

# STATE OF MAINE DEPARTMENT OF TRANSPORTATION



## SPECIFICATIONS

Design: Load and Resistance Factor Design per AASHTO LRFD Bridge Design Specifications, Seventh Edition 2014 with 2016 Interim Revisions.

## DESIGN LOADING

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

## TRAFFIC DATA

Current (2017) AADT .....	270
Future (2037) AADT .....	380
DHV - % of AADT .....	18
Design Hour Volume .....	68
Heavy Trucks (% of AADT) .....	10
Heavy Trucks (% of DHV) .....	6
Directional Distribution (% of DHV) .....	60
18 kip Equivalent P 2.0 .....	21
18 kip Equivalent P 2.5 .....	20
Design Speed (mph) .....	25

## HYDROLOGIC DATA

Drainage Area .....	21.2 sq mi
Design Discharge (Q50) .....	1588 cfs
Check Discharge (Q100) .....	1830 cfs
Headwater Elevation (Q10) .....	1518.7 ft
Headwater Elevation (Q50) .....	1519.1 ft
Headwater Elevation (Q100) .....	1519.4 ft

## MATERIALS

Concrete:

Curbs and Transition Barriers .....	Class "LP"
All Other .....	Class "A"

Reinforcing:

Plain Reinforcing Steel .....	ASTM A 615/A 615M, Grade 60
Stainless Reinforcing Steel .....	ASTM A 955, Grade 75
Glass Fiber Reinforced Polymer (GFRP) .....	CSA S807-10, ACI 440.1R-15

Structural Steel:

All Material (except as noted) .....	ASTM A 709, Grade 50 (galvanized)
High Strength Bolts .....	ASTM F 3125, Type 1

## BASIC DESIGN STRESSES

Concrete

Class "A" .....	f 'c = 4000 psi
Class "LP" .....	f 'c = 5000 psi

Plain Reinforcing Steel .....

Plain Reinforcing Steel .....	f y = 60,000 psi
Stainless Reinforcing Steel .....	f y = 75,000 psi

Structural Steel:

ASTM A 709, Grade 50 .....	f y = 50,000 psi
ASTM A 709, Grade 36 .....	f y = 36,000 psi
ASTM F 3125 .....	F μ = 120,000 psi

Glass Fiber Reinforced Polymer:

#5 Bar .....	f fu = 100,000 psi
#6 Bar .....	f fu = 100,000 psi
#7 Bar .....	f fu = 95,000 psi
Minimum Elastic Modulus .....	E f = 6,150,000 psi
Minimum Nominal Design Tensile Strain .....	ε fu = 1.226%

# RANGELEY FRANKLIN COUNTY HUNTER COVE BRIDGE OVER HUNTER COVE MINGO LOOP ROAD STATE PROJECT NO. 018955.00 PROJECT LENGTH 0.057 mi. BRIDGE NO. 2384

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## UTILITIES

Central Maine Power Company  
Fairpoint Communications - Northern New England Telephone Operations, L.L.C.

## MAINTENANCE OF TRAFFIC

Bridge closure with a detour.

<u>PROJECT LOCATION</u>	Hunter Cove Bridge (#2384) over Hunter Cove. Located 1.30 miles westerly of Route 4. Lat./Long. 44°57'42.7" N 70°42'51.9" W
<u>PROGRAM AREA</u>	Highway Bridges-Traditional
<u>OUTLINE OF WORK</u>	Bridge Replacement

STATE OF MAINE DEPARTMENT OF TRANSPORTATION
APPROVED
COMMISSIONER: <i>[Signature]</i>
CHIEF ENGINEER: <i>[Signature]</i>
DATE
12/27/17
12-27-17

PROFESSIONAL ENGINEER
Richard E. Myers
12670
Dec. 18, 2017
DATE

PROJECT INFORMATION
PROGRAM
PROJECT MANAGER
DESIGNER
CONSULTANT
PROJECT RESIDENT
CONTRACTOR
PROJECT COMPLETION DATE

RANGELEY HUNTER COVE BRIDGE
TITLE SHEET

SHEET NUMBER
1
OF 25

Date: 12/15/2017  
User: David Shaw  
Division: BRIDGE  
Filename: \\00\BRIDGE\MSTA\001\_Title.dgn

WIN 18955.00

018955.00

Date: 12/18/2017

Username: David.Shaw

Division: BRIDGE

Filename: ... \BRIDGE\WSTA\002\_Estimate.dgn

ESTIMATED QUANTITIES			
ITEM NO.	DESCRIPTION	QUANTITY	UNIT
202.19	REMOVING EXISTING BRIDGE	1	LS
202.202	REMOVING PAVEMENT SURFACE	70	SY
203.20	COMMON EXCAVATION	360	CY
203.24	COMMON BORROW	10	CY
203.25	GRANULAR BORROW	400	CY
206.082	STRUCTURAL EARTH EXCAVATION - MAJOR STRUCTURES	670	CY
304.10	AGGREGATE SUBBASE COURSE - GRAVEL	520	CY
403.208	HOT MIX ASPHALT 12.5 MM HMA SURFACE	88	T
403.213	HOT MIX ASPHALT 12.5 MM BASE	83	T
409.15	BITUMINOUS TACK COAT - APPLIED	33	G
501.231	DYNAMIC LOADING TEST	2	EA
501.251	PILE CASING	4	EA
501.50	STEEL H-BEAM PILES 89 LBS/FT, DELIVERED	540	LF
501.501	STEEL H-BEAM PILES 89 LBS/FT, IN PLACE	540	LF
501.90	PILE TIPS	8	EA
501.91	PILE SPLICES	8	EA
501.92	PILE DRIVING EQUIPMENT MOBILIZATION	1	LS
502.219	STRUCTURAL CONCRETE, ABUTMENTS AND RETAINING WALLS (110 CY)	1	LS
502.26	STRUCTURAL CONCRETE ROADWAY AND SIDEWALK SLABS ON STEEL BRIDGES (70 CY)	1	LS
502.291	SAW CUT GROOVING (2,110 SF)	1	LS
502.31	STRUCTURAL CONCRETE APPROACH SLABS (20 CY)	1	LS
502.49	STRUCTURAL CONCRETE CURBS AND SIDEWALKS (4 CY)	1	LS
503.12	REINFORCING STEEL, FABRICATED AND DELIVERED	11,310	LB
503.13	REINFORCING STEEL, PLACING	11,310	LB
503.26	STAINLESS STEEL REINFORCEMENT - FABRICATED & DELIVERED	5,720	LB
503.27	STAINLESS STEEL REINFORCEMENT - PLACING	5,720	LB
504.702	STRUCTURAL STEEL FABRICATED AND DELIVERED (75,600 LBS)	1	LS
504.71	STRUCTURAL STEEL ERECTION (75,600 LBS)	1	LS
505.08	SHEAR CONNECTORS (752 EA)	1	LS
506.9103	GALVANIZING	1	LS
507.0821	STEEL BRIDGE RAILING, 3 BAR (140 LF)	1	LS
511.07	COFFERDAM: ABUTMENT NO. 1	1	LS
511.07	COFFERDAM: ABUTMENT NO. 2	1	LS
514.06	CURING BOX FOR CONCRETE CYLINDERS	1	EA
515.21	PROTECTIVE COATING FOR CONCRETE SURFACES (380 SY)	1	LS
526.301	TEMPORARY CONCRETE BARRIER TYPE 1 (60 LF)	1	LS
526.34	PERMANENT CONCRETE TRANSITION BARRIER	4	EA
530.30	GFRP, REINFORCEMENT BARS, FAB & DEL	19,300	LF
530.31	GFRP, REINFORCEMENT BARS, PLACING	19,300	LF
606.1721	BRIDGE TRANSITION - TYPE 1	4	EA
606.23	GUARDRAIL TYPE 3C - SINGLE RAIL	713	LF
606.353	REFLECTORIZED FLEXIBLE GUARDRAIL MARKER	6	EA
606.78	LOW VOLUME GUARDRAIL END - TYPE 3	3	EA
610.16	HEAVY RIPRAP	2,500	CY
610.18	STONE DITCH PROTECTION	5	CY
613.319	EROSION CONTROL BLANKET	310	SY
615.07	LOAM	20	CY
618.14	SEEDING METHOD NUMBER 2	3	UN
619.12	MULCH	3	UN
619.14	EROSION CONTROL MIX	40	CY
620.58	EROSION CONTROL GEOTEXTILE	2,620	SY
620.661	DRAINAGE GEOCOMPOSITE INSTALLATION	62	SY
627.733	4" WHITE OR YELLOW PAINTED PAVEMENT MARKING LINE	1,800	LF
629.05	HAND LABOR, STRAIGHT TIME	40	HR
631.121	HEAVY DUTY ALL PURPOSE EXCAVATOR (INCLUDING OPERATOR)	20	HR
631.15	ROLLER, EARTH AND BASE COURSE (INCLUDING OPERATOR)	20	HR
631.172	TRUCK - LARGE (INCLUDING OPERATOR)	20	HR
639.18	FIELD OFFICE TYPE A	1	EA
652.312	TYPE III BARRICADE	8	EA
652.33	DRUM	10	EA
652.34	CONE	20	EA
652.35	CONSTRUCTION SIGNS	300	SF
652.361	MAINTENANCE OF TRAFFIC CONTROL DEVICES (120 CD)	1	LS
652.38	FLAGGER	240	HR
656.75	TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL	1	LS
659.10	MOBILIZATION	1	LS

GENERAL CONSTRUCTION NOTES

- During construction, the road will be closed to traffic for a time period specified in the Special Provisions.
- For easements, construction limits and right of way lines, refer to Right of Way Map.
- The clearing limits as shown on the plans are approximate. The exact limits will be established in the field by the Resident. Payment for clearing will be considered incidental to Contract items.
- All utility facilities shall be adjusted by the respective utilities unless otherwise noted.
- Do not excavate for Aggregate Subbase Course where existing material is suitable as determined by the Resident.
- 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.
- All embankment material, except as otherwise shown, shall be Granular Borrow meeting the requirements of Subsection 703.19, Material for Underwater Backfill.
- Place riprap on sideslopes as shown on the plans.
- Construct the riprap shelf at each abutment at EL. 1520.5.
- Place loam 2 inches deep on all new or reconstructed sideslopes or as directed by the Resident.
- Erosion Control Mix may be substituted in those areas normally receiving loam and seed as directed by the Resident. Placement shall be in accordance with Standard Specifications Section 619, Mulch. Payment will be made under Item No. 619.14, Erosion Control Mix.
- Place a 24-in. wide strip of Temporary Erosion Control Blanket on the sideslopes along the top of the riprap and behind the wingwalls.
- Guardrail posts as shown in the Standard Details shall be modified from the indicated length of 6 feet to a length of 7 feet with an embedment of 4.5 feet. Payment will be considered incidental to the guardrail pay items.
- A Low Volume Guardrail End shall be installed concurrently with the placement of each section of beam guardrail.
- Extended-use Erosion Control Blanket, seeded gutters, riprap downspouts, and other gutters lined with Stone Ditch Protection shall be constructed after paving and shoulder work is completed, where it is apparent that runoff will cause continual erosion. Payment will be made under the appropriate Contract items.
- Protective Coating for Concrete Surfaces shall be applied to the following areas:  
  - All exposed surfaces of concrete curbs, Fascias down to the drip notch,
  - All exposed surfaces of Concrete Transition Barriers,
  - Concrete wearing surfaces,
  - Top of abutment backwalls and wingwalls and to one foot below the top of backwalls and wingwalls on the back side.
- Project information referred to below may be accessed at the following MaineDOT web address: <http://www.maine.gov/mdot/contractors/>.
- The existing bridge plans may be accessed at the MaineDOT web address. The plans are reproductions of the original drawings as prepared for the construction of the bridge. It is very unlikely that the plans will show any construction field changes or any alterations which may have been made to the bridge during its life span.
- The hydrologic report of the bridge site may be accessed at the MaineDOT web address. The hydrologic report is based on MaineDOT's interpretation of the information obtained for the subject site. No assurance is given that the information or the conclusions of the report will be representative of actual conditions at the time of construction.
- Equipment, materials, and labor required to regrade/rebuild shoulder areas before Station 6+00 and after Station 10+00 will be paid for under 304.10, Aggregate Subbase Course - Gravel. Stones which cannot be rolled or compacted into the surface of the shoulder shall be removed by hand raking.
- The project geotechnical report titled: Geotechnical Design Report for the Replacement of Hunter Cove Bridge, Mingo Loop Road over Hunter Cove, Soils Report 2017-48, dated October 5, 2017 may be accessed at the MaineDOT web address.
- Boring BB-RHC-101 encountered wood at approximately elevation 1507.0. Inspection notes (See Appendix D of the Geotechnical Design Report) for the construction of the existing bridge indicate one pile refused on what is likely logs and rocks comprising an old corduroy road at the existing Abutment No. 2. The contractor should assume for the purposes of bidding and construction that the logs and rocks are present in the entire causeway. Excavation of the logs and rocks may be required to prevent damage to piles and temporary earth support systems during installation. Excavation and removal shall be incidental to related Pay Items.

23. 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.

24. 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:

- If a Lump Sum pay item is eliminated, the requirements of Standard Specifications Section 109.2, Elimination of Items, will take precedence.
- If other Contract Documents specifically allow a change in payment for a Lump Sum pay item, those requirements will be followed.
- 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.

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

26. The existing substructure shall be removed to elevation 1513. The existing timber piles, if not removed entirely, may obstruct pile driving operations. If the existing piles are not located as shown in the existing plans and it is apparent that they will obstruct pile driving, the Resident may direct the Contractor to pull out the existing piles. Payment for this work will be determined at that time.

STATE OF MAINE		DEPARTMENT OF TRANSPORTATION		018955.00		WIN		18955.00		BRIDGE NO. 2384		BRIDGE PLANS			
HUNTER COVE BRIDGE		FRANKLIN COUNTY		ESTIMATED QUANTITIES AND		GENERAL CONSTRUCTION NOTES		SHEET NUMBER		2		OF 25			
PROJ. MANAGER	M. WIGHT	BY	DATE	CHECKED-DESIGNED	R. MYERS	D. SHAW	DEC 2017	SIGNATURE	P.E. NUMBER	DATE	REVISIONS 1	REVISIONS 2	REVISIONS 3	REVISIONS 4	FIELD CHANGES





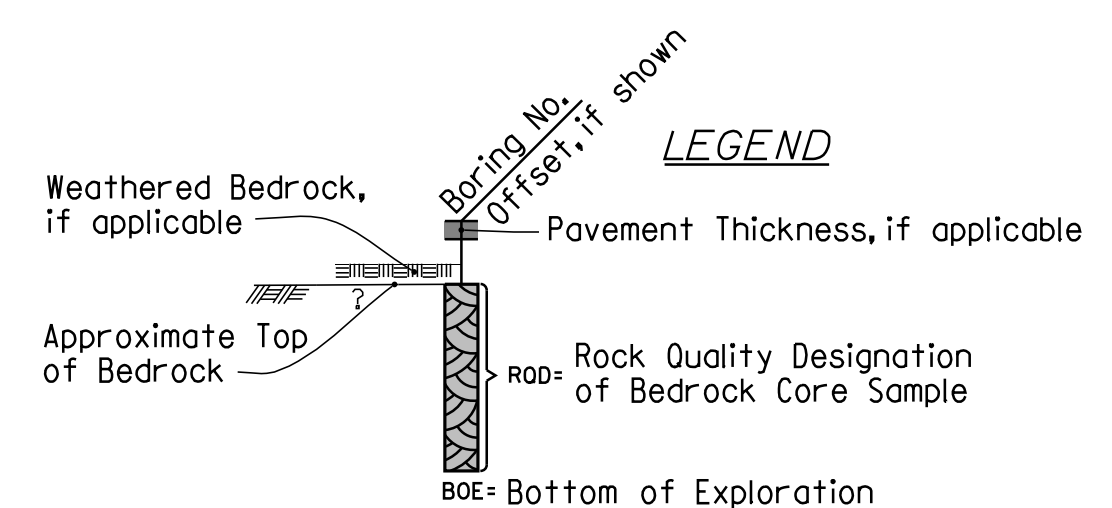
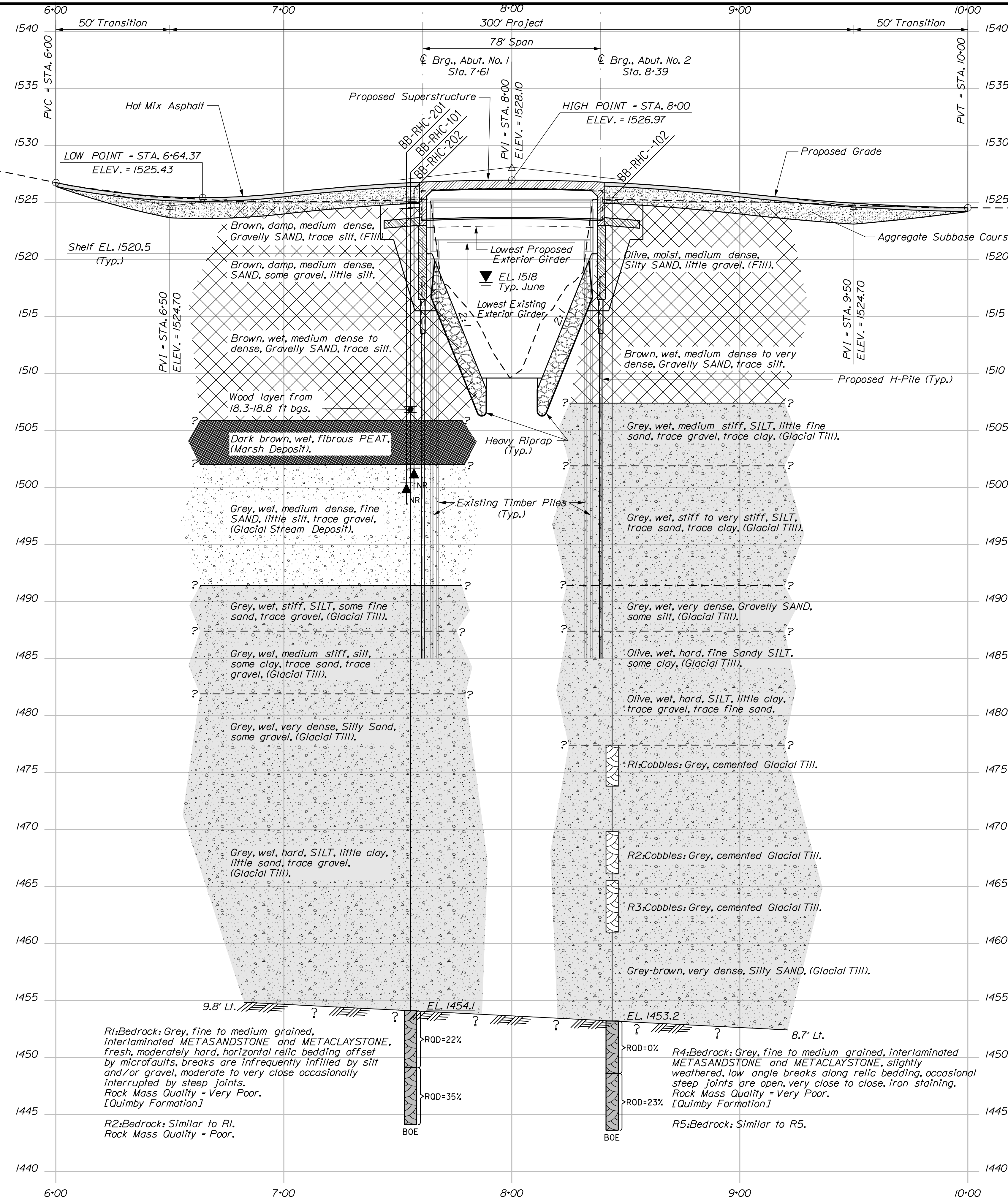


