

# STATE OF MAINE DEPARTMENT OF TRANSPORTATION



## SPECIFICATIONS

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

## DESIGN LOADING

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

## TRAFFIC DATA

Current (2023) AADT ..... 3,220  
 Future (2043) AADT ..... 3,540  
 DHV - % of AADT ..... 12%  
 Design Hour Volume ..... 425  
 Heavy Trucks (% of AADT) ..... 6%  
 Heavy Trucks (% of DHV) ..... 4%  
 Directional Distribution (% of DHV) ..... 64%  
 18 kip Equivalent P 2.0 ..... 85  
 18 kip Equivalent P 2.5 ..... 81  
 Design Speed (mph) ..... 45 MPH

## HYDROLOGIC DATA

Drainage Area ..... 2.14 sq mi  
 Design Discharge (Q50) ..... 400 cfs  
 Check Discharge (Q100) ..... 470 cfs  
 Headwater Elevation (Q1.1) ..... 122.71 ft  
 Headwater Elevation (Q25) ..... 125.39 ft  
 Headwater Elevation (Q50) ..... 125.66 ft  
 Headwater Elevation (Q100) ..... 125.95 ft  
 Discharge Velocity (Q1.1) ..... 1.36 fps  
 Discharge Velocity (Q50) ..... 3.95 fps  
 Discharge Velocity (Q100) ..... 4.43 fps

## MATERIALS

Concrete:  
 Precast ..... Class "P"  
 All Other ..... Class "A"  
 Reinforcing:  
 Plain Reinforcing Steel ..... ASTM A 615/A 615M, Grade 60  
 Welded Wire Reinforcement ..... ASTM A 1064/A 1064M

## BASIC DESIGN STRESSES

Concrete:  
 Class "P" ..... f'c = 5000 psi  
 Class "A" ..... f'c = 4000 psi  
 Reinforcing:  
 Plain Reinforcing Steel ..... f y = 60,000 psi  
 Welded Wire Reinforcement ..... f y = 65,000 psi min.

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# BOWDOIN SAGADAHOC COUNTY LEWIS BRIDGE OVER WEST CATHANCE STREAM MAIN STREET FEDERAL AID PROJECT NO. 2616000 PROJECT LENGTH 0.10 mi. BRIDGE NO. 5396

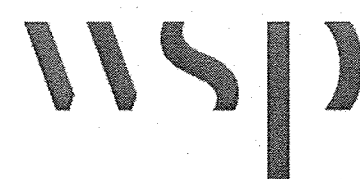
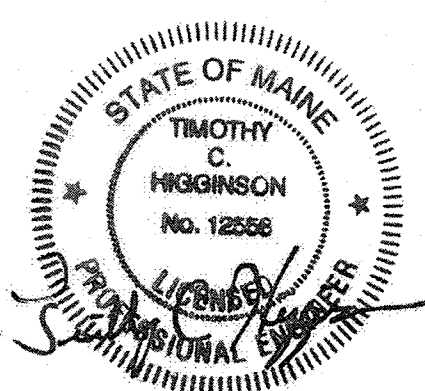
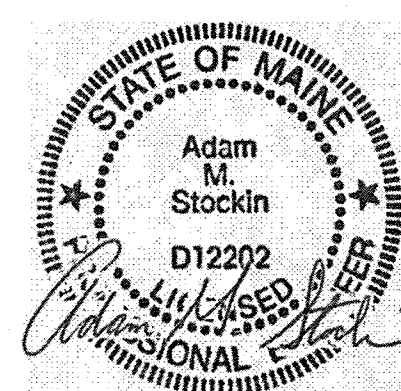
## UTILITIES

Central Maine Power Company  
 Comcast  
 Consolidated Communications of Northern New England Company LLC

## MAINTENANCE OF TRAFFIC

Bridge will be closed to traffic with offsite detour.

<b>PROJECT LOCATION</b>	Lewis Bridge carrying Route 125 over West Cathance Stream, approximately 0.49 Miles east of Litchfield Road in Bowdoin, ME. Latitude: 44°02' 07" N, Longitude: 69°57' 45" W
<b>PROGRAM AREA</b>	Bridge Program
<b>OUTLINE OF WORK</b>	Replace existing concrete slab bridge with a precast concrete box culvert and repave 600' of roadway including 500' full depth construction.



Sheets 1-2, 5-8, and 21-23

Sheets 3-4, 9-20, and 24

Date: 11/18/2025

Username:

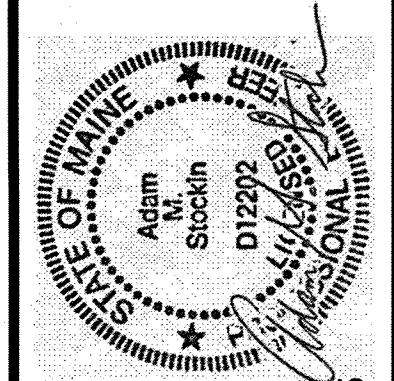
Division: BRIDGE

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WIN 026160.00

2616000

STATE OF MAINE DEPARTMENT OF TRANSPORTATION	APPROVED	DATE
	ACTING COMMISSIONER: <i>[Signature]</i>	11-22-25
		CHIEF ENGINEER: <i>[Signature]</i>



SIGNATURE	P.E. NUMBER	DATE
<i>[Signature]</i>	12202	11/26/2025

PROJECT INFORMATION	
PROGRAM	BRIDGE
PROJECT MANAGER	BRIAN NICHOLS
DESIGNER	ADAM STOCKIN
CONSULTANT	WSP USA
PROJECT RESIDENT	
CONTRACTOR	
PROJECT COMPLETION DATE	

BOWDOIN LEWIS BRIDGE	TITLE SHEET
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SHEET NUMBER
1
OF 25

ESTIMATED QUANTITIES			
ITEM NO.	DESCRIPTION	QUANTITY	UNIT
202.19	Removing Existing Bridge (70 CY)	1	LS
202.202	Removing Pavement Surface	190	SY
203.20	Common Excavation	1050	CY
203.24	Common Borrow	10	CY
203.25	Granular Borrow	150	CY
203.33	Special Fill - Streambed Material	230	CY
304.10	Aggregate Subbase Course - Gravel	1820	TON
403.208	Hot Mix Asphalt 12.5 MM HMA Surface	220	TON
403.213	Hot Mix Asphalt 12.5 MM Base	330	TON
409.15	Bituminous Tack Coat - Applied	80	GAL
508.13	Sheet Waterproofing Membrane	1	LS
511.07	Cofferdam: Upstream (150 SY)	1	LS
511.07	Cofferdam: Downstream	1	LS
515.21	Protective Coating for Concrete Surfaces	1	LS
526.301	Temporary Concrete Barrier - Type I (70 SY)	1	LS
534.71	Precast Concrete Box Culvert (60 LF)	1	LS
603.179	18" Culv Pipe Option III (210 CY)	70	LF
606.1301	3" W-Beam GR, Mid-Way Splice Single Face	390	LF
606.1303	3" W-Beam GR, Mid-Way Splice 15' Radius and Less	19	LF
606.1305	3" W-Beam GR, Mid-Way Splice Flared Terminal	2	EA
606.1306	3" W-Beam GR, Mid-Way Splice Tangent Terminal	1	EA
606.265	Terminal End-Single Rail-Galvanized Steel	1	EA
606.353	Reflectorized Flexible Guardrail Marker	7	EA
606.47	Single Wood Post	4	EA
606.743	Guardrail - Single Rail Culvert Mounted	113	LF
610.08	Plain Riprap	190	CY
610.18	Stone Ditch Protection	11	CY
610.213	Void-Filled Riprap	40	CY
613.319	Erosion Control Blanket	30	SY
615.07	Loam	100	CY
618.14	Seeding Method Number 2	15	UN
619.12	Mulch	15	UN
619.14	Erosion Control Mix	190	CY
620.58	Erosion Control Geotextile	220	SY
620.60	Separation Geotextile	220	SY
627.733	4" White or Yellow Painted Pavement Marking Line	1880	LF
629.05	Hand Labor, Straight Time	10	HR
631.12	All Purpose Excavator (Including Operator)	10	HR
631.172	Truck - Large (Including Operator)	10	HR
639.19	Field Office Type B	1	EA
652.312	Type III Baricade	8	EA
652.33	Drum	50	EA
652.34	Cone	50	EA
652.35	Construction Signs	850	SF
652.361	Maintenance of Traffic Control Devices	1	LS
652.38	Flagger	200	HR
652.41	Portable Changeable Message Sign	2	EA
656.75	Temporary Soil Erosion and Water Pollution Control	1	LS
659.10	Mobilization	1	LS

