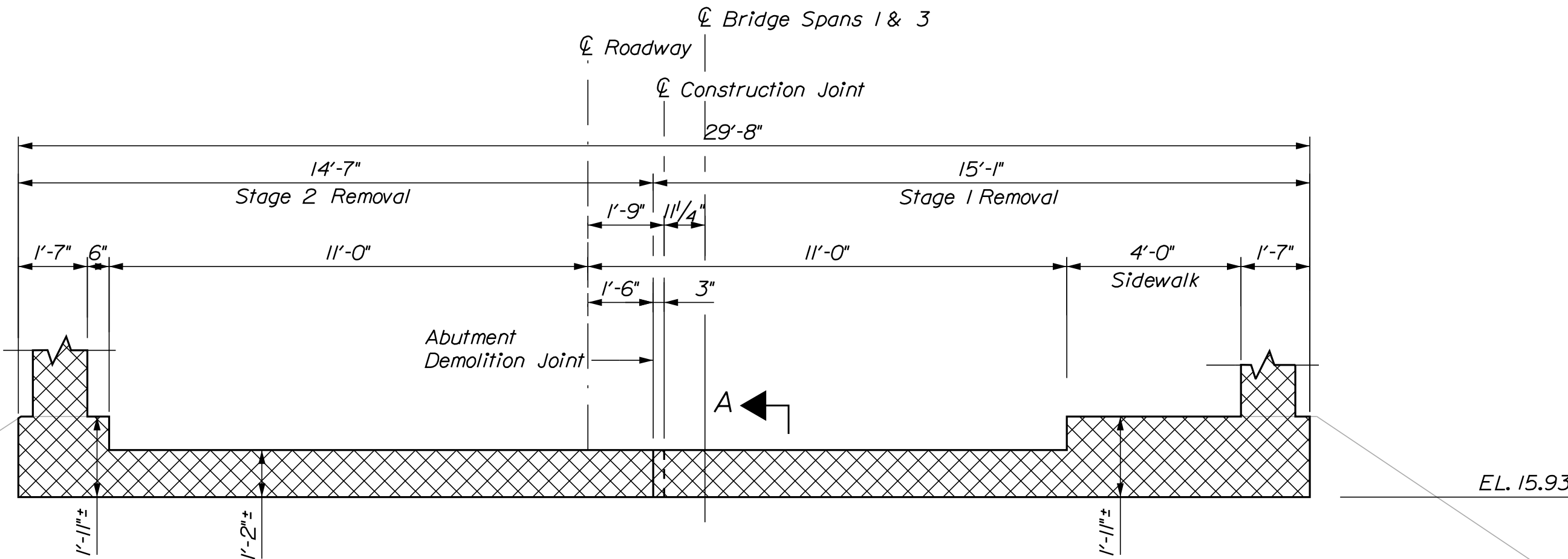
ROBERT S. BLUNT

11158

REGISTERED PROFESSIONAL ENGINEER



PLAN



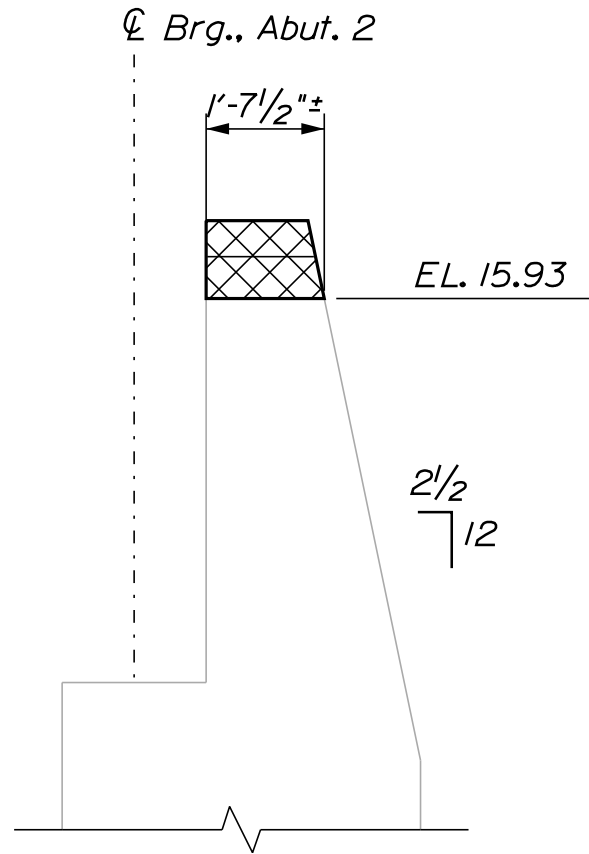
ELEVATION

DEMOLITION QUANTITY (CY)

Removing Existing Structural Concrete 2.5

KEY

[Cross-hatched box] = Concrete Removal (Item 202.12)



SECTION A-A

NOTE

1. Vertical removal dimensions shown are approximate. The Contractor shall field verify all dimensions.

STATE OF MAINE DEPARTMENT OF TRANSPORTATION	2309401		BRIDGE NO. 2789		WIN		21751.01		BRIDGE PLANS	
	SOUTHPORT BRIDGE ROUTE 27 OVER TOWNSEND GUT		LINCOLN COUNTY		ABUTMENT 2		REMOVAL LIMITS		SHEET NUMBER	
	28		OF 48							

PROJ. MANAGER

J. STETSON, PE

CHECKED

DESIGN-DETAILED

REVIEWED

CTA

DESIGNED

DESIGN-DETAILED

REVISIONS

1

REVISIONS

2

REVISIONS

3

REVISIONS

4

FIELD CHANGES

DATE

8/19/22

BY

UPD

BY

RSBLUNT

SIGNATURE

1158

P.E. NUMBER

1158

DATE

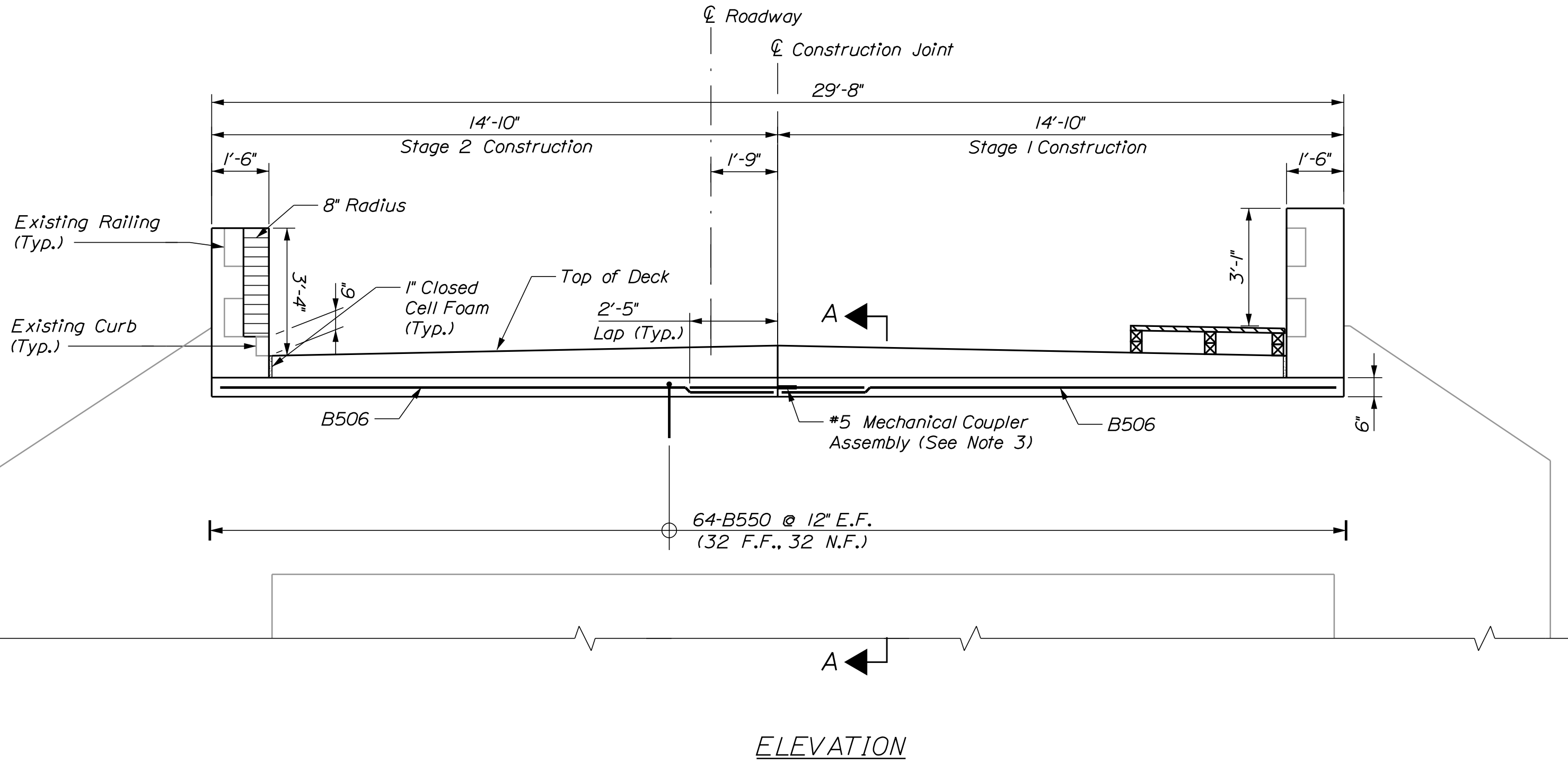
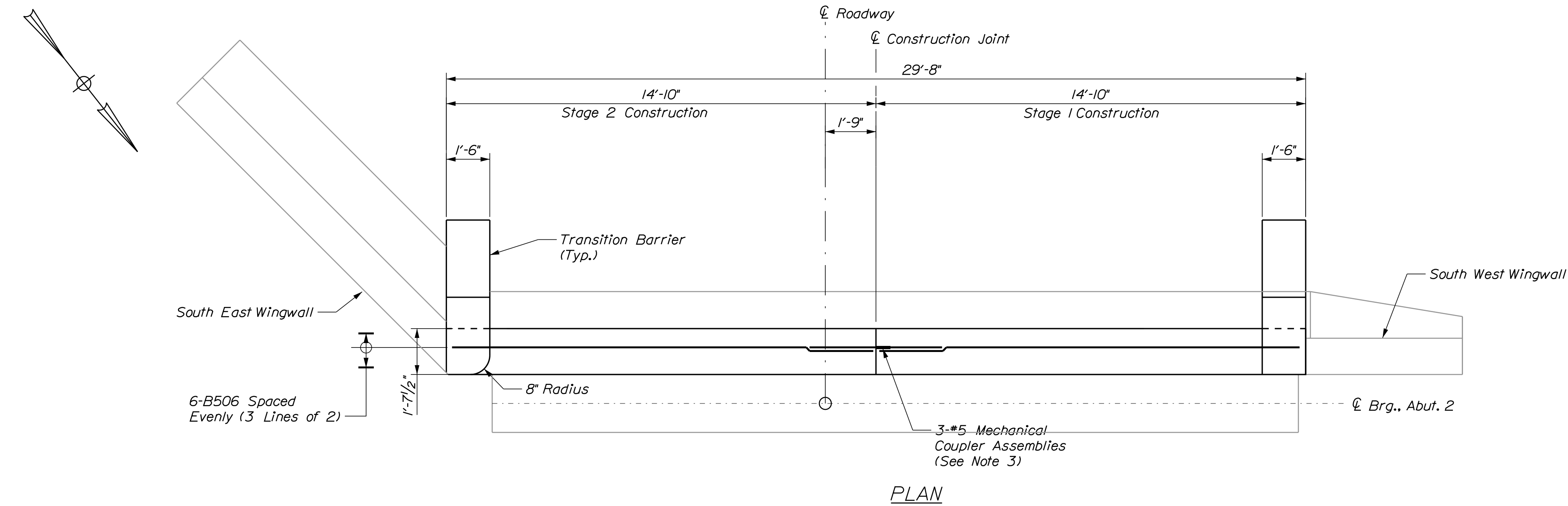
August 19, 2022

STATE OF MAINE

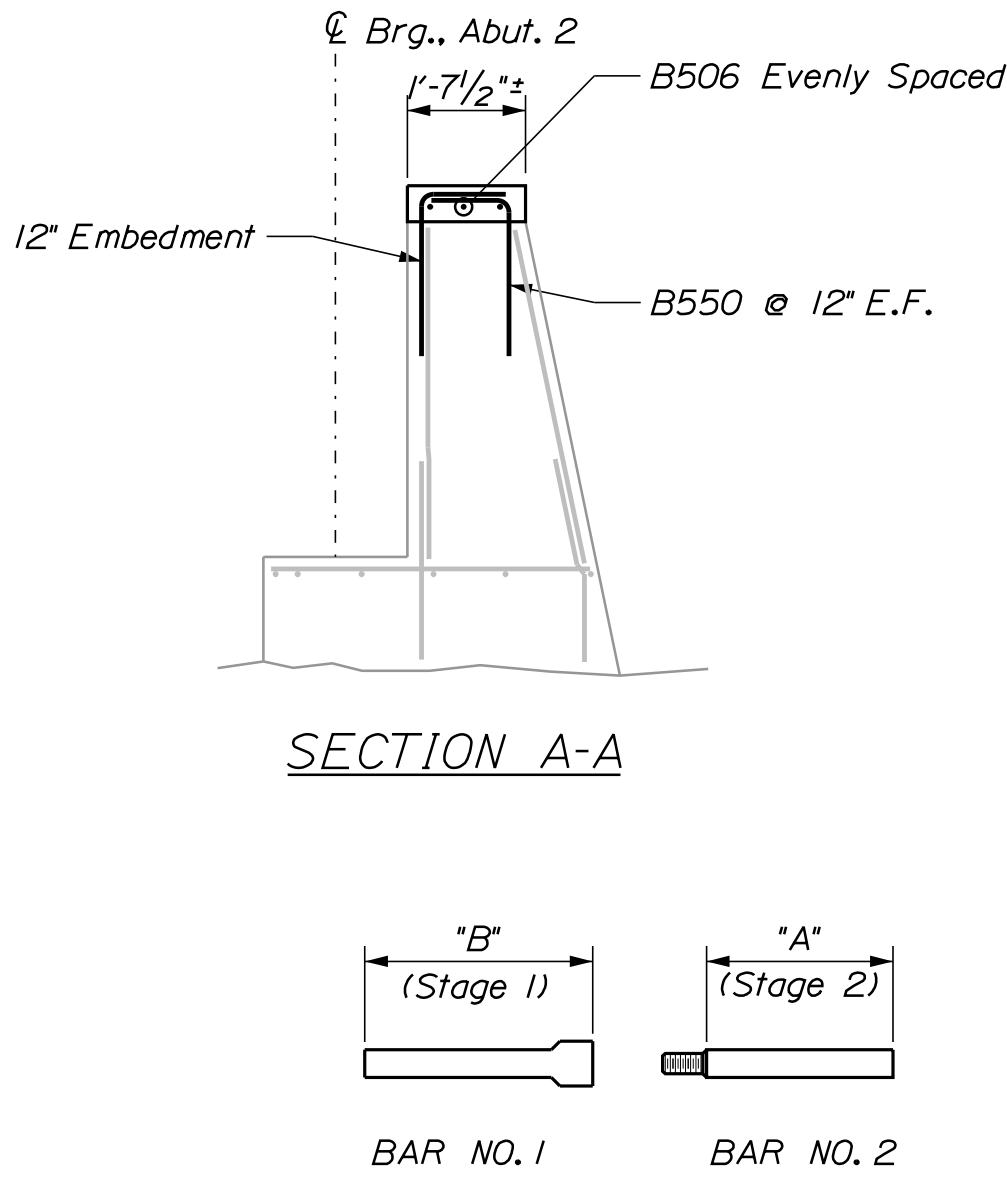
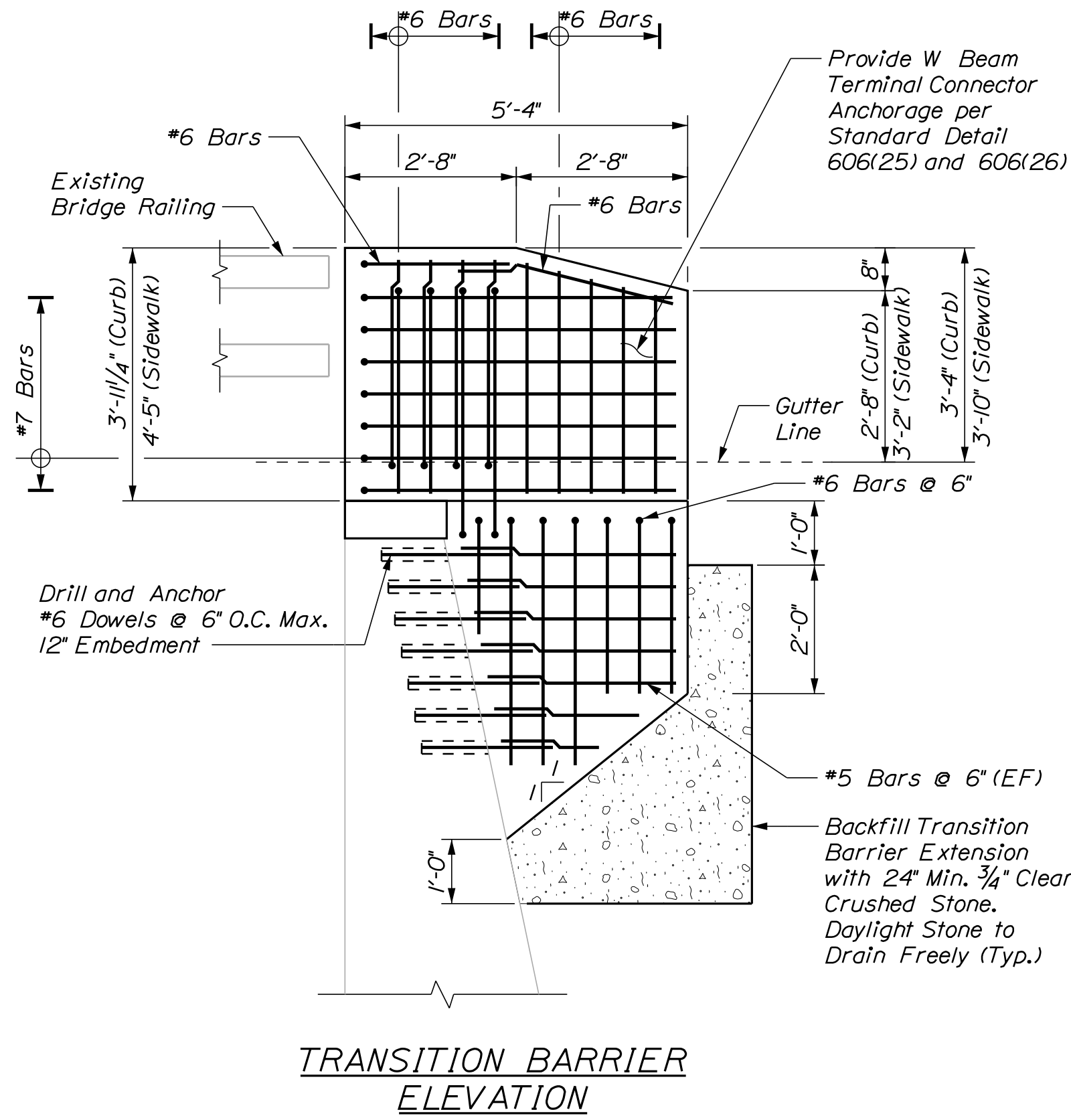
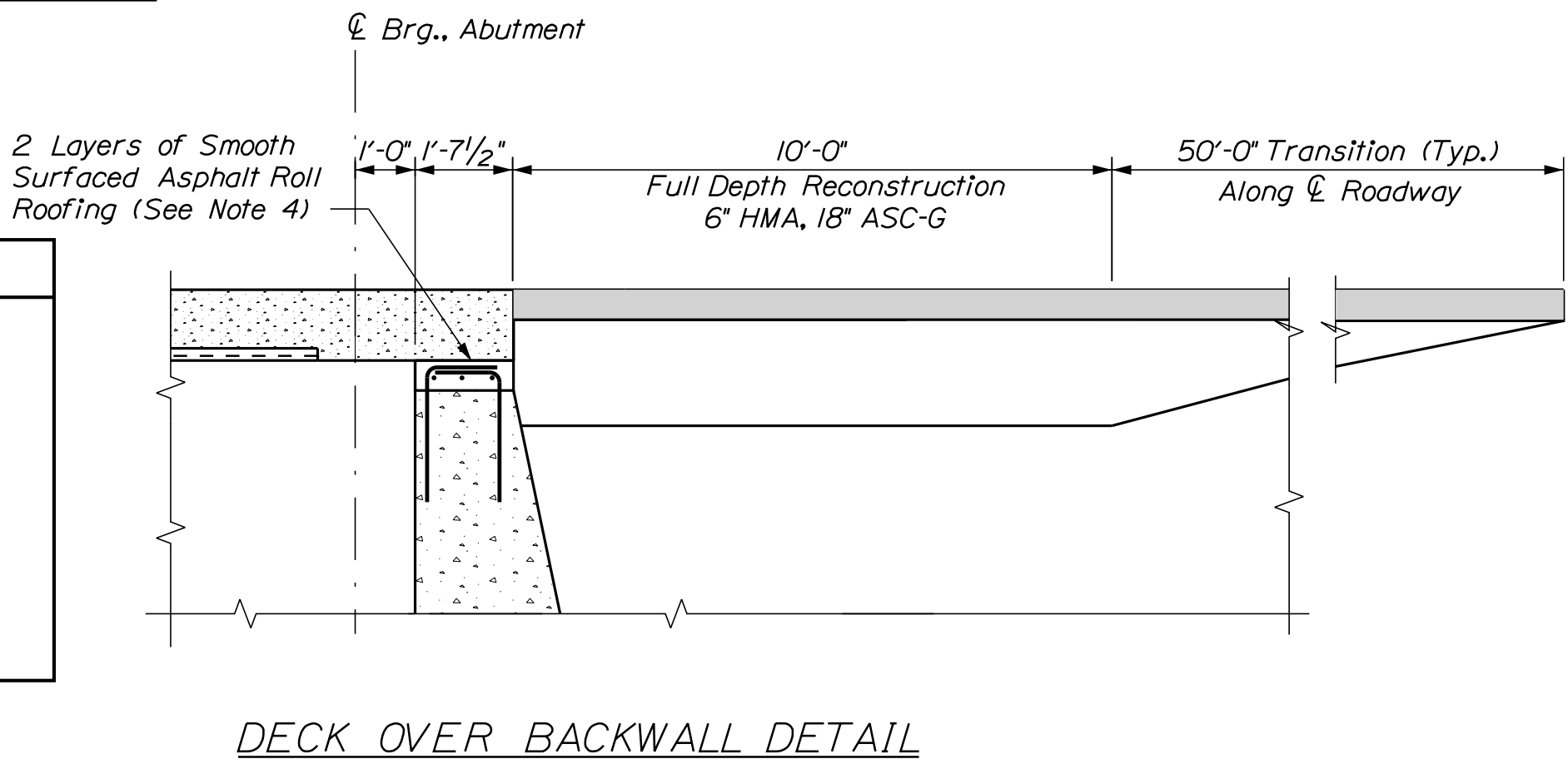
ROBERT S. BLUNT

11158

REGISTERED PROFESSIONAL ENGINEER



STRAIGHT BARS				BENT BARS				TYPE		
MARK	QTY.	LENGTH	LOCATION	MARK	QTY.	LENGTH	TYPE	A	B	LOCATION
B506	6	14'-6"	Abutment 2	B550	64	2'-7"	L	1'-4"	1'-3"	Abutment 2



Location	Bar Size	Dim "A"	Dim "B"	Quantity (Ea.)
Abut. No. 2 Seat	#5	2'-5"	2'-5"	3

MECHANICAL CONNECTOR ASSEMBLY DETAIL

- NOTES
- The Contractor shall submit shop drawings and reinforcing schedule or the transition barriers to the Department for approval. The transition arrier reinforcement shall be in accordance with MaineDOT Standard etails 526(16), 526(17). Payment for transition barrier reinforcing steel and drilling and grouting of anchor dowels shall be incidental to Item 526.34, Permanent Concrete Transition Barrier.
 - All reinforcement shall have a minimum clearance of 2".
 - Mechanical Coupler Assembly shall be paid for under Item 503.17, Mechanical/Welded plice.
 - Smooth Surfaced Asphalt Roll Roofing and Closed Cell Foam shall be incidental to deck over backwall detail items.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
2309401
BRIDGE NO. 2789
WIN
21751.01
BRIDGE PLANS

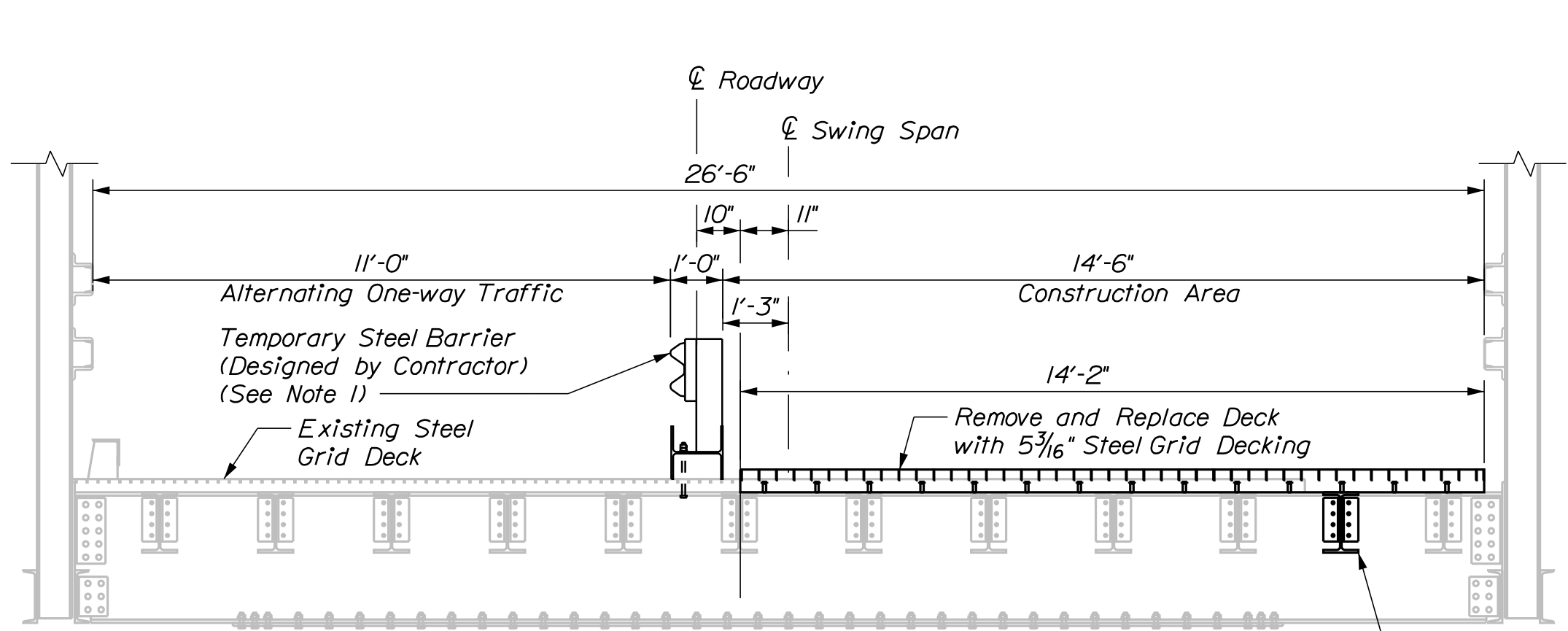
PROF. QUALIFIED ENGINEER
ROBERT S. BLUNT
1158
August 19, 2022