Date: 12/18/2017

Username: David Shaw

Division: BRIDGE

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

STATE OF MAINE		DEPARTMENT OF TRANSPORTATION		018955-00		BRIDGE NO. 2384		WIN		18955.00		BRIDGE PLANS	
HUNTER COVE BRIDGE		HUNTER COVE		FRANKLIN COUNTY		RANGELEY		INTERPRETIVE SUBSURFACE PROFILE		SHEET NUMBER		6	
PROJ. MANAGER	M. WIGHT	CHECKED	D. SHAW	DESIGNED	T. WHITE	DATE	JAN 2017	SIGNATURE	P.E. NUMBER	DATE			
DESIGN-DETAILED	R. MYERS	DESIGNED	B. SLAVEN	REVISIONS	1								
				REVISIONS	2								
				REVISIONS	3								
				REVISIONS	4								
				FIELD CHANGES									



Maine Department of Transportation Soil/Block Exploration Log US CUSTOMARY UNITS		Project: Hunter Cove Bridge #2384 carries Wingo Loop Road over Hunter Cove Location: Rangeley, Maine Franklin County		Boring No.: BB-RHC-102 WIN: 18955.00				
Drillers: MainDOT	Elevation (ft.): 1525.4	Auger ID/OD: 5" Solid Stem						
Operator: Wilber/Doggert	Datum: NAVD88	Samplers: Standard Split Spoon						
Logged By: B. Wilber	Rig Type: CME 45C	Hammer Wt./Fall: 140#/30"						
Date Start/Finish: 4/27/2016-4/28/2016	Drilling Method: Cased Wash Boring	Core Barrel: ND-2"						
Boring Location: B444, 8.7 ft Lt.	Casing ID/OD: NW-3"	Water Level: None Observed						
Hammer Efficiency Factor: 0.908	Hammer Type: Automatic SS Hydraulic	Rope & Cathode						
<p>Definitions: S = Rock Core Sample; SS = Soil Stem Auger; Su (q) = Lab Test Unconsolidated Shear Strength (psi); T<sub>v</sub> = Pocket Torque Shear Strength; D = Split Spoon Sample; SA = Soil Stem Auger; Sp = Unconsolidated Shear Strength (psi); W = Water Content, percent; U = Unconsolidated Split Spoon Sample Attempt; SA = Soil Stem Auger; LL = Liquid Limit; U = This Well Tube Sample; RC = Roller Cone; Unconsolidated = Raw Field SPT Blow; PL = Plastic Limit; W = Unconsolidated Thin Wall Tube Sample Attempt; RC = Roller Cone; Hammer Efficiency Factor = Rig Specific Annual Calibration Value = Plasticity Index; Y = Field Vane Shear Test; PP = Pocket Penetration Test; W = Weight of Rods or Casing; N<sub>60</sub> = SPT Uncorrected Corrected for Hammer Efficiency; G = Grain Size Analysis; W<sub>L</sub> = Unconsolidated Field Vane Shear Test Attempt; R<sub>60</sub> = Ratio of Blow to Penetration; N<sub>60</sub> = Hammer Efficiency Factor (ASTM Uncorrected); C = Consolidation Test</p>								
Sample Information		Visual Description and Remarks		Laboratory Testing Results				
Depth (ft.)	Sample No.	Pen. Rec. (in)	Depth (ft.)	Pen. Rec. (in)	Remarks			
					3" H.M.L.			
					Brown, damp, gravelly SAND, trace silt, IFILL.			
5	10	24/14	5.00 - 7.00	4/5/8/11	13	20	Div. med. medium dense, silty SAND, little gravel, IFILL.	
10	20	24/3	10.00 - 12.00	5/9/3/3	12	18	42	Brown, wet, medium dense, gravelly SAND, trace silt, IFILL.
15	30	24/7	15.00 - 17.00	75/21/8/12	35	53	28	Similar to above, except very dense.
20	40	24/20	20.00 - 22.00	3/2/2/8	4	6	14	Grey, wet, medium stiff, SILT, little fine sand, trace clay, trace gravel, (Glacial Till).
25	50	24/13	25.00 - 27.00	4/7/6/8	13	20	16	Div. wet, very stiff, SILT, trace sand, trace clay, (Glacial Till).
30	60	24/18	30.00 - 32.00	3/4/2/8	6	9	34	Similar to above, except stiff.
35	70	24/13	34.00 - 36.00	16/22/19/21	41	62	60	Grey, wet, very dense, gravelly SAND, some silt, (Glacial Till).
40	80	24/22	39.00 - 41.00	18/20/18/21	38	58	87	Div. wet, hard, fine Sandy SILT, some clay, (Glacial Till).
45	90	24/20	44.00 - 46.00	12/19/19/22	38	58	129	Div. wet, hard, SILT, little clay, trace fine sand, trace gravel, (Glacial Till).
50	R1	43.2/24	48.00 - 51.60				116	R1: Grey, weakly to strongly cemented, sand, gravelly silt, cobbles, (Glacial Till).

Maine Department of Transportation Soil/Block Exploration Log US CUSTOMARY UNITS		Project: Hunter Cove Bridge #2384 carries Wingo Loop Road over Hunter Cove Location: Rangeley, Maine Franklin County		Boring No.: BB-RHC-102 WIN: 18955.00		
Drillers: MainDOT	Elevation (ft.): 1525.4	Auger ID/OD: 5" Solid Stem				
Operator: Wilber/Doggert	Datum: NAVD88	Samplers: Standard Split Spoon				
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Date Start/Finish: 4/27/2016-4/28/2016	Drilling Method: Cased Wash Boring	Core Barrel: ND-2"				
Boring Location: B444, 8.7 ft Lt.	Casing ID/OD: NW-3"	Water Level: None Observed				
Hammer Efficiency Factor: 0.908	Hammer Type: Automatic SS Hydraulic	Rope & Cathode				
<p>Definitions: S = Rock Core Sample; SS = Soil Stem Auger; Su (q) = Lab Test Unconsolidated Shear Strength (psi); T<sub>v</sub> = Pocket Torque Shear Strength; D = Split Spoon Sample; SA = Soil Stem Auger; Sp = Unconsolidated Shear Strength (psi); W = Water Content, percent; U = Unconsolidated Split Spoon Sample Attempt; SA = Soil Stem Auger; LL = Liquid Limit; U = This Well Tube Sample; RC = Roller Cone; Unconsolidated = Raw Field SPT Blow; PL = Plastic Limit; W = Unconsolidated Thin Wall Tube Sample Attempt; RC = Roller Cone; Hammer Efficiency Factor = Rig Specific Annual Calibration Value = Plasticity Index; Y = Field Vane Shear Test; PP = Pocket Penetration Test; W = Weight of Rods or Casing; N<sub>60</sub> = SPT Uncorrected Corrected for Hammer Efficiency; G = Grain Size Analysis; W<sub>L</sub> = Unconsolidated Field Vane Shear Test Attempt; R<sub>60</sub> = Ratio of Blow to Penetration; N<sub>60</sub> = Hammer Efficiency Factor (ASTM Uncorrected); C = Consolidation Test</p>						
Sample Information		Visual Description and Remarks		Laboratory Testing Results		
Depth (ft.)	Sample No.	Pen. Rec. (in)	Depth (ft.)	Pen. Rec. (in)	Remarks	
55	82	44.4/40	55.60 - 59.30			82: Grey, weakly to strongly cemented, sand, gravel, silt, cobbles, (Glacial Till).
60	83	54/15	59.90 - 64.60			83: Grey, weakly to strongly cemented, sand, gravel, silt, cobbles, (Glacial Till).
65						Roller Cone ahead to 70.0 ft bgs.
65						Cobble from 64.8-65.3 ft bgs.
70	100	3.6/3.6	70.00 - 70.30	50(3.6")		Grey brown, very dense, silty SAND, (Glacial Till).
75	84	55.2/44	72.20 - 76.80	RD = 0%		Top of Bedrock at Elev. 1453.2 ft. R4: Bedrock Grey, fine to medium grained, interbedded METASANDSTONE and METALASTONE, slightly weathered, low angle breaks along folio bedding, occasional steep joints are open, very close to close, iron staining. Rock Mass Quality = Very Poor. (Quality Factor) R4: Core Times Intersact 72.2-73.2 ft (1210) 73.2-74.2 ft (1210) 74.2-75.2 ft (1205) 75.2-76.2 ft (1205) 76.2-76.8 ft (1300) 76% Recovery Core Recovered
80	85	60/60	76.80 - 81.80	RD = 23%		R5: Bedrock similar to R4. Rock Mass Quality = Very Poor. R5: Core Times Intersact 76.8-77.8 ft (1300) 77.8-78.8 ft (1200) 78.8-79.8 ft (1230) 79.8-80.8 ft (1220) 80.8-81.8 ft (1210) 100% Recovery
85						Bottom of Exploration at 81.80 feet below ground surface.

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
018955.00  
WIN 18955.00  
BRIDGE NO. 2384  
BRIDGE PLANS

HUNTER COVE BRIDGE  
HUNTER COVE  
FRANKLIN COUNTY  
RANGELEY  
BORING LOGS

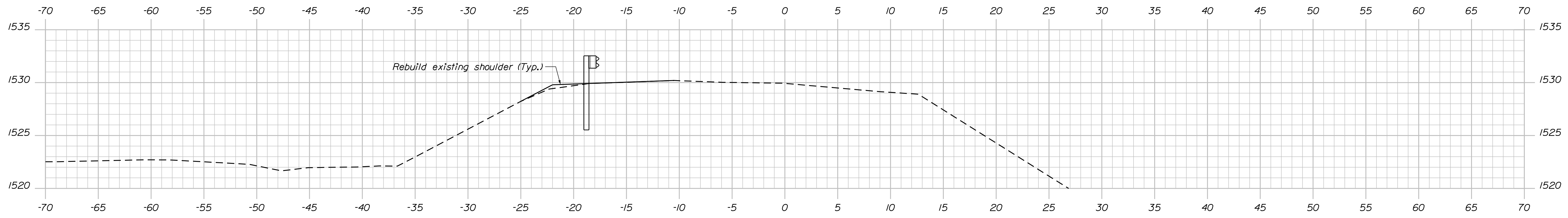
SHEET NUMBER  
8  
OF 25

PROJ. MANAGER	BY	DATE
M. WIGHT	D. SHAW	DEC 2017
CHECKED/REVIEWED	DATE	SIGNATURE
T. WHITE	DEC 2017	
DESIGN DETAILER	DATE	P.E. NUMBER
B. SJAVEN		
REVISIONS	DATE	FIELD CHANGES
1		
2		
3		
4		

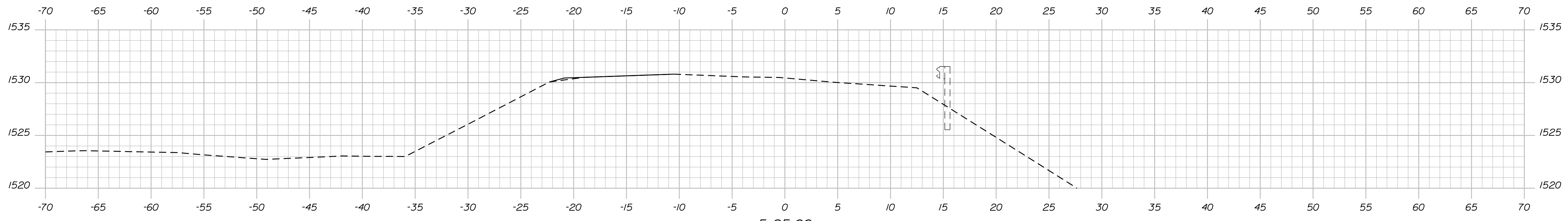
Date: 12/18/2017

Username: David.Shaw

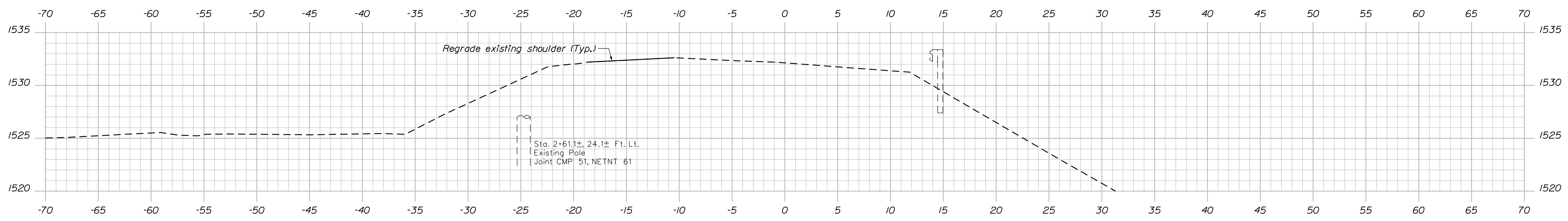
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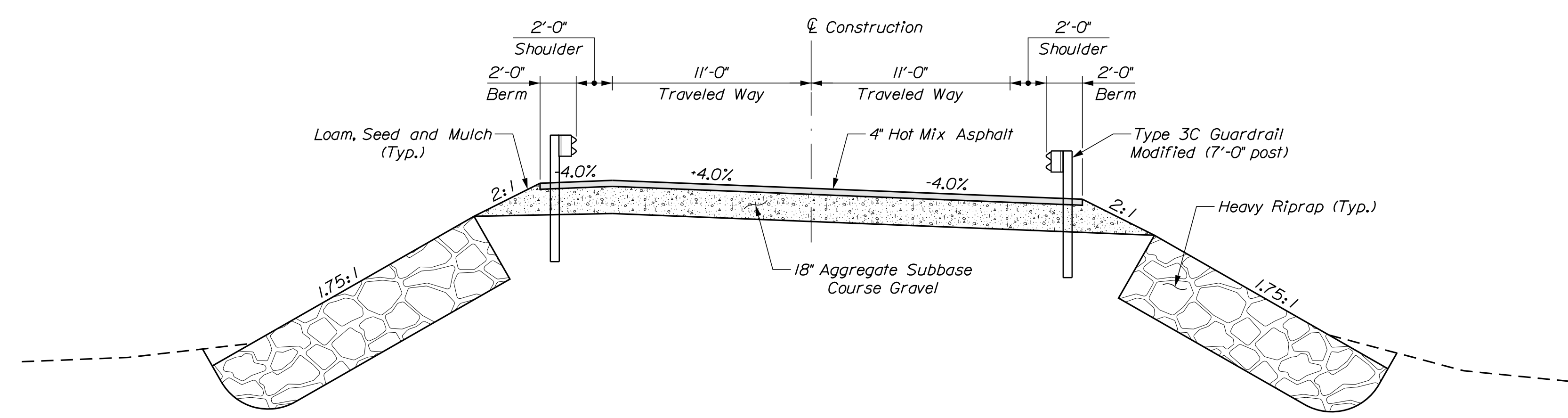
5+34.7



5+25.00



5+00.00



TYPICAL APPROACH SECTION

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
018955.00  
WIN  
18955.00  
BRIDGE NO. 2384  
BRIDGE PLANS

DESIGNED BY: D. SHAW  
CHECKED BY: R. MYERS  
DESIGNED BY: T. WHITE  
CHECKED BY: B. SLAVEN  
REVISIONS 1  
REVISIONS 2  
REVISIONS 3  
REVISIONS 4  
FIELD CHANGES

PROJ. MANAGER	BY	DATE
	D. SHAW	DEC 2017
	T. WHITE	NOV 2017

HUNTER COVE BRIDGE  
HUNTER COVE  
FRANKLIN COUNTY  
RANGELEY  
CROSS SECTIONS

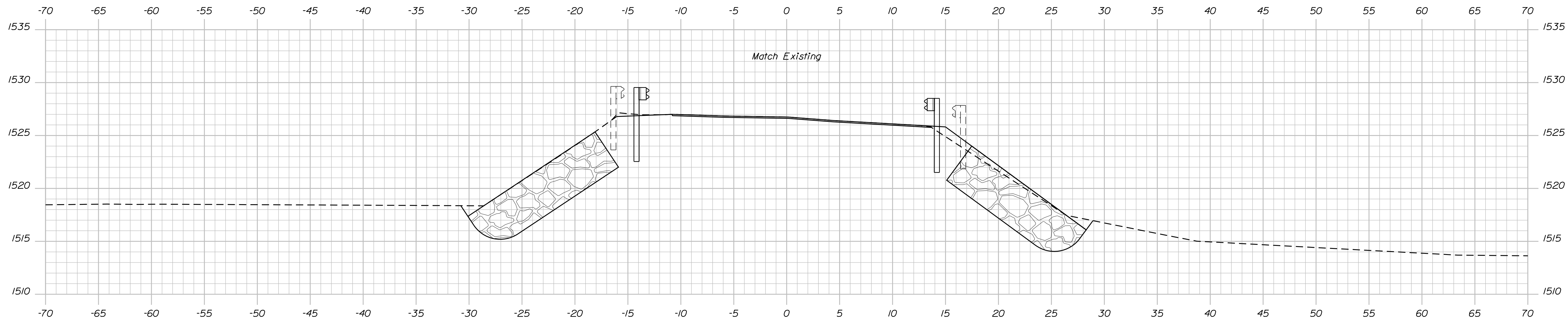
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**9**  
OF 25

