

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION



GORHAM
CUMBERLAND COUNTY
LITTLE RIVER BRIDGE
OVER
LITTLE RIVER
ROUTE 237
FEDERAL PROJECT NO. 2390900
PROJECT LENGTH 0.128 mi.
BRIDGE NO. 3112

SPECIFICATIONS

Design: Load and Resistance Factor Design per AASHTO LRFD Bridge Design Specifications, Eighth Edition, 2017.

DESIGN LOADING

Live Load HL - 93 Modified for Strength I

TRAFFIC DATA

Current (2018) AADT	6960
Future (2038) AADT	7660
DHV - % of AADT	12
Design Hour Volume	919
Heavy Trucks (% of AADT)	8
Heavy Trucks (% of DHV)	8
Directional Distribution (% of DHV)	76
18 kip Equivalent P 2.0	370
18 kip Equivalent P 2.5	352
Design Speed (mph)	50

HYDROLOGIC DATA

Drainage Area	49.8 sq mi
Design Discharge (Q50)	5840 cfs
Check Discharge (Q100)	6820 cfs
Headwater Elevation (Q1.1)	77.0 ft
Headwater Elevation (Q2)	77.9 ft
Headwater Elevation (Q10)	83.0 ft
Headwater Elevation (Q50)	83.9 ft
Headwater Elevation (Q100)	85.0 ft
Discharge Velocity (Q2)	2.5 fps
Discharge Velocity (Q50)	5.9 fps
Discharge Velocity (Q100)	4.8 fps

MATERIALS

Concrete:	
Curbs & Transition Barriers	Class "LP"
All Other	Class "A"
Reinforcing Bars:	
Plain	ASTM A 615, Grade 60
Glass Fiber Reinforced Polymer	CSA S807-10, ACI 440.1R-15
Stainless Steel	ASTM A 955, Grade 75
Structural Steel:	
All Material (except as noted)	ASTM A 709, Grade 50W (unpainted)
High Strength Bolts	ASTM A 325, Type 3
Anchor Rods	ASTM F1554

BASIC DESIGN STRESSES

Concrete	
Class "LP"	f 'c = 5,000 psi
Class "A"	f 'c = 4,000 psi
Plain Reinforcing Steel	f y = 60,000 psi
Stainless Reinforcing Steel	f y = 75,000 psi
GFRP:	
#5 & #6 Bars	F μ = 95,000 psi
Minimum Elastic Modulus	6,150,000 psi
Structural Steel:	
ASTM A 709, Grade 50W	F y = 50,000 psi
ASTM A 325	F μ = 120,000 psi
ASTM F1554	Fy = 105,000 psi
	F μ = 120,000 psi

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UTILITIES

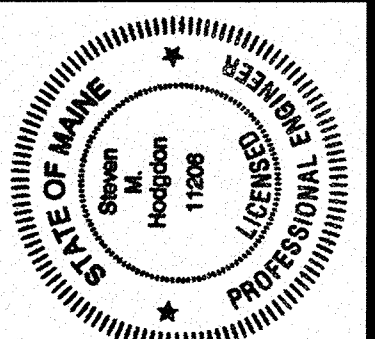
Central Maine Power	Time Warner Cable
Consolidated Communications	Portland Water District
Maine Gas	

MAINTENANCE OF TRAFFIC

Maintain one lane of alternating traffic on a temporary detour bridge using traffic signals. Alternatively, maintain two lanes on a temporary detour bridge. See Special Provisions.

PROJECT LOCATION	Little River Bridge #3112 over Little River Located 0.37 miles north of Queen Street Lat./Long. 43°42'48.9" N 70°24'50.1" W
PROGRAM AREA	Bridge
OUTLINE OF WORK	Bridge Replacement

STATE OF MAINE DEPARTMENT OF TRANSPORTATION	APPROVED	DATE
COMMISSIONER: <i>[Signature]</i>		11-20-19
CHIEF ENGINEER: <i>[Signature]</i>		11-19-19



<i>[Signature]</i>	SIGNATURE	P.E. NUMBER	DATE
	11206	October 18, 2019	

PROJECT INFORMATION	PROGRAM	PROJECT MANAGER	DESIGNER	CONSULTANT	PROJECT RESIDENT	CONTRACTOR	PROJECT COMPLETION DATE
	Bridge	Devon Eaton	Steven Hoddon	Hoyle, Tanner & Assoc., Inc.			

GORHAM LITTLE RIVER BRIDGE	TITLE SHEET
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SHEET NUMBER
1
OF 42

Date:10/18/2019

Username:

Division: BRIDGE

Filename:\00\BRIDGE\MSTA\001_Title.dgn

WIN 023909.00

2390900

ESTIMATED QUANTITIES - PROJECT TOTALS (INCLUDING UTILITY WORK)			
ITEM NO.	DESCRIPTION	QUANTITY	UNIT
202.13	REMOVING EXISTING RAILINGS (RETAINED BY DEPARTMENT)	206	LF
202.19	REMOVING EXISTING BRIDGE (CONCRETE: 220 CY ~ STEEL: 130,000 LB)	1	LS
202.20	REMOVING BITUMINOUS CONCRETE PAVEMENT	1,010	SY
202.202	REMOVING PAVEMENT SURFACE	270	SY
203.20	COMMON EXCAVATION	2,450	CY
203.23/18	DISPOSAL OF SPECIAL WASTE	680	T
203.24	COMMON BORROW	50	CY
203.25	GRANULAR BORROW	880	CY
203.33	SPECIAL FILL	100	CY
206.082	STRUCTURAL EARTH EXCAVATION - MAJOR STRUCTURES	1,140	CY
304.10	AGGREGATE SUBBASE COURSE - GRAVEL	2,400	CY
403.208/	HOT MIX ASPHALT - 12.5 MM NOMINAL MAXIMUM SIZE (POLYMER MODIFIED)	270	T
403.209	HOT MIX ASPHALT, 9.5 MM NOMINAL MAXIMUM SIZE (SIDEWALKS, DRIVES, ISLANDS & INCIDENTALS)	17	T
403.213	HOT MIX ASPHALT, 12.5 MM NOMINAL MAXIMUM SIZE (BASE & INTERMEDIATE BASE COURSE)	280	T
403.213/	HOT MIX ASPHALT, 12.5 MM NOM. MAX. SIZE (BASE & INTERMED. BASE COURSE, POLYMER MODIFIED)	260	T
409.15	BITUMINOUS TACK COAT, APPLIED	200	G
501.239	DYNAMIC LOADING TESTS - PROVIDING FOR	14	EA
501.50	STEEL H-BEAM PILES 89 LBS/FT, DELIVERED	1,010	LF
501.50/	STEEL H-BEAM PILES 89 LBS/FT, IN PLACE	920	LF
501.90	PILE TIPS	11	EA
501.903	PILE TIPS - ROCK INJECTOR POINT	7	EA
501.91	PILE SPLICES	16	EA
501.92	PILE DRIVING EQUIPMENT MOBILIZATION	1	LS
502.219	STRUCTURAL CONCRETE, ABUTMENTS & RETAINING WALLS (105 CY)	1	LS
502.26	STRUCTURAL CONCRETE ROADWAY & SIDEWALK SLAB ON STEEL BRIDGES (209 CY)	1	LS
502.31	STRUCTURAL CONCRETE APPROACH SLABS (24 CY)	1	LS
502.49	STRUCTURAL CONCRETE CURBS AND SIDEWALKS (17 CY)	1	LS
503.12	REINFORCING STEEL, FABRICATED & DELIVERED	27,770	LB
503.13	REINFORCING STEEL, PLACING	27,770	LB
503.26	STAINLESS STEEL REINFORCEMENT, FABRICATED & DELIVERED	9,080	LB
503.27	STAINLESS STEEL REINFORCEMENT, PLACING	9,080	LB
504.702	STRUCTURAL STEEL FABRICATED & DELIVERED, WELDED (218,200 LB)	1	LS
504.71	STRUCTURAL STEEL ERECTION (218,200 LB)	1	LS
505.08	SHEAR CONNECTORS (1,360 EA)	1	LS
507.082/	STEEL BRIDGE RAIL, 3 BAR (256 LF)	1	LS
508.14	HIGH PERFORMANCE WATERPROOFING MEMBRANE (516 SY)	1	LS
511.07	COFFERDAM, ABUTMENT 1	1	LS
511.07	COFFERDAM, ABUTMENT 2	1	LS
514.06	CURING BOX FOR CONCRETE CYLINDERS	1	EA
515.21	PROTECTIVE COATING FOR CONCRETE SURFACES (190 SY)	1	LS
520.232	EXPANSION DEVICE - ASPHALTIC PLUG JOINT	64	LF
526.34	PERMANENT CONCRETE TRANSITION BARRIER	4	EA
527.34	WORK ZONE CRASH CUSHIONS	4	UN
530.30	GFRP, REINFORCEMENT BARS, FABRICATED & DELIVERED	43,500	LF
530.31	GFRP, REINFORCEMENT BARS, PLACING	43,500	LF
603.159	12" CULVERT PIPE OPTION III	12	LF
603.169	15" CULVERT PIPE OPTION III	142	LF
604.244	CATCH BASIN TYPE F4	1	EA
606.130/	31" W-BEAM GUARDRAIL, MID-WAY SPLICE - SINGLE FACED	425	LF
606.1305	31" W-BEAM GUARDRAIL, MID-WAY SPLICE FLARED TERMINAL	4	EA
606.1307	BRIDGE TRANSITION (ASYMMETRICAL) TYPE 1A	4	EA
606.353	REFLECTORIZED FLEXIBLE GUARDRAIL MARKER	8	EA
606.47	SINGLE WOOD POST	2	EA
609.31	CURB, TYPE 3	44	LF
610.08	PLAIN RIPRAP	1,890	CY
610.18	STONE DITCH PROTECTION	100	CY
613.319	EROSION CONTROL BLANKET	370	SY
615.07	LOAM	140	CY
618.14	SEEDING METHOD NUMBER 2	22	UN
619.12	MULCH	22	UN
619.14	EROSION CONTROL MIX	270	CY
620.58	EROSION CONTROL GEOTEXTILE	2,280	SY
620.66	DRAINAGE GEOCOMPOSITE	110	SY
621.267	LARGE DECIDUOUS TREE (1.75 INCH - 2 INCH CALIPER) GR. A	3	EA
621.54	DECIDUOUS SHRUB GROUP A 18" - 24" CONT.	36	EA
621.546	DECIDUOUS SHRUB 2'-3' GR. A	30	EA
621.552	DECIDUOUS SHRUB 3'-4' GR. A	6	EA
621.71	HERBACEOUS PERENNIALS GR. A 1 GALLON CONT.	60	EA
627.733	4" WHITE OR YELLOW PAINTED PAVEMENT MARKING LINE	2,400	LF
629.05	HAND LABOR, STRAIGHT TIME	40	HR
631.12	ALL PURPOSE EXCAVATOR (INCLUDING OPERATOR)	30	HR

ESTIMATED QUANTITIES - PROJECT TOTALS (INCLUDING UTILITY WORK), CONTINUED			
ITEM NO.	DESCRIPTION	QUANTITY	UNIT
631.14	GRADER (INCLUDING OPERATOR)	20	HR
631.15	ROLLER EARTH BASE COURSE (INCLUDING OPERATOR)	20	HR
631.172	TRUCK - LARGE (INCLUDING OPERATOR)	30	HR
631.22	FRONT END LOADER (INCLUDING OPERATOR)	10	HR
639.18	FIELD OFFICE TYPE A	1	EA
645.103	DEMOUNT GUIDE SIGN	1	EA
645.106	DEMOUNT REGULATORY, WARNING, CONFIRMATION & ROUTE MARKER ASSEMBLY SIGN	6	EA
645.113	REINSTALL GUIDE SIGN	1	EA
645.116	REINSTALL REGULATORY, WARNING, CONFIRMATION & ROUTE MARKER ASSEMBLY SIGN	3	EA
652.31	TYPE I BARRICADE	10	EA
652.312	TYPE III BARRICADE	10	EA
652.33	DRUM	20	EA
652.34	CONE	40	EA
652.35	CONSTRUCTION SIGNS	500	SF
652.36/	MAINTENANCE OF TRAFFIC CONTROL DEVICES (200 CD)	1	LS
652.38	FLAGGER	850	HR
652.41	PORTABLE CHANGEABLE MESSAGE SIGN	2	EA
653.22	2" EXTRUDED POLYSTYRENE INSULATION	10	SY
656.75	TEMPORARY SOIL EROSION & WATER POLLUTION CONTROL	1	LS
659.10	MOBILIZATION	1	LS
801.03	TEST PITS	2	EA
801.07/	TEMPORARY SEWER BY-PASS, 8 INCH	1	LS
822.3405	8" CL 52 DI PIPE PUSH ON JOINT	140	LF
822.3405/	8" CL 52 DI PIPE PUSH ON JOINT - PREINSULATED	80	LF
822.34052	8" CL 52 DI PIPE RESTRAINED JOINT - PREINSULATED	320	LF
822.3605	12" CL 52 DI PIPE PUSH ON JOINT	200	LF
822.3632	12" CL 52 DI PIPE RESTRAINED JOINT - PREINSULATED	320	LF
823.310/	12" CUT-IN MJ GATE VALVE	2	EA
823.3254	8" INSERTION VALVE	1	EA
823.34	BLOW OFF VALVE ASSEMBLY	2	EA
823.34/	AIR RELEASE VALVE - 1"	1	EA
825.431	1/2" COPPER SERVICE	20	LF
830.13	SEWER MAIN BR CROSS HANGER SYSTEM, 8 INCH	1	LS
830.15	WATER MAIN BR CROSS HANGER SYSTEM, 12 INCH	1	LS
BID OPTION NO. 1 - ONE-LANE TEMPORARY DETOUR			
461.131	TEMPORARY PAVEMENT	250	T
510.10	SPECIAL DETOUR, 18 FOOT ROADWAY WIDTH VEHICULAR AND PEDESTRIAN TRAFFIC NOT SEPARATED	1	LS
526.30/	TEMPORARY CONCRETE BARRIER TYPE 1 (1,050 LF)	1	LS
627.78	TEMPORARY 4" PAINT PAVEMENT MARKING LINE WHITE OR YELLOW	1740	LF
643.72	TEMPORARY TRAFFIC SIGNAL: MOSHER ROAD	1	LS
BID OPTION NO. 2 - TWO-LANE TEMPORARY DETOUR			
461.131	TEMPORARY PAVEMENT	530	T
510.10	SPECIAL DETOUR, 30 FOOT ROADWAY WIDTH VEHICULAR AND PEDESTRIAN TRAFFIC NOT SEPARATED	1	LS
526.30/	TEMPORARY CONCRETE BARRIER TYPE 1 (1275 LF)	1	LS
627.78	TEMPORARY 4" PAINT PAVEMENT MARKING LINE WHITE OR YELLOW	3250	LF
ESTIMATED QUANTITIES - UTILITY WORK SUBTOTALS			
203.25	GRANULAR BORROW	200	CY
629.05	HAND LABOR, STRAIGHT TIME	20	HR
631.12	ALL PURPOSE EXCAVATOR, INCLUDING OPERATOR	10	HR
631.172	TRUCK - LARGE (INCLUDING OPERATOR)	10	HR
631.22	FRONT END LOADER (INCLUDING OPERATOR)	10	HR
652.38	FLAGGER	350	HR
653.22	2" EXTRUDED POLYSTYRENE INSULATION	10	SY
801.03	TEST PITS	2	EA
801.07/	TEMPORARY SEWER BY-PASS, 8 INCH	1	LS
822.3405	8" CL 52 DI PIPE PUSH ON JOINT	140	LF
822.3405/	8" CL 52 DI PIPE PUSH ON JOINT - PREINSULATED	80	LF
822.34052	8" CL 52 DI PIPE RESTRAINED JOINT - PREINSULATED	320	LF
822.3605	12" CL 52 DI PIPE PUSH ON JOINT	200	LF
822.3632	12" CL 52 DI PIPE RESTRAINED JOINT - PREINSULATED	320	LF
823.310/	12" CUT-IN MJ GATE VALVE	2	EA
823.3254	8" INSERTION VALVE	1	EA
823.34	BLOW OFF VALVE ASSEMBLY	2	EA
823.34/	AIR RELEASE VALVE - 1"	1	EA
825.431	1/2" COPPER SERVICE	20	LF
830.13	SEWER MAIN BR CROSS HANGER SYSTEM, 8 INCH	1	LS
830.15	WATER MAIN BR CROSS HANGER SYSTEM, 12 INCH	1	LS

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2390900

WIN023909.00

BRIDGE NO. 3112BRIDGE PLANS

Hoyle, Tanner & Associates, Inc.

PROJ. MANAGER
DESIGN-DETAILED
CHECKED-REVIEWED
DESIGN-DETAILED
DESIGN-DETAILED
REVISIONS 1
REVISIONS 2
REVISIONS 3
REVISIONS 4
FIELD CHANGES

DATE
Nov. 2019
Nov. 2019

BY
B. Nichols
S. Hodgdon

D. Eaton
R. Wood
E. Wainwright

LITTLE RIVER BRIDGE
LITTLE RIVER
GORHAM CUMBERLAND COUNTY

ESTIMATED QUANTITIES

SHEET NUMBER

2

OF 42

GENERAL CONSTRUCTION NOTES

1. For easements, construction limits and right of way lines, refer to Right of Way Map.
2. 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.
3. All utility facilities shall be adjusted by the respective utilities unless otherwise noted.
4. All aluminum bridge rail, rail posts, and associated hardware which are to be removed shall be carefully salvaged by the Contractor and will remain the property of the Department. Payment will be made under Item 202.13, Removing Existing Railings Retained by Department.
5. Do not excavate for Aggregate Subbase Course where existing material is suitable as determined by the Resident.
6. In areas where the Resident directs the Contractor not to excavate to the subgrade line shown on the plans, payment for removing existing pavement, grubbing, shaping, ditching, and compacting the existing subbase and layers of new subbase 6 inches or less thick will be made under appropriate equipment rental items.
7. All embankment material, except as otherwise shown, placed below EL. 84.00 shall be Granular Borrow meeting the requirements of Subsection 703.19, Material for Underwater Backfill.
8. Place riprap on sideslopes up to EL. 84.0 and as shown on the plans.
9. Construct the riprap shelf at EL. 87.0 at Abutment No. 1 and EL. 83.0 at Abutment No. 2
10. Place loam 2 inches deep on all new or reconstructed sideslopes or as directed by the Resident.
11. Erosion Control Mix may be substituted in those areas normally receiving loam and seed as directed by the Resident. Placement shall be in accordance with Standard Specifications Section 619, Mulch. Payment will be made under Item No. 619.14, Erosion Control Mix.
12. Place a 24-in. wide strip of Temporary Erosion Control Blanket on the sideslopes along the top of the riprap and behind the wingwalls.
13. 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.
14. 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,
Top of abutment wingwalls and to one foot below the top of wingwalls on the back side.
15. Project information referred to below may be accessed at the following MaineDOT web address: <http://www.maine.gov/mdot/contractors/>.
16. 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.
17. The projet geotechnical report titled: Geotechnical Design Report, Little River Bridge No. 3112, Route 237 over Little River, Gorham, Maine, No. 09.0025988.01, October 1, 2019 may be accessed at the MaineDOT web address.
18. 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.

19. Quantities included for pay items measured and paid for by Lump Sum are estimated quantities and are provided by MaineDOT for informational purposes only. Lump Sum pay items will be paid for at the Contract Bid amount, with no addition or reduction in payment to the Contractor if the actual final quantities are different from the MaineDOT provided estimated quantities, except as follows:
- a. If a Lump Sum pay item is eliminated, the requirements of Standard Specifications Section 109.2, Elimination of Items, will take precedence.

b. If other Contract Documents specifically allow a change in payment for a Lump Sum pay item, those requirements will be followed.

c. If a design change results in changes to estimated quantities for Lump Sum pay items, price adjustments will be made in accordance with Standard Specifications Section 109.7, Equitable Adjustments to Compensation and Time.
20. 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.
21. The existing bridge shall be removed by and become the property of the Contractor. The steel portions of the existing bridge are coated with a lead-based paint system. The Contractor is responsible for the containment, proper management and disposal of all lead-contaminated hazardous waste generated by the process of demolishing the bridge. The Contractor is responsible for implementing appropriate OSHA mandated personal protection standards related to this process. Once the existing bridge is removed, the Contractor is solely responsible for the care, custody and control of the components of the existing bridge and any hazardous waste generated as a result of the storage, recycling or disposal of the bridge components, including lead-coated steel. The Contractor shall recycle or reuse the steel in accordance with the Maine Department of Environmental Protection's "Maine Hazardous Waste Management Regulations," Chapter 850. A copy of this regulation is available at MaineDOT's offices on Child Street in Augusta. Payment for all labor, materials, equipment and other costs required to remove and dispose of the existing bridge will be considered incidental to the bridge removal pay item.
22. Regrade the river bank access on the northeast corner of the project (Parcel 3 as shown on the ROW map) to approximately match existing conditions as approved by the Resident. Payment for this work shall be incidental to Pay Item 510.10, Special Detour.
23. Remove fence as shown in plan and as directed by the Resident. Fence shall become property of the Contractor, with payment incidental to related contract items.

STATE OF MAINE
DEPARTMENT OF TRANSPORTATION

2390900

WIN
WIN 023909.00

BRIDGE NO. 3112
BRIDGE PLANS

Hoyle, Tanner & Associates, Inc.

PROJ. MANAGER	D. Eaton	BY	B. Nichols	DATE	Oct 2019
DESIGN-DETAILED	R. Wood		S. Hodgdon		Oct 2019
CHECKED-REVIEWED	E. Wapington				
DESIGNS-DETAILED					
DESIGNS-DETAILED					
REVISIONS 1					
REVISIONS 2					
REVISIONS 3					
REVISIONS 4					
FIELD CHANGES					

LITTLE RIVER BRIDGE
LITTLE RIVER
GORHAM CUMBERLAND COUNTY

GENERAL NOTES

SHEET NUMBER

3

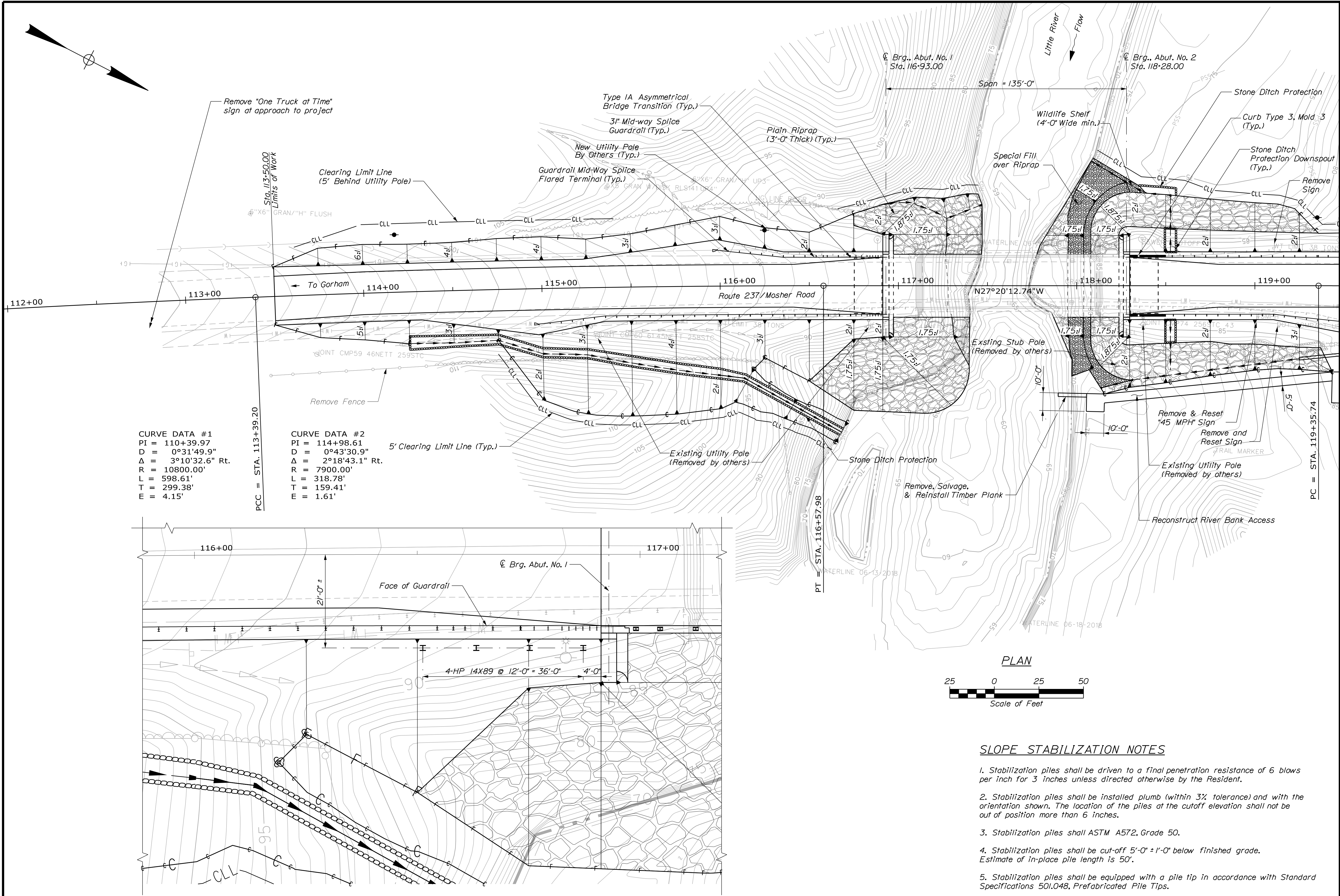
OF 42

Date:10/18/2019

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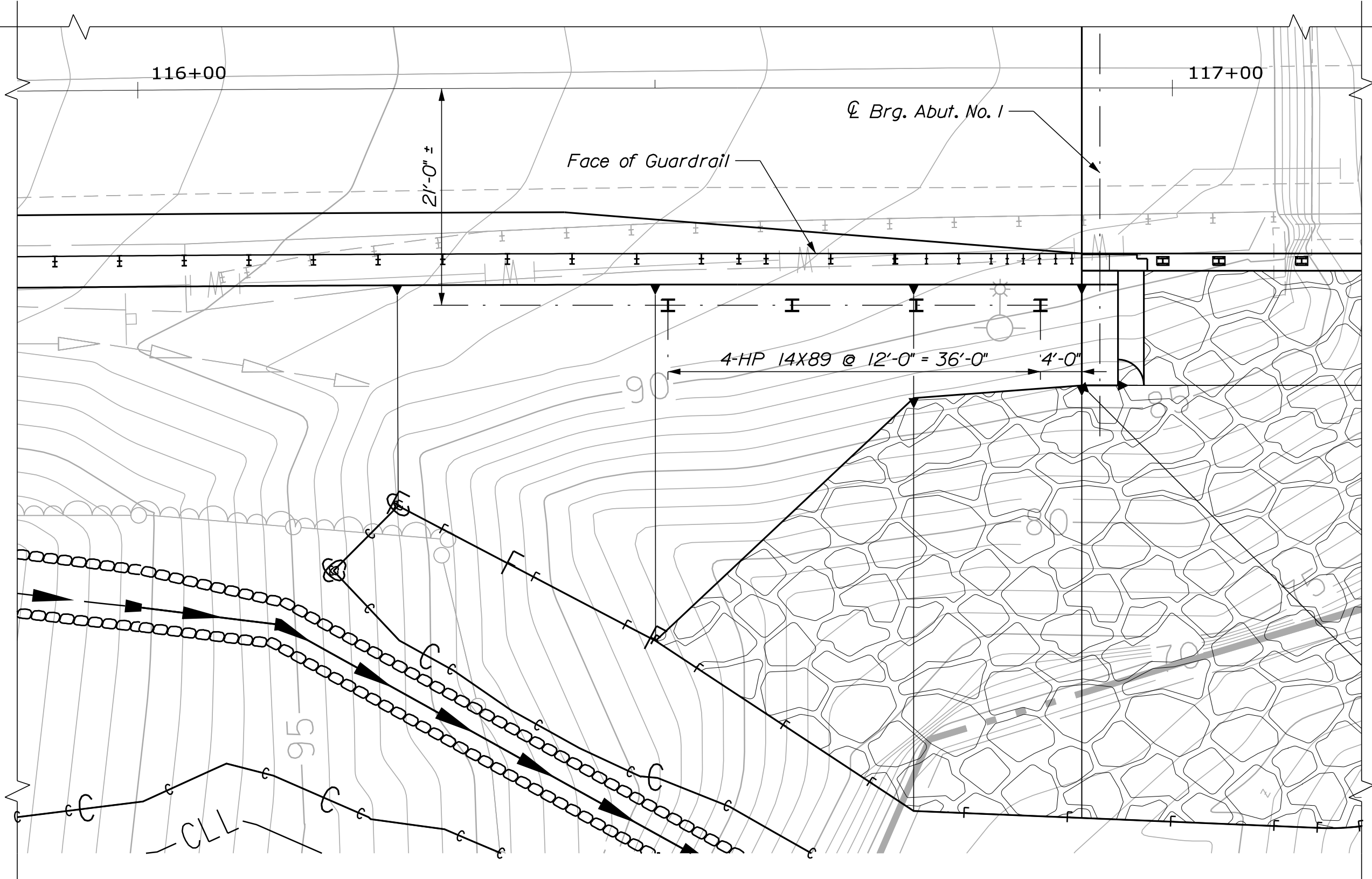
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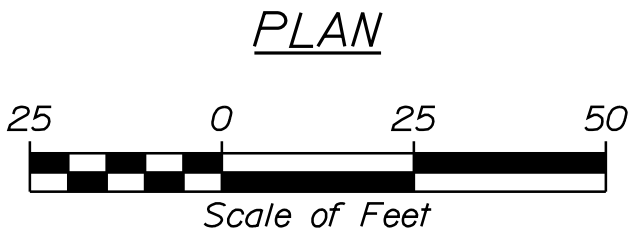


CURVE DATA #1
PI = 110+39.97
D = 0°31'49.9"
Δ = 3°10'32.6" Rt.
R = 10800.00'
L = 598.61'
T = 299.38'
E = 4.15'

CURVE DATA #2
PI = 114+98.61
D = 0°43'30.9"
Δ = 2°18'43.1" Rt.
R = 7900.00'
L = 318.78'
T = 159.41'
E = 1.61'



SLOPE STABILITY PILE LAYOUT



SLOPE STABILIZATION NOTES

1. Stabilization piles shall be driven to a final penetration resistance of 6 blows per inch for 3 inches unless directed otherwise by the Resident.
2. Stabilization piles shall be installed plumb (within 3% tolerance) and with the orientation shown. The location of the piles at the cutoff elevation shall not be out of position more than 6 inches.
3. Stabilization piles shall ASTM A572, Grade 50.
4. Stabilization piles shall be cut-off 5'-0" ± 1'-0" below finished grade. Estimate of in-place pile length is 50'.
5. Stabilization piles shall be equipped with a pile tip in accordance with Standard Specifications 501.048, Prefabricated Pile Tips.
6. Pile driving equipment for slope stabilization piles shall be incidental to Item 501.92, Pile Driving Equipment Mobilization.