GENERAL CONSTRUCTION NOTES

- For easements, construction limits, and right of way lines, refer to the Right of Way Map.
- The clearing limits as shown on the plans are approximate. The exact limits will be established in the field by the Resident. Payment for clearing will be considered incidental to Contract items.
- All utility facilities shall be adjusted by the respective utilities unless otherwise noted.
- A MASH compliant guardrail end treatment shall be installed concurrently with the placement of each section of beam guardrail.
- Existing signs within the Project limits shall be removed and reset as directed by the Resident. Payment for removal and reinstallation of existing signs will be considered incidental to the Contract. No separate payment will be made.
- Do not excavate for Aggregate Subbase Course where existing material is suitable as determined by the Resident.
- In areas where the Resident directs the Contractor not to excavate to the subgrade line shown on the plans, payment for removing existing pavement, grubbing, shaping, ditching, and compacting the existing subbase and layers of new subbase 6 inches or less thick will be made under appropriate equipment rental items.
- All embankment material, except as otherwise shown, placed below EL 126.0 shall be Granular Borrow meeting the requirements of Standard Specifications Subsection 703.19, Granular Borrow, Material for Underwater Backfill, with the additional requirement that the maximum particle size shall be limited to 4 inches.
- Place riprap on sideslopes up to EL 128.0.
- Erosion Control Mix shall be used in those areas normally receiving loam and seed as directed by the Resident. Placement shall be in accordance with Standard Specifications Section 619, Mulch. Payment will be made under Pay Item 619.14, Erosion Control Mix.
- Place a 24 inch wide strip of Erosion Control Blanket on the sideslopes along the top of the riprap and behind the wingwalls.
- Guardrail posts as shown in the Standard Details shall be modified from the indicated length of 7 feet to a length of 8 feet with an embedment of 5.25 feet. Payment will be considered incidental to the guardrail pay items.
- Where it is apparent that runoff will cause continual erosion, Erosion Control Blanket, seeded gutters, riprap downspouts, and other gutters lined with Stone Ditch Protection shall be constructed after paving and shoulder work is completed. Payment will be made under the appropriate Contract items.
- Protective Coating for Concrete Surfaces shall be applied to the following areas:  
  
Concrete headwalls, including to one foot inside the box;  
Exposed tops of vertical walls and to one foot below the ground on the backside;  
Exposed faces of vertical walls and to one foot inside the box.
- Project information referred to below may be accessed at the following MaineDOT web address: <http://www.maine.gov/mdot/contractors/>
- The existing bridge plans may be accessed at the MaineDOT web address. The plans are reproductions of the original drawings as prepared for the construction of the bridge. It is very unlikely that the plans will show any construction field changes or any alterations which may have been made to the bridge during its life span.
- Reports on hydrology and/or hydraulics applicable to the bridge site may be accessed at the MaineDOT web address. The reports are based on MaineDOT's interpretation of the information obtained for the subject site. No assurance is given that the information or the conclusions of the report will be representative of actual conditions at the time of construction.
- The project geotechnical report titled: Geotechnical Design Report Lewis Bridge No. 5396, West Cathance Stream, Bowdoin, Maine (WIN 0261600.00), September 2025 may be accessed at the MaineDOT web address.
- 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.

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:

- If a Lump Sum pay item is eliminated, the requirements of Standard Specifications Section 109.2, Elimination of Items, will take precedence.
- If other Contract Documents specifically allow a change in payment for a Lump Sum pay item, those requirements will be followed.
- If a design change results in changes to estimated quantities for Lump Sum pay items, price adjustments will be made in accordance with Standard Specifications Section 109.7, Equitable Adjustments to Compensation and Time.

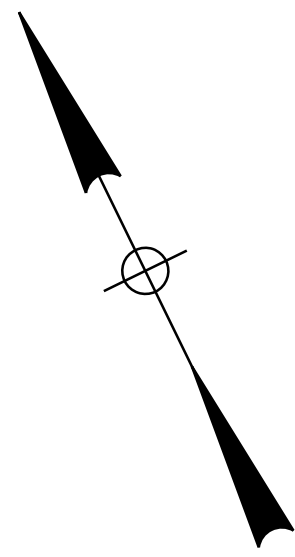
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LEWIS BRIDGE				WEST CATHANCE STREAM				SAGADAHOC COUNTY				BOWDOIN			
ESTIMATED QUANTITIES &				GENERAL NOTES				SHEET NUMBER				2			
OF 25															

Date: 11/5/2025

Username:

Division: BRIDGE

Filename: ... \BRIDGE\MSTA\003\_GenPlan.dgn



ITEM 606.1301 - 3" W-Beam Guardrail - Mid-Way Splice Single Face (Steel Post, 8" Offset Blocks, Single Faced)	LF
STA 103+01.0, 16.0' LT TO STA 103+29.3, 16.0' LT	28.25
STA 103+86.8, 16.0' LT TO STA 105+27.5, 16.0' LT	140.75
STA 101+31.5, 16.0' RT TO STA 103+22.3, 16.0' RT	190.75
STA 103+78.3, 16.0' RT TO STA 104+07.0, 16.0' RT	28.75

ITEM 606.1303 - 3" W-Beam Guardrail - Mid-Way Splice (Steel Post, 8" Offset Blocks, 15' Radius and Less)	LF
STA 102+87.0, 28.7' LT TO STA 103+01.0, 16.0' LT, R=15'	19.0