Date: 12/18/2017

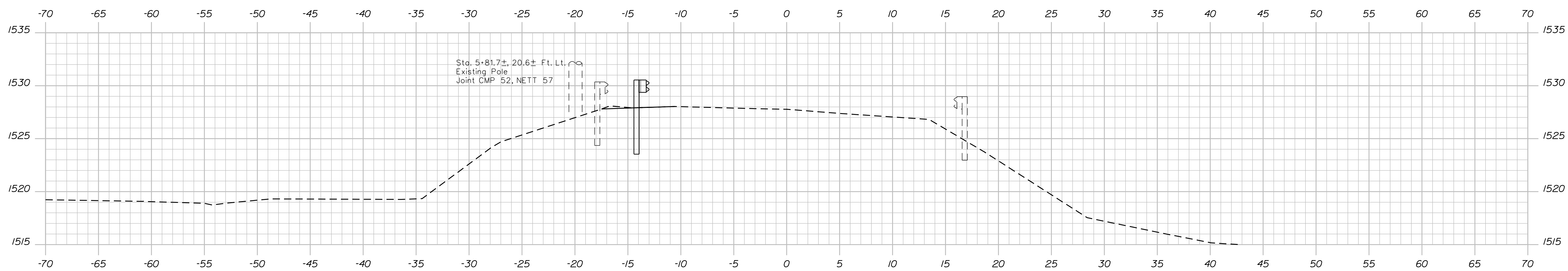
Username: David.Shaw

Division: BRIDGE

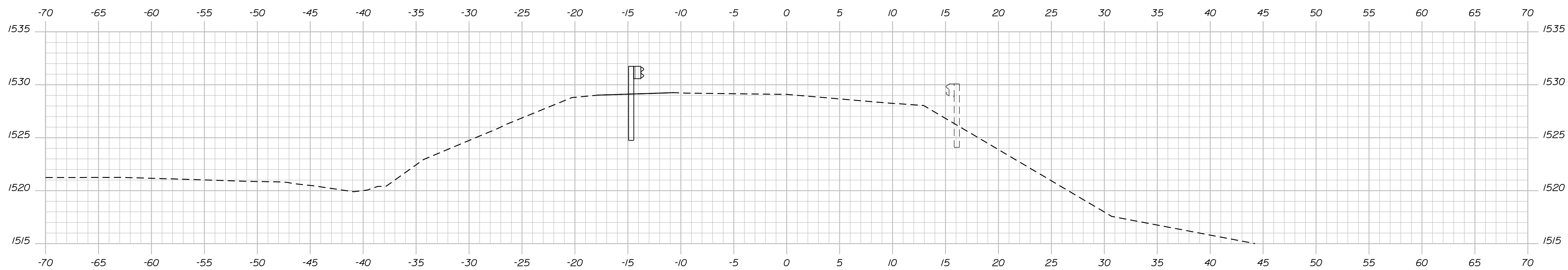
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**6+00.00**  
 Begin Transition  
 Sta. 6+00 to Sta. 6+10  
 Mill and Overlay 1/2" of pavement  
 Sta. 6+00.0±, 13.0 Ft. Rt. to Sta. 7+40.2±, 13.0 Ft. Rt.  
 Install 137.5 L.F. of Type 3C Guardrail



**5+75.00**  
 Sta. 5+70.8±, 13.0 Ft. Lt. to Sta. 7+42.4±, 13.0 Ft. Lt.  
 Install 175 L.F. of Type 3C Guardrail  
 Sta. 5+81.7±, 20.6± Ft. Lt.  
 Existing Pole  
 Joint CMP 52, NETT 57  
 Sta. 5+87.6±, 15.8± Ft. Rt. to Sta. 6+00.0±, 13.0 Ft. Rt.  
 Install 12.5 L.F. of Type 3C Guardrail



**5+50.00**

STATE OF MAINE  
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 BRIDGE NO. 2384  
 BRIDGE PLANS

PROJ. MANAGER	M. WIGHT	DATE	DEC 2017
CHECKED/REVIEWED	R. MYERS	BY	D. SHAW
DESIGNS/DETAILED	B. SLAVEN	DATE	NOV 2017
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REVISIONS 2		P.E. NUMBER	
REVISIONS 3		DATE	
REVISIONS 4			
FIELD CHANGES			

HUNTER COVE BRIDGE  
 HUNTER COVE  
 RANGELEY  
 FRANKLIN COUNTY  
**CROSS SECTIONS**

SHEET NUMBER  
**10**  
 OF 25

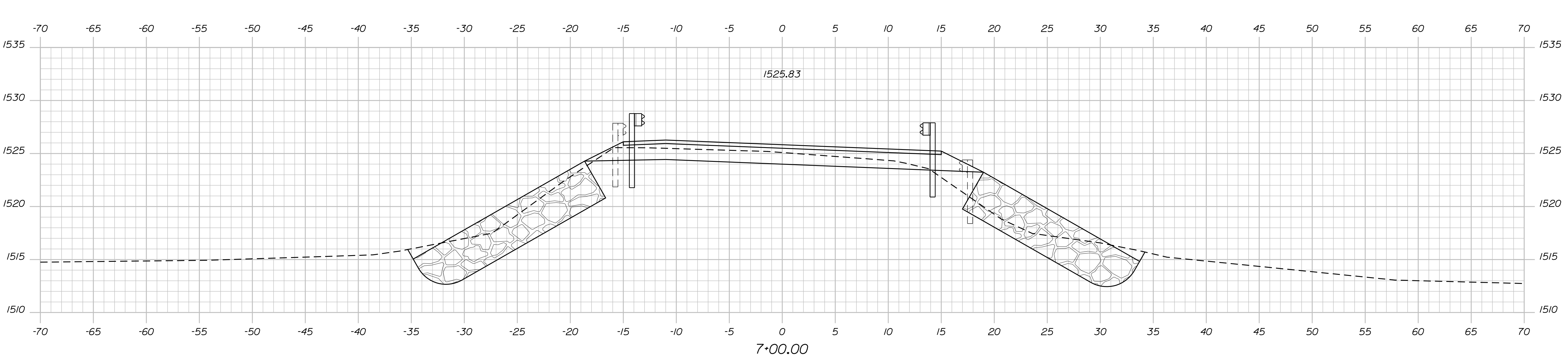
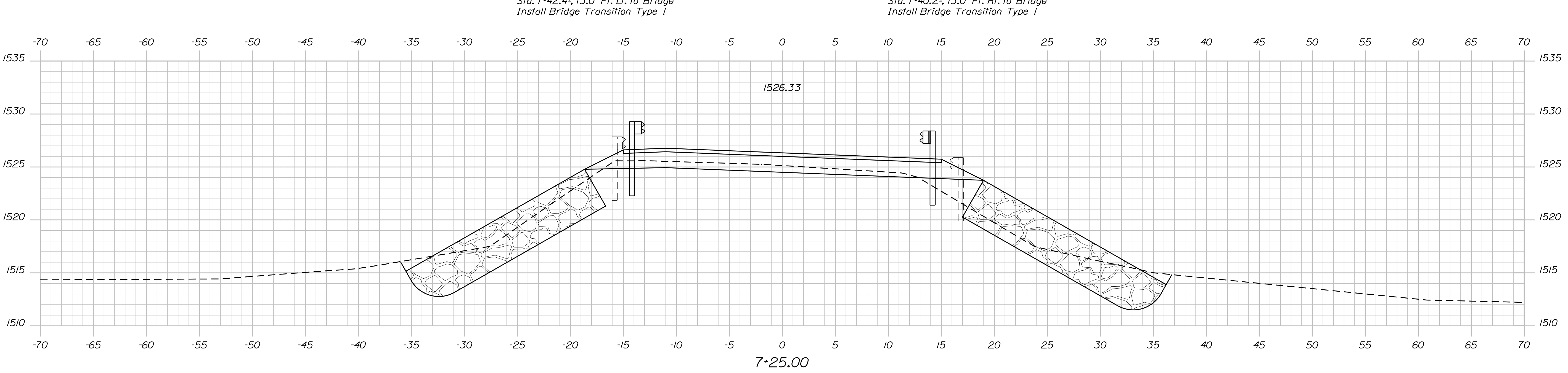
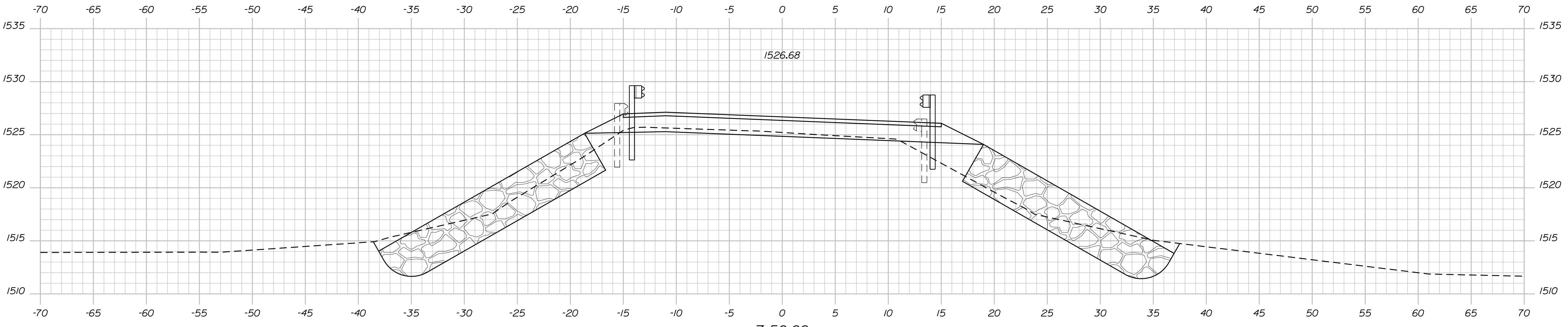


Date: 12/18/2017

Username: David.Shaw

Division: BRIDGE

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18955.00  
BRIDGE NO. 2384  
BRIDGE PLANS

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P.E. NUMBER  
DATE

PROJ. MANAGER	M. WIGHT	BY	DATE
CHECKED-REVIEWED	R. MYERS	D. SHAW	DEC 2017
DESIGNS DETAILED	B. SLAVEN	T. WHITE	NOV 2017
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

HUNTER COVE BRIDGE  
HUNTER COVE  
FRANKLIN COUNTY  
RANGELEY  
CROSS SECTIONS

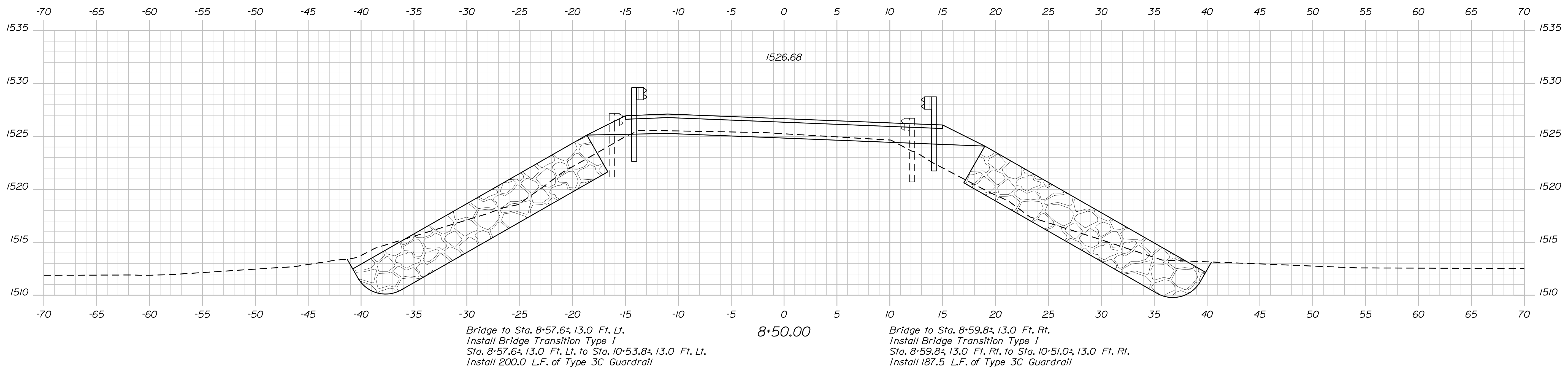
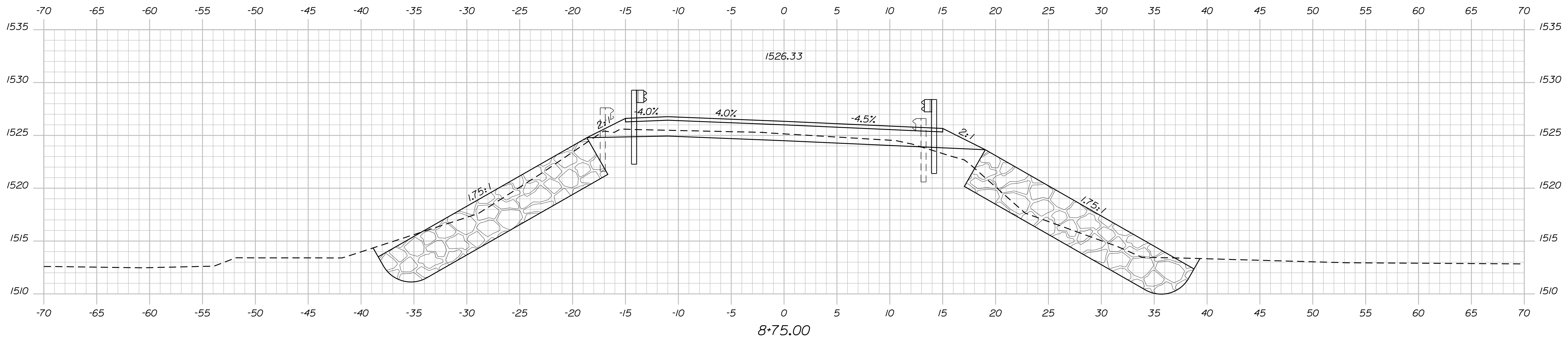
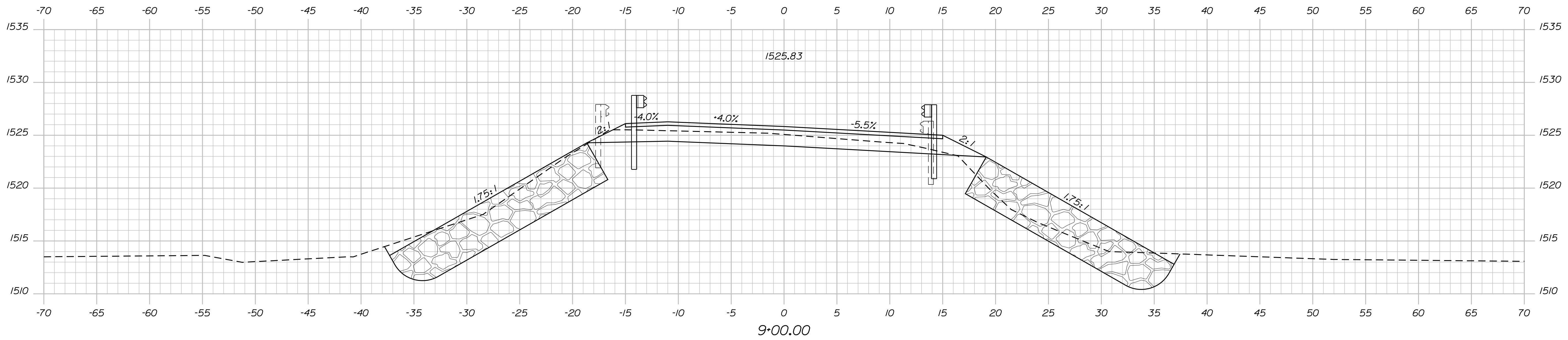
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OF 25

Date: 12/18/2017

Username: David.Shaw

Division: BRIDGE

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STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