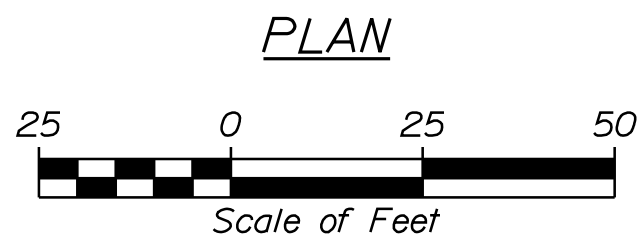
STATE OF MAINE
DEPARTMENT OF TRANSPORTATION
2390900

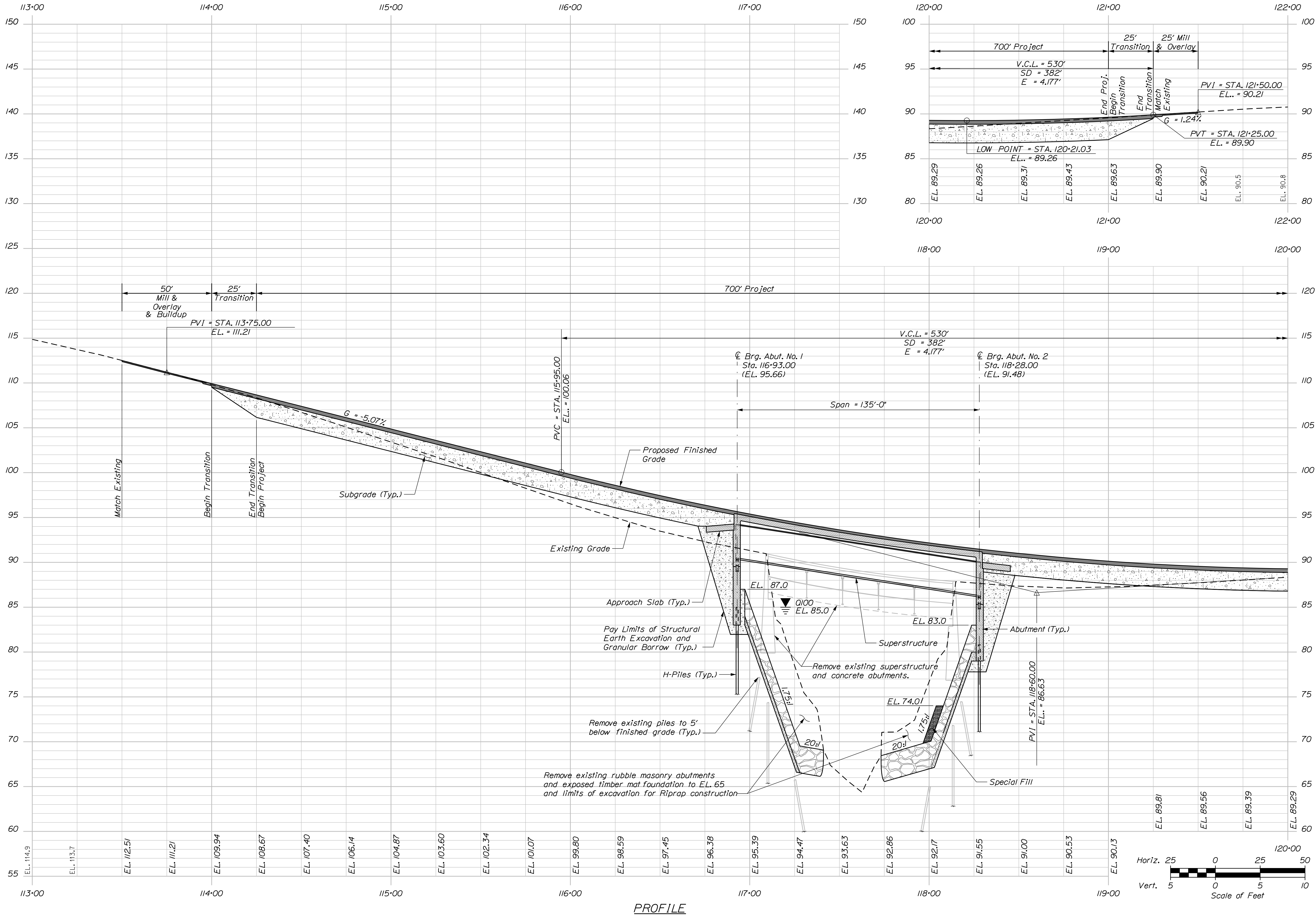
BRIDGE NO. 3112
WIN
023909.00
BRIDGE PLANS

LITTLE RIVER BRIDGE
LITTLE RIVER
CUMBERLAND COUNTY
GORHAM

GENERAL PLAN (1 OF 2)

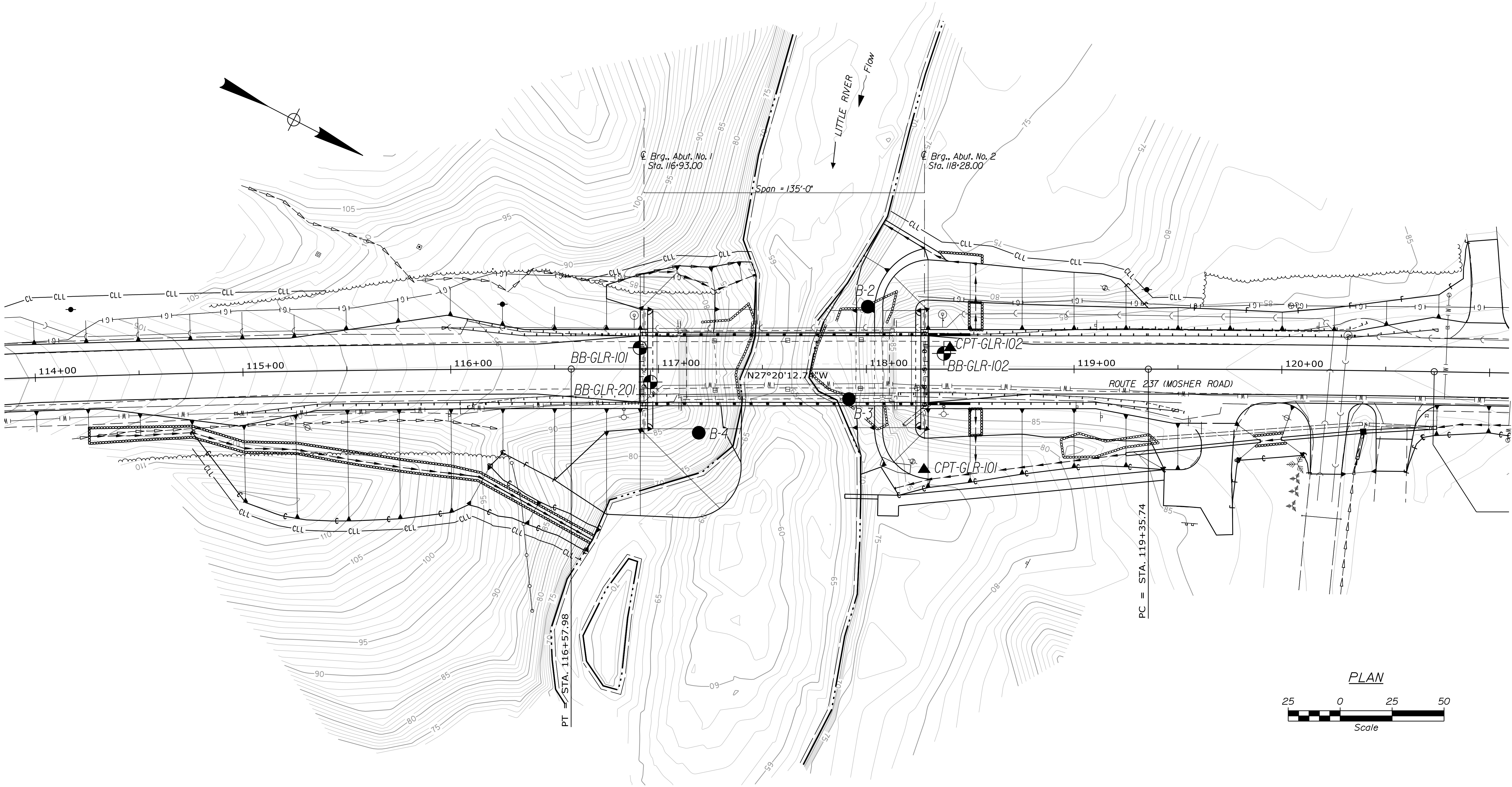
SHEET NUMBER
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OF 42





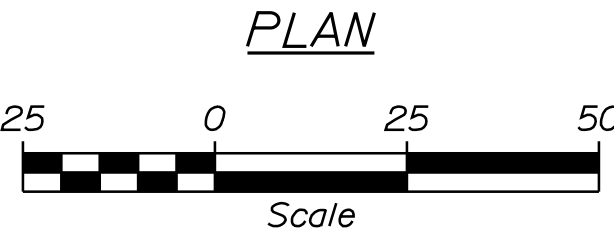
STATE OF MAINE		DEPARTMENT OF TRANSPORTATION		2390900		WIN		023909.00		BRIDGE NO. 3112		BRIDGE PLANS	
LITTLE RIVER BRIDGE		LITTLE RIVER		CUMBERLAND COUNTY		GORHAM		PROFILE		SHEET NUMBER		6	
PROJECT MANAGER		D. EATON		BY		B. NICHOLS		DATE		OCT 2019		OCT 2019	
DESIGN-DETAILED		R. WOOD		CHECKED-REVIEWED		E. WEINGARTEN		DESIGN-DETAILED		OCT 2019		OCT 2019	
DESIGN-DETAILED				DESIGN-DETAILED				DESIGN-DETAILED					
REVISIONS 1				REVISIONS 2				REVISIONS 3					
REVISIONS 4				REVISIONS 5				REVISIONS 6					
FIELD CHANGES				FIELD CHANGES				FIELD CHANGES					

Hoyle, Tanner & Associates, Inc.



LEGEND

- BB-GLR-102, BB-GLR-201 Location and designation of 100-Series and 200-Series cased wash boring
- CPT-GLR-102 Location and designation of 100-series cone penetration test
- B-3 Approx. Location and designation of previous boring performed by MaineDOT



PREPARED BY:

LITTLE RIVER BRIDGE
LITTLE RIVER
CUMBERLAND COUNTY
GORHAM
BORING LOCATION PLAN

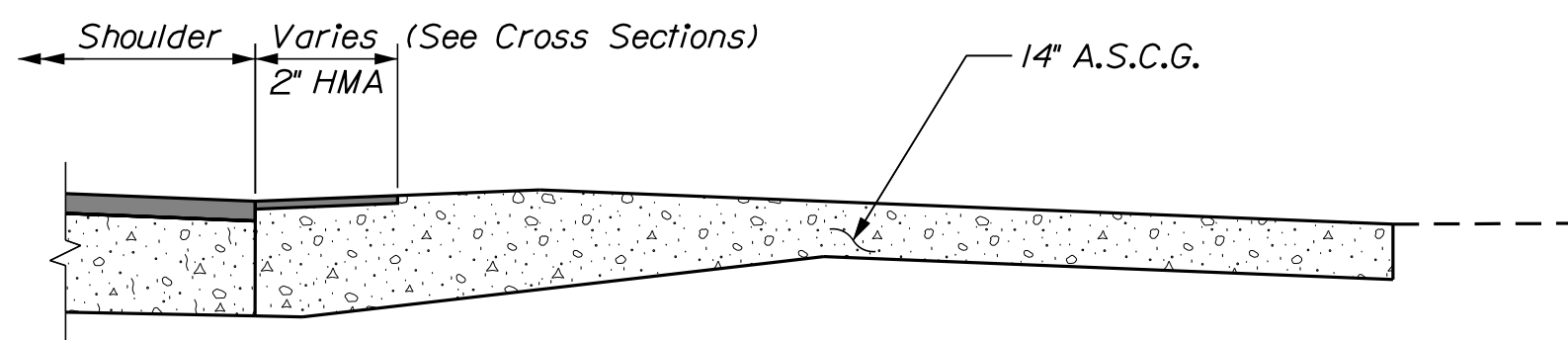
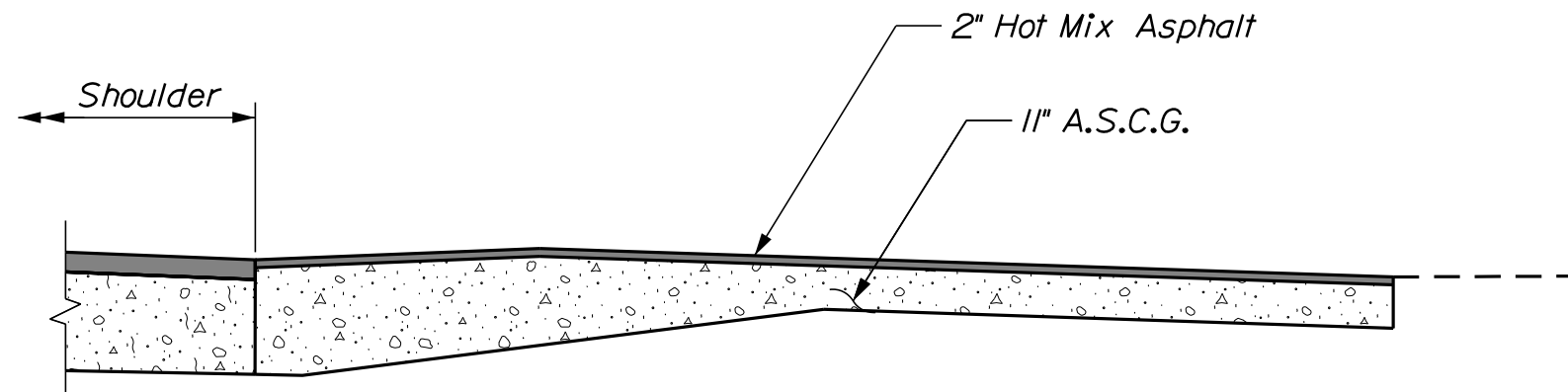
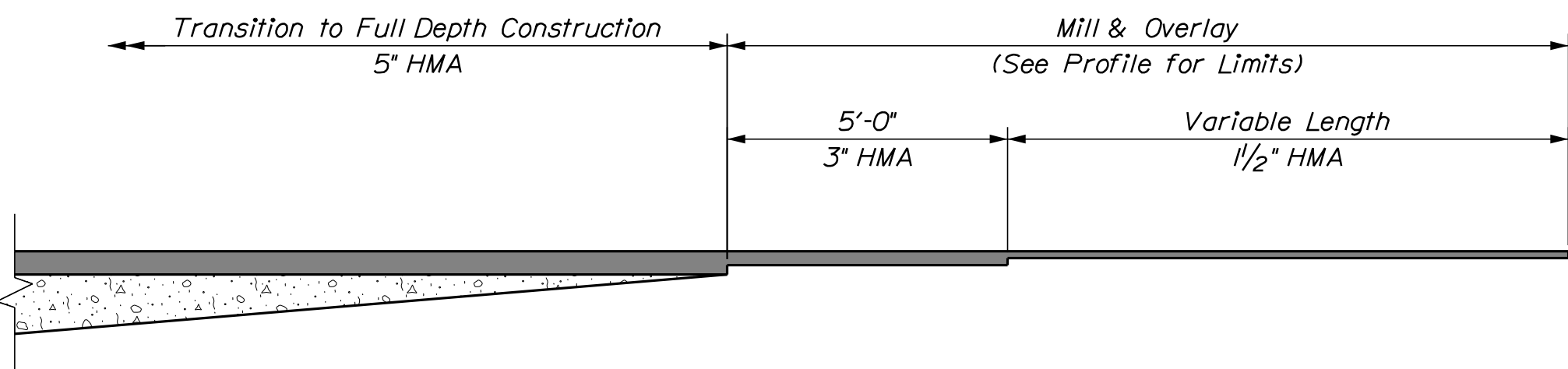
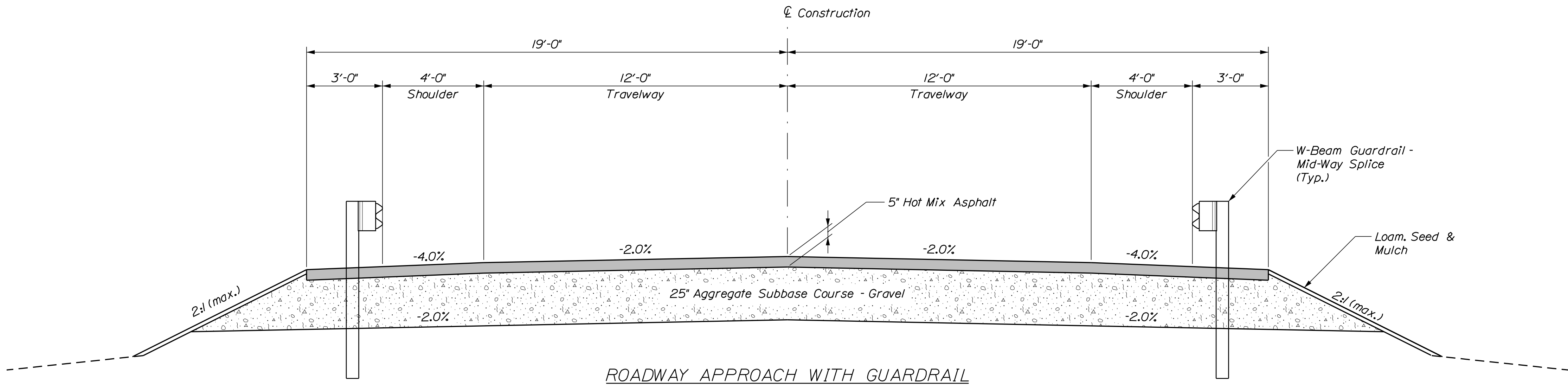
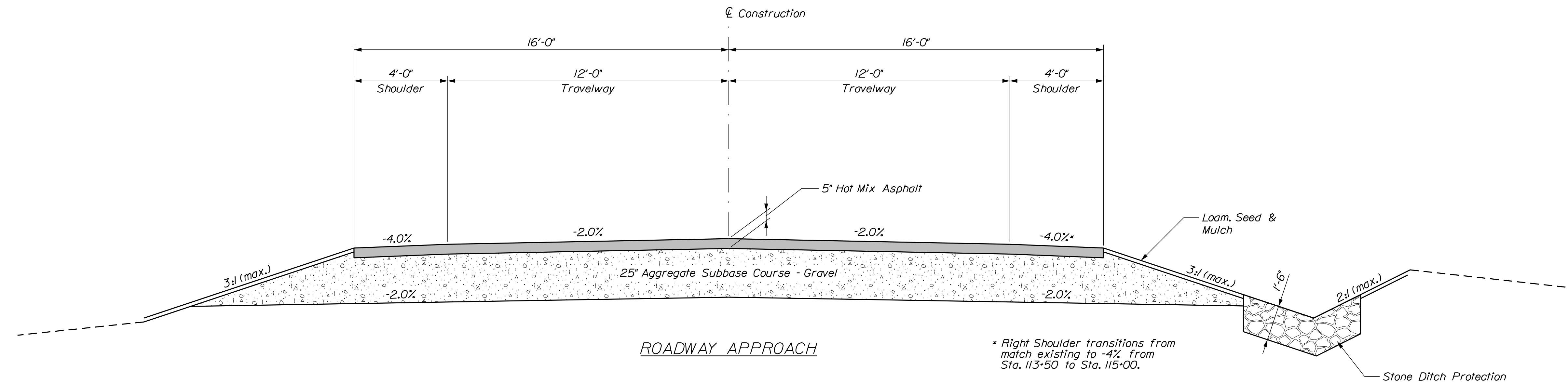
SHEET NUMBER
7
OF 42

STATE OF MAINE DEPARTMENT OF TRANSPORTATION	
2390900	WIN
BRIDGE NO. 3112	239095.00
BRIDGE PLANS	

Main Department of Transportation										Project: Little River Bridge #312 Route 237 Over Little River Grafton, Maine		Boring No.: BB-GLR-101																																																																																																																																																																																																								
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Driller: New England Boring Contractors										Elevation (ft.): 915		Ruger (O.D.): 2.5" SSA																																																																																																																																																																																																								
Operator: J. Sander										Datum: NAVD83		Sampler: Split Spoon																																																																																																																																																																																																								
Coring By: C. Fagan										Hwy Type: Maine R-5		Penetration (ft./lb): 140-30																																																																																																																																																																																																								
Date Start/Stop: 8-16-10/9-17-10										Drilling Method: Drive/Spin & Wash		Cone Bore: NO																																																																																																																																																																																																								
Boring Location: N 320773.3, E 973888.4										Coring (O.D.): 4" x 5.5", 3" x 5.5"		Water Level: -																																																																																																																																																																																																								
Minimum Efficiency Factor: 0.937										Hammer Type: Automatic		S&W Hydraulic: C																																																																																																																																																																																																								
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Thin Rail Take Sample										Sample Information		Visual Description and Remarks		Laboratory Testing Results																																																																																																																																																																																																						
Depth (ft.)	Sample No.	Penetration (ft./lb.)	Sample Depth (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)	Sample (ft.)

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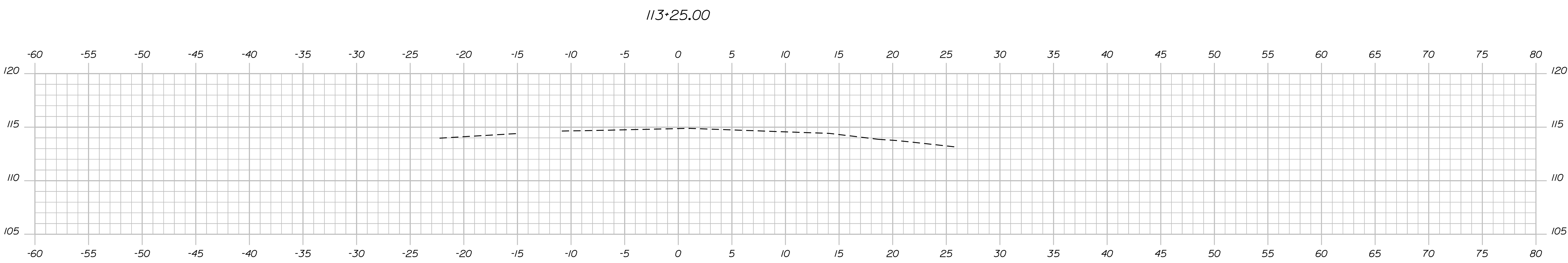
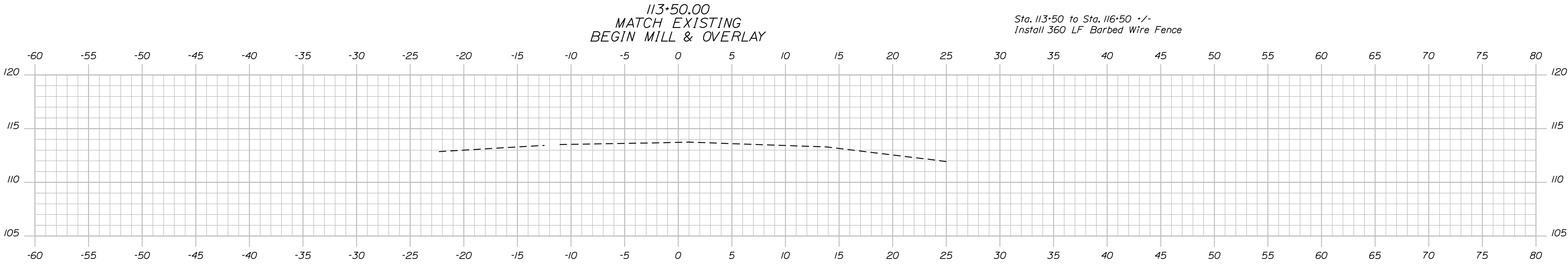
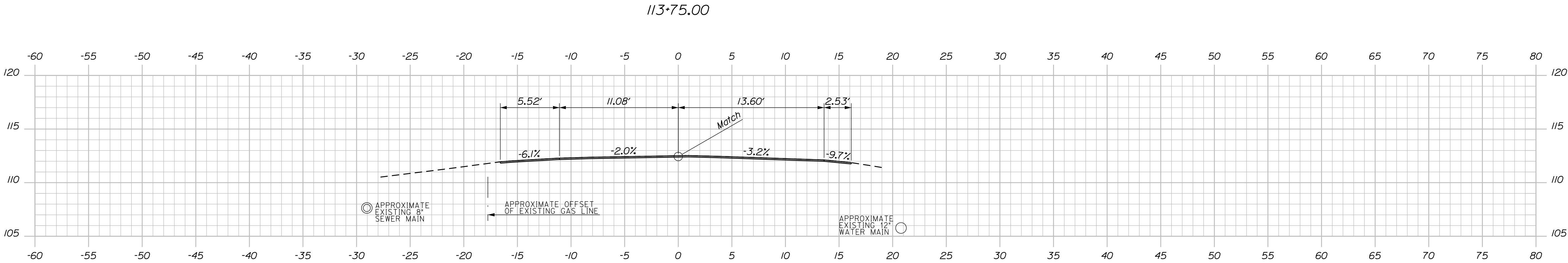
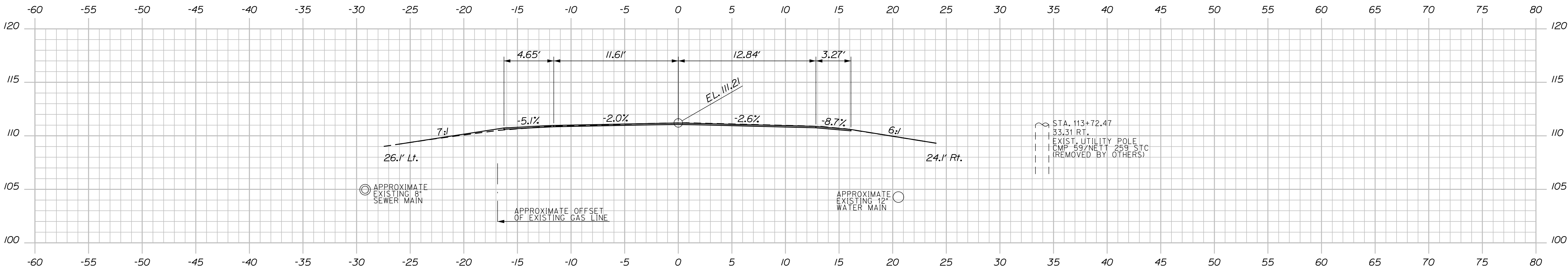
STATE OF MAINE DEPARTMENT OF TRANSPORTATION	2390900		BRIDGE NO. 3112		023909.00		BRIDGE PLANS	
	WIN							
LITTLE RIVER BRIDGE LITTLE RIVER CUMBERLAND COUNTY GORHAM HOYLE, TANNER & ASSOCIATES, INC.								
PROJ. MANAGER		D. EATON	BY	B. NICHOLS	DATE	OCT 2019		
DESIGN-DETAILED		R. WOOD	CHECKED-REVIEWED	E. WEINGARTEN	DATE	OCT 2019		
DESIGN-DETAILED			DESIGN-DETAILED		REVISIONS	1		
			REVISIONS		REVISIONS	2		
			REVISIONS		REVISIONS	3		
			REVISIONS		REVISIONS	4		
			FIELD CHANGES					
SHEET NUMBER 11 OF 42								

Date:10/18/2019

Username:

Division: BRIDGE

Filename: ... \MSTA\012_XSECT_113+00_001.dgn



STATE OF MAINE

DEPARTMENT OF TRANSPORTATION

2390900

WIN

023909.00

BRIDGE NO. 3112

BRIDGE PLANS

Hoyle, Tanner & Associates, Inc.

