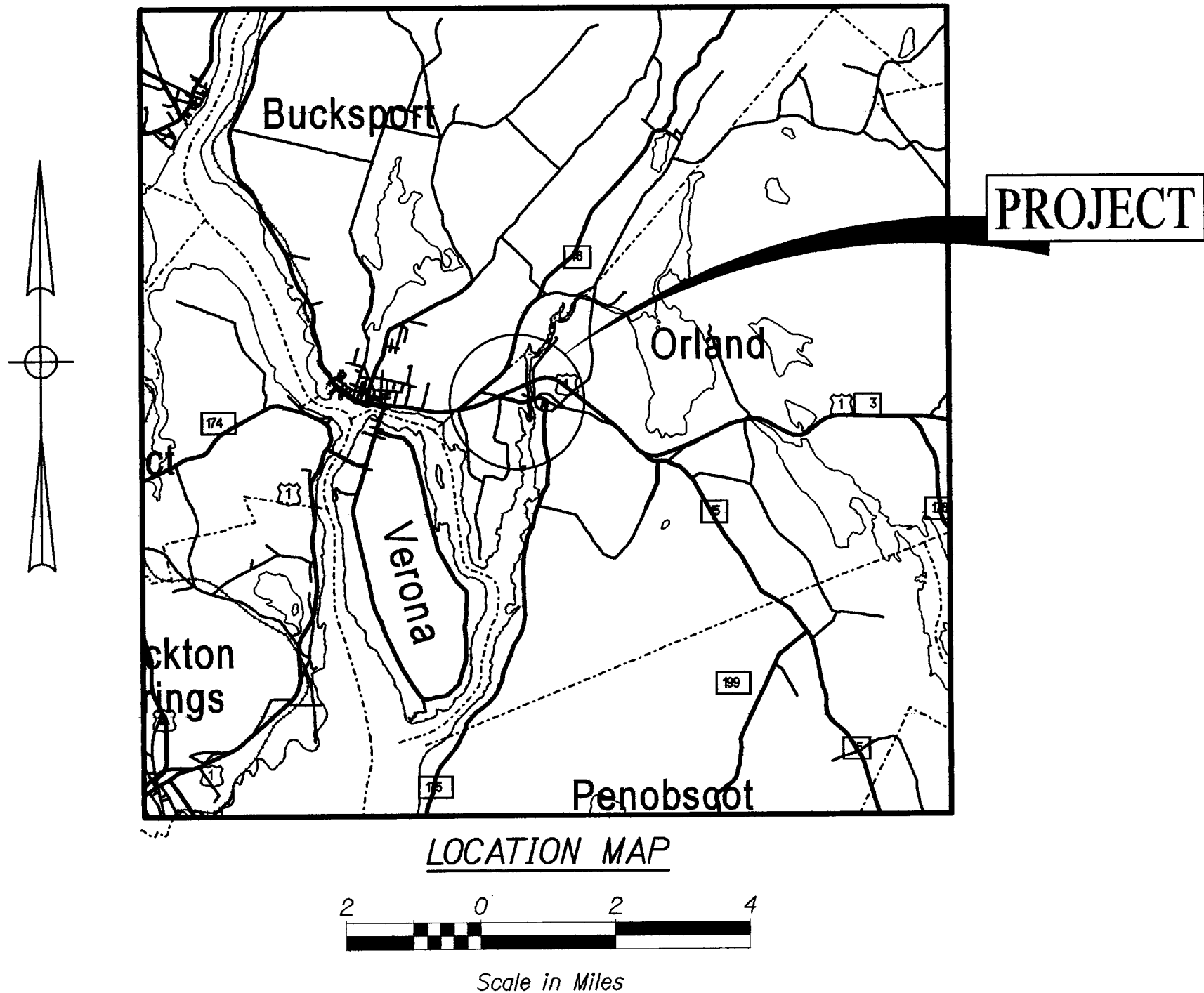


STATE OF MAINE
DEPARTMENT OF TRANSPORTATION



TOWN OF ORLAND
HANCOCK COUNTY
ORLAND RIVER BRIDGE
OVER
NARRAMISSIC RIVER
MAINE ROUTE 175

BR-1510(300)X
PROJECT LENGTH 0.047 mi.
BRIDGE REPLACEMENT
BRIDGE NO. 2632



SPECIFICATIONS

Design: Load and Resistance Factor Design per AASHTO LRFD Bridge Design Specifications, Fourth Edition 2007 and Interim Specifications through 2008.

DESIGN LOADING

Live Load HL - 93 Modified

TRAFFIC DATA

Current (2008) AADT	2660
Future (2028) AADT	3190
DHV - % of AADT	11%
Design Hour Volume	351
% Heavy Trucks (AADT)	6%
% Heavy Trucks (DHV)	6%
Directional Distribution (DHV)	55%
18 kip Equivalent P 2.0	103
18 kip Equivalent P 2.5	98
Design Speed (mph)	25

HYDROLOGIC DATA

Drainage Area	96.8 sq mi
Design Discharge (Q50)	3830 cfs
Check Discharge (Q100)	4330 cfs

MATERIALS

Concrete: (Precast)	Class "P"
(Curbs, Sidewalks, Texas Bridge Rail & Transition Barriers)	Class "LP"
(Seal)	Class "S"
(All Others)	Class "A"
Reinforcing Steel	ASTM A615, Grade 60
Prestressing Strand	AASHTO 203 (ASTM A416), Grade 270, Low Relaxation

BASIC DESIGN STRESSES

Concrete	f'c = 4,350 psi
Concrete (Precast)	f'c = 6,500 psi
	f'ci = 4,550 psi
Concrete (Seal)	f'c = 2,900 psi
Reinforcing Steel	f'y = 60,000 psi
Prestressing Strand	F _p = 270,000 psi

UTILITIES

Central Maine Power Company	FairPoint Communications
Town of Orland/Bucksport Sewer District	Time Warner Cable

MAINTENANCE OF TRAFFIC

Route 175 over Orland River to be closed during construction, Traffic to be detoured via Route 1.

LIST OF DRAWINGS

Title Sheet	1
General Notes & Quantities	2
General Plan	3
Profile	4
Boring Location Plan and Interpretive Subsurface Profile	5
Boring Details	6
Typical Sections	7
Highway Approach Cross - Sections	8-11
Demolition Plan	12
Abutment No. 1	13
Abutment No. 2	14
Abutment Details	15
PCMG Wall Details	16
Abutment Reinforcing	17
Bearing Details	18
Framing Plan	19
Precast Girders	20-21
End Diaphragms	22
Superstructure	23
Detour Signing Plan	24
Detour Sign Summary	25
Right of Way Map	26

Special Work #1: SEWER MAIN

SITE PLAN AND ELEVATION	27
PIPE SUPPORT DETAILS	28

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

APPROVED
COMMISSIONER:
CHIEF ENGINEER:

DATE

JOHN
FRYER
No. 6308
PROFESSIONAL
ENGINEER

SIGNATURE
P.E. NUMBER
DATE

1655
5/5/09

DATE
1/09

BY
DAD
JLF

NATE BENOT
BMM
BOR

DESIGN-DETAILED
CHECKED-REVIEWED
DESIGN-DETAILED2
DESIGN-DETAILED3

REVISIONS 1
REVISIONS 2
REVISIONS 3
REVISIONS 4
FIELD CHANGES

PIN 15103.00

TOWN OF ORLAND
ORLAND RIVER BRIDGE
OVER NARRAMISSIC RIVER

TITLE SHEET

Park Place Corporate Center
316 US Route 1, Suite D • York, ME 03909
(207) 363-0669 • Fax: (207) 363-2384
cld@cldengineers.com • www.cldengineers.com
Maine • New Hampshire • Vermont

SHEET NUMBER
1
OF 28

ESTIMATED QUANTITIES			
ITEM NO.	DESCRIPTION	QUANTITY	UNIT
202.08	REMOVE BUILDING NO. 1	1	LS
202.10	REMOVE EXISTING SUPERSTRUCTURE-PROP. OF CONTR. (180CY)	1	LS
202.17	REMOVE EXISTING STRUCTURAL CONCRETE (170CY)	1	LS
203.20	COMMON EXCAVATION	560	CY
203.23/2	HEALTH AND SAFETY PLAN (HASP)	1	LS
203.23/33	DISPOSAL/TREATMENT OF SPECIAL EXCAVATION	35	T
203.24	COMMON BORROW	270	CY
203.25	GRANULAR BORROW	390	CY
206.082	STRUCTURAL EARTH EXCAVATION - MAJOR STRUCTURES	460	CY
304.10	AGGREGATE SUBBASE COURSE - GRAVEL	620	CY
403.209	HOT MIX ASPHALT, 9.5 NMS (SIDEWALKS, DRIVES, ISLANDS & INCIDENTALS)	28	T
403.210	HOT MIX ASPHALT, 9.5mm NMS	190	T
403.213	HOT MIX ASPHALT, 12.5mm NMS, BASE	70	T
409.15	BITUMINOUS TACK COAT, APPLIED	54	G
501.231	DYNAMIC LOADING TEST	1	EA
501.54	STEEL H-PILES 117 LB/FT, DELIVERED	77	LF
501.541	STEEL H-PILES 117 LB/FT, IN PLACE	77	LF
501.9	PILE TIPS	6	EA
501.92	PILE DRIVING EQUIPMENT MOBILIZATION	1	LS
502.219	STRUCTURAL CONCRETE ABUTMENTS (87 cy)	1	LS
502.22	STRUCTURAL CONCRETE, ABUTMENTS & RETAINING WALLS	75	CY
	(PLACED UNDER WATER)		
502.261	STRUCTURAL CONCRETE ROADWAY & SIDEWALK SLAB	1	LS
	ON CONCRETE BRIDGES (125 cy)		
502.31	STRUCTURAL CONCRETE APPROACH SLAB (21 cy)	1	LS
502.49	STRUCTURAL CONCRETE CURBS & SIDEWALKS (25 cy)	1	LS
503.12	REINFORCING STEEL, FABRICATED & DELIVERED	40,700	LB
503.13	REINFORCING STEEL, PLACING	40,700	LB
508.14	HIGH PERFORMANCE MEMBRANE WATERPROOFING (310 sy)	1	LS
511.07	COFFERDAMS - ABUTMENT NO. 1	1	LS
511.07	COFFERDAMS - ABUTMENT NO. 2	1	LS
512.081	FRENCH DRAINS (86 LF)	1	LS
514.06	CURING BOX FOR CONCRETE CYLINDERS	1	EA
515.21	PROTECTIVE COATING FOR CONCRETE SURFACES (295 sy)	1	LS
523.52	BEARING INSTALLATION	5	EA
526.323	TEXAS BRIDGE RAIL (178 lf)	1	LS
535.611	PRESTRESSED STRUCTURAL CONCRETE I-GIRDERS, INSTALL ONLY (440 lf)	1	LS
603.179	18" CULVERT OPTION III	45	LF
603.19	24" CULVERT OPTION I	60	LF
604.11	CATCH BASIN TYPE C1	1	EA
604.245	CATCH BASIN TYPE F-4C	1	EA
606.1721	BRIDGE TRANSITION - TYPE I	4	EA
606.23	GUARDRAIL TYPE 3C - SINGLE RAIL	13	LF
606.231	GUARDRAIL TYPE 3C - 15 FT RADIUS OR LESS	44	LF
606.265	TERMINAL END-SINGLE RAIL - GALVANIZED STEEL	3	EA
606.353	REFLECTORIZED FLEXIBLE GUARDRAIL MARKER	11	EA
606.79	GUARDRAIL 350 FLARED TERMINAL	1	EA
609.11	VERTICAL CURB TYPE I	39	LF
609.237	TERMINAL CURB TYPE I	2	EA
610.08	PLAIN RIPRAP	630	CY
613.319	EROSION CONTROL BLANKET	50	SY
615.07	LOAM	35	CY
618.1401	SEEDING METHOD NUMBER 2 - PLAN QUANTITY	3	UN
619.1201	MULCH - PLAN QUANTITY	3	UN
619.1401	EROSION CONTROL MIX	20	CY
620.58	NON-WOVEN GEOTEXTILE	540	SY
627.711	WHITE OR YELLOW PAINT PAVEMENT MARKING LINE - PLAN QUANTITY	900	LF
629.05	HAND LABOR STRAIGHT TIME	40	HR
631.12	ALL-PURPOSE EXCAVATOR (INCLUDING OPERATOR)	20	HR
631.14	GRADER (INCLUDING OPERATOR)	20	HR
631.172	TRUCK LARGE (INCLUDING OPERATOR)	20	HR
631.22	FRONT END LOADER (INCLUDING OPERATOR)	20	HR
635.14	PREFABRICATED MODULAR GRAVITY WALL	666	SF
637.071	DUST CONTROL	1	LS
639.18	FIELD OFFICE TYPE A	1	EA
645.55	RADAR SPEED SIGN-SOLAR POWERED	2	EA
652.35	CONSTRUCTION SIGNS	588	SF
652.38	FLAGGERS	80	HR
652.39	WORK ZONE TRAFFIC CONTROL	1	LS
656.75	TEMPORARY SOIL EROSION AND WATER POLLUTION CONTROL	1	LS
659.10	MOBILIZATION	1	LS
	OPTION #1 SEWER		
890.01	SPECIAL WORK #1	1	LS

GENERAL CONSTRUCTION NOTES

1. During construction, the road will be closed to traffic for a time period specified in the Special Provisions.

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

3. 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.

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

5. Do not excavate for Aggregate Subbase Course where existing material is suitable as determined by the Resident.

6. In areas where the Resident directs the Contractor not to excavate to the subgrade line shown on the plans, payment for removing existing pavement, grubbing, shaping, ditching, and compacting the existing subbase and layers of new subbase 6 inches or less thick will be made under appropriate equipment rental items.

7. All embankment material, except as otherwise shown, placed within 10' of the abutments and wingwalls and side slope fills shall be Granular Borrow meeting the requirements of Subsection 703.19, Material for Underwater Backfill.

8. Place riprap on sideslopes up to top of bank or as shown on the plans.

9. Construct the riprap shelf at Abutment No. 1 at EL. 10.0 and at Abutment No. 2 at EL. 14.50.

10. Place loam 2 inches deep on all new or reconstructed sideslopes or as directed by the Resident. Seeding Method No.2 shall be used to treat all disturbed areas unless otherwise specified.

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

12. Guardrail posts as shown in the Standard Details shall be modified from the indicated length of 6 feet to a length 7 feet with an embedment of 4.5 feet. Payment will be considered incidental to the guardrail pay items.

13. An NCHRP350 Compliant Guardrail End Treatment shall be installed concurrently with the placement of each section of beam guardrail, except in cases where the rail is terminated outside the clear zone as shown on the plans.

14. 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.

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

All exposed surfaces of concrete curbs and sidewalks, Fascias down to the drip notch, Texas Classic Rail,

16. The existing bridge plans may be accessed at the following web address: <http://www.maine.gov/mdot/comprehensive-list-projects/project-information.php>. 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.

17. The hydrologic report of the bridge site may be accessed at the following web address: <http://www.maine.gov/mdot/comprehensive-list-projects/project-information.php>. The hydrologic report is based on MaineDOT's interpretation of 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.

18. The project geotechnical report titled: Orland River Bridge, Route 175 over Orland River, Orland, Maine, MaineDOT Soils Report Number 2008-17, November 2008, may be accessed at the following web address: <http://www.maine.gov/mdot/comprehensive-list-projects/project-information.php>.

19. 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 shall 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.

20. 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.

21. The Contractor shall submit a Bridge Demolition Plan to the Resident at least 10 business days prior to the start of demolition work. The plan shall outline the methods and equipment to be used to remove and dispose of all materials included in the existing bridge. No work related to the removal of the bridge shall be undertaken by the Contractor until MaineDOT has reviewed the Bridge Demolition Plan for appropriateness and completeness. Payment for all work necessary for developing, submitting and finalizing the Demolition Plan will be considered incidental to the bridge removal pay item.

22. Sewer main owned by the Town of Orland is attached to the upstream side of the bridge. Special Work #1 includes maintaining sewer service throughout construction and attaching the sewer main to the new upstream girder prior to placement of the bridge deck. See plans 27 and 28. If the Town does not accept the bid for the Special Work #1, the Contractor shall coordinate with the Town and their Contractor(s) to provide access to the sewer main to perform the work separately. Contractor shall use care to work around the existing sewer and any temporary facilities. Contractor shall field verify existing sewer main location and coordinate with the Town to adjust their main as needed to provide 6" clearance between the sewer main and the exterior beam bulb.

23. The existing bridge superstructure is to be removed in its entirety. All costs to be included in Item 202.10 Remove Existing Superstructure. Portions of the abutments and wingwalls are to be removed and the remaining portions buried. All costs to be included in Item 202.17 Remove Existing Structural Concrete. All removal portions of the existing structure to become the property of the Contractor, with the exception of any granite blocks, which shall be reused on site as riprap. See substructure plans for removal limits.

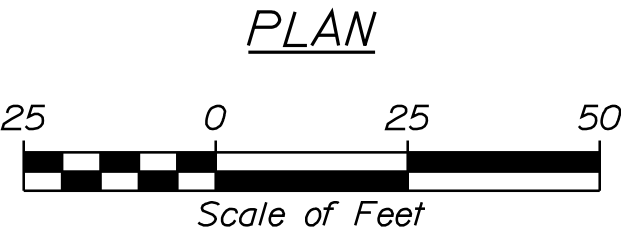
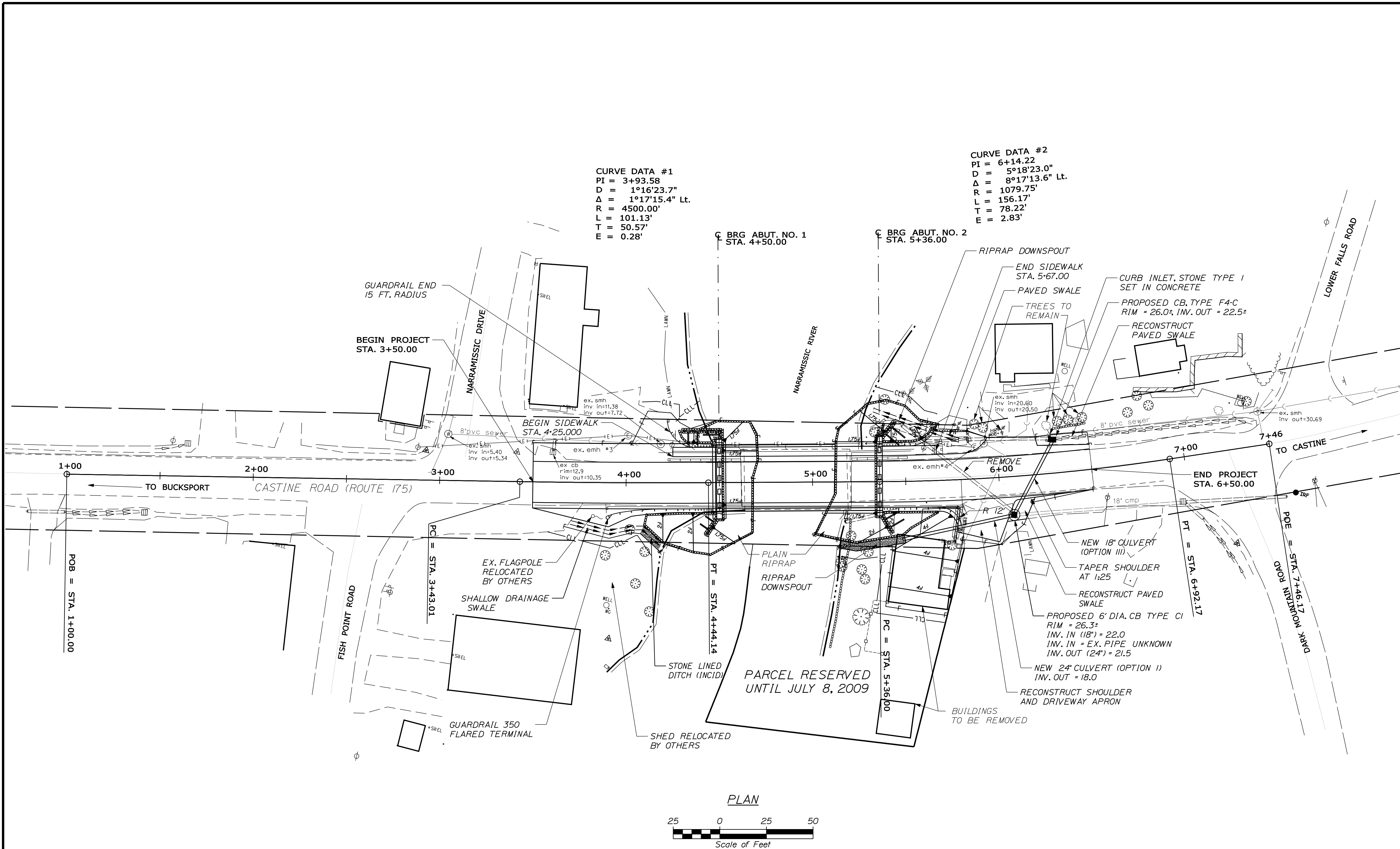
24. Construct paved swales with 2" Hot Bituminous Pavment, 9.5mm over 8" A.S.C.G. Construct driveways with 12" min. A.S.C.G. and 3" Hot Bituminous Pavement, 9.5mm.

25. Pay limits for the Structural Excavation shall be the limits shown on the plan outside a vertical plane 1'-6" around the existing substructure to be removed.