018955.00

WIN

BRIDGE NO. 2384

BRIDGE PLANS

SIGNATURE

DATE

BY

M. WIGHT

CHECKED/REVIEWED

DESIGN/REVIEWED

DESIGN/REVIEWED

REVISIONS 1

REVISIONS 2

REVISIONS 3

REVISIONS 4

FIELD CHANGES

P.E. NUMBER

DATE

HUNTER COVE BRIDGE  
HUNTER COVE  
FRANKLIN COUNTY  
RANGELEY

CROSS SECTIONS

SHEET NUMBER

13

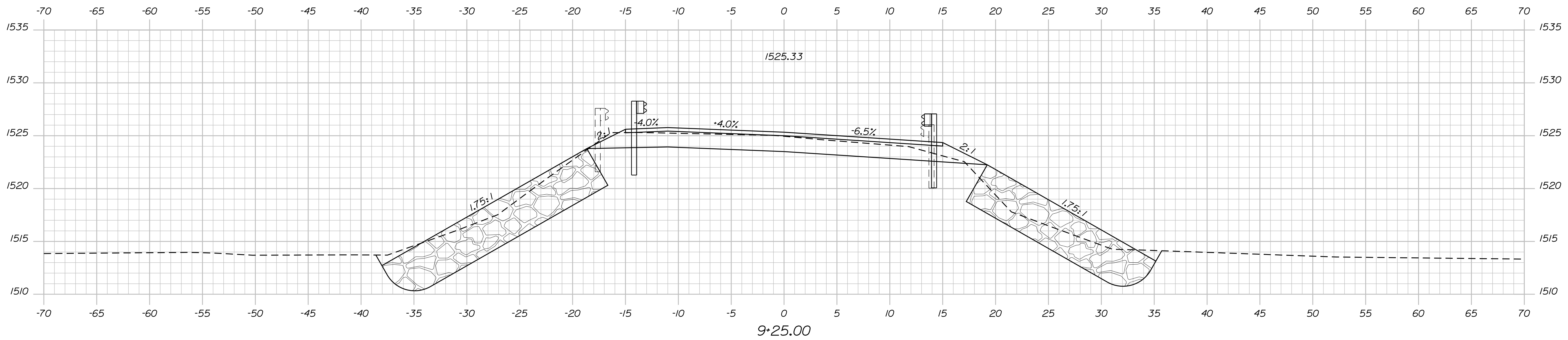
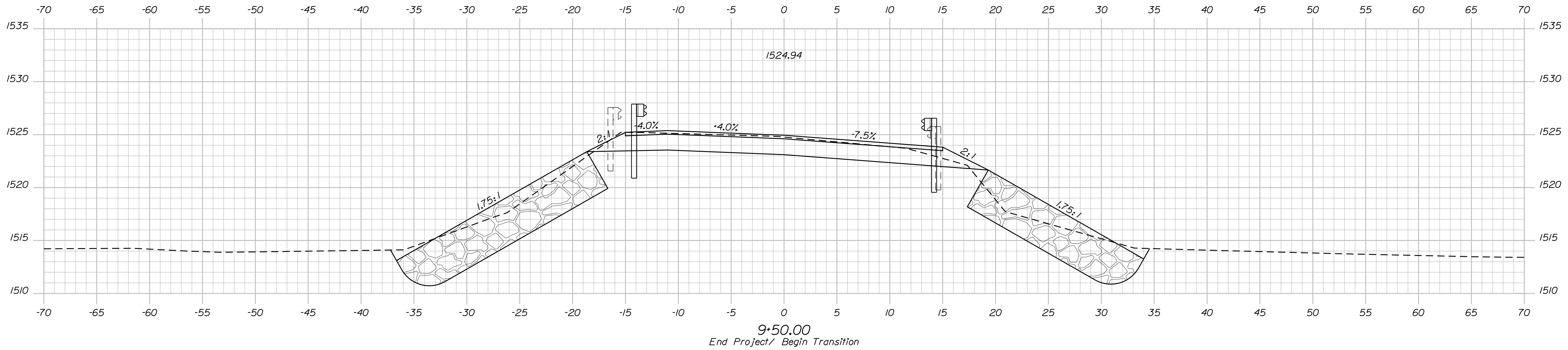
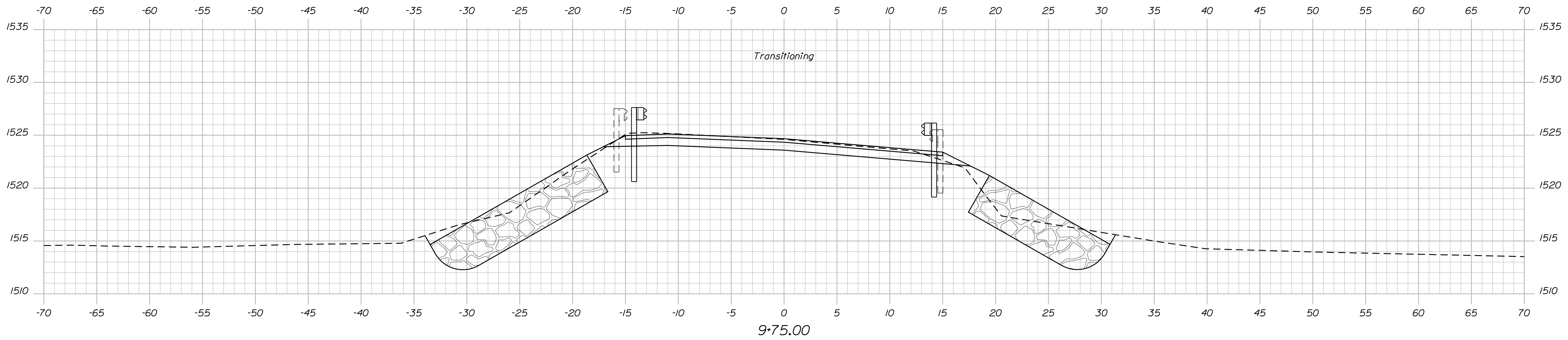
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Date: 12/18/2017

Username: David.Shaw

Division: BRIDGE

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STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

018955.00

WIN

BRIDGE NO. 2384

BRIDGE PLANS

SIGNATURE

DATE

BY

M. WIGHT

PROJ. MANAGER

CHECKED/REVIEWED

DESIGNS/DETAILED

REVISIONS 1

REVISIONS 2

REVISIONS 3

REVISIONS 4

FIELD CHANGES

P.E. NUMBER

DATE

DATE

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HUNTER COVE BRIDGE  
HUNTER COVE  
FRANKLIN COUNTY

CROSS SECTIONS

SHEET NUMBER

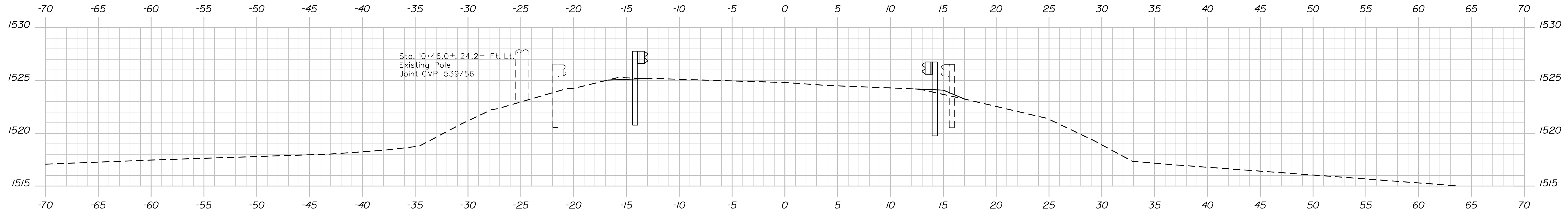
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OF 25

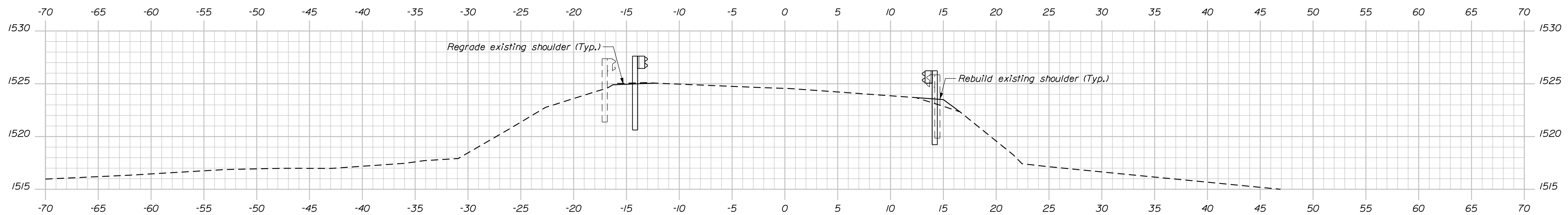
Date: 12/18/2017

Username: David Shaw

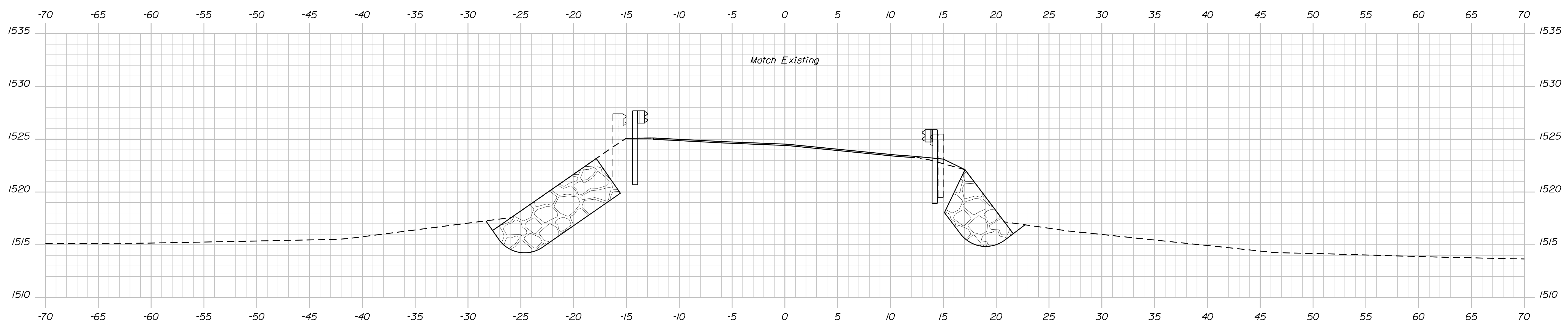
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10+50.00



10+25.00



10+00.00

End Transition  
Sta. 9+90 to Sta. 10+00  
Mill and Overlay 1/2" of pavement

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
018955-00  
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18955.00  
BRIDGE NO. 2384  
BRIDGE PLANS

PROJ. MANAGER	DATE
DESIGN-DETAILED	DEC 2017
CHECKED-REVIEWED	SIGNATURE
DESIGN-DETAILED	NOV 2017
REVISIONS 1	P.E. NUMBER
REVISIONS 2	DATE
REVISIONS 3	
REVISIONS 4	
FIELD CHANGES	

M. WIGHT	
R. MYERS	
D. SHAW	
T. WHITE	
B. SLAVEN	

HUNTER COVE BRIDGE  
HUNTER COVE  
FRANKLIN COUNTY  
RANGELEY  
CROSS SECTIONS

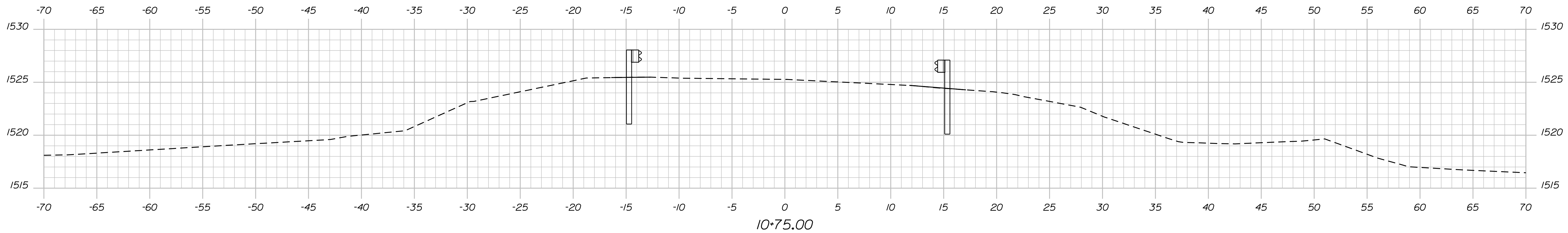
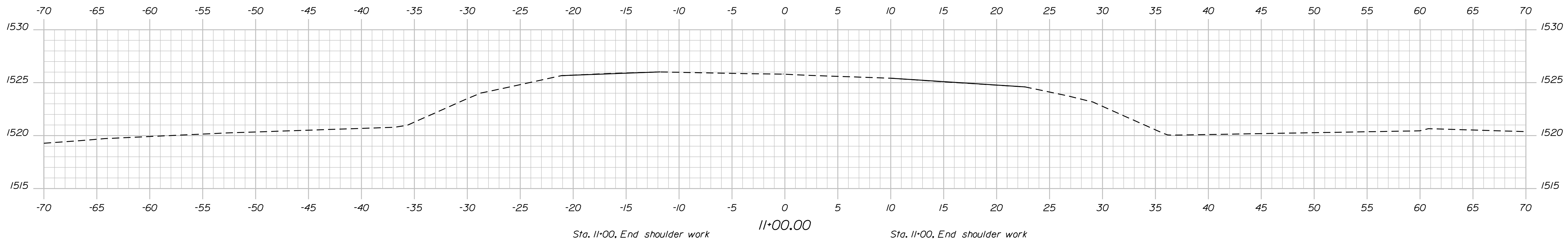
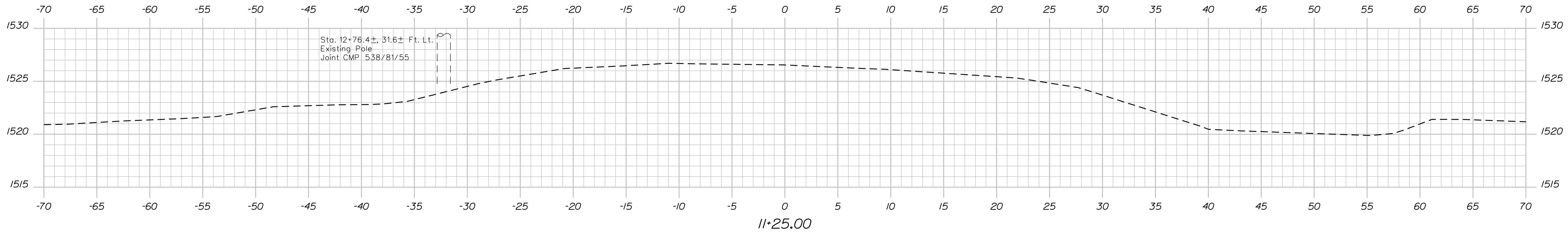
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OF 25

Date: 12/18/2017

Username: David.Shaw

Division: BRIDGE

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STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION

018955-00

WIN

BRIDGE NO. 2384

BRIDGE PLANS

SIGNATURE

DATE

BY

M. WIGHT

PROJ. MANAGER

CHECKED-REVIEWED

DESIGN-REVIEWED

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DESIGN-REVIEWED

DATE

DEC 2017

D. SHAW

R. MYERS

B. SLAVEN

T. WHITE

NOV 2017

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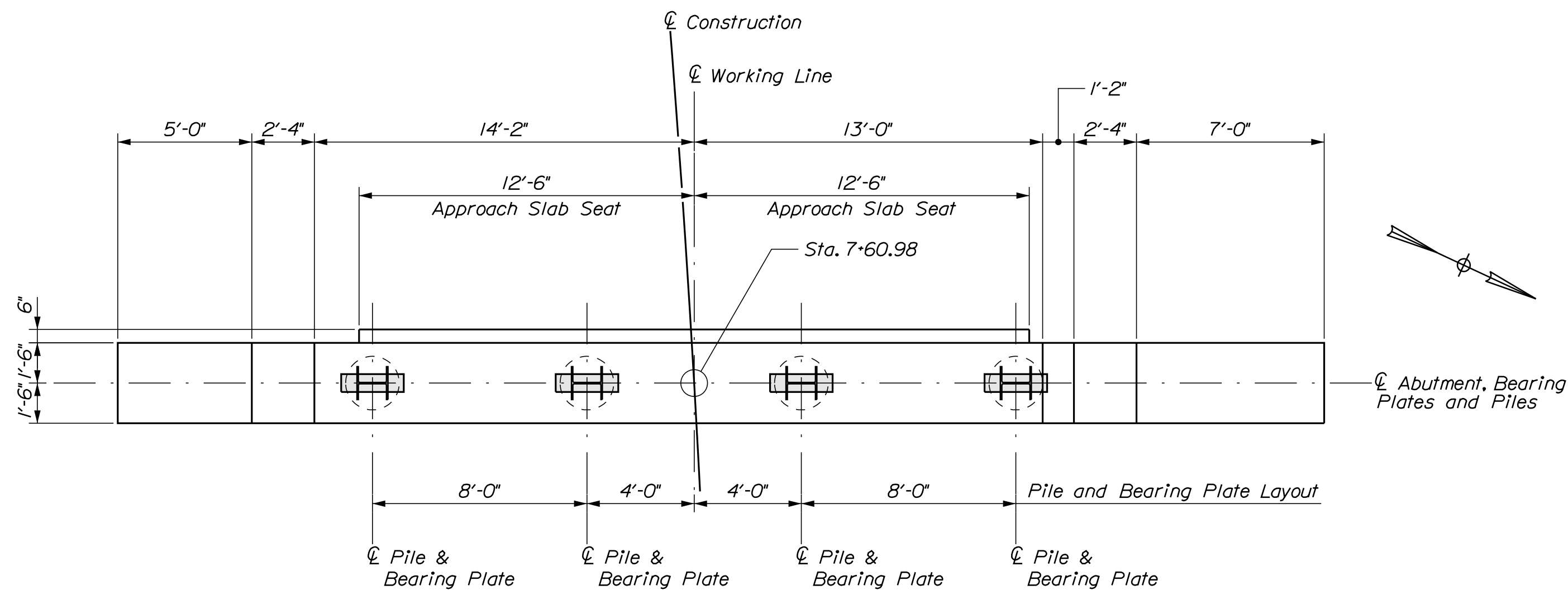
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Username: David Shaw