PROJ. MANAGER	DESIGN-DETAILED	CHECKED	REVIEWED	BY	DATE
D. EATON	R. Wood	B. Nichols	S. Hodgdon		Oct 2019
					Oct 2019

LITTLE RIVER BRIDGE

LITTLE RIVER

CUMBERLAND COUNTY

GORHAM

CROSS SECTIONS

SHEET NUMBER

12

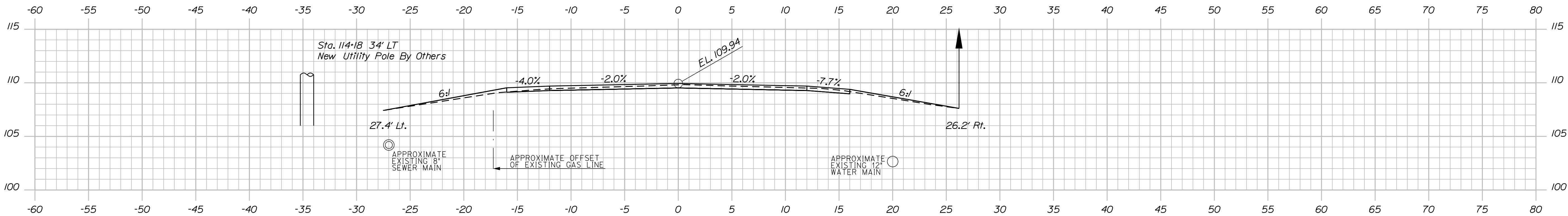
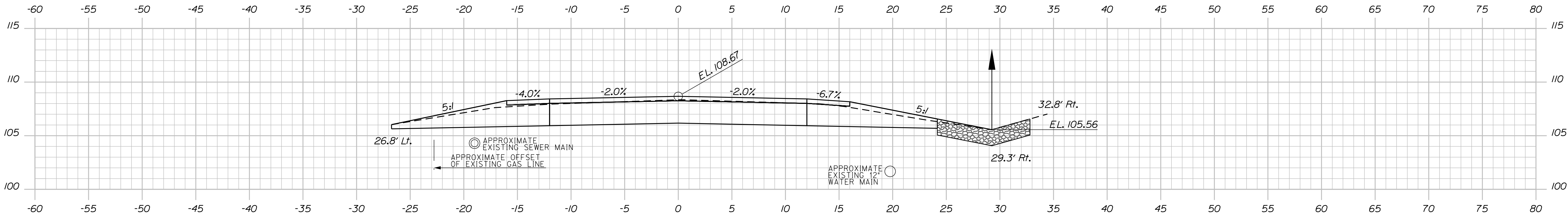
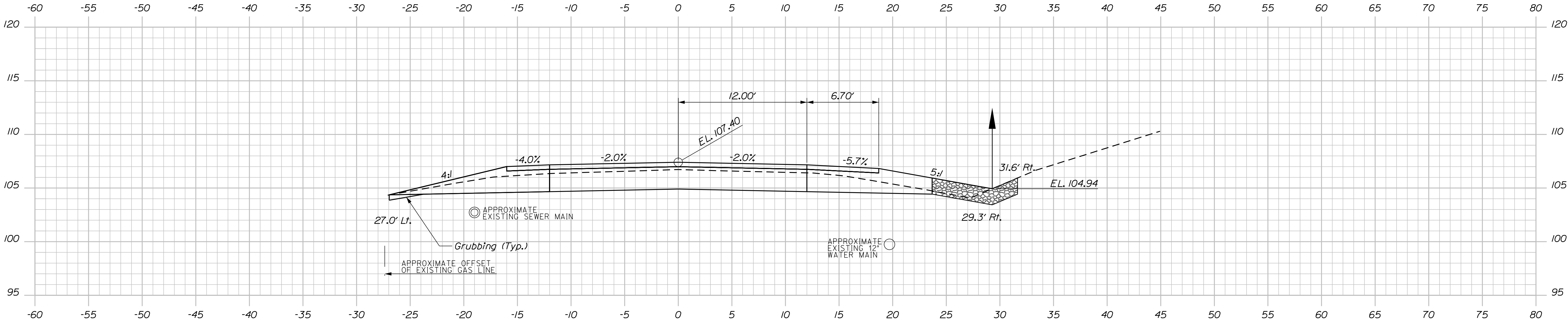
OF 42

Date:10/18/2019

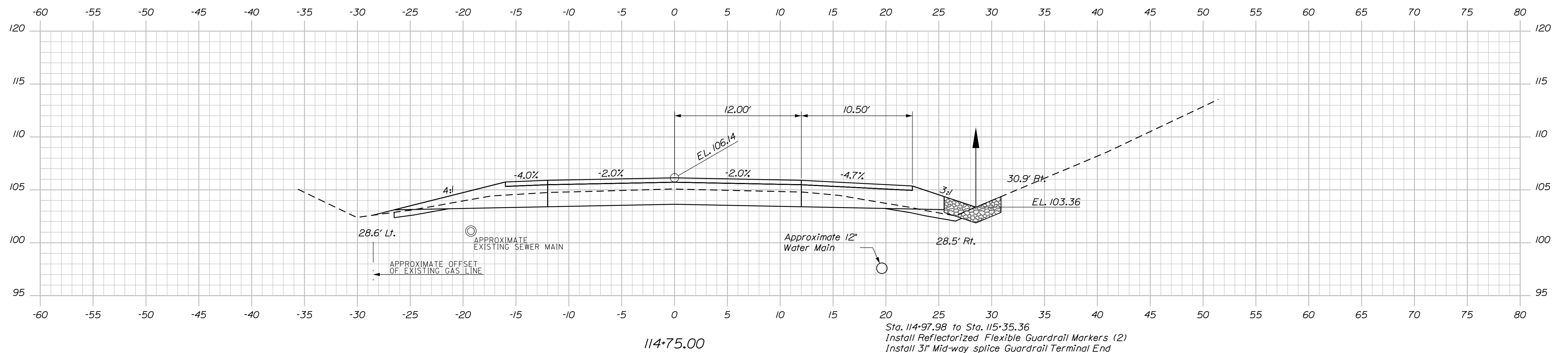
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Division: BRIDGE

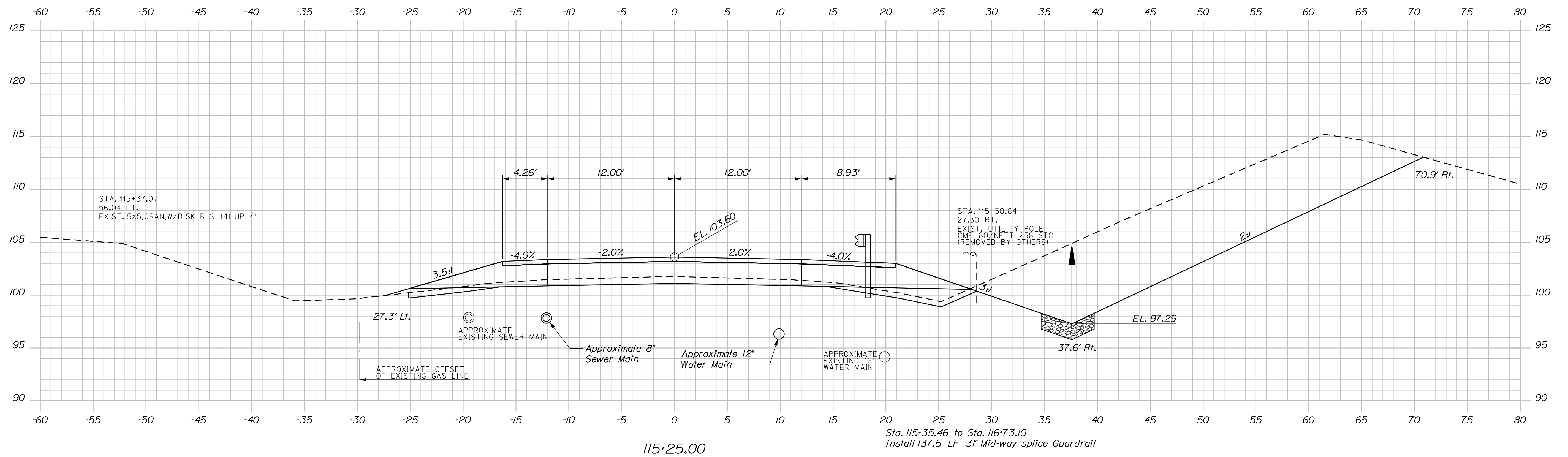
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PROJ. MANAGER	BY	DATE
D. EATON	B. Nichols	Oct 2019
CHECKED/REVIEWED	E. Weingarten	Oct 2019
DESIGN/DETAILS		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		



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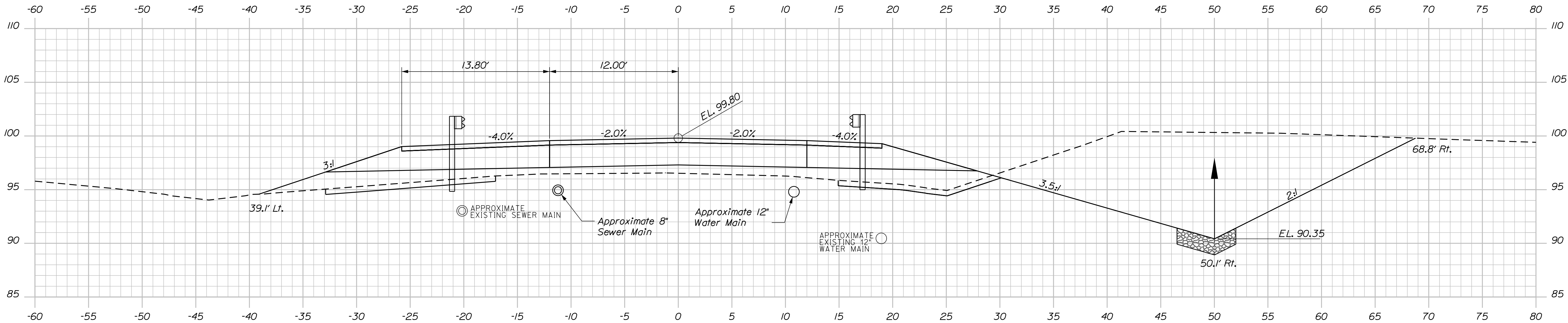


Date:10/18/2019

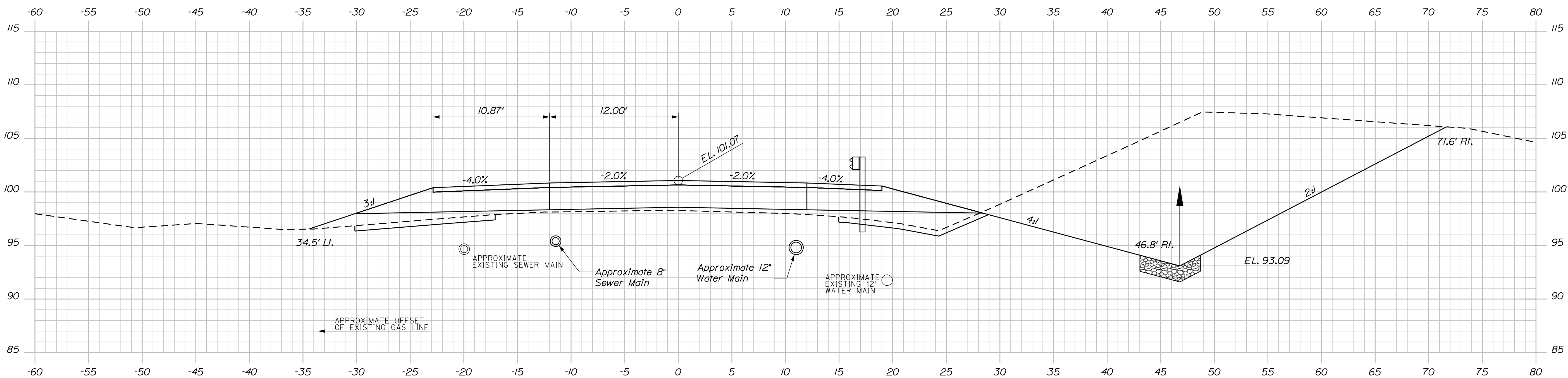
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Division: BRIDGE

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116+00.00



115+75.00

Sta. 115+98.46 to Sta. 116+35.65
Install Reflectorized Flexible Guardrail Markers (2)
Install 3" Mid-way splice Guardrail Terminal End

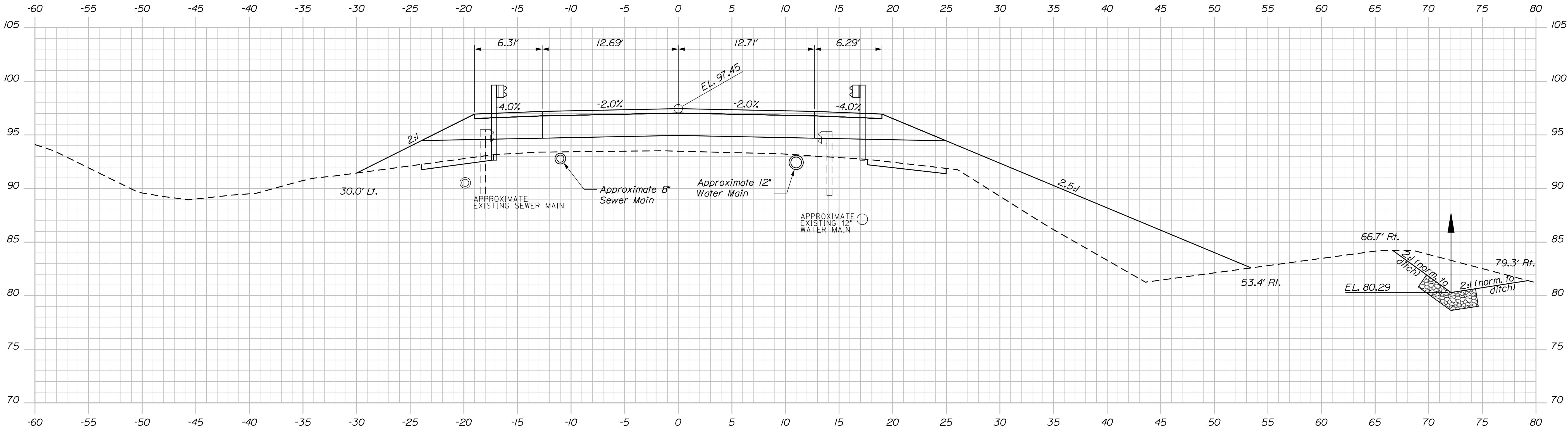
PROJ. MANAGER	D. EATON	BY	DATE
DESIGNED	R. Wood	B. Nichols	Oct 2019
CHECKED	E. Weingarner	S. Hodgdon	Oct 2019
DESIGNED			
DESIGNED			
REVISIONS			
REVISIONS			
REVISIONS			
FIELD CHANGES			

Date:10/18/2019

Username:

Division: BRIDGE

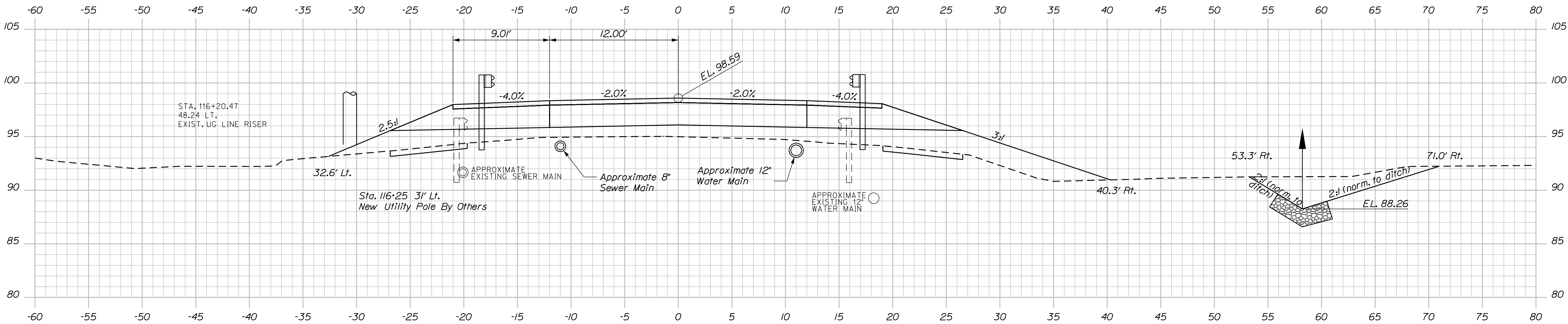
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Sta. 116+73.10 to Bridge
Install Type I Bridge Transition

116+50.00

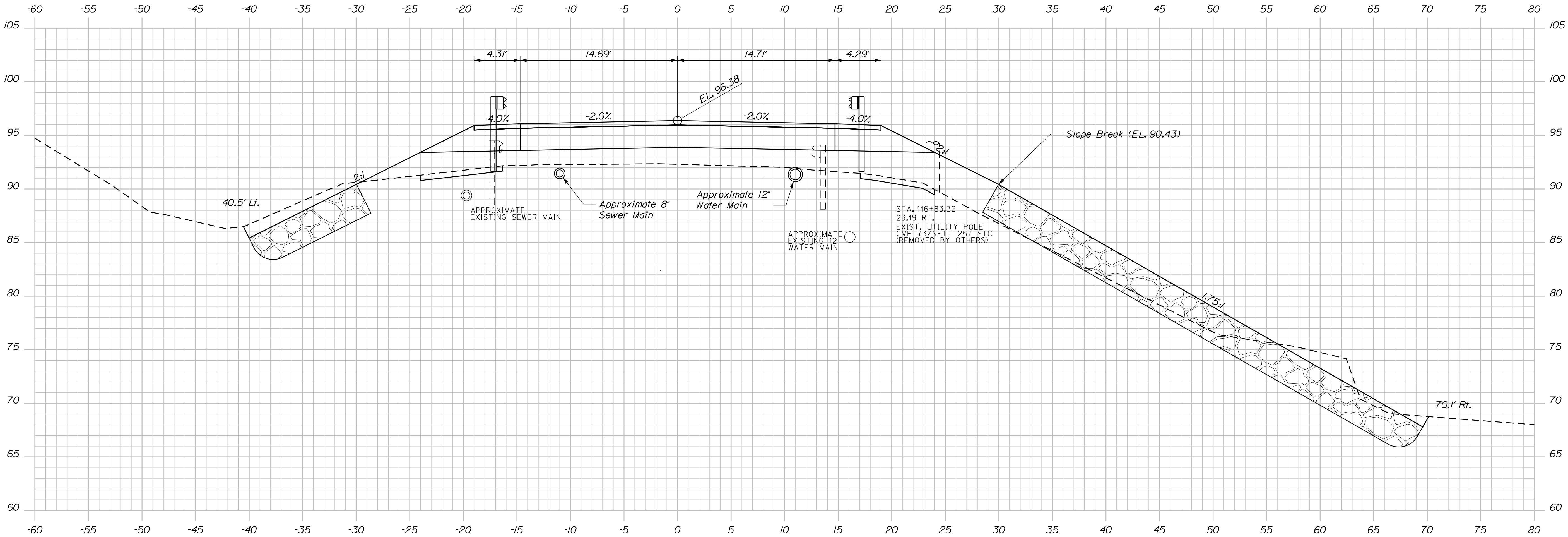
Sta. 116+73.10 to Bridge
Install Type I Bridge Transition



Sta. 116+35.65 to Sta. 116+73.10
Install 37.5 LF 3\"/>

116+25.00

PROJ. MANAGER	DESIGN-DETAILED	CHECKED-REVIEWED	BY	DATE
D. EATON	R. Wood	B. Nichols		Oct 2019
	E. Weingarten	S. Hodgdon		Oct 2019
	DESIGNS-DETAILED			
	DESIGNS-DETAILED			
	REVISIONS 1			
	REVISIONS 2			
	REVISIONS 3			
	REVISIONS 4			
	FIELD CHANGES			



116+75.00

Sta. 116+75.00 to Sta. 116+75.00

STATE OF MAINE

DEPARTMENT OF TRANSPORTATION

2390900

WIN

023909.00

BRIDGE NO. 3112

BRIDGE PLANS

Hoyle, Tanner & Associates, Inc.

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	R. Wood	B. Nichols	Oct 2019
CHECKED-REVIEWED	E. Weingarten	S. Hodgson	Oct 2019
DESIGN-DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

LITTLE RIVER BRIDGE

LITTLE RIVER

CUMBERLAND COUNTY

GORHAM

CROSS SECTIONS

SHEET NUMBER

18

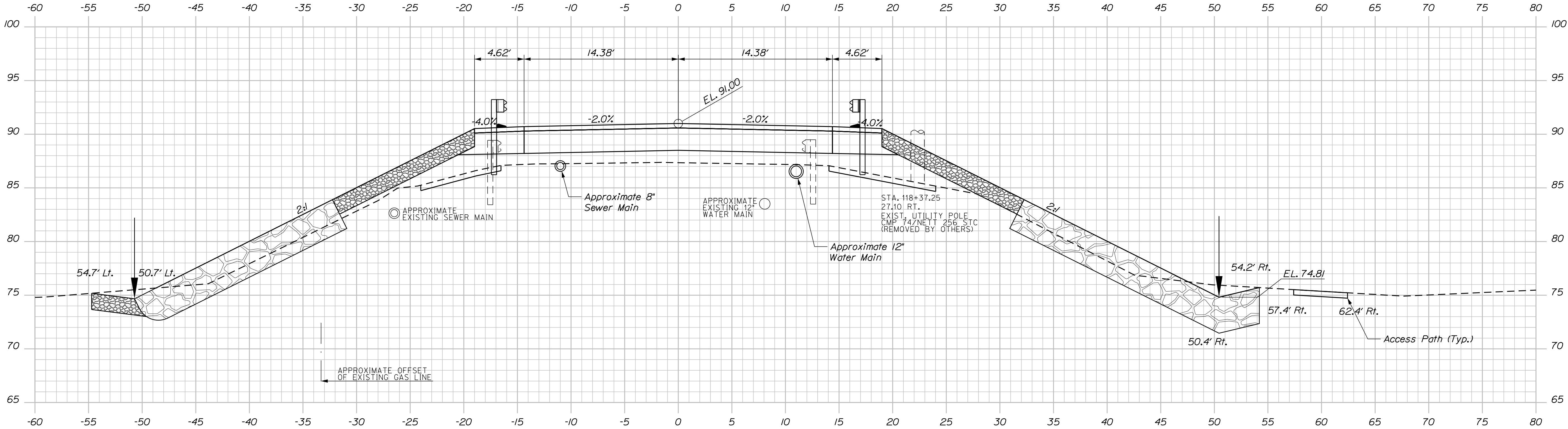
OF 42

Date:10/18/2019

Username:

Division: BRIDGE

Filename: ... \MSTA\019_XSECT_117+00_008.dgn



Bridge to Sta. 118+47.90
Install Type I Bridge Transition

Sta. 118+47.90 to Sta. 120+35.19
Install 187.5 LF 31" Mid-way splice Guardrail

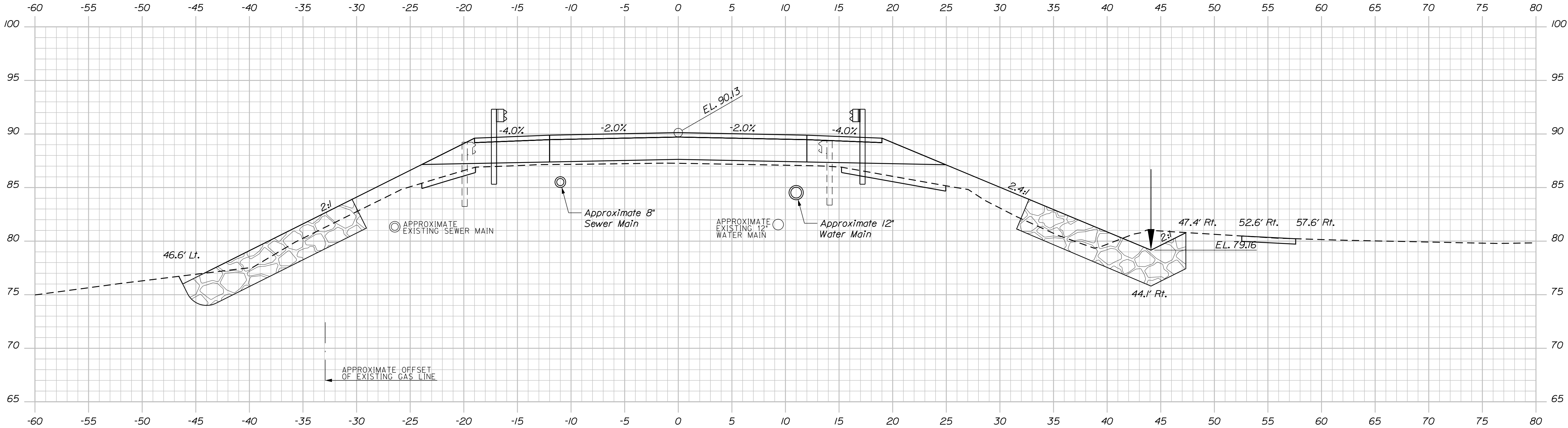
Bridge to Sta. 118+50.00
Install 22 LF Curb Type 3, Mold 3

LITTLE RIVER BRIDGE LITTLE RIVER GORHAM CUMBERLAND COUNTY	STATE OF MAINE DEPARTMENT OF TRANSPORTATION
	2390900
CROSS SECTIONS	BRIDGE NO. 3112
	WIN 023909.00
SHEET NUMBER	BRIDGE PLANS
19	
OF 42	

Date:10/18/2019

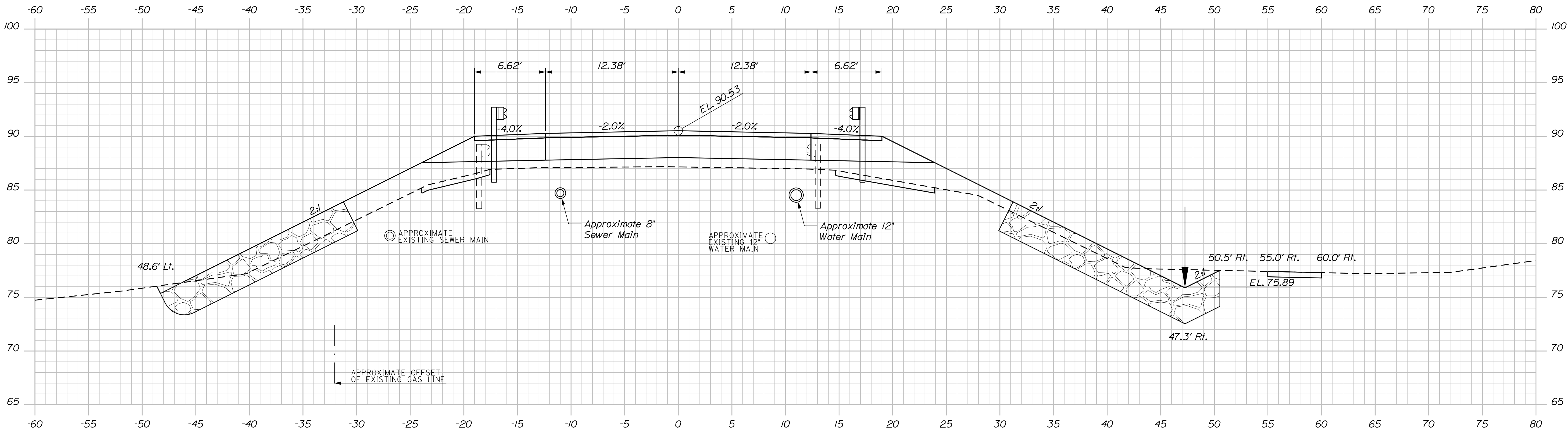
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Filename: ... \MSTAO20_XSECT_118+75_009.dgn Division: BRIDGE



119+00.00

Sta. 119+10.40 to Sta. 119+47.71
 Install 3" Mid-way splice Guardrail Terminal End
 Install ReflectORIZED Flexible Guardrail Markers (2)



118+75.00

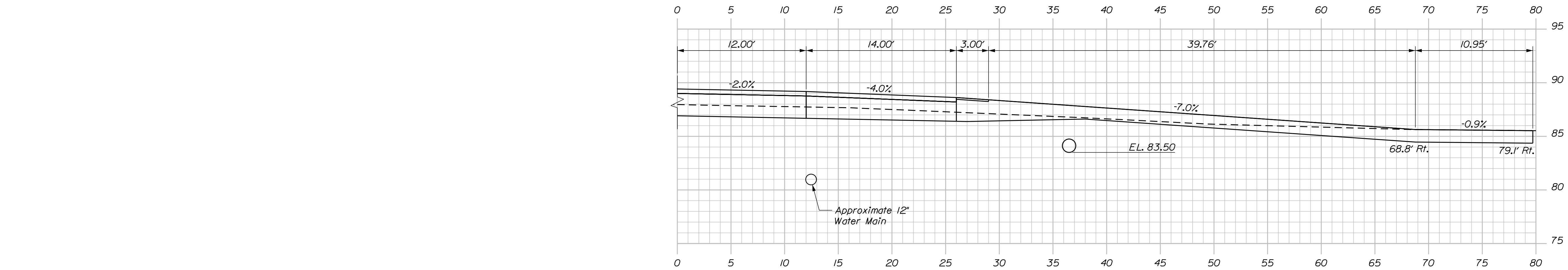
PROJ. MANAGER	BY	DATE
D. EATON	B. Nichols	Oct 2019
CHECKED-REVIEWED	E. Weingarten	Oct 2019
DESIGN-DETAILED		
DESIGN-DETAILED		
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

Date:10/18/2019

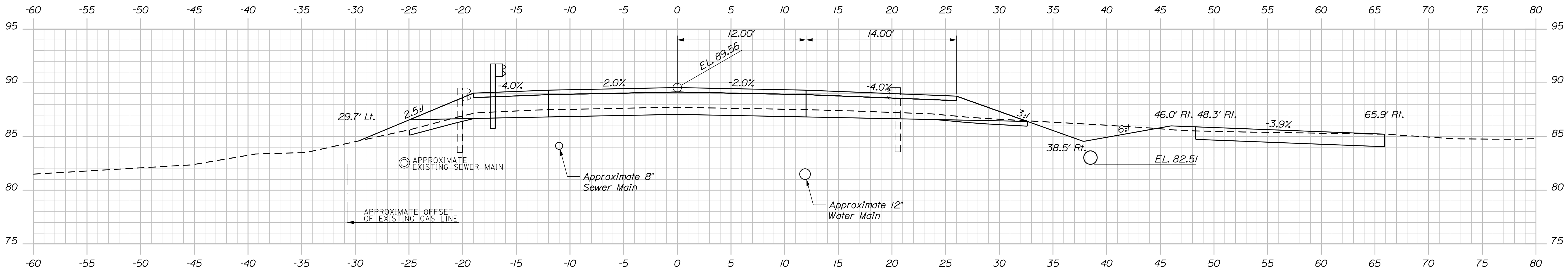
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Division: BRIDGE