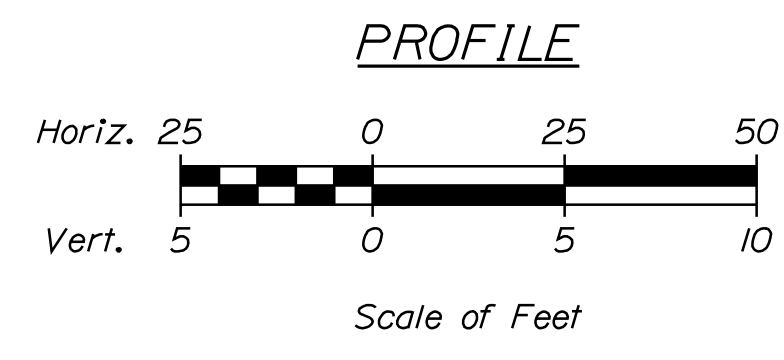
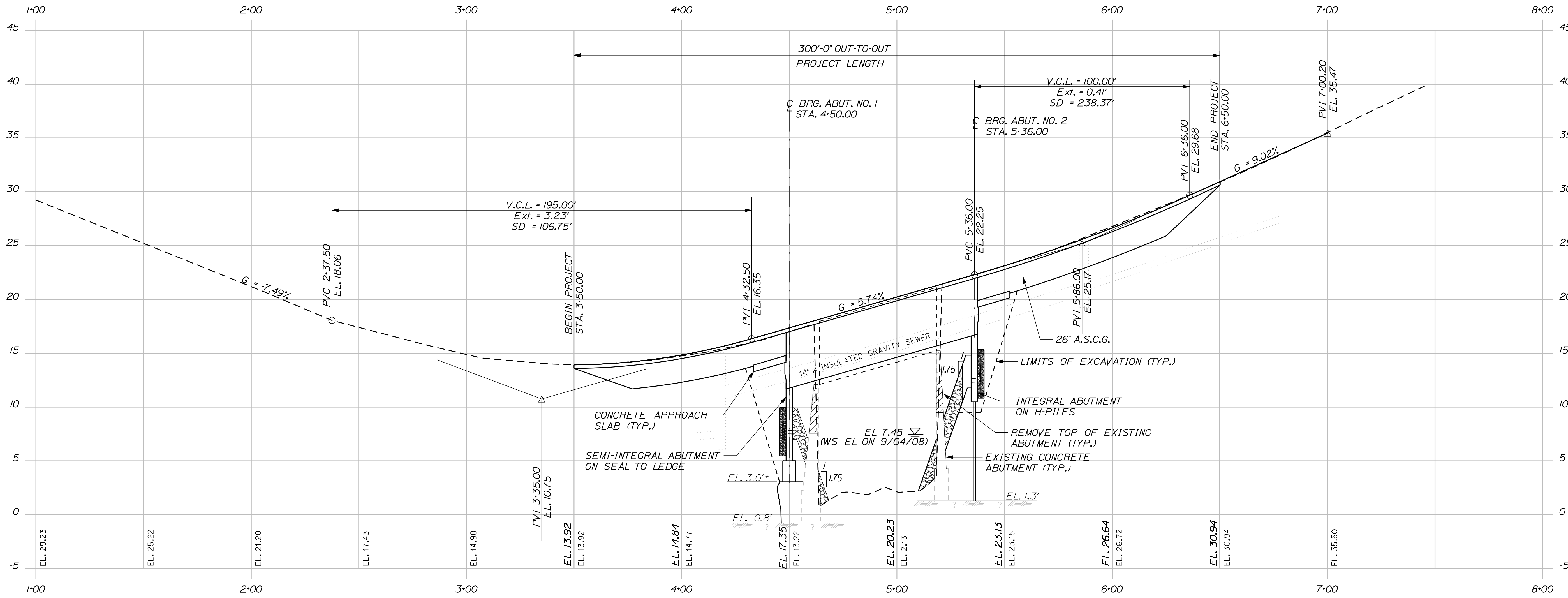
26. All sewer manhole inverts, location of the sewer manholes on the east bridge approach, and electric manhole/conduit were obtained from the Record Drawings of the Wastewater Collection System for Orland, Maine dated 12/95 and prepared by Woodard & Curran. Elevations were adjusted from the NGVD 1929 Datum of the Record Drawings to the NAVD 1988 Datum of the project survey. Contractor shall field verify sewer location/elevation and be prepared to adjust approach work as needed to avoid conflicts with the sewer.

27. CB located at Sta. 6+31.00 Lt. may be shifted up to 1' left or right if needed to avoid conflict w/existing sewer main. If conflict is still unavoidable, CB shall be eliminated and pipe inlet elevation 26.0 with headwall shall be installed. Item 604.245 shall be paid for either option and shall be full compensation to complete either installation.

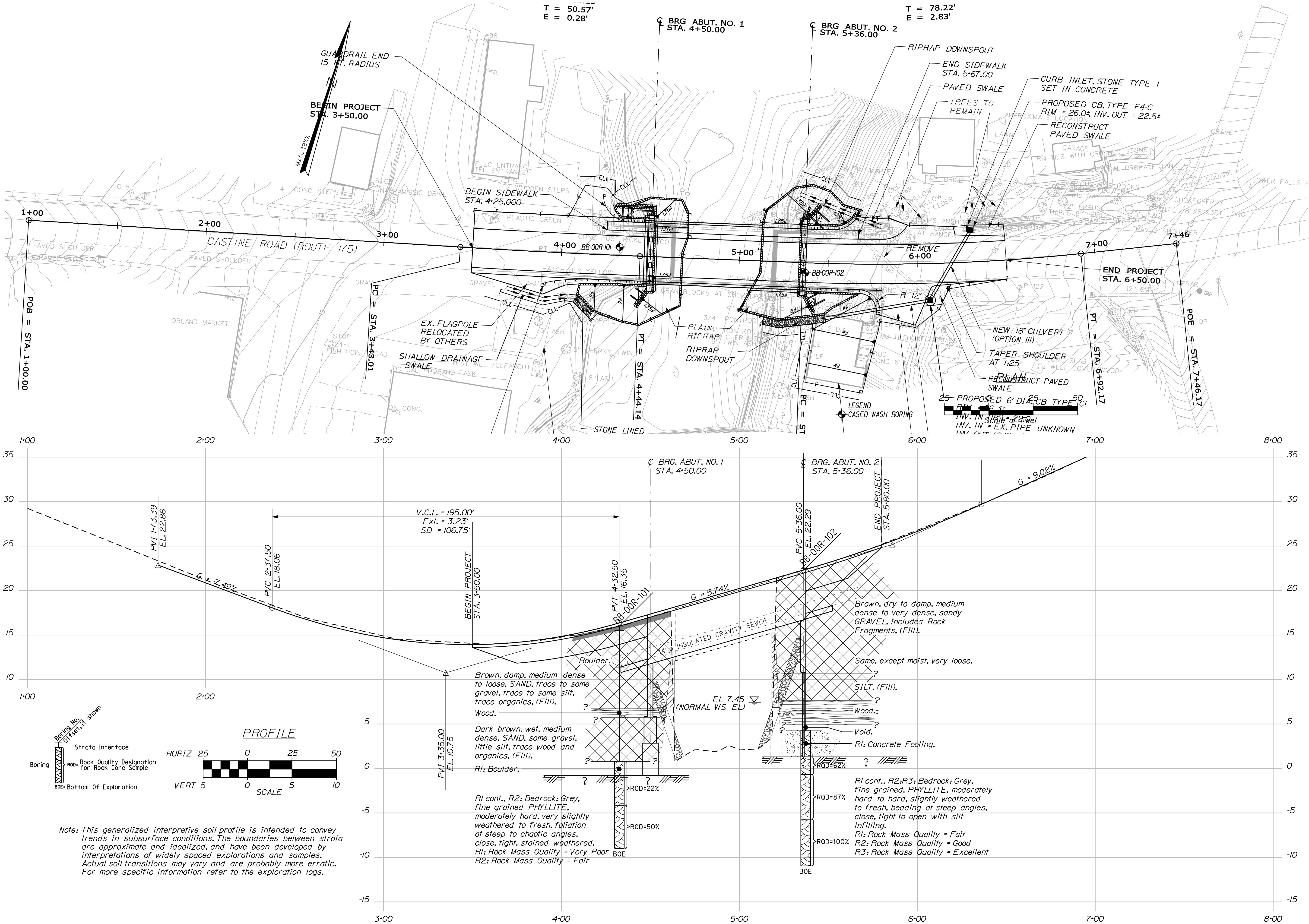
TOWN OF ORLAND MAINE ROUTE 175 OVER ORLAND RIVER		PROJ. MANAGER		NATE BENNET	BY	DATE
		DESIGN-DETAILED		RM	DAO	1/09
GENERAL NOTES & QUANTITIES		CHECKED-REVIEWED		RDR	JLF	1/09
		DESIGN2-DETAILED2				
		DESIGN3-DETAILED3				
		REVISIONS 1				
SHEET NUMBER		REVISIONS 2				
		REVISIONS 3				
		REVISIONS 4				
		FIELD CHANGES				
2		STATE OF MAINE DEPARTMENT OF TRANSPORTATION				
OF 28		BR-1510(300)X				
		PIN 15103.00				
		2632 BRIDGE PLANS				



STATE OF MAINE		DEPARTMENT OF TRANSPORTATION	
TOWN OF ORLAND		ORLAND RIVER BRIDGE OVER NARRAMISSIC RIVER	
BR-1510(300)X		GENERAL PLAN	
PIN 15103.00		SHEET NUMBER 3	
2632		OF 28	
BRIDGE PLANS		DATE	
SIGNATURE		P.E. NUMBER	
DATE		FIELD CHANGES	
PROJ. MANAGER		DATE	
NATE BENNETT		1/09	
DESIGN-DETAILED		1/09	
CHECKED-REVIEWED		1/09	
DESIGN-DETAILED		1/09	
DESIGN-DETAILED		1/09	
REVISIONS 1		1/09	
REVISIONS 2		1/09	
REVISIONS 3		1/09	
REVISIONS 4		1/09	



STATE OF MAINE DEPARTMENT OF TRANSPORTATION	BR-1510(300)X		PIN 15103.00	BRIDGE PLANS 2632
TOWN OF ORLAND ORLAND RIVER BRIDGE OVER NARRAMISSIC RIVER	SHEET NUMBER 4		OF 28	
PROJ. MANAGER DATE 1/09		BY DATE 1/09	SIGNATURE	
DESIGN-DETAILED CHECKED-REVIEWED DESIGN-DETAILED		DATE 1/09	P.E. NUMBER	
REVISIONS 1		DATE	DATE	
REVISIONS 2		DATE	DATE	
REVISIONS 3		DATE	DATE	
REVISIONS 4		DATE	DATE	
FIELD CHANGES		DATE	DATE	



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
BR-1510(300)X
PIN 15103.00
BRIDGE NO. 2632
BRIDGE PLANS

ORLAND RIVER BRIDGE
ORLAND RIVER
ORLAND
BORING LOCATION PLAN &
INTERPRETIVE SUBSURFACE PROFILE

PROJ. MANAGER
CHECKED
DESIGNED
REVISIONS
FIELD CHANGES

DATE
BY
PROJECT
DESIGNED
CHECKED
DESIGNED
REVISIONS
FIELD CHANGES

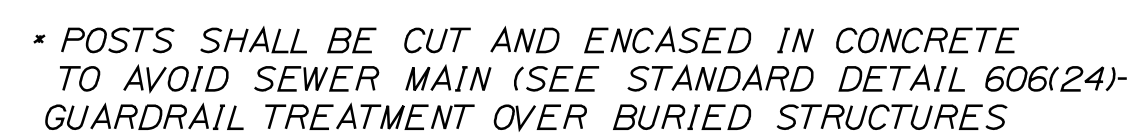
DATE
BY
PROJECT
DESIGNED
CHECKED
DESIGNED
REVISIONS
FIELD CHANGES

DATE
BY
PROJECT
DESIGNED
CHECKED
DESIGNED
REVISIONS
FIELD CHANGES

SHEET NUMBER
5
OF 28

[illegible]

Maine Department of Transportation				Project: Grand River Bridge #2032 carrying Route 175 over Grand River Location: Grand River		Boring No.: BB-00R-102	
Soil/Rock Exploration Log US CUSTOMARY UNITS						PIN: 15103.00	
Driller: Moinodot		Elevation: 22V5		Date: Augur 10/00		5" Solid Stem	
Operator: E. Giguere/C. Giles		Datum: NAD 88		Sampler: Standard Split Spoon			
Logged By: L. Krusinski		Rig Types: CME 45C		Homeer Wt./Fall: 140#/50"			
Date Start/Finish: 9/2/08 - 12/10/16/00		Drilling Method: Casted Mass Boring		Core Barrel: MD-2			
Boring Location: 5+73.5 +/- 6 ft.		Casing ID (in):		Water Level: 16'-0" bgs.			
Homeer Efficiency Factor: 0.75		Homeer Type: Automatic QD		☒ Hydraulic ☐ Rope & Cathead ☐			
Definitions: P = Rock Core Sample S = Soil Core Sample U = Unconfined Shear Strength (psi) P = Moist Bulk Density SS = Soil Fine Range WS = Water Content, percent MD = Unclassified Split Spoon Sample attempt SW = Moist Wet Sieve LL = Liquid Limit P = Plasticity Index PL = Plastic Limit P = Moisture Ratio WL = Water Limit P = Moisture Ratio WP = Weight of 100% water P = Moisture Ratio WU = Undrained Shear Strength (psi) P = Plasticity Index P = Moisture Ratio WU = Undrained Shear Strength (psi) P = Plasticity Index							
Sample Information							
Depth (ft.)	Sample No.	Pen./Rec. (in)	Sample Depth (ft.)	Blow c/s (in)	Shear Strength (psi)	Moisture Ratio (%)	Visual Description and Remarks
10	24/17	1.00 - 3.00	24/28/31/11	41	53	\$54	Brown, dry to damp, very dense, sandy fine to coarse GRAVEL coarse portions rock fragments, trace silt, (FILL).
5	MD 24/0	5.00 - 7.00	3/17/4/4	11	14	25	Filled sample attempt, drove upon second time. Brown, dry, medium dense, silty rock fragments, some fine sand, (FILL).
10	20	11.00	1/11/1/5	2	3	12	Brown, moist, very loose, angular GRAVEL changed to fine sandy silt in basket, (FILL).
10	20	24/4	11.00	1/11/1/5	2	3	Change to brown SILT.
15	3D	24/17	15.00 - 17.00	20/10/36/31	44	56	Roller cone dented at casing from 14.83-18.2' bgs. Time released NW casing. MOOD layer from 14.83-17.6' bgs.
20	R1	60/57	18.20 - 23.20			WD-2	R1 CONCRETE Footing. Riftcore Times (min/sec) 21.2-18.2' (1215) 21.2-20.2' (1219) 20.2-21.2' (1214)
20	R2	60/60	23.20 - 28.20	ROD = 62%			Top of Bedrock at Elev. 1.5'. R1Bedrock Grey, fine grained, hard PHYLITE, bedding at steep angles, very close joints tight and weathered to open and silt infilling. Rock Mass Quality Fair. Riftcore Times (min/sec) 21.2-22.2' (1150), grey silt seam 22.2-23.2' (1210), dark grey water 95% Recovery
25	R3	60/63	28.20 - 33.20	ROD = 100%			R2 Bedrock Grey, fine grained PHYLITE, moderately hard, fresh to slightly weathered, bedding close at steep angles, joints typically tight and fresh to open with silt infilling. 14" silt seam at 4'x' into core run. Rock Mass Quality Good. Riftcore Times (min/sec) 23.2-24.2' (1222) 24.2-25.2' (1201) 25.2-26.2' (1202) 26.2-27.2' (1103) 27.2-28.2' (1107) 100% Recovery
30							R3Bedrock Grey, fine grained PHYLITE, hard, fresh bedding at steep angles, very close joints tight no infilling. Rock Mass Quality Excellent. Riftcore Times (min/sec) 28.2-29.2' (1140) 29.2-30.2' (1155) 30.2-31.2' (1120) 31.2-32.2' (1140) 32.2-33.45' (1152) 100% Recovery
35							Bottom of bedrock at 33.45 feet below ground surface.
Borehole:							
Standardization times between approximately boundaries between soil types transitions may be gradual.							
* Asterisk level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.							
						Page 1 of 1 Boring No.: BB-00R-102	



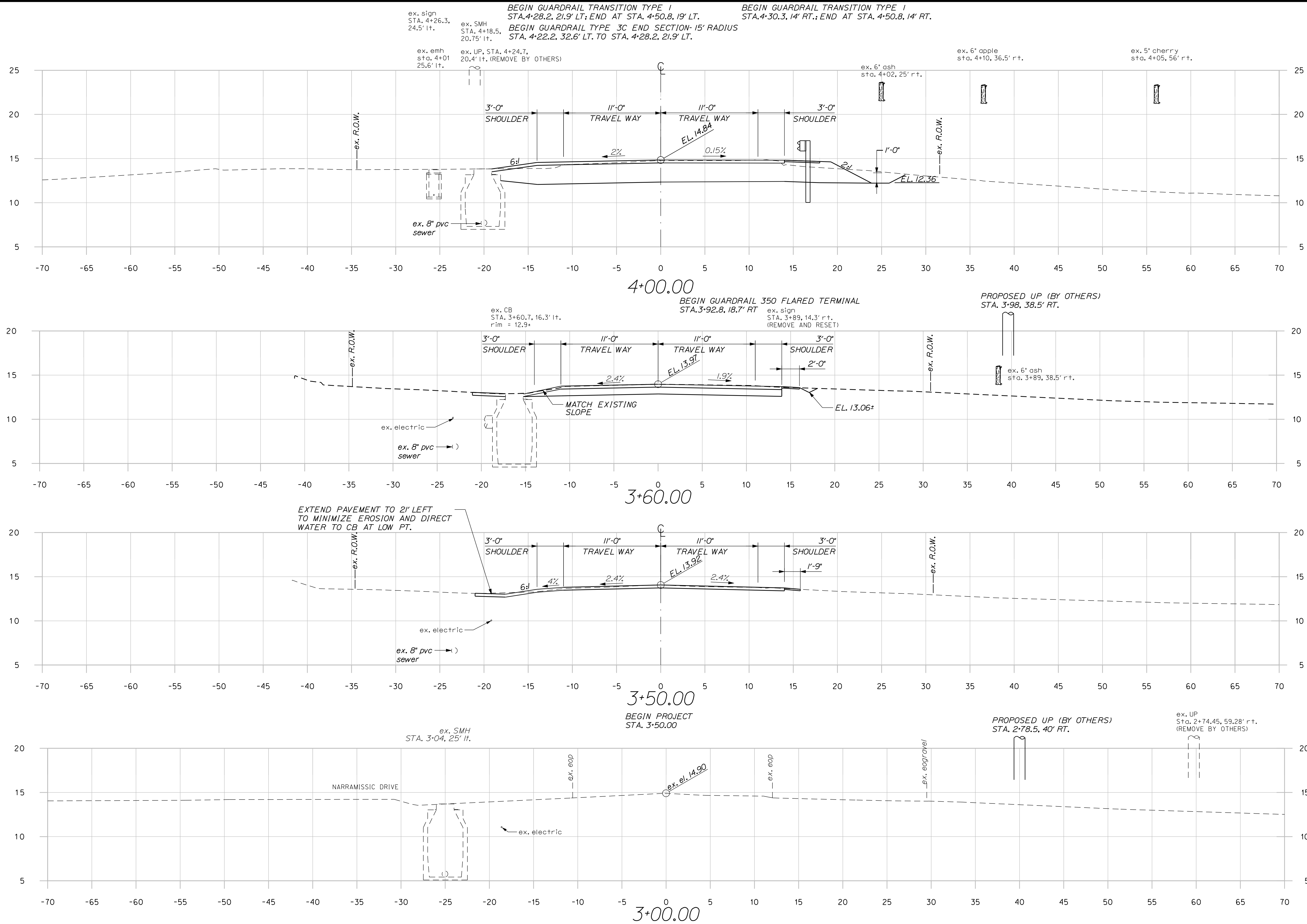
PROPOSED ROADWAY TYPICAL SECTION
WITH SIDEWALK

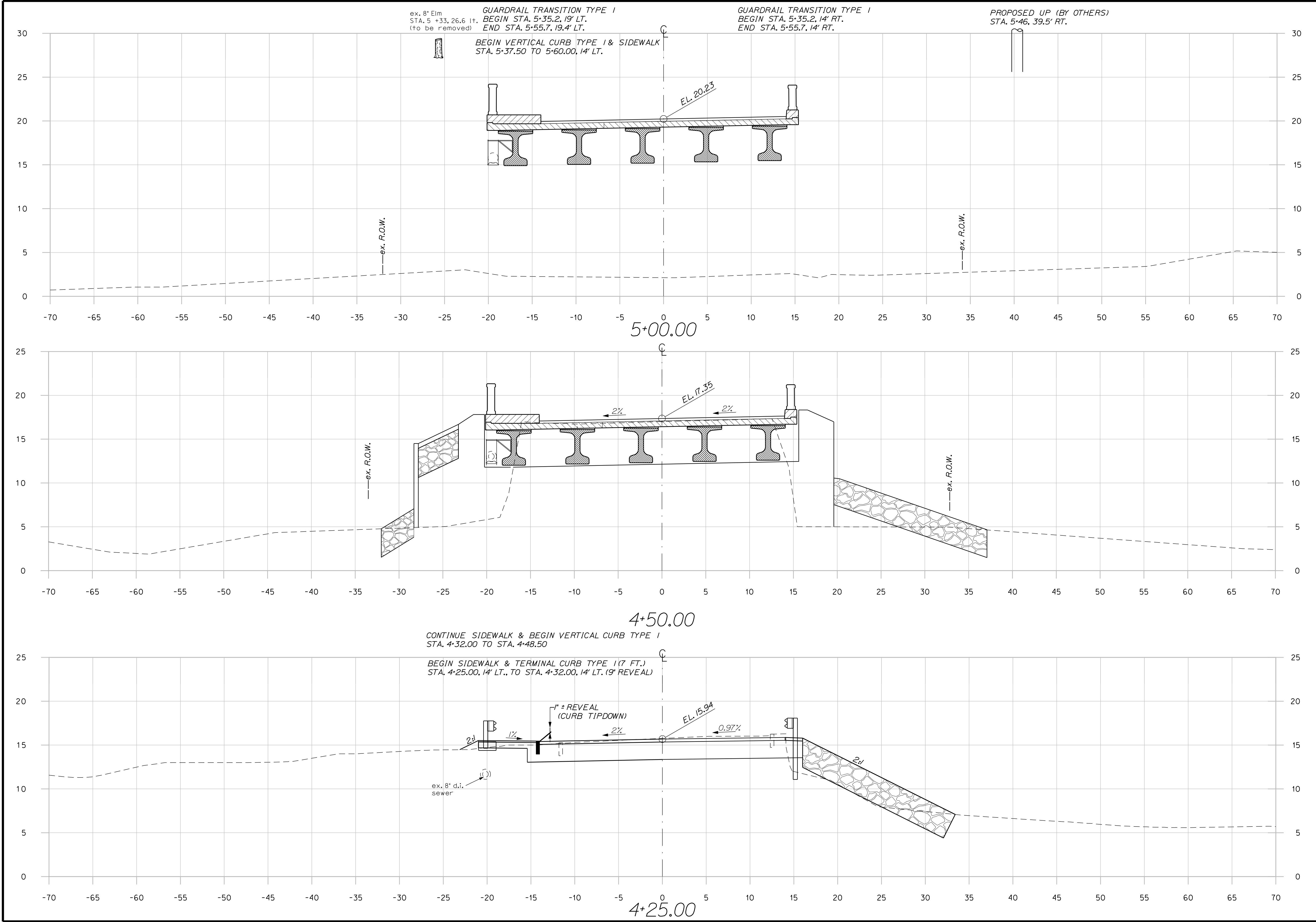


DESIGN-DETAILED	RMM	DJD	7/09
CHECKED-REVIEWED	ROR	JLT	7/09
DESIGN2-DETAILED2			
DESIGN3-DETAILED3			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			
SIGNATURE			
P.E. NUMBER			
DATE			