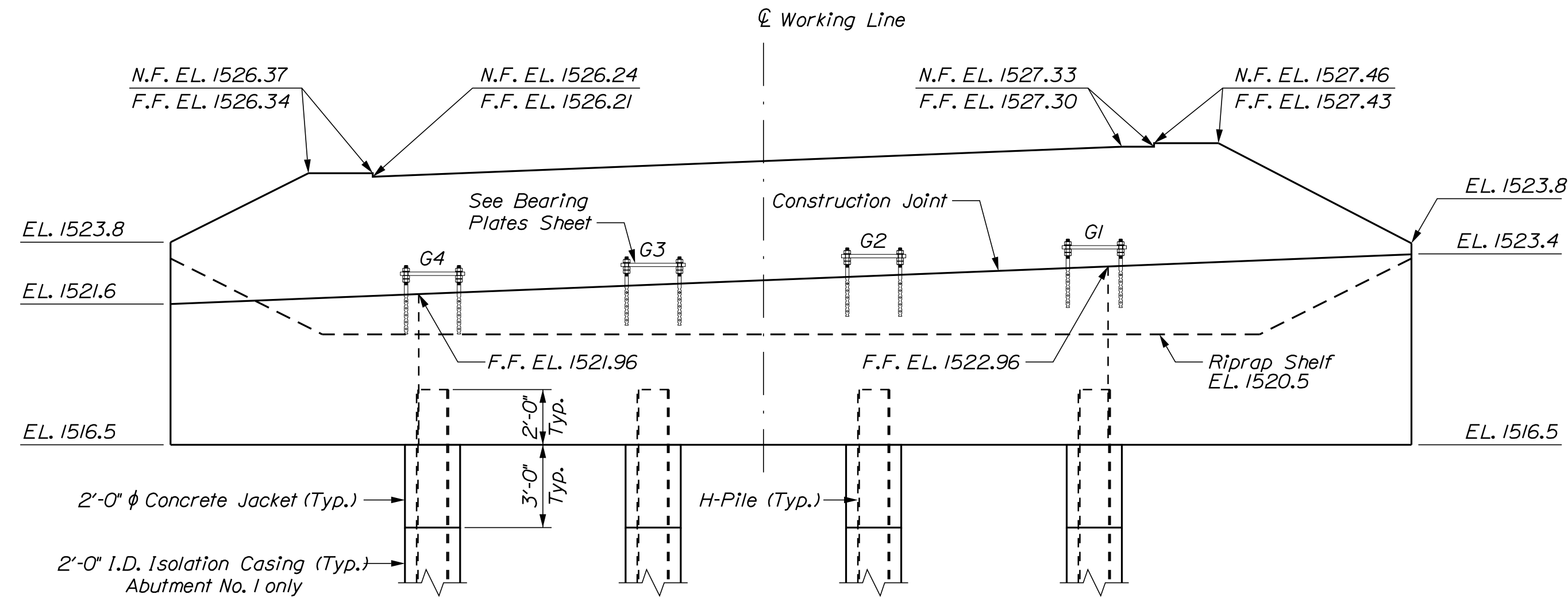
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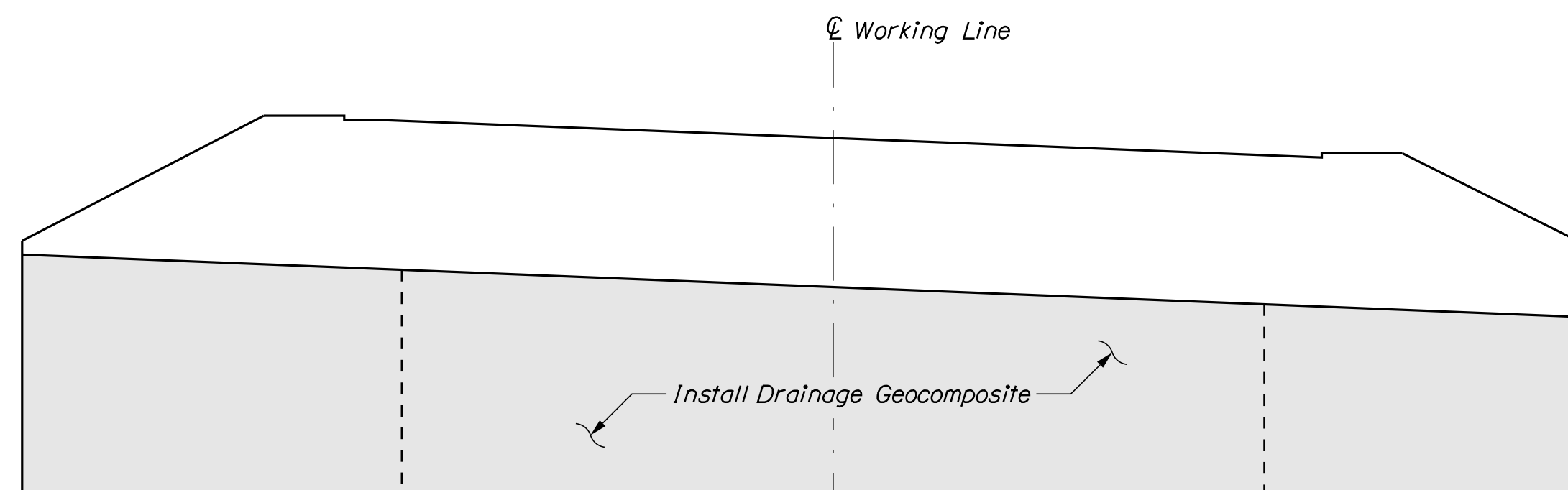
**ABUTMENT PLAN**

Abutment No. 1 Shown, Abutment No. 2 similar, opposite hand  
Bridge deck not shown for clarity



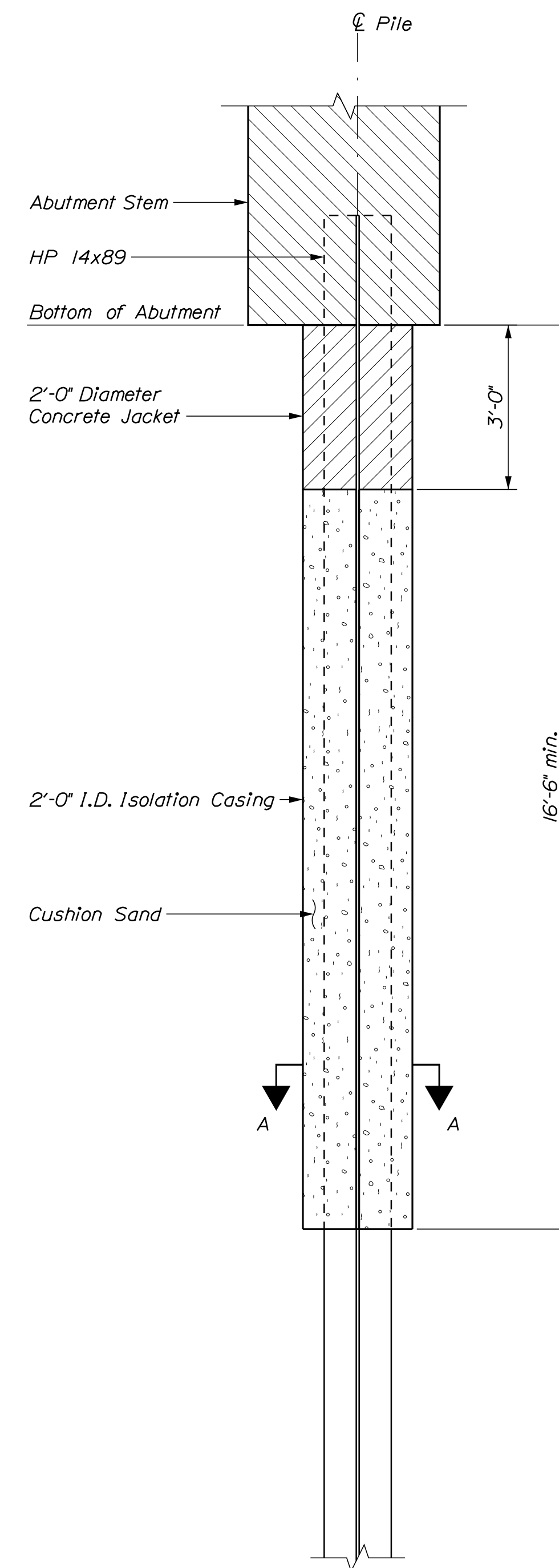
**ABUTMENT ELEVATION**

Abutment No. 1 Shown, Abutment No. 2 similar, opposite hand

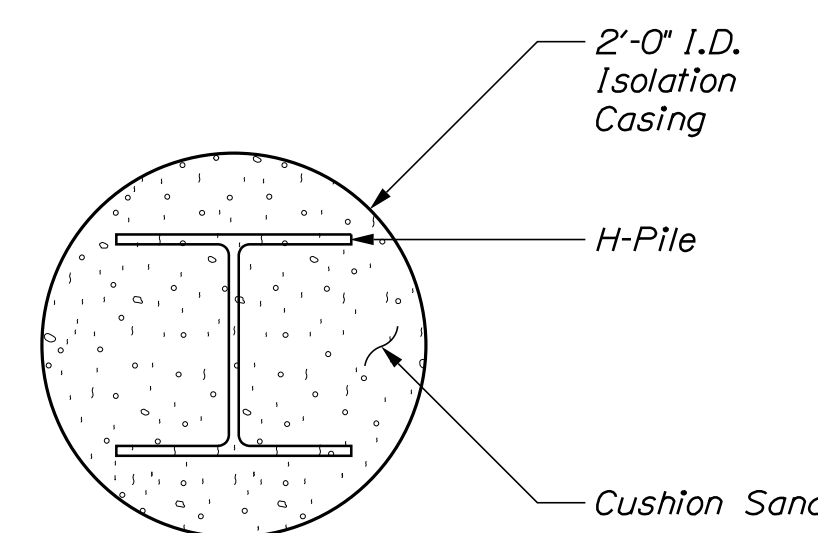


**DRAINAGE GEOCOMPOSITE INSTALLATION - ELEVATION**

Abutment No. 1 Backwall Shown, Abutment No. 2 similar, opposite hand



**ABUTMENT NO. 1 PILE AND CASING DETAIL**



**SECTION A-A**

**PILE NOTES**

- The maximum factored pile load (Strength I) is 351 kips.
- Estimate of piles required:  
Abutment No. 1: 4 ~ HP 14x89 @ 64.5 feet  
Abutment No. 2: 4 ~ HP 14x89 @ 65.5 feet
- The order lengths of the piles shall include an additional 5 feet of length for each test pile to accommodate dynamic pile testing equipment.
- All piles shall be equipped with a pile tip in accordance with Standard Specifications Subsection 501.048 - Prefabricated Pile Tips and 711.10 H-Beam Piles, Splices and Tips.
- Piles shall be driven to the required resistance on or within bedrock in accordance with Standard Specification Section 501.
- The Contractor shall perform and submit a wave equation analysis for review and acceptance by the Resident. The maximum allowable driving stress is 0.90 times F<sub>y</sub>. The submittal analyses shall include the proposed driving system.
- The contractor shall perform 2 dynamic load tests with 24 hour (min.) restrike tests to confirm the nominal resistance of the piles. The required nominal resistance for the pile is the factored axial pile load divided by a resistance factor of 0.65 per LRFD Specifications. Each dynamic test shall be performed on the first production pile driven at each abutment.
- Piles at Abutment No. 1 shall be driven in an isolation casing. Isolation casing shall be 24" I.D. steel with 0.25 inch minimum thickness or high density polyethylene pipe meeting the requirements of AASHTO M294, Type C, D, or S. Payment for the isolation casing shall be made under Pay Item No. 501.251, Pile casing.
- The annular space within the isolation casing shall be filled with cushion sand following final pile driving. Payment for cushion sand and cushion sand placement shall be incidental to Pay Item No. 501.251 Pile Casing.
- Pile driving shall not be performed within 25 feet of an uncased hole.

**ABUTMENT NO. 1 PILE INSTALLATION SEQUENCE:**

- Place Isolation casing.
- Set pile in casing. The pile may be lightly driven prior to final pile driving at the contractor's option.
- Backfill Isolation casing with cushion sand.

**ABUTMENT NOTES**

- Reinforcing steel shall have a minimum concrete cover of 2 inches in the walls and 3 inches from the bottom face unless otherwise noted.
- Place 4-in. diameter drains in the breastwall and wingwalls at 10-ft maximum spacing. The exact location will be determined by the Resident.
- Cover joints where waterstops are not required in accordance with Standard Details Section 502.
- Install Drainage Geocomposite behind the abutments and wingwalls up to the approach slab seat elevation in accordance with Special Provision Section 620, Drainage Geocomposite.
- Abutments and wingwalls shall be backfilled with Granular Borrow. Material for Underwater Backfill. Pay limits will be as shown in these Plans.
- Work and materials required to construct the concrete jackets near the top of the piles will not be paid for separately, but will be considered incidental to related items. Fill concrete may be used for the concrete jackets.

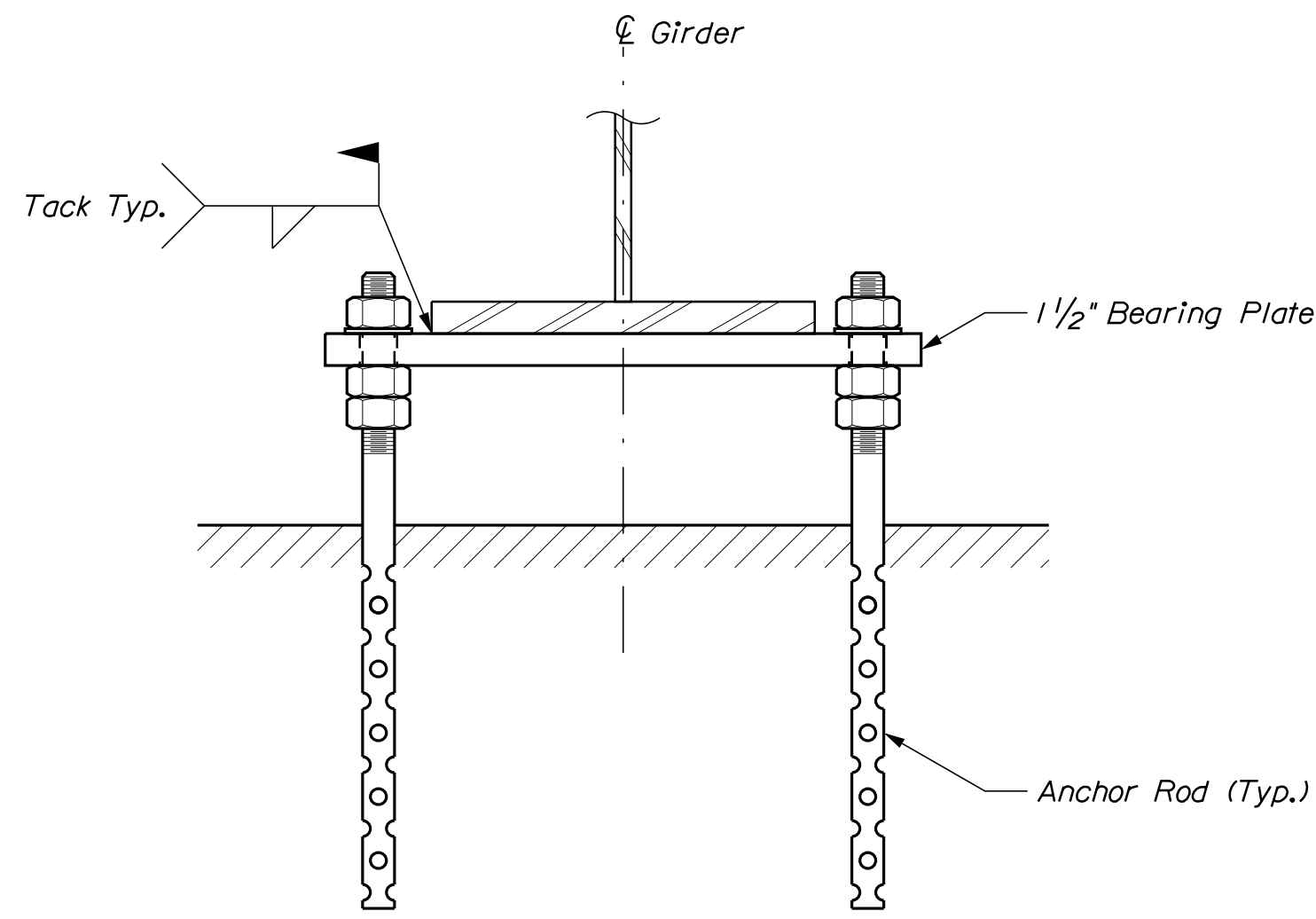
STATE OF MAINE  
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BRIDGE NO. 2384  
BRIDGE PLANS

PROJ. MANAGER	M. WIGHT	BY	DATE	SIGNATURE	P.E. NUMBER	DATE
DESIGN-DETAILED	R. MYERS	D. SHAW	DEC 2017			
CHECKED-REVIEWED	B. SLAVEN	T. WHITE	NOV 2017			
DESIGNS-DETAILED						
REVISIONS 1						
REVISIONS 2						
REVISIONS 3						
REVISIONS 4						
FIELD CHANGES						