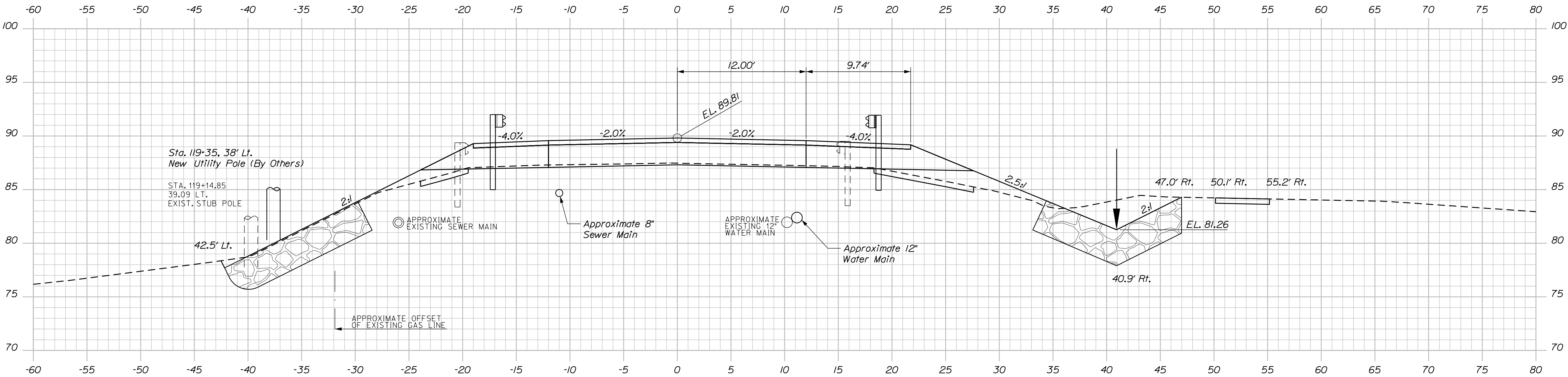
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DRIVEWAY @ 119+70.00



119+50.00



119+25.00

Sta. 119+25 to Sta. 119+90
Install 66 LF 15" Culvert Option 111

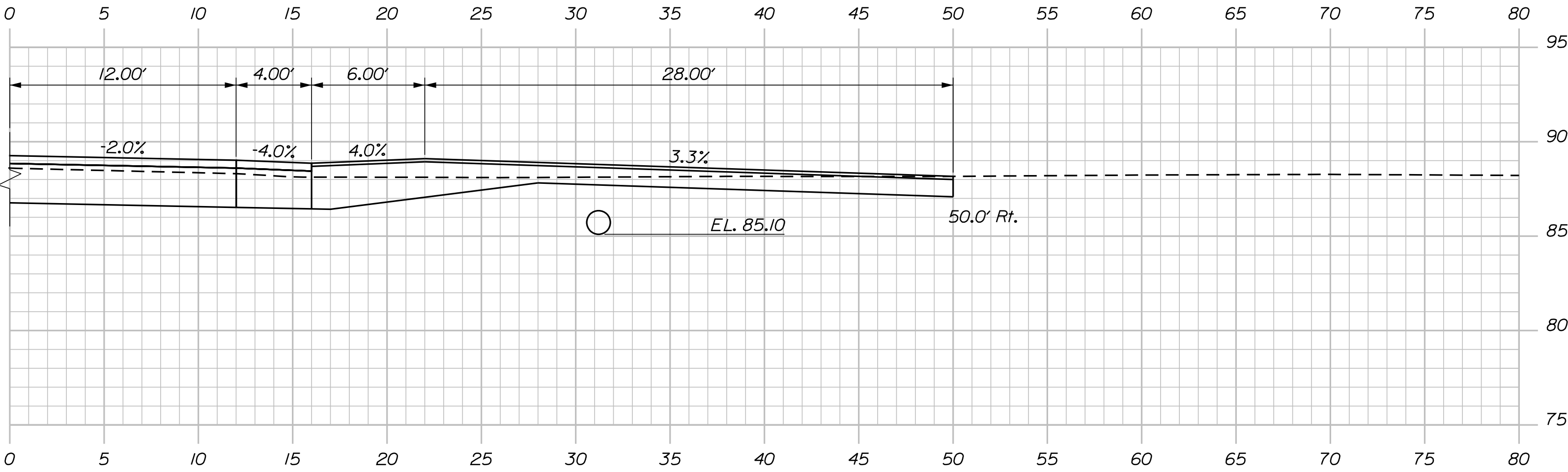
PROJ. MANAGER	DESIGNED	CHECKED	REVIEWED	DATE
D. EATON	B. Nichols	R. Wood	E. Weingarten	Oct 2019
			S. Hodgson	Oct 2019

Date:10/18/2019

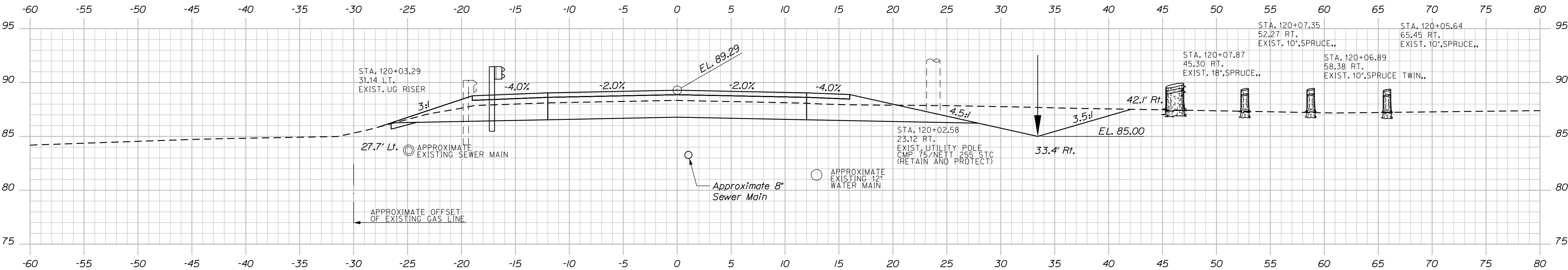
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Division: BRIDGE

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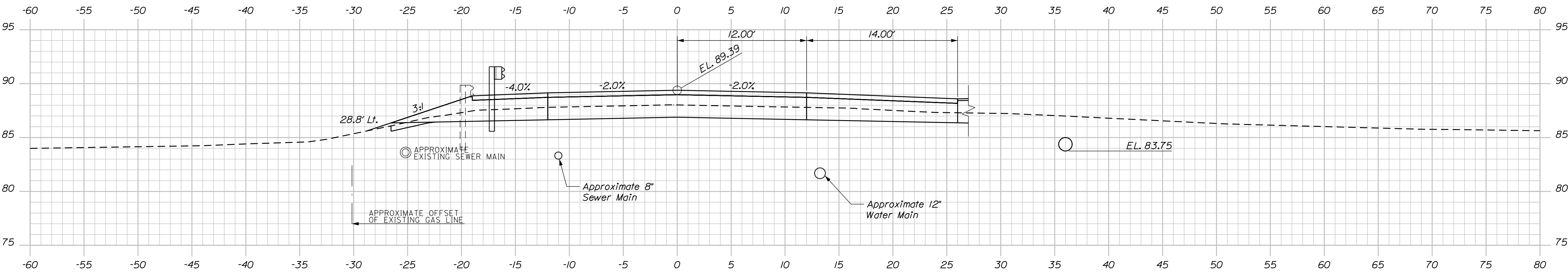


DRIVEWAY @ 120+22.00



120+00.00

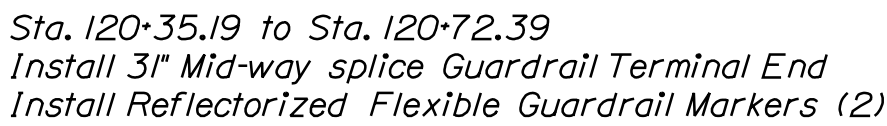
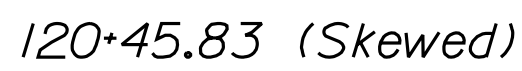
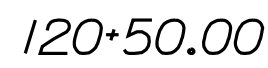
Sta. 120+00 to Sta. 120+40
Install 40 LF 15" Culvert Option III



119+75.00

PROJ. MANAGER	BY	DATE
D. EATON	B. Nichols	Oct 2019
DESIGN-DETAILED	R. Wood	Oct 2019
CHECKED-REVIEWED	E. Weingarten	Oct 2019
DESIGN-DETAILED	S. Hodgdon	Oct 2019
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

Filename: ... \MSTA\023_XSECT_120+25_012.dgn



120+25.00

Sta. 120+25.00 to Sta. 120+50.00

Hoyle, Ianner
Associates, Inc.

DESIGN-DETAILED	R. Wood	B. Nichols	Oct 2019
CHECKED-REVIEWED	E. Weingartner S. Hodgdon		Oct 2019
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DESIGN3-DetailedD3			
REVISIONS 1			
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REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

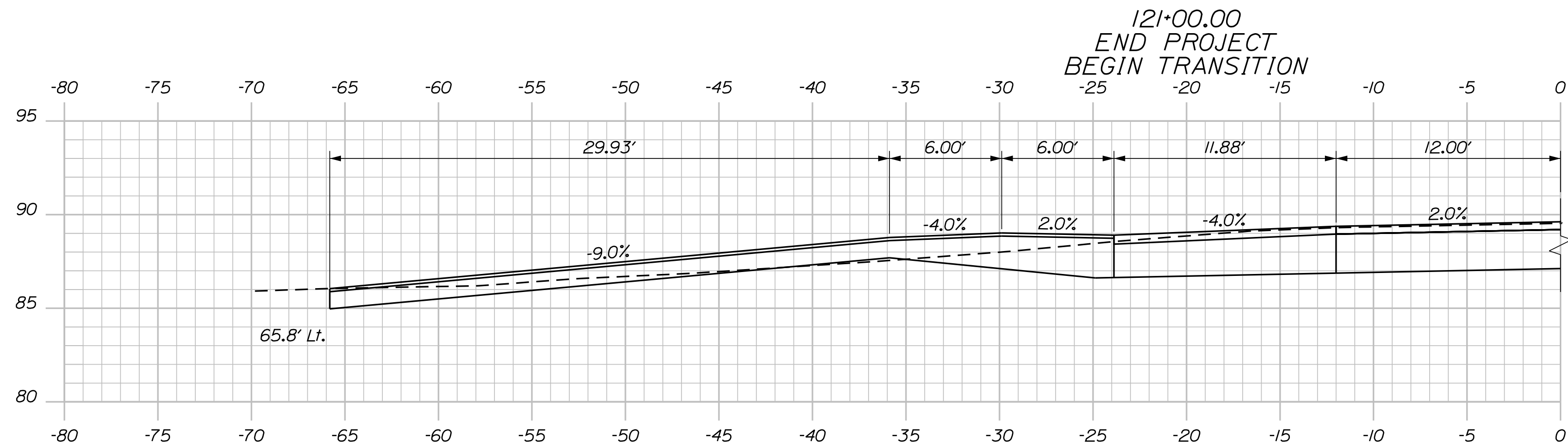
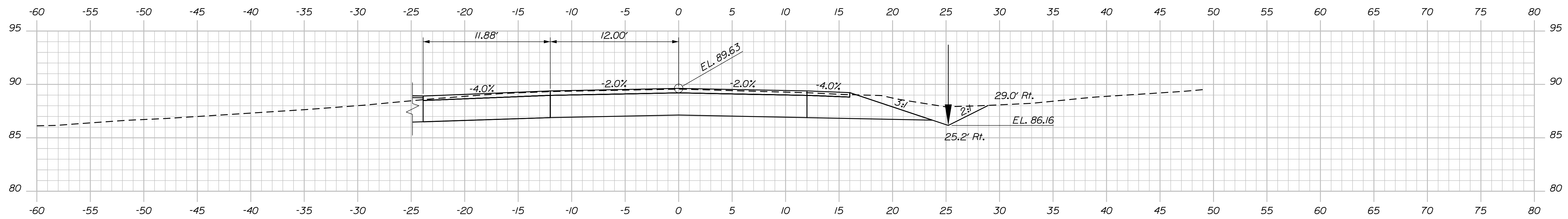
LITTLE RIVER BRIDGE
 LITTLE RIVER
 CUMBERLAND COUNTY
 GORHAM

CROSS SECTIONS

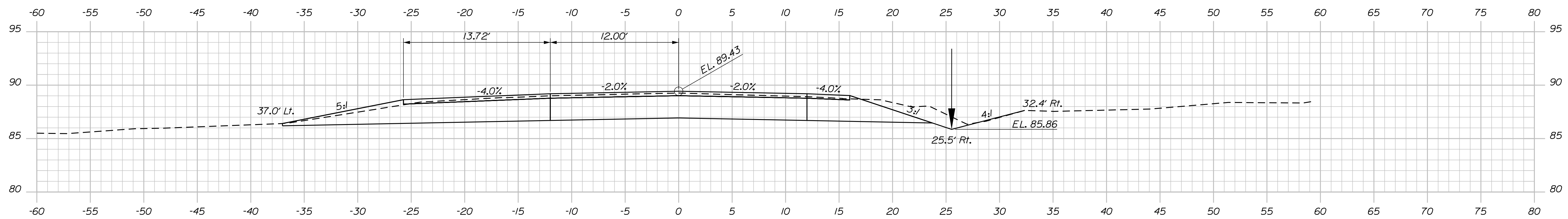
SHEET NUMBER

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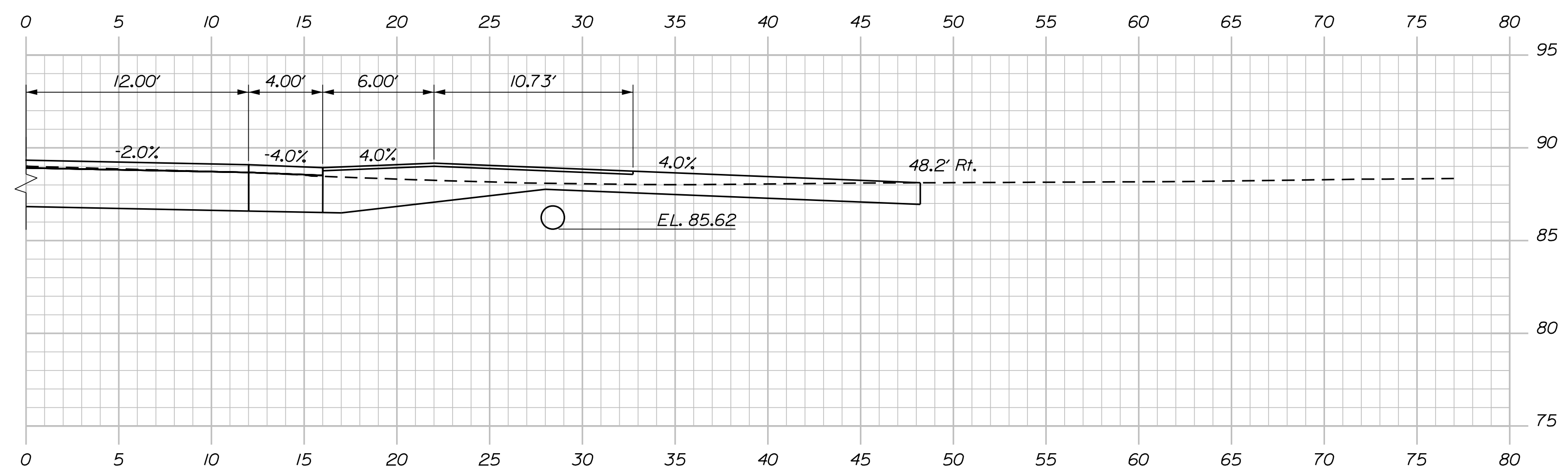
OF 42



DRIVEWAY @ 120+98.00



120+75.00



DRIVEWAY @ 120+54.00

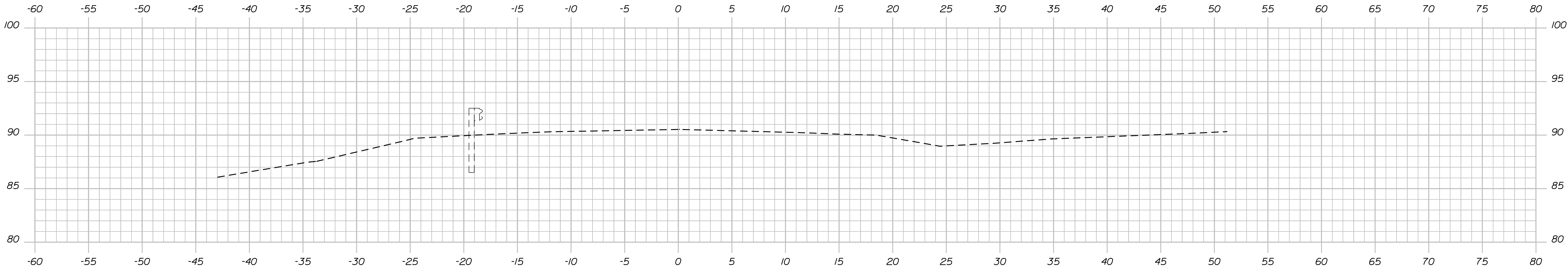
DESIGN-DETAILED	R. Wood	B. Nichols	Oct 2019
CHECKED-REVIEWED	E. Weingartner	S. Hoddson	Oct 2019
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DESIGN-DETAILED5			
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DESIGN-DETAILED102			
DESIGN-DETAILED103			
DESIGN-DETAILED104			
DESIGN-DETAILED105			
DESIGN-DETAILED106			
DESIGN-DETAILED107			
DESIGN-DETAILED108			
DESIGN-DETAILED109			
DESIGN-DETAILED110			
DESIGN-DETAILED111			
DESIGN-DETAILED112			

Date:10/18/2019

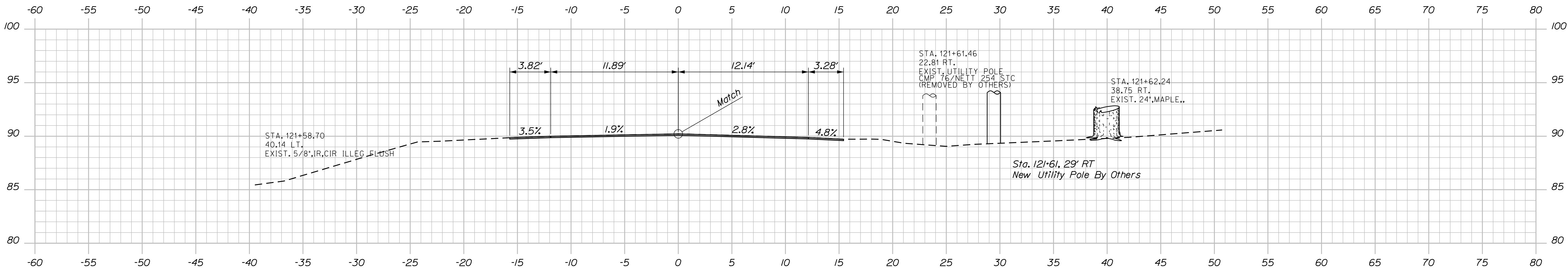
Username:

Division: BRIDGE

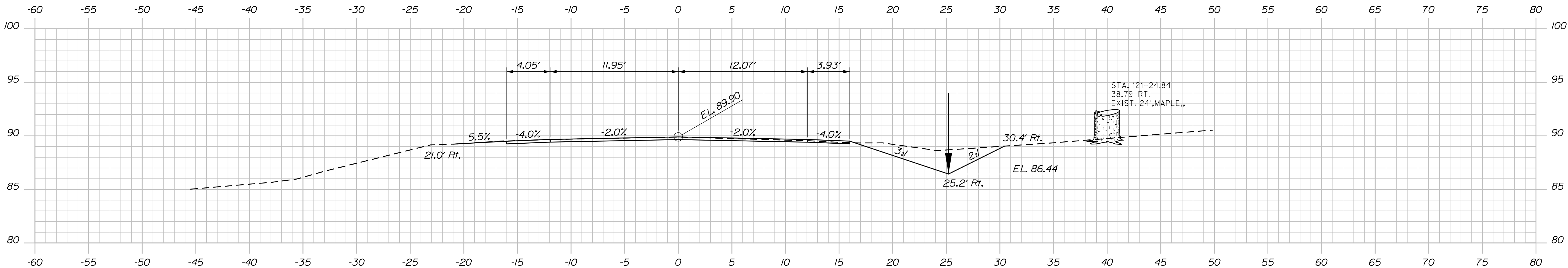
Filename: ... \MSTAN025_XSECT_121+25_014.dgn



121+75.00



121+50.00
END MILL & OVERLAY
MATCH EXISTING



121+25.00
END TRANSITION
BEGIN MILL & OVERLAY

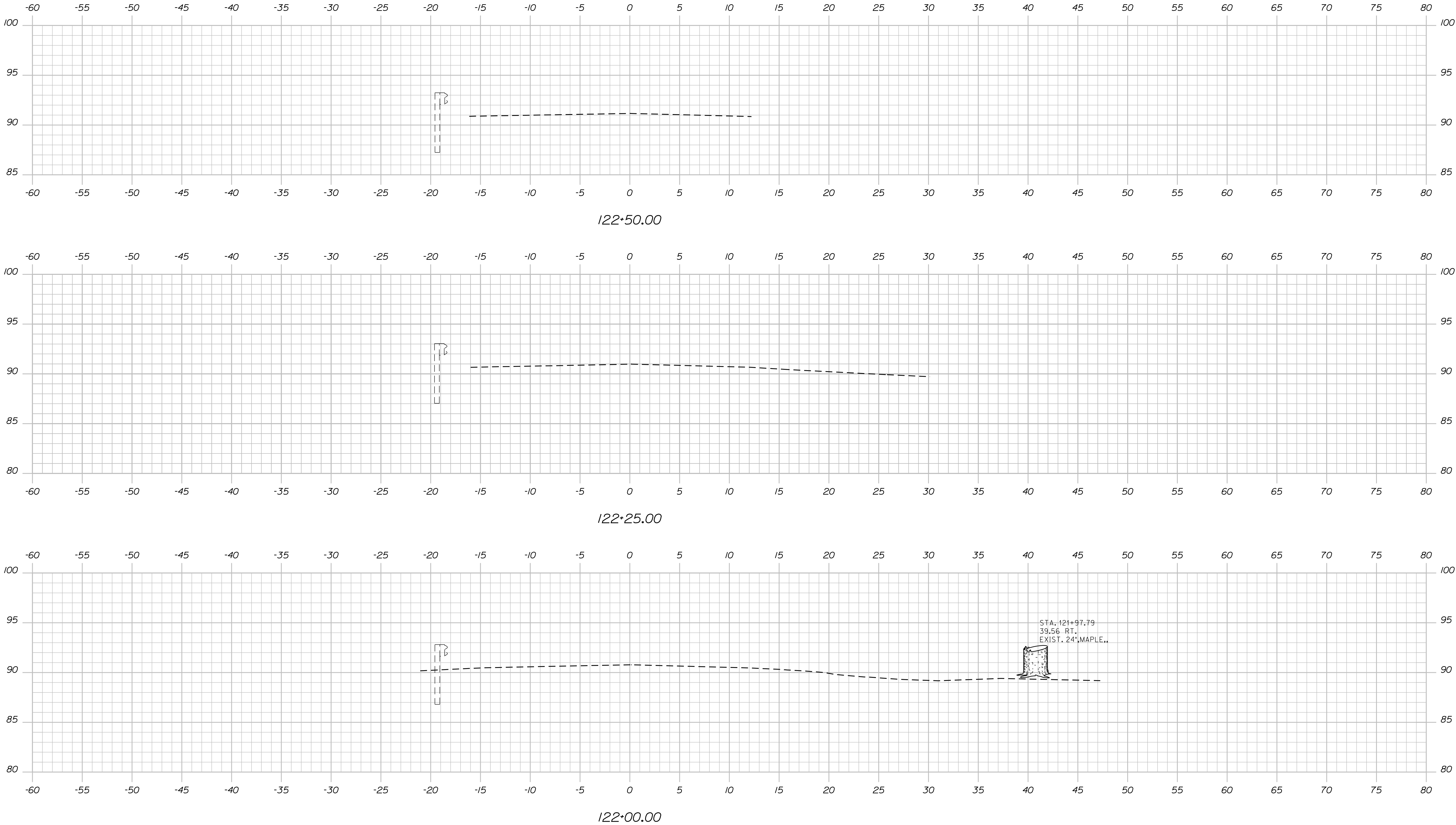
PROJ. MANAGER	D. EATON	BY	B. Nichols	DATE	OCT 2019
CHECKED-DETAILED	R. Wood	DESIGNED	S. Hodgson	DESIGNED	OCT 2019
CHECKED-REVIEWED	E. Weingarten	DESIGNED	S. Hodgson	DESIGNED	OCT 2019
DESIGNED-DETAILED		DESIGNED	S. Hodgson	DESIGNED	OCT 2019
REVISIONS 1		DESIGNED	S. Hodgson	DESIGNED	OCT 2019
REVISIONS 2		DESIGNED	S. Hodgson	DESIGNED	OCT 2019
REVISIONS 3		DESIGNED	S. Hodgson	DESIGNED	OCT 2019
REVISIONS 4		DESIGNED	S. Hodgson	DESIGNED	OCT 2019
FIELD CHANGES		DESIGNED	S. Hodgson	DESIGNED	OCT 2019

Date:10/18/2019

Username:

Division: BRIDGE

Filename: ... \MSTAD26_XSECT_122+00_015.dgn

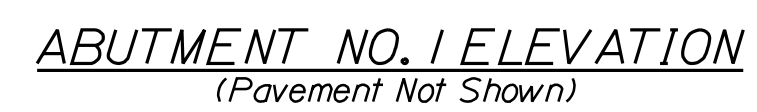
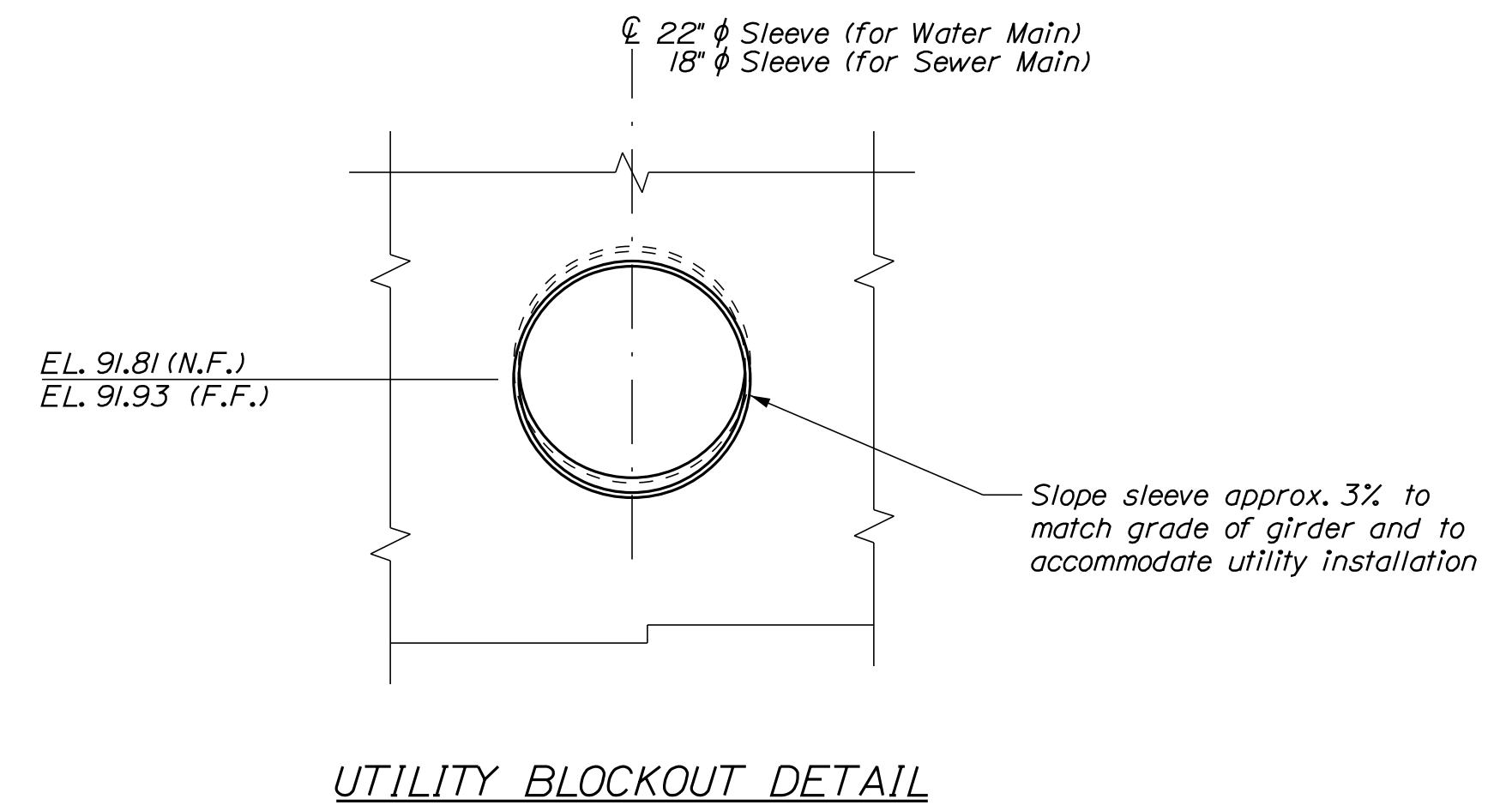


STATE OF MAINE DEPARTMENT OF TRANSPORTATION	2390900		BRIDGE NO. 3112		BRIDGE PLANS	
	WIN		023909.00			
Hoyle, Tanner & Associates, Inc.						
LITTLE RIVER BRIDGE LITTLE RIVER CUMBERLAND COUNTY GORHAM			PROJ. MANAGER	D. EATON	BY	DATE
			CHECKED-REVIEWED	R. Wood	B. Nichols	Oct 2019
			DESIGNED-DETAILED	E. Weingarten	S. Hodgdon	Oct 2019
			REVISIONS 1			
			REVISIONS 2			
CROSS SECTIONS			REVISIONS 3			
			REVISIONS 4			
			FIELD CHANGES			
SHEET NUMBER						
26						
OF 42						



Piles Not Shown

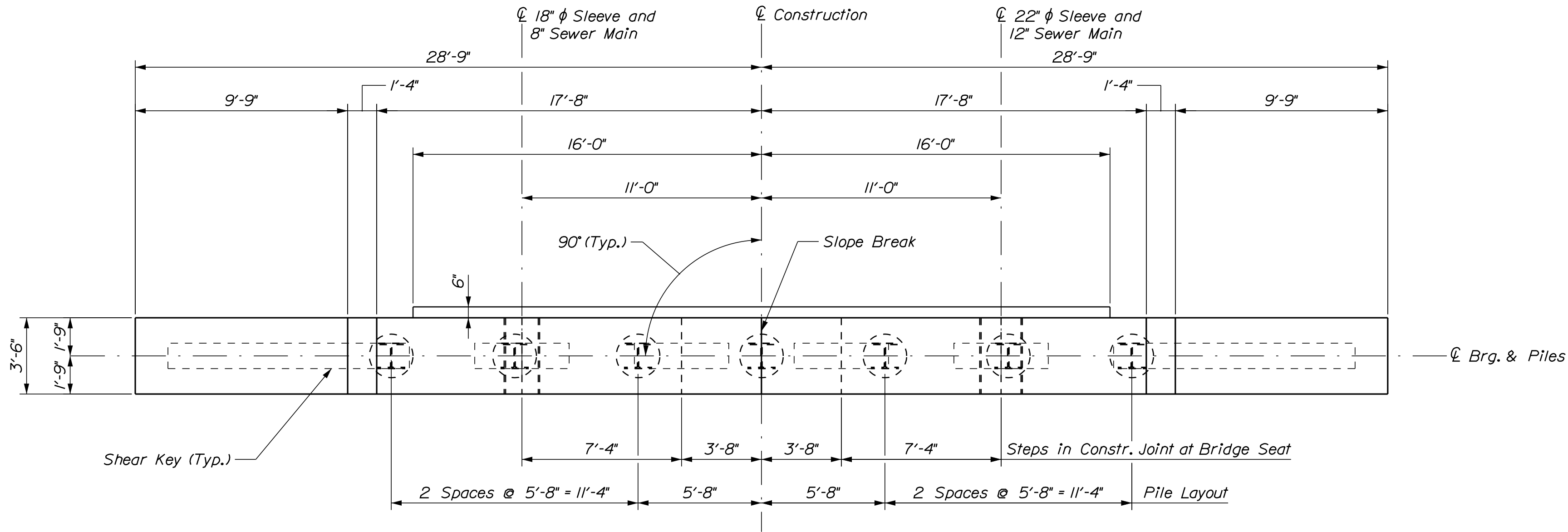
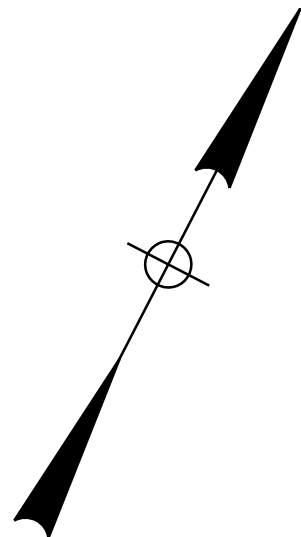
5. Omit V-groove at exposed face of horizontal construction joint at bridge seat.