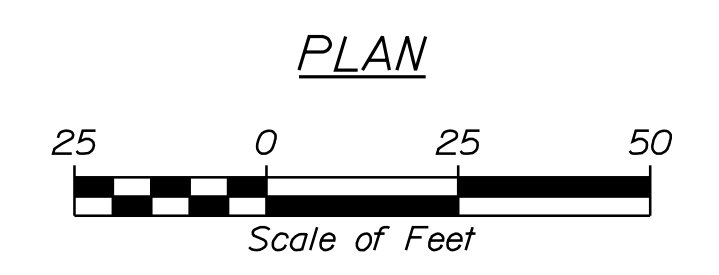
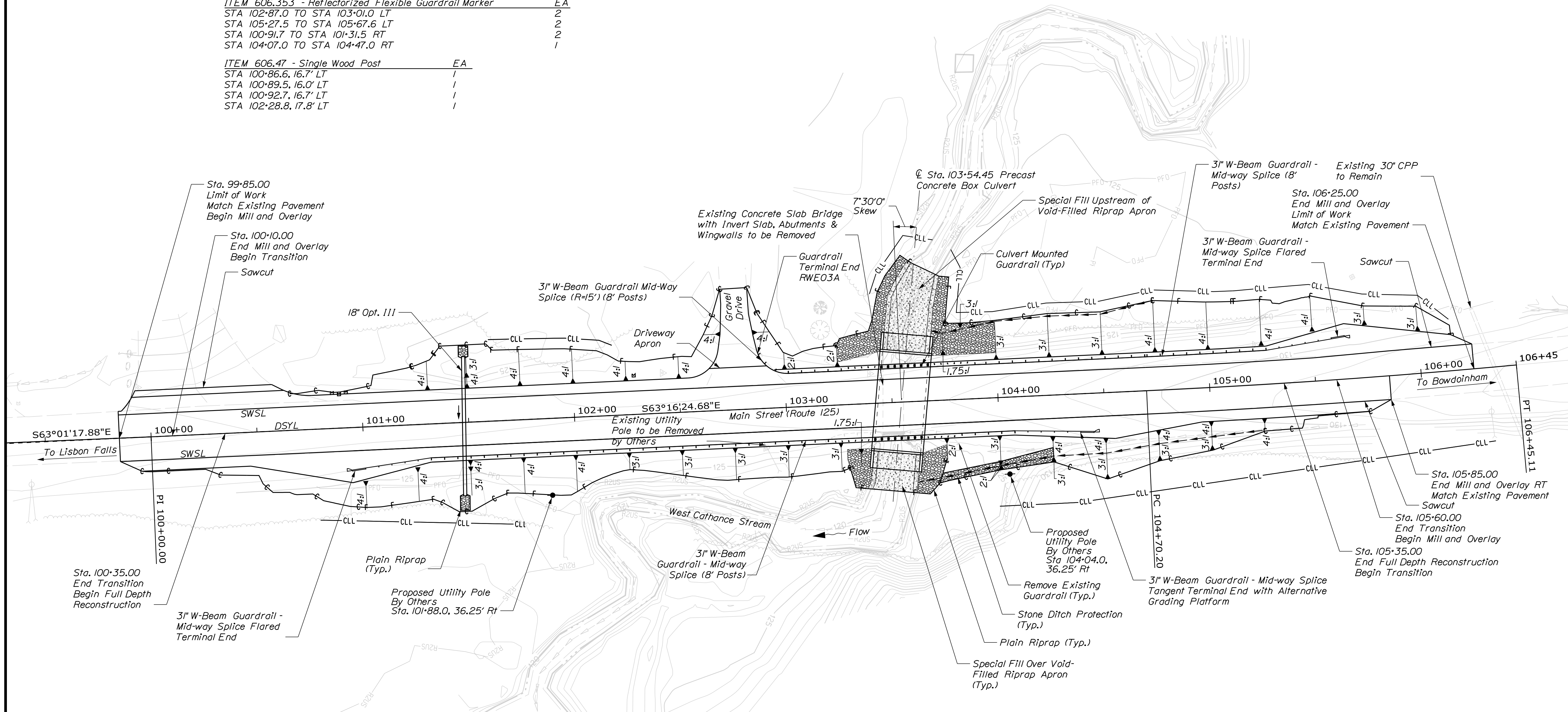
ITEM 606.1305 - 3" W-Beam Guardrail - Mid-Way Splice Flared Terminal	EA
STA 105+27.5 TO STA 105+67.6 LT	1
STA 100+91.7 TO STA 101+31.5 RT	1

ITEM 606.1306 - 3" W-Beam Guardrail - Mid-Way Splice Tangent Terminal	EA
STA 104+07.0 TO STA 104+47.0 RT	1

ITEM 606.353 - Reflectorized Flexible Guardrail Marker	EA
STA 102+87.0 TO STA 103+01.0 LT	2
STA 105+27.5 TO STA 105+67.6 LT	2
STA 100+91.7 TO STA 101+31.5 RT	2
STA 104+07.0 TO STA 104+47.0 RT	1

ITEM 606.47 - Single Wood Post	EA
STA 100+86.6, 16.7' LT	1
STA 100+89.5, 16.0' LT	1
STA 100+92.7, 16.7' LT	1
STA 102+28.8, 17.8' LT	1

CURVE DATA #1  
 PI = 105+57.67  
 D = 1°32'12.5"  
 Δ = 2°41'16.9" Lt.  
 R = 3728.25'  
 L = 174.91'  
 T = 87.47'  
 E = 1.03'  
 N = 438317.74  
 E = 1092913.11



ITEM 627.733 - 4" White or Yellow Painted Pavement Marking Line	LF
STA 99+85.0, TO STA 106+25.0, DSYL	640.0
STA 99+85.0 LT, TO STA 106+25.0 LT, SWSL	640.0
STA 99+85.0 RT, TO STA 105+85.0 RT, SWSL	600.0



STATE OF MAINE  
 DEPARTMENT OF TRANSPORTATION  
 2616000  
 WIN  
 26160.00  
 BRIDGE NO. 6396  
 BRIDGE PLANS

PROJ. MANAGER	BY	DATE	SIGNATURE
B. NICHOLS	J. KHERA	11/2025	
DESIGN DETAILED	J. KHERA	11/2025	
CHECKED/REVIEWED	T. HIGGINS	11/2025	
DESIGN DETAILED			
DESIGN DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

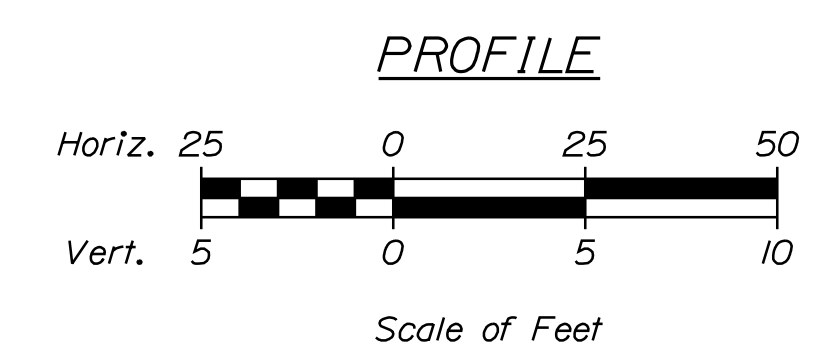
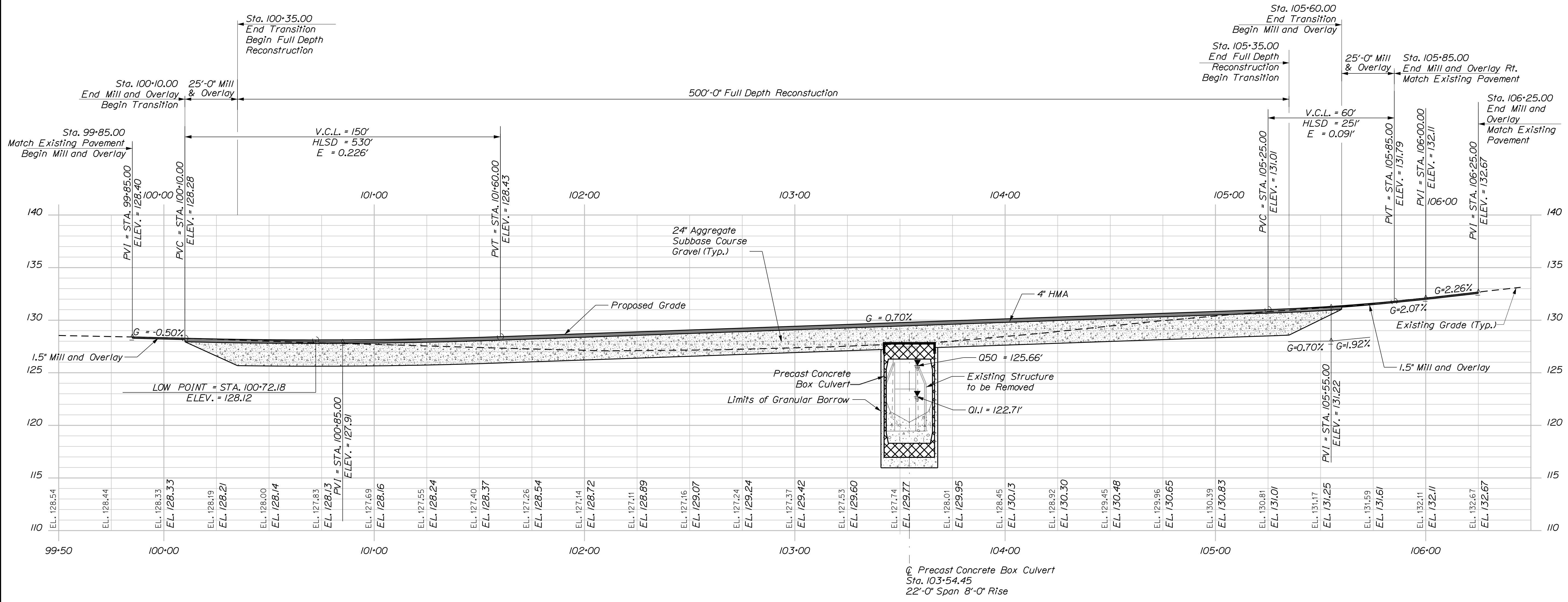
PROJ. MANAGER	BY	DATE	SIGNATURE
B. NICHOLS	J. KHERA	11/2025	
DESIGN DETAILED	J. KHERA	11/2025	
CHECKED/REVIEWED	T. HIGGINS	11/2025	
DESIGN DETAILED			
DESIGN DETAILED			
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