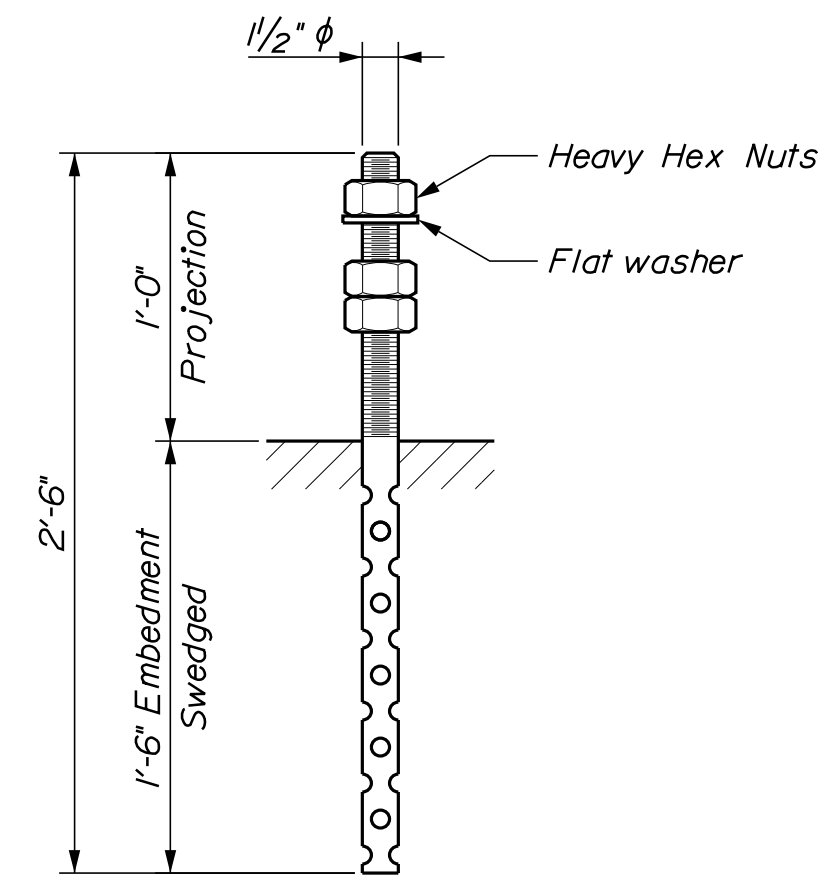
HUNTER COVE BRIDGE  
HUNTER COVE  
FRANKLIN COUNTY  
RANGELEY  
ABUTMENT PLAN

SHEET NUMBER  
**17**  
OF 25

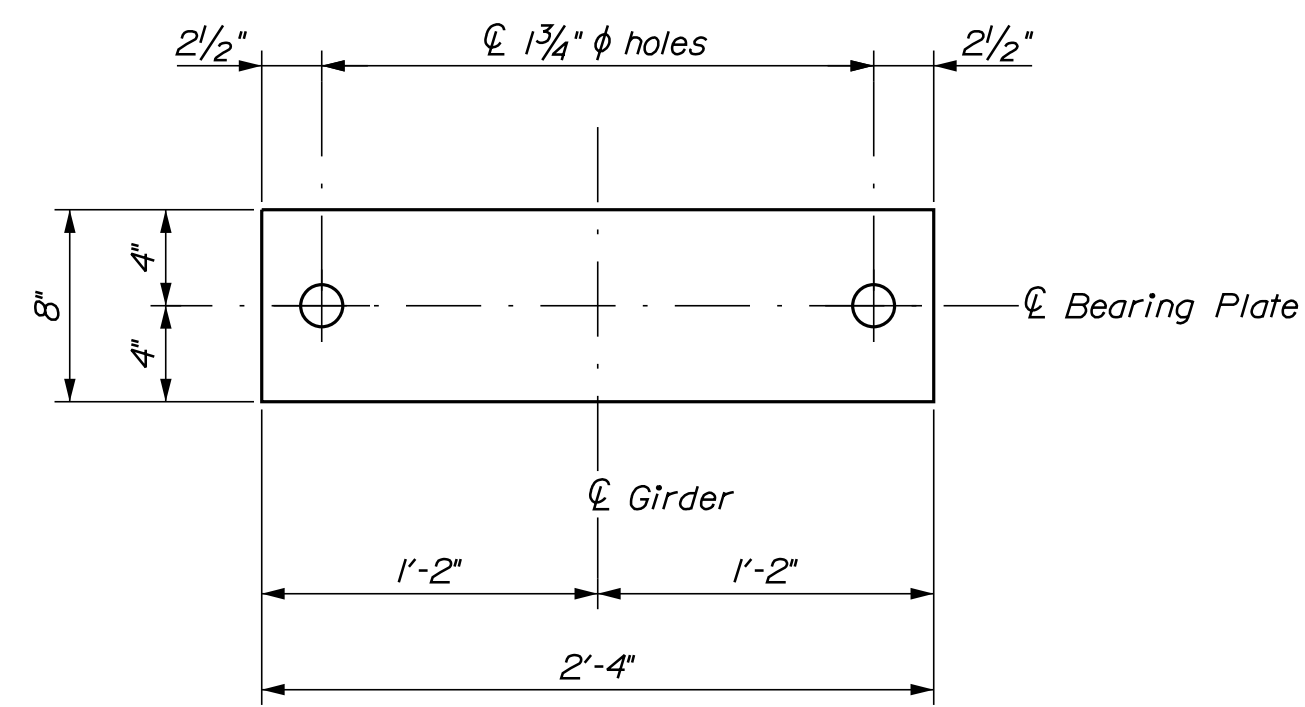




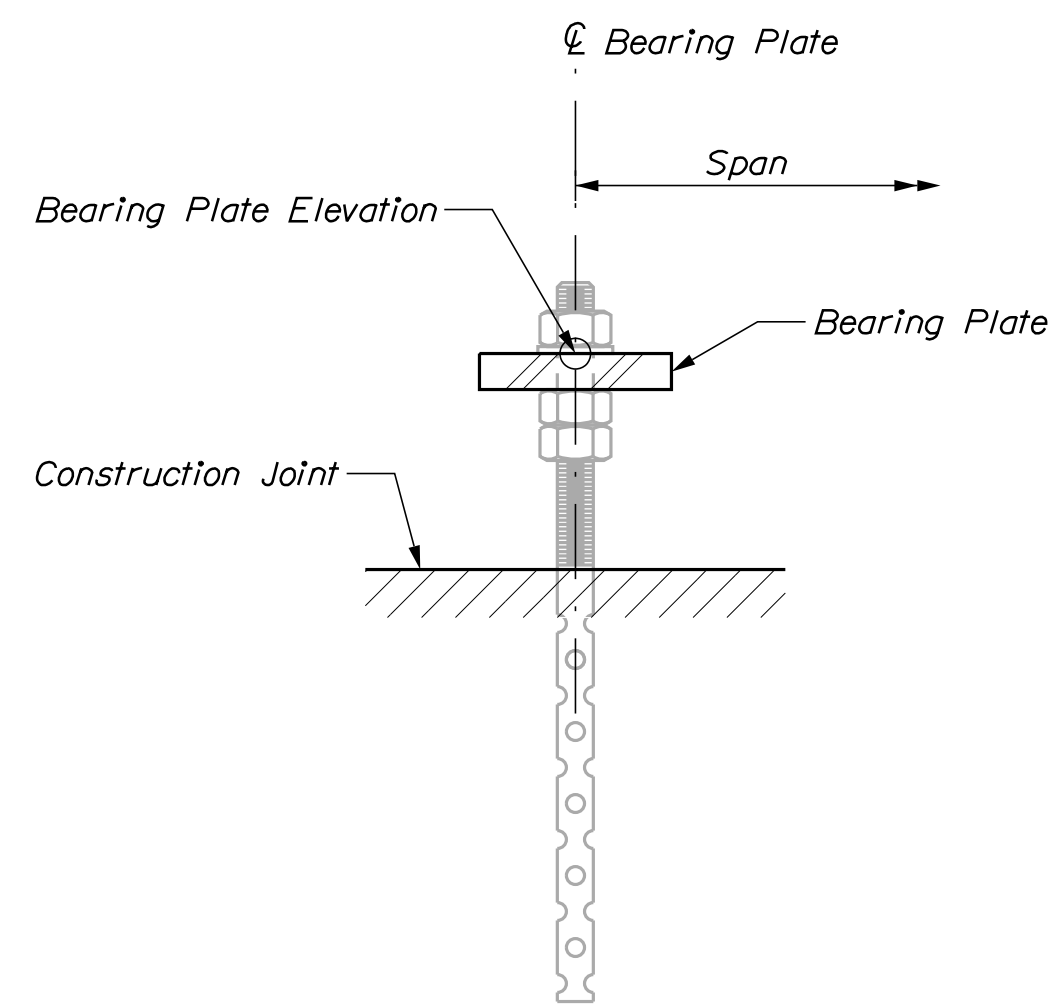
BEARING ASSEMBLY ELEVATION



ANCHOR ROD DETAIL



BEARING PLATE PLAN



BEARING PLATE INSTALLATION

BEARING PLATE ELEVATIONS	
Girder	℄ Brg., Abut. Nos. 1 & 2
G1	1523.73
G2	1523.41
G3	1523.09
G4	1522.77

BEARING PLATE NOTES

1. Payment for fabrication and installation of bearing plate assemblies will be considered incidental to related Contract items.

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DESIGN-DETAILED	R. MYERS	D. SHAW	DEC. 2017
CHECKED-REVIEWED	B. S. JAVEN	T. WHITE	NOV. 2017
DESIGN-DETAILED			
REVISIONS 1			
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REVISIONS 4			
FIELD CHANGES			

HUNTER COVE BRIDGE  
HUNTER COVE  
FRANKLIN COUNTY  
RANGELEY  
ABUTMENT BEARING PLATES

SHEET NUMBER

19

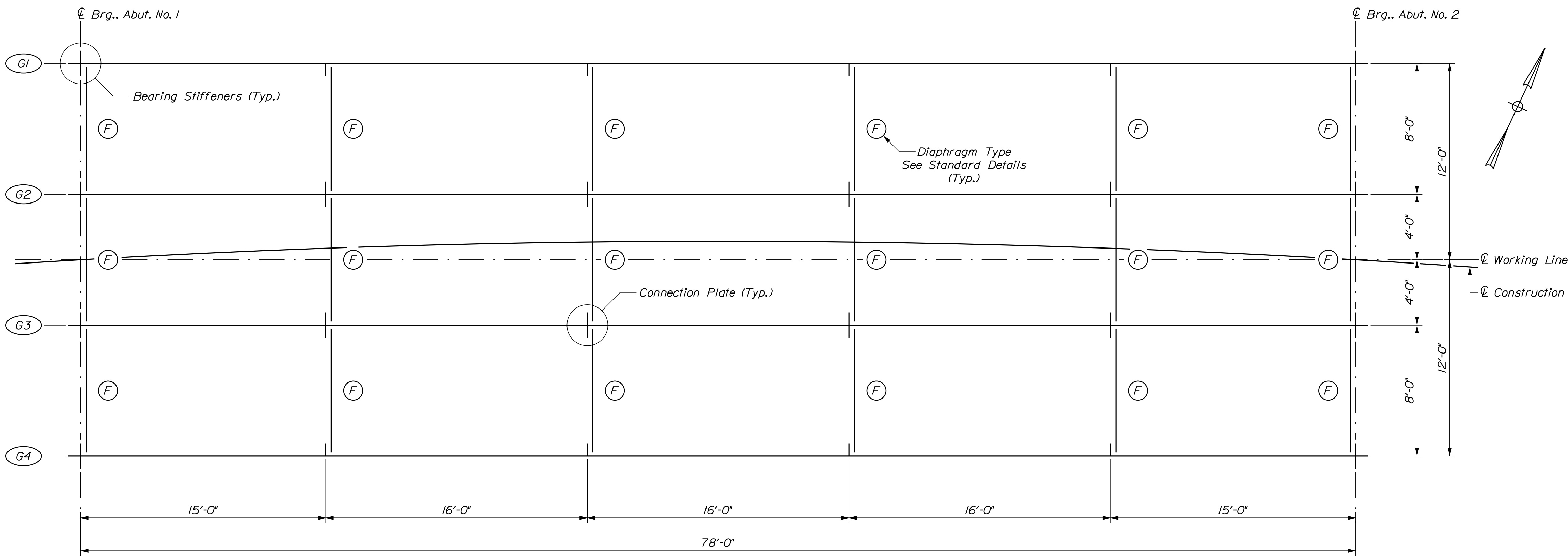
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Date: 12/18/2017

Username: David Shaw

Division: BRIDGE

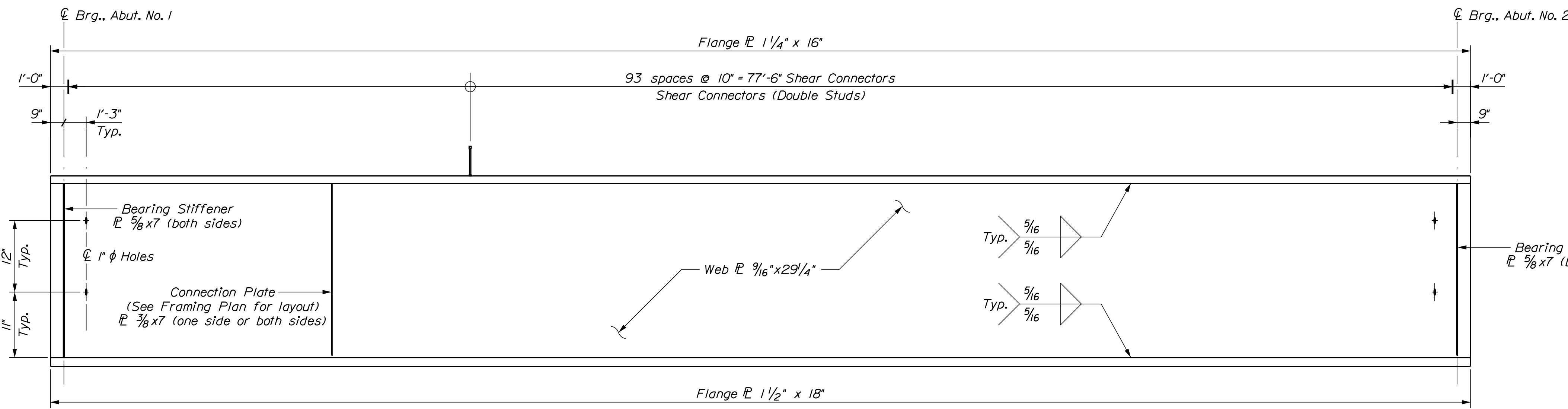
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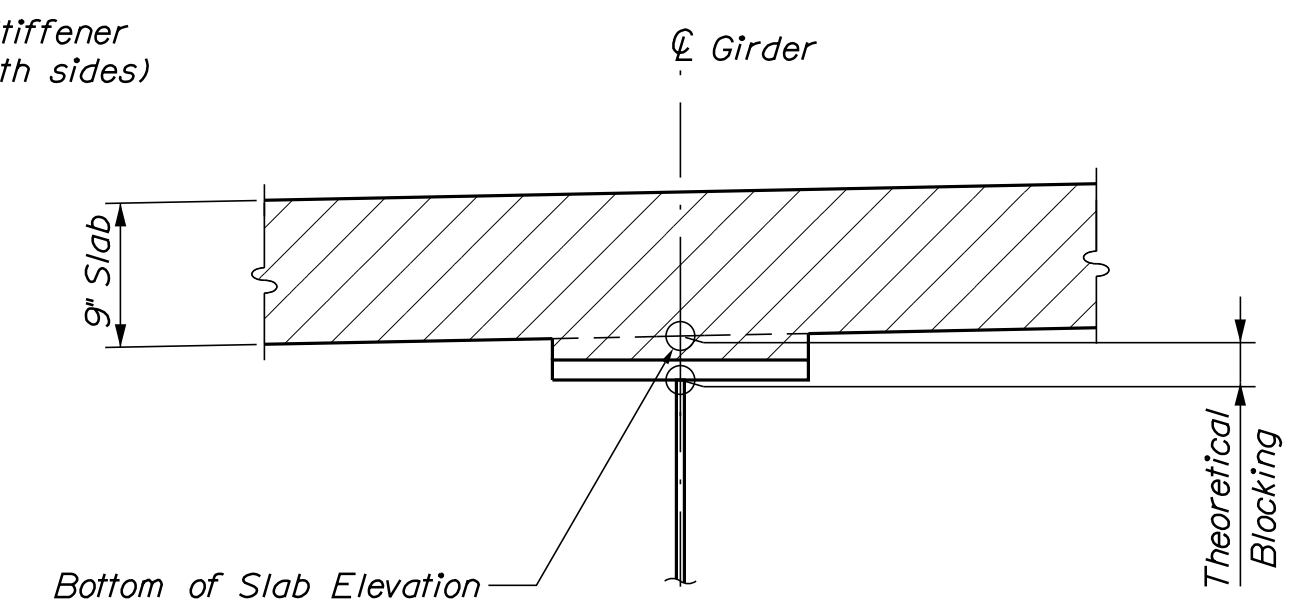
FRAMING PLAN

STRUCTURAL STEEL NOTES

1. Camber ordinates, as shown, are computed to compensate for all dead load deflections and for the curvature of the finished grade profile.
2. No transverse butt weld splices will be allowed in the flange plates or web plates within 10 feet or 10 percent of the span length (whichever is greater) from the points of maximum negative moment or maximum positive moment. Butt weld splices in flanges shall be not less than one foot from transverse butt welds in the web plates and no transverse web or flange butt welds shall be located within one foot of other transverse welds (e.g. connection plates to web welds) on either flange or web. No transverse butt weld splices will be allowed in areas of stress reversal.
3. Sections of flange plates or web plates between transverse shop splices or between a transverse shop splice and a field splice shall be not less than 20 feet in length unless otherwise shown on the plans.
4. Bearing stiffeners shall be plumb after erection and dead loading of the structure.
5. Crossframe or diaphragm connection plates may be either plumb or normal to the top flange.
6. Hot-dip galvanize all structural steel including hardware. Plain reinforcing steel passing through the girder webs shall be sleeved with a continuous 1/8 inch minimum thickness polyethylene or nylon tube, extending at least one inch in each direction past the girder web and bound with nylon or polypropylene cable ties.
7. The bridge structure is straight, i.e. no skew with respect to the working line. The roadway alignment is curved, resulting in a skew of the roadway alignment at the abutments with respect to the structure. The structure dimensions are in relation to the working line.
8. Prior to welding studs to top flange, remove zinc coating by spot grinding or a method approved by the Resident. Use caution so as not to damage the top flange. As an alternative, the Contractor may mask off the middle 8 inches of the top of the top flange during galvanizing.