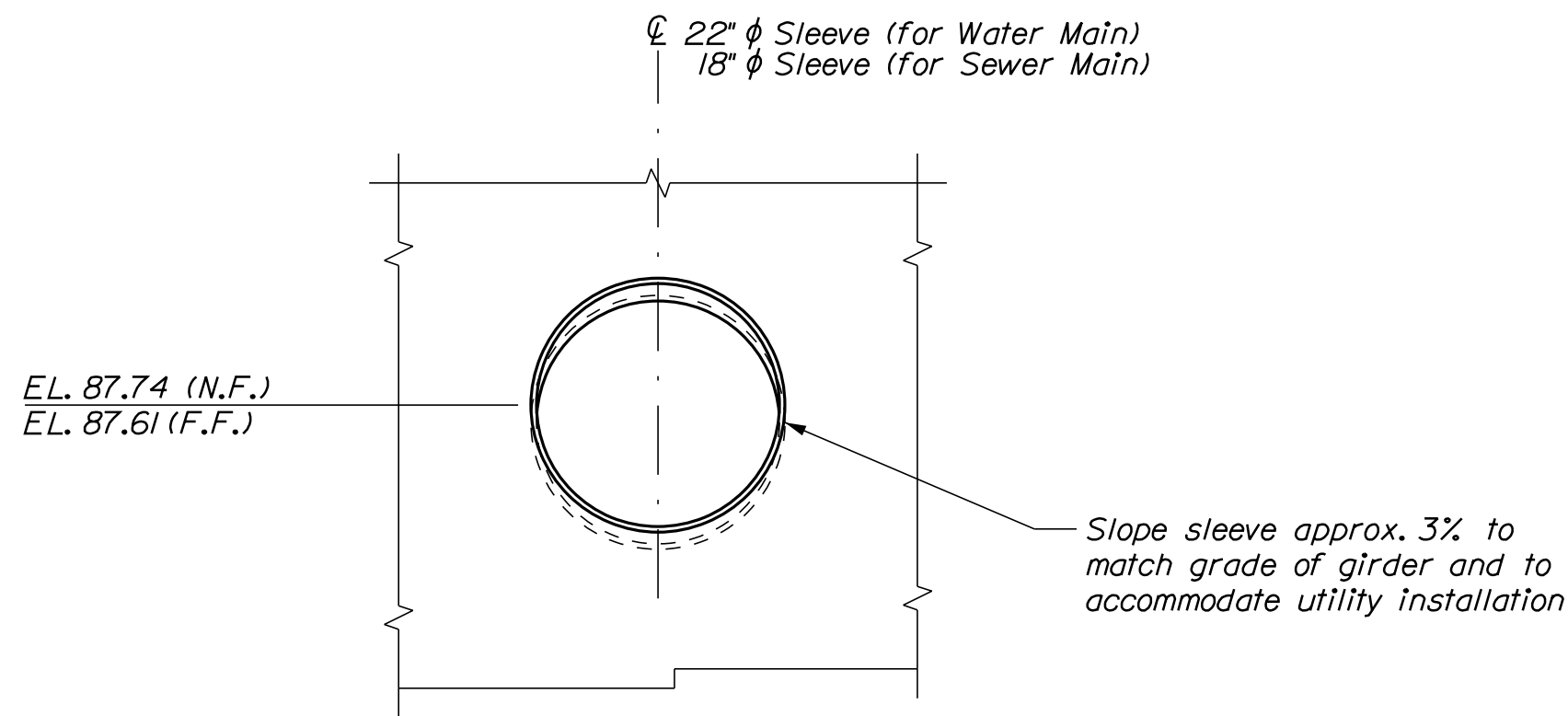
SHEET NUMBER

28

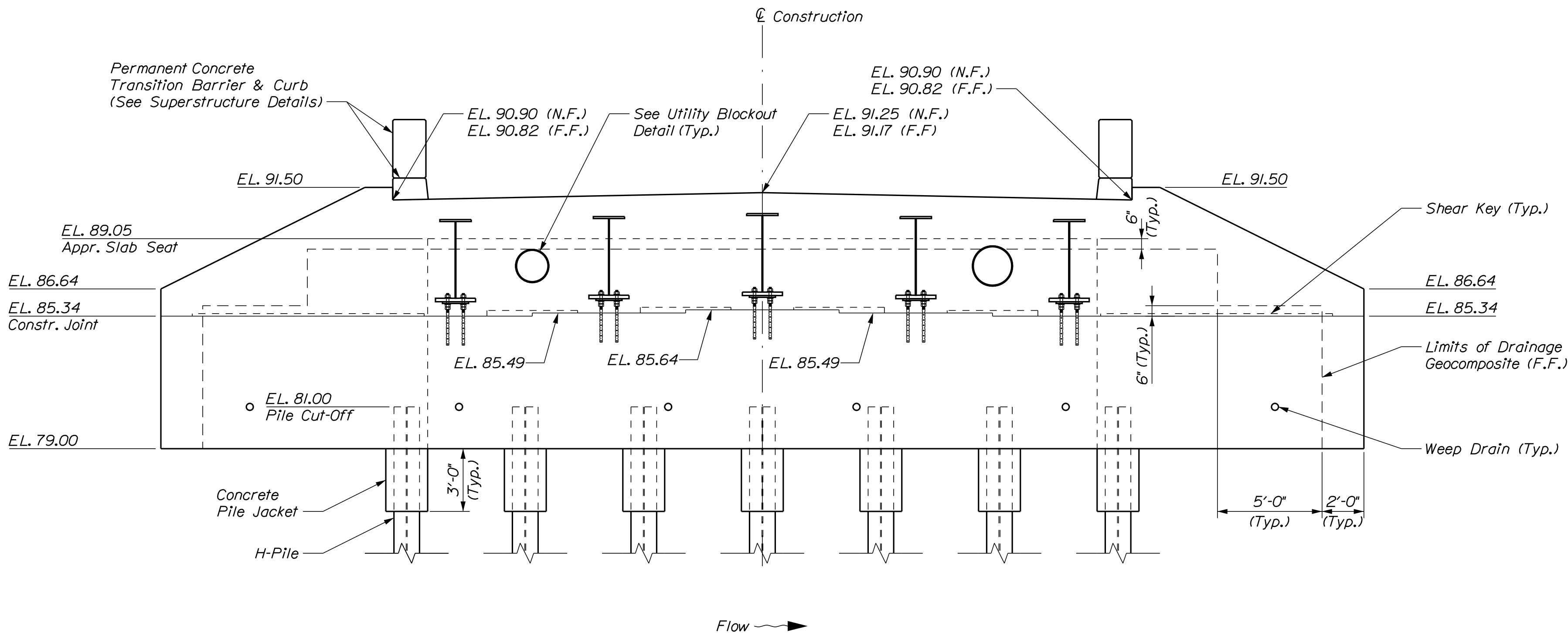
OF 42



ABUTMENT NO. 2 PLAN



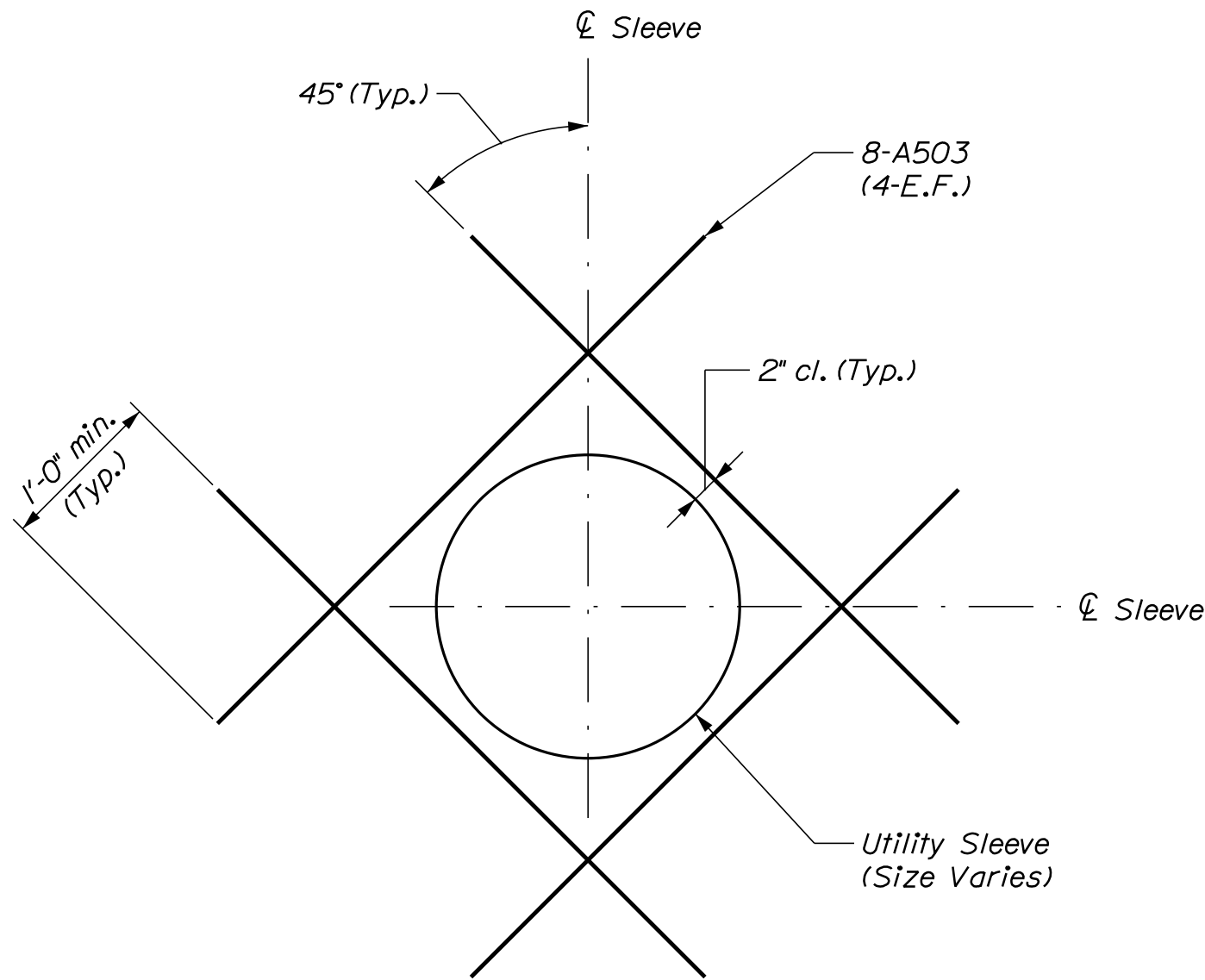
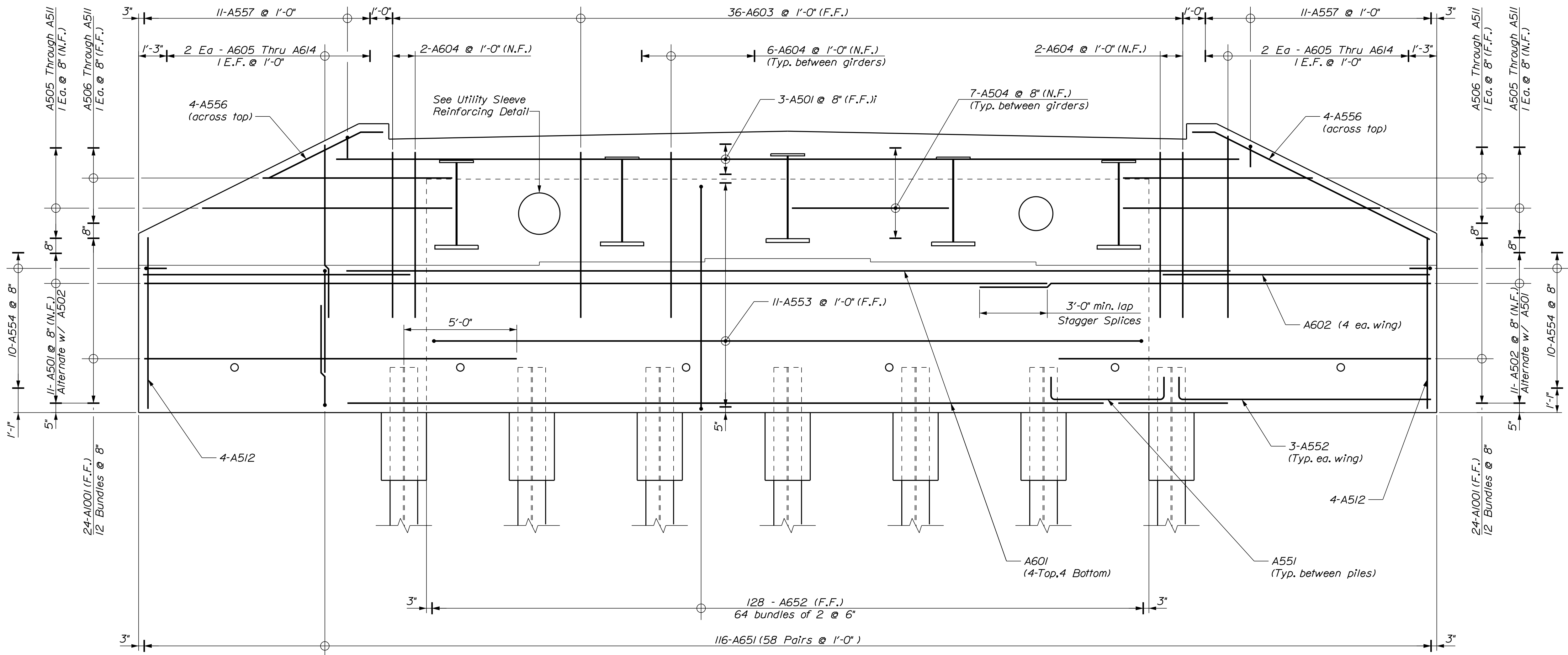
UTILITY BLOCKOUT DETAIL



ABUTMENT NO. 2 ELEVATION
(Pavement Not Shown)

LEGEND
N.F. = Near Face
F.F. = Far Face

PROJ. MANAGER	D. EATON	BY	DATE
DESIGN-DETAILED	R. Wood	B. Nichols	Oct 2019
CHECKED-REVIEWED	E. Wapington	S. Hodgson	Oct 2019
DESIGN-DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

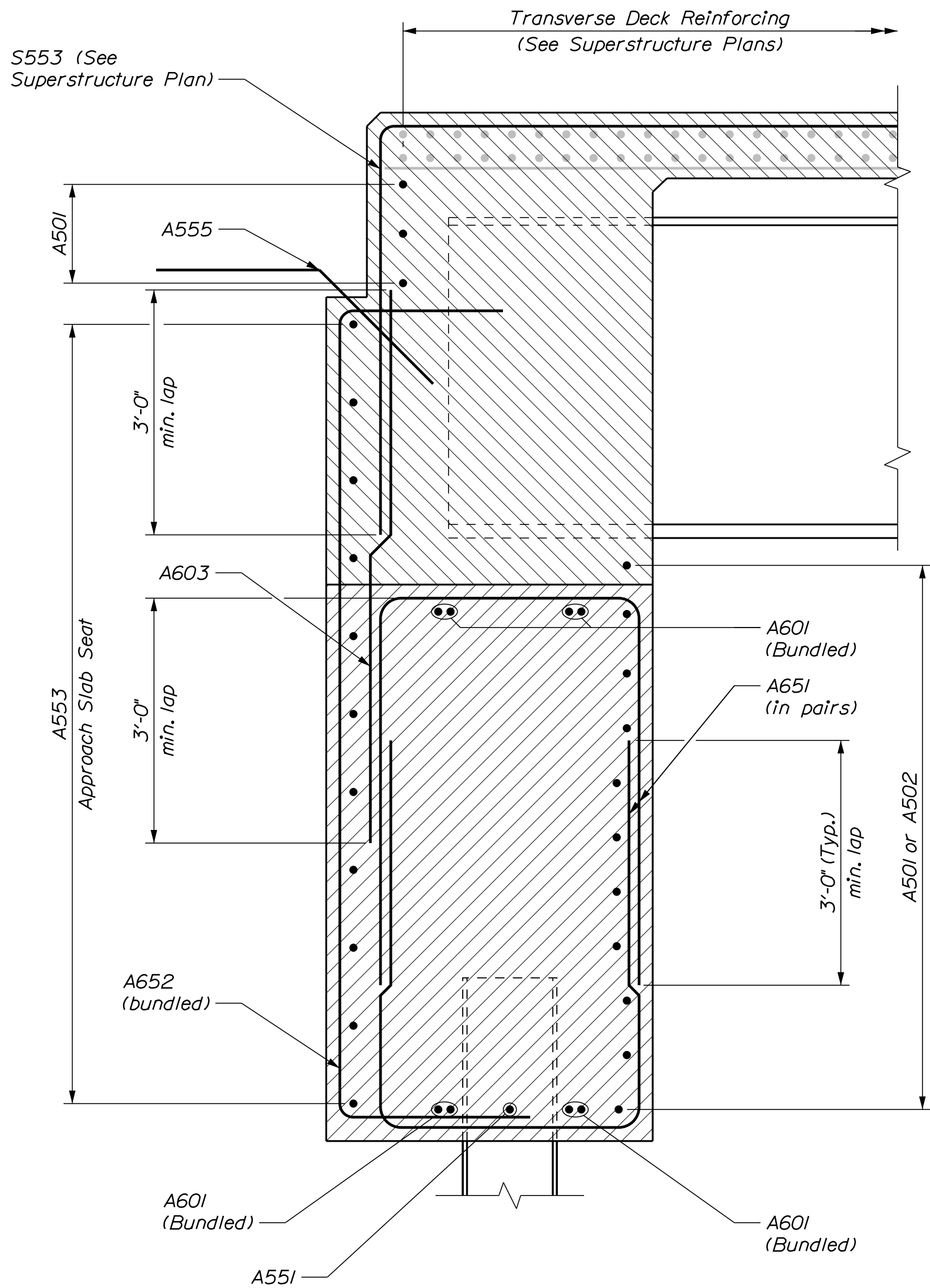


ABUTMENT REINFORCING ELEVATION

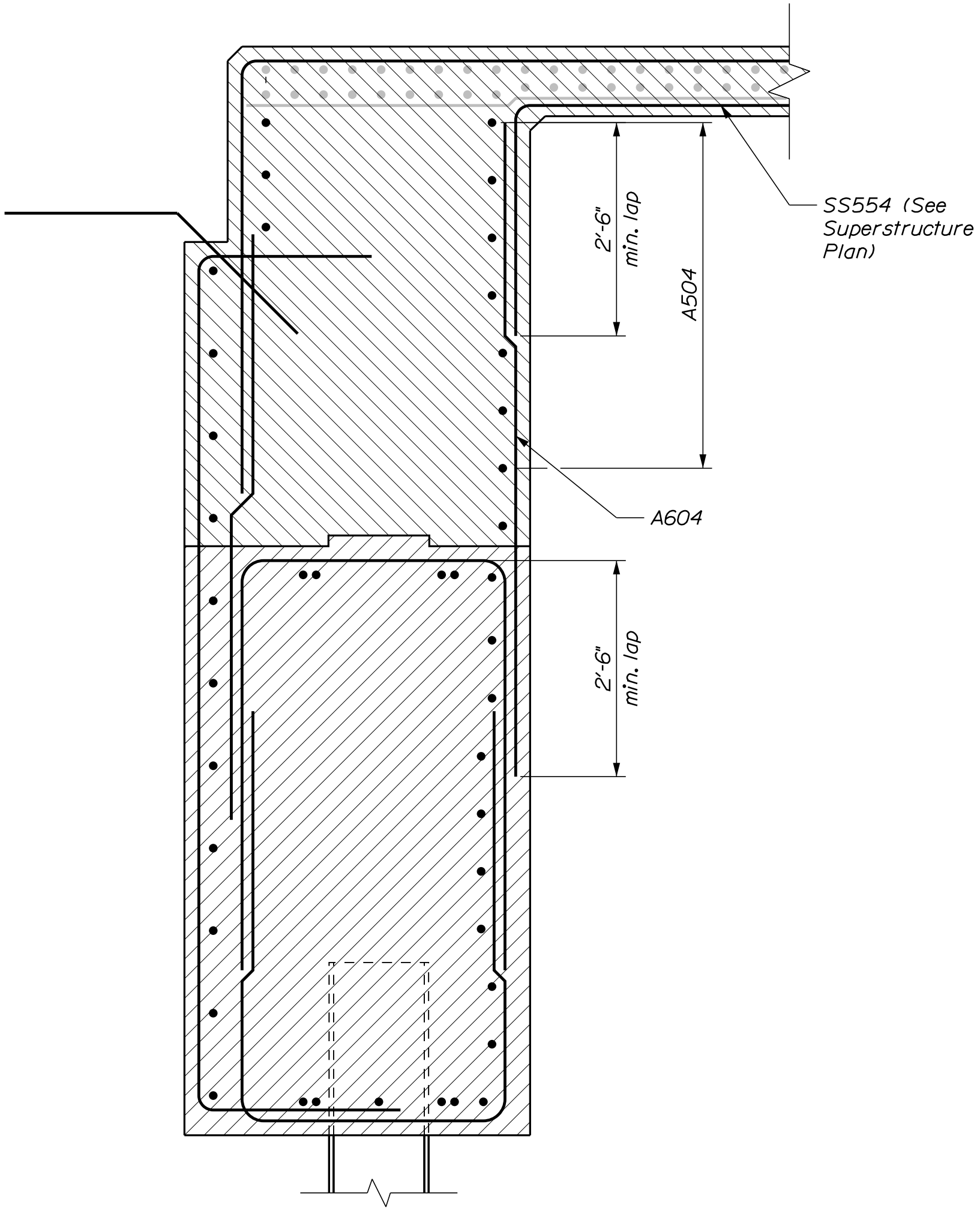
TYPICAL UTILITY SLEEVE
REINFORCING DETAIL

LEGEND
N.F. = Near Face
F.F. = Far Face
E.F. = Each Face

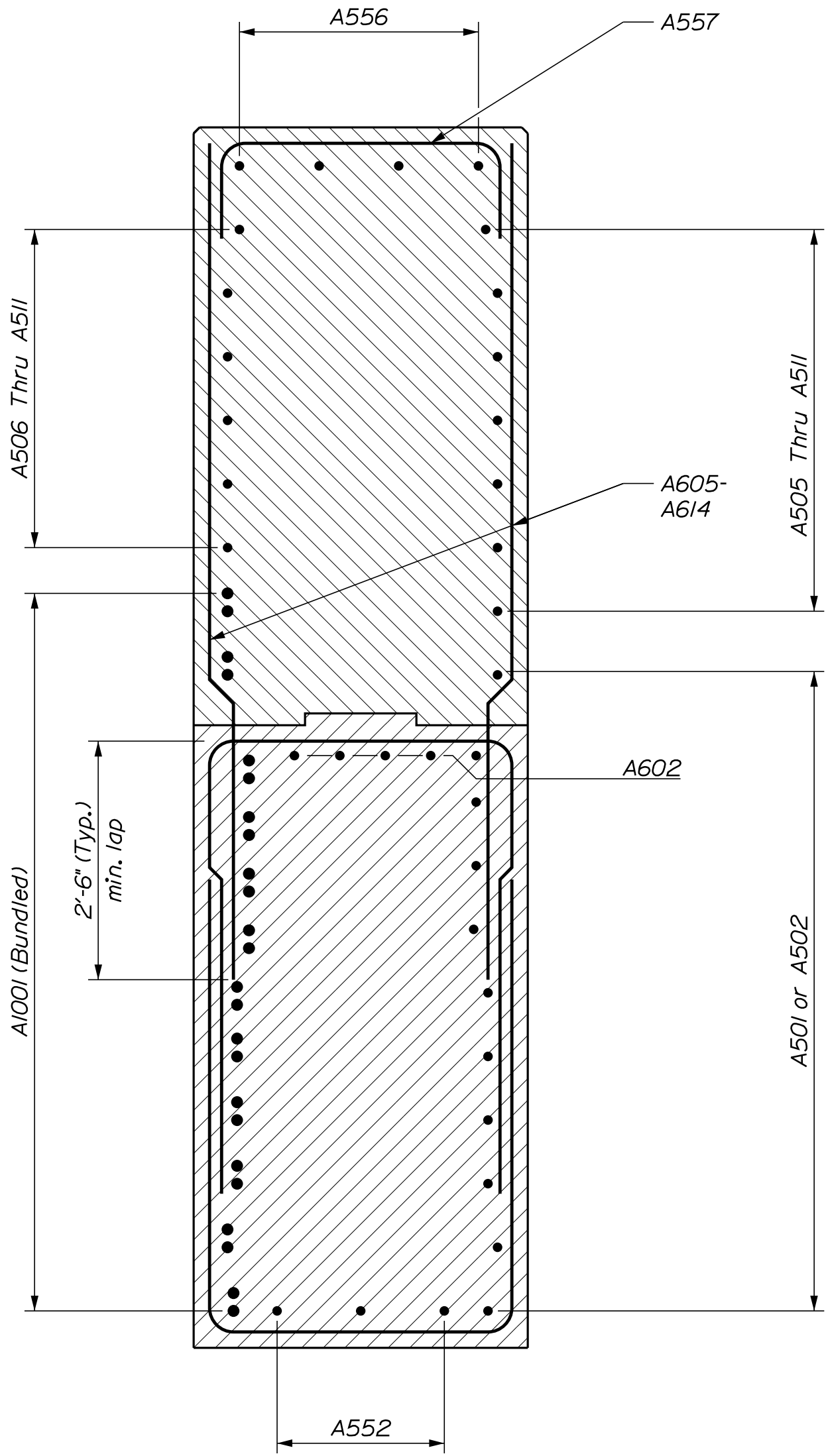
LITTLE RIVER BRIDGE LITTLE RIVER GORHAM	CUMBERLAND COUNTY	STATE OF MAINE DEPARTMENT OF TRANSPORTATION	2390900		BRIDGE PLANS	
			WIN 023909.00			
ABUTMENT DETAILS (1 OF 2)		Hoyle, Tanner & Associates, Inc.		BRIDGE NO. 3112		
SHEET NUMBER		30		OF 42		