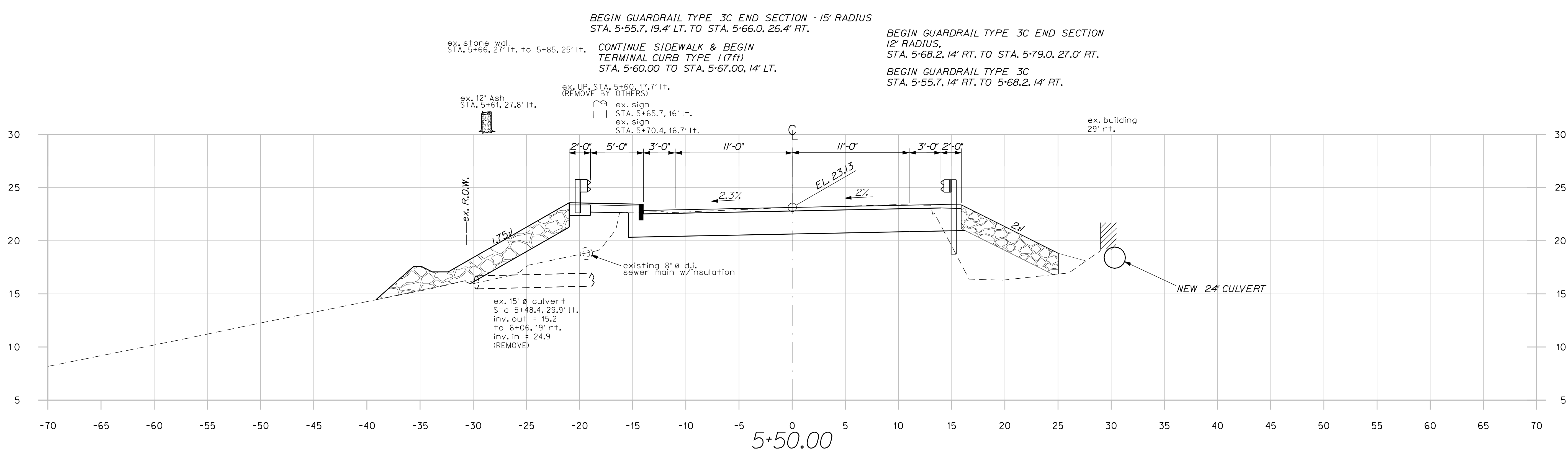
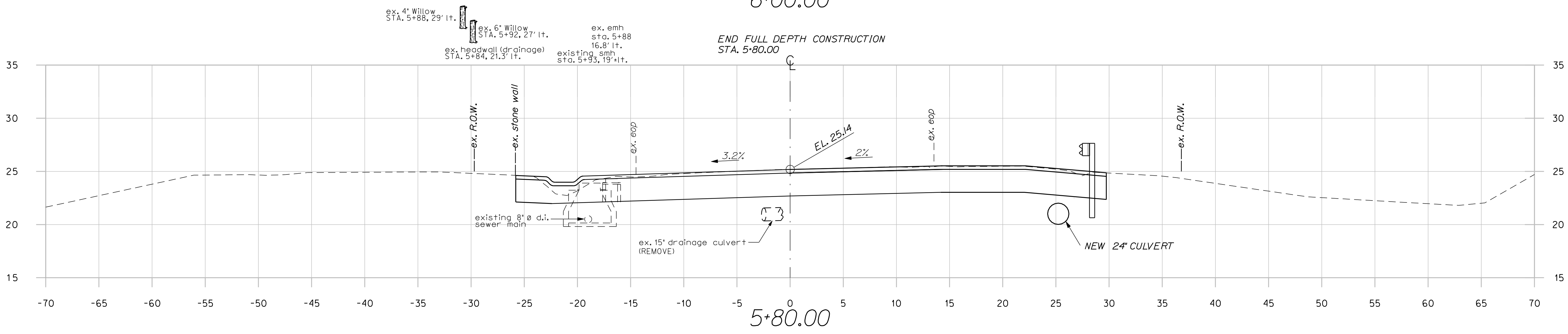
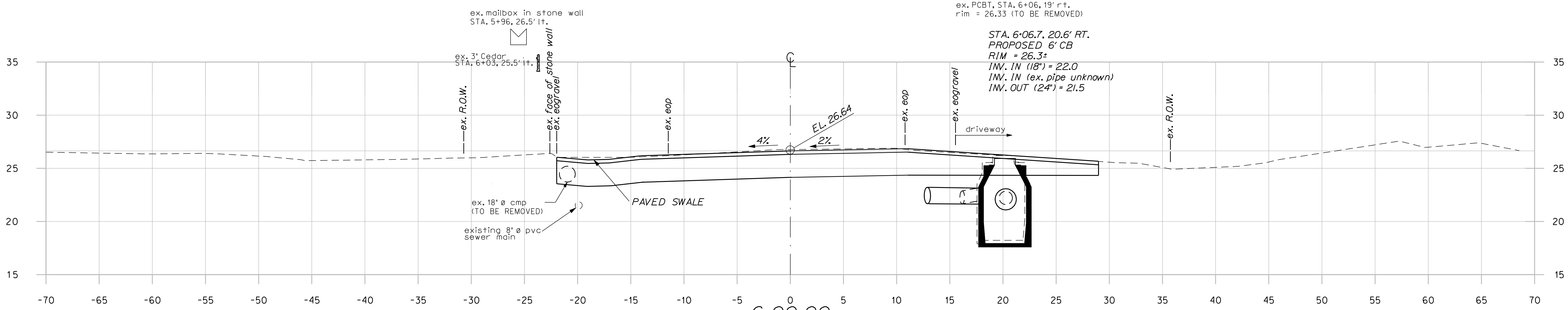
TOWN OF ORLAND ORLAND RIVER BRIDGE OVER NARRAMISSIC RIVER TYPICAL SECTIONS

SHEET NUMBER

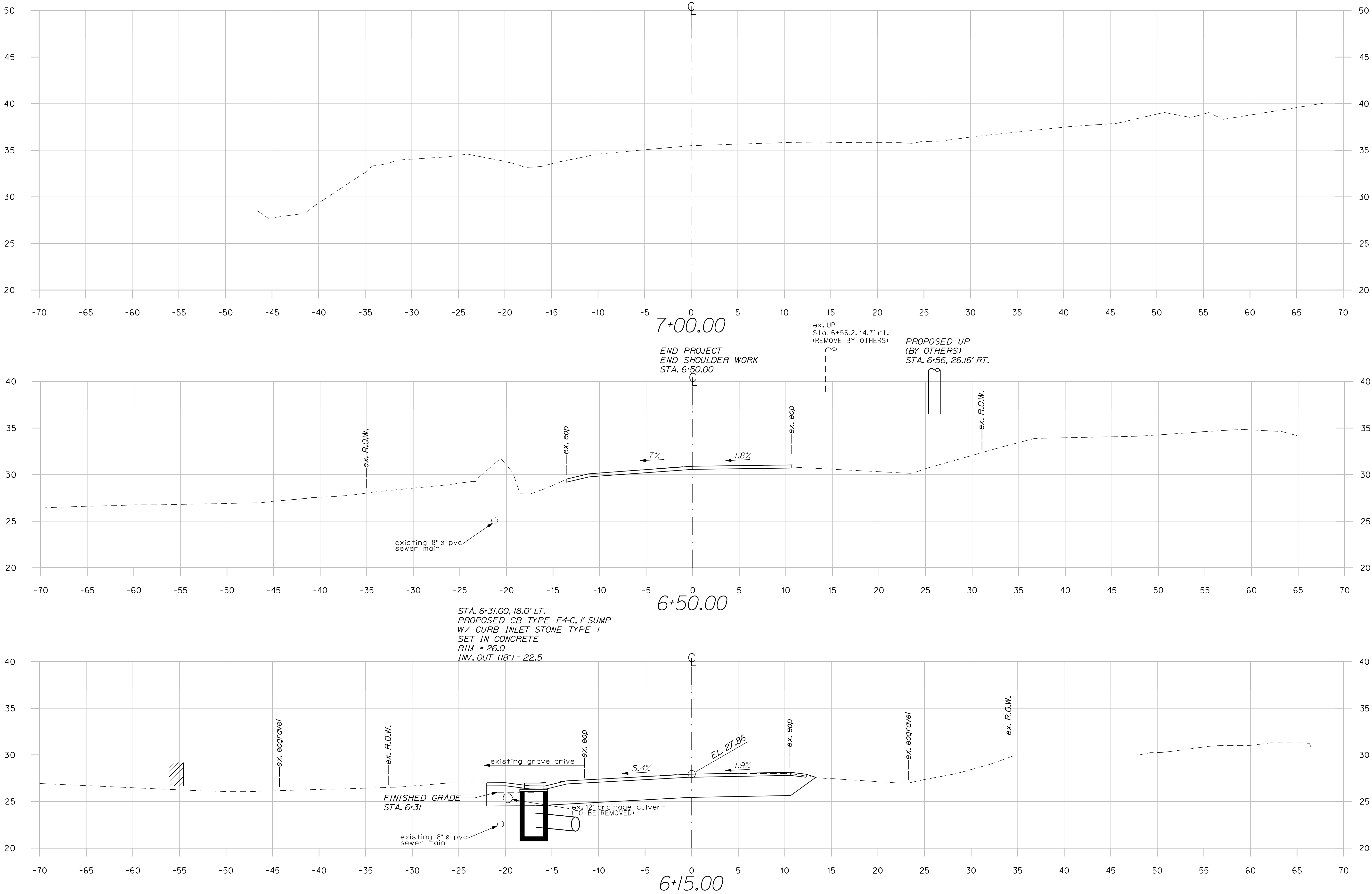




STATE OF MAINE DEPARTMENT OF TRANSPORTATION	BR-1510(300)X		PIN 15103.00		BRIDGE PLANS 2632	
	SIGNATURE		P.E. NUMBER		DATE	
TOWN OF ORLAND ORLAND RIVER BRIDGE OVER NARRAMISSIC RIVER		CROSS SECTIONS				
SHEET NUMBER		9				
		OF 28				



STATE OF MAINE DEPARTMENT OF TRANSPORTATION	BR-1510(300)X		PIN 15103.00		BRIDGE PLANS 2632		
	SIGNATURE		P.E. NUMBER		DATE		
	DATE		DATE		DATE		
TOWN OF ORLAND ORLAND RIVER BRIDGE OVER NARRAMISSIC RIVER		CROSS SECTIONS				SHEET NUMBER 10 OF 28	



STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BR-1510(300)X

PIN
15103.00

2632
BRIDGE PLANS

PROJ. MANAGER	NATE BENNETT	BY	DATE
DESIGN-DETAILED	JRM	DAD	1/09
CHECKED-REVIEWED	RDR	ALF	1/09
DESIGN-DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

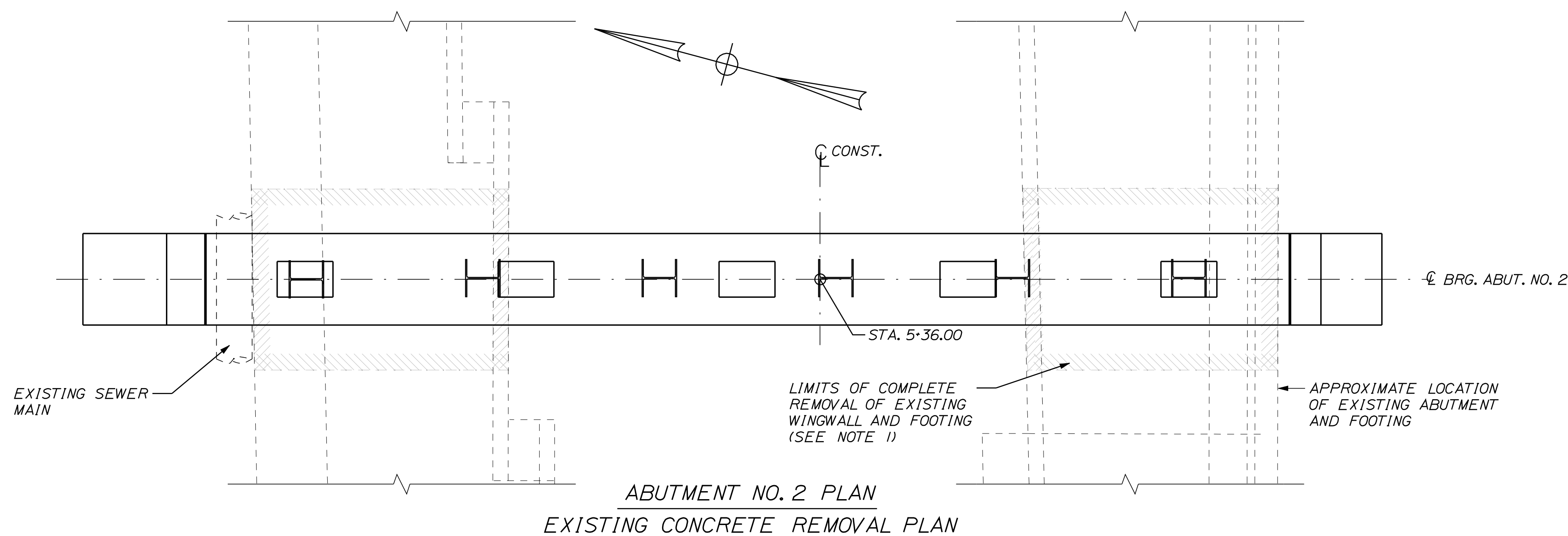
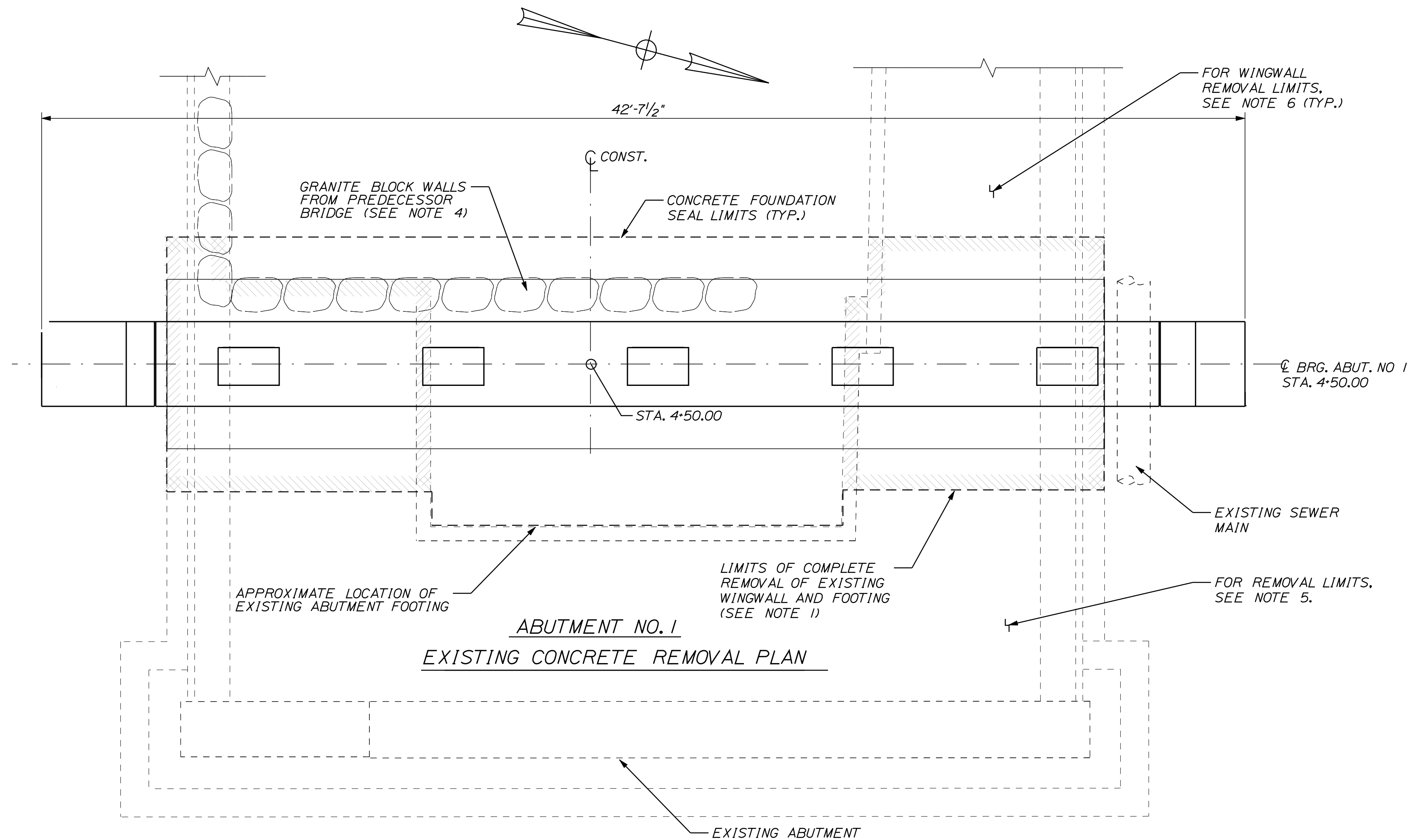
TOWN OF ORLAND
ORLAND RIVER BRIDGE
OVER NARRAMISSIC RIVER

CROSS SECTIONS

SHEET NUMBER

11

OF 28



CONCRETE REMOVAL NOTES:

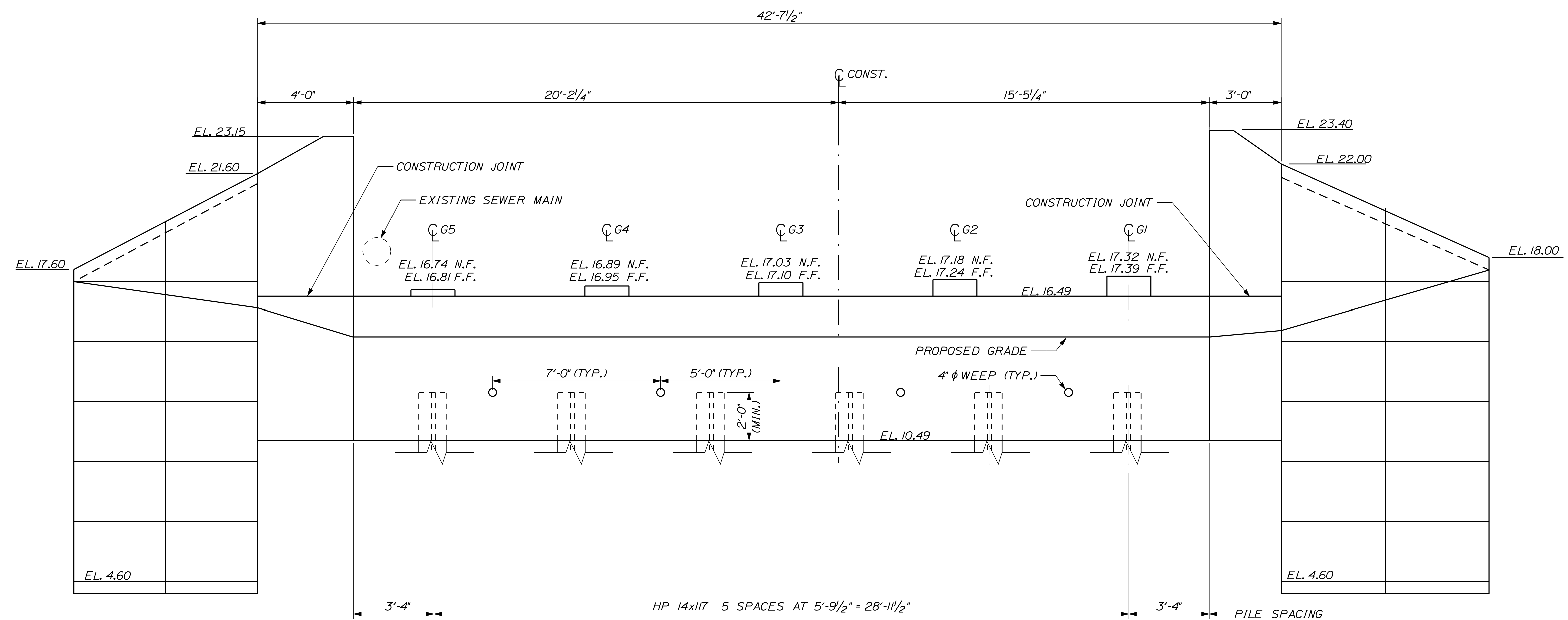
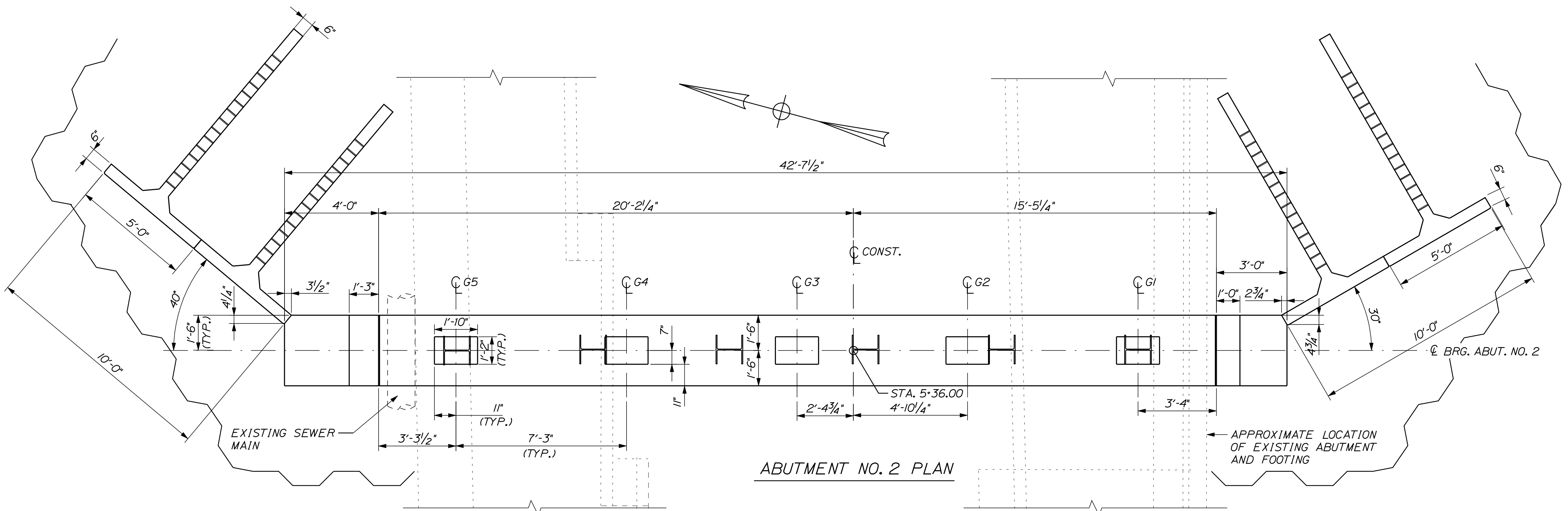
ABUTMENT NO. 1