LEWIS BRIDGE  
 WEST CATHANCE STREAM  
 SAGADAHO COUNTY  
 BOWDOIN  
 GENERAL PLAN

SHEET NUMBER

3

OF 25



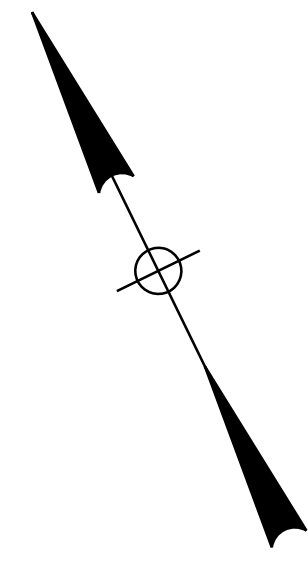
STATE OF MAINE DEPARTMENT OF TRANSPORTATION		2616000	
LEWIS BRIDGE WEST CATHANCE STREAM BOWDOIN SAGADAHOE COUNTY		BRIDGE NO. 6396 WIN 261600.00	
PROFILE		BRIDGE PLANS	
PROJ. MANAGER B. NICHOLS	BY J. KHERA	DATE 11/2025	SIGNATURE
DESIGN DETAILED T. HIGGINSON	CHECKED/REVIEWED T. HIGGINSON	DATE 11/2025	SIGNATURE
DESIGNS DETAILED -	DESIGNS DETAILED -	DATE -	P.E. NUMBER
REVISIONS 1 -	REVISIONS 2 -	DATE -	DATE
REVISIONS 3 -	REVISIONS 4 -	DATE -	DATE
FIELD CHANGES -	FIELD CHANGES -	DATE -	DATE
SHEET NUMBER		4	
		OF 25	

Date: 11/5/2025

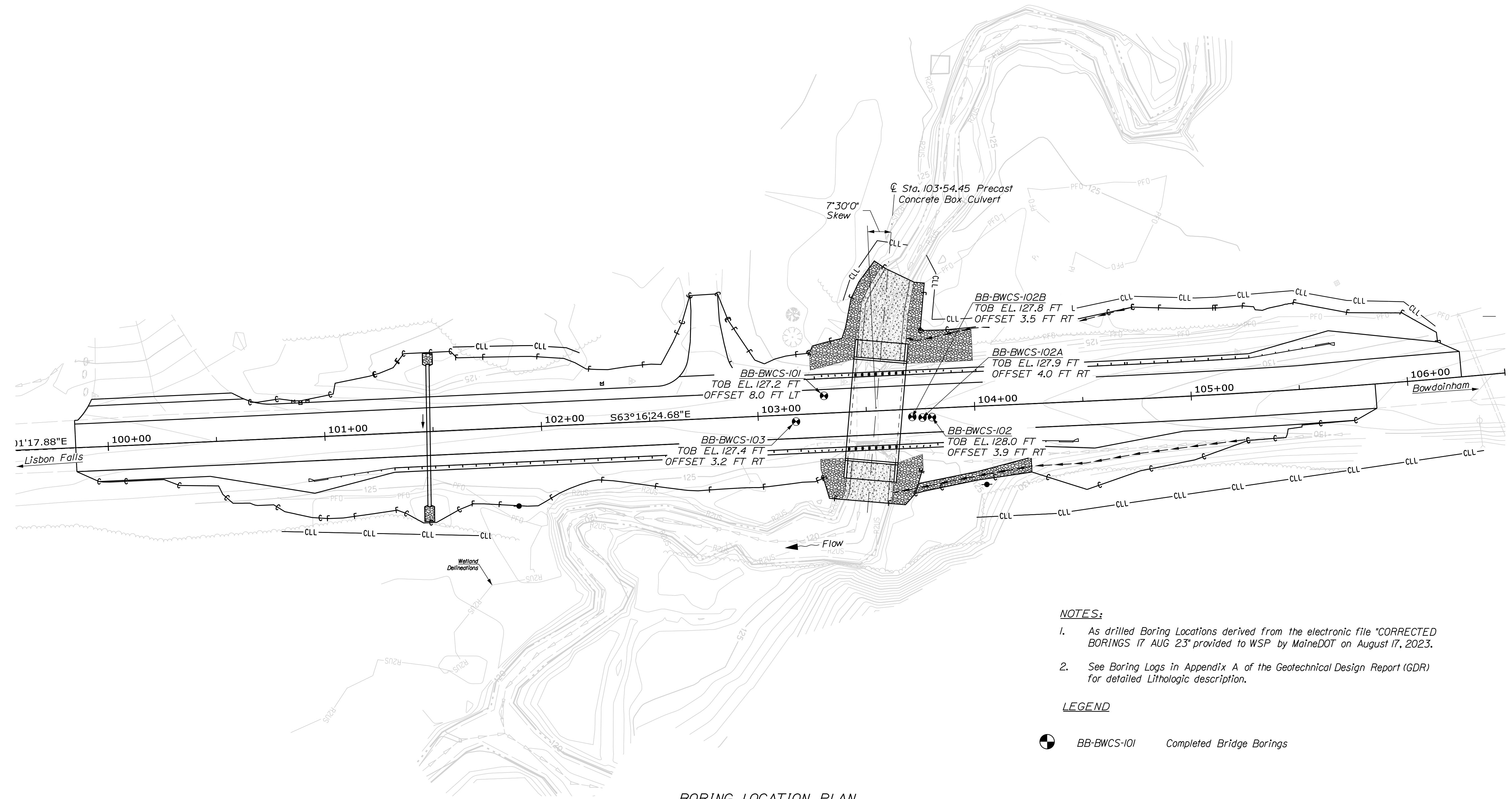
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Division: BRIDGE

Filename: ... \005\_Boring\_LocationPlan.dgn



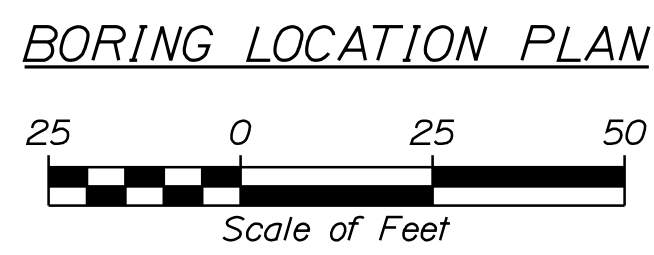
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 D = 1°32'12.5"  
 Δ = 2°41'16.9" Lt.  
 R = 3728.25'  
 L = 174.91'  
 T = 87.47'  
 E = 1.03'  
 N = 438317.74  
 E = 1092913.11



- NOTES:**
- As drilled Boring Locations derived from the electronic file "CORRECTED BORINGS 17 AUG 23" provided to WSP by MaineDOT on August 17, 2023.
  - See Boring Logs in Appendix A of the Geotechnical Design Report (GDR) for detailed Lithologic description.