SIGNATURE
1158
P.E. NUMBER
August 19, 2022
DATE

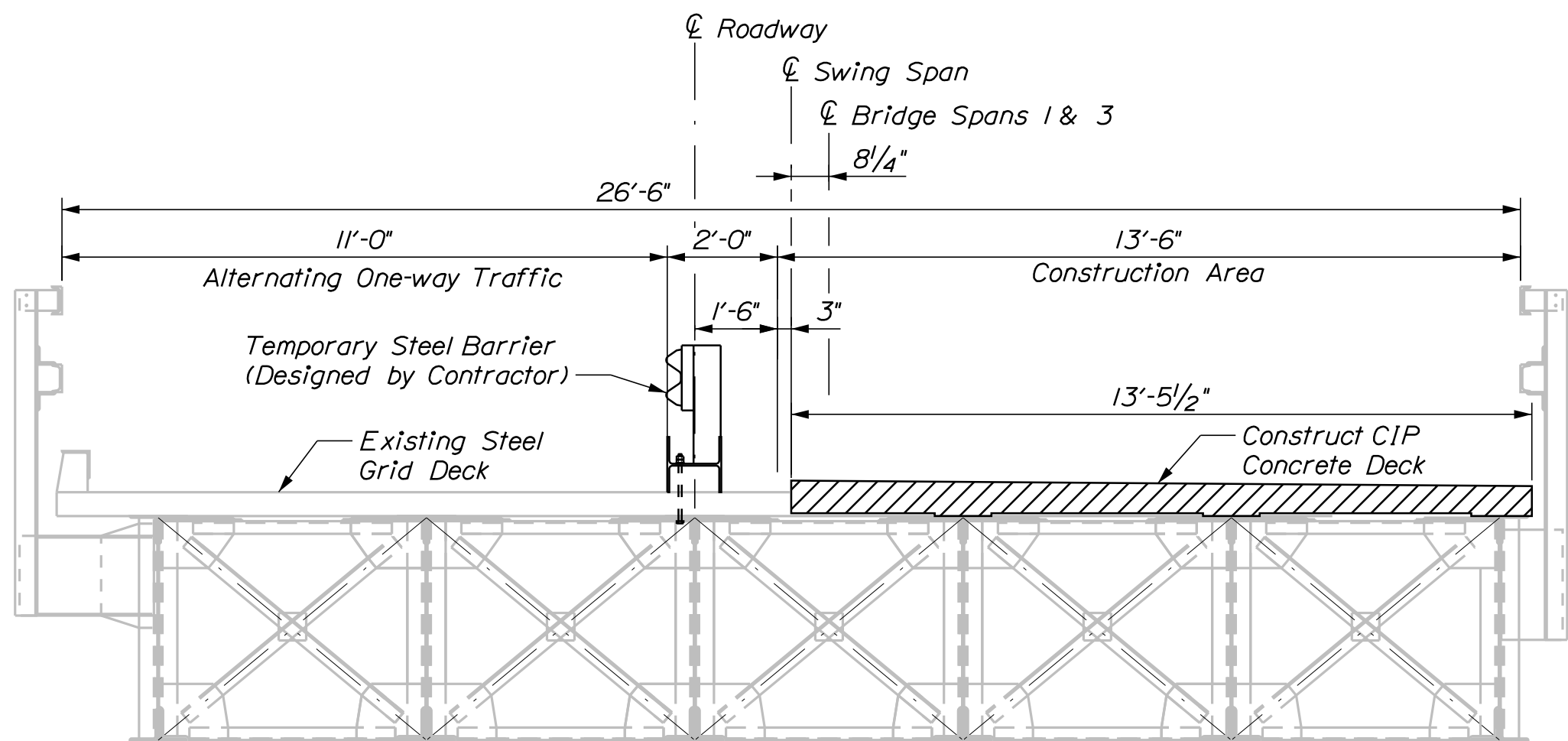
SOUTHPORT BRIDGE ROUTE 27
OVER TOWNSEND GUT
SOUTHPORT & BOOTHBAY HARBOR ME
LINCOLN COUNTY

ABUTMENT 2
RECONSTRUCTION DETAILS

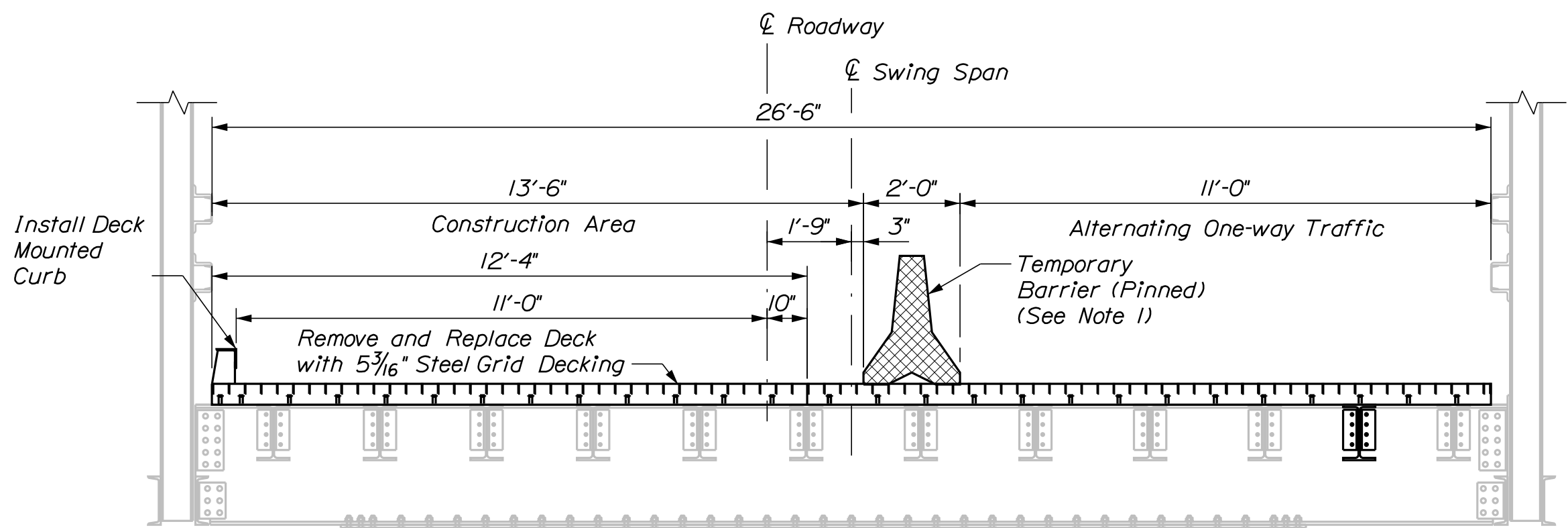
SHEET NUMBER
29
OF 48



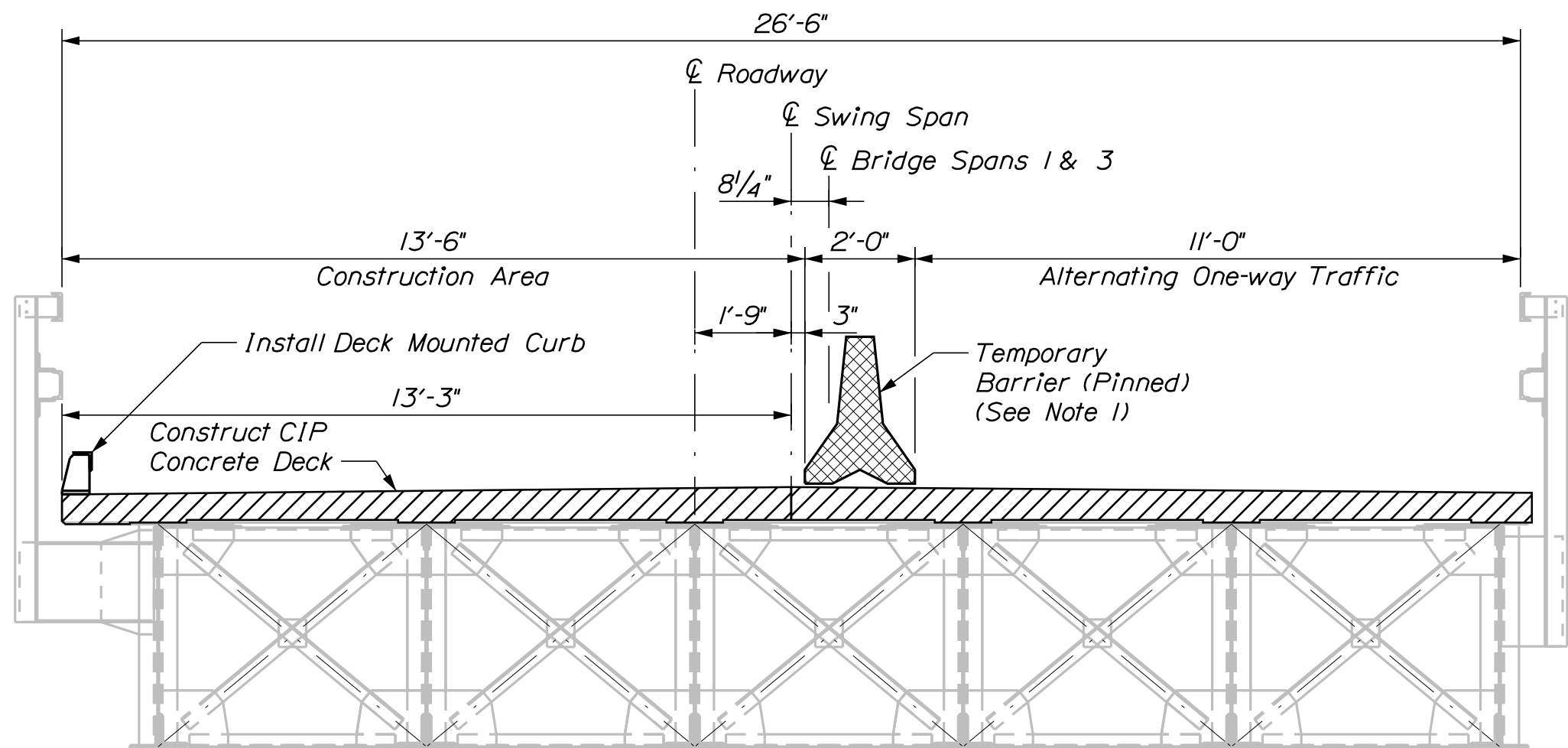
TYPICAL SECTION AT TRUSS STAGE 1
(Looking toward Southport)
Scale: 3/8" = 1'-0"



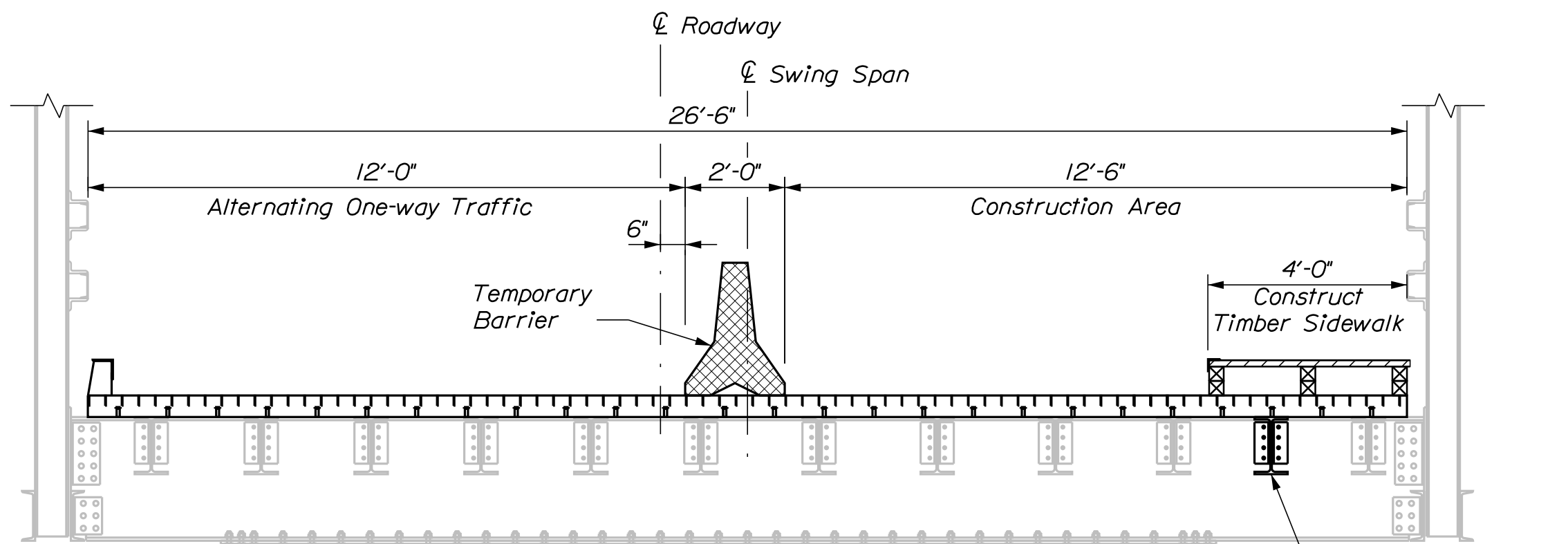
TYPICAL SECTION AT SPANS 1 & 3 STAGE 1
(Looking toward Southport)
Scale: 3/8" = 1'-0"



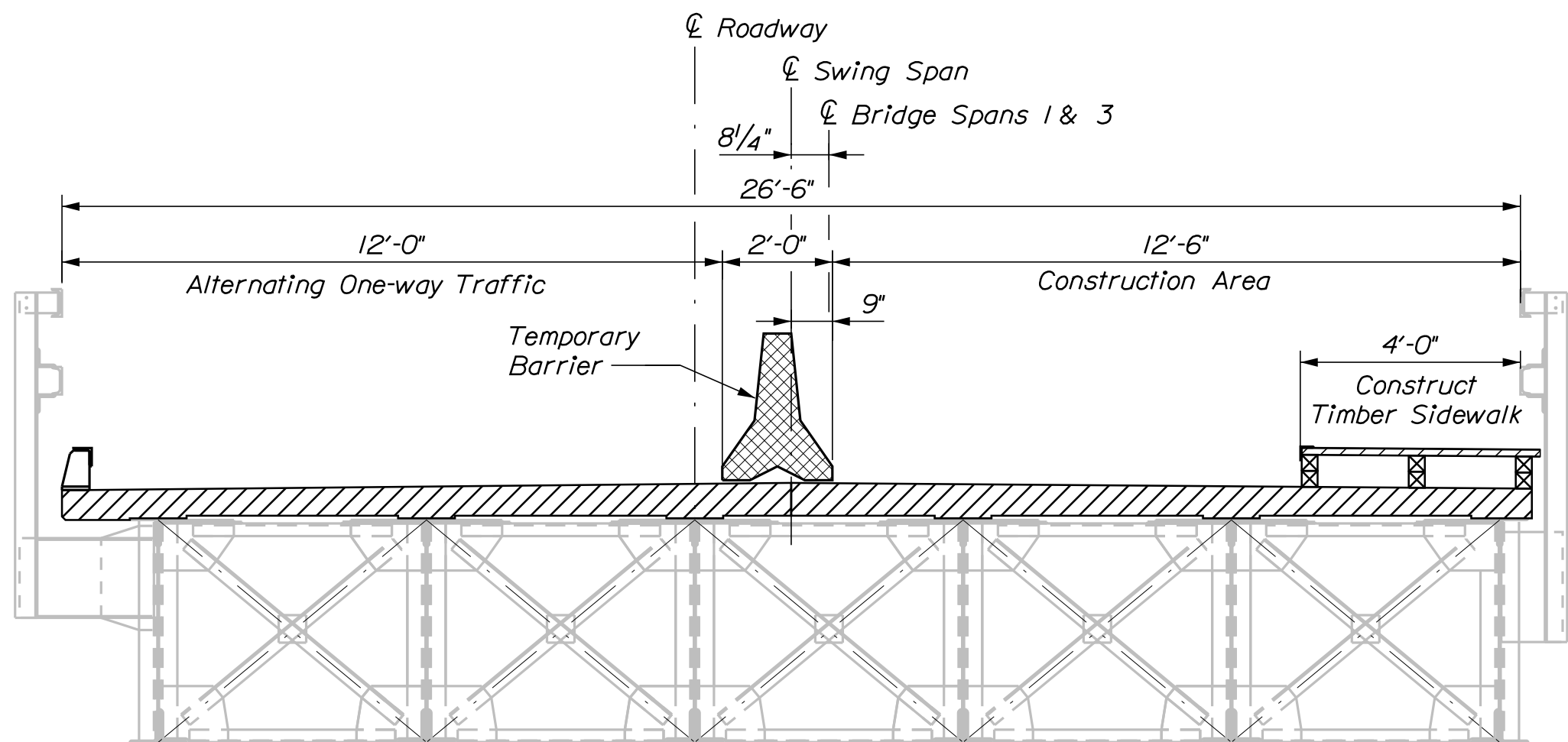
STAGE 2
(Looking toward Southport)
Scale: 3/8" = 1'-0"



STAGE 2
(Looking toward Southport)
Scale: 3/8" = 1'-0"



STAGE 3
(Looking toward Southport)
Scale: 3/8" = 1'-0"

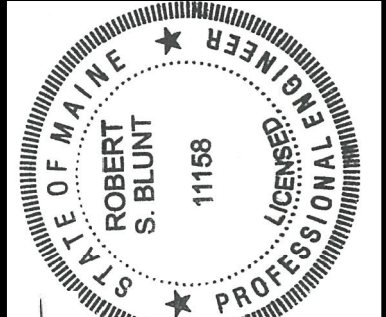


STAGE 3
(Looking toward Southport)
Scale: 3/8" = 1'-0"

NOTES:

1. Temporary Steel Barrier shall be paid for under Item 507.13, Temporary Bridge Rail, Temporary Barrier (Pinned) shall be paid for under Item 526.305, Temporary Concrete Barrier, Braced Type 1.
2. Removal of existing steel grid deck shall be paid for under Item 202.01, Removing Structures and Obstructions, Existing Steel Grid Deck.

STATE OF MAINE	BRIDGE PLANS
DEPARTMENT OF TRANSPORTATION	
2309401	WIN
BRIDGE NO. 2789	21751.01

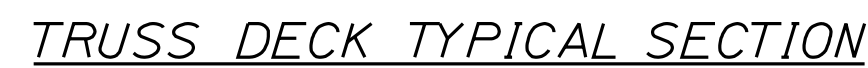


PROJ. MANAGER	J. STETSON, PE	DATE	8/19/22
DESIGN-DETAILED	BSP	BY	UPD, B WISE
CHECKED-REVIEWED	CTA	RESENT	
DESIGN-DETAILED	DESIGN-DETAILED		
REVISIONS	1	SIGNATURE	11158
REVISIONS	2	P.E. NUMBER	11158
REVISIONS	3	DATE	August 19, 2022
REVISIONS	4		
FIELD CHANGES			

SOUTHPORT BRIDGE ROUTE 27	
OVER TOWNSEND GUT	
SOUTHPORT & BOOTHBAY HARBOR ME	LINCOLN COUNTY

STAGED CONSTRUCTION SECTIONS

SHEET NUMBER
30
OF 48

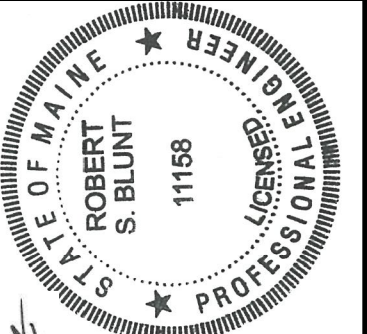


106 Studs per Floorbeam x 9 Floorbeams = 954 Studs

1. *Steel grid deck panel widths are not shown and shall be designed by supplier and approved by the Department.*
2. *Connections of new stringers shall match existing connections of adjacent existing stringers in each respective bay. Shop drawings shall be submitted to and approved by the Department.*
3. *Concrete infill dimension is centerline to centerline of steel grid deck main beams. Concrete infill shall be paid for under Item 502.26, Structural Concrete Roadway and Sidewalk Slab on Steel Bridges*
4. *Maximum aggregate size for all deck concrete shall be 3/8". Aggregate gradation shall be submitted to the Department for approval.*
5. *Concrete infill shall not project above the top of the steel grid deck.*
6. *See Steel Grid Deck and Joint Details sheet for Sections A-A and B-B.*
7. *The sidewalk shall be constructed of dressed and pressure treated lumber. Lumber dimensions shown are nominal. Procurement and installation of timber sidewalk to deck connections shall be incidental to related items.*

8. After removal, preparation of the existing beam top flanges, and installation of the deck panel system the Contractor shall apply a minimum 10mil DFT of a Zinc Rich Paint and compatible topcoat sealer to the top of the top flanges of all stringers and floorbeams and down the edge of the top flange. The color of the system shall match and be compatible with the hot dip galvanized decking system. The work to prepare the top surface of the existing beams for acceptance of the deck panels and coating system shall be included in the Quality Control plan per section 506 of the MaineDOT Standard Specification. This work shall be paid for under Item No. 506.1775, Field Painting, New and Existing Steel with Zinc Rich Paint.
9. The procurement and installation of the proposed stringers and their connections and the new steel curb and its connections shall be paid for under Item 504.70, Structural Steel Fabricated and Delivered, and Item 504.71, Structural Steel Erection. Procurement and installation of new steel curb deck connections shall be incidental to related items.
10. All bolts for stringer connection angles shall be $\frac{7}{8}$ " diameter ASTM A325 hot dip galvanized in accordance with ASTM A153. Threads shall be excluded from the shear plane.