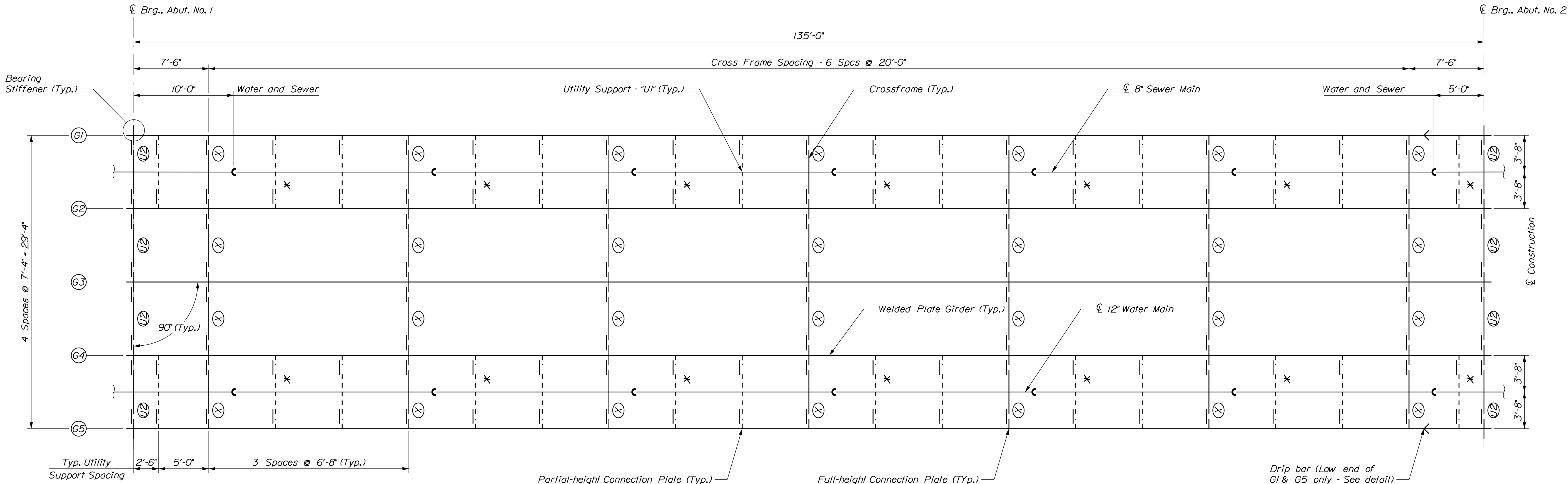
REINFORCING SECTON AT GIRDERS



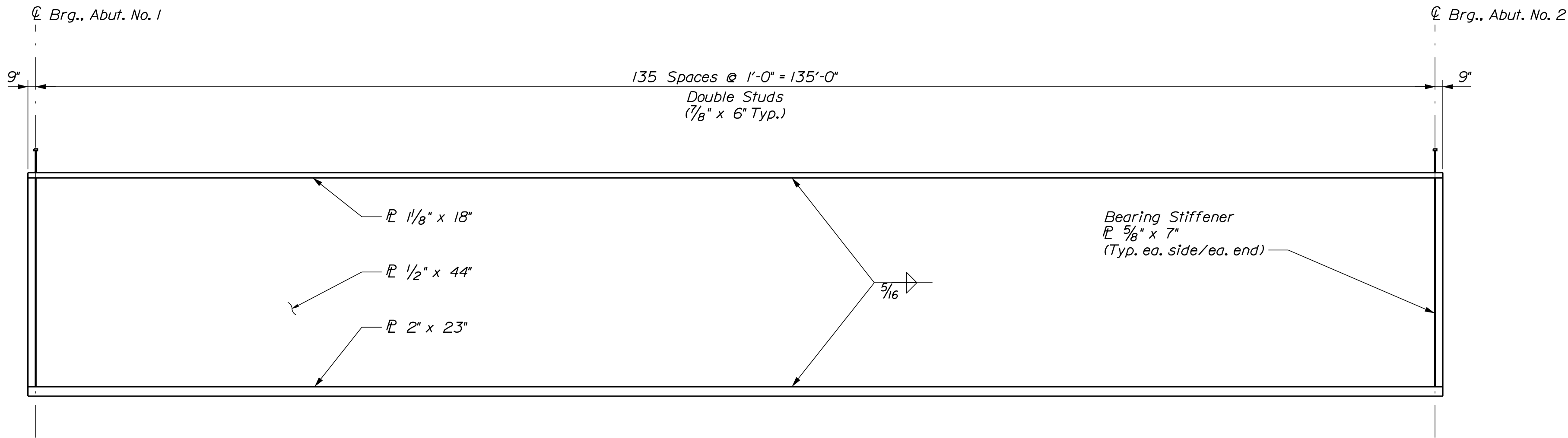
REINFORCING SECTION BETWEEN GIRDERS



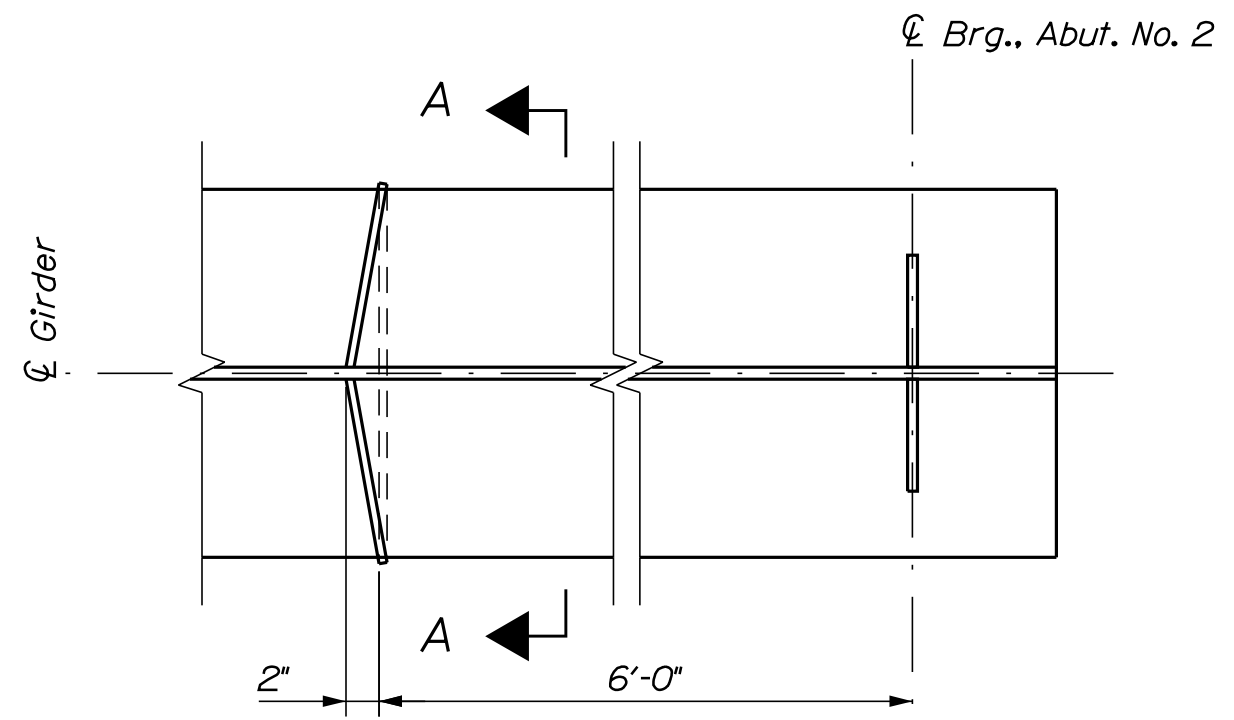
REINFORCING SECTON AT WING



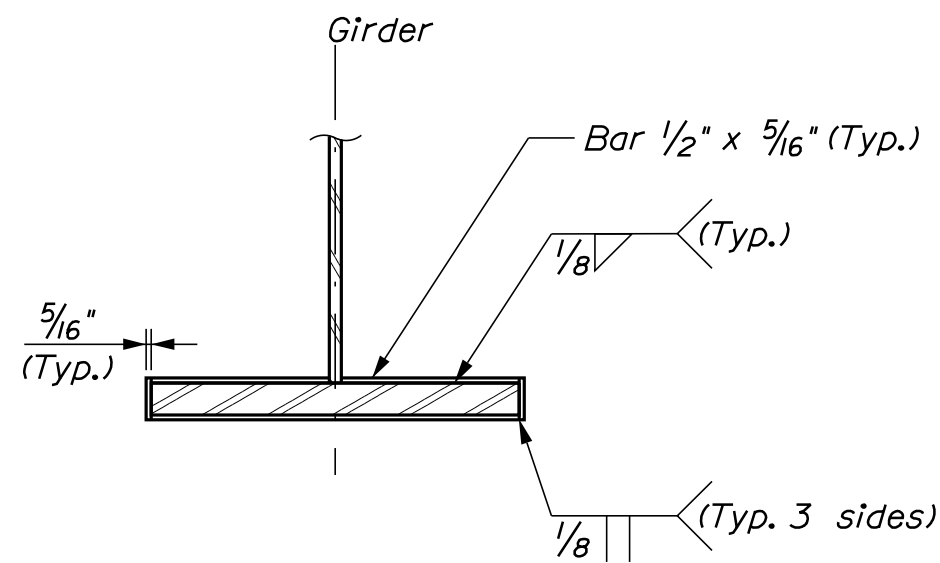
FRAMING PLAN
✱ Denotes locations with lateral utility support braces



WELDED PLATE GIRDER ELEVATION
272 Studs/Girder x 5 Girders = 1360 Studs



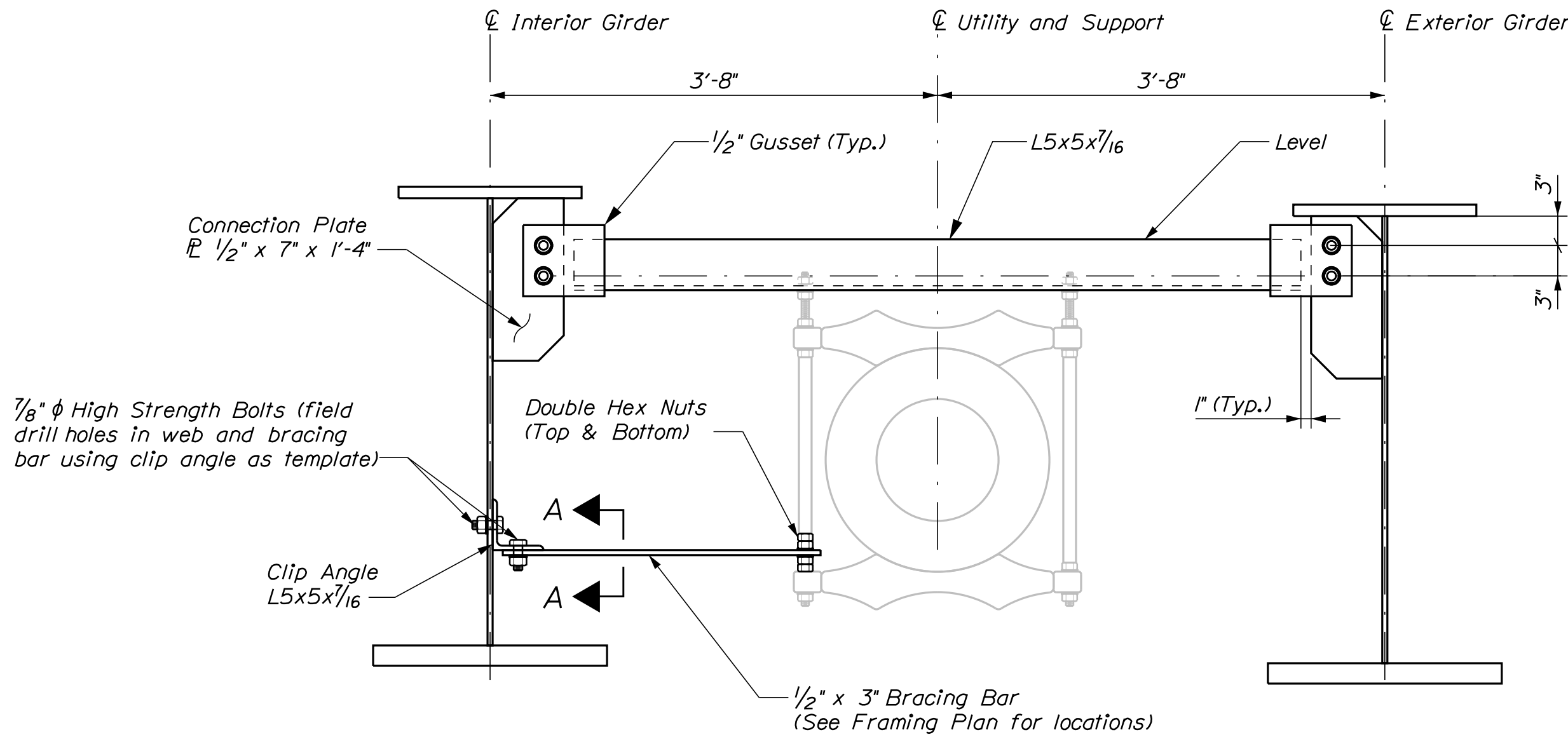
PLAN



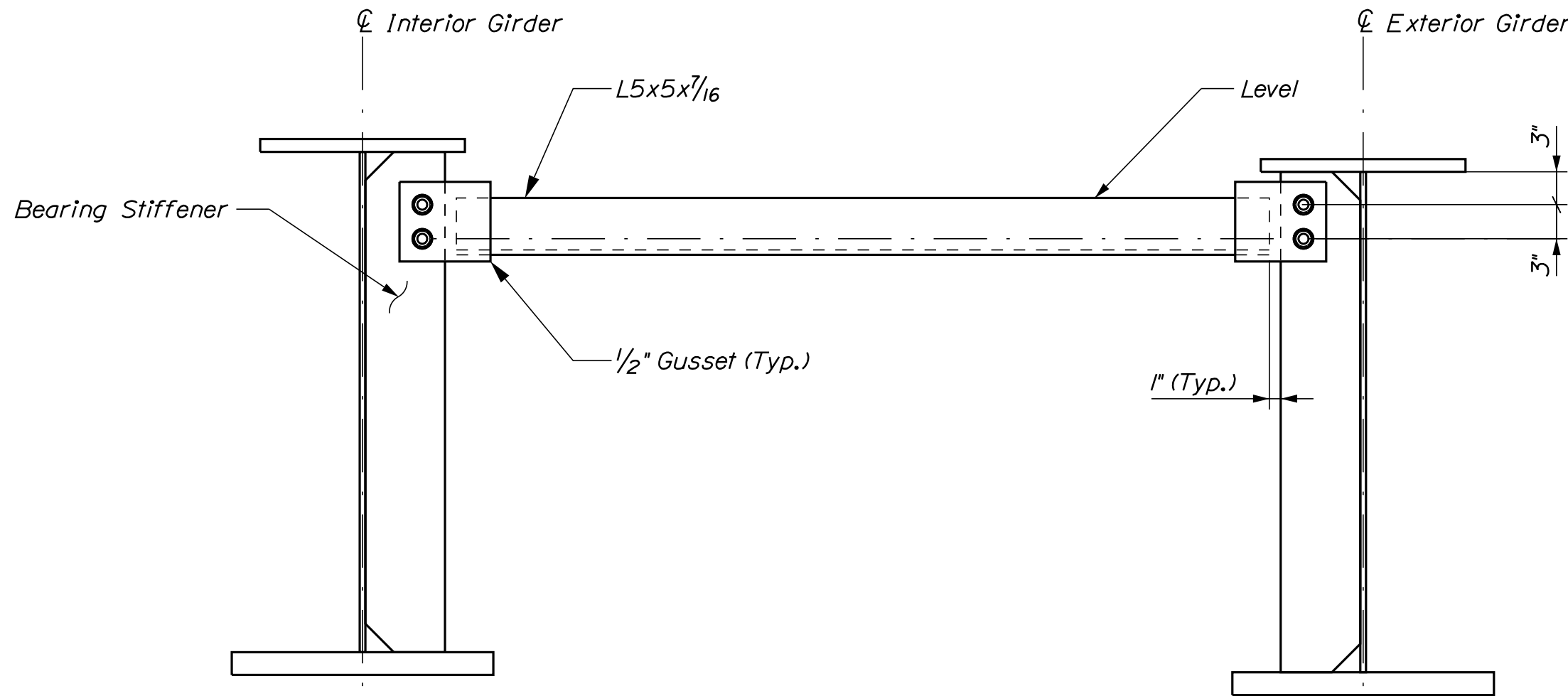
SECTION "A-A"

DRIP BAR DETAIL

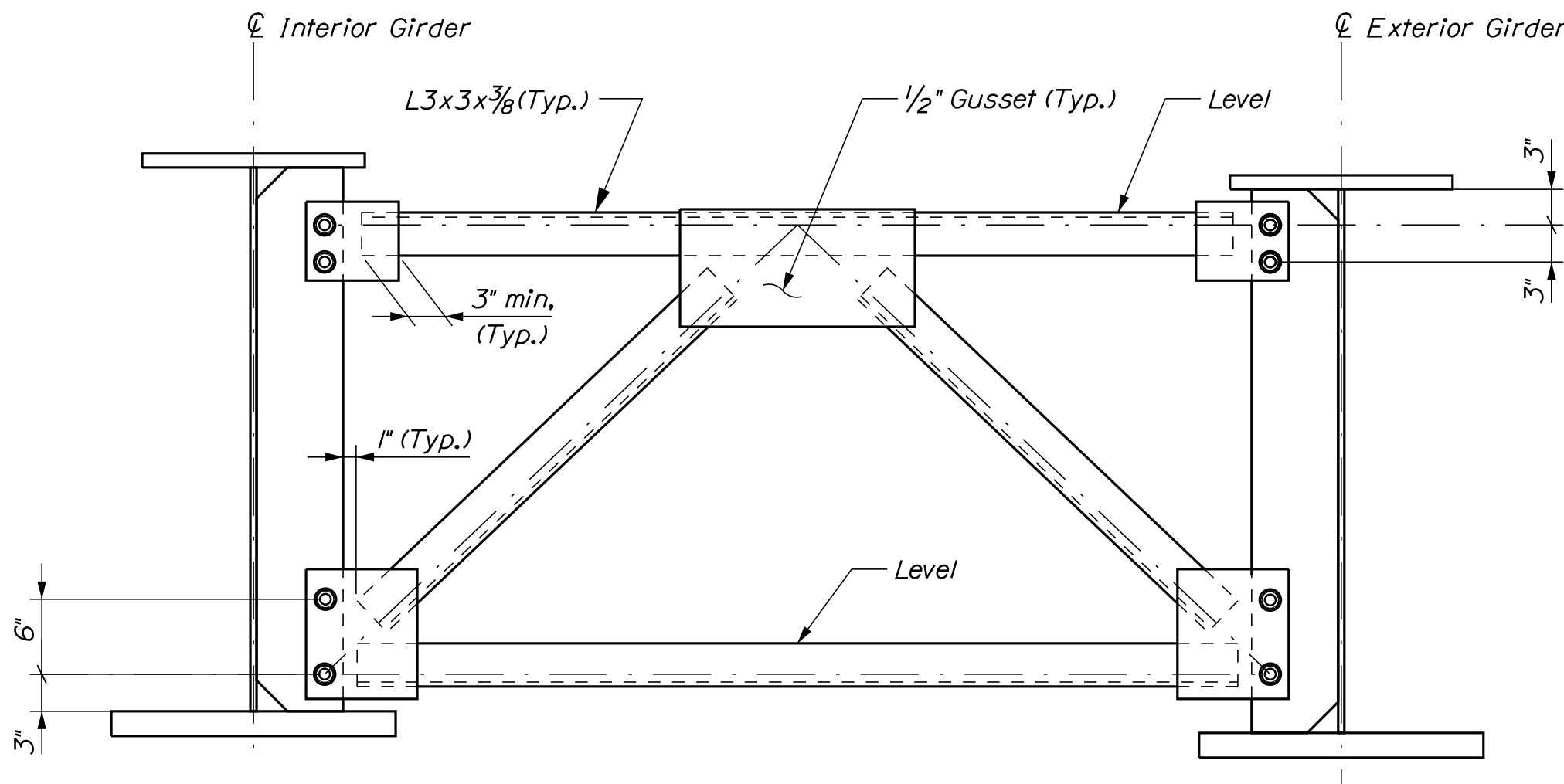
STATE OF MAINE DEPARTMENT OF TRANSPORTATION		2390900		WIN 023909.00		BRIDGE NO. 3112 BRIDGE PLANS	
LITTLE RIVER BRIDGE LITTLE RIVER GORHAM		CUMBERLAND COUNTY		FRAMING PLAN & GIRDER ELEVATION		SHEET NUMBER 32 OF 42	
PROJECT MANAGER D. EATON		CHECKED R. WOOD		DESIGNED S. HADGON		DATE OCT 2019	
DESIGNED S. HADGON		CHECKED R. WOOD		PROJECT MANAGER D. EATON		DATE OCT 2019	
REVISIONS 1		REVISIONS 2		REVISIONS 3		REVISIONS 4	
FIELD CHANGES		FIELD CHANGES		FIELD CHANGES		FIELD CHANGES	



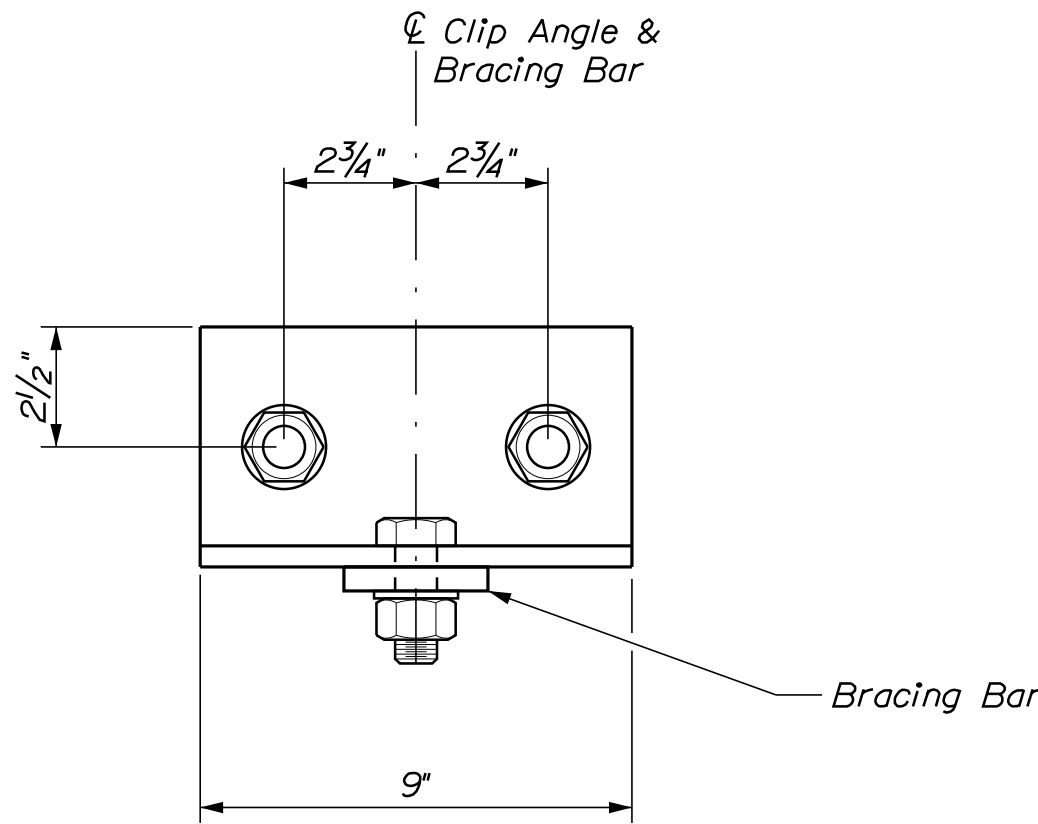
INTERMEDIATE UTILITY SUPPORT - TYPE "U1"
Bay 4 shown ~ Bay 1 Similar



TYPE "U2" DIAPHRAGM



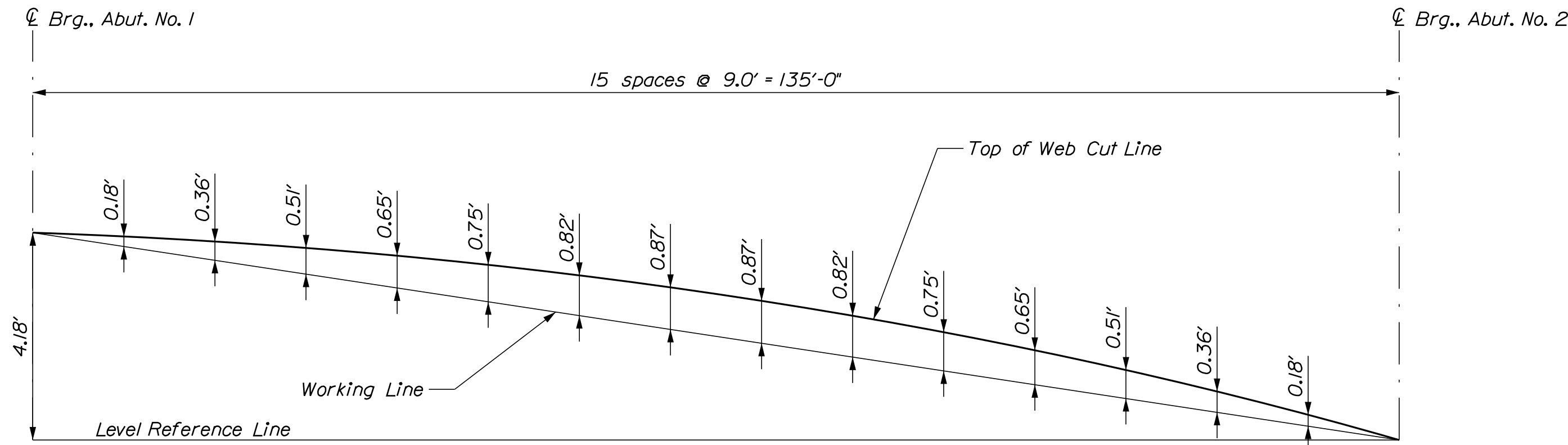
TYPE "X" CROSSFRAME



CLIP ANGLE DETAIL
View "A-A"

STRUCTURAL STEEL NOTES

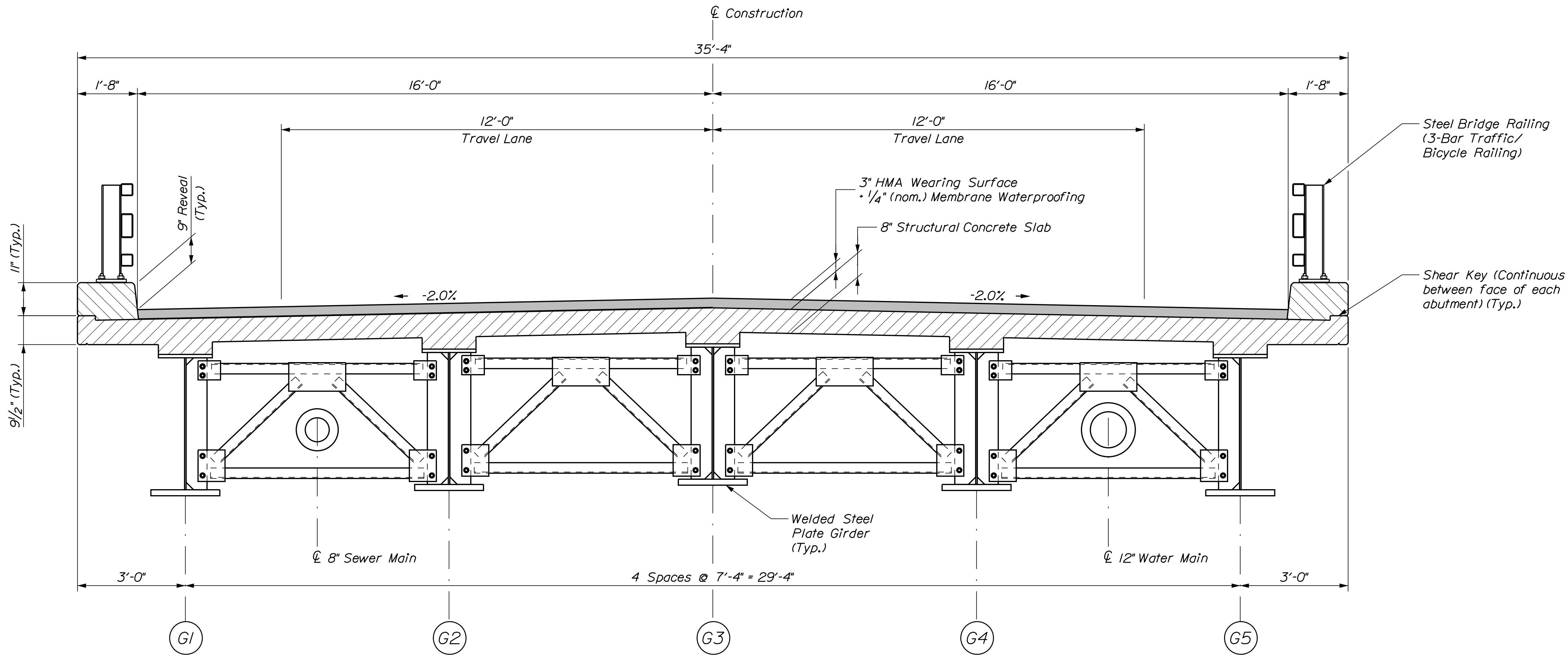
1. Camber ordinates, as shown, are computed to compensate for all dead load deflections. Girder deflections at mid-span from utility loads is less than 1/2".
2. No transverse butt weld splices will be allowed in the flange plates or web plates within 10 percent of the span length from the point of maximum 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.
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 10 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. All Diaphragm & Crossframe notes in Standard Detail 504(07) shall apply.
7. All web and bottom flange plates shall conform to Zone 2 Charpy V-notch impact test requirements of AASHTO M270.
8. Install all crossframes and utility supports with horizontal angle legs oriented north (up station).



CAMBER DIAGRAM

TABLE OF GIRDER DEFLECTIONS (inches)																
	℄ A1	9.0'	18.0'	27.0'	36.0'	45.0'	54.0'	63.0'	72.0'	81.0'	90.0'	99.0'	108.0'	117.0'	126.0'	℄ A2
Steel Dead Load	0.0	0.6	1.1	1.6	2.0	2.3	2.5	2.7	2.7	2.5	2.3	2.0	1.6	1.1	0.6	0.0
Fluid Dead Load	0.0	1.3	2.5	3.6	4.6	5.3	5.8	6.1	6.1	5.8	5.3	4.6	3.6	2.5	1.3	0.0
Superimposed Dead Load	0.0	0.3	0.7	0.9	1.2	1.4	1.5	1.6	1.6	1.5	1.4	1.2	0.9	0.7	0.3	0.0
Total Dead Load	0.0	2.2	4.3	6.1	7.8	9.0	9.8	10.4	10.4	9.8	9.0	7.8	6.1	4.3	2.2	0.0

BOTTOM OF SLAB ELEVATIONS																
Girder	℄ A1	9.0'	18.0'	27.0'	36.0'	45.0'	54.0'	63.0'	72.0'	81.0'	90.0'	99.0'	108.0'	117.0'	126.0'	℄ A2
G1	94.43	94.22	94.01	93.79	93.59	93.35	93.11	92.85	92.57	92.27	91.96	91.63	91.28	90.94	90.59	90.25
G2	94.58	94.36	94.16	93.94	93.73	93.50	93.25	93.00	92.72	92.42	92.11	91.78	91.43	91.09	90.74	90.39
G3	94.72	94.51	94.31	94.09	93.88	93.65	93.40	93.14	92.86	92.56	92.25	91.93	91.58	91.24	90.88	90.54
G4	94.58	94.36	94.16	93.94	93.73	93.50	93.25	93.00	92.72	92.42	92.11	91.78	91.43	91.09	90.74	90.39
G5	94.43	94.22	94.01	93.79	93.59	93.35	93.11	92.85	92.57	92.27	91.96	91.63	91.28	90.94	90.59	90.25



SUPERSTRUCTURE SECTION
(Intermediate Utility Supports and Hangers Not Shown)

SUPERSTRUCTURE NOTES

1. The theoretical blocking used for design of the structure is 6.9 inch at the centerline of bearing of the abutments. Refer to Standard Detail 502(03) for blocking details.