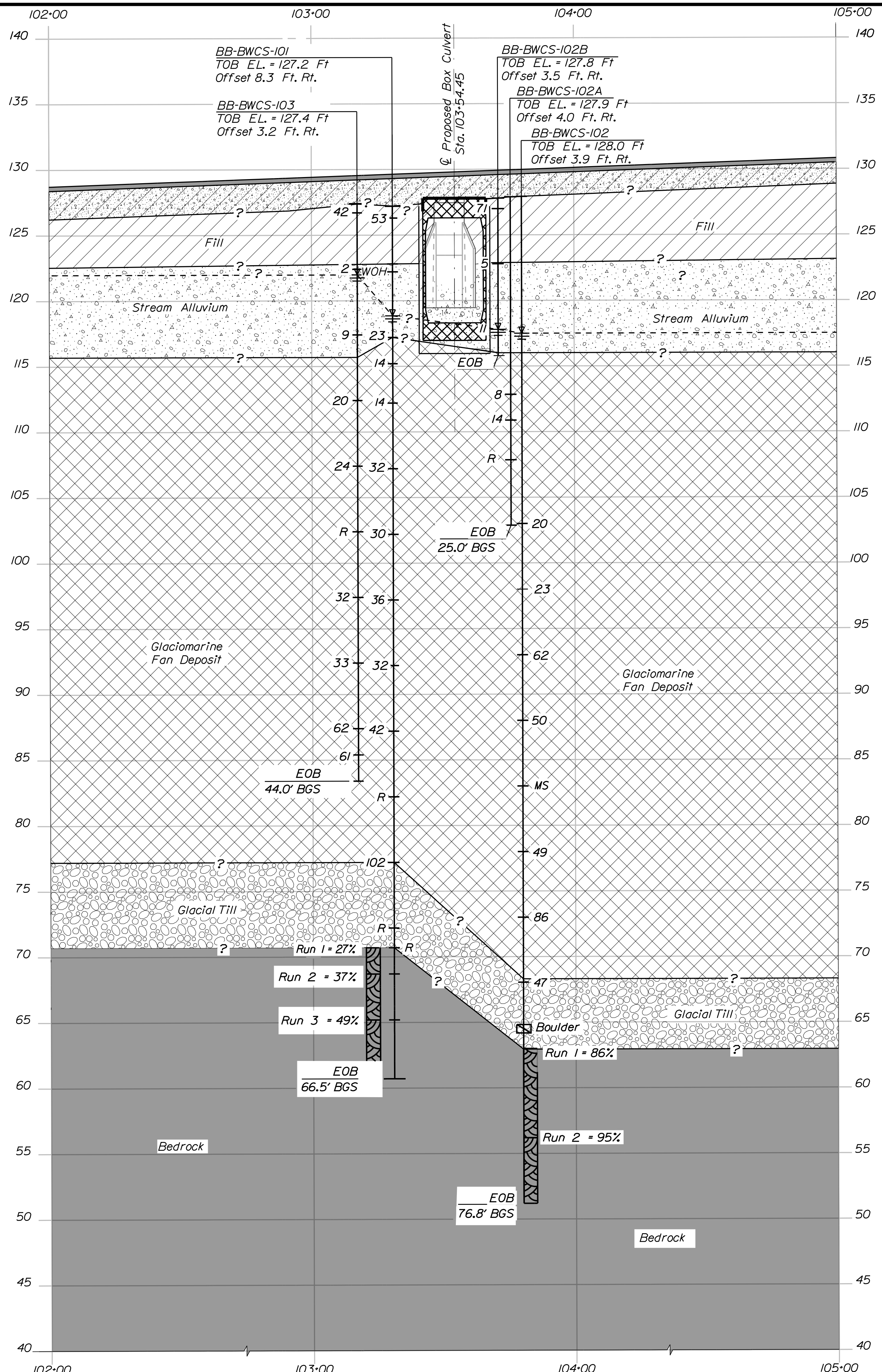
**LEGEND**

BB-BWCS-101 Completed Bridge Borings



STATE OF MAINE		DEPARTMENT OF TRANSPORTATION		2616000	
LEWIS BRIDGE		WEST CATHANCE STREAM		SAGADAHOC COUNTY	
BOWDOIN		BORING LOCATION PLAN		SHEET NUMBER	
BRIDGE NO. 5396		WIN		26160.00	
BRIDGE PLANS		SIGNATURE		P.E. NUMBER	
DATE		DATE		DATE	
BY		BY		BY	
E. CARON		E. CARON		E. CARON	
M. LANDON		M. LANDON		M. LANDON	
DESIGN DETAILED		DESIGN DETAILED		DESIGN DETAILED	
D. BURRESS		D. BURRESS		D. BURRESS	
DESIGN REVIEWED		DESIGN REVIEWED		DESIGN REVIEWED	
-		-		-	
REVISIONS 1		REVISIONS 1		REVISIONS 1	
-		-		-	
REVISIONS 2		REVISIONS 2		REVISIONS 2	
-		-		-	
REVISIONS 3		REVISIONS 3		REVISIONS 3	
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REVISIONS 4		REVISIONS 4		REVISIONS 4	
-		-		-	
FIELD CHANGES		FIELD CHANGES		FIELD CHANGES	
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**LEGEND**

- Asphalt
- Light Brown To Brown, Dry, Dense, To Very Dense, Fine To Coarse Sand, Trace To Some Gravel, Little Silt (Fill)
- Light Brown To Grey, Moist To Wet, Very Loose To Loose, Fine To Medium Sand, Trace To Some Silt, Non Plastic (Stream Alluvium)
- Grey, Brown, Tan, Moist To Wet, Medium Dense To Very Dense, Fine to Coarse Sand, Trace to some Gravel, Trace to Little Silt (Glaciomarine Fan Deposit)
- Grey, Brown, Moist To Wet, Dense To Very Dense, Fine To Coarse Sand, Some Gravel, Some Silt (Glacial Till)
- Light Grey, Very Fine To Medium-Grained Biotist Schist, Medium Strong, Slightly Weathered To Fresh (Bedrock)
- Existing Ground Surface
- Existing Groundwater Elevations
- Interpreted Ground Water Surface

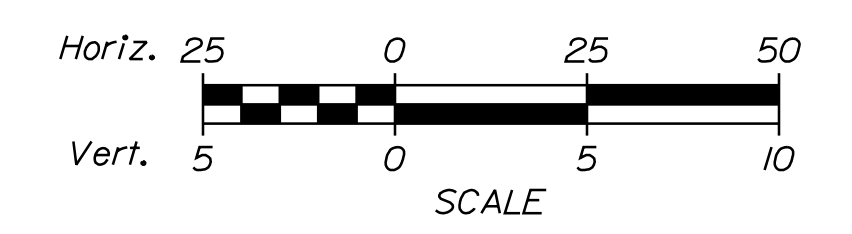
**Boring Location I.D.**  
Elevation  
Offset (Ft.) From  $\phi$  of Roadway

- Top of Boring
- SPT: N60 - Value (Corrected for Hammer Efficiency)
- WOH - Weight Of Hammer
- MS - Missed Sample
- R - Refusal
- Boulder
- Strata Interface
- Run 1 = 92% Rock Core Number and Rock Quality Designation (RQD)
- EOB - End of Boring Depth Below Ground Surface (BGS)

**NOTES:**

1. As Drilled Boring Locations Derived from the Electronic file "CORRECTED BORINGS 17 AUG 23" Provided to WSP by MaineDOT on August 17, 2023.
2. For Detailed Lithologic Descriptions see Boring Logs in Appendix A of the Geotechnical Design Report (GDR).
3. For Complete Laboratory Data, see Laboratory Results in Appendix C of the Geotechnical Design Report (GDR).
4. Groundwater Surface is Interpreted from Localized Water Levels and Measurements Taken During the Subsurface Exploration Program, see the Geotechnical Design Report (GDR) and Boring Logs in Appendix A.
5. This Generalized Subsurface Profile is Intended to Convey Trends in Subsurface conditions. The Boundaries between Strata are Approximate and Idealized and have been Developed based on Interpretations of Widely Spaced Explorations. Actual Soil and Rock Transitions may vary and may be Erratic.