- Existing wingwalls within the footprint of the proposed abutment foundation seal shall be removed down to the top of the existing footing (limits shown on removal plan). If the existing footing and contact with bedrock below is found to be of sound quality and integrity as determined by the Resident, the existing footing will be utilized as the foundation seal within these areas. The proposed foundation seal will be placed around the existing footing to the limits shown on the plan. If the existing footing and contact with bedrock below is not satisfactory, the entire footing within the footprint of the foundation seal shall be removed and the foundation seal placed to the full limits shown on the plan.
- The existing sewer main will remain in place during construction. Bridge removal operations shall be conducted in a manner so as not to damage the existing sewer main.
- The quantity of seal concrete shown on the plans is the expected volume needed to place a seal to full limits as shown on the plans, based upon bedrock elevation from the borings. Remove Existing Structural Concrete, Item 202.17, shall include all costs to remove the existing wingwalls and footings within the footprint of the proposed foundation seal. If the existing footing is to be utilized as the foundation seal per Note 1, there shall be no adjustment in the unit price for Item 502.22, for reduction of the foundation seal concrete. The quantity shall be measured as the new concrete placed in the field. No payment adjustment will be made to Item 202.17 regardless of whether the existing wingwall footings are removed.
- Granite blocks from the predecessor bridge are anticipated to be encountered during excavation operations. Any granite blocks within the footprint of the proposed abutment foundation seal shall be removed in their entirety and used as riprap for the proposed structure.
- Existing abutment wall and wingwalls within the footprint of the riprap in front of the proposed abutment shall be removed down to elevation 7.5. Existing fill material between the existing abutment and proposed abutment structural excavation limits as shown on the plans shall be removed to facilitate riprap placement (cost included in Item 202.17).
- The existing wingwalls outside the footprint of the foundation seal and the riprap shall be removed to 2 feet on the North side and 5.5 feet on the South side below proposed ground surface. The portions remaining shall be buried. Cost for removal included in Item 202.17.
- Structural excavation within 1'-6" of the existing structure to be removed shall be incidental to Item 202.17.

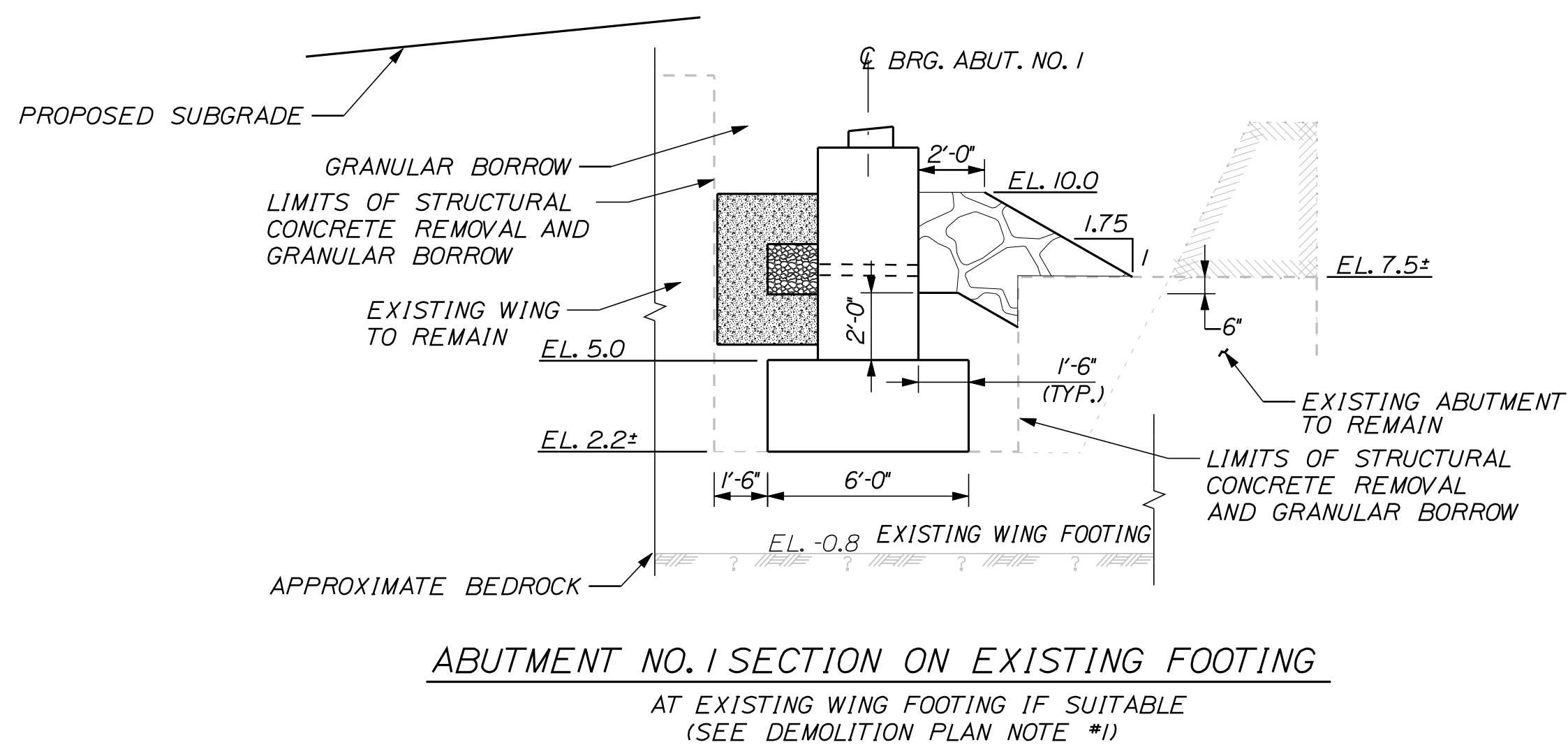
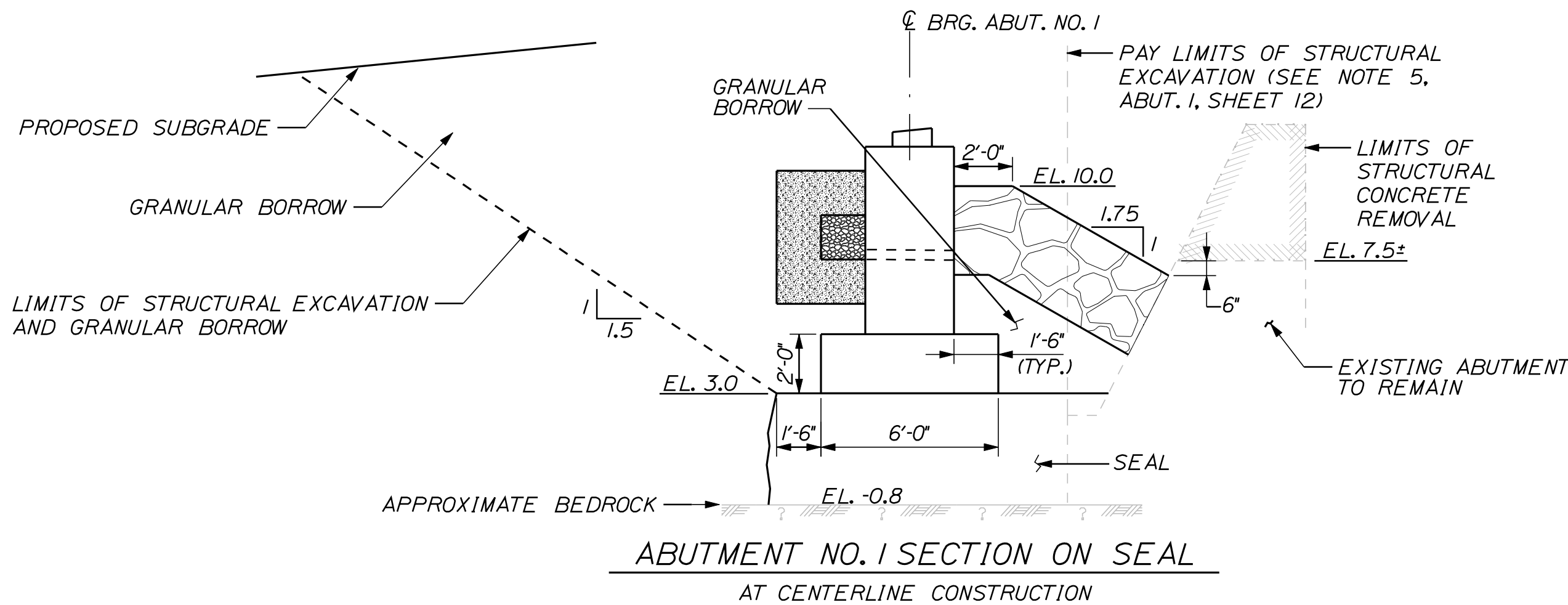
ABUTMENT NO. 2

- The existing wingwalls and footings within the footprint of the proposed abutment shall be removed completely to a sufficient distance from the proposed piles and masonry to allow pile installation and installation/removal of concrete forms.
- Following removal, area shall be filled and compacted with Granular Borrow meeting requirements for Granular Borrow For Underwater Backfill, (Maine DOT Specification 709.19) to elevation 9.5 prior to pile installation. Cost shall be incidental to Item 202.17.
- The existing sewer main will remain in place during construction. Bridge removal operations shall be conducted in a manner so as not to damage the existing sewer main.
- Existing abutment wall and wingwalls within the footprint of the riprap in front of the proposed abutment shall be removed down to elevation 9.5. Existing fill material between the existing abutment and proposed abutment structural excavation limits as shown on the plans shall be removed to facilitate riprap placement (cost included in Item 202.17).
- The existing wingwalls outside the footprint of the abutment and the riprap shall be removed to 2 feet on the North side and 5.5 feet on the South side below proposed ground surface. The portions remaining shall be buried. Cost for removal included in Item 202.17.
- Structural excavation within 1'-6" of the existing structure to be removed shall be incidental to Item 202.17.

STATE OF MAINE				DEPARTMENT OF TRANSPORTATION				BRIDGE PLANS			
TOWN OF ORLAND				MAINE ROUTE 175				DEMOLITION PLAN			
OVER ORLAND RIVER				SHEET NUMBER				12			
				OF 28							
PROJ. MANAGER				DATE				PIN			
DESIGN-DETAILED				BY				15103.00			
CHECKED-REVIEWED				DATE				2632			
DESIGN-DETAILED				DATE							
REVISIONS 1				SIGNATURE							
REVISIONS 2				P.E. NUMBER							
REVISIONS 3				DATE							
REVISIONS 4											
FIELD CHANGES											



STATE OF MAINE DEPARTMENT OF TRANSPORTATION	BR-1510(300)X		PIN 15103.00		BRIDGE PLANS		
	2632						
TOWN OF ORLAND MAINE ROUTE 175 OVER ORLAND RIVER		ABUTMENT NO. 2		SHEET NUMBER		14	
						OF 28	



PILE NOTES

1. Maximum factored pile loads: 292 kips .

2. Estimate of piles required:

Abutment No. 2: 5- HP 14x17 @ 12 ft
1- HP 14x17 @ 17 ft

3. HP14x17 Piles will be supplied by the Department. See Special Provision Section 501.

4. The Contractor shall perform and submit a wave equation analysis for review and acceptance by the Resident. The maximum allowable driving stress is 0.90 times Fy. The submittal analysis shall include the proposed stopping criteria based on the wave equation analysis and the proposed driving system. The stopping criteria shall include the blows per inch and the number of one inch driving intervals at which pile installation may be terminated. The cost of performing the wave equation analysis will be considered incidental to Item No. 501.92, Pile Driving Equipment Mobilization.

4. The contractor shall perform one dynamic load test to confirm the ultimate capacity of the piles. The required nominal resistance for the piles is the factored axial pile load divided by a resistance factor of 0.65 per LRFD Specifications. The dynamic test shall be performed on the first production pile driven.

5. All piles shall be equipped with a pile tip in accordance with Standard Specification 501.10, Prefabricated Pile Tips.

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

7. HP piles shall be driven to the required factored resistance on or within bedrock.

8. No pile splices are permitted.

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

ABUTMENT NOTES

1. Reinforcing steel shall have a minimum concrete cover of 2 inches in the walls and 3 inches cover in the footings unless otherwise noted.

2. Cover joints where waterstops are not required in accordance with Standard Detail 502(01).

3. Construct french drains behind abutments and wingwalls in accordance with the Standard Specification Section 512, French Drains.

4. Structural Earth Excavation, Abutments and Retaining Walls, required more than 12 inches below the bottom of the structure, will be paid for in accordance with Standard Specifications Section 206, Structural Excavation.

5. Abutments, Wingwalls, and their footings shall be backfilled with Granular Borrow. Any backfill within 10 feet of abutments, wingwalls and fill side slopes shall conform to Granular Borrow for Underwater Backfill - MaineDOT Specification 709.19. Pay limits for Granular Borrow will be Structural Excavation limits or existing Structural Concrete Removal limits (except as noted) in cut areas and a vertical plane located 10 feet behind the walls in fill area.

6. The maximum factored applied footing pressure is 14.2 ksf (Abut. NO. 1 at BOF).

7. Place 4 inch diameter drains in abutment walls at spacing shown. The exact location will be determined by the Resident.

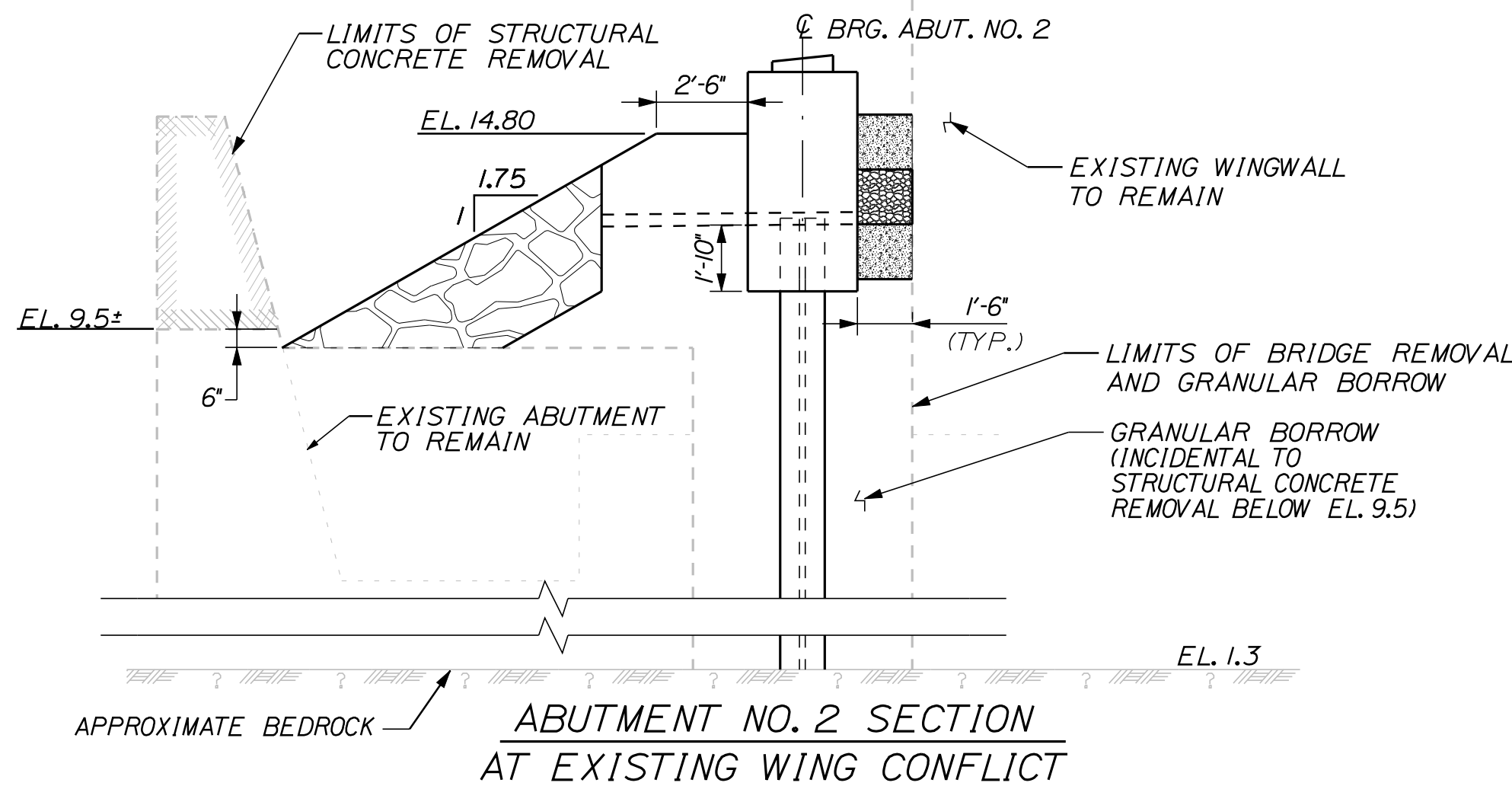
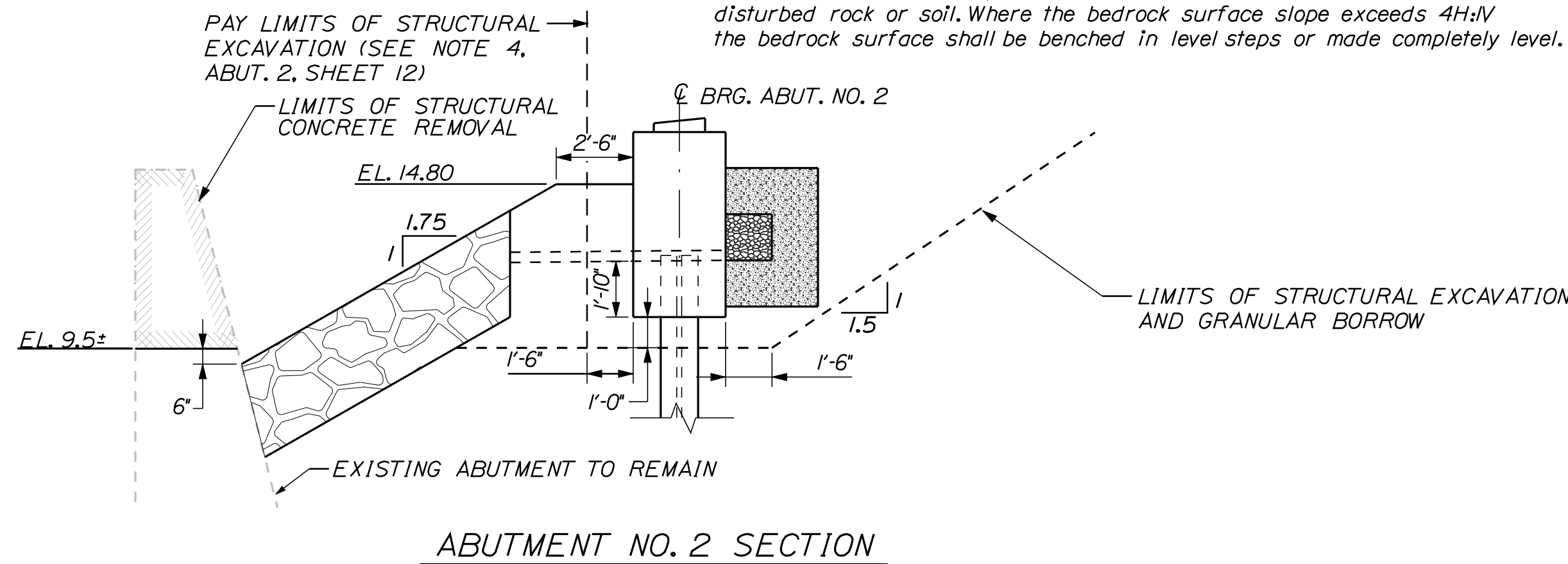
SEAL COFFERDAM NOTES

1. The seal concrete placement dimensions represent the minimum size necessary to meet design requirements and are not based on the use of any particular sheet pile section.