- | | |
|------------------------------|-----------------|
| STATE OF MAINE | |
| DEPARTMENT OF TRANSPORTATION | |
| 2309401 | |
| BRIDGE NO. 2789 | WIN
21751.01 |
| BRIDGE PLANS | |



PROJ. MANAGER	J. STETSON, PE	BY	DATE
DESIGN-DETAILED	BGP	DPD, 6 W/SE	8/19/22
CHECKED-REVIEWED	CTA	RSBLINT	8/19/22
DESIGN-DET ALED D2			
DESIGN-DET ALED D3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
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FIELD CHANGES			
 SIGNATURE: 1158 P.E. NUMBER August 19, 2022 DATE:			

SOUTHPORT & BOOTHBAY HARBOR ME LINCOLN COUNTY

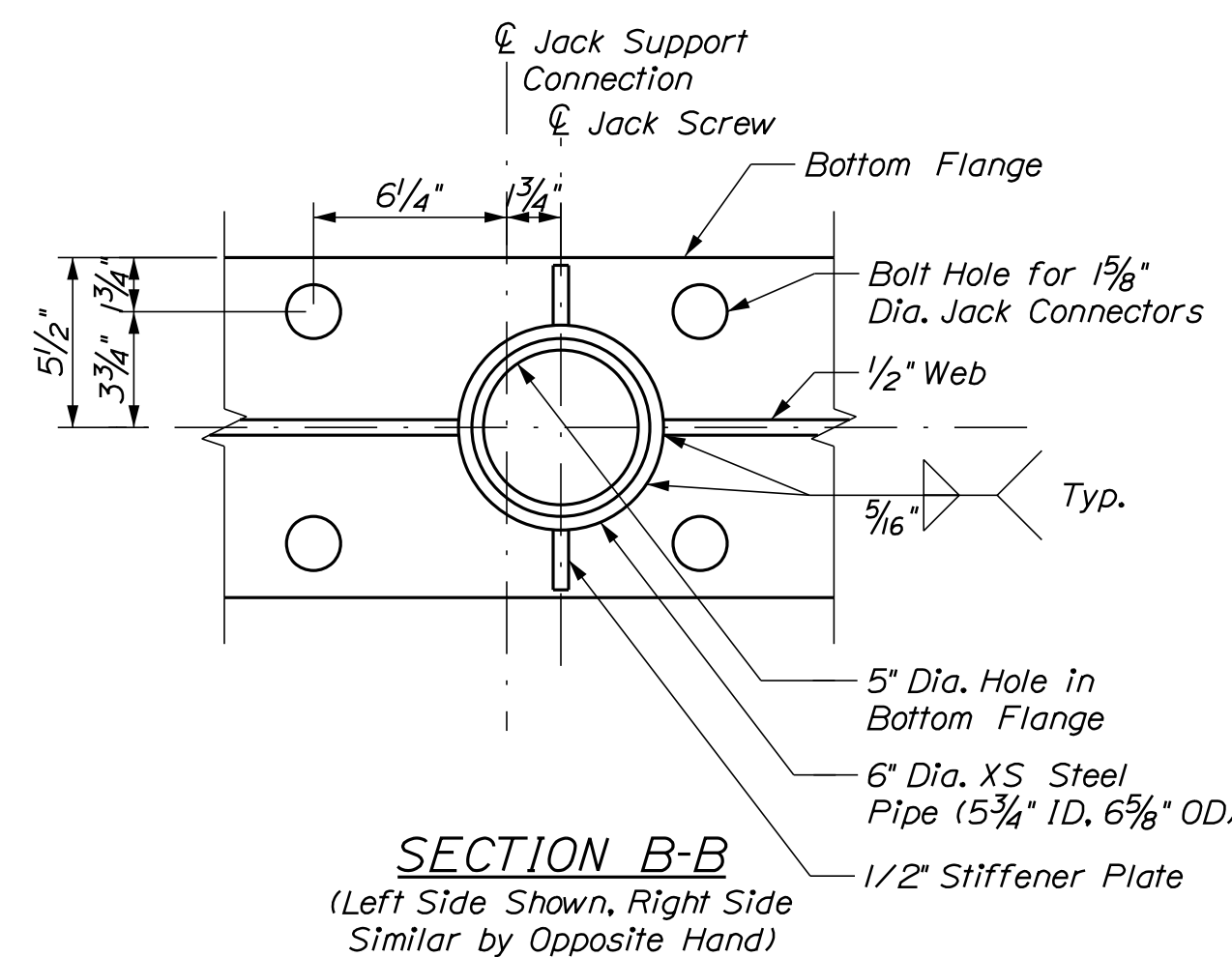
**SOUTHPORT BRIDGE ROUTE 227
OVER TOWNSEND GUT**

**TRUSS SWING SPAN
PLAN AND TYPICAL SECTION**

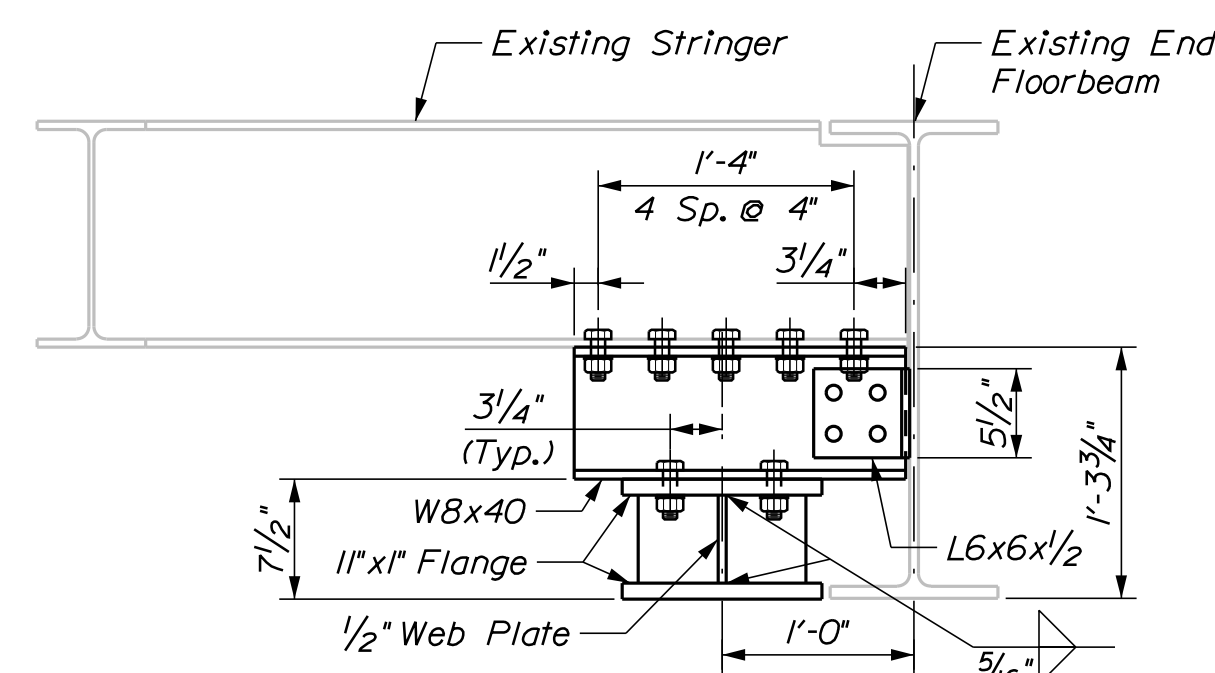
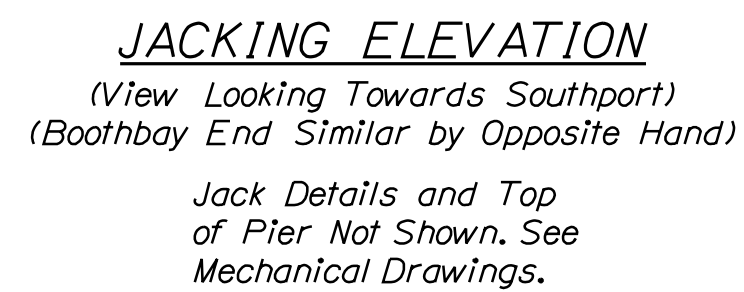
SHEET NUMBER

31

DF 48



SECTION B-B
(Left Side Shown, Right Side
Similar by Opposite Hand)



SECTION A-A
Jack and Shims Not Shown,
See Mechanical Drawings.

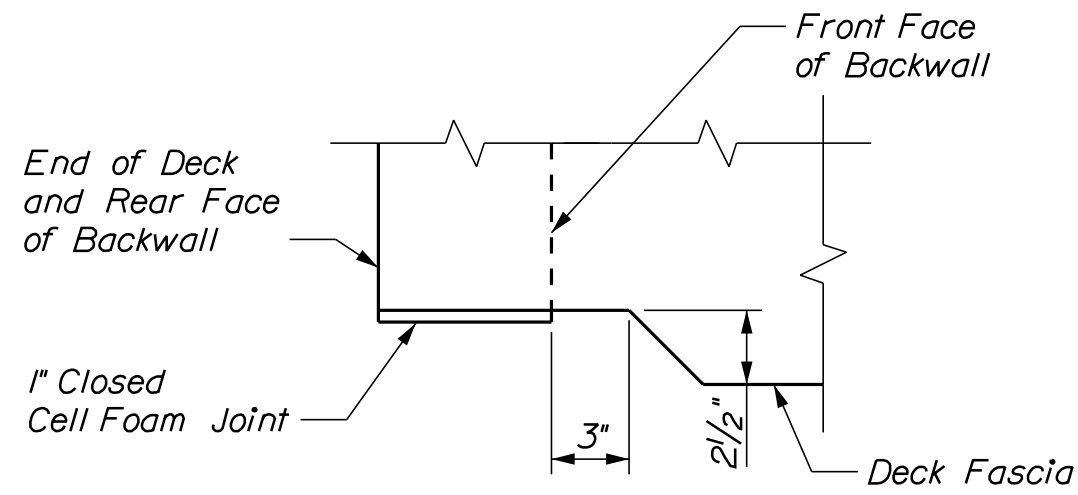
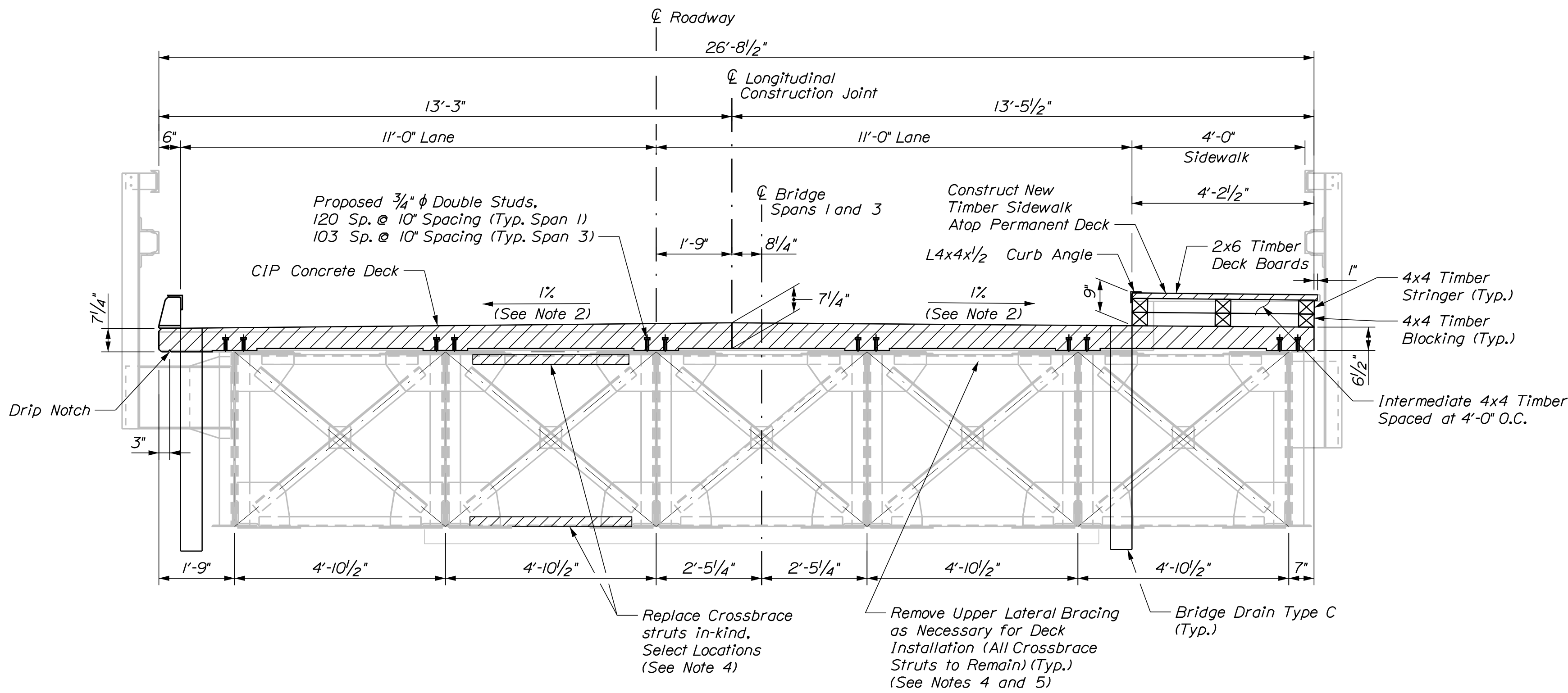
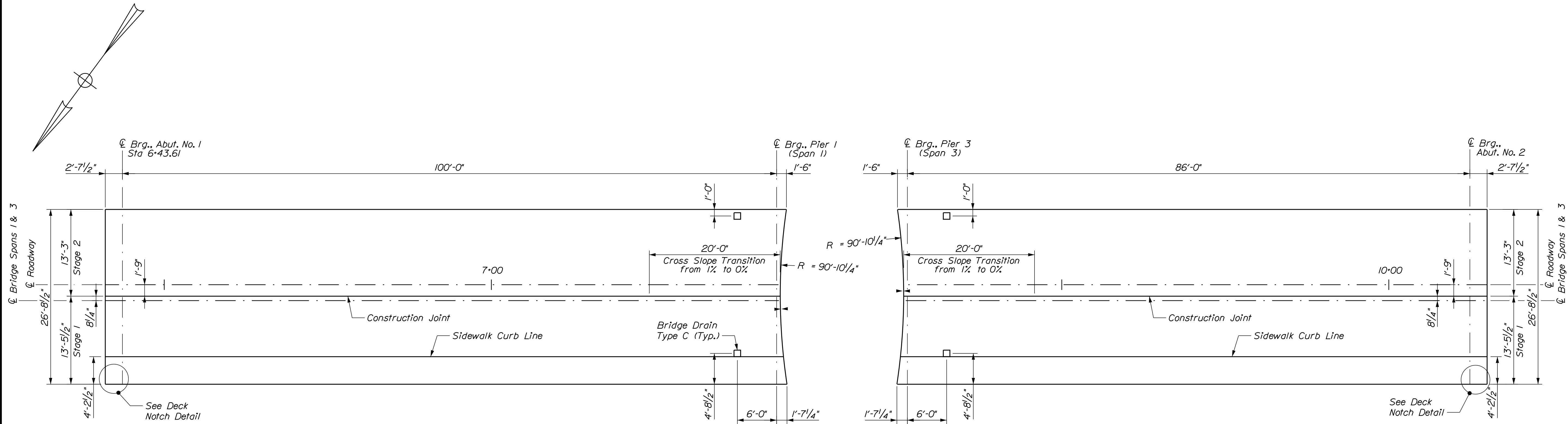
- ## NOTES
- 1. See Mechanical Drawings for jack details. The Contractor shall verify jack dimensions, configuration, and connector layout prior to fabrication of truss and jack support details.*
 - 2. The Contractor shall submit shop drawings to the Department at least 14 days prior to fabrication.*
 - 3. Procurement, fabrication, and installation of all jack support components shall be paid for under item 860.186, End Jack Assemblies.*
 - 4. All jack support connectors shall be 7/8" diam. F3125, Grade 325 High Strength Bolts.*

Date: 8/19/2022

Username:

Division: BRIDGE

Filename: ...\\033_Typ-Sec-Details_01.dgn



- NOTES
1. Transition crown from 1% to 0% on Spans 1 and 3. See crown transition on deck plan layout.
 2. Prior to forming the deck, the Contractor shall take survey shots of the tops of spans 1 and 3 girders at the 10th points and submit a blocking plan to the Department for approval.
 3. The sidewalk shall be constructed of dressed lumber. Lumber dimensions shown are nominal.
 4. See Bridge Gate Removal and Cross Frame Repair Locations Sheet for details of cross frame strut replacements and top lateral bracing removal.
 5. Payment for the as-necessary removal of upper lateral bracing shall be incidental to related deck removal and installation items.

Span 1: 242 Studs per Girder x 6 Girders = 1452 Studs
Span 3: 208 Studs per Girder x 6 Girders = 1248 Studs

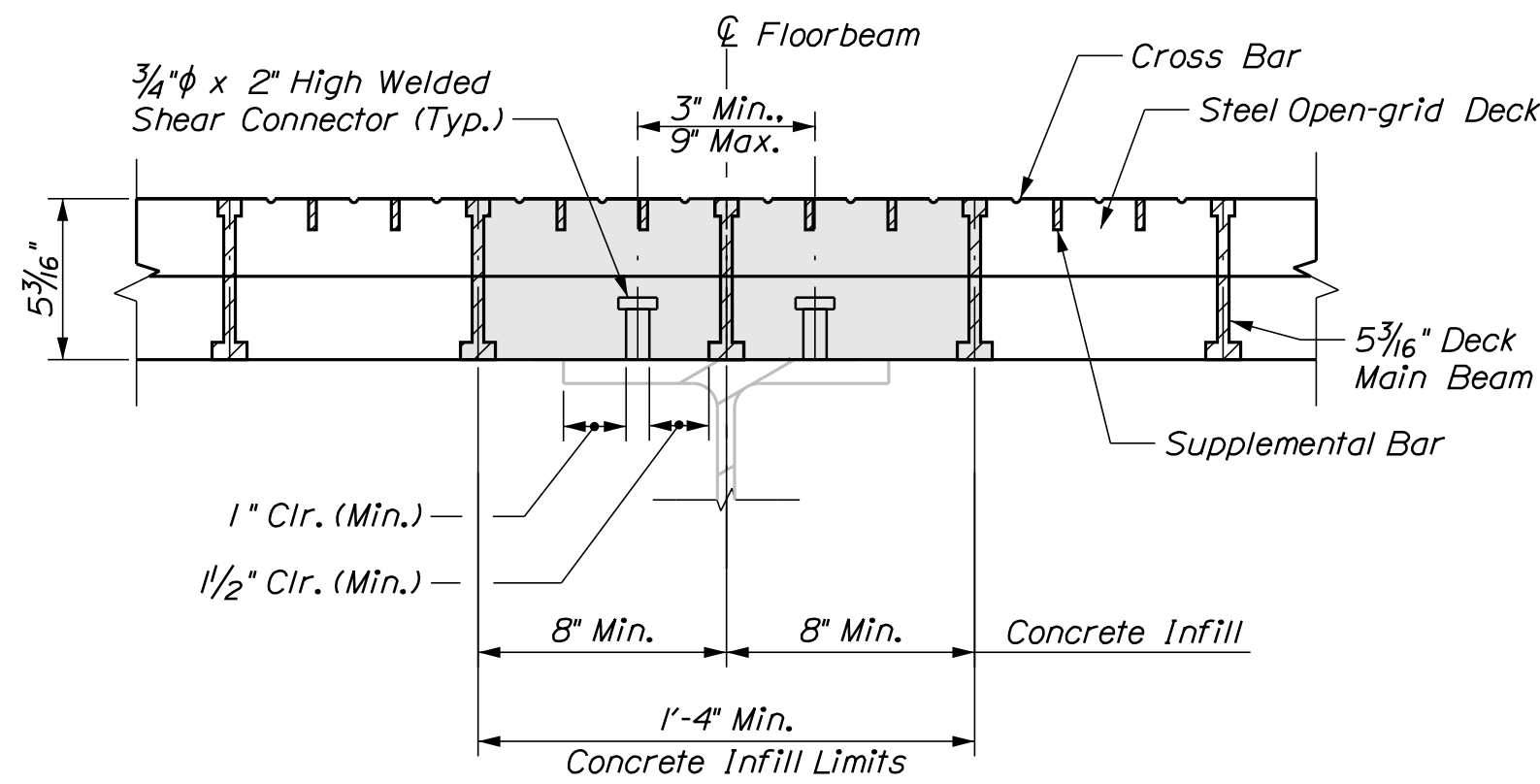
STATE OF MAINE DEPARTMENT OF TRANSPORTATION		2309401		BRIDGE NO. 2789		21751.01		BRIDGE PLANS	
SOUTHPORT BRIDGE ROUTE 27 OVER TOWNSEND GUT		LINCOLN COUNTY		SPANS 1 AND 3 PLAN AND TYPICAL SECTION		SHEET NUMBER 33 OF 48			
PROJ. MANAGER J. STETSON, PE		DESIGN-DETAILED BGP		CHECKED-REVIEWED CTA		DESIGN-DETAILED DET2		DESIGN-DETAILED DET3	
BY UPD, B WASE		BY RBLUNT		BY		BY		BY	
DATE 8/19/22		DATE 8/19/22		DATE 8/19/22		DATE 8/19/22		DATE 8/19/22	
SIGNATURE ROBERT S. BLUNT		SIGNATURE 1158		P.E. NUMBER 11158		DATE August 19, 2022		DATE	

Date: 8/19/2022

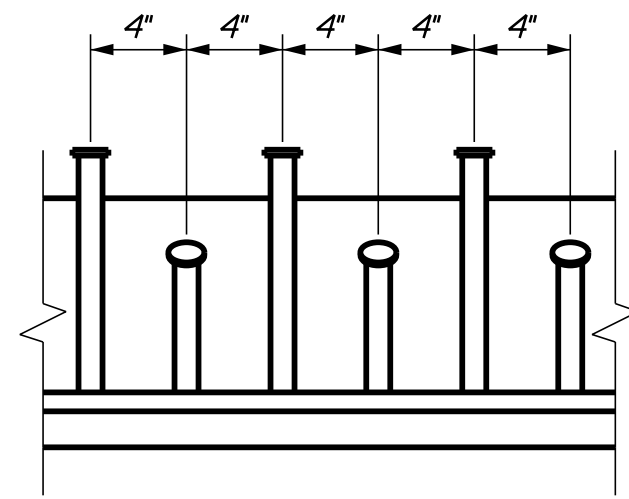
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Division: BRIDGE

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SECTION A-A



JOINT PLATE DETAIL /
ANCHOR STUD LAYOUT

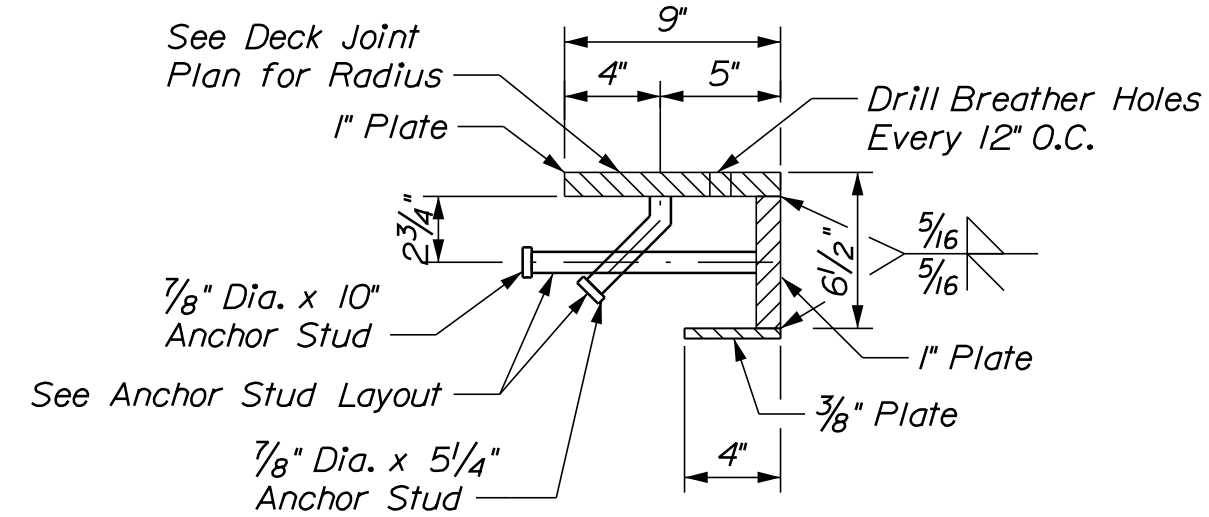


PLATE JOINT DETAIL 1

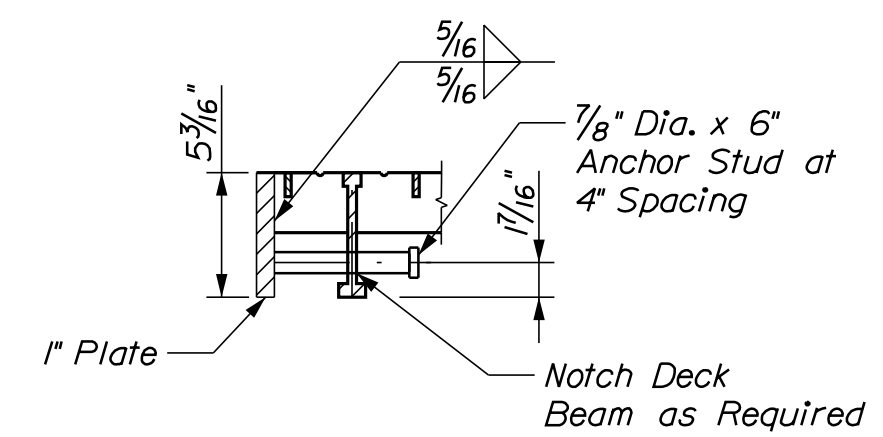
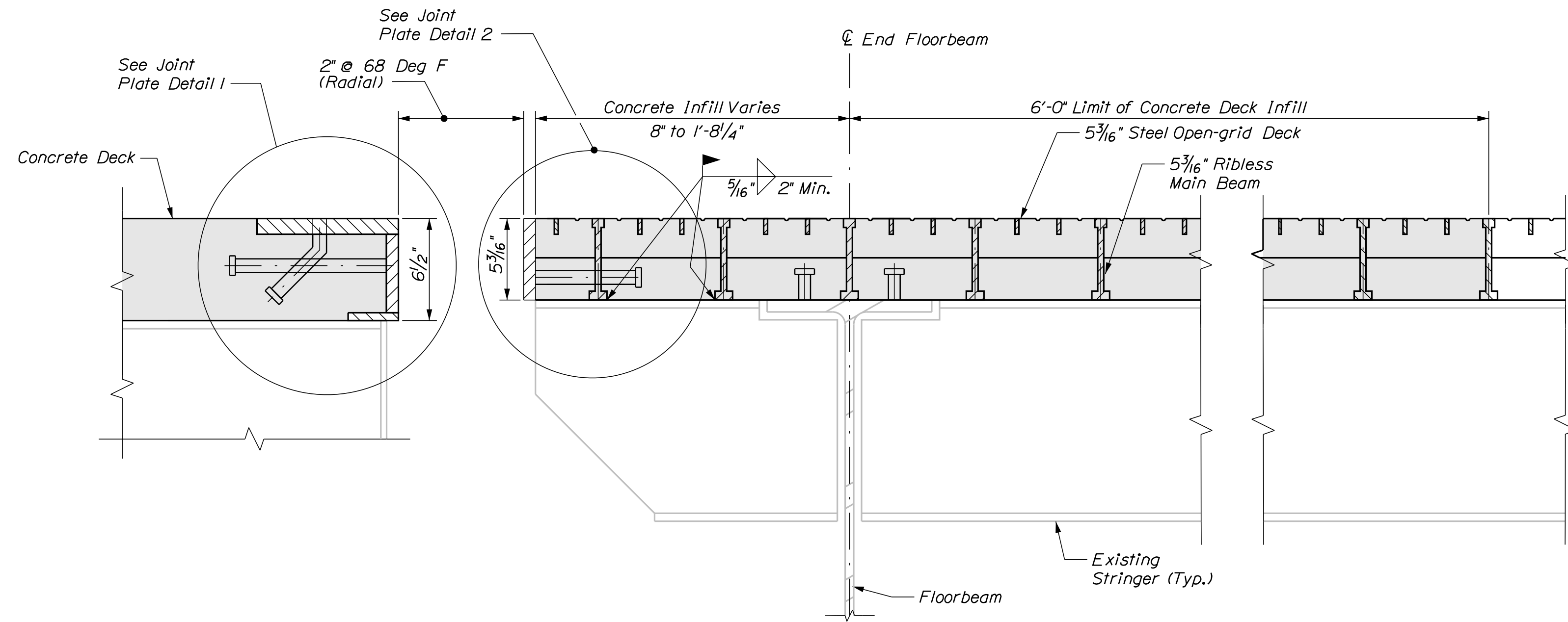
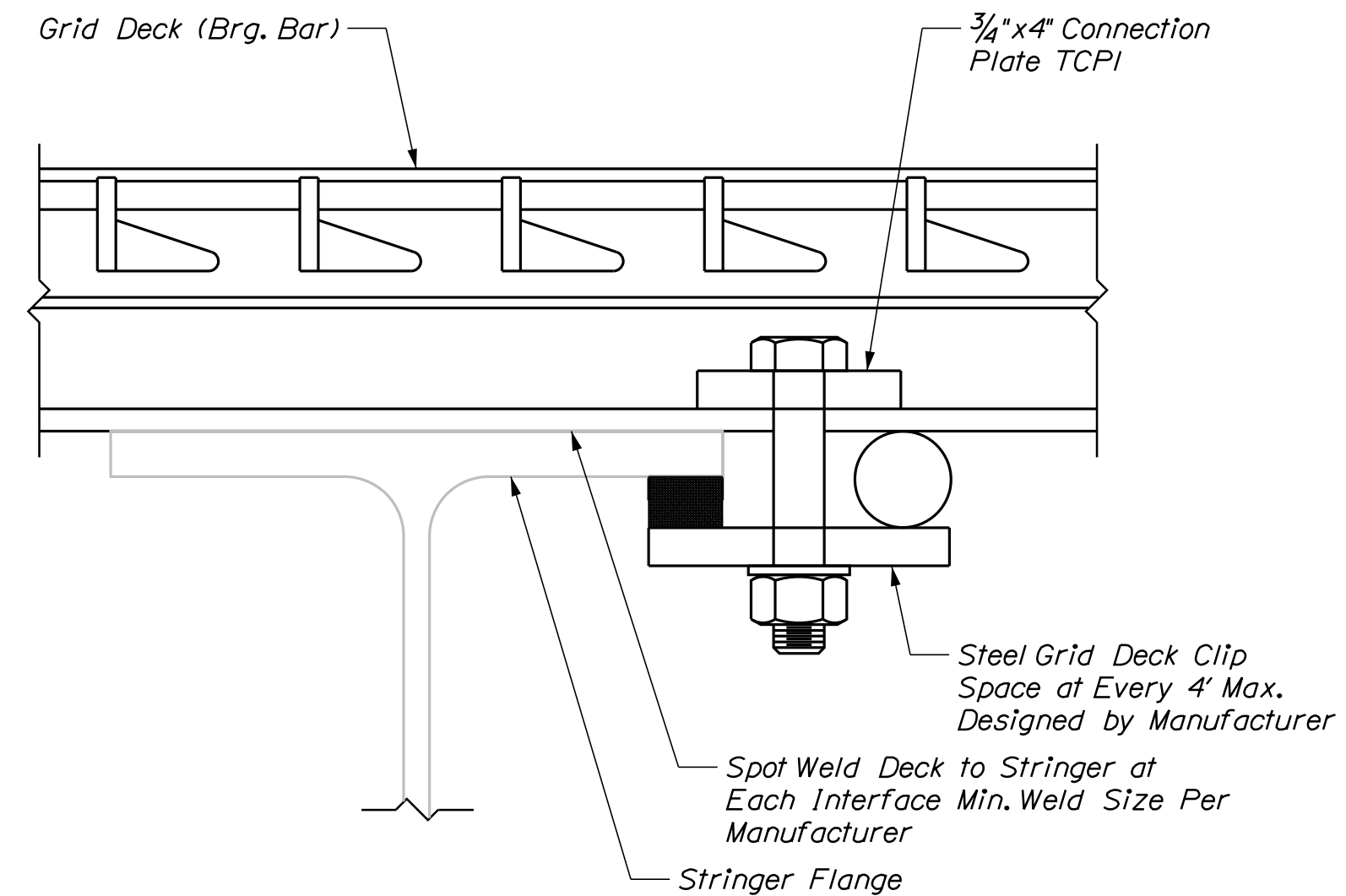