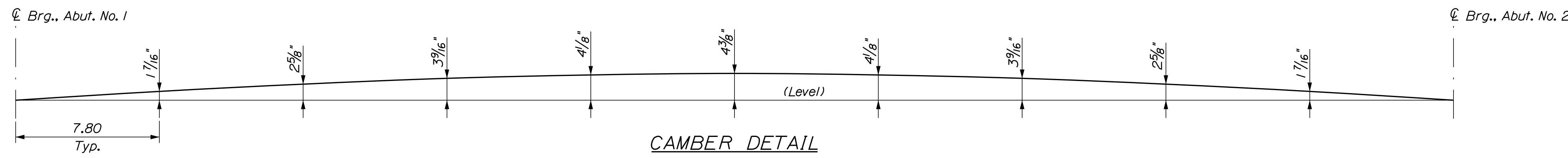


GIRDER ELEVATION  
188 Shear Connectors per Girder



BLOCKING DETAIL

Theoretical blocking is 2 3/4" at Abutments (Do not use theoretical blocking to set forms)



CAMBER DETAIL

Girder	Abut. No. 1	1st Tenth	2nd Tenth	3rd Tenth	4th Tenth	Midspan	6th Tenth	7th Tenth	8th Tenth	9th Tenth	Abut. No. 2
	0	7.8	15.6	23.4	31.2	39.0	46.8	54.6	62.4	70.2	78.0
1	1526.53	1526.63	1526.72	1526.79	1526.83	1526.84	1526.83	1526.79	1526.72	1526.63	1526.53
2	1526.21	1526.31	1526.40	1526.47	1526.51	1526.52	1526.51	1526.47	1526.40	1526.31	1526.21
3	1525.88	1525.98	1526.07	1526.15	1526.19	1526.20	1526.19	1526.15	1526.07	1525.98	1525.88
4	1525.56	1525.66	1525.75	1525.83	1525.87	1525.88	1525.87	1525.83	1525.75	1525.66	1525.56

	Abut. No. 1	1st Tenth	2nd Tenth	3rd Tenth	4th Tenth	Midspan	6th Tenth	7th Tenth	8th Tenth	9th Tenth	Abut. No. 2
Steel	0.00	0.18	0.33	0.46	0.54	0.56	0.54	0.46	0.33	0.18	0.00
Fluid Concrete	0.00	0.66	1.25	1.72	2.01	2.11	2.01	1.72	1.25	0.66	0.00
Superimposed	0.00	0.05	0.09	0.13	0.15	0.16	0.15	0.13	0.09	0.05	0.00
Vertical Alignment Adjust.	G1	0.00	0.53	0.98	1.23	1.41	1.51	1.41	1.23	0.98	0.53
	G2	0.00	0.53	0.98	1.23	1.40	1.50	1.40	1.23	0.98	0.53
	G3	0.00	0.52	0.97	1.34	1.52	1.62	1.52	1.34	0.97	0.52
	G4	0.00	0.52	0.97	1.34	1.51	1.61	1.51	1.34	0.97	0.52

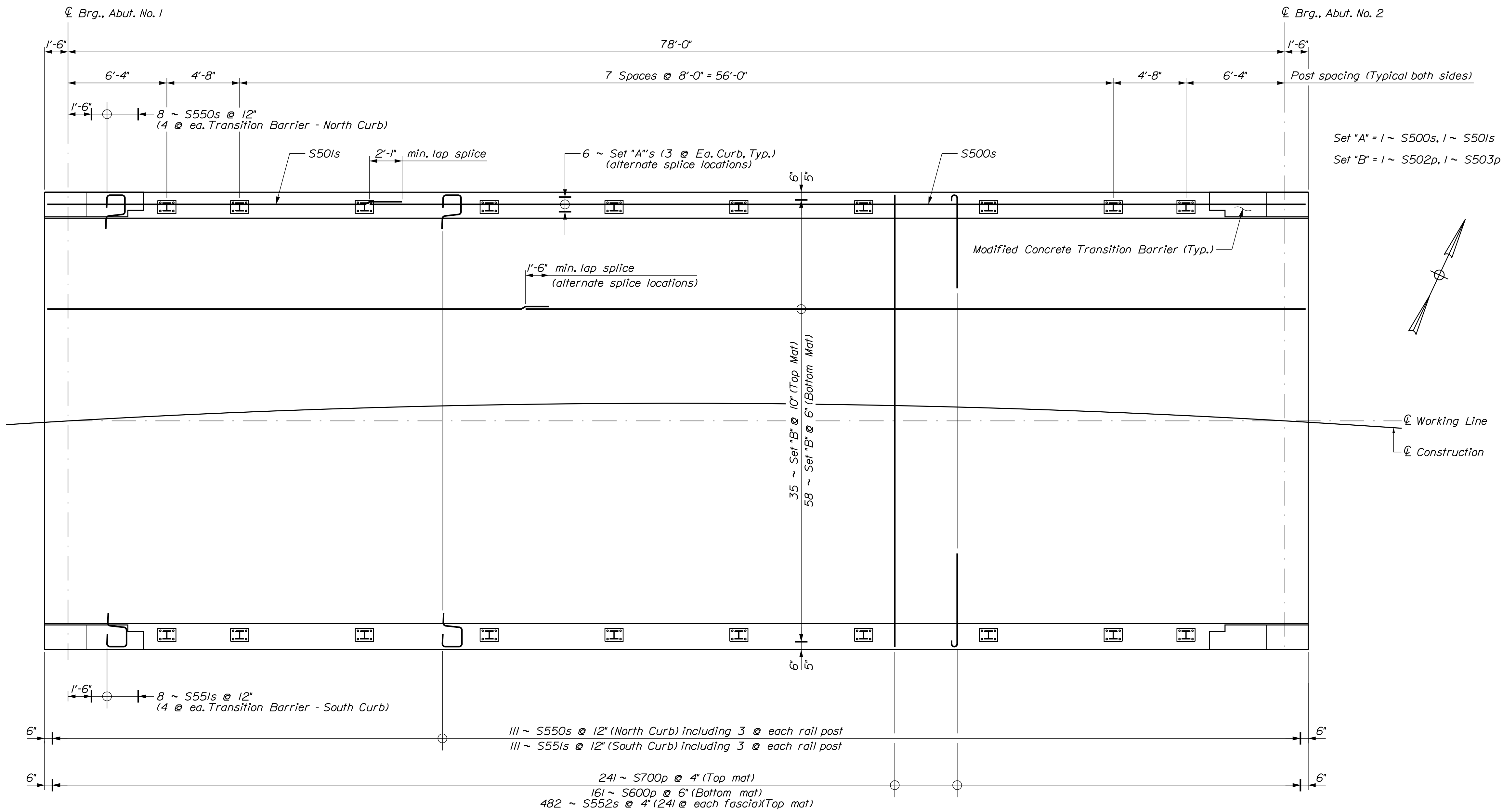
STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
018955-00  
WIN 18955.00  
BRIDGE NO. 2384  
BRIDGE PLANS

HUNTER COVE BRIDGE  
HUNTER COVE  
FRANKLIN COUNTY  
RANGELEY

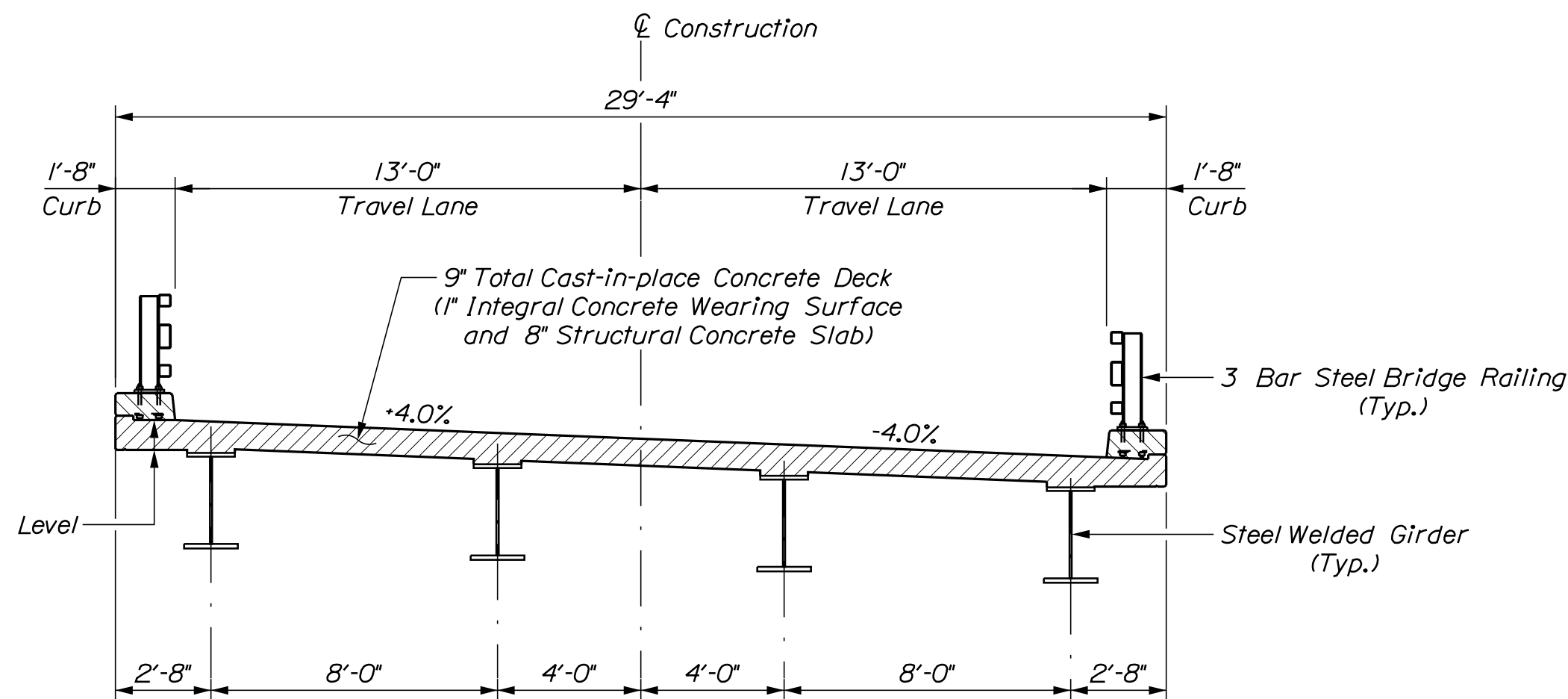
FRAMING PLAN AND GIRDER DETAILS

PROJ. MANAGER	BY	DATE	CHECKED	REVIEWED	DESIGNED	DATE	SIGNATURE	P.E. NUMBER	DATE
	D. SHAW	DEC 2017							
	T. WHITE	NOV 2017							

SHEET NUMBER  
**20**  
OF 25



SUPERSTRUCTURE PLAN



PROPOSED BRIDGE SECTION

SUPERSTRUCTURE NOTES

1. The theoretical blocking used for design of the structure is 2 3/4 inch at the centerline of bearing of the abutments. Refer to Standard Detail 502(03) for blocking details.
2. Reinforcing steel shall have a minimum concrete cover of 2 inches unless otherwise noted.
3. Form a one inch V-groove on the fascias at the horizontal joint between the curb and slab.
4. The Contractor shall install Transition Barrier vertical closed stirrups, as shown in Standard Details Section 526, prior to the placement of the curb concrete.
5. Stainless steel reinforcing shall not be placed against the galvanized structural steel in the finished product.
6. The concrete superstructure slab and integral backwalls shall be placed continuously and kept plastic until the entire placement has been made.
7. Precast concrete deck panels are prohibited.

STATE OF MAINE  
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018955-00  
WIN  
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BRIDGE PLANS

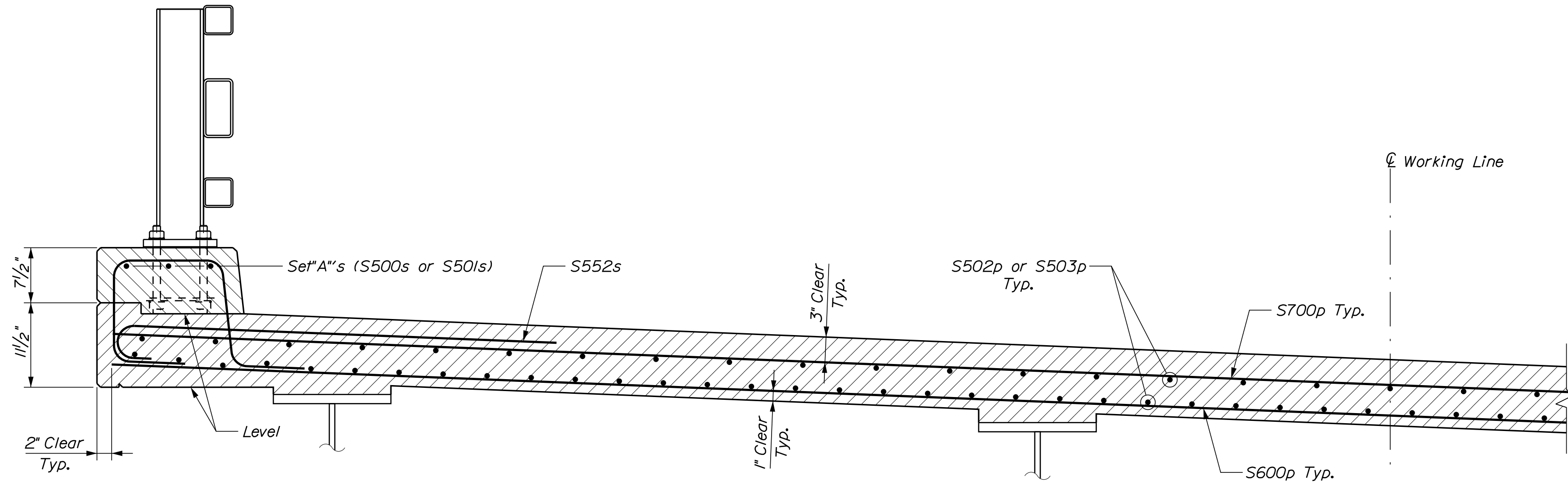
PROJ. MANAGER	M. WIGHT	BY	DATE
DESIGNED/DETAILED	R. MYERS	D. SHAW	DEC 2017
CHECKED/REVIEWED	B. SJAVEN	T. WHITE	NOV 2017
DESIGNED/DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

HUNTER COVE BRIDGE  
HUNTER COVE  
FRANKLIN COUNTY  
RANGELEY  
SUPERSTRUCTURE PLAN

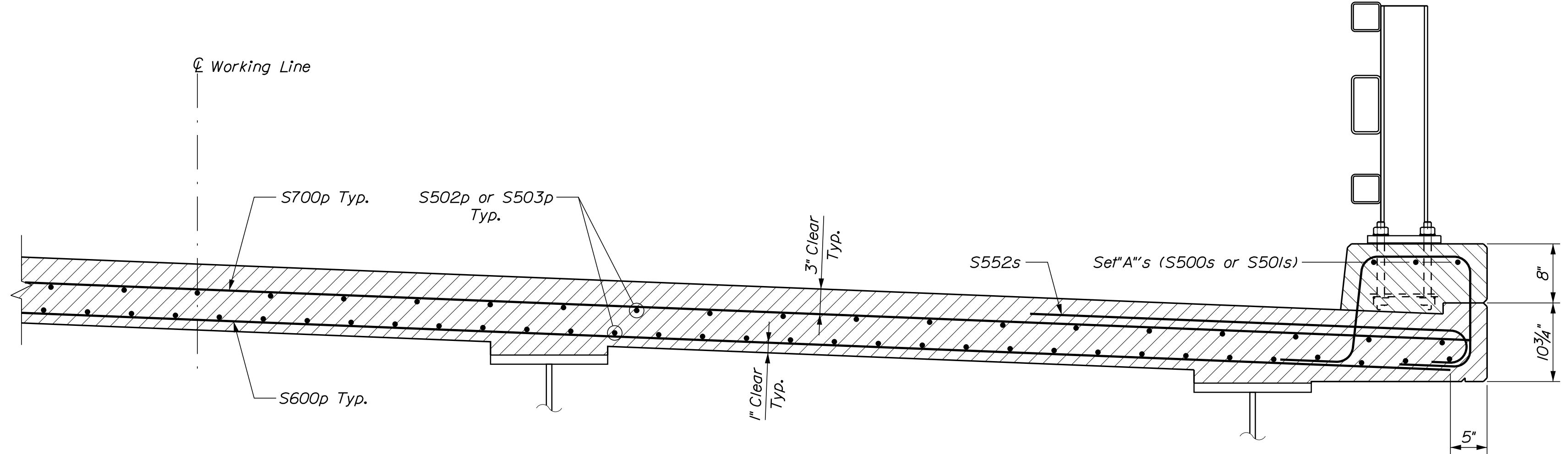
SHEET NUMBER

21

OF 25



SUPERSTRUCTURE SECTION  
North Portion



SUPERSTRUCTURE SECTION  
South Portion

SHEET NUMBER

22

OF 25

HUNTER COVE BRIDGE  
HUNTER COVE  
FRANKLIN COUNTY  
RANGELEY  
SUPERSTRUCTURE DETAILS

PROJ. MANAGER	M. WIGHT	BY	DATE
DESIGN DETAILED	R. MYERS	D. SHAW	DEC 2017
CHECKED/REVIEWED	B. SLAVEN	T. WHITE	NOV 2017
DESIGNS DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
018955.00  
PIN 18955.00  
BRIDGE NO. 2384  
BRIDGE PLANS