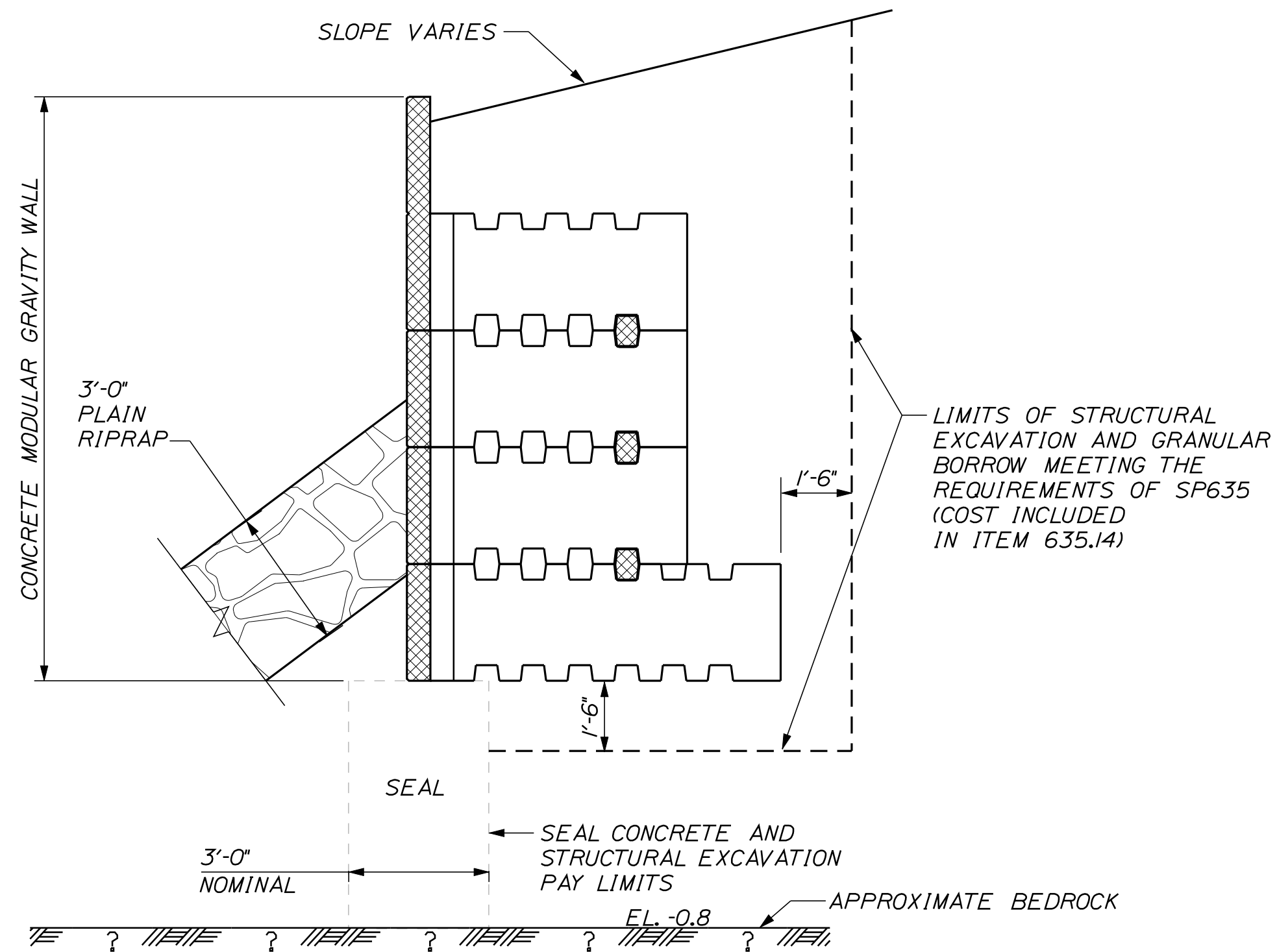
2. The horizontal pay limit for seal concrete shall be to the dimensions shown on the plans. No additional payment will be made for concrete placed outside these limits.

3. The depth of the seal is set for a water elevation of 7.50. If the water elevation at the time of construction is higher, the depth of the seal shall be adjusted.

4. Seal concrete shall be placed on bedrock cleaned of all loose rock, disturbed rock or soil. Where the bedrock surface slope exceeds 4H:1V the bedrock surface shall be benched in level steps or made completely level.

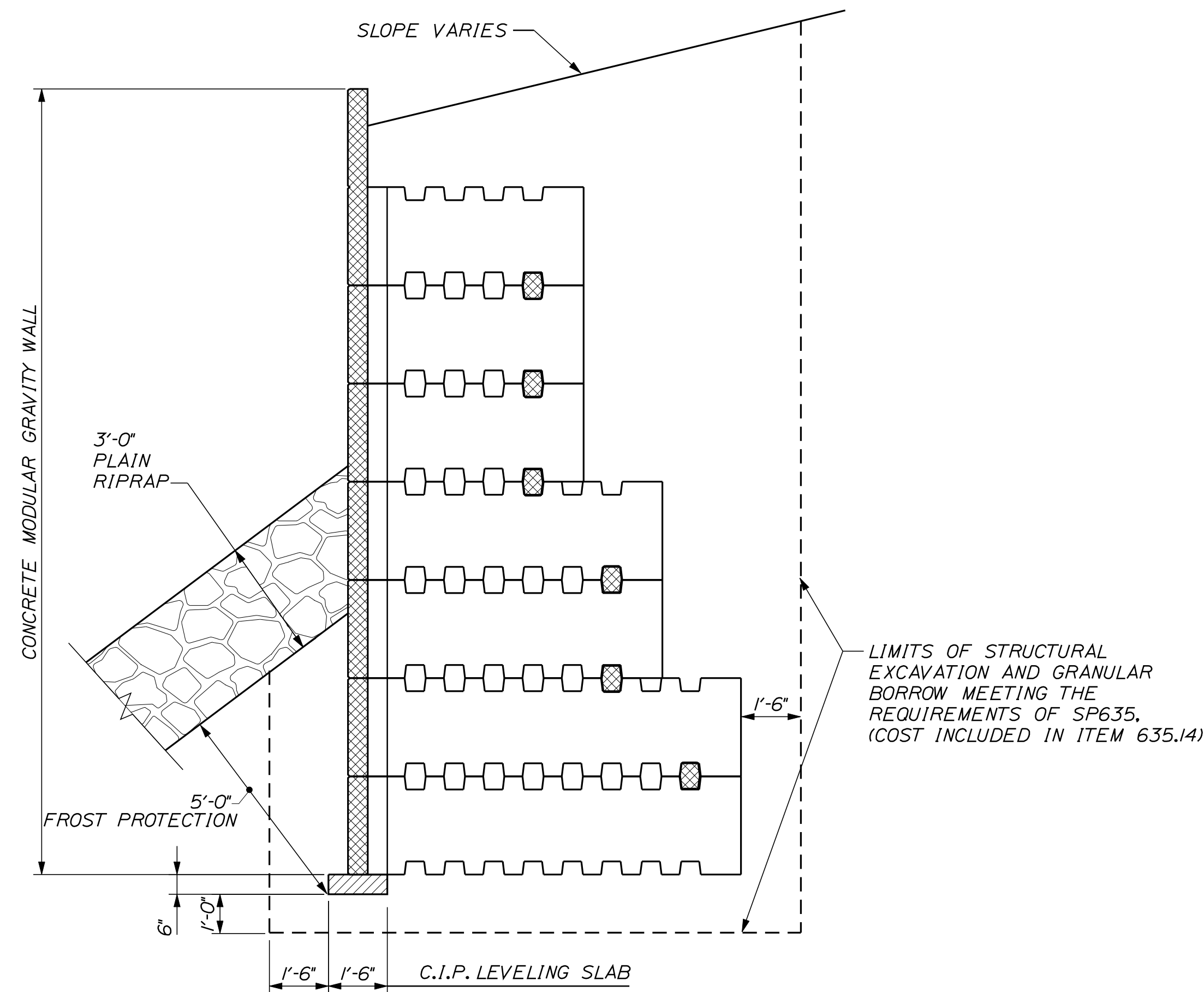


STATE OF MAINE DEPARTMENT OF TRANSPORTATION	BR-1510(300)X		PIN 15103.00		BRIDGE PLANS	
	2632					
TOWN OF ORLAND MAINE ROUTE 175 OVER ORLAND RIVER	PROJ. MANAGER	DATE	BY	DATE	SIGNATURE	P.E. NUMBER
	DESIGN-DETAILED	1/09	RM	1/09		
	CHECKED-REVIEWED		RM			
	DESIGN-DETAILED		RM			
	REVISIONS 1					
	REVISIONS 2					
ABUTMENT DETAILS	REVISIONS 3					
	REVISIONS 4					
	FIELD CHANGES					
SHEET NUMBER		15				
		OF 28				



CONCRETE MODULAR GRAVITY WALL SECTION -
ABUTMENT NO. 1

NOTE: T-WALLS AT ABUT. NO. 1 SHALL BE PLACED DIRECTLY ON THE FOUNDATION SEAL.



CONCRETE MODULAR GRAVITY WALL SECTION -
ABUTMENT NO. 2

NOTE: T-WALLS AT ABUT. NO. 2 SHALL BE PLACED ON GRANULAR BORROW.

PCMG NOTES:

1. THE CONTRACTOR SHALL PROVIDE A PREFABRICATED CONCRETE MODULAR GRAVITY (PCMG) WALL IN ACCORDANCE WITH SPECIAL PROVISION 635. THE PCMG WALL SHALL BE DESIGNED AND STAMPED BY A REGISTERED PROFESSIONAL ENGINEER AND THE DESIGN SHALL BE SUBMITTED TO THE RESIDENT FOR REVIEW. PLAN DETAILS ARE SHOWN FOR ESTIMATING PURPOSES.

2. THE PRECAST PCMG UNITS SHALL BE ONE OF THE FOLLOWING OR EQUAL;
 "T-WALL" AS MANUFACTURED BY A LICENSED MANUFACTURER OF NEEL COMPANY.
 "DOUBLEWAL" AS MANUFACTURED BY A LICENSED MANUFACTURER OF
 DOUBLEWAL CORP., PLAINVILLE, CONNECTICUT. T-WALL UNITS ARE SHOWN FOR ILLUSTRATIVE
 PURPOSES ONLY. THE T-WALL UNITS/STEM LENGTHS SHOWN ARE CONCEPTUAL AND DO NOT
 REPRESENT A DESIGNED WALL SYSTEM. THE PCMG WALL IS A DESIGN-BUILD ITEM PER
 SPECIAL PROVISION 635.

3. PCMG WALL UNITS AT ABUTMENT NO. 1 SHALL BE CONSTRUCTED TO BEAR DIRECTLY ON SEAL CONCRETE CAST ON BEDROCK. TOP OF SEAL IN THE AREA OF THE WALLS SHALL BE FINISHED COMPLETELY LEVEL OR SEALS SHALL BE PLACED TO EL. 4.5 AND A SECOND PLACEMENT OF 1'-6" x 6" DEEP C.I.P. LEVELING SLAB SHALL BE PLACED. COST OF FINISHING THE SEAL OR PLACING THE LEVELING SLAB SHALL BE INCLUDED IN ITEM 635.14.

4. THE APPLIED FACTORED BEARING PRESSURE FOR THE PCMG WALL SHALL NOT EXCEED 11 ksf FOR THE STRENGTH LIMIT STATE. THE APPLIED FACTORED BEARING PRESSURE FOR PCMG WALLS WITH A BASE UNIT LENGTH OF 8.0 FEET OR LESS SHALL NOT EXCEED 9ksf FOR THE STRENGTH LIMIT STATE. THE FACTORED BEARING PRESSURE FOR PCMG WALLS SHALL NOT EXCEED THE FACTORED BEARING RESISTANCE OF 6 ksf FOR THE SERVICE LIMIT STATE.

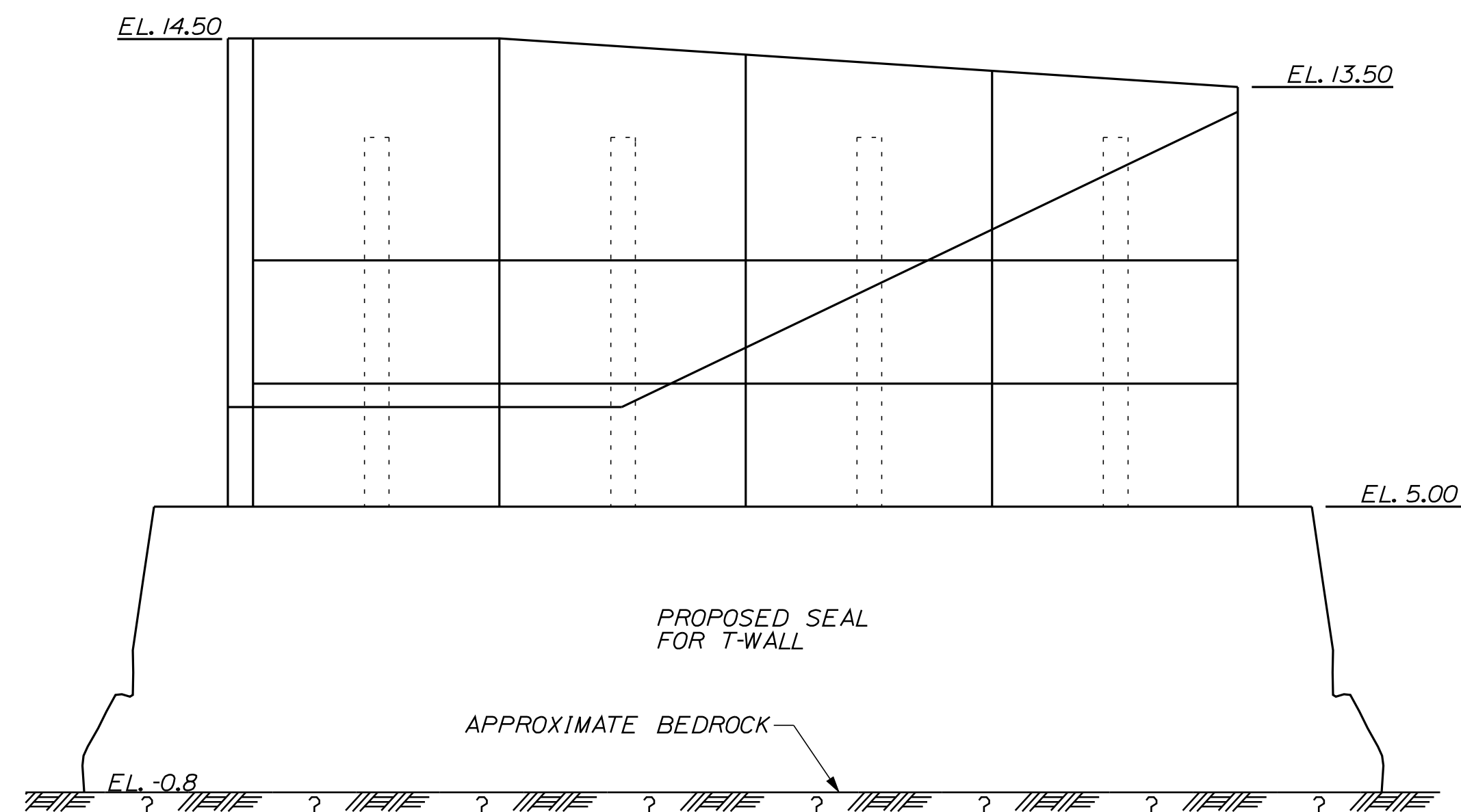
5. THE PCMG WALL SHALL CONSIST OF CONCRETE WITH A MAXIMUM PERMEABILITY OF 2,000 COULOMBS AND EPOXY COATED REINFORCING STEEL.

6. THE PCMG WALL UNITS SHALL CONTAIN A MINIMUM OF 5.5 GALLONS PER CUBIC YARD OF CALCIUM NITRATE SOLUTION.

7. COFFERDAMS FOR PCMG WALL INSTALLATION WILL BE INCLUDED WITH PAY ITEM NO. 635.14, PREFABRICATED CONCRETE MODULAR GRAVITY WALL.

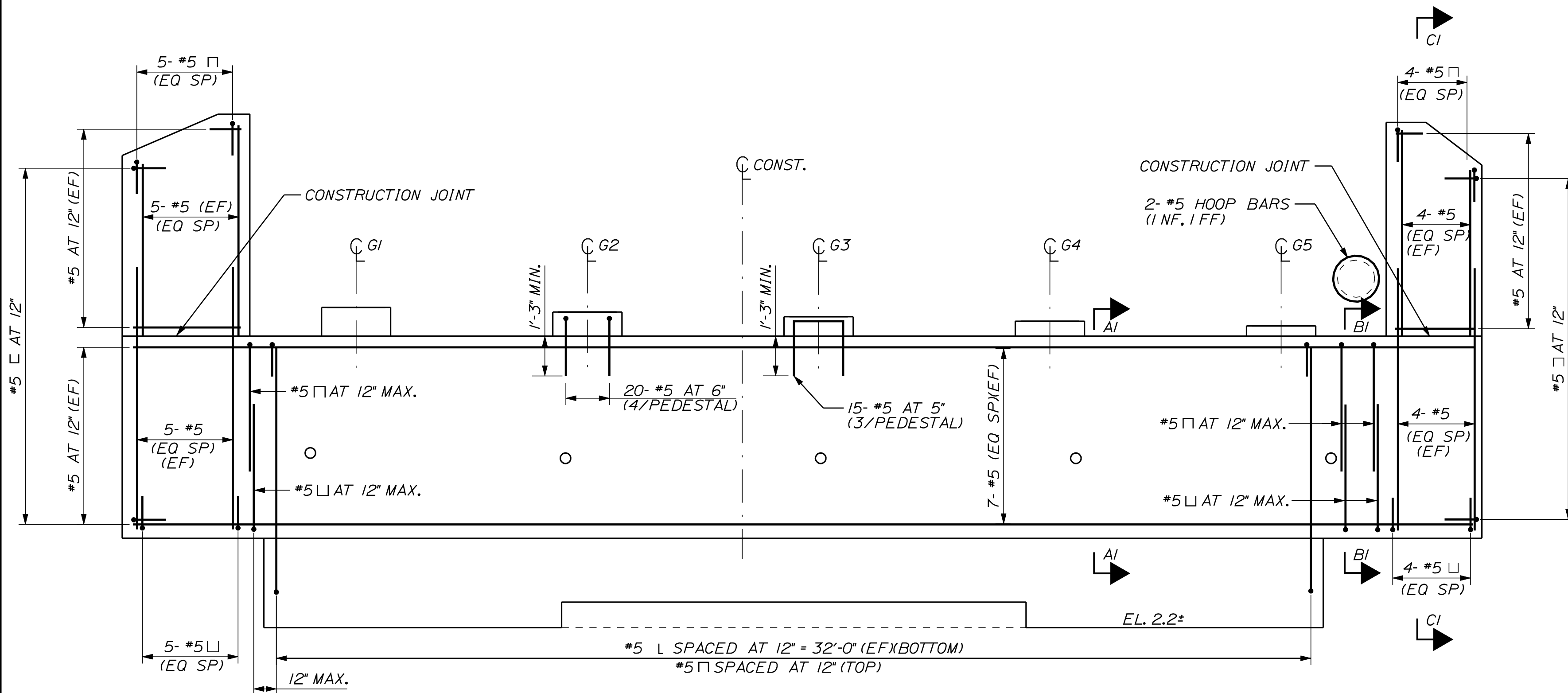
8. THE CONTRACTOR MAY CONSTRUCT THE PCMG WALL USING CRUSHED STONE (MDOT 703.31) AS BACKFILL FOR BEHIND AND BETWEEN UNITS. IN USING CRUSHED STONE FOR BACKFILL, THE PCMG MAY BE DESIGNED ASSUMING A FRICTION ANGLE OF 40 DEGREES FOR SOIL WITHIN THE UNITS. CRUSHED STONE SHALL BE COMPACTED USING EITHER STATIC OR DYNAMIC METHODS WITH SUFFICIENT ENERGY TO ACHIEVE A CONSISTENT DENSE COURSE, AS APPROVED BY RESIDENT. CRUSHED STONE SHALL BE SEPARATED FROM SURROUNDING SOIL WITH EROSION CONTROL GEOTEXTILE (MDOT 722.03). CRUSHED STONE AS BACKFILL AND EROSION CONTROL GEOTEXTILE SHALL BE INCIDENTAL TO PAY ITEM 635.14.

9. IN USING CRUSHED STONE FOR PCMG BACKFILL, THE SAME UNIT WEIGHT SPECIFIED IN SPECIAL PROVISION 635 SHALL BE ASSUMED FOR THE SOIL WITHIN THE UNITS. THE FAILURE PLANE WITHIN THE WALL MASS USED FOR INTERNAL STABILITY, AND THE HORIZONTAL EARTH PRESSURE APPLIED TO THE INSIDE FACE OF THE WALL FOR INTERNAL STABILITY COMPUTATION, SHALL BE DETERMINED BASED ON A FRICTION ANGLE OF 34 DEGREES.