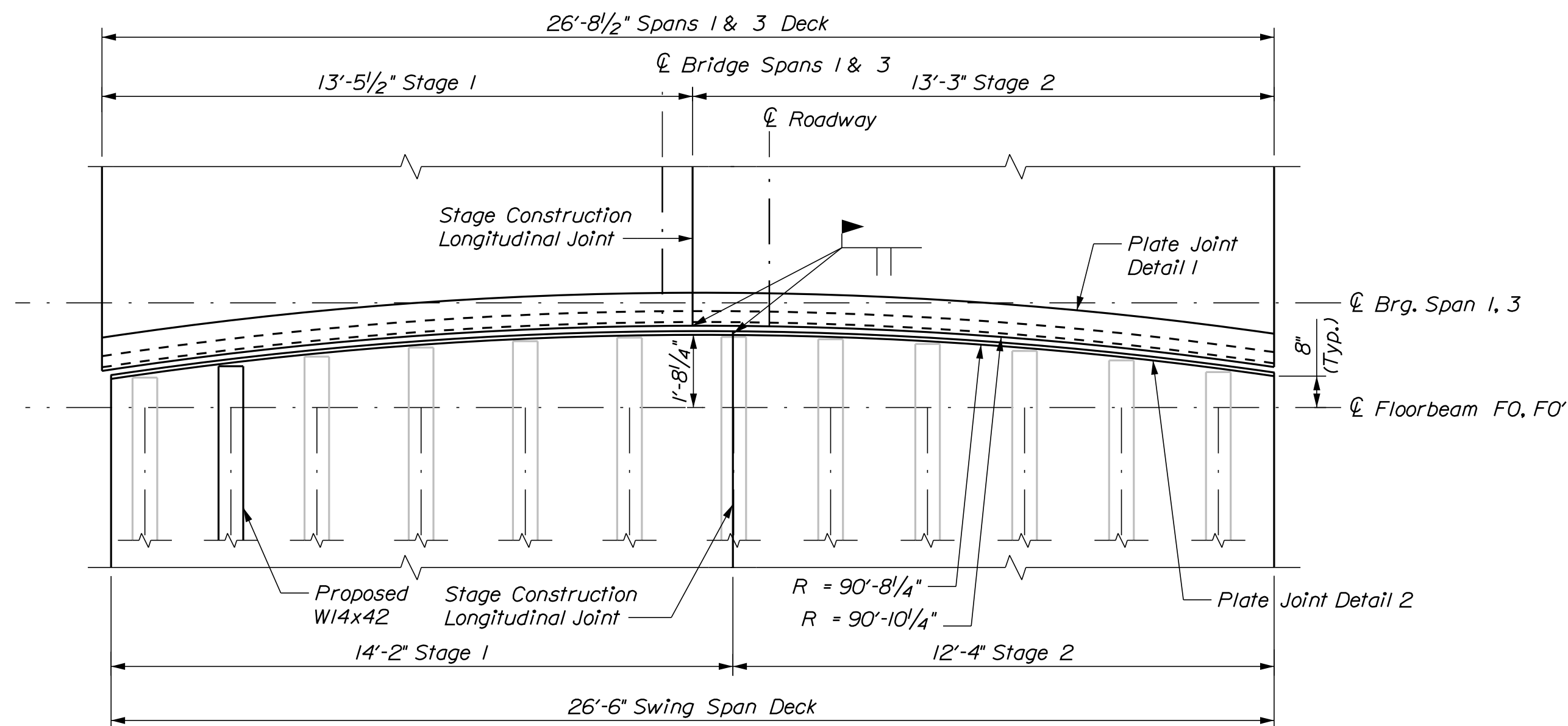
PLATE JOINT DETAIL 2



SECTION B-B



TYPICAL CLIP ASSEMBLY DETAIL



DECK JOINT PLAN

(Pier 1 shown, Pier 3 Similar)

NOTES

1. All new structural steel shall be shop painted with connections masked. Any existing steel within 6" of new steel shall be painted.
2. Concrete material for infilling concrete deck shall meet the requirements of Special Provision 502.
3. Concrete infill shall not project above the top of the steel grid deck.
4. Ceramic ferrules for existing shear connectors shall be completely removed prior to installing new grid deck.
5. Contractor shall field verify joint radius.
6. See Truss Swing Span Plan and Typical Section sheet for locations of Sections A-A and B-B.
7. Procurement, fabrication, and installation of steel plate joints shall be incidental to related deck items.
8. Steel grid deck clip assembly detail shall be designed by the steel grid deck supplier. Shop drawings shall be submitted to the Resident prior to steel grid deck fabrication and installation. The connection of the new steel grid deck to truss floorbeams and stringers shall include both weldments and clips as indicated in the typical clip assembly detail. Design, procurement, and installation of clips shall be incidental to Item 530.02, Prefabricated Deck Panels.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

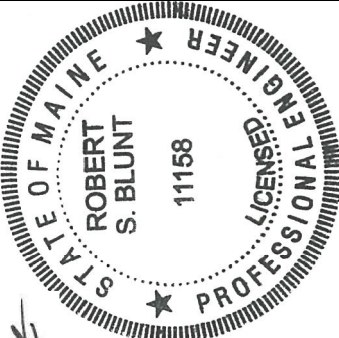
2309401

WIN

BRIDGE NO. 2789

21751.01

BRIDGE PLANS



SIGNATURE
1158
P.E. NUMBER
August 19, 2022
DATE

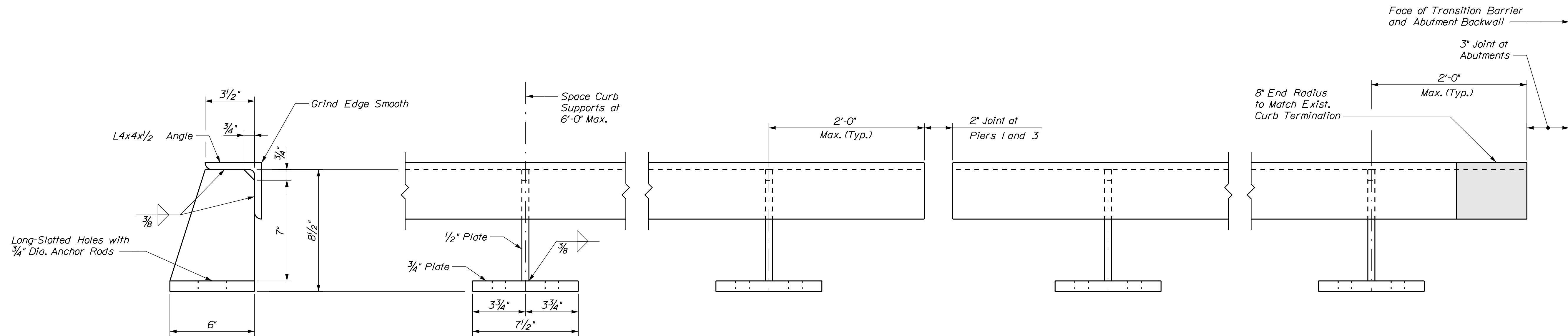
PROJ. MANAGER	J. STETSON, PE	BY	DATE
DESIGN-Detailed	BGP	UPD. & WISE	8/19/22
CHECKED-Reviewed	CTA	RSBLUNT	8/19/22
DESIGN2-Detailed			
DESIGN3-Detailed			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

SOUTHPORT BRIDGE ROUTE 27
OVER TOWNSEND GUT
SOUTHPORT & BOOTHBAY HARBOR ME
LINCOLN COUNTY
STEEL GRID DECK AND
JOINT DETAILS

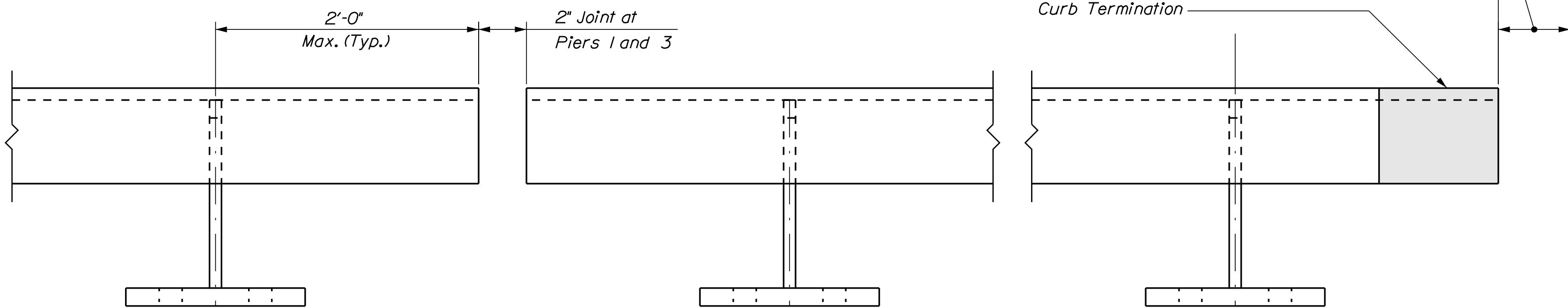
SHEET NUMBER

34

OF 48

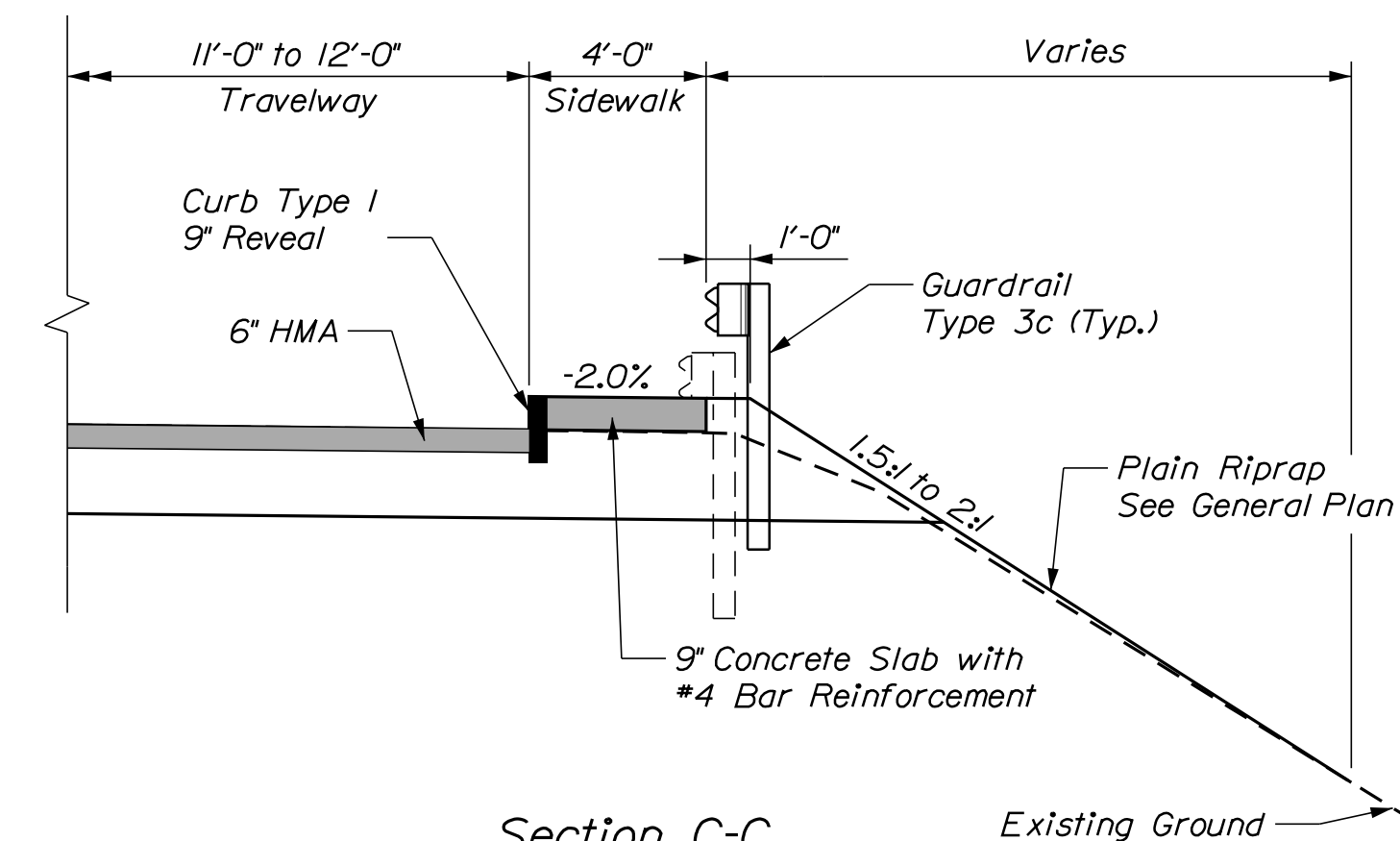


END VIEW

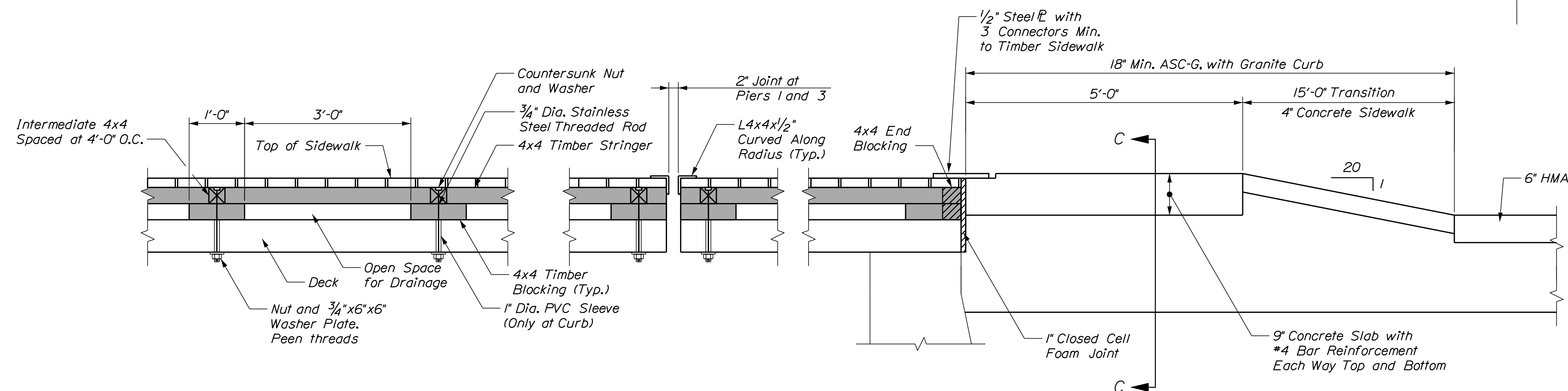


SECTION

CURB DETAIL



Section C-C
Not to Scale



SIDEWALK ELEVATION DETAIL

NOTES

- 1. See Truss Swing Span Plan and Typical Section sheet for locations of Sections A-A and B-B.*
- 2. The steel curb and all its connections shall be paid for under items 504.70, Structural Steel Fabricated and Delivered and 504.71, Structural Steel Erection.*
- 3. Sidewalk stainless steel threaded rods, PVC Sleeves, and all sidewalk connectors shall be incidental to related items.*
- 4. The 9" Concrete Slab at sidewalk approaches shall be paid for under Item 502.49, Structural Concrete Curbs and Sidewalks. All reinforcement shall be incidental to this item.*



1. Piece designations indicated on this sheet are in accordance with the existing 1939 plans.
2. The cross frame locations shall be field verified by the Resident and Contractor. The total number of strut replacements shall not exceed the number indicated on the plans.
3. If approved by the Resident, the Contractor may elect to not replace a strut indicated on the plans if the total section loss is less than 40%.
4. Payment for removal of top lateral bracing shall be incidental to concrete deck items.
5. Payment for the removal of all existing steel required for new railing installation and cross brace strut replacement as indicated on this sheet, including all existing barrier gate steel, shall be incidental to Item 504.70, Structural Steel Fabricated and Delivered, and Item 504.71, Structural Steel Erection.
6. Procurement and installation of new steel for cross brace strut replacements shall be paid for under Item 504.70, Structural Steel Fabricated and Delivered, and Item 504.71, Structural Steel Erection. Removal and preparation of existing steel is incidental to these items.

SOUTHPORT BRIDGE ROUTE 27
OVER TOWNSEND GUT
SOUTHPORT & BOOTHBAY HARBOR ME LINCOLN COUNTY
BRIDGE GATE REMOVAL AND
CROSS FRAME REPAIR DETAILS

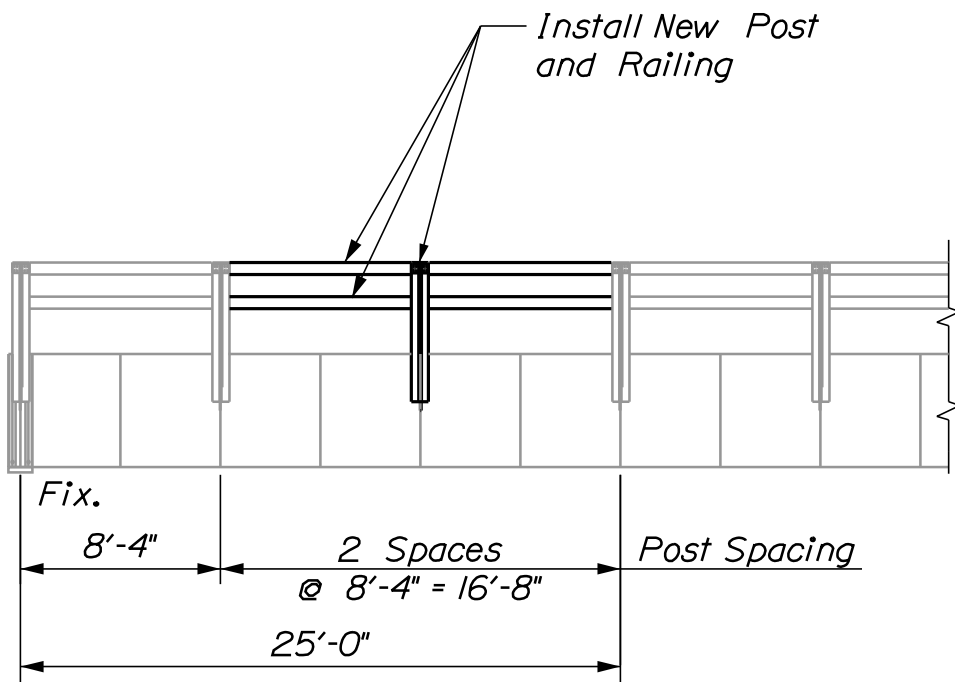
DF 48

Date: 8/19/2022

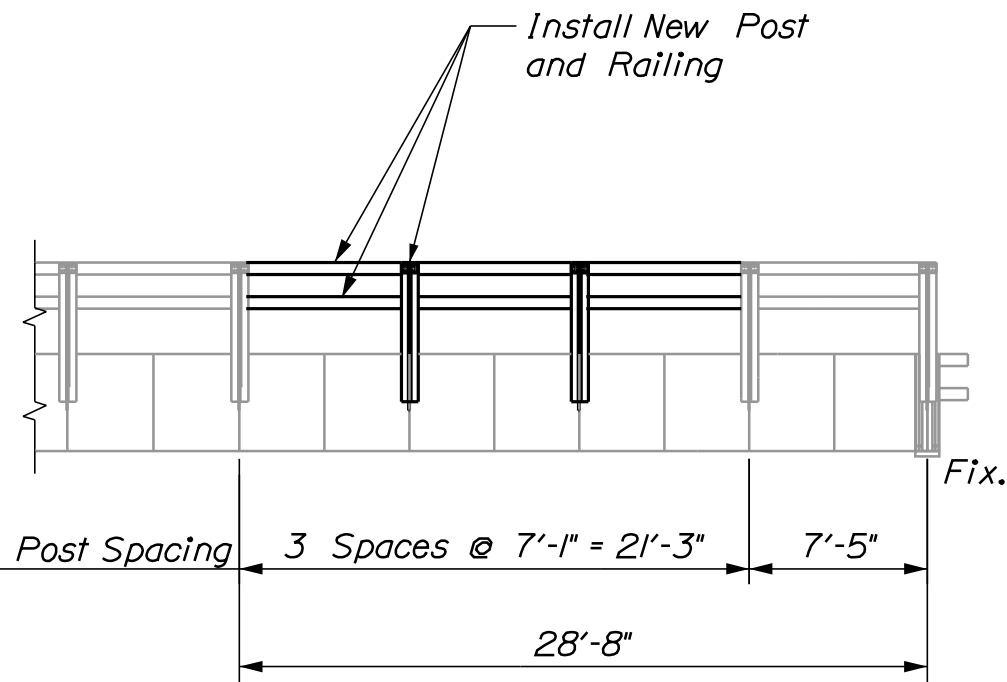
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Division: BRIDGE

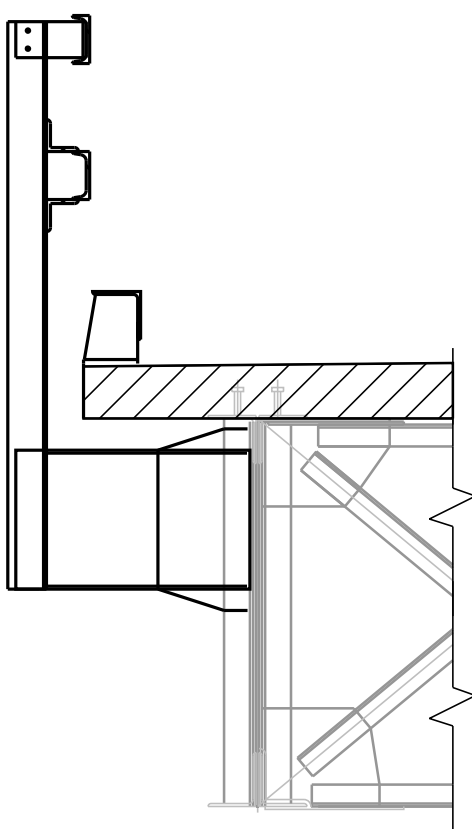
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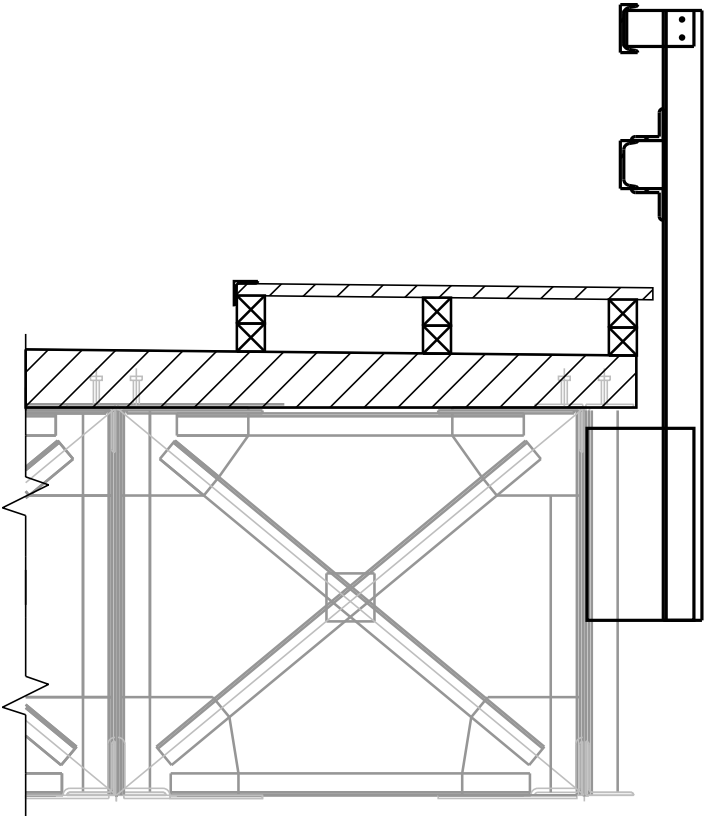
EAST ELEVATION
SPAN 1