2. Reinforcing 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. Precast Deck Panels shall not be used.

5. The Contractor shall install Transition Barrier vertical closed stirrups, as shown in Standard Details Section 526, prior to the placement of the curb concrete.

6. Reinforcement in Transition Barriers shall be stainless steel and shall be in accordance with Standard Detail Section 526.

STATE OF MAINE DEPARTMENT OF TRANSPORTATION 2390900 WIN 023909.00 BRIDGE NO. 3112 BRIDGE PLANS	Hoyle, Tanner & Associates, Inc.	PROJ. MANAGER D. EATON	BY B. Nichols	DATE Oct 2019	
		CHECKED-REVIEWED R. Wood	DESIGN-DETAILED S. Hodgdon	DATE Oct 2019	DESIGN-DETAILED
		DESIGN-DETAILED	REVISIONS 1	REVISIONS 2	REVISIONS 3

LITTLE RIVER BRIDGE

LITTLE RIVER

CUMBERLAND COUNTY

GORHAM

SUPERSTRUCTURE

SECTION & NOTES

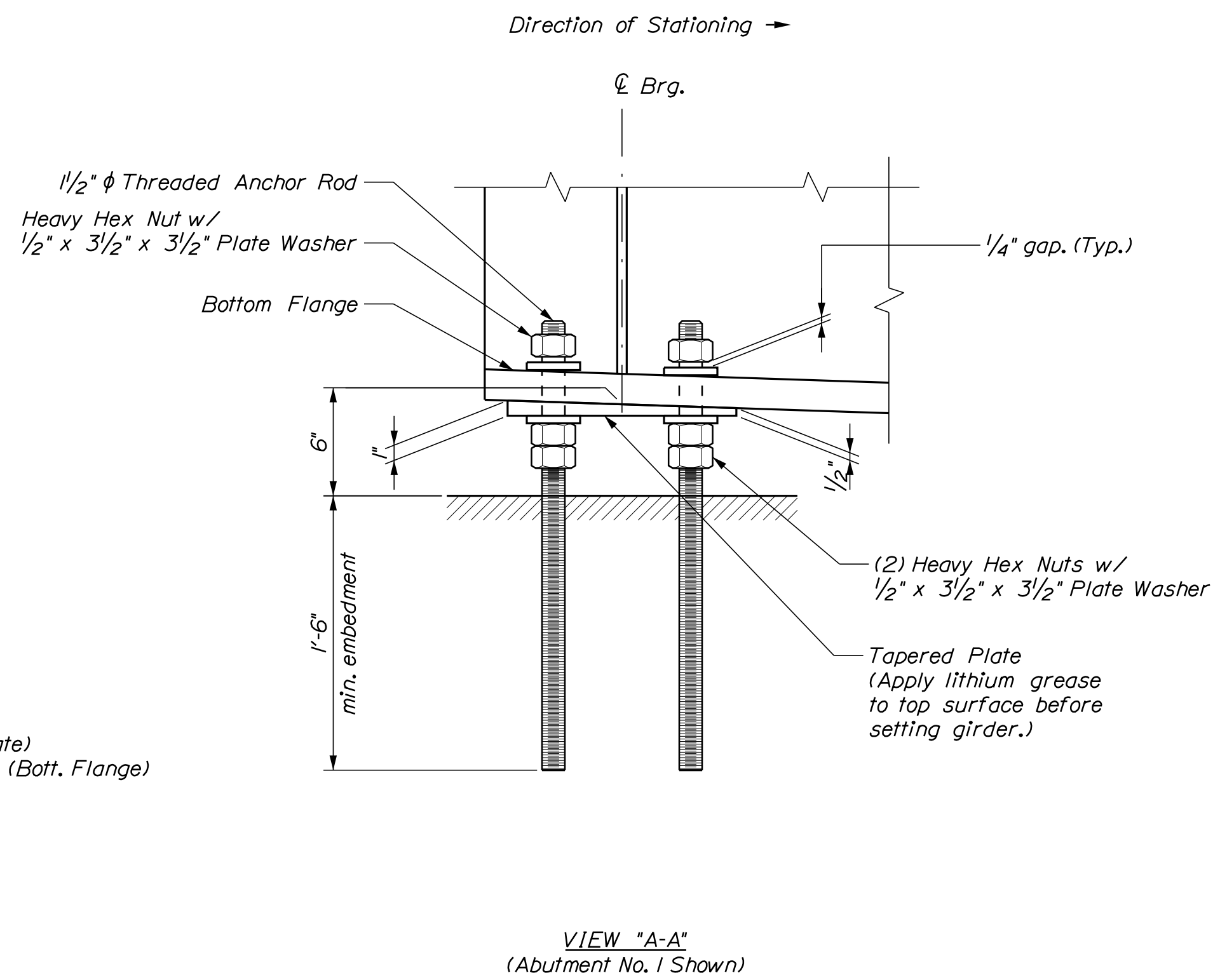
SHEET NUMBER

34

OF 42



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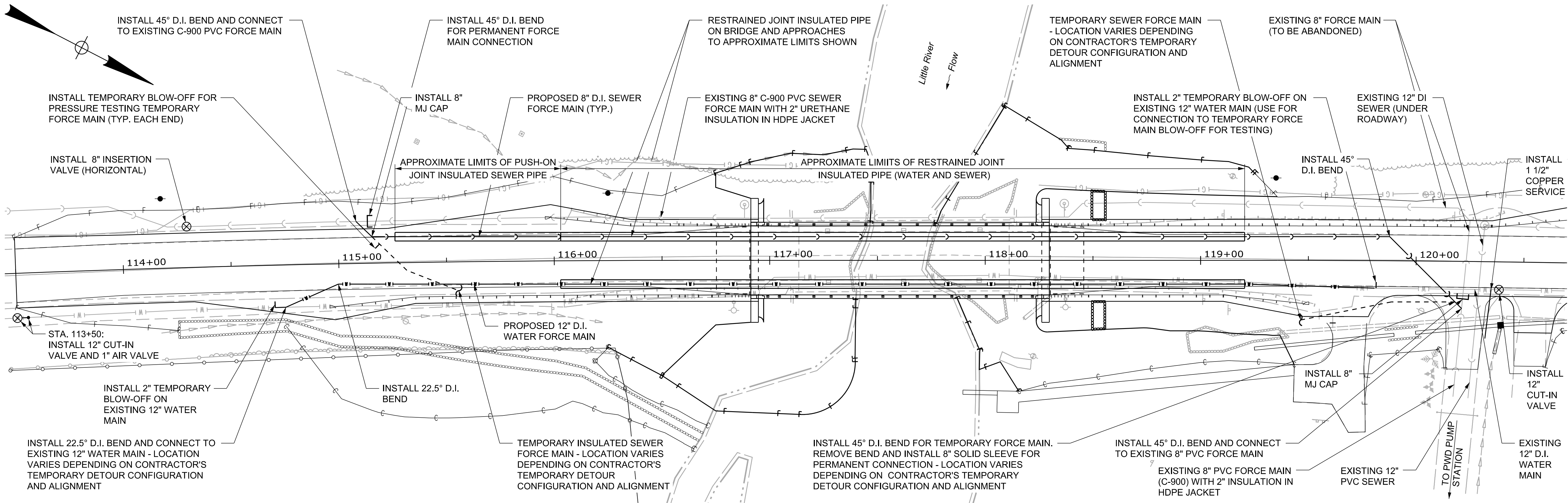


Date:10/8/2019

Username:

Division: BRIDGE

Filename: ...\\00\\BRIDGE\\MSTA\\999_UPlan.dgn

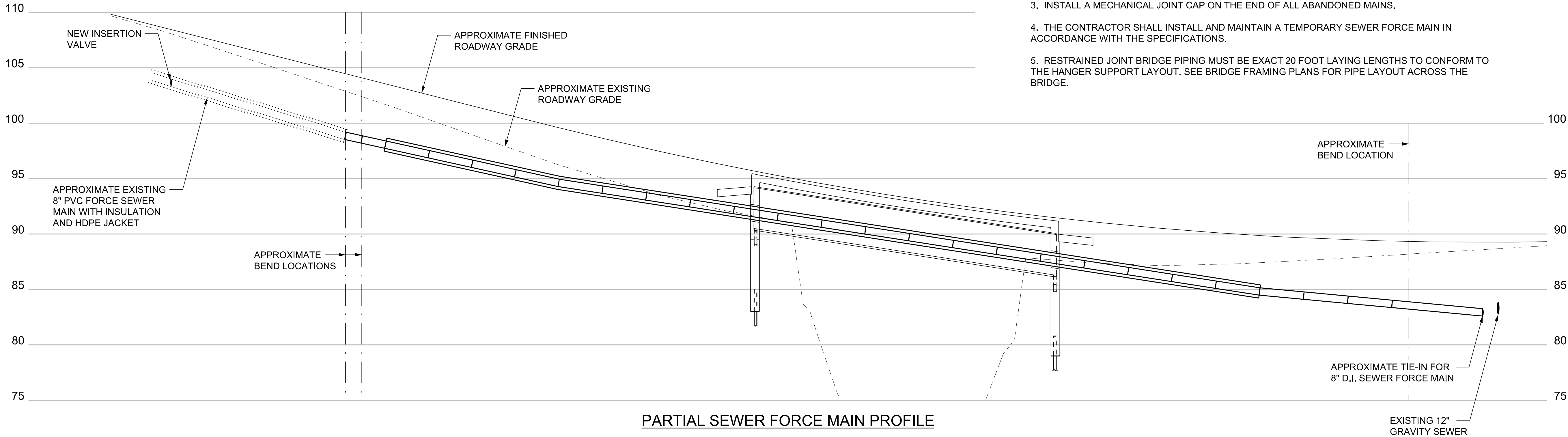


PLAN

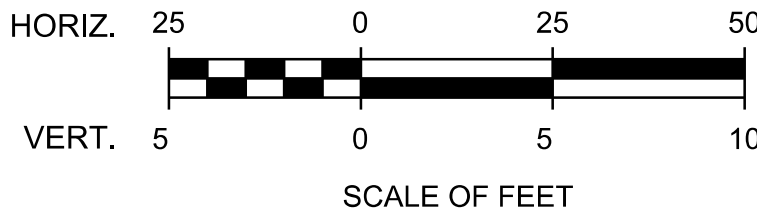


NOTES

1. THE CONTRACTOR SHALL DISPOSE OF ALL BRIDGE AND EXCAVATED PIPING AND APPURTENANCES.
2. ALL BURIED DUCTILE IRON PIPING SHALL BE POLY-WRAPPED OR INSULATED PER SPECIFICATIONS.
3. INSTALL A MECHANICAL JOINT CAP ON THE END OF ALL ABANDONED MAINS.
4. THE CONTRACTOR SHALL INSTALL AND MAINTAIN A TEMPORARY SEWER FORCE MAIN IN ACCORDANCE WITH THE SPECIFICATIONS.
5. RESTRAINED JOINT BRIDGE PIPING MUST BE EXACT 20 FOOT LAYING LENGTHS TO CONFORM TO THE HANGER SUPPORT LAYOUT. SEE BRIDGE FRAMING PLANS FOR PIPE LAYOUT ACROSS THE BRIDGE.

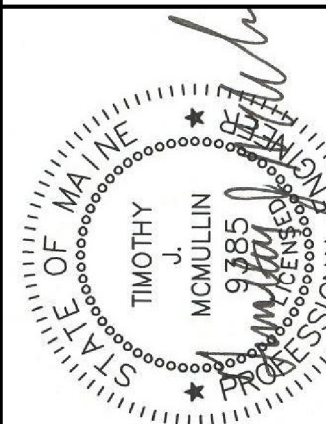
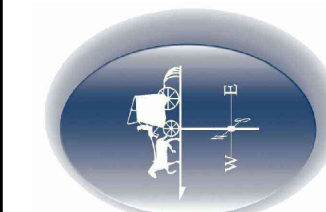


PARTIAL SEWER FORCE MAIN PROFILE



Project No. 428730

Portland Water District
ASSET MANAGEMENT AND PLANNING DEPARTMENT
225 POLLOCK STREET, PORTLAND, ME 04103
(207) 774-5861 EXT. 3041 • MEANS@PWD.ORG

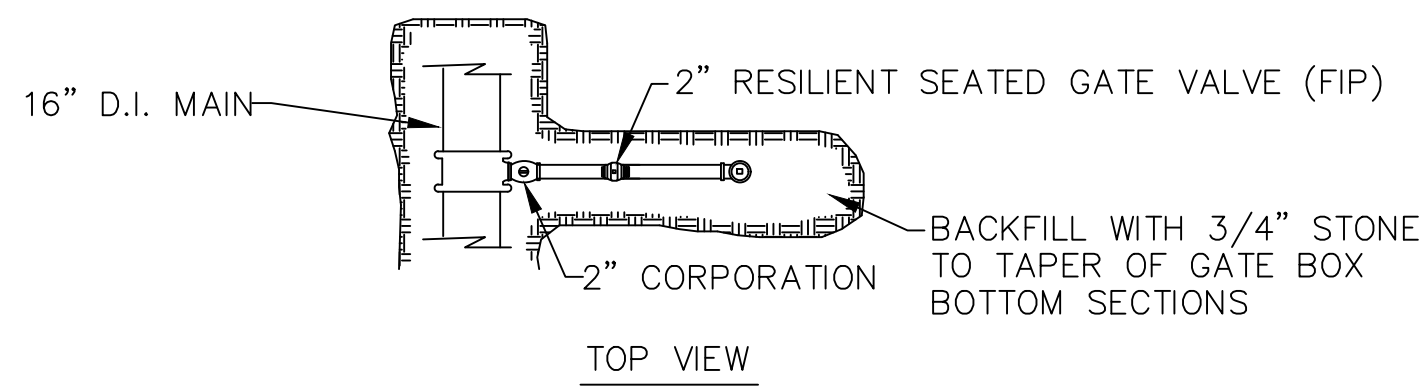


DATE	SIGNATURE	P.E. NUMBER	DATE
10/8/2019		9385	
BY	DATE		
HOYLE TANNER	SEPT 2019		
DRAWING SERVICES			

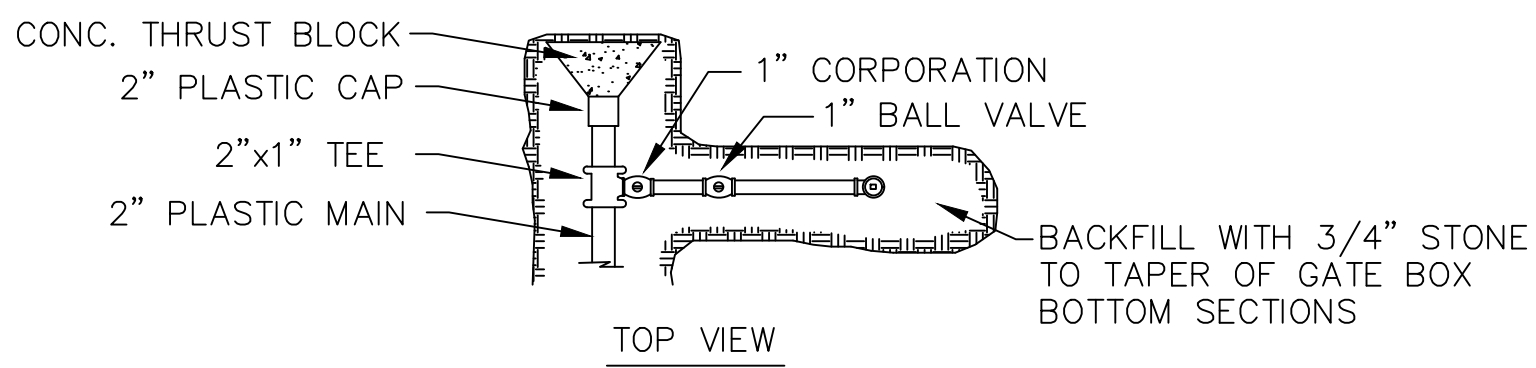
LITTLE RIVER BRIDGE
GORHAM, ME

UTILITIES PLAN AND PROFILE

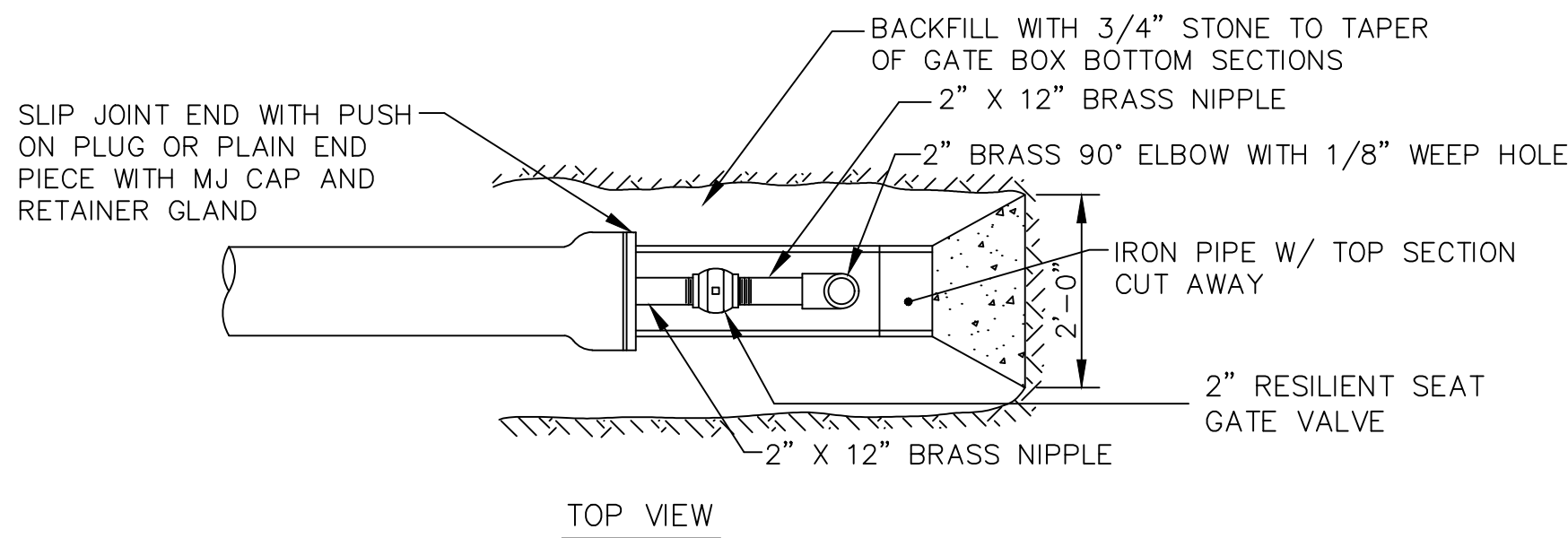
SHEET NUMBER
40
OF 42



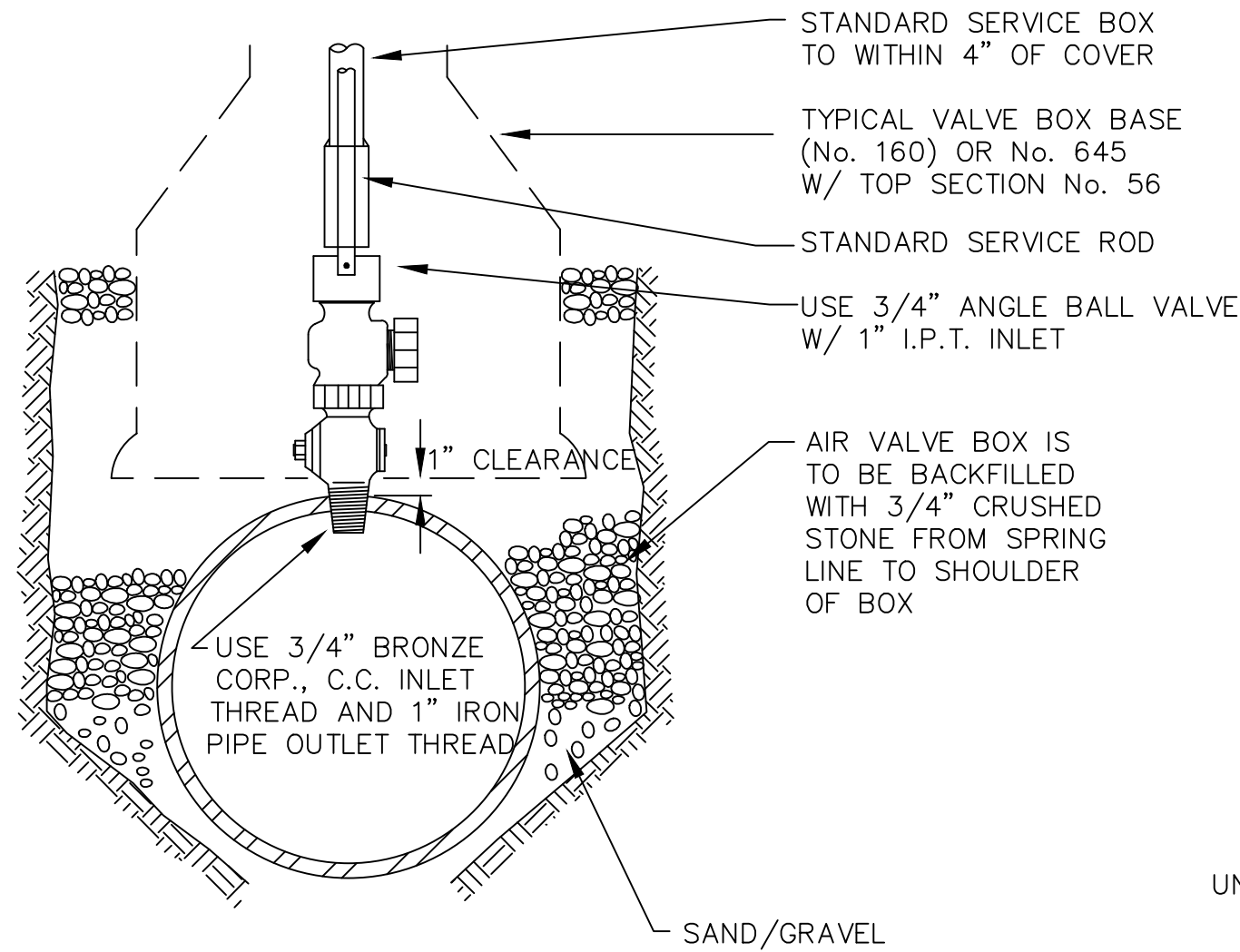
SIDE-ARM BLOW-OFF
4" & LARGER MAINS



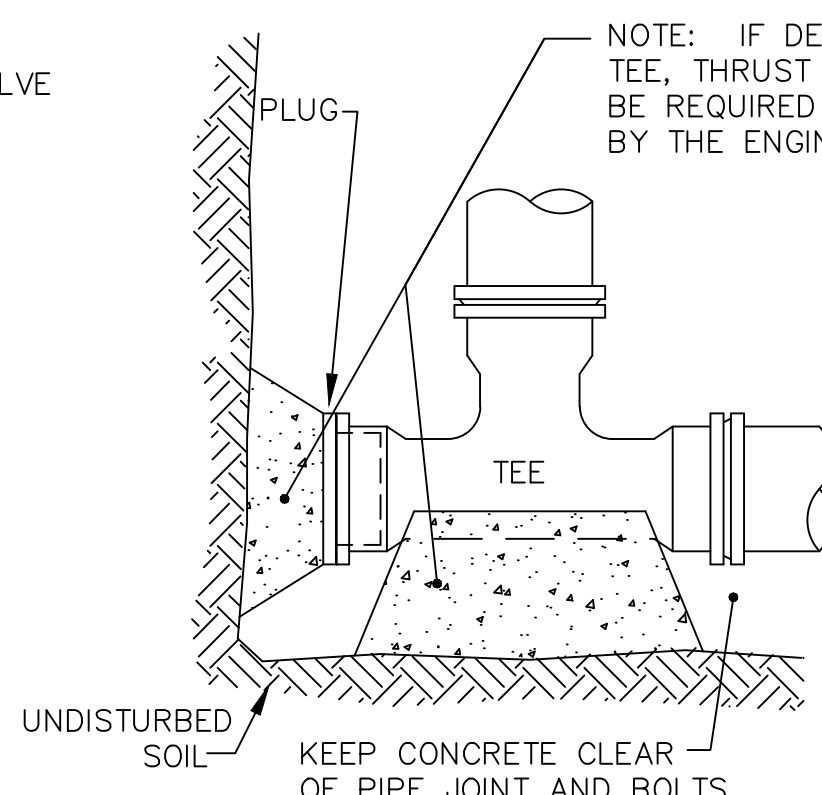
SIDE-ARM BLOW-OFF
2" MAIN



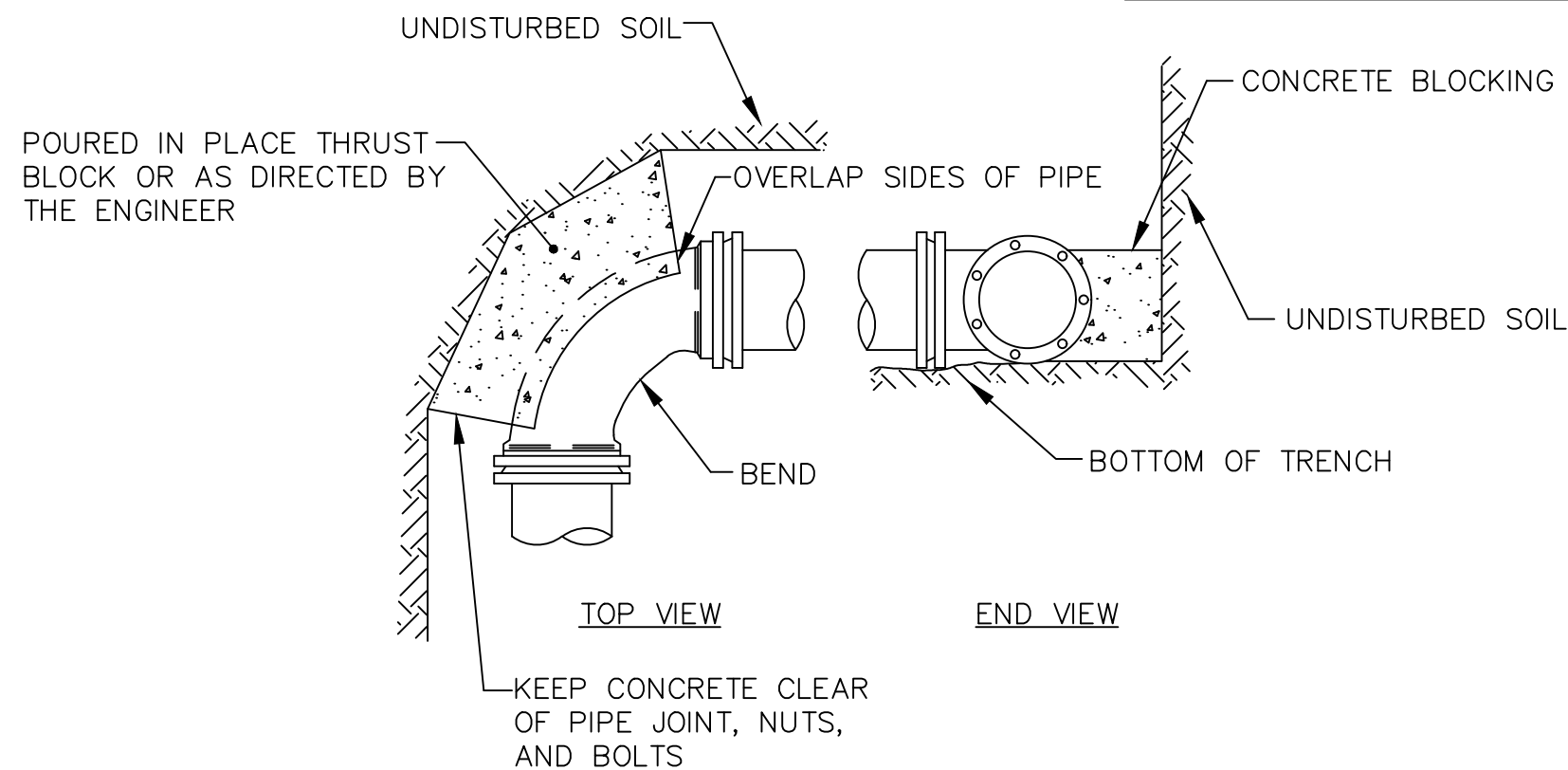
STANDARD 2" BLOW OFF



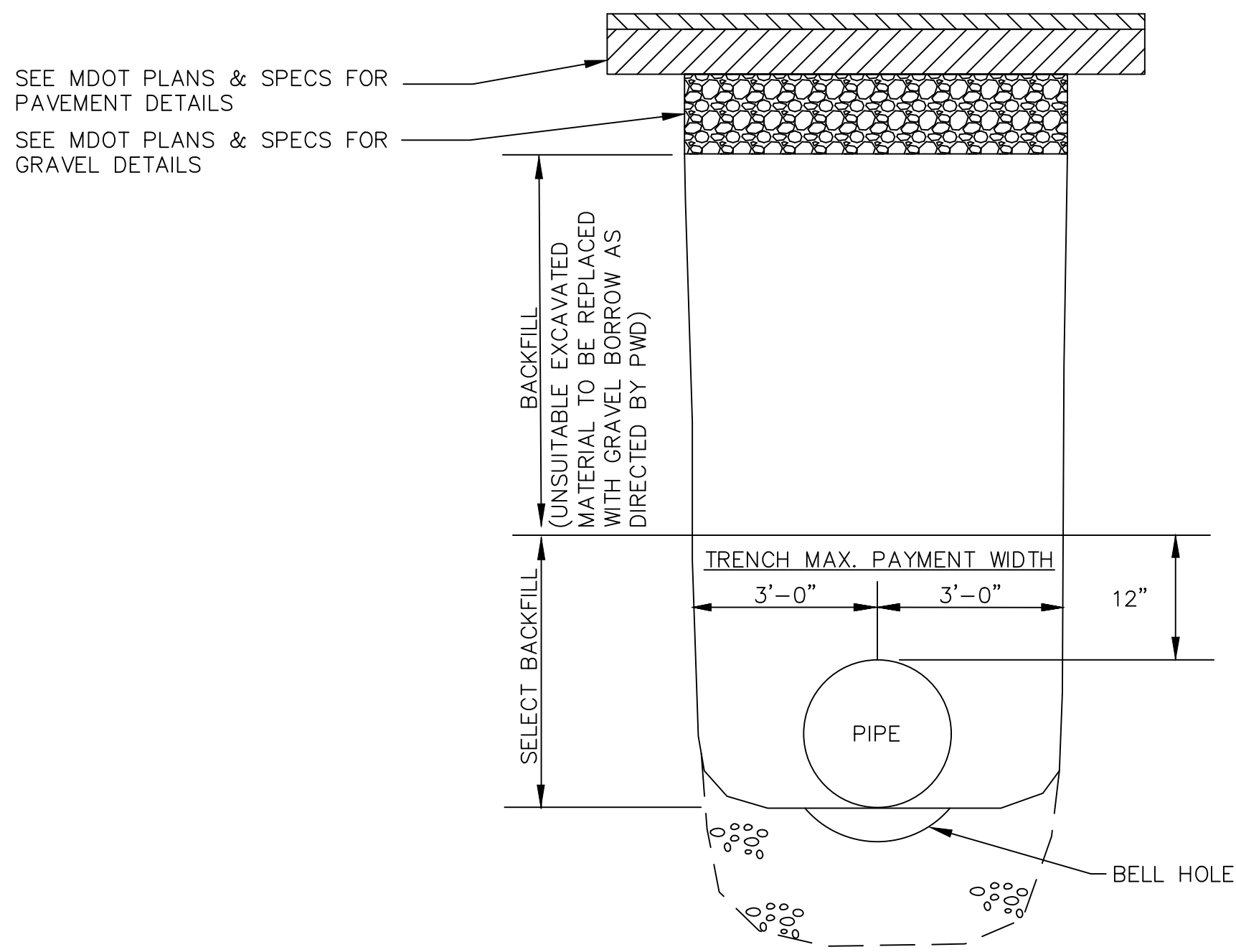
TYPICAL AIR VALVE (1")