**INTERPRETIVE SUBSURFACE PROFILE**



STATE OF MAINE		DEPARTMENT OF TRANSPORTATION		2616000		WIN		26160.00		BRIDGE NO. 5396		BRIDGE PLANS	
LEWIS BRIDGE		WEST CATHANCE STREAM		SAGADAHOC COUNTY		BOWDOIN		INTERPRETIVE SUBSURFACE		PROFILE		SHEET NUMBER	
11/2025		11/2025		SIGNATURE		P.E. NUMBER		DATE		FIELD CHANGES		6	
BY		DATE		SIGNATURE		P.E. NUMBER		DATE		FIELD CHANGES		OF 25	

Maine Department of Transportation		Project: Bowdin Lewis Bridge #536 over West Cathance Stream Location: Bowdin, Maine		Boring No.: BB-BWCS-101	
S.W. Cole Explorations		US CUSTOMARY UNITS		WIN: 026160.00	
Driller: S.W. Cole Explorations	Elevation (ft.): 127.2	Auger ID/OD: N/A	Operator: M. Bussey Datum: NAVD88 Sampler: Standard Split Spoon		
Operator: M. Bussey	Log Type: B-48 Mobile Drill	Home Wt./Fall: 140 lbs / 30 in	Date Start/Finish: 3/30/2023-4/3/2023		
Logged By: K. Bursey	Rig Type: B-48 Mobile Drill	Home Wt./Fall: 140 lbs / 30 in	Boring Location: N: 43827.047, E: 109274.130		
Date Start/Finish: 3/30/2023-4/3/2023	Drilling Method: Cased Wash	Core Barrel: 1 7/8 in - ND	Boring Location: N: 43827.047, E: 109274.130		
Boring Location: N: 43827.047, E: 109274.130	Casing ID/OD: 4 in / 4.5 in	Water Level: See Remarks	Hammer Efficiency Factor: 0.91		
Hammer Efficiency Factor: 0.91		Hammer Type: Automatic		Hydraulic	
Definitions: S = Rock Core Sample, SA = Split Spoon Sample, U = Unsuccessful Split Spoon Sample Attempt, V = Field Vane Shear Test, W = Unsuccessful Field Vane Shear Test Attempt, X = Unsuccessful Field Vane Shear Test Attempt T = Push-Resistance Force from Undrained Shear Strength Test, U = Lab. Undrained Shear Strength Test, W = Water Content, percent, LL = Liquid Limit, P = Plasticity Index, N = Number of Blows, R = Blow Count, M = Moisture, % H = Hammer Efficiency Factor = Rig Specific Amount Calibration Value * Fracture Index, N = SPT Uncorrected Corrected for Hammer Efficiency, W = Grain Size Analysis, C = Consolidation Test		Definitions: S = Rock Core Sample, SA = Split Spoon Sample, U = Unsuccessful Split Spoon Sample Attempt, V = Field Vane Shear Test, W = Unsuccessful Field Vane Shear Test Attempt, X = Unsuccessful Field Vane Shear Test Attempt T = Push-Resistance Force from Undrained Shear Strength Test, U = Lab. Undrained Shear Strength Test, W = Water Content, percent, LL = Liquid Limit, P = Plasticity Index, N = Number of Blows, R = Blow Count, M = Moisture, % H = Hammer Efficiency Factor = Rig Specific Amount Calibration Value * Fracture Index, N = SPT Uncorrected Corrected for Hammer Efficiency, W = Grain Size Analysis, C = Consolidation Test		Definitions: S = Rock Core Sample, SA = Split Spoon Sample, U = Unsuccessful Split Spoon Sample Attempt, V = Field Vane Shear Test, W = Unsuccessful Field Vane Shear Test Attempt, X = Unsuccessful Field Vane Shear Test Attempt T = Push-Resistance Force from Undrained Shear Strength Test, U = Lab. Undrained Shear Strength Test, W = Water Content, percent, LL = Liquid Limit, P = Plasticity Index, N = Number of Blows, R = Blow Count, M = Moisture, % H = Hammer Efficiency Factor = Rig Specific Amount Calibration Value * Fracture Index, N = SPT Uncorrected Corrected for Hammer Efficiency, W = Grain Size Analysis, C = Consolidation Test	
Sample Information		Visual Description and Remarks		Laboratory Testing Results/ASTM and Unified Class.	
Depth (ft.)	Sample No.	Prep. (ft.)	Sample Depth (ft.)	Blow (1/8 in. in. Strength) (ft.)	Blow (1/8 in. in. Strength) (ft.)
0	24/18	0.90 - 2.90	16-16-19-14	35	53
TOPSOIL (3 inches)					
Light brown, dry, very dense, fine to coarse SAND, some gravel, little silt, well-graded (FILL).					
5	24/24	5.00 - 7.00	WDH241	-	42
Light brown to grey, moist, very soft, SILT, non-plastic (ALUQUUM).					
10	24/7	10.00 - 12.00	2-5-10-7	15	23
Dark grey, moist, medium dense, GRAVEL, some sand, trace silt, poorly-graded (GLACIOMARINE FAN DEPOSIT).					
40	24/0	12.00 - 14.00	6-5-4-5	9	14
No recovery, cobble lodged in tip of spoon.					
50	24/11	15.00 - 17.00	3-4-5-5	9	14
Light brown, wet, medium dense, fine to medium SAND, trace gravel, trace silt, poorly-graded (GLACIOMARINE FAN DEPOSIT).					
60	24/12	20.00 - 22.00	4-5-16-26	21	32
Light brown to tan, moist, dense, fine to coarse SAND, little silt, trace gravel, poorly-graded (GLACIOMARINE FAN DEPOSIT).					
70	24/12	25.00 - 27.00	14-11-9-8	20	30
Light brown to reddish brown, moist, medium dense, fine to coarse SAND, little gravel, little silt, well-graded (GLACIOMARINE FAN DEPOSIT).					
80	24/11	30.00 - 32.00	10-12-12-11	24	36
Reddish brown, moist to wet, dense, fine to coarse SAND, little gravel, little silt, well-graded (GLACIOMARINE FAN DEPOSIT).					
90	24/5	35.00 - 37.00	9-11-10-10	21	32
Light brown, moist to wet, dense, fine to coarse SAND, little gravel, trace silt, well-graded (GLACIOMARINE FAN DEPOSIT).					
100	24/5	40.00 - 42.00	12-12-16-27	28	42
Light brown, moist to wet, dense, fine to coarse SAND, some gravel, well-graded (GLACIOMARINE FAN DEPOSIT).					
110	5/0	45.00 - 45.42	50/5"	R	64
No recovery in sampler, possible boulder encountered from 45.5-46.0 ft bgs.					
120	23/7	50.00 - 51.92	39-37-30-50/5"	67	102
Reddish brown, moist to wet, very dense, fine to coarse SANDY GRAVEL, well-graded (GLACIAL TILL).					
130	6/2	55.00 - 55.50	50/6"	OPN	79
Grey, moist, very dense, fine to coarse SANDY GRAVEL, poorly-graded (GLACIAL TILL).					
140	18/15.6	57.00 - 58.50	ROD = 21%	ND	81
R1: Light grey, fine to very fine grained, medium strong (R1), bluish SILTST, slightly weathered (W2), discontinuities steeply dipping and closely spaced, average 4.0 fractures per foot (VASSALBORO FORMATION). Rock Mass Quality = Poor Rock Core Rate (min/sec) 57.0-58.5 ft (4223) 87% Recovery					
150	42/42	58.50 - 62.00	ROD = 37%	ND	82
R2: Light grey, fine to very fine grained, medium strong (R2), bluish SILTST, fresh (W1), discontinuities steeply dipping and closely spaced, average 2.4 fractures per foot (VASSALBORO FORMATION). Rock Mass Quality = Fair Rock Core Rate (min/sec) 62.0-63.0 ft (3248) 63.0-64.0 ft (3224) 64.0-65.0 ft (3247) 65.0-66.0 ft (4146) 66.0-68.5 ft (5133) 100% Recovery					
160	54/54	62.00 - 66.50	ROD = 49%	ND	83
R3: Light grey, fine to very fine grained, medium strong (R3), bluish SILTST, slightly weathered (W2), discontinuities moderately dipping and closely spaced, white calcite infilling on fracture surfaces, average 2.4 fractures per foot (VASSALBORO FORMATION). Rock Mass Quality = Fair Rock Core Rate (min/sec) 62.0-63.0 ft (3248) 63.0-64.0 ft (3224) 64.0-65.0 ft (3247) 65.0-66.0 ft (4146) 66.0-68.5 ft (5133) 100% Recovery					
170	60/56.4	66.80 - 71.80	ROD = 88%	ND	84
R4: Light grey, fine to medium grained, medium strong (R4), bluish SILTST, fresh (W1), little to moderately fractured, discontinuities shallowly dipping, tightly spaced, and rough, average 1.5 fractures per foot (VASSALBORO FORMATION). Rock Mass Quality = Good Rock Core Rate (min/sec) 66.8-67.8 ft (4459) 67.8-68.8 ft (4216) 68.8-69.8 ft (4217) 69.8-70.8 ft (4217) 70.8-71.8 ft (4148) 94% Recovery					
180	60/58.8	71.80 - 76.80	ROD = 95%	ND	85
R5: Light grey, fine to medium grained, medium strong (R5) to very strong (R5), bluish SILTST, with frequent granitic intrusions, fresh (W1) to slightly weathered (W2), discontinuities shallowly dipping, widely spaced, and smooth to rough, average 0.6 fractures per foot (VASSALBORO FORMATION).					