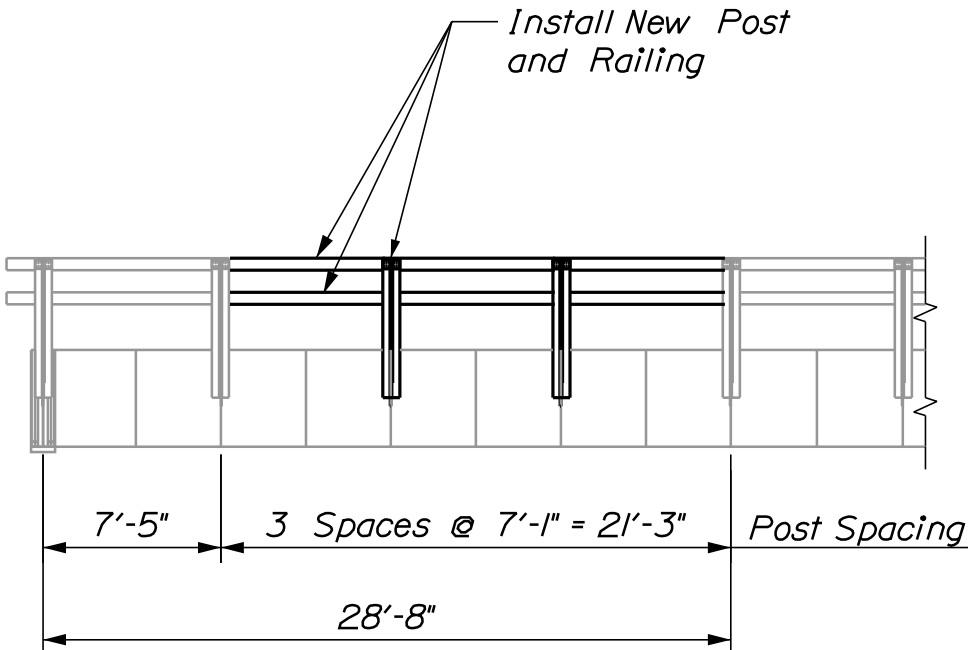
EAST ELEVATION
SPAN 3



ROADWAY CURB BRACKET



SIDEWALK GIRDER BRACKET

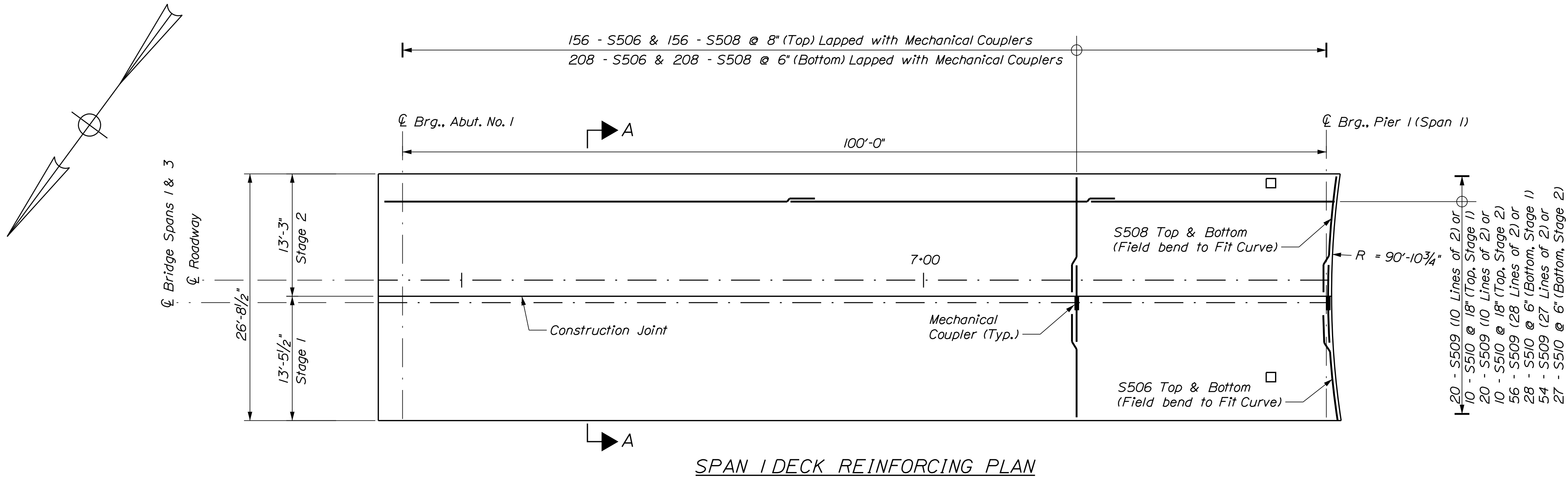


WEST ELEVATION
SPAN 3

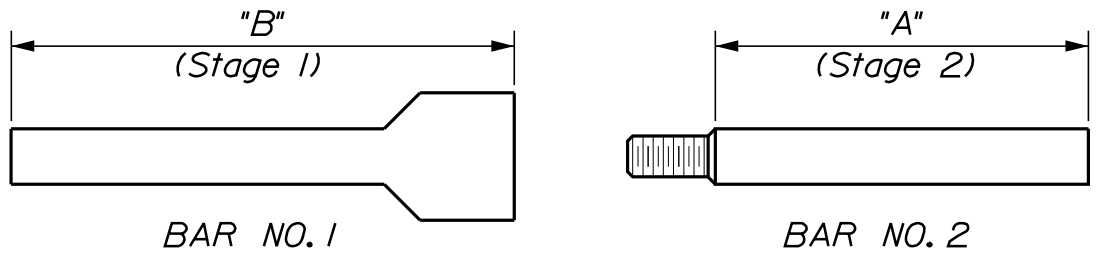
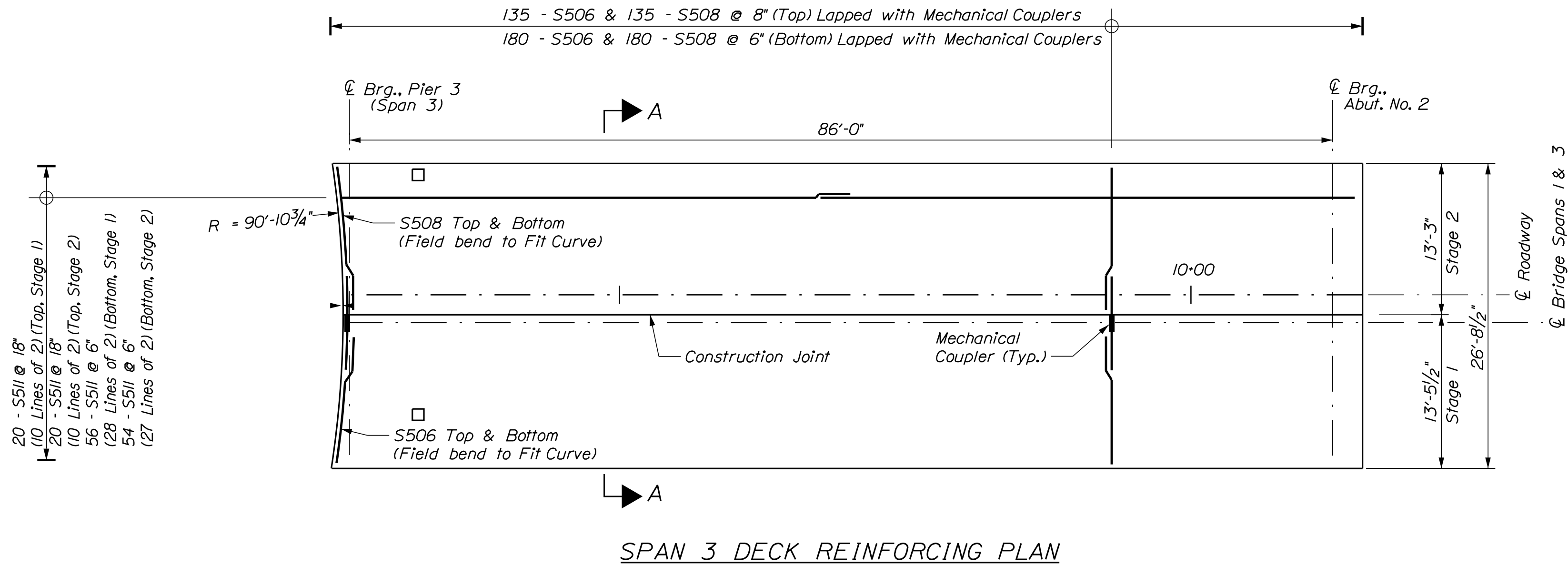
NOTES:

1. Proposed railing and railing support brackets shall match existing railing and railing support brackets. For details, see the 1939 bridge drawings. Contractor shall submit shop drawings to the Department for approval.
2. Procurement and installation of all new railing steel and related connections shall be paid for under Item 504.70, Structural Steel Fabricated and Delivered, and Item 504.71, Structural Steel Erection.

STATE OF MAINE DEPARTMENT OF TRANSPORTATION 2309401 WIN 21751.01 BRIDGE NO. 2789 BRIDGE PLANS	STATE OF MAINE ROBERT S. BLUNT 11158 PROFESSIONAL ENGINEER Signature 11158 P.E. NUMBER August 19, 2022 DATE	DATE 8/19/22	BY UPD RSBLUNT	PROJ. MANAGER J. STETSON, PE	DESIGN-DETAILED BOGP	CHECKED-REVIEWED CTA	DESIGN2-DETAILED2	DESIGN3-DETAILED3	REVISIONS 1	REVISIONS 2	REVISIONS 3	REVISIONS 4	FIELD CHANGES
		SOUTHPORT BRIDGE ROUTE 27 OVER TOWNSEND GUT SOUTHPORT & BOOTHBAY HARBOR ME LINCOLN COUNTY	BRIDGE RAILING REPLACEMENT DETAILS										
		SHEET NUMBER 37 OF 48											

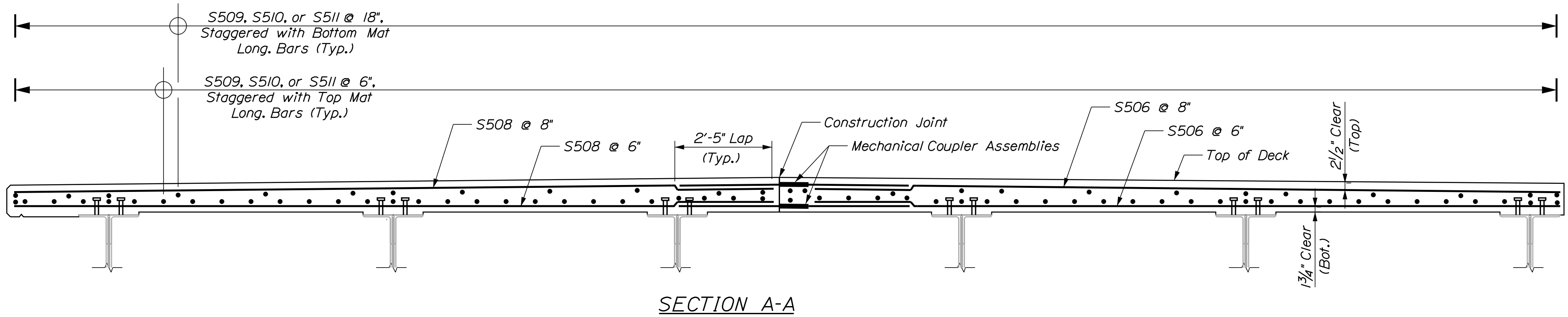


STRAIGHT BARS			
MARK	QTY.	LENGTH	LOCATION
S506	679	13'-1"	Deck Slab
S508	679	12'-11"	
S509	150	40'-0"	
S510	75	27'-11"	
S511	150	46'-0"	



Location	Bar Size	Dim "A"	Dim "B"	Quantity (Ea.)
Deck Approach Spans 1 & 3	#5	2'-9"	2'-9"	679

MECHANICAL CONNECTOR
ASSEMBLY DETAIL



NOTES:

1. Mechanical Coupler Assembly shall be paid for under Item 503.17, Mechanical/Welded Splice.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2309401

BRIDGE NO. 2789WIN21751.01BRIDGE PLANS

Signature: Robert S. Blunt

Signature: 11158

P.E. NUMBER: August 19, 2022

DATE: 8/19/22

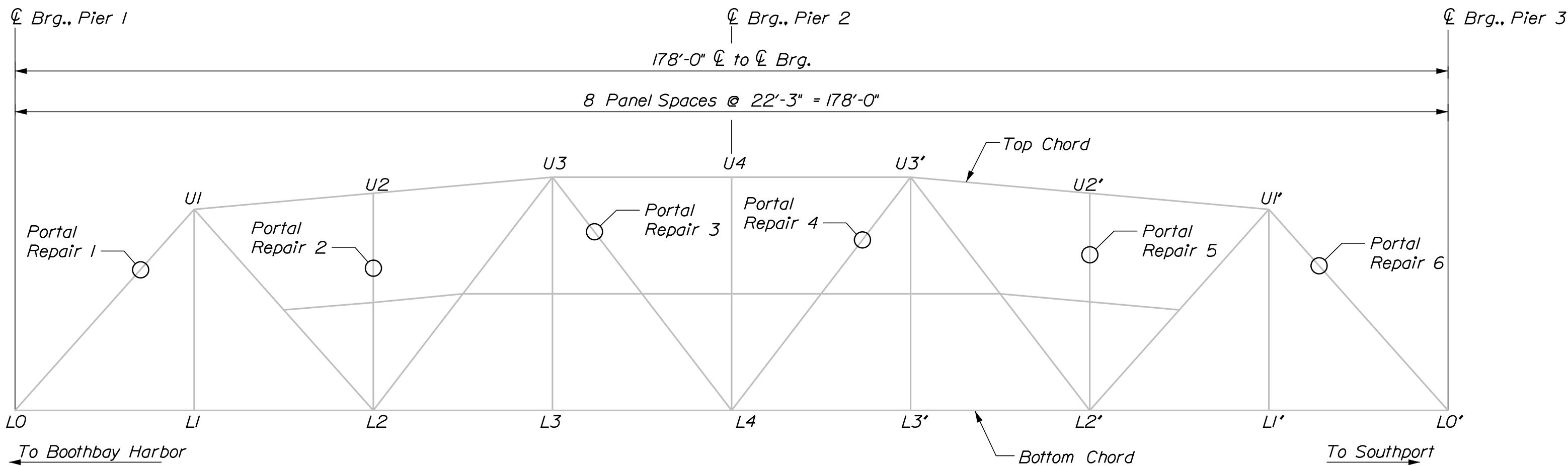
SOUTHPORT BRIDGE ROUTE 27
OVER TOWNSEND GUT
SOUTHPORT & BOOTHBAY HARBOR ME LINCOLN COUNTY

SPANS 1 AND 3 DECK
REINFORCING PLANS AND SECTION

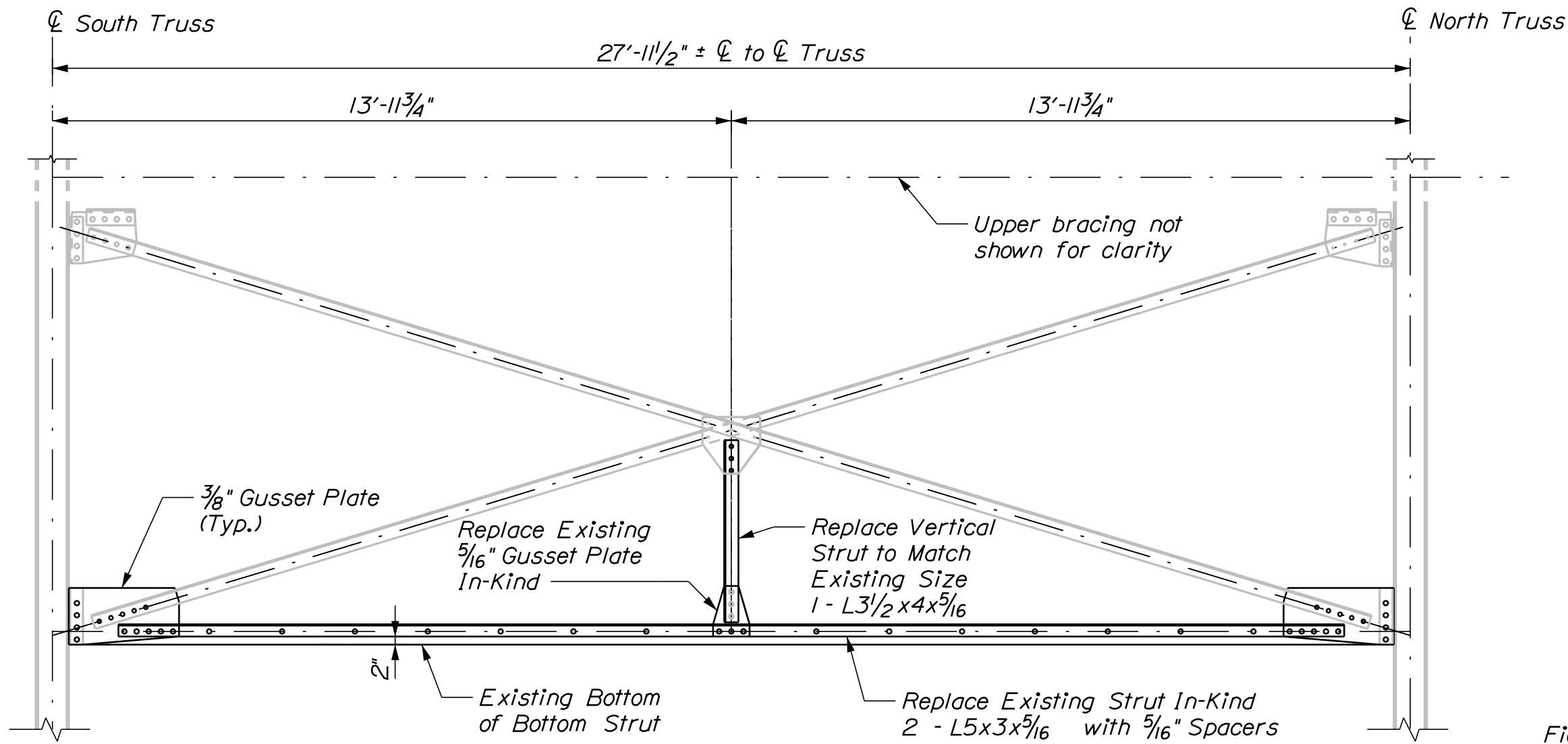
SHEET NUMBER

38

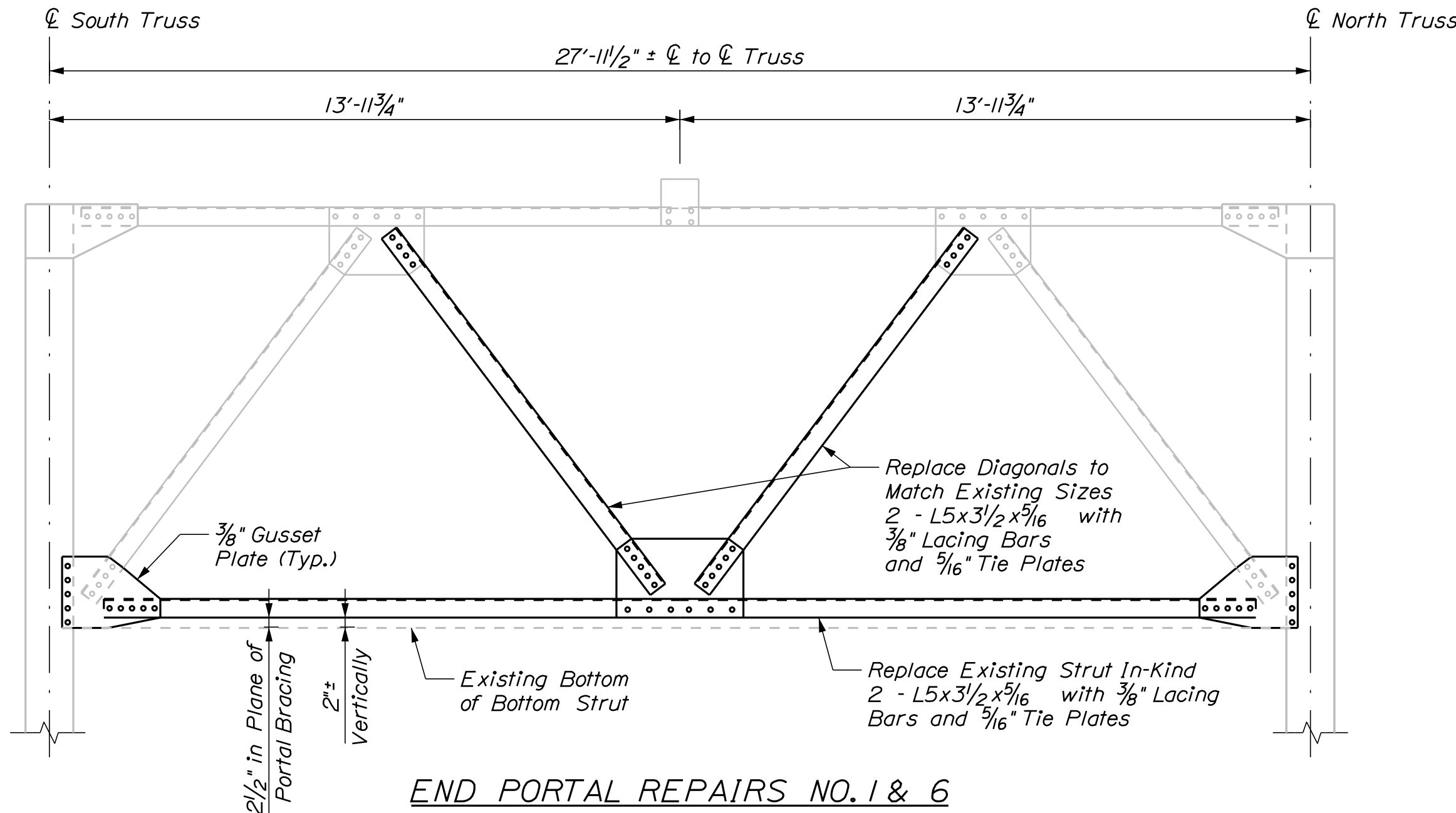
OF 48



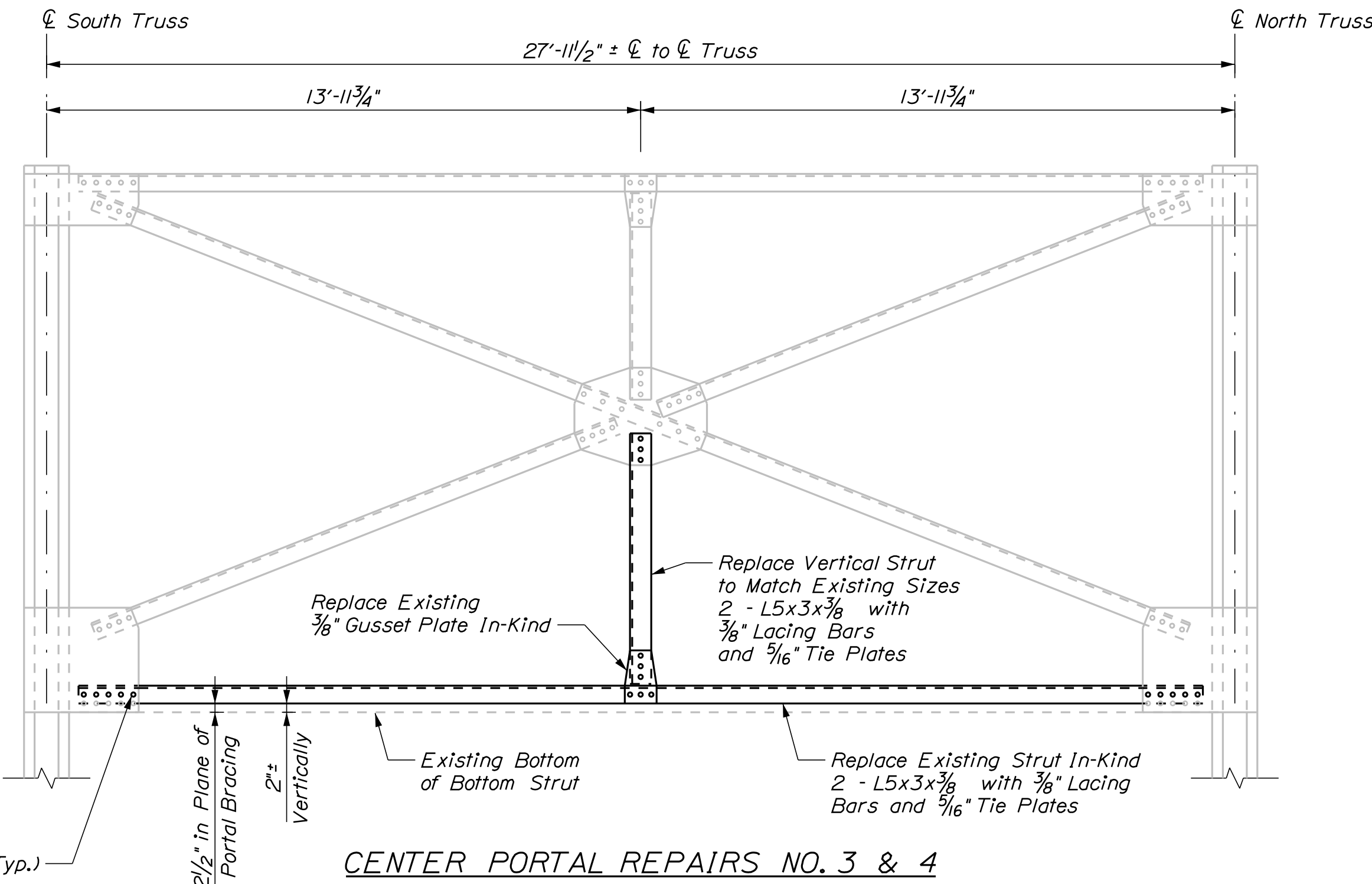
ELEVATION



INTERIOR PORTAL BRACE REPAIRS NO. 2 AND 5



END PORTAL REPAIRS NO. 1 & 6



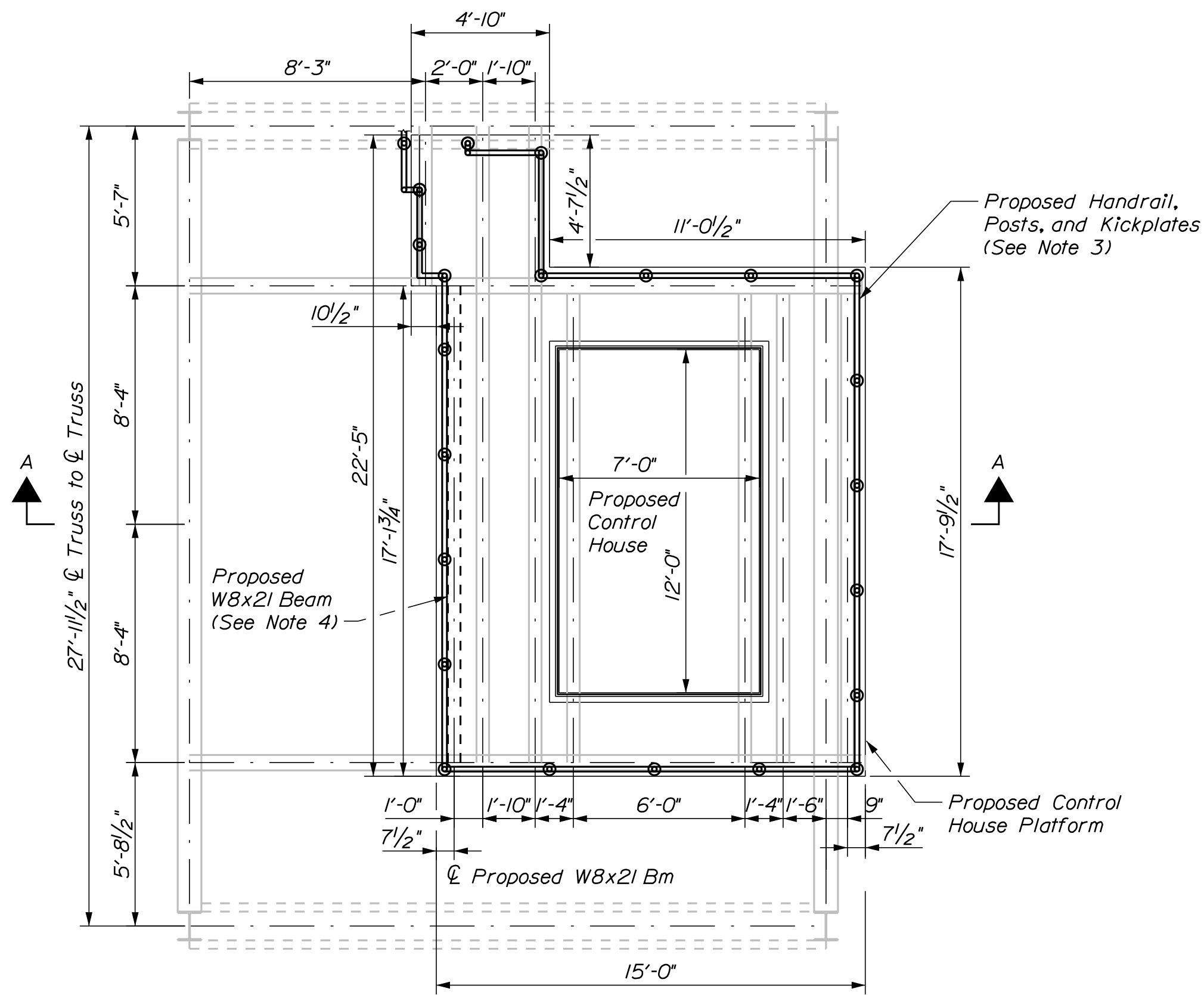
CENTER PORTAL REPAIRS NO. 3 & 4

Field Drill New Connection Standard Holes for 7/8" Bolts to Match Existing Spacing (Typ.)