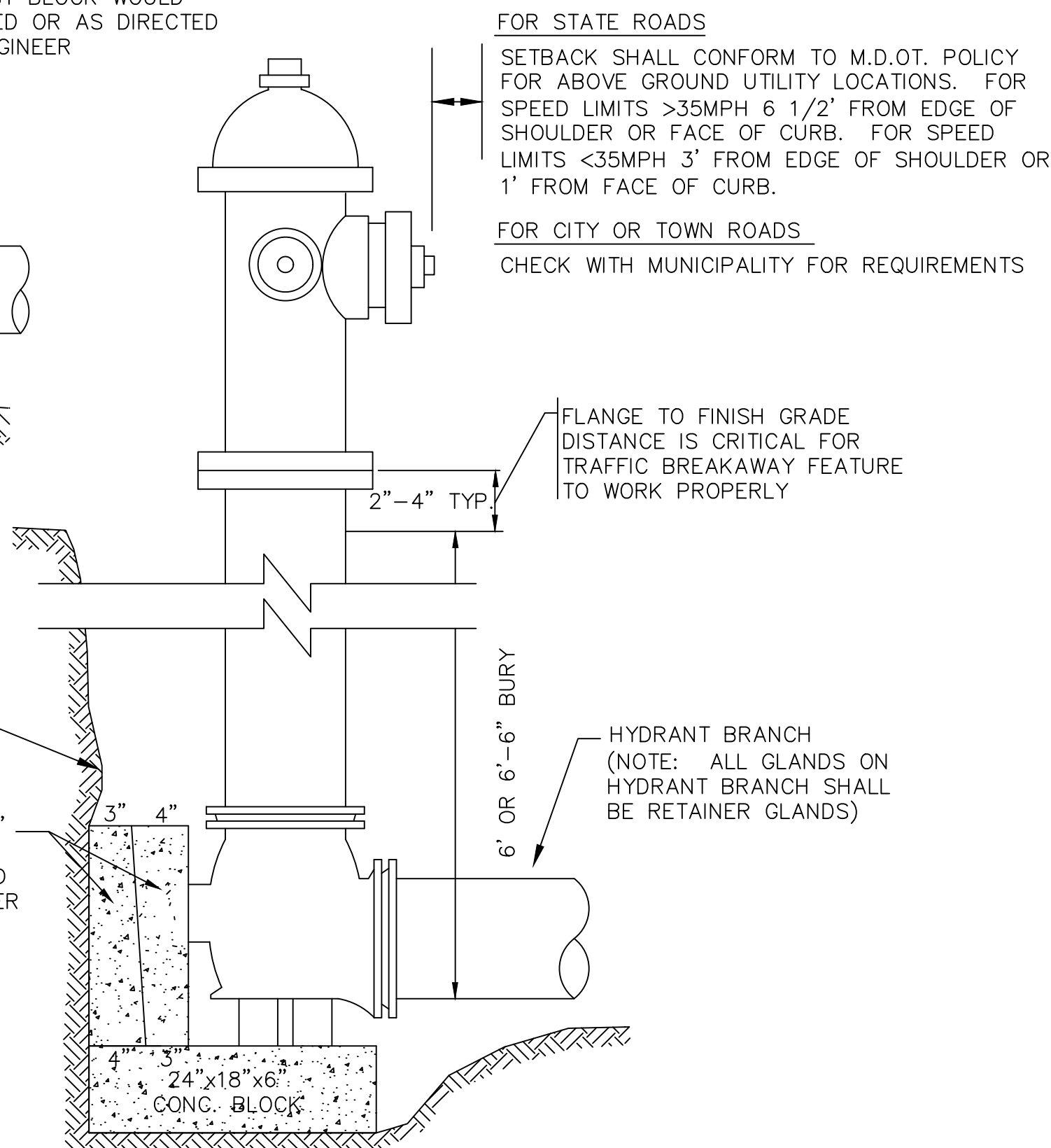
STANDARD TEE BLOCKING



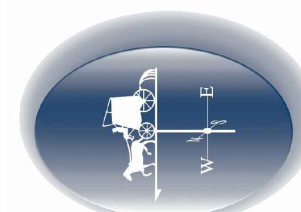
STANDARD BEND BLOCKING



SECTION THRU EARTH TRENCH

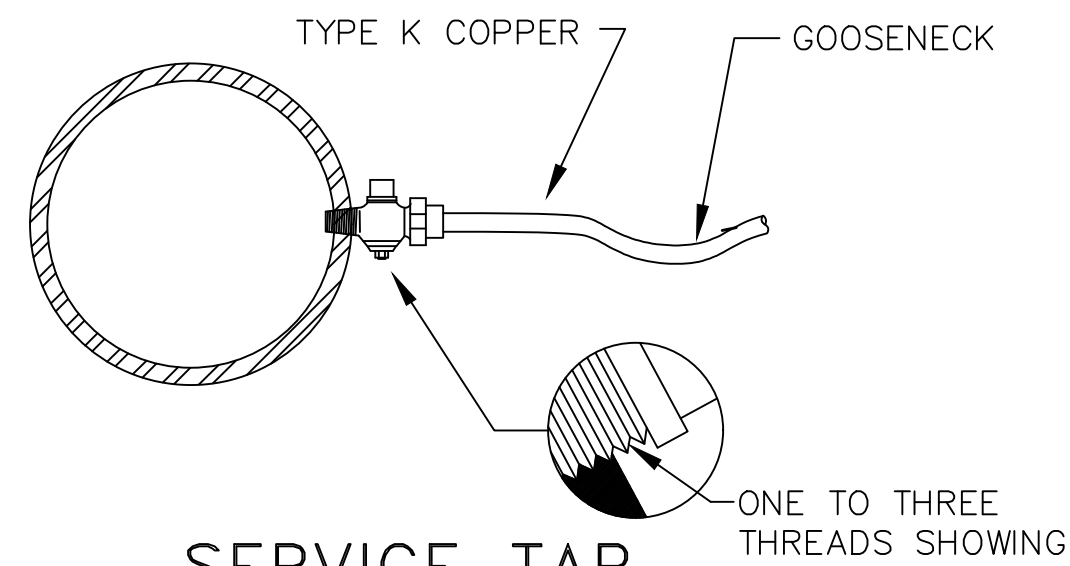


TYPICAL HYDRANT
INSTALLATION DETAIL

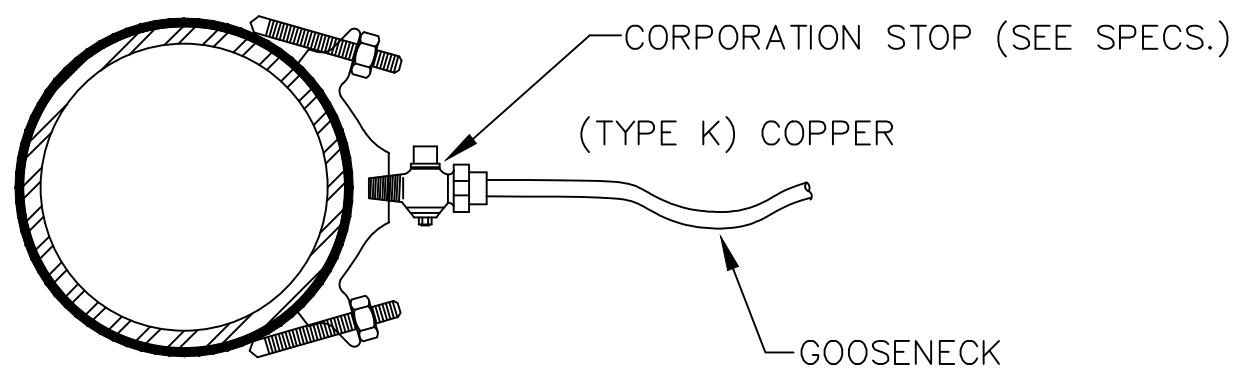


DATE	BY	SIGNATURE	P.E. NUMBER	DATE
			9385	9/30/2019

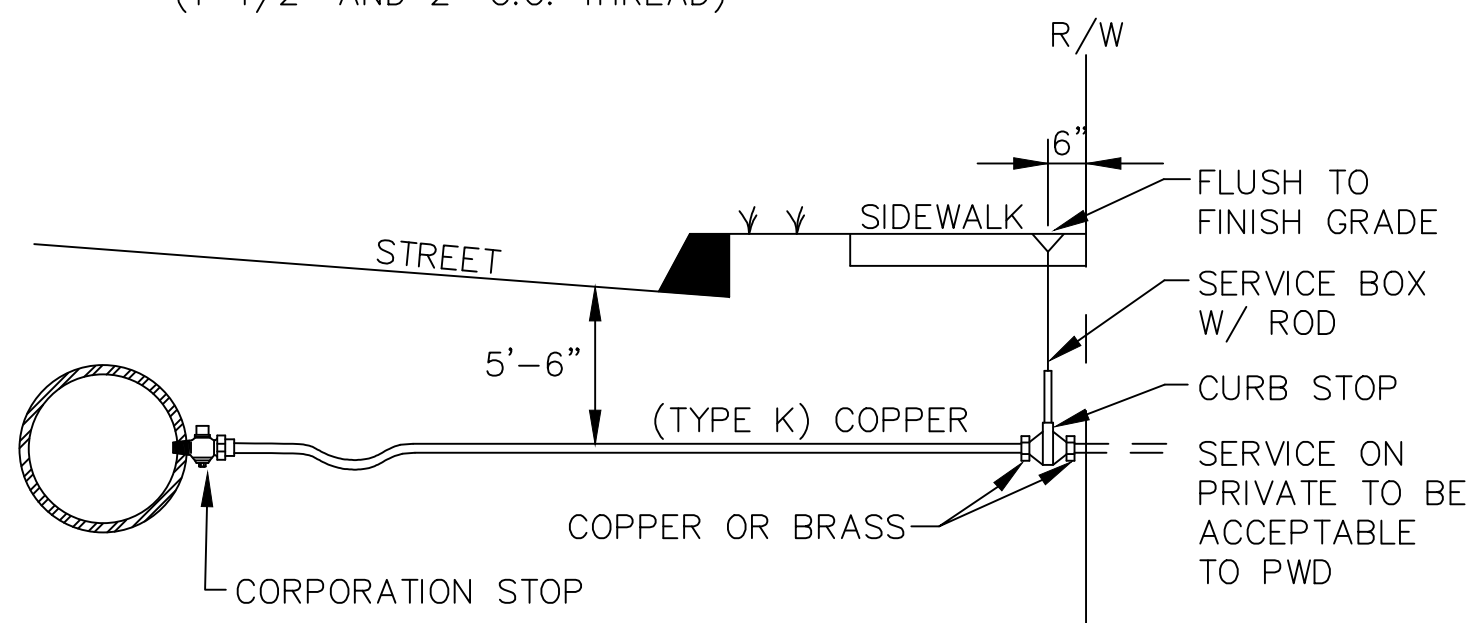
LITTLE RIVER BRIDGE
GORHAM, ME
WATER & SEWER MAIN
REPLACEMENT



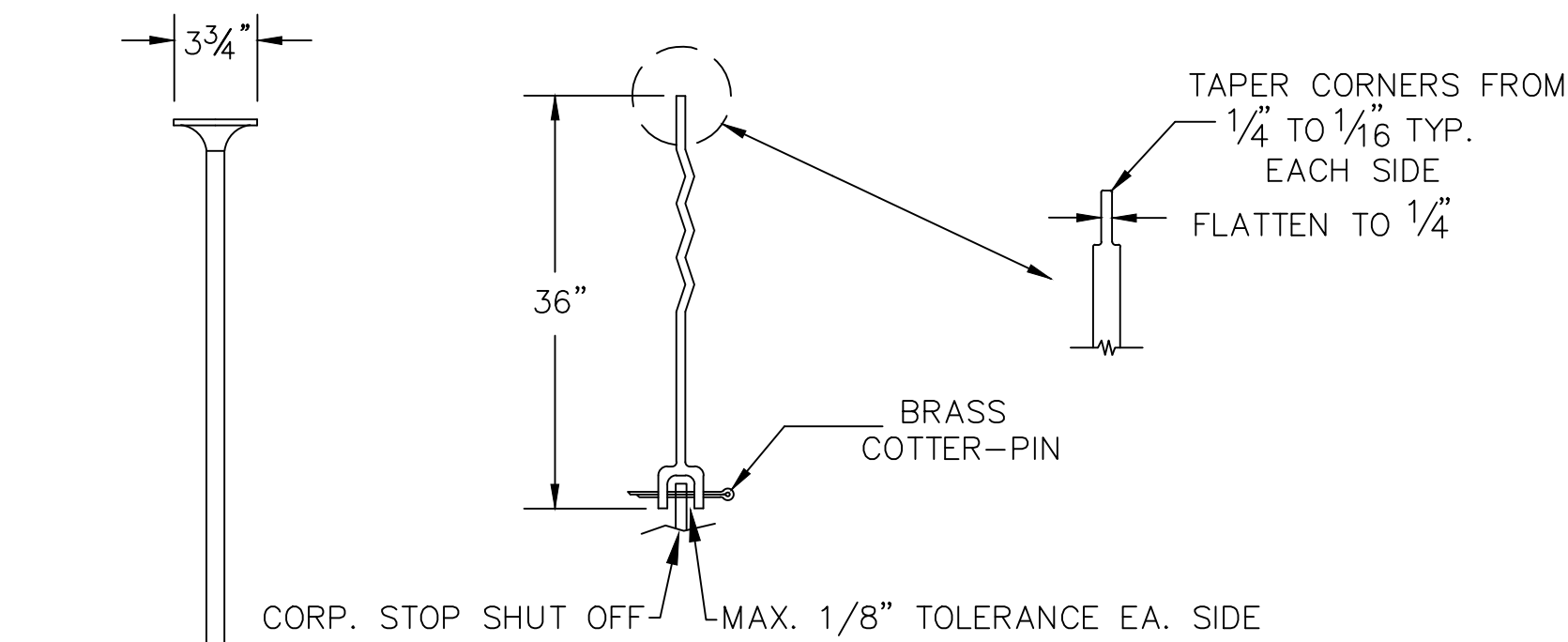
SERVICE TAP
(3/4" AND 1" C.C. THREAD)



SERVICE SADDLE
(1-1/2" AND 2" C.C. THREAD)



TYPICAL SERVICE CONNECTION

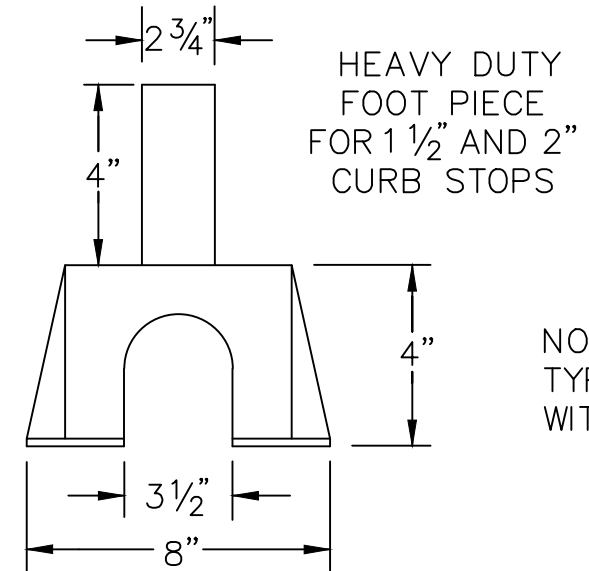


SERVICE ROD



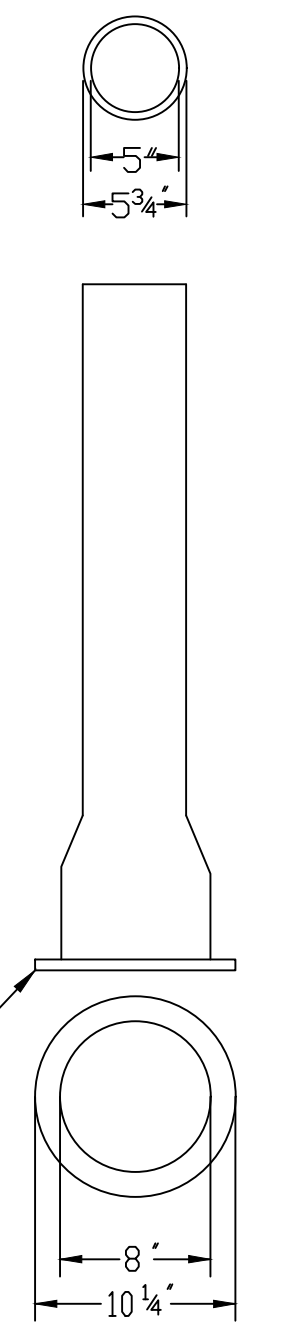
COVER

STANDARD
FOOT. PIECE
FOR 3/4" AND 1"
CURB STOPS

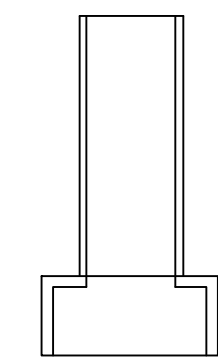
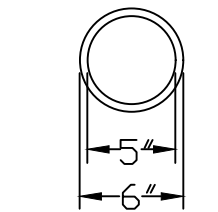


FOOT PIECE

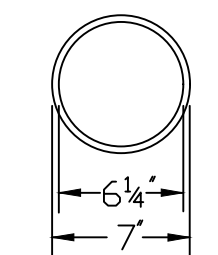
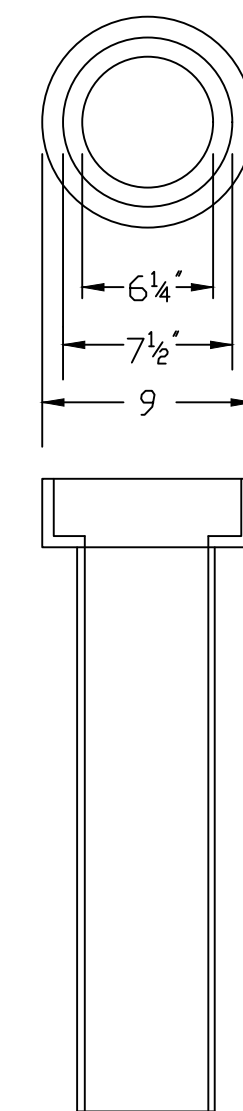
NOTE: BELL
TYPE BASE
WITH BOTTOM LIP



**BASE SECTION
NO. 645**

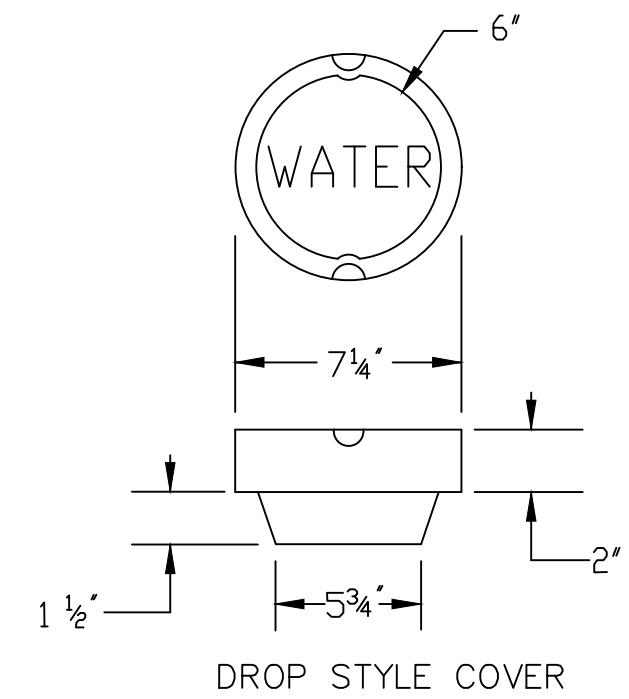


**INTERMEDIATE
SECTION NO.58**



**TOP SECTION
NO.56**

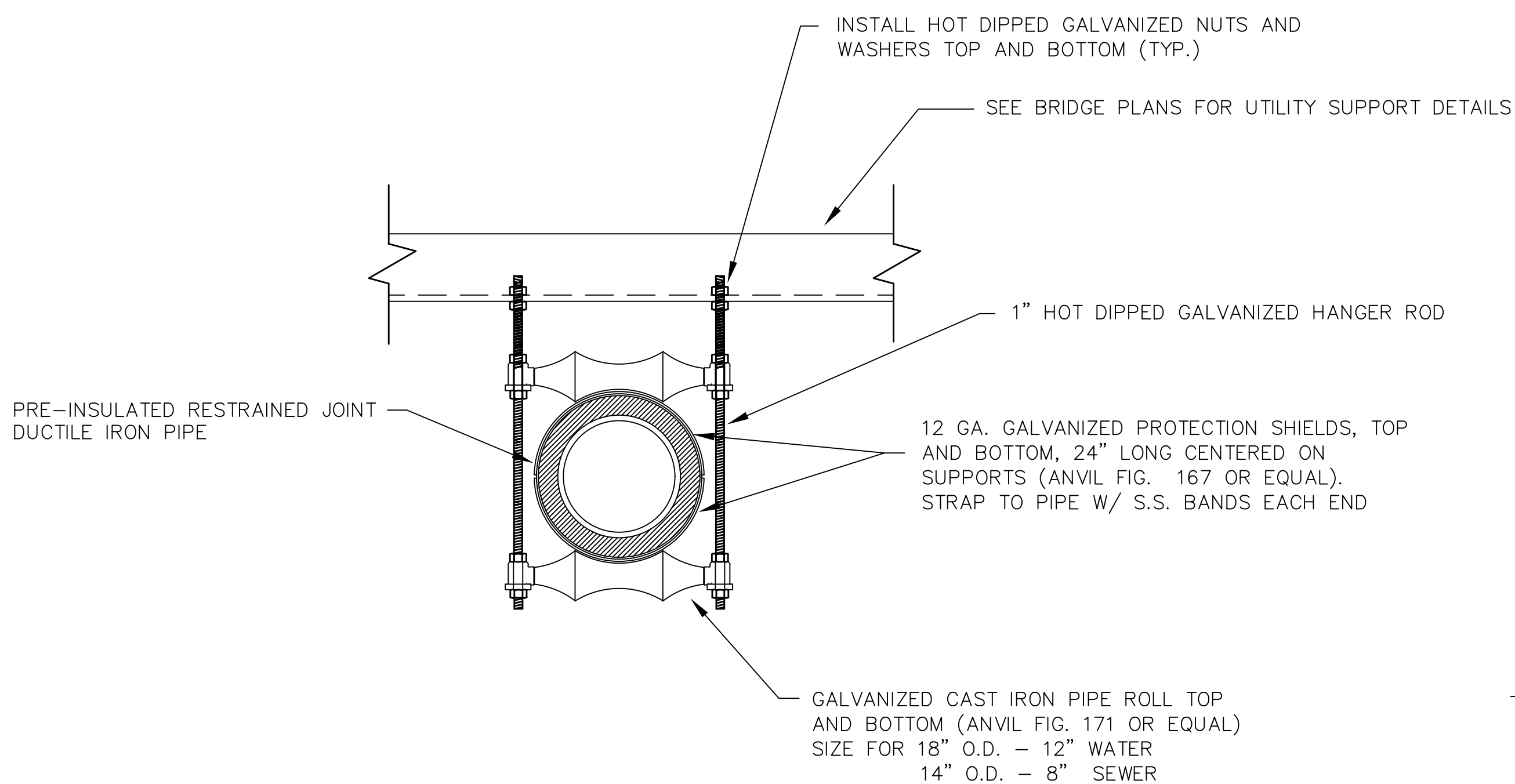
VALVE BOX & COVER



DROP STYLE COVER

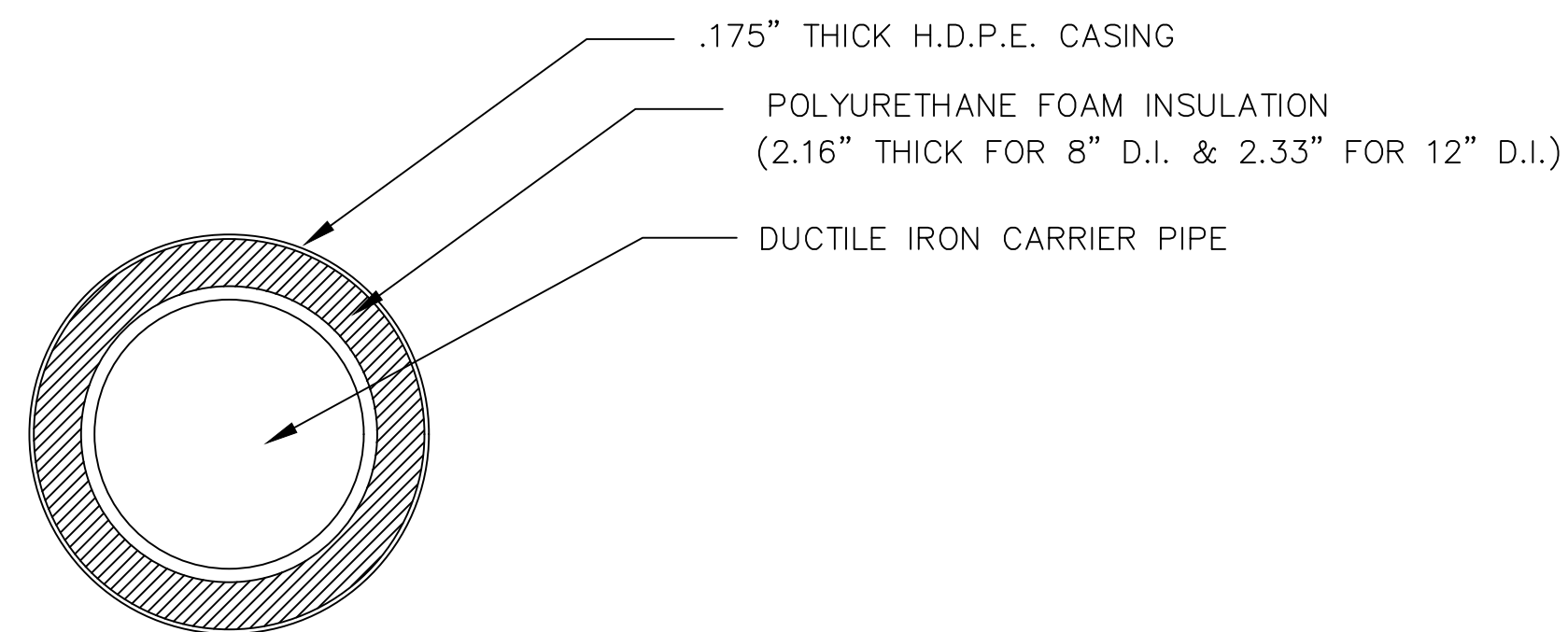
(NUMBERS ARE FOR 5 1/4" BUFFALO
VALVE BOXES) (BASE SECTION MAY
BE USED AS INTERMEDIATE SECTION)

NOTE : ANY EXTENSION OF SERVICE BOX REQUIRES:
1) 1" FEMALE IRON PIPE COUPLING
2) 1" THREADED PIPE
(THIS IS TO BE A NON-WELDED, TWO PIECE ARRANGEMENT.
SLIP ON ADAPTERS ARE NOT PERMISSIBLE.)



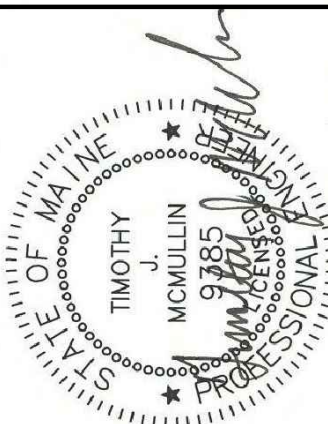
TYPICAL WATER/SEWER MAIN SUPPORT

NTS



PRE-INSULATED WATER/SEWER MAIN DETAIL

NTS



DATE	BY	SIGNATURE	P.E. NUMBER	DATE
			9385	9/30/2019

**LITTLE RIVER BRIDGE
GORHAM, ME
WATER & SEWER MAIN
REPLACEMENT**