Maine Department of Transportation		Project: Bowdin Lewis Bridge #536 over West Cathance Stream Location: Bowdin, Maine		Boring No.: BB-BWCS-102	
S.W. Cole Explorations		US CUSTOMARY UNITS		WIN: 026160.00	
Driller: S.W. Cole Explorations	Elevation (ft.): 128.0	Auger ID/OD: 2 1/4 in (1D)	Operator: M. Bussey Datum: NAVD88 Sampler: Standard Split Spoon		
Operator: M. Bussey	Log Type: B-48 Mobile Drill	Home Wt./Fall: 140 lbs / 30 in	Date Start/Finish: 4/4/2023-4/6/2023		
Logged By: D. Bursey	Rig Type: B-48 Mobile Drill	Home Wt./Fall: 140 lbs / 30 in	Boring Location: N: 43834.044, E: 109272.846		
Date Start/Finish: 4/4/2023-4/6/2023	Drilling Method: Cased Wash / Solid Stem Auger	Core Barrel: 1 7/8 in - ND	Boring Location: N: 43834.044, E: 109272.846		
Boring Location: N: 43834.044, E: 109272.846	Casing ID/OD: 4 in / 4.5 in, telescope 3 in / 3.5 in	Water Level: See Remarks	Hammer Efficiency Factor: 0.91		
Hammer Efficiency Factor: 0.91		Hammer Type: Automatic		Hydraulic	
Definitions: S = Rock Core Sample, SA = Split Spoon Sample, U = Unsuccessful Split Spoon Sample Attempt, V = Field Vane Shear Test, W = Unsuccessful Field Vane Shear Test Attempt, X = Unsuccessful Field Vane Shear Test Attempt T = Push-Resistance Force from Undrained Shear Strength Test, U = Lab. Undrained Shear Strength Test, W = Water Content, percent, LL = Liquid Limit, P = Plasticity Index, N = Number of Blows, R = Blow Count, M = Moisture, % H = Hammer Efficiency Factor = Rig Specific Amount Calibration Value * Fracture Index, N = SPT Uncorrected Corrected for Hammer Efficiency, W = Grain Size Analysis, C = Consolidation Test		Definitions: S = Rock Core Sample, SA = Split Spoon Sample, U = Unsuccessful Split Spoon Sample Attempt, V = Field Vane Shear Test, W = Unsuccessful Field Vane Shear Test Attempt, X = Unsuccessful Field Vane Shear Test Attempt T = Push-Resistance Force from Undrained Shear Strength Test, U = Lab. Undrained Shear Strength Test, W = Water Content, percent, LL = Liquid Limit, P = Plasticity Index, N = Number of Blows, R = Blow Count, M = Moisture, % H = Hammer Efficiency Factor = Rig Specific Amount Calibration Value * Fracture Index, N = SPT Uncorrected Corrected for Hammer Efficiency, W = Grain Size Analysis, C = Consolidation Test		Definitions: S = Rock Core Sample, SA = Split Spoon Sample, U = Unsuccessful Split Spoon Sample Attempt, V = Field Vane Shear Test, W = Unsuccessful Field Vane Shear Test Attempt, X = Unsuccessful Field Vane Shear Test Attempt T = Push-Resistance Force from Undrained Shear Strength Test, U = Lab. Undrained Shear Strength Test, W = Water Content, percent, LL = Liquid Limit, P = Plasticity Index, N = Number of Blows, R = Blow Count, M = Moisture, % H = Hammer Efficiency Factor = Rig Specific Amount Calibration Value * Fracture Index, N = SPT Uncorrected Corrected for Hammer Efficiency, W = Grain Size Analysis, C = Consolidation Test	
Sample Information		Visual Description and Remarks		Laboratory Testing Results/ASTM and Unified Class.	
Depth (ft.)	Sample No.	Prep. (ft.)	Sample Depth (ft.)	Blow (1/8 in. in. Strength) (ft.)	Blow (1/8 in. in. Strength) (ft.)
0					
Advanced solid-stem auger to 12 ft bgs with no sampling. See BB-BWCS-102A and BB-BWCS-102B for stratigraphy.					
5					
Advanced casing to 25 ft bgs with no sampling. See BB-BWCS-102A and BB-BWCS-102B for stratigraphy.					
10					
Advanced casing to 25 ft bgs with no sampling. See BB-BWCS-102A and BB-BWCS-102B for stratigraphy.					
15					
Advanced casing to 25 ft bgs with no sampling. See BB-BWCS-102A and BB-BWCS-102B for stratigraphy.					
20					
Advanced casing to 25 ft bgs with no sampling. See BB-BWCS-102A and BB-BWCS-102B for stratigraphy.					
25	10	24/5	25.00 - 27.00	11-6-7-7	13
Brown, wet, medium dense, fine to coarse SAND, some fine gravel, trace silt, poorly-graded (GLACIOMARINE FAN DEPOSIT).					
30	80	24/4	30.00 - 32.00	7-7-8-9	15
Brown, wet, medium dense, fine to coarse SAND, some fine gravel, trace silt, poorly-graded (GLACIOMARINE FAN DEPOSIT).					
35	90	24/7	35.00 - 37.00	18-17-2-22	41
Brown, wet, very dense, fine to coarse SAND, little fine gravel, trace silt, well-graded (GLACIOMARINE FAN DEPOSIT).					
40	100	24/5	40.00 - 42.00	26-20-13-19	33
Brown, wet, dense, fine to coarse SAND, little fine to coarse gravel, trace silt, well-graded (GLACIOMARINE FAN DEPOSIT).					
45					
No sample recovery, rock lodged in tip of spoon.					
50	110	24/0	50.00 - 52.00	18-13-19-19	31
Grey, wet, dense, fine to coarse SAND, some gravel, some silt, poorly-graded (GLACIAL TILL).					
55	120	22/7	55.00 - 56.83	21-20-37-50/4"	57
Brown, wet, very dense, fine to coarse SAND, little fine to coarse gravel, trace silt, well-graded (GLACIOMARINE FAN DEPOSIT).					
60	130	24/5	60.00 - 62.00	18-18-13-19	31
Grey, wet, dense, fine to coarse SAND, some gravel, some silt, poorly-graded (GLACIAL TILL).					
65					
Boulder encountered from 63.5 to 64.5 feet bgs.					
70	81	60/56.4	66.80 - 71.80	ROD = 88%	ND
R1: Light grey, fine to medium grained, medium strong (R1), bluish SILTST, fresh (W1), little to moderately fractured, discontinuities shallowly dipping, tightly spaced, and rough, average 1.5 fractures per foot (VASSALBORO FORMATION). Rock Mass Quality = Good Rock Core Rate (min/sec) 66.8-67.8 ft (4459) 67.8-68.8 ft (4216) 68.8-69.8 ft (4217) 69.8-70.8 ft (4217) 70.8-71.8 ft (4148) 94% Recovery					
75	82	60/58.8	71.80 - 76.80	ROD = 95%	ND
R2: Light grey, fine to medium grained, medium strong (R2) to very strong (R2), bluish SILTST, with frequent granitic intrusions, fresh (W1) to slightly weathered (W2), discontinuities shallowly dipping, widely spaced, and smooth to rough, average 0.6 fractures per foot (VASSALBORO FORMATION).					