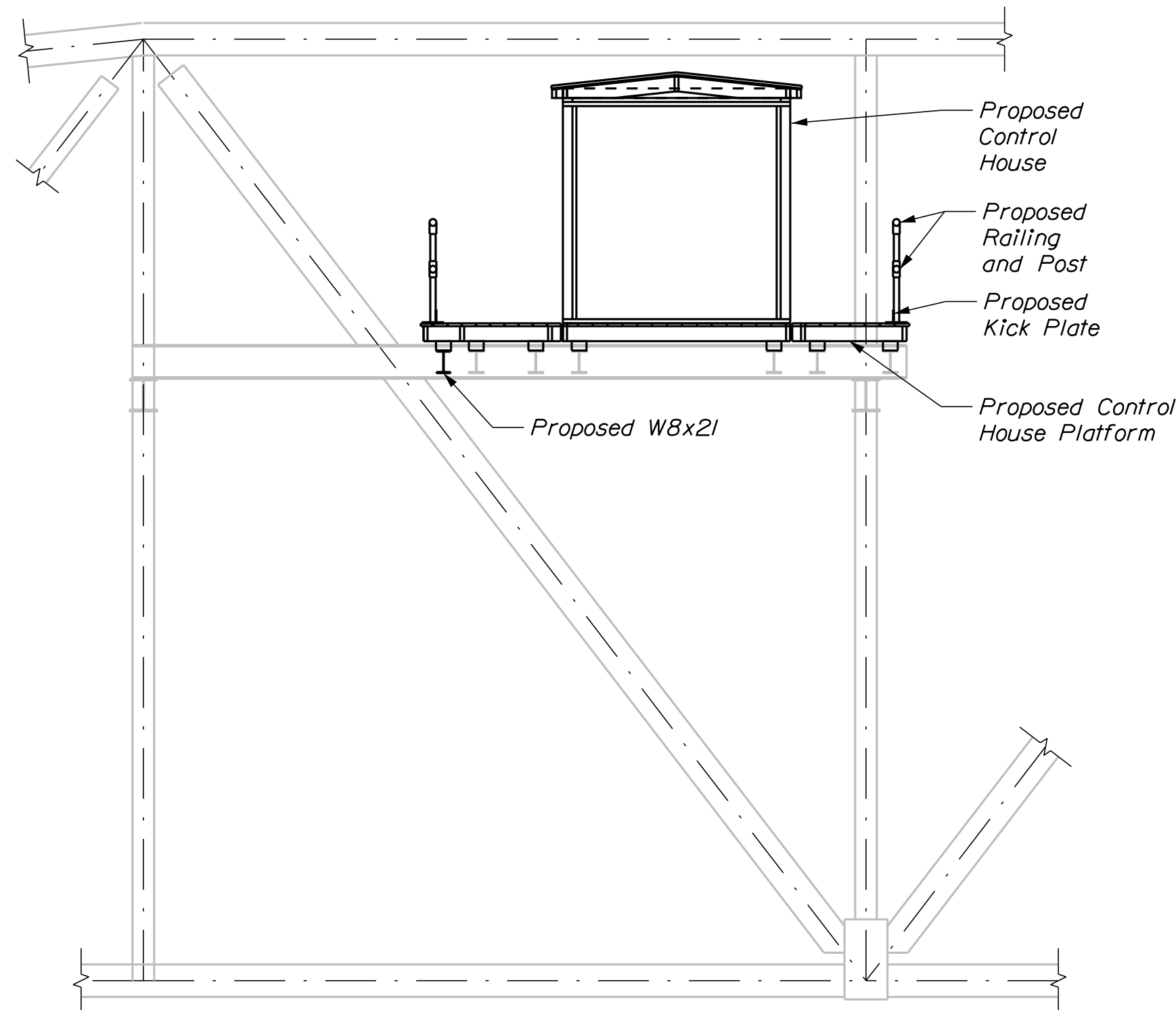
NOTES:

1. The Contractor shall field verify all dimensions and member plate sizes.
2. The Contractor shall submit shop drawings of all portal bracing repairs to the Engineer of Record for approval prior to commencing with any repair work. All members and connection plates shall be replaced in-kind except as indicated to accommodate the 2" vertical geometry adjustment.
3. The Contractor shall provide temporary bracing supports at strut replacement locations if winds exceed 35 mph. Plans for temporary bracing supports shall be submitted to the Resident for review and approval at least 14 days prior to commencing portal brace repair operations. Payment for temporary bracing supports shall be incidental to Items 504.70, Structural Steel Fabricated and Delivered and 504.71, Structural Steel Erection.
4. Removal of all existing steel required for the installation of the portal bracing member replacements as indicated on this sheet shall be incidental to Item 504.70, Structural Steel Fabricated and Delivered, and Item 504.71, Structural Steel Erection.
5. Procurement and installation of all new portal bracing members and connections shall be paid for under Item 504.70, Structural Steel Fabricated and Delivered, and Item 504.71, Structural Steel Erection.

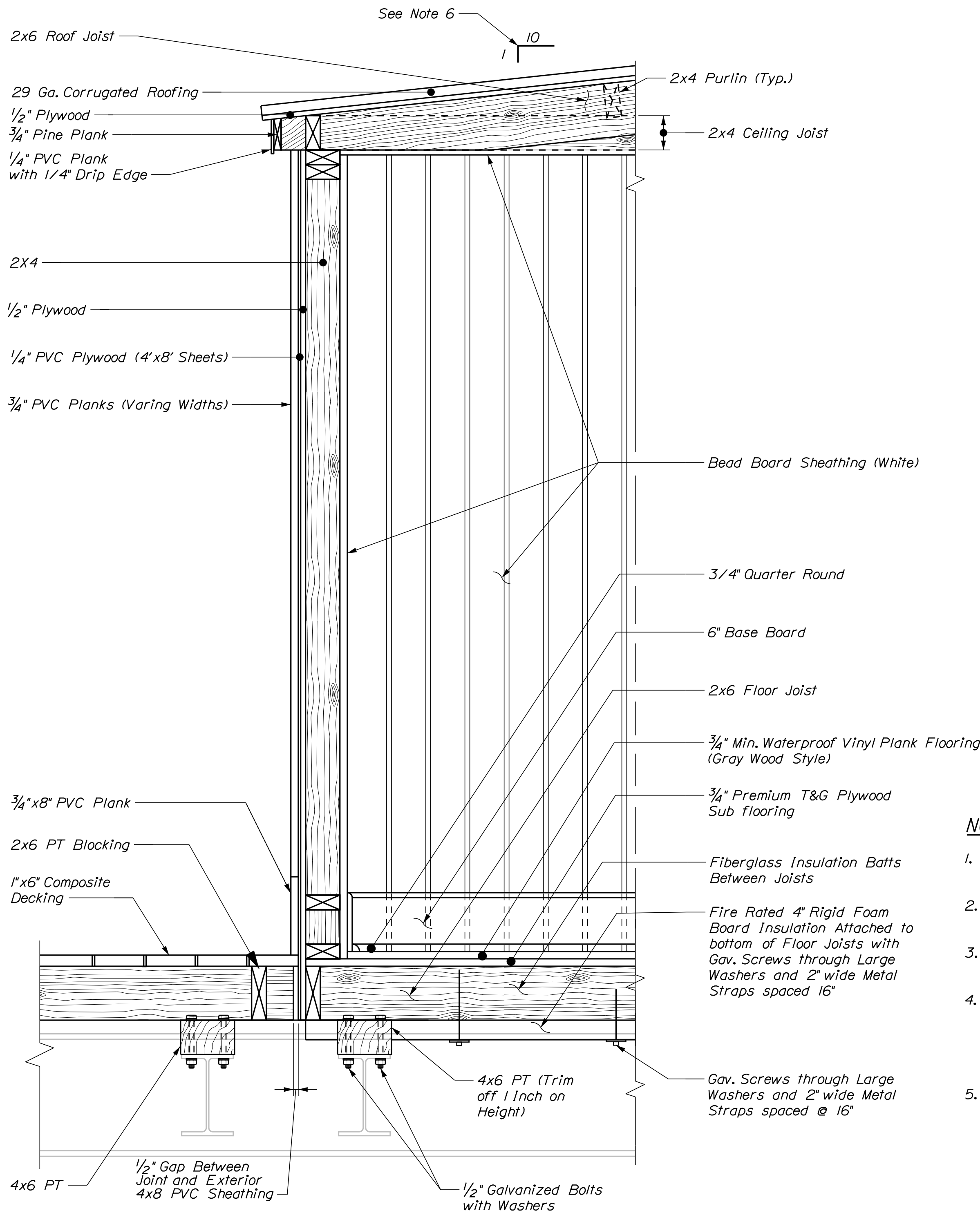
STATE OF MAINE DEPARTMENT OF TRANSPORTATION		2309401		BRIDGE NO. 2789		WIN		21751.01		BRIDGE PLANS	
SOUTHPORT BRIDGE ROUTE 27 OVER TOWNSEND GUT		LINCOLN COUNTY		SOUTHPORT & BOOTHBAY HARBOR ME		PORTAL BRACING REPAIR DETAILS		SHEET NUMBER		39	
PROJ. MANAGER J. STETSON, PE		BY		DATE		SIGNATURE		P.E. NUMBER		DATE	
DESIGN-DETAILED BGP		UPD. & WISE		8/19/22		1158		1158		August 19, 2022	
CHECKED-REVIEWED CTA		RESIDENT									
DESIGN-DETAILED2											
DESIGN-DETAILED3											
REVISIONS 1											
REVISIONS 2											
REVISIONS 3											
REVISIONS 4											
FIELD CHANGES											



CONTROL HOUSE PLATFORM
PLAN VIEW



SECTION A-A

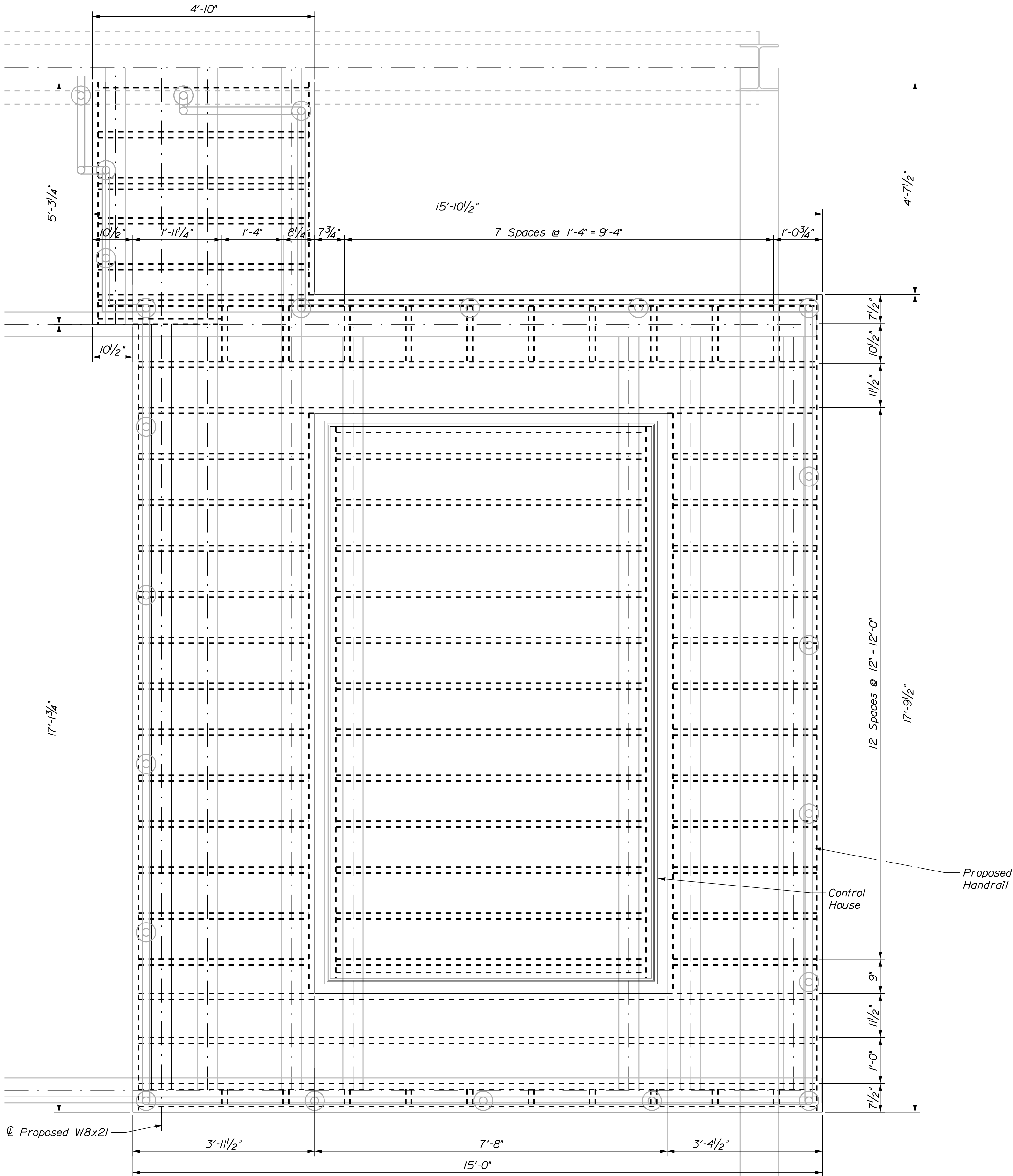
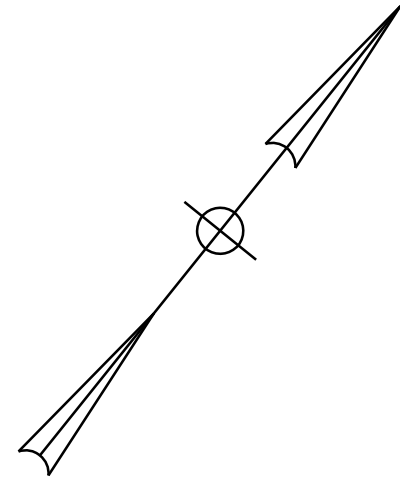


TYPICAL WALL SECTION
N.T.S.

NOTES:

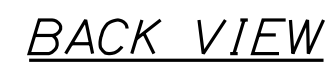
1. All dimensions are approximate. Contractor shall field verify all dimensions before proceeding with work.
2. Match connections to adjust control house platform support members.
3. Proposed railing shall be galvanized and designed by the supplier in accordance with OSHA standards.
4. Connections for proposed W8x21 beam shall match existing adjacent connections. The Contractor shall field verify all dimensions and shall submit steel fabrication shop drawings to the Department for review and approval prior to commencing work.
5. If the Contractor elects to prefabricate the Control House, it is permissible for the Contractor to remove and reinstall the truss top lateral bracing that is immediately above the Control House. If the top lateral bracing is removed and reinstalled, the Contractor shall submit a plan for temporary lateral bracing support to the Resident for review and approval at least 14 days prior to the removal of truss lateral bracing. The temporary lateral bracing support shall be installed if wind speeds exceed 35 mph. All labor, equipment, and materials for this work shall be incidental to Items 202.08, Removing Building No.1 and 815.00, Building: Control House. All labor, equipment, and materials for this work shall be incidental to Items 202.08, Removing Building No.1 and 815.00, Building: Control House.
6. The Contractor shall field verify that there will be adequate vertical clearance between the control house roof and the bottom of the truss lateral bracing immediately above the roof.

STATE OF MAINE DEPARTMENT OF TRANSPORTATION		STP-2175(100)		BRIDGE NO. 2789 WIN 21751.00		BRIDGE PLANS	
SOUTHPORT BRIDGE ROUTE 27 OVER TOWNSEND GUT		SOUTHPORT & BOOTHBAY HARBOR ME LINCOLN COUNTY		CONTROL HOUSE PLAN AND SECTIONS		SHEET NUMBER 40 OF 48	
PROJ. MANAGER J. STETSON, PE		DESIGN-DETAILED BGP		CHECKED-REVIEWED GME/CTA		DESIGN-DETAILED GME/CTA	
BY UPD		DATE 8/19/22		SIGNATURE 1158		P.E. NUMBER August 19, 2022	
DATE 8/19/22		BY TSP/ASBLUNT		DATE August 19, 2022		DATE	
REVISIONS 1		REVISIONS 2		REVISIONS 3		REVISIONS 4	
FIELD CHANGES		FIELD CHANGES		FIELD CHANGES		FIELD CHANGES	



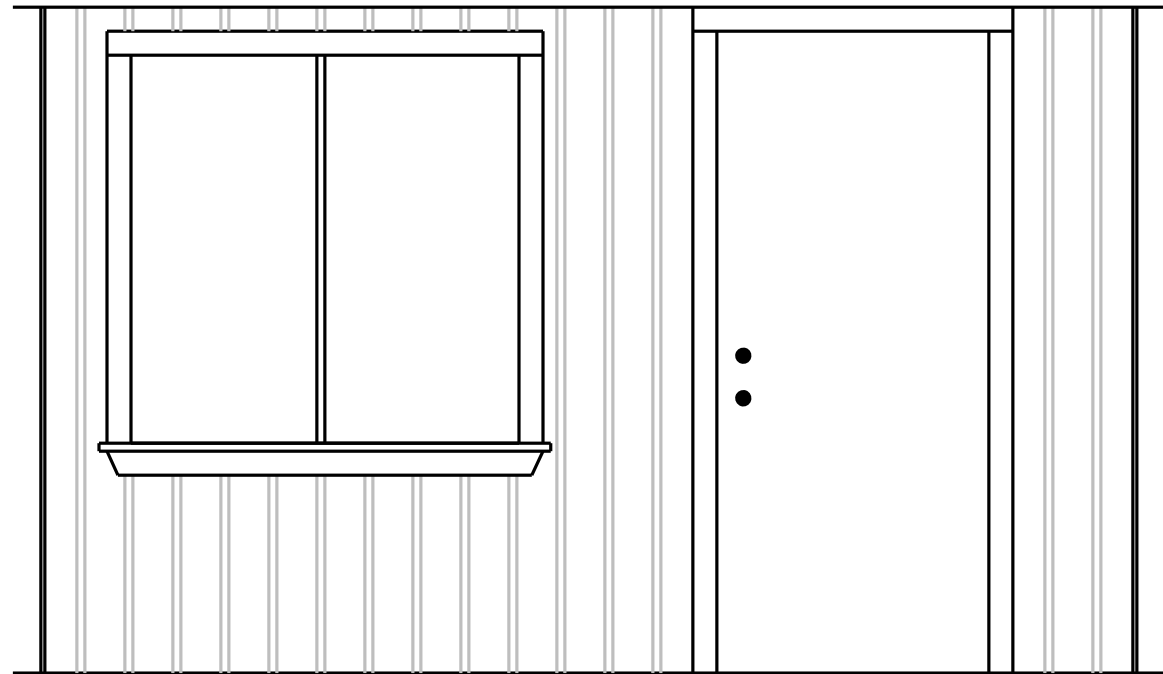
FRAMING PLAN

SOUTHPORT BRIDGE ROUTE 27 OVER TOWNSEND GUT SOUTHPORT & BOOTHBAY HARBOR ME LINCOLN COUNTY	STATE OF MAINE DEPARTMENT OF TRANSPORTATION		
	STP-2175(100)		
	BRIDGE NO. 2789 WIN 21751.00 BRIDGE PLANS		
CONTROL HOUSE DECK FRAMING PLAN		PROJ. MANAGER J. STETSON, PE	DATE 8/19/22
		DESIGN-DETAILED BGP	BY JPD
		CHECKED-REVIEWED GME/CTA	1387/ASBLUNT
		DESIGN2-DETAILED2	
		DESIGN3-DETAILED3	
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			
SHEET NUMBER	41		
OF 48			