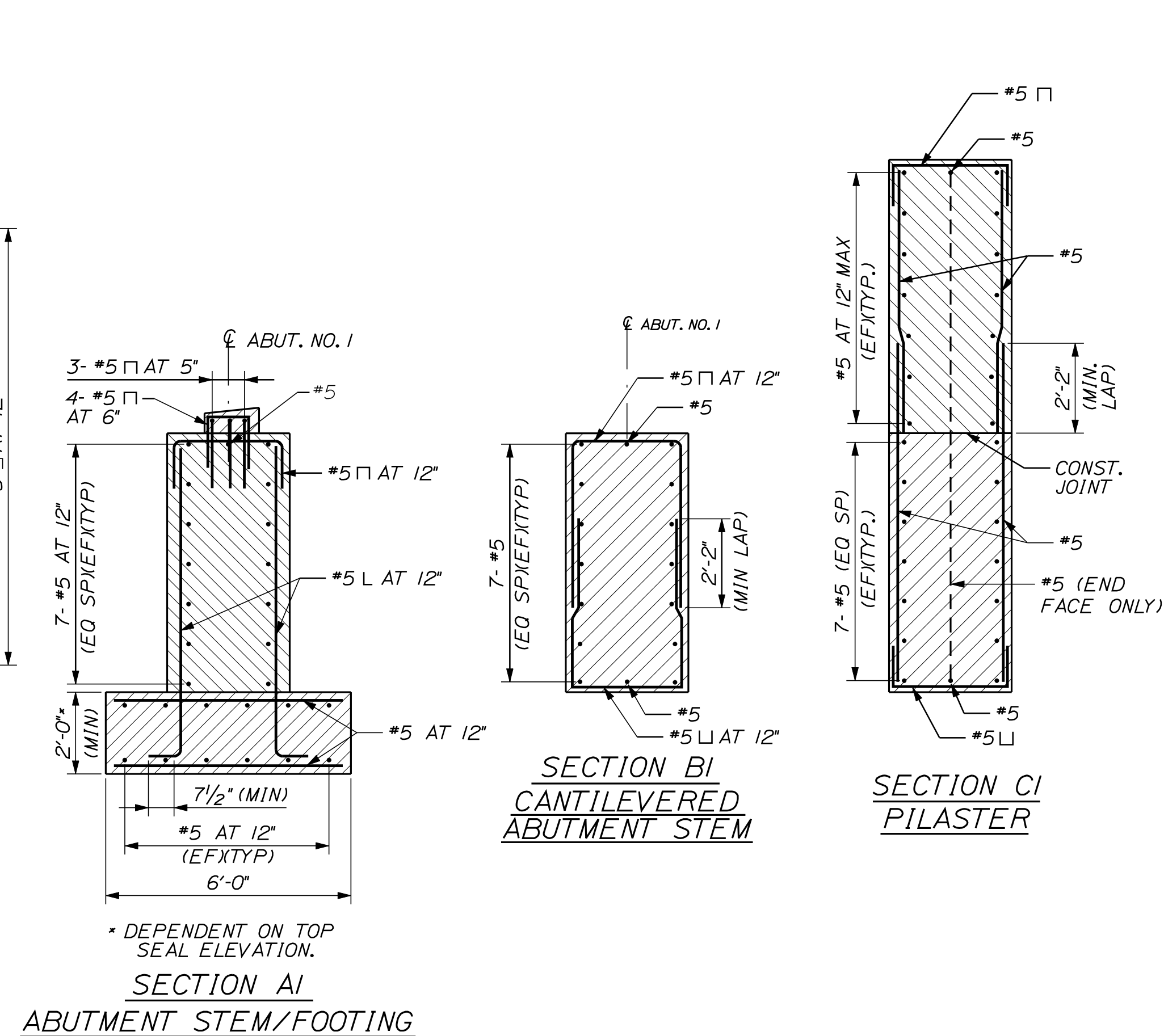


NORTHWEST T-WALL ELEVATION - ABUTMENT NO. 1

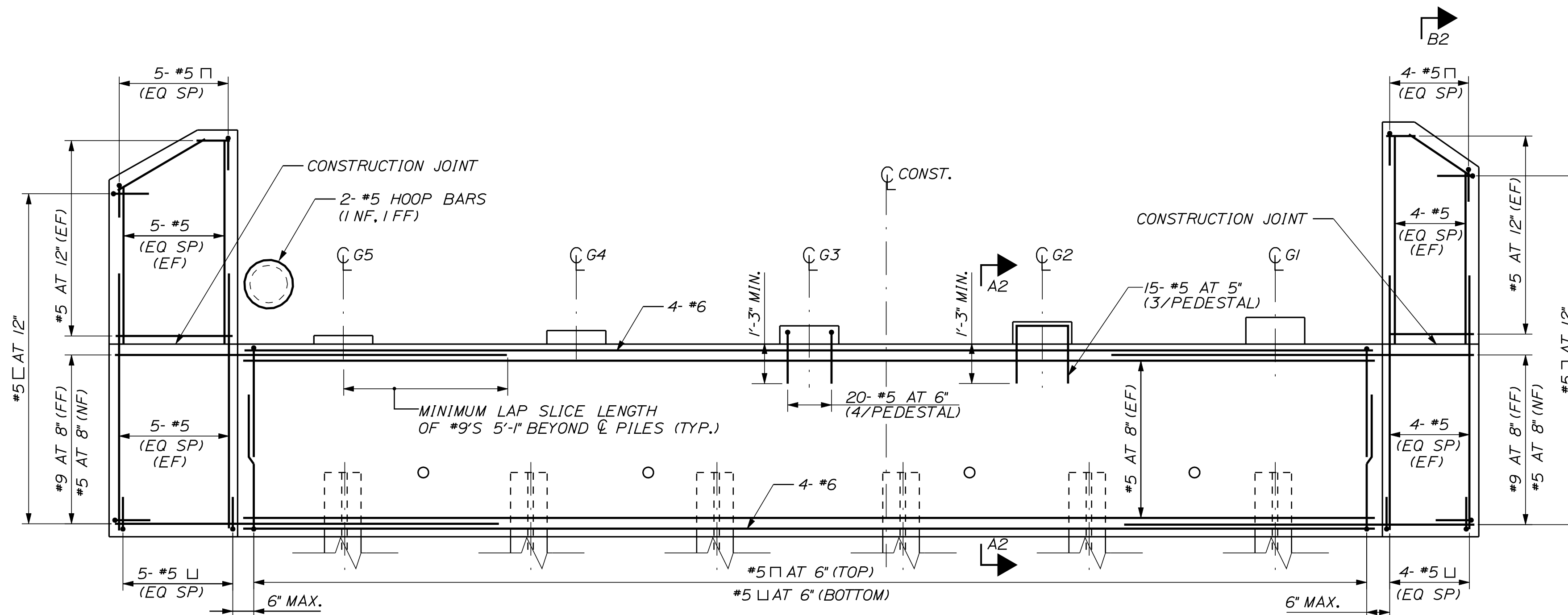
SHEET NUMBER	TOWN OF ORLAND MAINE ROUTE 175 OVER ORLAND RIVER	PROJ. MANAGER	NATE BENNETT	BY	DATE	STATE OF MAINE	
						DEPARTMENT OF TRANSPORTATION	
16 OF 28	PCMG WALL DETAILS	DESIGN-DETAILED	RMM	DMO	1/09	SIGNATURE	BR-1510(300)X
		CHECKED-REVIEWED	ROR	JLF	1/09		
		DESIGN2-DETAILED2				P.E. NUMBER	
		DESIGN3-DETAILED3					
		REVISIONS 1				DATE	PIN 15103.00
		REVISIONS 2					
		REVISIONS 3					
		REVISIONS 4					
		FIELD CHANGES				2632	BRIDGE PLANS



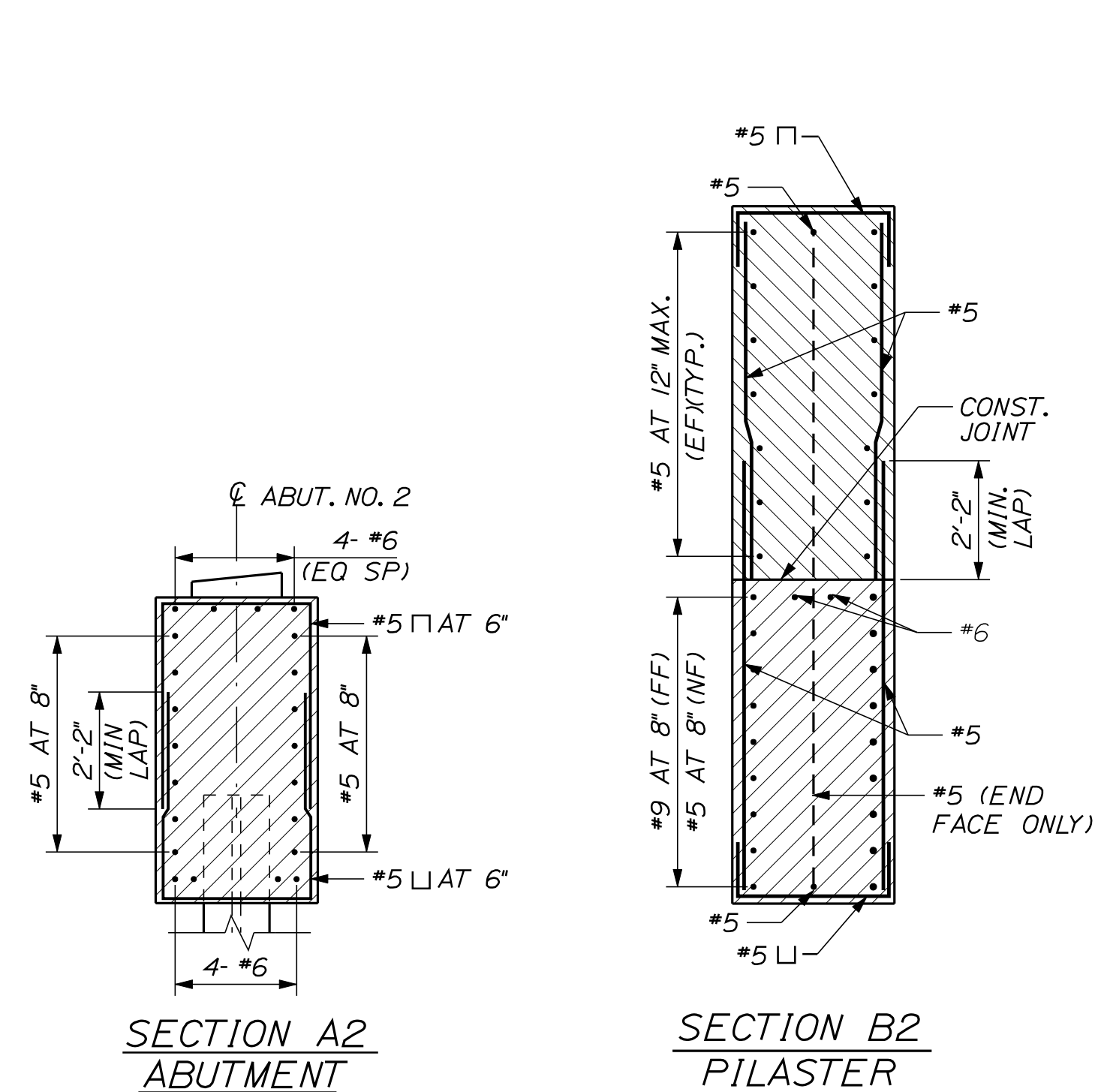
ABUTMENT NO. 1 ELEVATION - REINFORCING



SECTION A1
ABUTMENT STEM/FOOTING



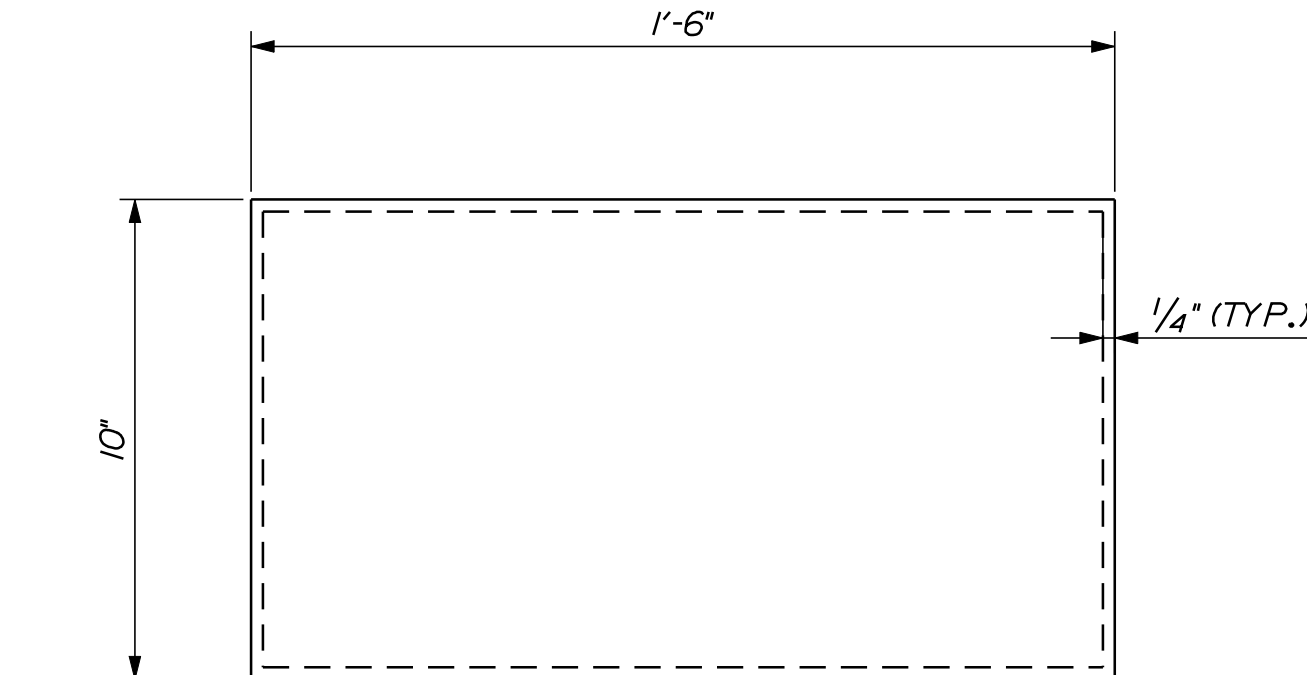
ABUTMENT NO. 2 ELEVATION - REINFORCING



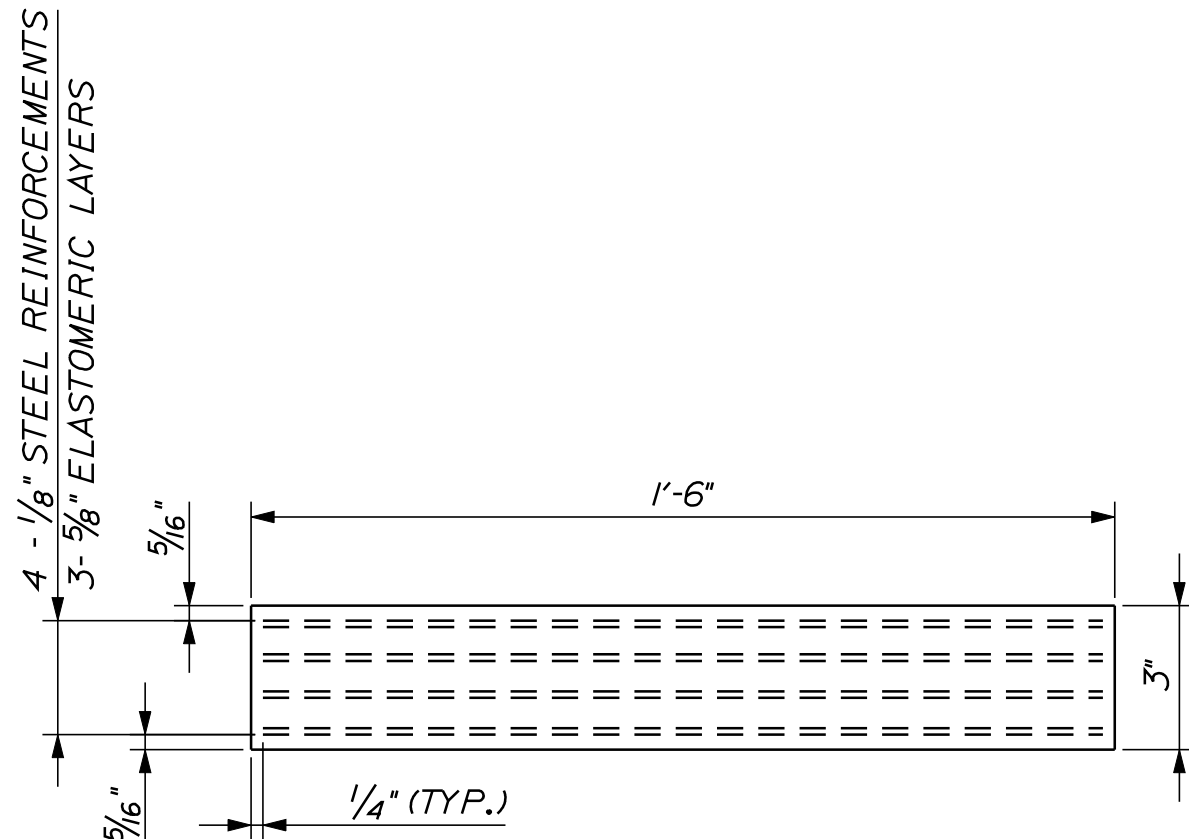
SECTION A2
ABUTMENT

SECTION B2
PILASTER

STATE OF MAINE DEPARTMENT OF TRANSPORTATION				BR-1510(300)X				PIN 15103.00				BRIDGE PLANS			
								2632							



PLAN



SECTION

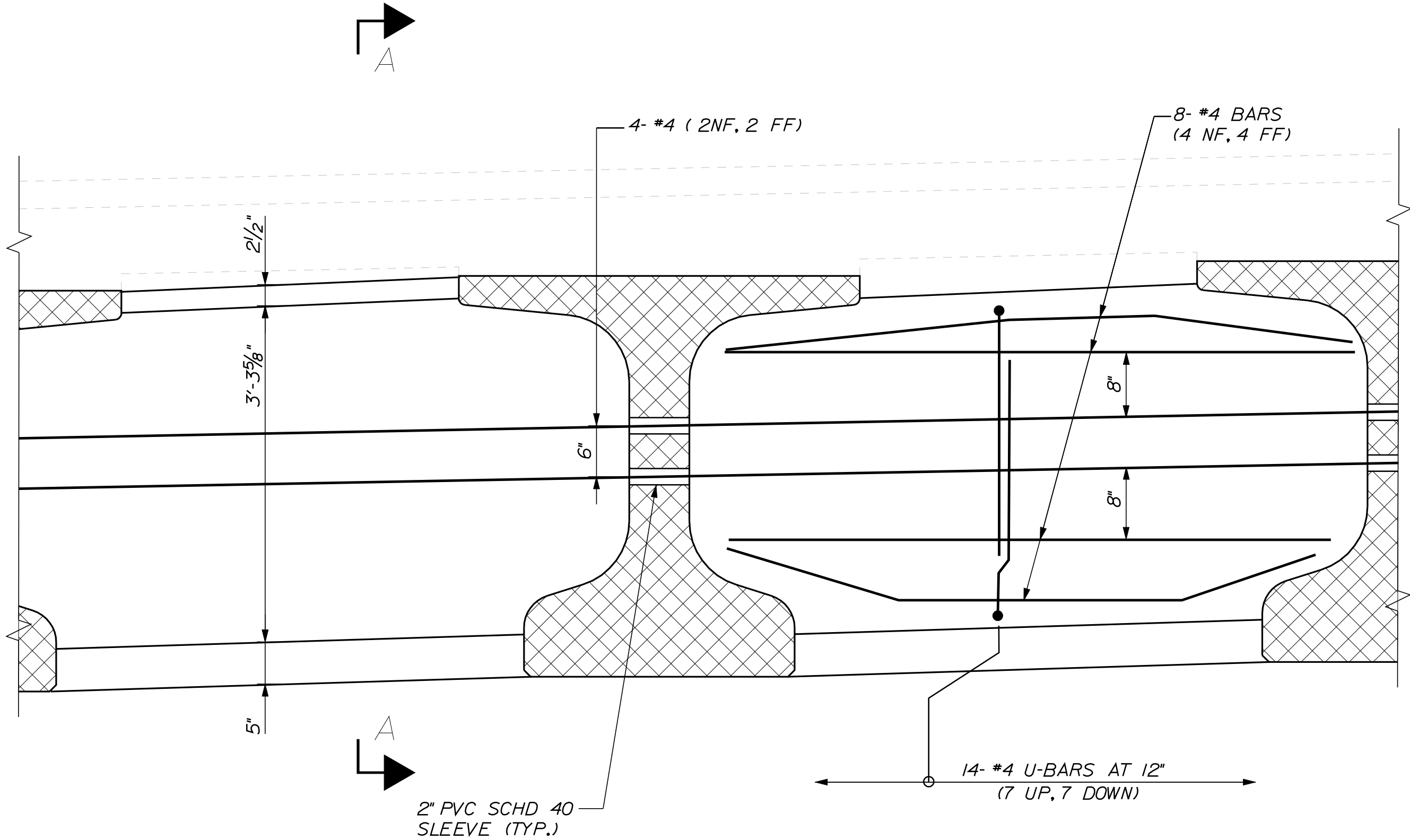
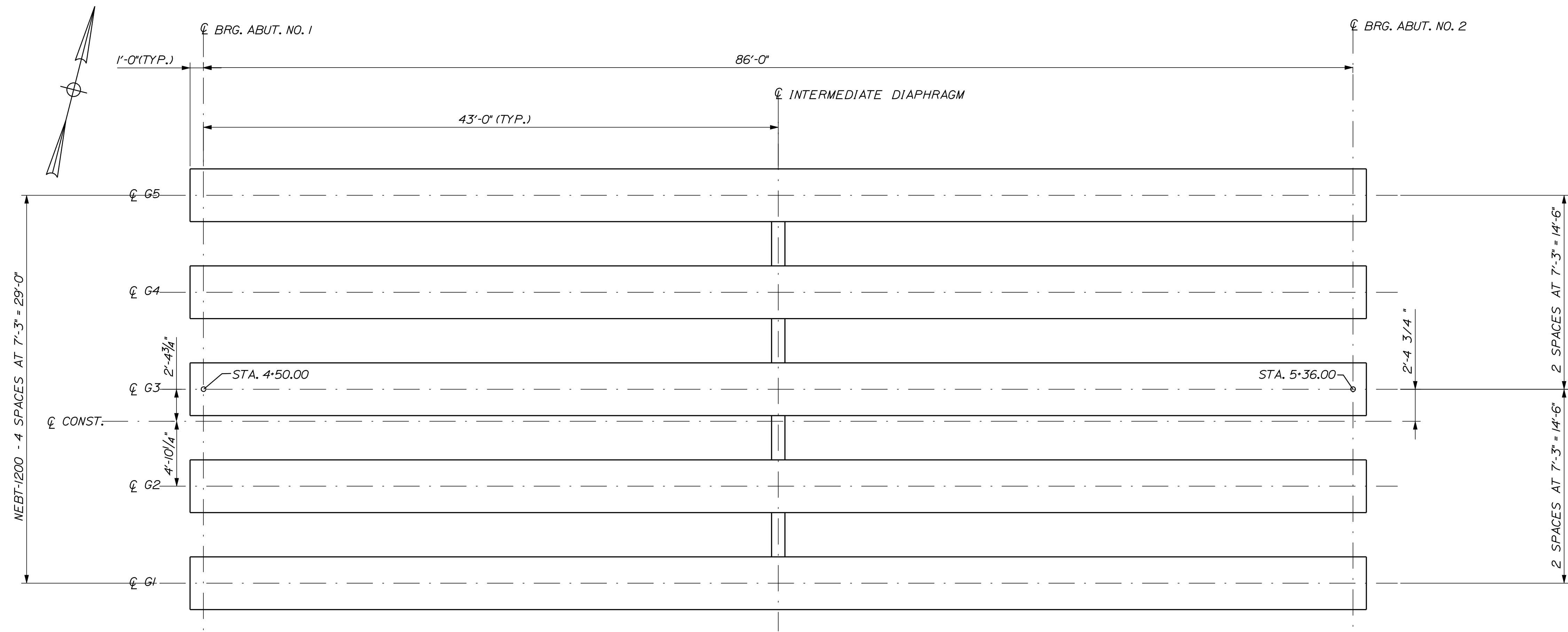
ELASTOMERIC BEARING