Date: 12/18/2017

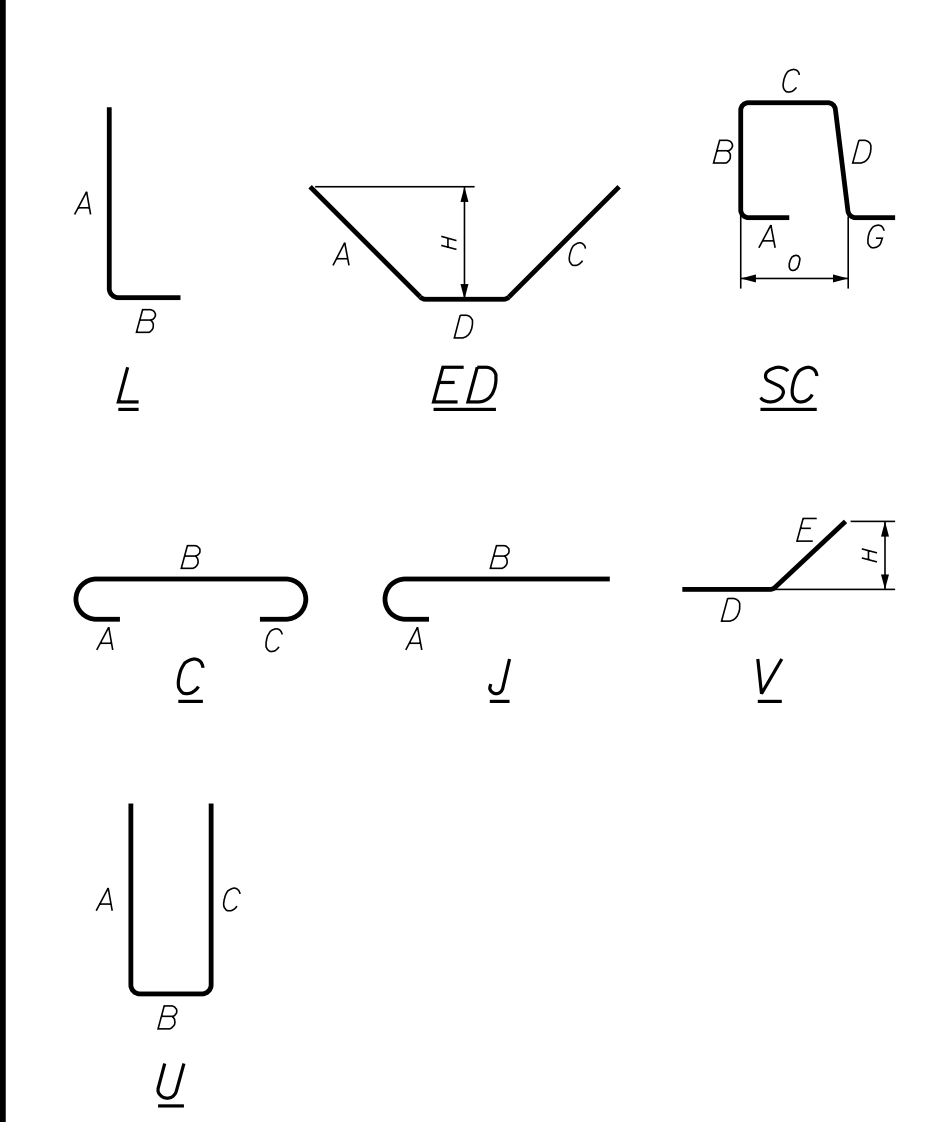
Username: David.Shaw

Division: BRIDGE

Filename: ... \00\BRIDGE\MSTA\023\_Rebar.dgn

STRAIGHT BARS				BENT BARS																			
MARK	QTY.	LENGTH	LOCATION	MARK	QTY.	LENGTH	LOCATION	MARK	QTY.	LENGTH	TYPE	A	B	C	D	E	F	G	H	O	R	LOCATION	
<b>Abutment No. 1</b>				<b>Abutment No. 2</b>				<b>Abutment No. 1</b>															
A500	10	44'-7"	Abutment	A500	10	44'-7"	Abutment	A450	48	3'-7 <sup>3</sup> / <sub>4</sub> "	C	6"	2'-7 <sup>1</sup> / <sub>2</sub> "	6"								Abutment	
A501	7	24'-7"	Abutment	A501	7	24'-7"	Abutment	A550	22	4'-2 <sup>3</sup> / <sub>4</sub> "	U	10"	2'-6 <sup>3</sup> / <sub>4</sub> "	10"								Abutment	
A502	1	43'-6"	Abutment	A502	1	43'-6"	Abutment	A551	2	7'-6"	V				2'-0"	5'-6"			11"			Abutment	
A503	1	41'-9"	Abutment	A503	1	41'-9"	Abutment	A552	2	9'-9"	V				2'-0"	7'-9"			11"			Abutment	
A504	1	38'-6"	Abutment	A504	1	38'-6"	Abutment	A553	25	4'-6"	V				2'-3"	2'-3"			1'-7 <sup>1</sup> / <sub>2</sub> "			Abutment Approach Slab Seat	
A505	1	34'-4"	Abutment	A505	1	34'-4"	Abutment																
A606	50	4'-8"	Abutment	A606	50	4'-8"	Abutment	A650	16	11'-4"	U	4'-1"	3'-2"	4'-1"								Abutment	
A900	10	12'-0"	Abutment	A900	10	12'-0"	Abutment	A651	15	10'-11"	U	3'-10 <sup>1</sup> / <sub>2</sub> "	3'-2"	3'-10 <sup>1</sup> / <sub>2</sub> "								Abutment	
A901	12	14'-0"	Abutment	A901	12	14'-0"	Abutment	A652	15	10'-7"	U	3'-8 <sup>1</sup> / <sub>2</sub> "	3'-2"	3'-8 <sup>1</sup> / <sub>2</sub> "								Abutment	
								A653	8	5'-3"	L	4'-1"	1'-2"									Abutment	
								A654	12	14'-2"	U	5'-9"	2'-8"	5'-9"								Abutment	
								A655	6	13'-0"	U	5'-2"	2'-8"	5'-2"								Abutment	
								A656	14	15'-4"	U	6'-4"	2'-8"	6'-4"								Abutment	
								A657	8	13'-6"	U	5'-5"	2'-8"	5'-5"								Abutment	
								A659s	25	6'-7 <sup>1</sup> / <sub>4</sub> "	ED	2'-6"	1'-7 <sup>1</sup> / <sub>4</sub> "	2'-6"					1'-5 <sup>1</sup> / <sub>2</sub> "			Abutment/Deck	
								A660s	25	8'-0"	L	4'-0"	4'-0"									Abutment/Deck	
<b>Superstructure</b>				<b>Abutment No. 2</b>																			
S500s	6	60'-0"	Superstructure Curb					A450	48	3'-7 <sup>3</sup> / <sub>4</sub> "	C	6"	2'-7 <sup>1</sup> / <sub>2</sub> "	6"								Abutment	
S501s	6	22'-9"	Superstructure Curb					A550	22	4'-2 <sup>3</sup> / <sub>4</sub> "	U	10"	2'-6 <sup>3</sup> / <sub>4</sub> "	10"								Abutment	
S502p	93	50'-0"	Superstructure Deck					A551	2	7'-6"	V				2'-0"	5'-6"			11"			Abutment	
S503p	93	32'-2"	Superstructure Deck					A552	2	9'-9"	V				2'-0"	7'-9"			11"			Abutment	
								A553	25	4'-6"	V				2'-3"	2'-3"			1'-7 <sup>1</sup> / <sub>2</sub> "			Abutment Approach Slab Seat	
S600p	161	28'-9"	Superstructure Deck																				
S700p	241	28'-11"	Superstructure Deck					A650	16	11'-4"	U	4'-1"	3'-2"	4'-1"								Abutment	
								A651	15	10'-11"	U	3'-10 <sup>1</sup> / <sub>2</sub> "	3'-2"	3'-10 <sup>1</sup> / <sub>2</sub> "								Abutment	
								A652	15	10'-7"	U	3'-8 <sup>1</sup> / <sub>2</sub> "	3'-2"	3'-8 <sup>1</sup> / <sub>2</sub> "								Abutment	
								A653	8	5'-3"	L	4'-1"	1'-2"									Abutment	
								A654	12	14'-2"	U	5'-9"	2'-8"	5'-9"								Abutment	
								A655	6	13'-0"	U	5'-2"	2'-8"	5'-2"								Abutment	
								A656	14	15'-4"	U	6'-4"	2'-8"	6'-4"								Abutment	
								A657	8	13'-6"	U	5'-5"	2'-8"	5'-5"								Abutment	
								A659s	25	6'-7 <sup>1</sup> / <sub>4</sub> "	ED	2'-6"	1'-7 <sup>1</sup> / <sub>4</sub> "	2'-6"					1'-5 <sup>1</sup> / <sub>2</sub> "			Abutment/Deck	
								A660s	25	8'-0"	L	4'-0"	4'-0"									Abutment/Deck	
								<b>Superstructure</b>															
								S550s	119	5'-3 <sup>3</sup> / <sub>4</sub> "	SC	10"	1'-2"	1'-3"	1'-2 <sup>3</sup> / <sub>4</sub> "			10"		1'-4 <sup>1</sup> / <sub>4</sub> "			Superstructure Curb
								S551s	119	5'-5 <sup>1</sup> / <sub>4</sub> "	SC	10"	1'-3 <sup>1</sup> / <sub>2</sub> "	1'-3"	1'-2 <sup>3</sup> / <sub>4</sub> "			10"		1'-4 <sup>1</sup> / <sub>4</sub> "			Superstructure Curb
								S552s	482	5'-7"	J	7"	5'-0"										Superstructure Fascia

TYPE - BENDING DIAGRAMS



STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
018955-00  
PIN 18955-00  
BRIDGE NO. 2384  
BRIDGE PLANS

PROJ. MANAGER	DATE	BY	DATE	SIGNATURE	P.E. NUMBER	DATE
DESIGN-DETAILED		D. SHAW				
CHECKED-REVIEWED		T. WHITE	NOV. 2017			
DESIGNS-DETAILED		B. SJAVEN				
DESIGNS-DETAILED						
REVISIONS 1						
REVISIONS 2						
REVISIONS 3						
REVISIONS 4						
FIELD CHANGES						

HUNTER COVE BRIDGE  
HUNTER COVE  
FRANKLIN COUNTY  
RANGELEY  
REINFORCING STEEL SCHEDULE

**Notes:**

The first digit following the letters of the mark indicate the size of the reinforcing bar. (TB500 = bar size #5.) All dimensions are out-to-out of bar.

Quantities given are for one Modified Transition Barrier.

All reinforcing will be stainless steel.

REINFORCING STEEL SCHEDULE		
	3 - Bar Bike	
	Qty.	Length
TB500s	10	4'-6"
TB501s	2	2'-2"
TB502s	2	2'-0"
TB503s	2	1'-10"
TB504s	2	1'-8"
TB505s	2	1'-6"
TB506s	2	4'-8"
TB550s	6	10'-2"
TB600s	4	2'-7"
TB650s	5	5'-10"
TB651s	2	7'-5"
TB652s	5	8'-3"

Dimensions modified.  
See Standard Detail 526(37)  
s = Stainless Steel

**MODIFIED CONCRETE TRANSITION BARRIER**

All dimensions are out-to-out of bar.

Bending details and hooks shall conform to the recommendations of the current revision of ACI Standard 315 and ACI Standard 318.

Reinforcing Bar: ASTM A615/A615M, Grade 60, U.N.O.

GENERAL NOTES

- The first two digits following the letter(s) of the mark indicate the size of the bar:  
Mark 'A502' = bar size #5  
Mark 'P805' = bar size #8  
Mark 'S650' = bar size #6  
A660s: s = Stainless Steel  
S600p: p = Glass Fiber Reinforced Polymer
- Each crank bar, Type B, may be replaced by two (2) straight bars (one top and one bottom) of the same bar size as the crank bar. Payment in either case shall be based on crank bars as schedule on the plans.

SHEET NUMBER  
**23**  
OF 25



Town, County, State \_\_\_\_\_  
 Approx. Property Lines \_\_\_\_\_ P.L.  
 Existing Right of Way \_\_\_\_\_  
 Limits of Wrought Portion \_\_\_\_\_ L.O.W.P.  
 Control Of Access \_\_\_\_\_ C.O.A.  
 New Right of Way \_\_\_\_\_  
 New Easement \_\_\_\_\_  
 New Temporary Rights \_\_\_\_\_  
 New R/W Within Existing R/W \_\_\_\_\_

New R/W Along Existing R/W \_\_\_\_\_  
 Building \_\_\_\_\_  
 Trees Conifer \_\_\_\_\_ Deciduous \_\_\_\_\_  
 Clearing Limit Line \_\_\_\_\_ CLL  
 Bush Line \_\_\_\_\_  
 Water Edge \_\_\_\_\_  
 Ledge \_\_\_\_\_  
 Fence CHAIN LINK \_\_\_\_\_ BARB WIRE \_\_\_\_\_ STOCKADE \_\_\_\_\_  
 Sign \_\_\_\_\_  
 Rock/Boulder \_\_\_\_\_  
 Flag Pole \_\_\_\_\_  
 Well \_\_\_\_\_  
 Mailbox \_\_\_\_\_

**PLAN LEGEND**

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

Cut Line \_\_\_\_\_  
 Stonewall \_\_\_\_\_  
 Baseline \_\_\_\_\_  
 Monument \_\_\_\_\_  
 Iron Rod Found \_\_\_\_\_ IRF  
 Replacement Pin Set \_\_\_\_\_

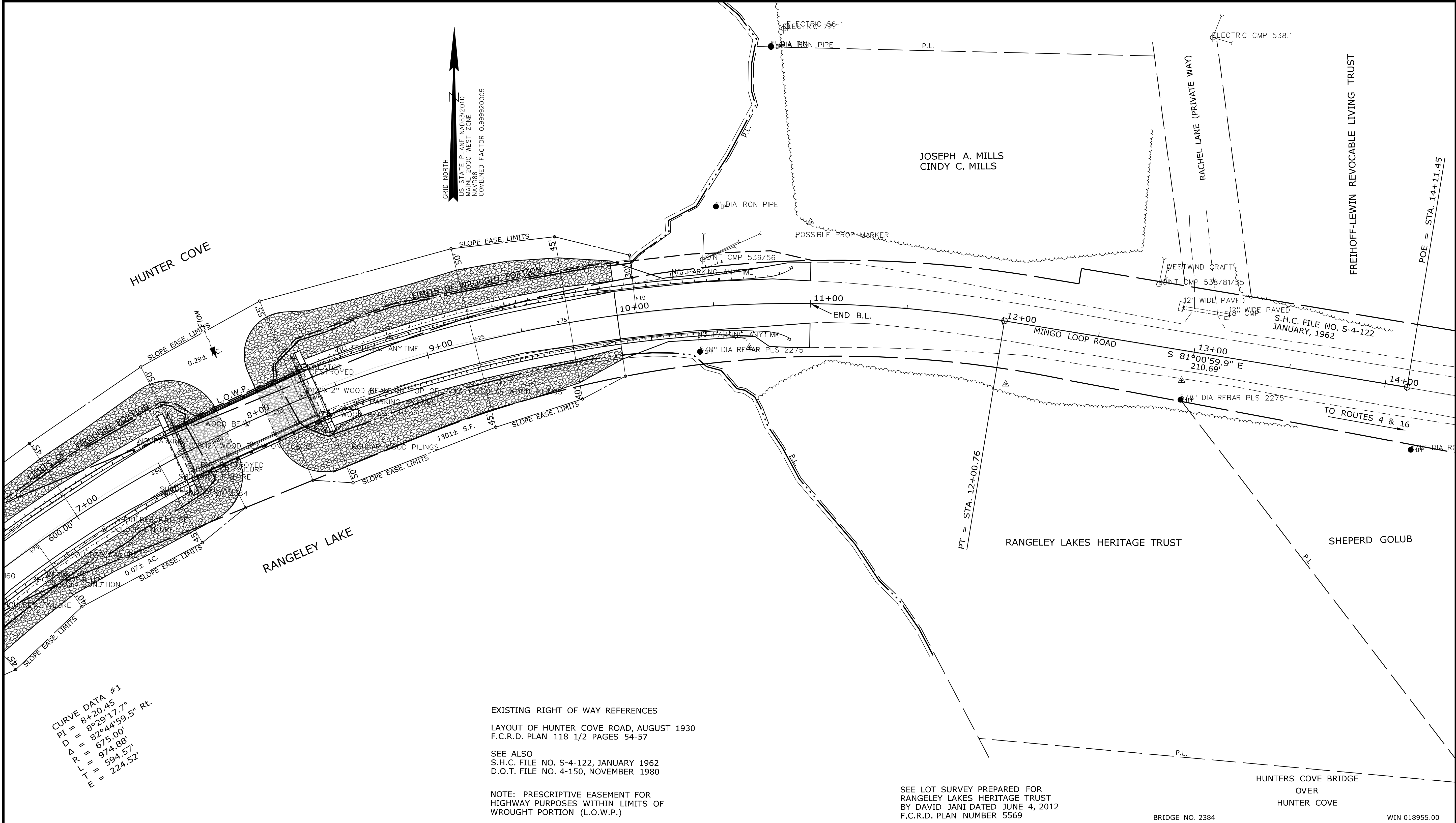
Fill Line \_\_\_\_\_  
 Retaining Wall \_\_\_\_\_  
 Traverse Point \_\_\_\_\_  
 Pipe Found \_\_\_\_\_ IPF

STATE OF MAINE  
 REGISTRY OF DEEDS

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

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

25 0 25 50 75 100  
 Scale of Feet



**CURVE DATA #1**  
 PT = 8+20.45  
 Δ = 8°29'17.7"  
 D = 82°44'59.5" Rt.  
 A = 675.00'  
 L = 974.88'  
 T = 594.57'  
 E = 224.52'

EXISTING RIGHT OF WAY REFERENCES  
 LAYOUT OF HUNTER COVE ROAD, AUGUST 1930  
 F.C.R.D. PLAN 118 1/2 PAGES 54-57

SEE ALSO  
 S.H.C. FILE NO. S-4-122, JANUARY 1962  
 D.O.T. FILE NO. 4-150, NOVEMBER 1980

NOTE: PRESCRIPTIVE EASEMENT FOR HIGHWAY PURPOSES WITHIN LIMITS OF WROUGHT PORTION (L.O.W.P.)

SEE LOT SURVEY PREPARED FOR RANGELEY LAKES HERITAGE TRUST BY DAVID JANI DATED JUNE 4, 2012 F.C.R.D. PLAN NUMBER 5569

BRIDGE NO. 2384 WIN 018955.00

STATE OF MAINE DEPARTMENT OF TRANSPORTATION 16 STATE HOUSE STATION - AUGUSTA, ME 04333-0016 - 207-624-3460 RANGELEY RIGHT OF WAY MAP	TECH	CHECKED
	ITEM	CONDITION PLAN
EXISTING	PNS	
FINAL RIGHT OF WAY	PNS	
AREAS		

REVISIONS			PLAN FILED IN PLAN BOOK				PAGE COUNTY RECORD			
NO.	DATE	DESCRIPTION	BY	NO.	GRANTOR	INSTRUMENT	DATE	BOOK	PAGE	
						COND.	9/26/17	3944	26	

DAVID BERNHARDT  
 COMMISSIONER  
 JOYCE NOEL TAYLOR  
 CHIEF ENGINEER

DATE \_\_\_\_\_

TOWNWAY  
 MINGO LOOP ROAD  
 RANGELEY FRANKLIN COUNTY  
 STATE PROJECT NO. 18955.00

JULY 2017  
 SCALE 1" = 25'

RIGHT-OF-WAY MAP  
 SHEET 2 OF 2

D.O.T. FILE NO. 4-264

SHEET NUMBER  
**25**  
 OF 25

Date: 12/18/2017

Username: David.Shaw

Division: BRIDGE

Filename: ...100\ROW\MSTA\002\_RWPLAN2.dgn