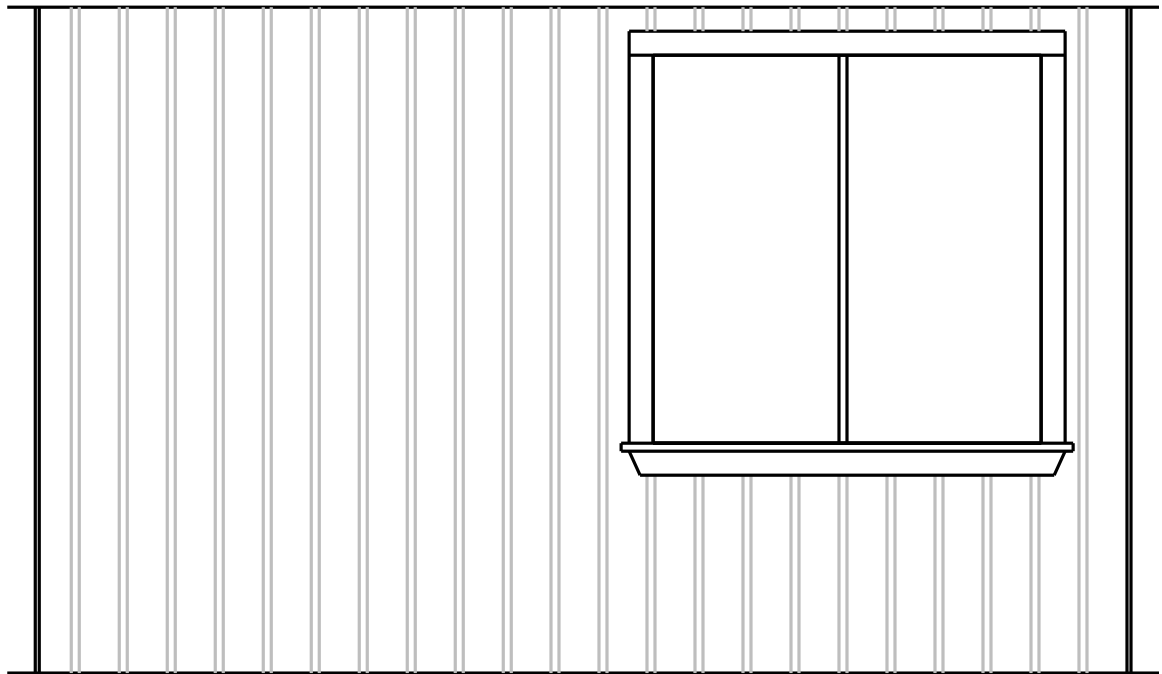


DOOR NO.	LOCATION	FRAME & R.O.	UNIT DIMENSION	MODEL NO.
DI	CONTROL RM.	VINYL 4'-0" x 4'-0"	Steel, 2'-8" x 6'-8"	28355

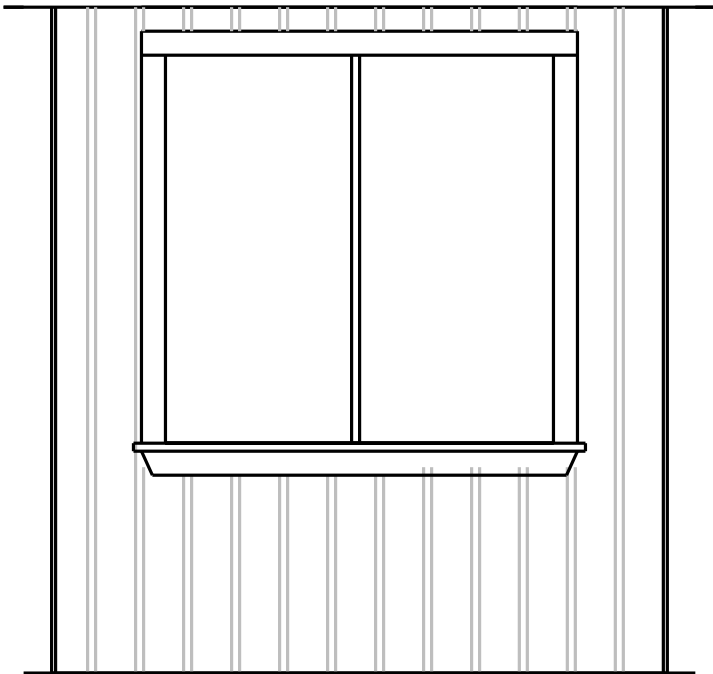
SHEET NUMBER
42
OF 48



FRONT VIEW
INTERIOR

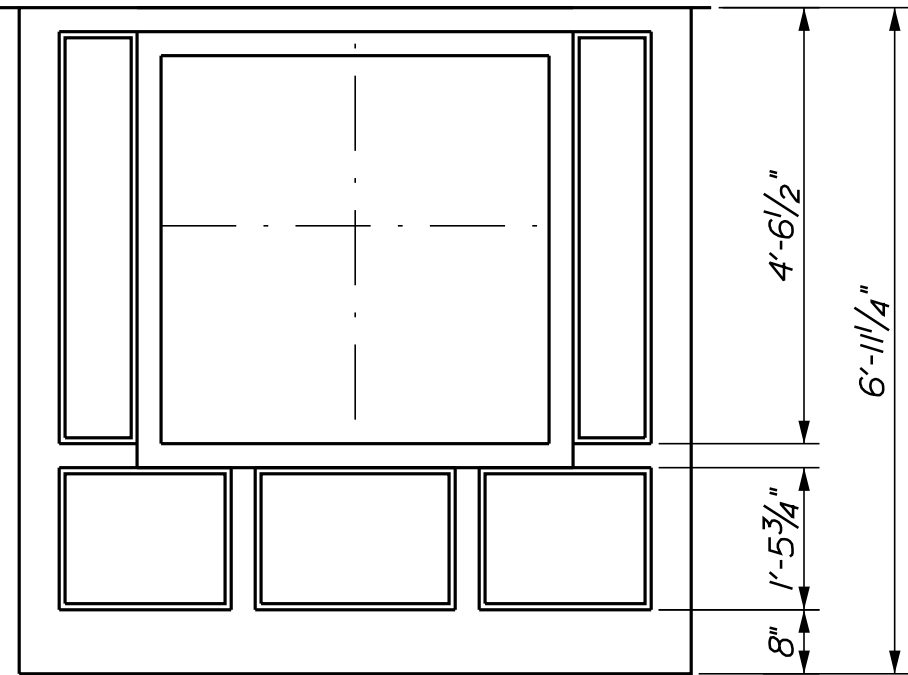


BACK VIEW
INTERIOR



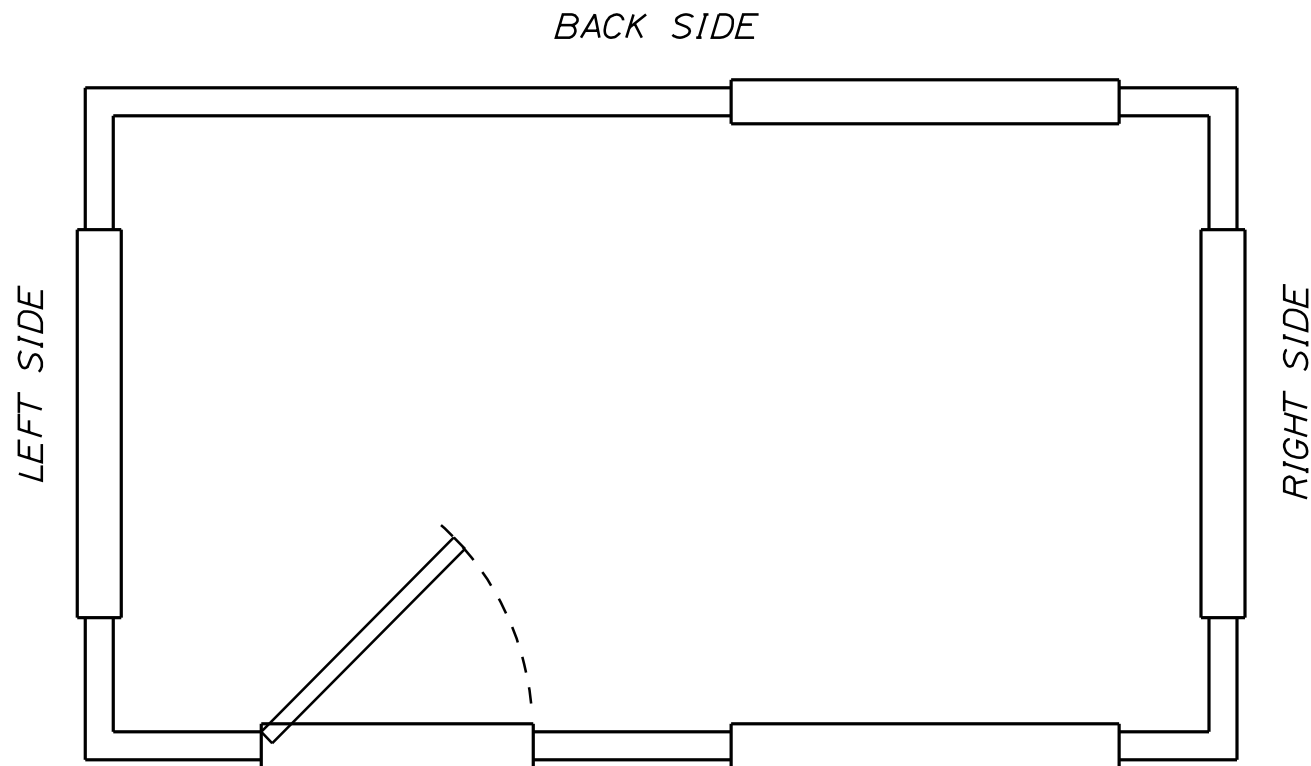
SIDE VIEW
INTERIOR

(Left or Right Side Shown)



SIDE VIEW
EXTERIOR

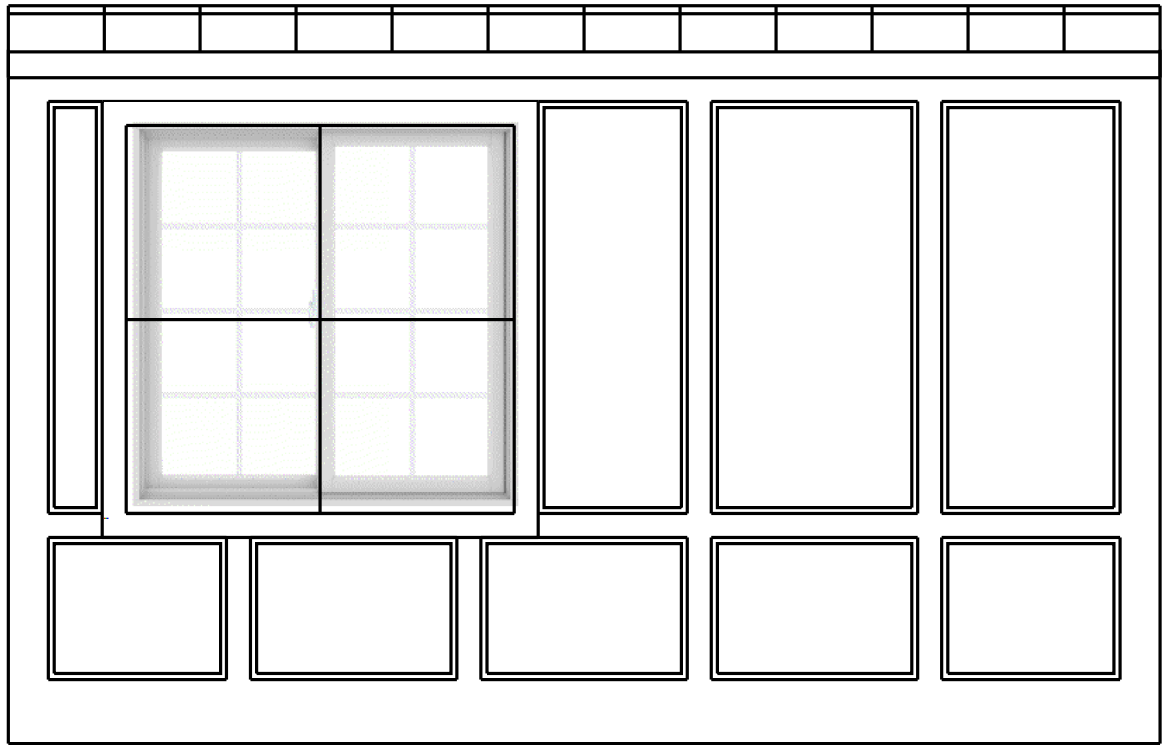
(Left or Right Side Shown)



BACK SIDE

FRONT SIDE

CONTROL HOUSE
PLAN VIEW



BACK VIEW
EXTERIOR



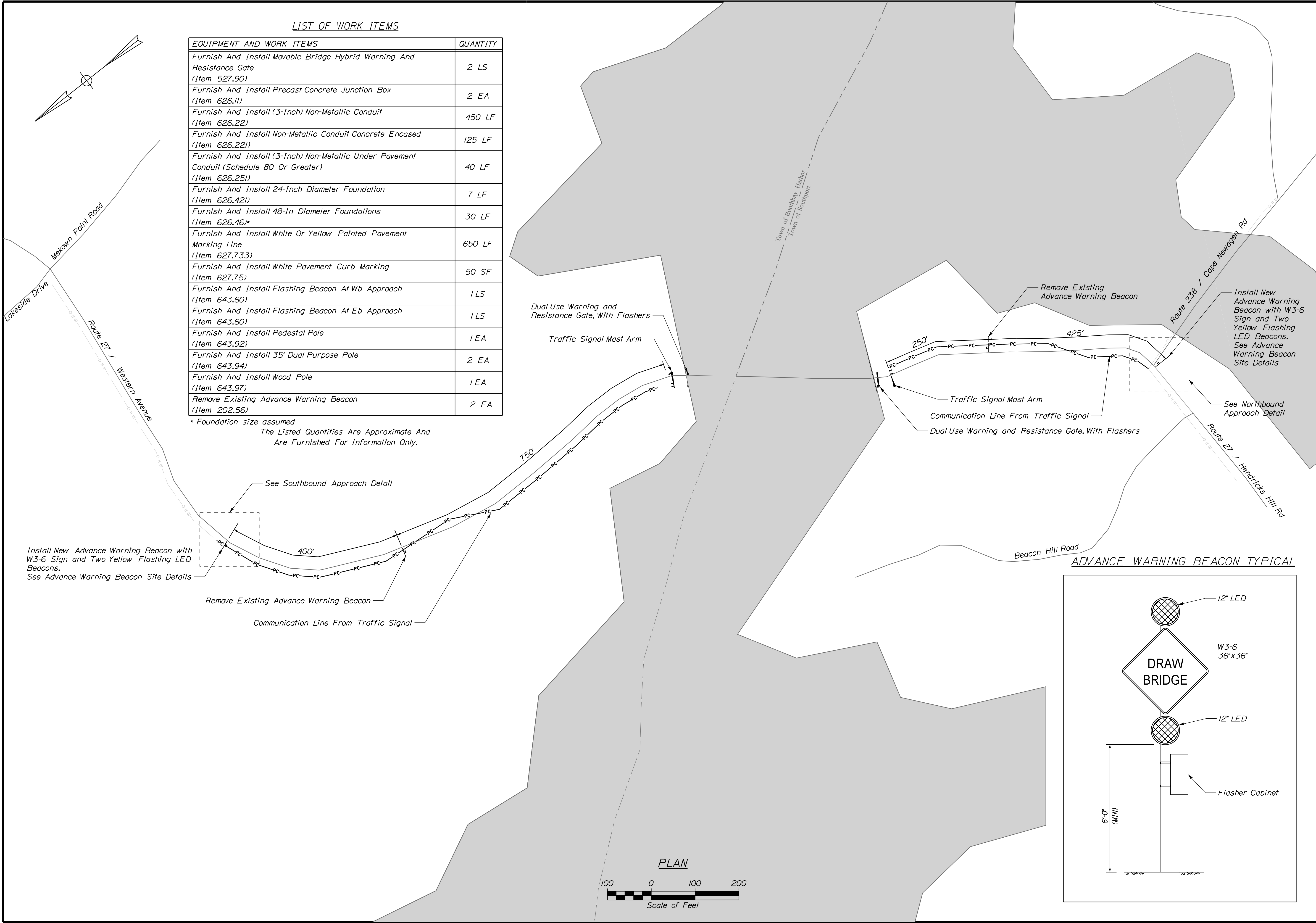
FRONT VIEW
EXTERIOR

GENERAL NOTES

1. Interior Wall Planks shall be Painted Egg Shell White and Trim Boards Painted with Semi Gloss White.
2. All PVC Planks shall be screwed with Composite Deck Screws with White Heads.
3. 1/2" PVC Quarter Round shall be Glued with PVC Bonding adhesive
4. Interior Boards shall be installed with Composite Deck Screws with White heads.

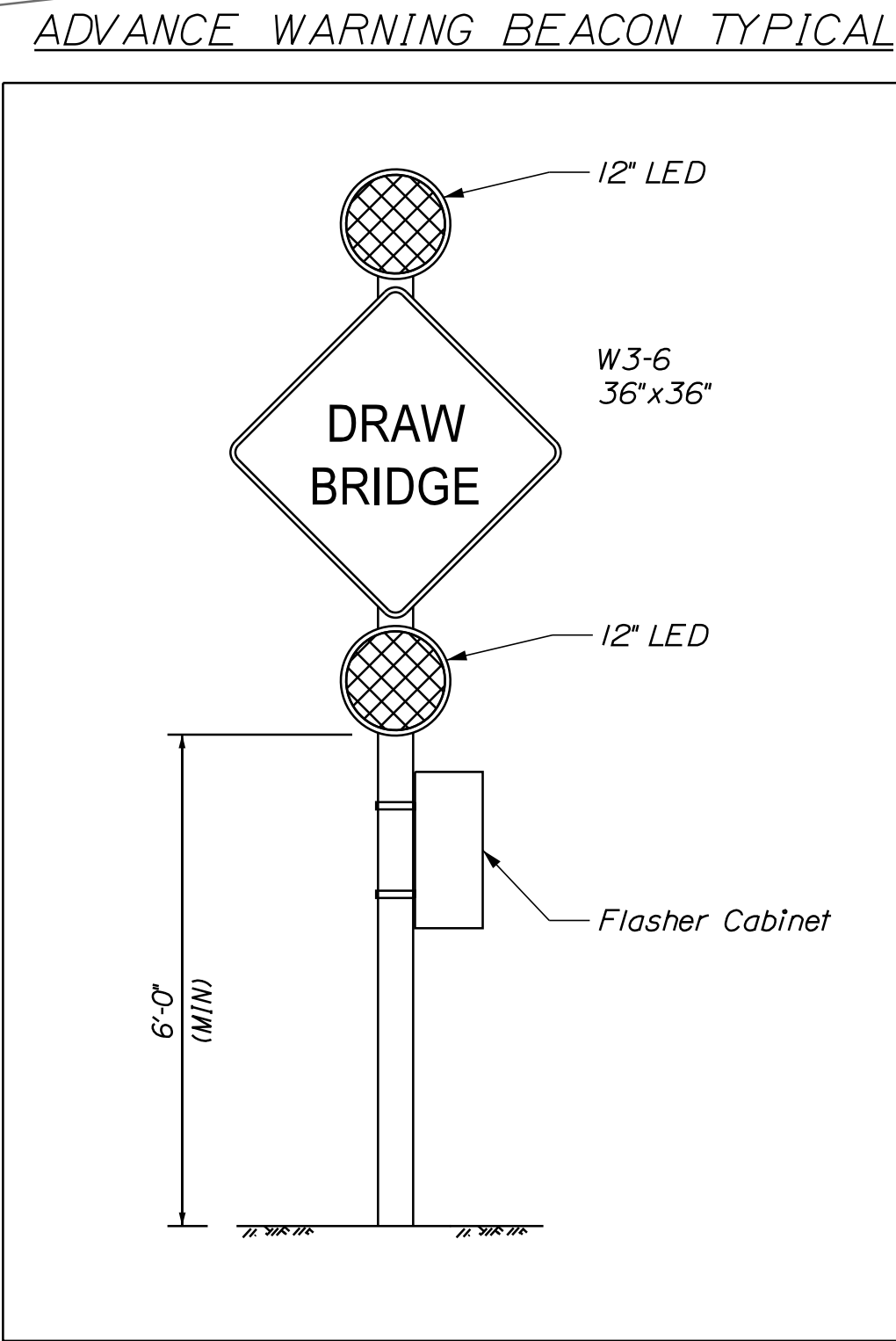
SOUTHPORT BRIDGE ROUTE 27 OVER TOWNSEND GUT SOUTHPORT & BOOTHBAY HARBOR ME LINCOLN COUNTY		STATE OF MAINE DEPARTMENT OF TRANSPORTATION	
CONTROL HOUSE INTERIOR & EXTERIOR DETAILS		STP-2175(100)	
SHEET NUMBER 43 OF 48		BRIDGE NO. 2789 WIN 21751.00	
BRIDGE PLANS			
DESIGN-DETAILED CHECKED-REVIEWED DESIGN2-DETAILED2 DESIGN3-DETAILED3 REVISIONS 1 REVISIONS 2 REVISIONS 3 REVISIONS 4 FIELD CHANGES		DATE 8/19/22 8/19/22 BY J. STETSON, PE TSP/ASBLUNT 1158 August 19, 2022	





LIST OF WORK ITEMS	
EQUIPMENT AND WORK ITEMS	QUANTITY
Furnish And Install Movable Bridge Hybrid Warning And Resistance Gate (Item 527.90)	2 LS
Furnish And Install Precast Concrete Junction Box (Item 626.11)	2 EA
Furnish And Install (3-Inch) Non-Metallic Conduit (Item 626.22)	450 LF
Furnish And Install Non-Metallic Conduit Concrete Encased (Item 626.221)	125 LF
Furnish And Install (3-Inch) Non-Metallic Under Pavement Conduit (Schedule 80 Or Greater) (Item 626.251)	40 LF
Furnish And Install 24-Inch Diameter Foundation (Item 626.421)	7 LF
Furnish And Install 48-In Diameter Foundations (Item 626.46)*	30 LF
Furnish And Install White Or Yellow Painted Pavement Marking Line (Item 627.733)	650 LF
Furnish And Install White Pavement Curb Marking (Item 627.75)	50 SF
Furnish And Install Flashing Beacon At Wb Approach (Item 643.60)	1 LS
Furnish And Install Flashing Beacon At Eb Approach (Item 643.60)	1 LS
Furnish And Install Pedestal Pole (Item 643.92)	1 EA
Furnish And Install 35' Dual Purpose Pole (Item 643.94)	2 EA
Furnish And Install Wood Pole (Item 643.97)	1 EA
Remove Existing Advance Warning Beacon (Item 202.56)	2 EA

* Foundation size assumed
The Listed Quantities Are Approximate And Are Furnished For Information Only.



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2309401

WIN
21751.01

BRIDGE NO. 2789

BRIDGE PLANS

PROF. QUAL. ENGINEER
ROBERT S. BLUNT
11158

SIGNATURE
11158

P.E. NUMBER
August 19, 2022

DATE

SOUTHPORT BRIDGE ROUTE 27
OVER TOWNSEND GUT
SOUTHPORT & BOOTHBAY HARBOR ME

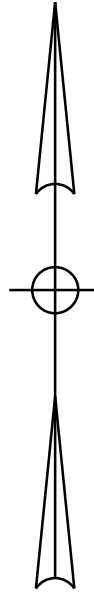
LINCOLN COUNTY

ADVANCE WARNING
BEACON PLAN

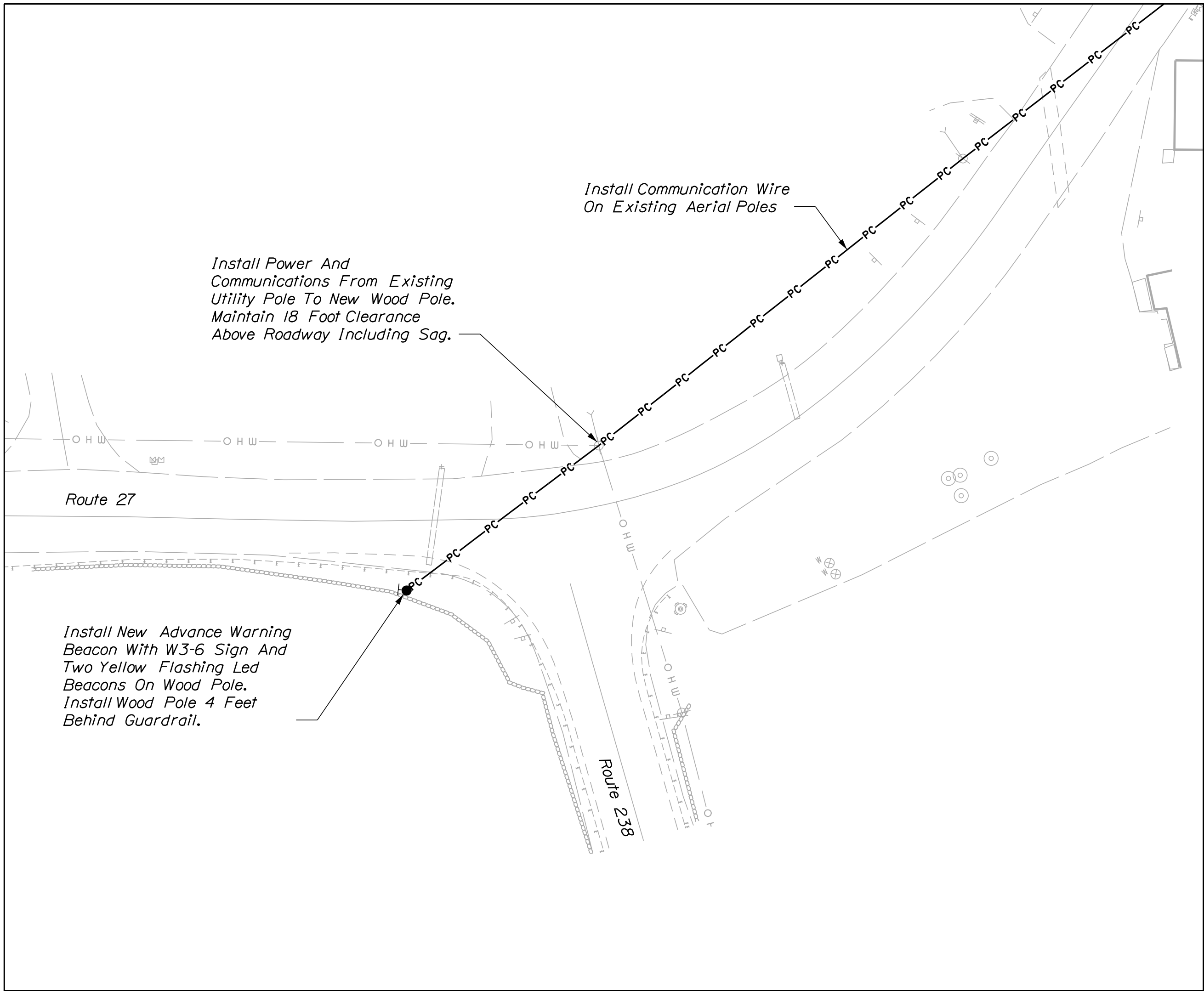
SHEET NUMBER

45

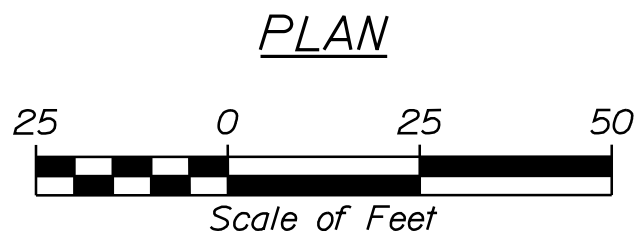
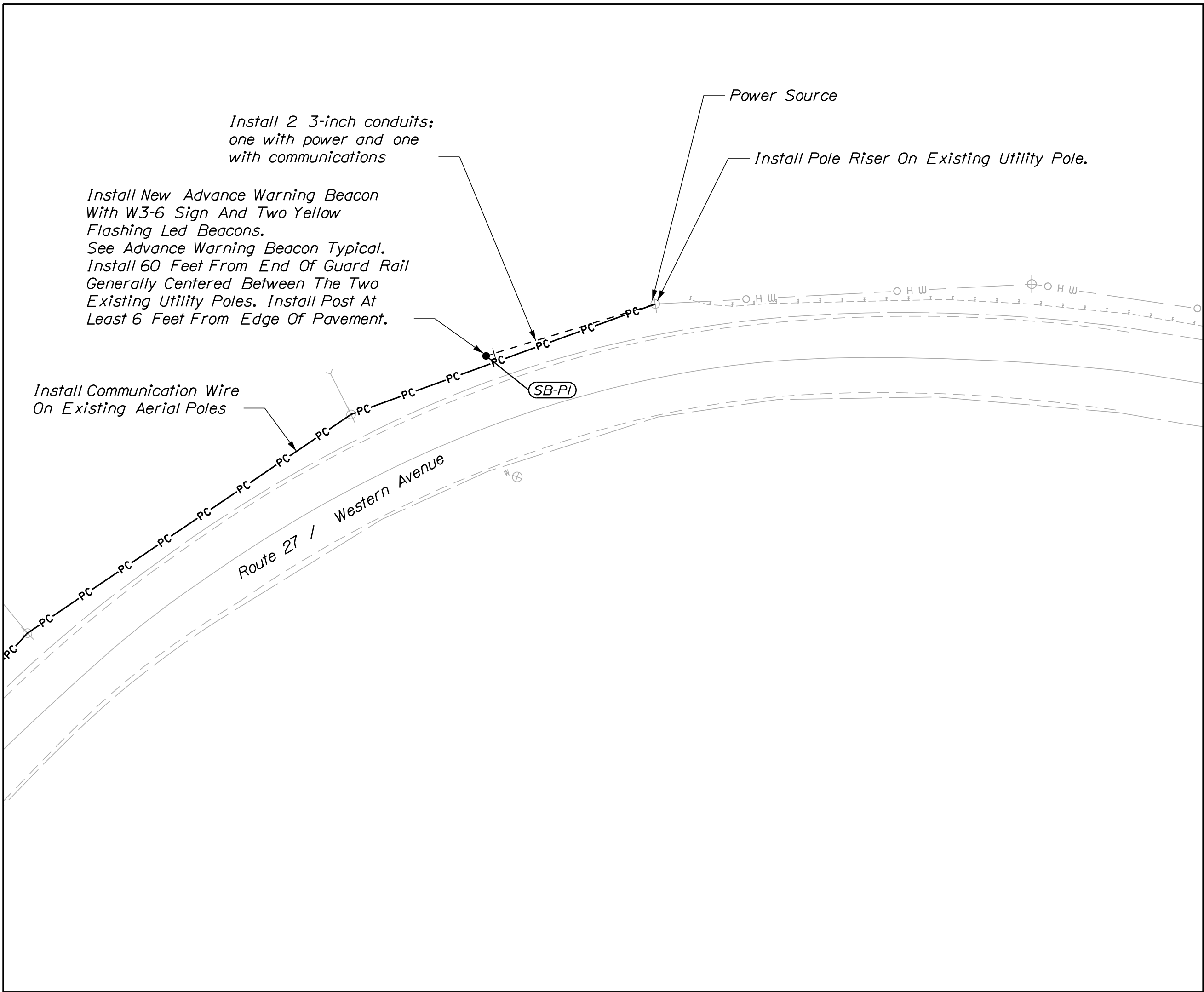
OF 48