ABUTMENT NO. 1

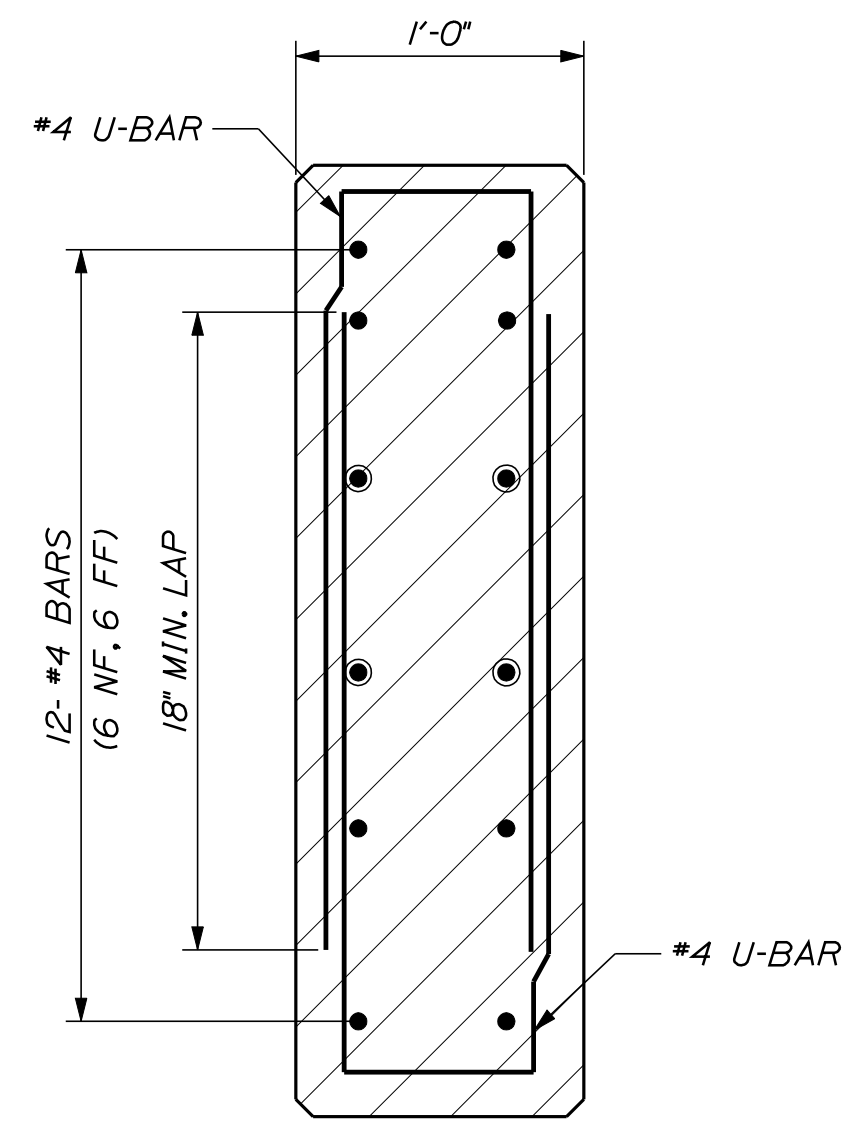
ELASTOMERIC BEARINGS NOTES:

1. THE SHEAR MODULUS OF THE ELASTOMER SHALL BE BETWEEN 130 AND 200 psi.
2. BEARINGS SHALL BE COVERED DURING TRANSIT.
3. THE BEARINGS ARE DESIGNED SO THAT THE SUPERSTRUCTURE MAY BE ERECTED WHEN THE AMBIENT AIR TEMPERATURE IS WITHIN THE RANGE OF 65°F AND 90°F. IF THE AMBIENT AIR TEMPERATURE IS OUTSIDE THIS RANGE, THE BEARINGS SHALL BE RESET AS DIRECTED BY THE RESIDENT.
4. ALL BEARINGS SHALL BE MARKED PRIOR TO SHIPPING. THE MARKS SHALL INCLUDE THE BEARING LOCATION ON THE BRIDGE, AND A DIRECTION ARROW THAT POINTS UP-STATION. ALL MARKS SHALL BE PERMANENT AND SHALL BE VISIBLE AFTER THE BEARING IS INSTALLED.

TOWN OF ORLAND MAINE ROUTE 175 OVER ORLAND RIVER BEARING DETAILS	STATE OF MAINE DEPARTMENT OF TRANSPORTATION			
	BR-1510(300)X			
	PIN 15103.00 BRIDGE PLANS			
SHEET NUMBER 18 OF 28	PROJ. MANAGER DESIGN-DETAILED CHECKED-REVIEWED DESIGN-DETAILED REVISIONS 1 REVISIONS 2 REVISIONS 3 REVISIONS 4 FIELD CHANGES	NATE BENNETT RMM RJR JLF	BY DAD JLF	DATE 1/09 1/09
				SIGNATURE
				P.E. NUMBER
				DATE
	TOWN OF ORLAND MAINE ROUTE 175 OVER ORLAND RIVER BEARING DETAILS	NATE BENNETT RMM RJR JLF	BY DAD JLF	DATE 1/09 1/09
				SIGNATURE
				P.E. NUMBER
				DATE
				DATE
				DATE

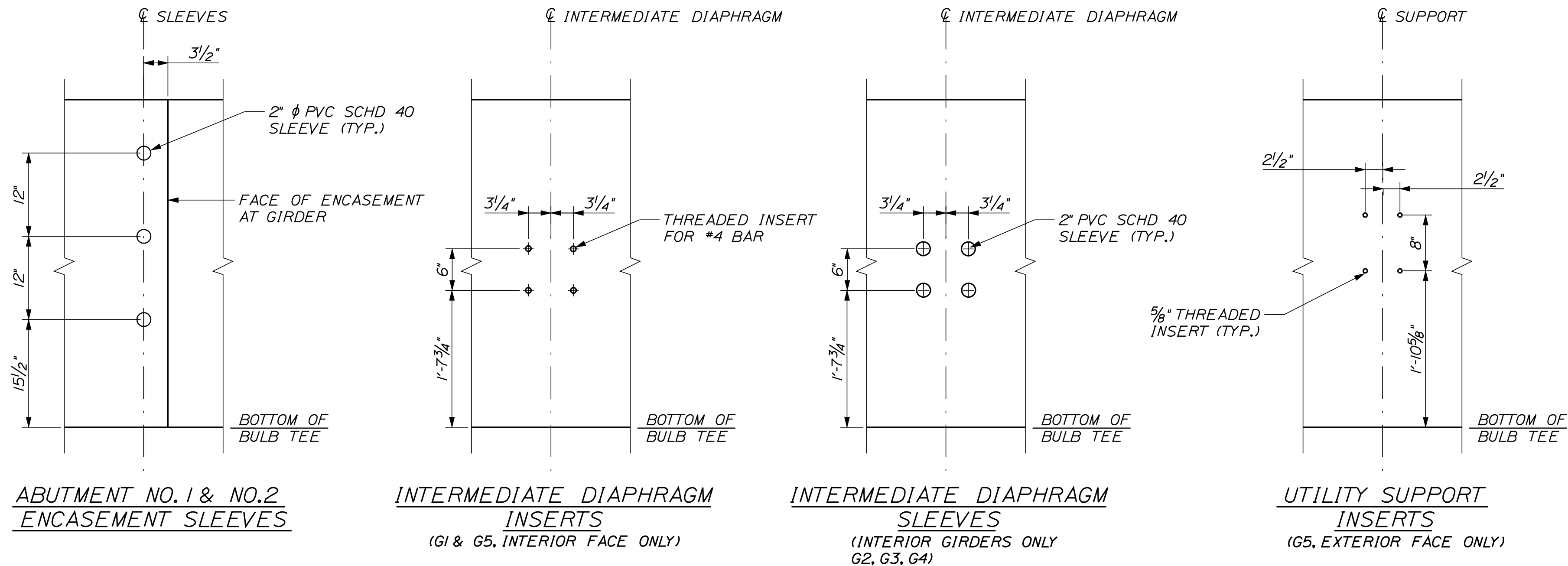


TYPICAL INTERMEDIATE DIAPHRAGM REINFORCING
(INTERIOR BEAMS ONLY)
NOTE: EXTERIOR BEAMS SHALL HAVE 4 THREADED INSERTS
W/A 2'-2" LAP SPLICE TO CONTINUOUS BARS.



SECTION A-A

STATE OF MAINE			
DEPARTMENT OF TRANSPORTATION			
BR-1510(300)X			
PIN 15103.00		BRIDGE PLANS	
2632			
SIGNATURE			
P.E. NUMBER			
DATE			



PRECAST CONCRETE SUPERSTRUCTURE NOTES

1. Prestressing strands shall be 0.6-in. diameter. The tensioning force is 44 kips per prestressing strand.

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

3. The top surface of the upper flange of the prestressed beams shall be raked to a surface roughness of $\pm 1/4$ inch, except at locations corresponding to the blocking points. At these locations a flattened area of sufficient size shall be finished to facilitate taking elevations for setting bottom of slab elevations.

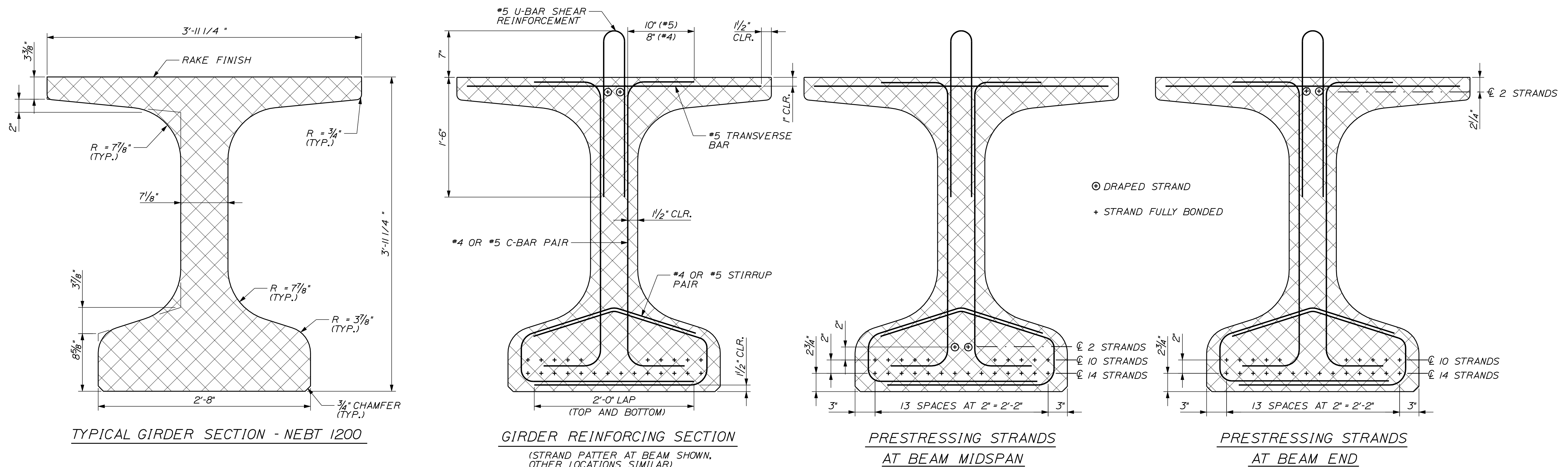
4. The drilling of holes in the prestressed beams and the use of power actuated tools on the beams will not be permitted.

5. Neoprene pads for bearings at Abutment No. 2 shall be either polychloroprene or natural polyisoprene of 50 ± 5 Shore A durometer hardness, and shall conform to the requirements of Division 2, Section 18.2 of AASHTO Standard Specifications for Highway Bridges. Neoprene pads will not be paid for directly but will be considered incidental to related contract items.

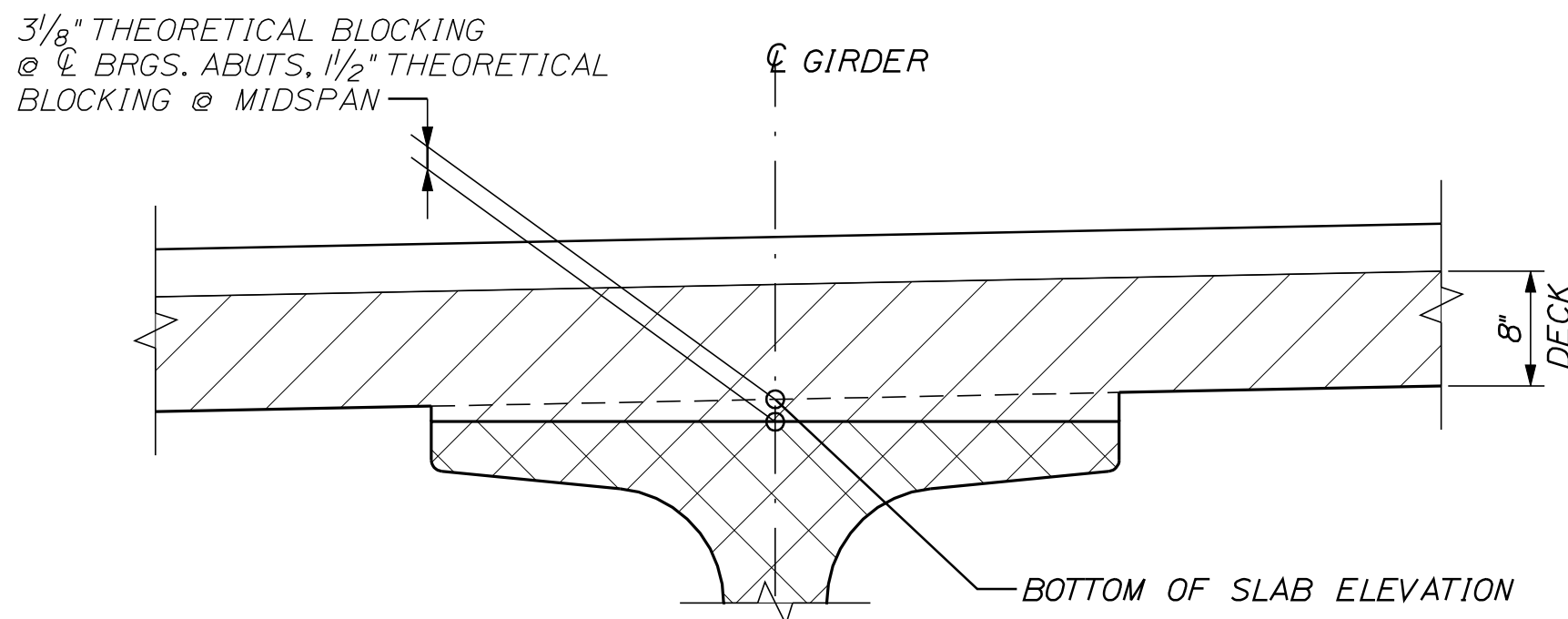
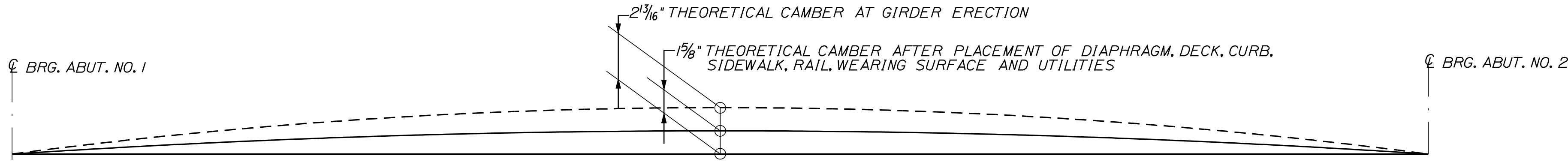
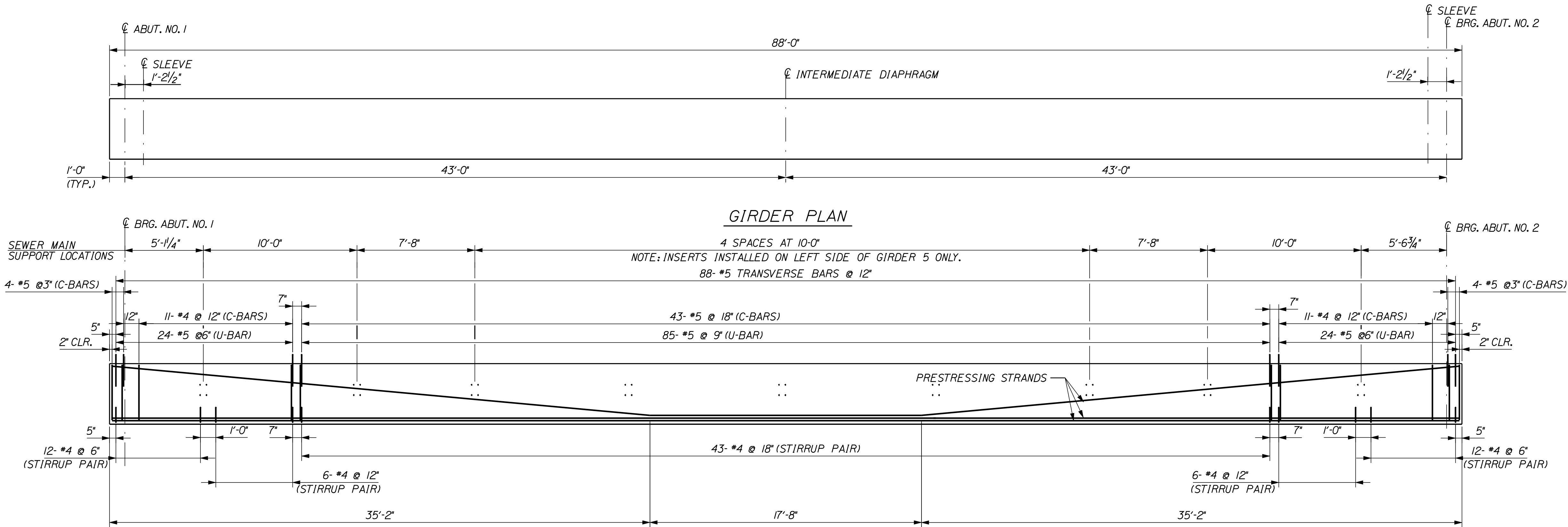
6. Bearings at Abutment No. 1 shall be elastomeric bearings paid under appropriate contract items. See Sheet 18 for details.