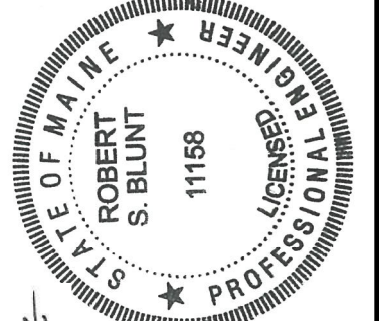
NORTHBOUND APPROACH
(SOUTHPORT)



SOUTHBOUND APPROACH
(BOOTHBAY HARBOR)



STATE OF MAINE	
DEPARTMENT OF TRANSPORTATION	
2309401	
WIN	BRIDGE NO. 2789
21751.01	BRIDGE PLANS

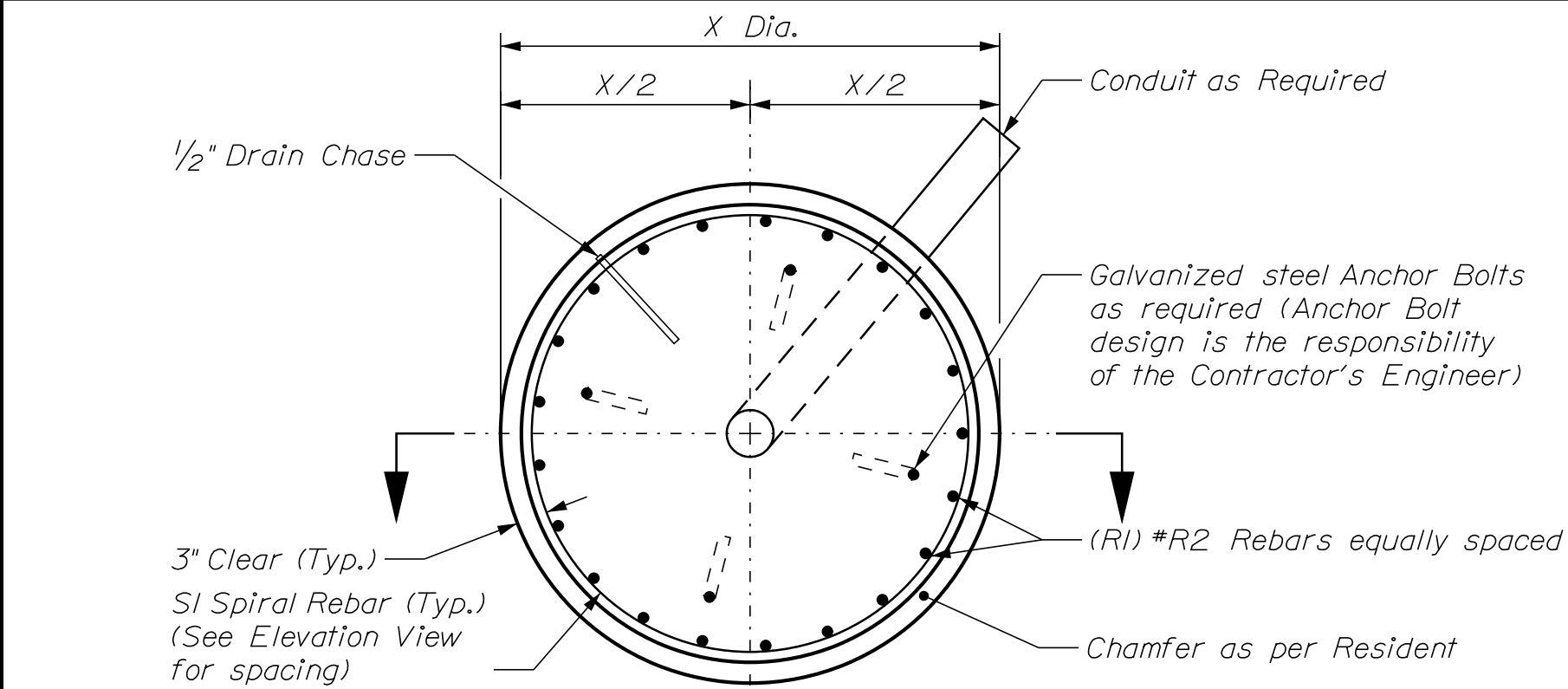


SIGNATURE	11158	P.E. NUMBER	August 19, 2022
DATE			

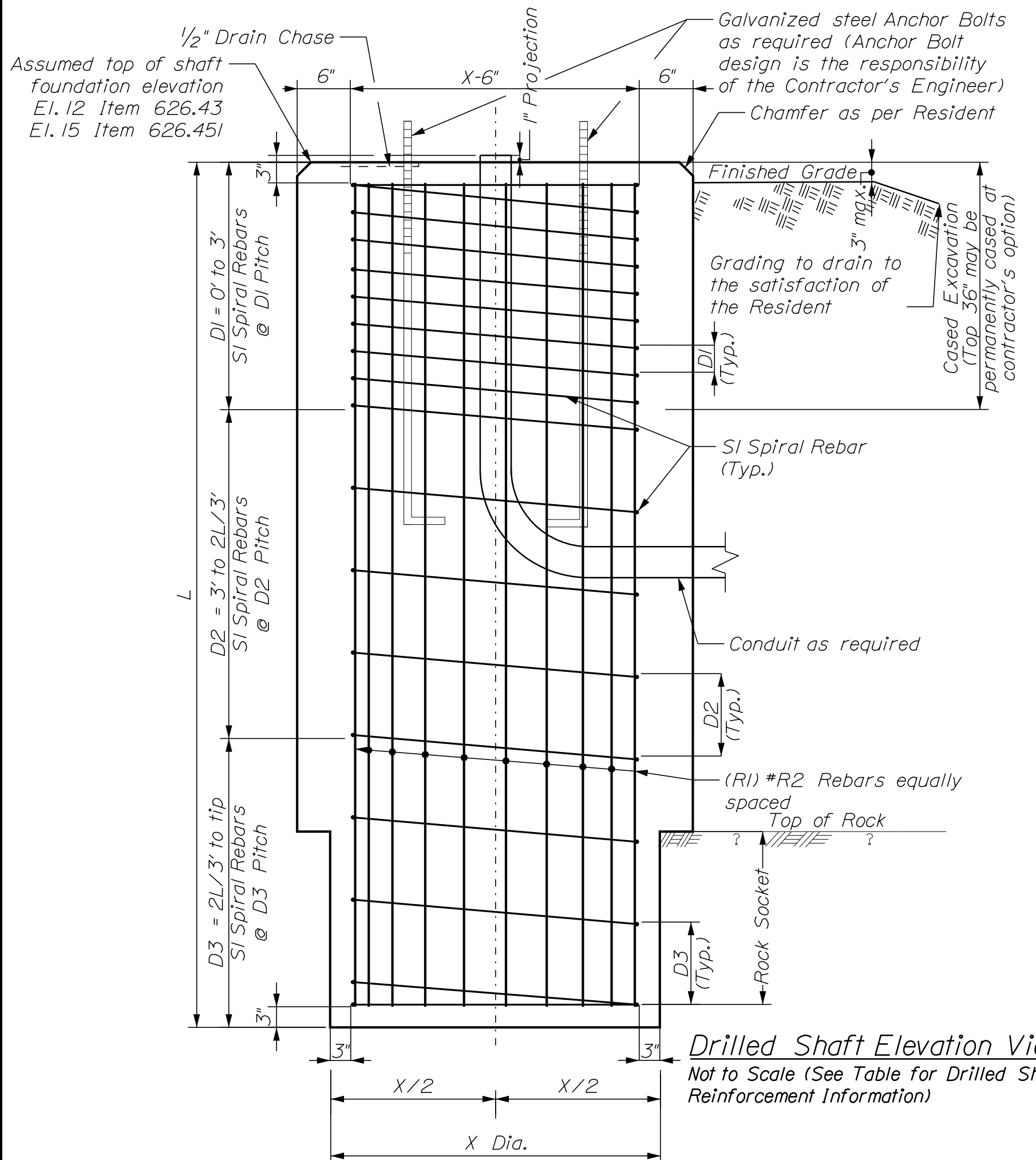
PROJ. MANAGER	J. STETSON, PE	BY	JAR	DATE	8/19/22
DESIGN-DETAILED	NDS				
CHECKED-REVIEWED	CTA				
DESIGN2-DETAILED2					
DESIGN3-DETAILED3					
REVISIONS	1				
REVISIONS	2				
REVISIONS	3				
REVISIONS	4				
FIELD CHANGES					

SOUTHPORT BRIDGE ROUTE 27	
OVER TOWNSEND GUT	
SOUTHPORT & BOOTHBAY HARBOR ME LINCOLN COUNTY	
ADVANCE WARNING	
BEACON SITE DETAIL	

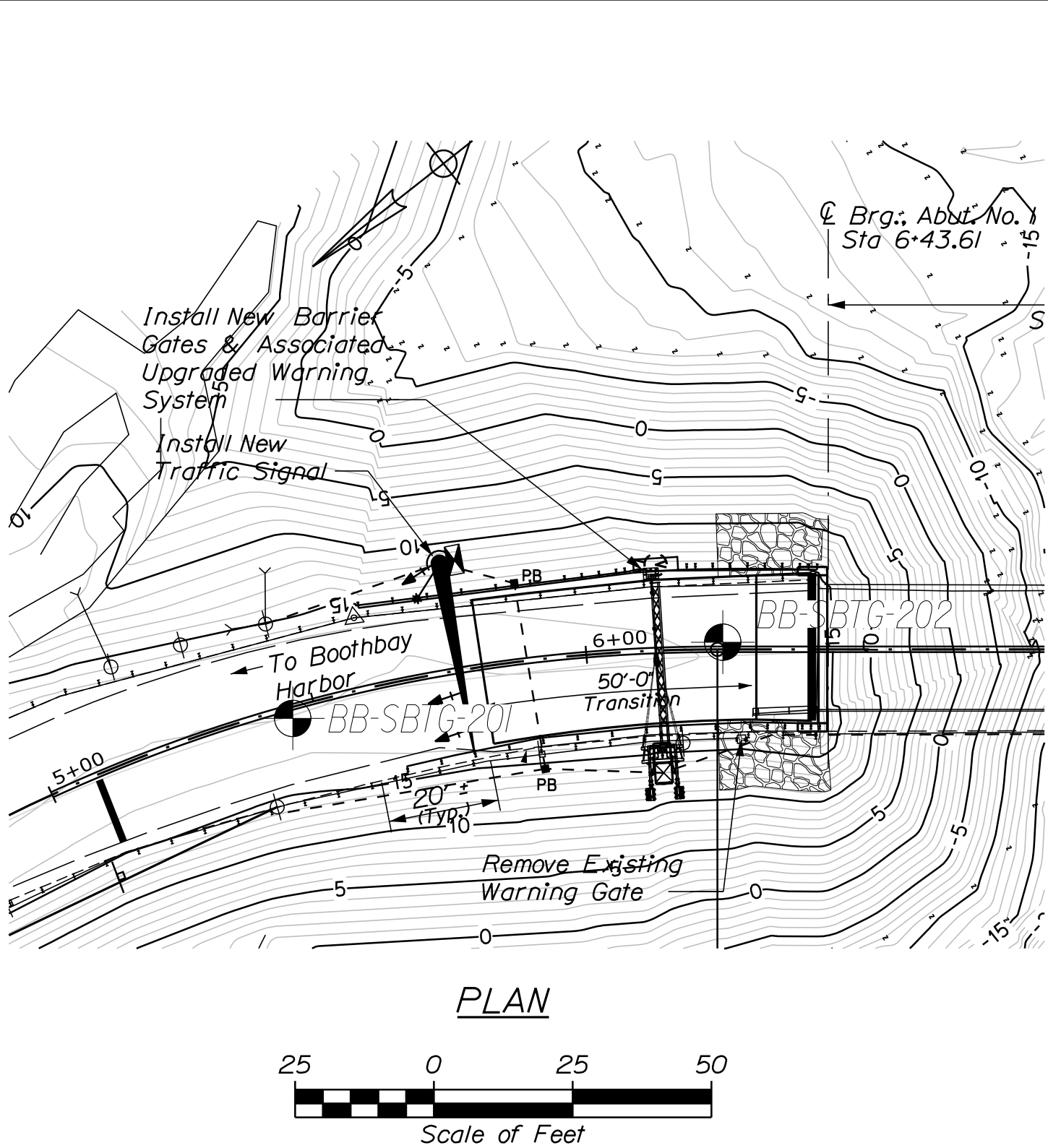
SHEET NUMBER
46
OF 48



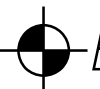
Drilled Shaft Plan View
Not to Scale (See Table for Drilled Shaft & Reinforcement Information)



CRASH BARRIER/MAST ARM
North of Abutment 1



BORING LOCATION PLAN LEGEND



 BB-SBTG-202 *Approximate location and designation of 200-Series cased wash borings by GZA*

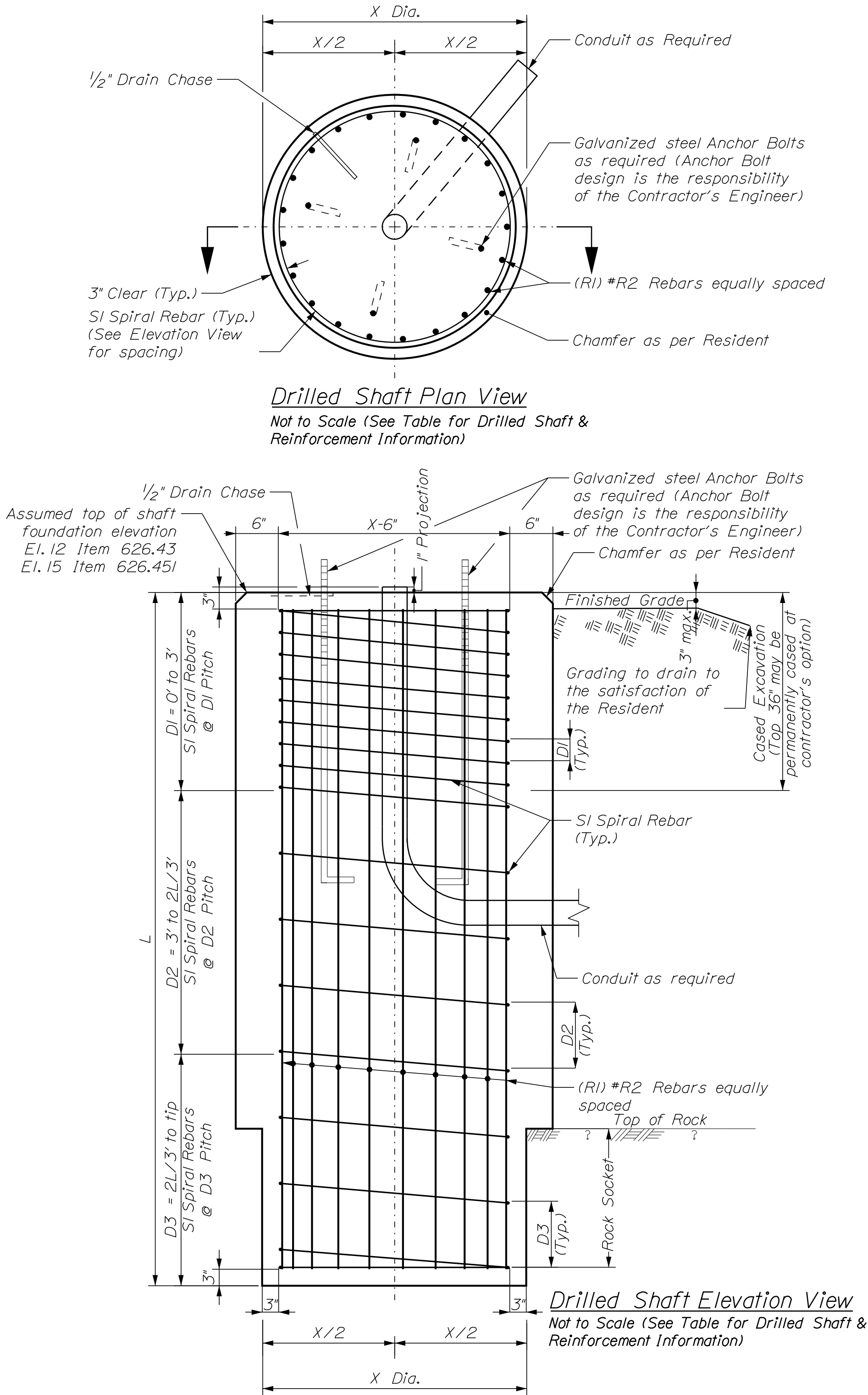
NOTES:

1. All reinforcing steel is to be grade 60 and conform to MaineDOT Standard Specification requirements along with any project specific Supplementals or Special Provisions.
2. All rebar shall have 3" cover unless otherwise noted.
3. Should there be a discrepancy between these Details and actual observed field conditions report it to the Resident immediately.
4. Do not proceed with dependent work until any such discrepancy is resolved to the satisfaction of the Resident.
5. Concrete to be Class LP with $f'c = 5,000$ PSI.
6. Item 626.45I (Crash Barrier) provides alternate designs including a smaller diameter rock-socketed shaft, or a larger diameter shaft without a rock socket, in accordance with the dimensions provided in the summary table.

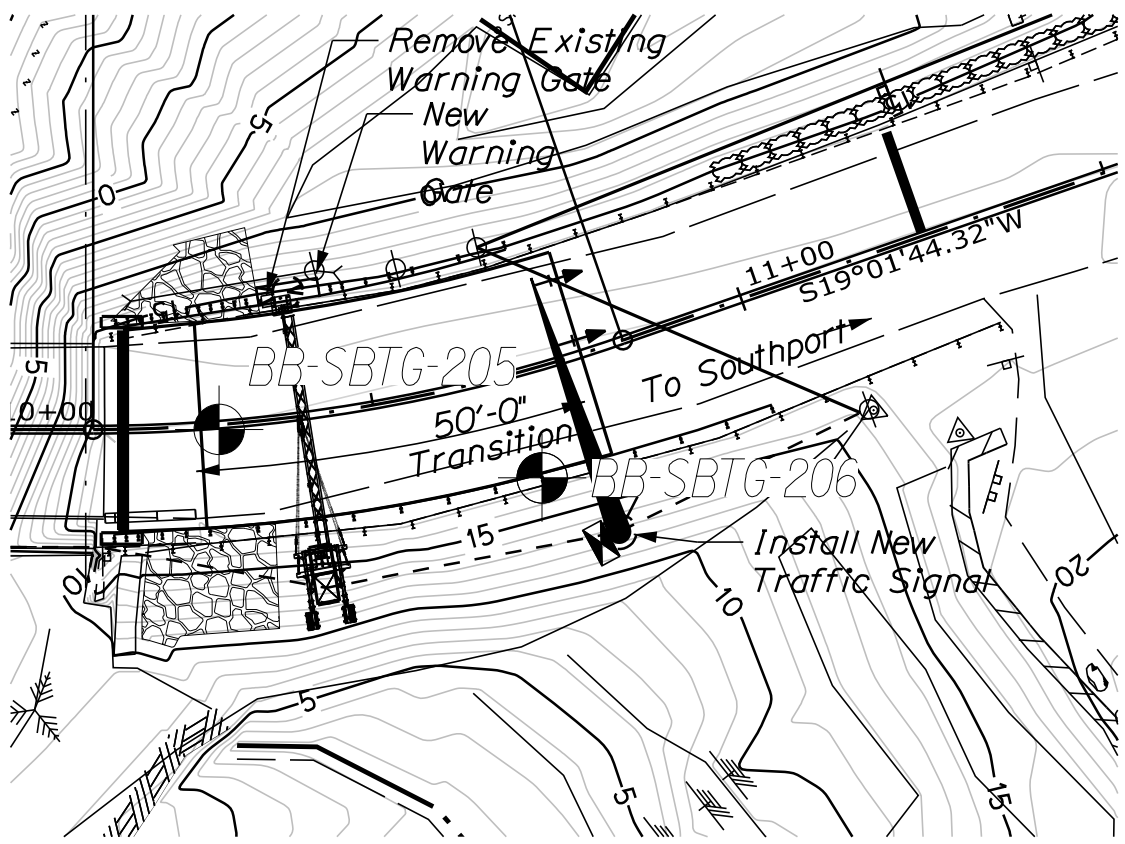
[illegible][illegible]

Foundation Type	Item No.	Drilled Shaft Dimenstions				Reinforcing Steel			Spiral Bar Spacing		
		X _{ob}	X _{rs}	L _{ob}	L _{rs}	R1	R2	S1	D1 (in)	D2 (in)	D3 (in)
		Diameter Overburden (feet)	Diameter Rock Socket (feet)	Length Overburden (feet)	Length Rock Socket (feet)	Longitudinal Rebars Quantity	Longitudinal Rebars Size	Spiral Rebars Size	0 to 3 ft	3 ft to 2L/3 ft	2L/3 ft to tip
Mast Arm	626.43	3	N/A	14	0	12	#9	#5	4	8	12
Crash Barrier	626.451	3.5	3	Estimate 22	5	15	#9	#5	4	8	10
		5	N/A	22	0	28	#9	#5	4	8	12



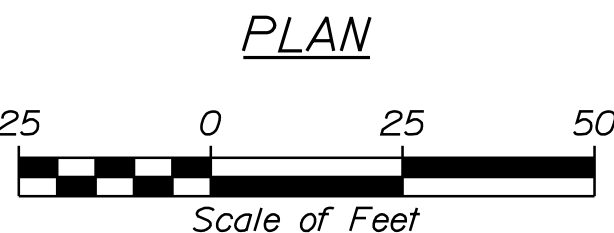


CRASH BARRIER/MAST ARM
South of Abutment 2



BORING LOCATION PLAN LEGEND

BB-SBTG-206 Approximate location and designation of 200-Series cased wash borings by GZA



NOTES:

1. All reinforcing steel is to be grade 60 and conform to MaineDOT Standard Specification requirements along with any project specific Supplementals or Special Provisions.
2. All rebar shall have 3" cover unless otherwise noted.
3. Should there be a discrepancy between these Details and actual observed field conditions report it to the Resident immediately.
4. Do not proceed with dependent work until any such discrepancy is resolved to the satisfaction of the Resident.
5. Concrete to be Class LP with $f'c = 5,000$ PSI.
6. Item 626.43 (Mast Arm) shall be 14' long, unless competent rock is encountered at 11' below top of shaft or less, in which case a rock socket shall be provided in accordance with the dimensions provided in the summary table.

Foundation Type	Item No.	Drilled Shaft Dimenstions				Reinforcing Steel			Spiral Bar Spacing		
		X_{ob}	X_{rs}	L_{ob}	L_{rs}	R1	R2	S1	D1 (in)	D2 (in)	D3 (in)
		Diameter Overburden (feet)	Diameter Rock Socket (feet)	Length Overburden (feet)	Length Rock Socket (feet)	Longitudinal Rebars Quantity	Longitudinal Rebars Size	Spiral Rebars Size	0 to 3 ft	3 ft to 2L/3 ft	2L/3 ft to tip
Mast Arm	626.43	3	N/A	14	0	12	#9	#5	4	8	12
		3	2.5	Less than 11	3	12	#9	#5	4	8	12
Crash Barrier	626.451	3.5	3	Varies	5	15	#9	#5	4	8	10

Maine Department of Transportation Soil/Borehole Log				Project: Southport Bridge No. 2789 Route 27 over Townsend Gut Southport - Boothbay Harbor, Maine				Boring No.: BB-SBTG-205			
USGS COMBINE .JNETS				W/N: 21751.00				21751.00			
Driver: New England Boring Contractors				Elevation (ft.): 17.0				Auger (ft/OD):			
Operator: P. Schofield				W&D: 88				Sampler: Standard Splitston			
Logged By: C. Tume				Rig Type: Truck Mounted Mobile DTH B-48				Hammer Wt./Fall: 140#/30"			
Date Start/Finish: 11/10/2010/11/20				Drilling Method: Drive & Wash				Core Barrel: N/A			
Boring Location: Sta. 0+00, 0' 0"				Casing (ft/OD): 4" x 1/2"				Water Level: 8.0'			
Hammer Efficiency Factor: 0.24				Hammer Type: Automatic				Rope & Control: B-2			
Soil/Borehole Log				Soil/Borehole Log				Soil/Borehole Log			
Soil/Borehole Log				Soil/Borehole Log				Soil/Borehole Log			
Soil/Borehole Log				Soil/Borehole Log				Soil/Borehole Log			
Soil/Borehole Log				Soil/Borehole Log				Soil/Borehole Log			
Soil/Borehole Log				Soil/Borehole Log				Soil/Borehole Log			
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