7. Utility support inserts shall be equal to "F-50 Rocket/Kohler Ferrule Insert" as manufactured by Dayton Superior, or approved equal, with $5/8$ " bolt diameter, 11 NC threads per inch, hot dip galvanized steel finish, $3-3/8$ " insert length, $2-3/4$ " bolt engagement and 0.306" strut thickness (2 struts). Minimum safe working load of the inserts shall be 3000 lbs in tension and 3000 lbs in shear. Installation shall be in strict accordance with manufacturer's recommendations. Applied insert loadings are as follows (loads are per insert):

Top: Tension = 1600 lbs
Shear = 500 lbs
Bottom: Tension = 1600 lbs
Shear = 900 lbs

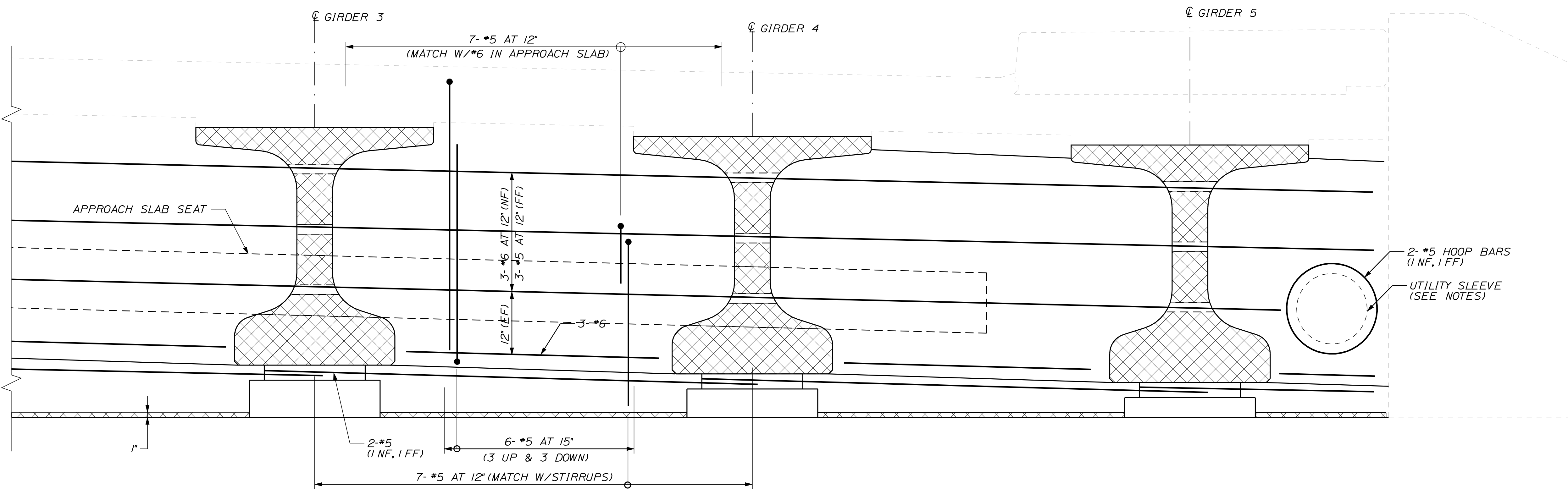


TOWN OF ORLAND MAINE ROUTE 175 OVER ORLAND RIVER		DESIGN-DETAILED		IRMA	DAD	1/09
		CHECKED-REVIEWED		FOR	JLF	1/09
		DESIGN2-DETAILED2				
		DESIGN3-DETAILED3				
		REVISIONS 1				
		REVISIONS 2				
		REVISIONS 3				
		REVISIONS 4				
		FIELD CHANGES				
PRECAST GIRDERS						
SHEET NUMBER						
20						
OF 28						
</						



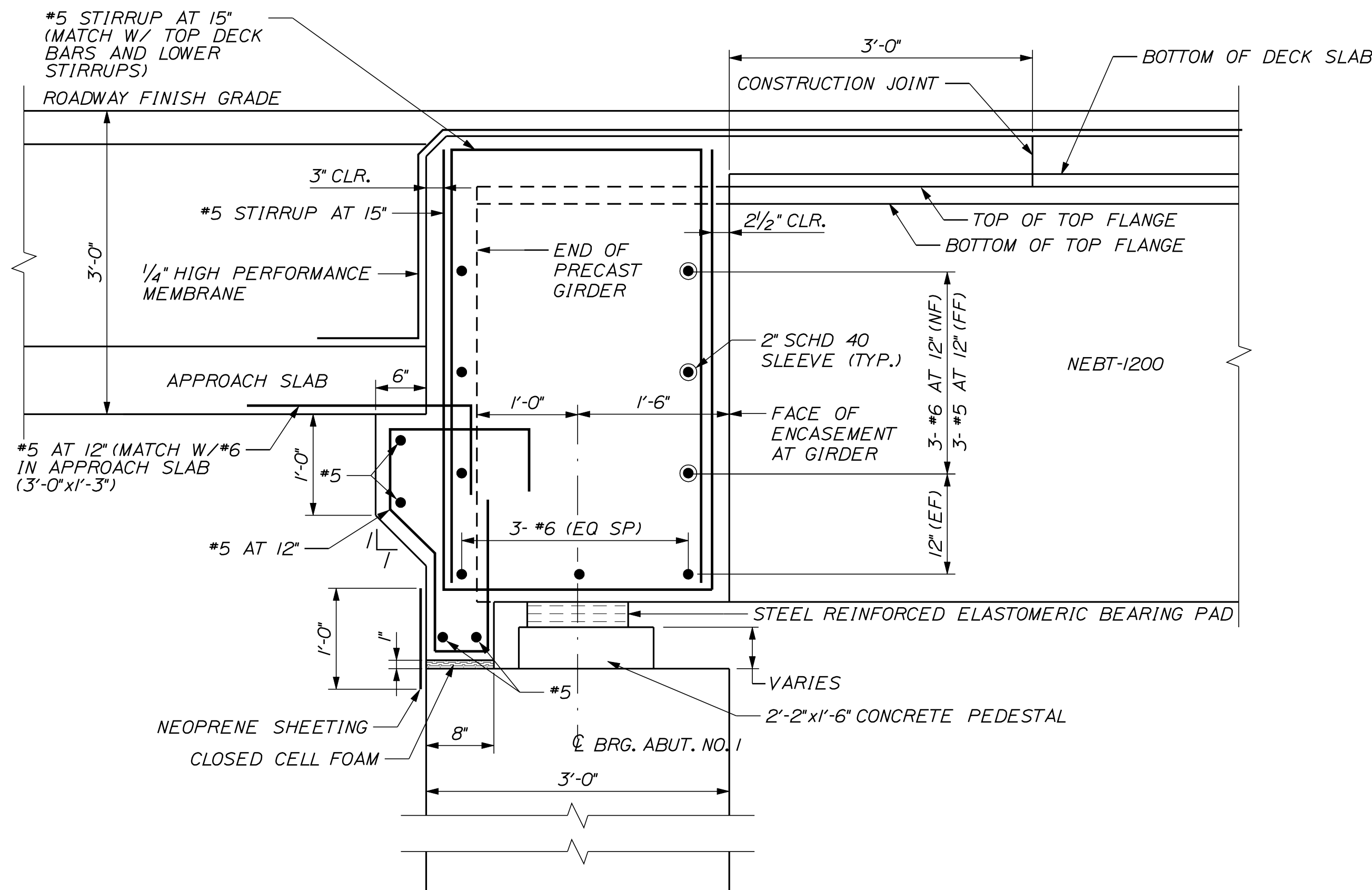
BOTTOM OF SLAB ELEVATIONS										
BEAM	CL BRG.	.1 SPAN	.2 SPAN	.3 SPAN	.4 SPAN	.5 SPAN	.6 SPAN	.7 SPAN	.8 SPAN	CL BRG.
G5	16.07	16.53	17.02	17.51	18.00	18.50	19.01	19.53	20.05	21.01
G4	16.22	16.67	17.16	17.65	18.14	18.64	19.15	19.67	20.19	21.16
G3	16.36	16.82	17.31	17.80	18.29	18.79	19.30	19.82	20.34	21.30
G2	16.51	16.96	17.45	17.94	18.43	18.93	19.44	19.96	20.48	21.45
G1	16.65	17.11	17.60	18.09	18.58	19.08	19.59	20.11	20.63	21.59

PROJ. MANAGER	DATE	BY	DATE	SIGNATURE	P.E. NUMBER	DATE
DESIGN-DETAILED	1/09	DAO	1/09			
CHECKED-REVIEWED		ALF				
DESIGN-DETAILED						
REVISIONS 1	4/24/09					
REVISIONS 2						
REVISIONS 3						
REVISIONS 4						
FIELD CHANGES						



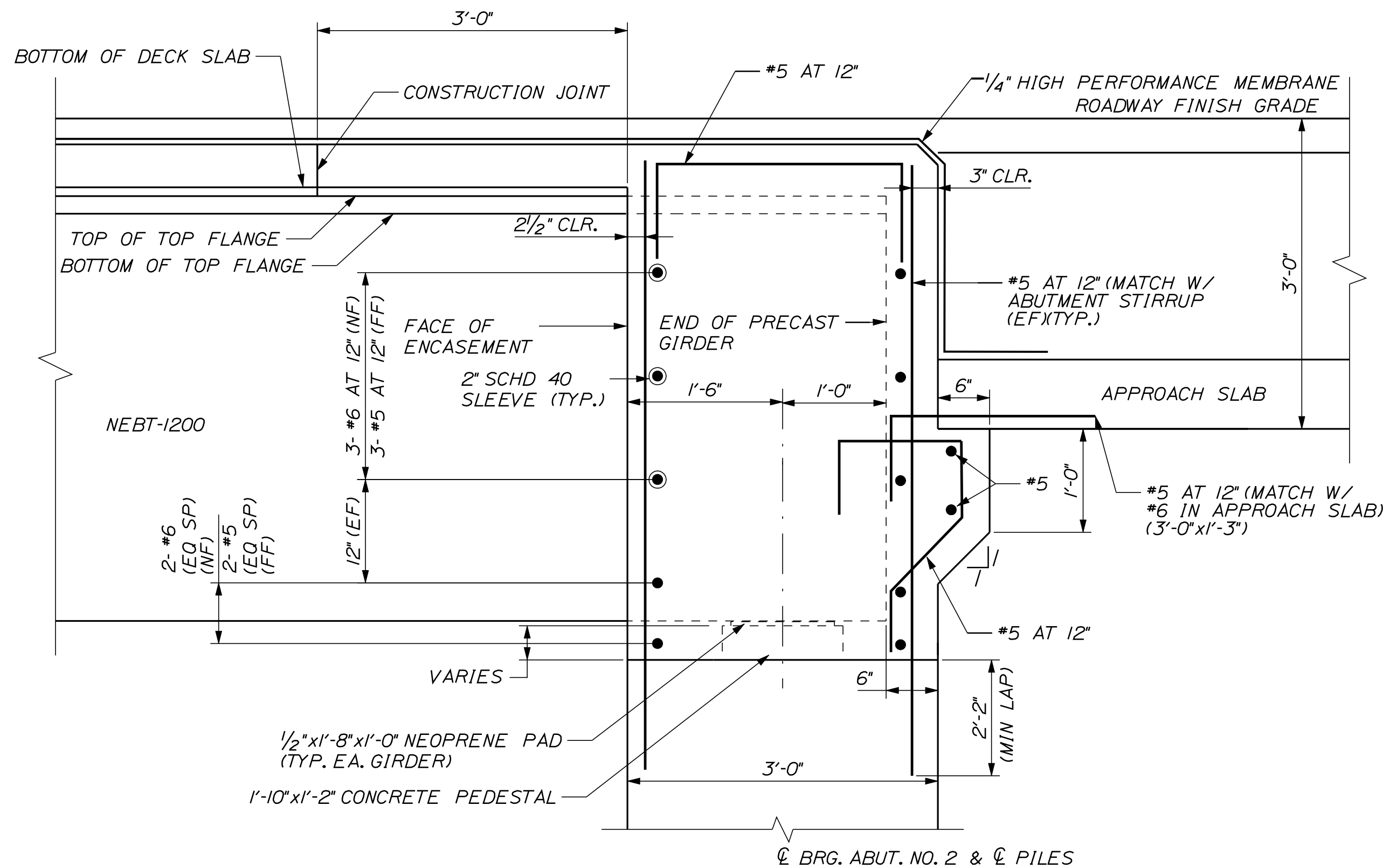
ABUTMENT NO. 1 ENCASEMENT ELEVATION

NOTE: HORIZONTAL BARS IN APPROACH SLAB SEAT NOT SHOWN FOR CLARITY.



ABUTMENT NO. 1 ENCASEMENT SECTION

NOTE: DECK BARS NOT SHOWN BUT SHALL EXTEND TO FAR FACE OF ENCASEMENT.



ABUTMENT NO. 2 ENCASEMENT SECTION

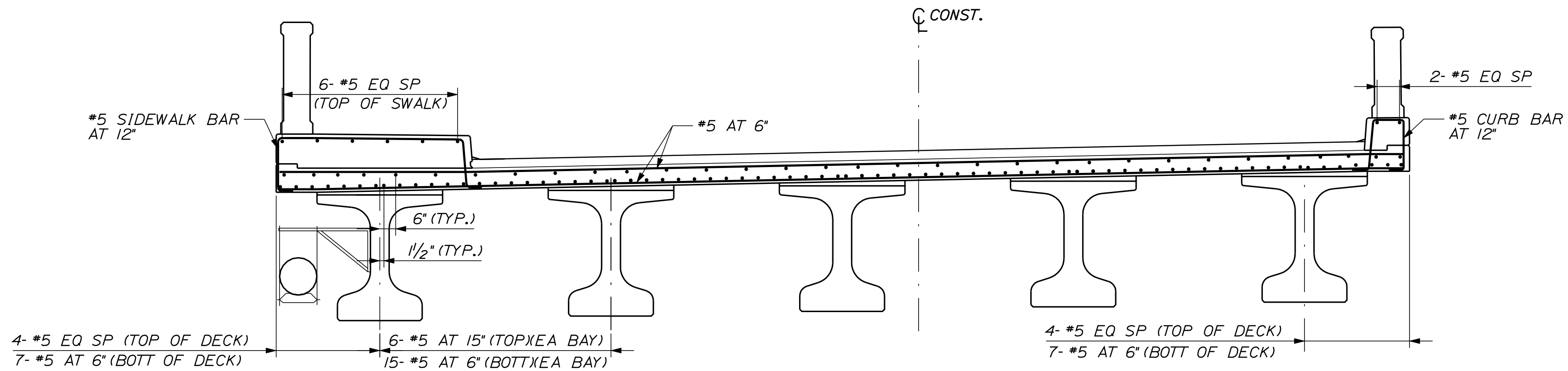
NOTE: DECK BARS NOT SHOWN BUT SHALL EXTEND TO FAR FACE OF ENCASEMENT.

UTILITY SLEEVE NOTES:

1. Sewer main sleeves through end diaphragms shall be as specified on Plan Sheet 28. Sleeves shall extend 1' beyond concrete face on each side. Contractor shall field verify elevations to fit the new sleeve and reinforcing to the existing sewer main.

2. Cost of materials and installation for the wall sleeve and appurtenances shall be incidental to related items.

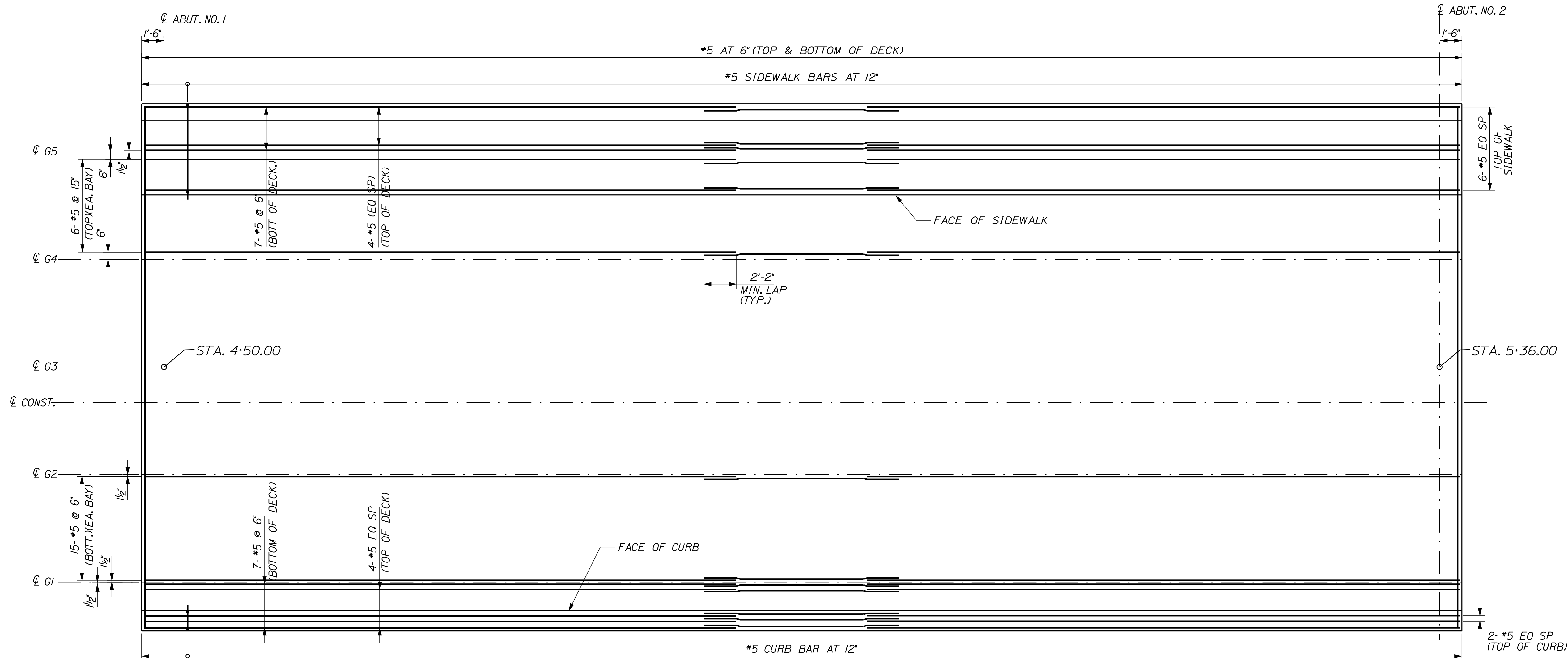
TOWN OF ORLAND MAINE ROUTE 175 OVER ORLAND RIVER				PROJ. MANAGER		NATE BENOT	BY	DATE
END DIAPHRAGMS				DESIGN-DETAILED		RAM	DAD	1/09
				CHECKED-REVIEWED		ROR	JLF	1/09
				DESIGN2-DETAILED2				
				DESIGN3-DETAILED3				
				REVISIONS 1				
				REVISIONS 2				
				REVISIONS 3				
				REVISIONS 4				
				FIELD CHANGES				



SUPERSTRUCTURE REINFORCING SECTION

SUPERSTRUCTURE NOTES

1. The theoretical blocking used for design of the structure is $\frac{3}{8}$ inch at the centerline of bearing at the abutments. Refer to Sheet 21 for blocking details.
2. Reinforcing steel shall have a minimum concrete cover of 2 inches unless otherwise noted.
3. Form a one inch V-groove on the fascias at the horizontal joint between the curb and slab.
4. The superstructure slab concrete for each span shall be placed in one continuous operation and shall be kept plastic until the entire placement has been made.
5. The Contractor shall install Texas Classic Rail vertical closed stirrups, as shown in Standard Details Section 526, prior to the placement of the curb or sidewalk concrete (stirrups incidental to pay Item 526.323, Texas Bridge Rail).



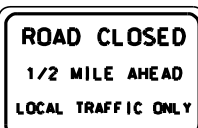
SUPERSTRUCTURE PLAN

STATE OF MAINE	
DEPARTMENT OF TRANSPORTATION	
BR-1510(300)X	
PIN	15103.00
2632	BRIDGE PLANS

PROJ. MANAGER	DATE	BY	DATE	SIGNATURE	P.E. NUMBER	DATE
DESIGN-DETAILED	1/09	DAJ	1/09			
CHECKED-REVIEWED		ALF				
DESIGN-DETAILED						
REVISIONS 1						
REVISIONS 2						
REVISIONS 3						
REVISIONS 4						
FIELD CHANGES						

TOWN OF ORLAND	
MAINE ROUTE 175	
OVER ORLAND RIVER	
SUPERSTRUCTURE	

SHEET NUMBER	
23	
OF 28	

DETOUR SIGN SUMMARY			
SIGN		SIZE	QTY. / COLOR
 W20-2		48 x 48	3 Black on Orange
 W20-3		48 x 48	2 Black on Orange
 W20-3		48 x 48	2 Black on Orange
 W20-3		48 x 48	1 Black on Orange
 M4-8		24 x 12	18 Black on Orange
 M4-8a		24 x 18	2 Black on Orange
		36 X 24	4 Black on Orange
 M3-3		24 x 12	14 Black on White
 M3-1		24 x 12	9 Black on White
 M1-5		30 x 24	21 Black on White
 M5-1L		21 x 15	4 Black on White
 M5-1R		21 x 15	3 Black on White
 M6-3		21 x 15	5 Black on White
 M6-1L		21 x 15	4 Black on White
 M6-1R		21 x 15	4 Black on White
 R11-3a		60 x 30	1 Black on White
 R11-2		48 x 30	2 Black on White
		60 x 24	1 Black on White
 M4-10		48 x 18	1 Black / Orange
		60 x 30	2 Black on Orange
 R2-1		36 X 48	4 Black on White
		36 X 24	4 Black on Orange

DETOUR SIGN SUMMARY			
SIGN		SIZE	QTY. / COLOR
 D1-2		48 x 30	1 White on Green
 M1-4		24 X 24	2 Black on White
 D1-1		40 x 18	5 White on Green
 M4-5		24 X 12	5 Black on White

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

BR-1510(300)X

PIN
15103.00

BRIDGE PLANS

PROJ. MANAGER
NATE BENNETT

CHECKED-DESIGNED
DANA M. HANKS, P.E.

DESIGNED-DETAILED
DANA M. HANKS, P.E.

DESIGNED-DETAILED
DANA M. HANKS, P.E.

REVISIONS 1

REVISIONS 2

REVISIONS 3

REVISIONS 4

FIELD CHANGES

DATE
MARCH 2009

BY

SIGNATURE

P.E. NUMBER

DATE

TOWN OF ORLAND
MAINE ROUTE 175
OVER ORLAND RIVER

DETOUR SIGN SUMMARY

SHEET NUMBER

25

OF 28



REVISIONS				PLAN FILED IN PLAN BOOK		PAGE		COUNTY RECORD			STATE HIGHWAY "255"	
NO.	DATE	DESCRIPTION	BY	NO.	GRANTOR	INSTRUMENT	DATE	BOOK	PAGE		DAVID A. COLE	CASTINE ROAD / STATE ROUTE 175
					PART I	COND.	3/9/09	5151	178		COMMISSIONER	ORLAND
						COND.	4/7/09	5174	9		JOHN E. DORITY	HANCOCK COUNTY
											CHIEF ENGINEER	
											DATE	
											FEDERAL AID PROJECT NO. BR-1510(300)X (PART I & II)	
											FEBRUARY 2009	RIGHT-OF-WAY MAP
											SCALE 1" = 25'	SHEET 1 OF 1
											D.O.T. FILE NO. 5-275	