Maine Department of Transportation		Project: Bowdin Lewis Bridge #536 over West Cathance Stream Location: Bowdin, Maine		Boring No.: BB-BWCS-102	
S.W. Cole Explorations		US CUSTOMARY UNITS		WIN: 026160.00	
Driller: S.W. Cole Explorations	Elevation (ft.): 128.0	Auger ID/OD: 2 1/4 in (1D)	Operator: M. Bussey Datum: NAVD88 Sampler: Standard Split Spoon		
Operator: M. Bussey	Log Type: B-48 Mobile Drill	Home Wt./Fall: 140 lbs / 30 in	Date Start/Finish: 4/4/2023-4/6/2023		
Logged By: D. Bursey	Rig Type: B-48 Mobile Drill	Home Wt./Fall: 140 lbs / 30 in	Boring Location: N: 43834.044, E: 109272.846		
Date Start/Finish: 4/4/2023-4/6/2023	Drilling Method: Cased Wash / Solid Stem Auger	Core Barrel: 1 7/8 in - ND	Boring Location: N: 43834.044, E: 109272.846		
Boring Location: N: 43834.044, E: 109272.846	Casing ID/OD: 4 in / 4.5 in, telescope 3 in / 3.5 in	Water Level: See Remarks	Hammer Efficiency Factor: 0.91		
Hammer Efficiency Factor: 0.91		Hammer Type: Automatic		Hydraulic	
Definitions: S = Rock Core Sample, SA = Split Spoon Sample, U = Unsuccessful Split Spoon Sample Attempt, V = Field Vane Shear Test, W = Unsuccessful Field Vane Shear Test Attempt, X = Unsuccessful Field Vane Shear Test Attempt T = Push-Resistance Force from Undrained Shear Strength Test, U = Lab. Undrained Shear Strength Test, W = Water Content, percent, LL = Liquid Limit, P = Plasticity Index, N = Number of Blows, R = Blow Count, M = Moisture, % H = Hammer Efficiency Factor = Rig Specific Amount Calibration Value * Fracture Index, N = SPT Uncorrected Corrected for Hammer Efficiency, W = Grain Size Analysis, C = Consolidation Test		Definitions: S = Rock Core Sample, SA = Split Spoon Sample, U = Unsuccessful Split Spoon Sample Attempt, V = Field Vane Shear Test, W = Unsuccessful Field Vane Shear Test Attempt, X = Unsuccessful Field Vane Shear Test Attempt T = Push-Resistance Force from Undrained Shear Strength Test, U = Lab. Undrained Shear Strength Test, W = Water Content, percent, LL = Liquid Limit, P = Plasticity Index, N = Number of Blows, R = Blow Count, M = Moisture, % H = Hammer Efficiency Factor = Rig Specific Amount Calibration Value * Fracture Index, N = SPT Uncorrected Corrected for Hammer Efficiency, W = Grain Size Analysis, C = Consolidation Test		Definitions: S = Rock Core Sample, SA = Split Spoon Sample, U = Unsuccessful Split Spoon Sample Attempt, V = Field Vane Shear Test, W = Unsuccessful Field Vane Shear Test Attempt, X = Unsuccessful Field Vane Shear Test Attempt T = Push-Resistance Force from Undrained Shear Strength Test, U = Lab. Undrained Shear Strength Test, W = Water Content, percent, LL = Liquid Limit, P = Plasticity Index, N = Number of Blows, R = Blow Count, M = Moisture, % H = Hammer Efficiency Factor = Rig Specific Amount Calibration Value * Fracture Index, N = SPT Uncorrected Corrected for Hammer Efficiency, W = Grain Size Analysis, C = Consolidation Test	
Sample Information		Visual Description and Remarks		Laboratory Testing Results/ASTM and Unified Class.	
Depth (ft.)	Sample No.	Prep. (ft.)	Sample Depth (ft.)	Blow (1/8 in. in. Strength) (ft.)	Blow (1/8 in. in. Strength) (ft.)
75					
Rock Mass Quality = Excellent 11-6-7-7 ft (2301) 12-8-7-8 ft (2336) 13-8-7-8 ft (2345) 14-8-7-8 ft (3115) 15-8-7-8 ft (4402) 98% Recovery					
Bottom of exploration at 76.8 feet below ground surface. Boring backfilled with bentonite chips and capped with cold patch to ground surface.					
80					
Advanced casing to 15 ft bgs with no sampling. See BB-BWCS-102B for stratigraphy.					
85					
Wood encountered at 11.5 ft bgs.					
90					
No recovery					
95					
Light grey, wet, medium dense, fine to coarse SAND, trace gravel, trace silt, well-graded (GLACIOMARINE FAN DEPOSIT).					
100					
Grey, wet, very dense, coarse SAND, some gravel, trace silt (GLACIOMARINE FAN DEPOSIT). Cobble in tip of spoon.					
105					
Casing bent at 25 ft bgs and drive shoe broke off in hole.					
Bottom of exploration at 25.0 feet below ground surface. Boring terminated due to casing damage. Backfilled with bentonite chips and capped with cold patch to ground surface. Offset 5 feet southeast to BB-BWCS-102.					
1. Hammer efficiency factor provided by S.W. Cole and taken from "Standard Penetration Test Energy Measurement Calibration Tracked Rig - Mobile Drill B-48 with Automatic Hammer (SN 2021021)" by Geotechnics Testing and Research, Inc., dated 11/4/2022. 2. As- drilled boring locations and ground surface elevations were provided by MaineDOT in electronic file "CORRECTED BORINGS 17 AUG 23.csv". 3. Water level measured at 10.12 ft bgs at 15:30 on 4/4/2023. 10.55 ft bgs at 9:08 on 4/5/2023. 15.8 ft bgs at 15:25 on 4/5/2023. 16.81 ft bgs at 8:20 on 4/6/2023. and 6.35 ft bgs at 12:18 on 4/6/2023. 4. Boring Station 103-30-96, Offset 8.0 feet.					
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.					

Maine Department of Transportation		Project: Bowdin Lewis Bridge #536 over West Cathance Stream Location: Bowdin, Maine		Boring No.: BB-BWCS-102A	
S.W. Cole Explorations		US CUSTOMARY UNITS		WIN: 026160.00	
Driller: S.W. Cole Explorations	Elevation (ft.): 127.9	Auger ID/OD: 2 1/4 in (1D)	Operator: M. Bussey Datum: NAVD88 Sampler: Standard Split Spoon		
Operator: M. Bussey	Log Type: B-48 Mobile Drill	Home Wt./Fall: 140 lbs / 30 in	Date Start/Finish: 4/3/2023-4/4/2023		
Logged By: D. Bursey	Rig Type: B-48 Mobile Drill	Home Wt./Fall: 140 lbs / 30 in	Boring Location: N: 43836.300, E: 109274.807		
Date Start/Finish: 4/3/2023-4/4/2023	Drilling Method: Cased Wash	Core Barrel: N/A	Boring Location: N: 43836.300, E: 109274.807		
Boring Location: N: 43836.300, E: 109274.807	Casing ID/OD: 4 in / 4.5 in	Water Level: See Remarks	Hammer Efficiency Factor: 0.91		
Hammer Efficiency Factor: 0.91		Hammer Type: Automatic		Hydraulic	
Definitions: S = Rock Core Sample, SA = Split Spoon Sample, U = Unsuccessful Split Spoon Sample Attempt, V = Field Vane Shear Test, W = Unsuccessful Field Vane Shear Test Attempt, X = Unsuccessful Field Vane Shear Test Attempt T = Push-Resistance Force from Undrained Shear Strength Test, U = Lab. Undrained Shear Strength Test, W = Water Content, percent, LL = Liquid Limit, P = Plasticity Index, N = Number of Blows, R = Blow Count, M = Moisture, % H = Hammer Efficiency Factor = Rig Specific Amount Calibration Value * Fracture Index, N = SPT Uncorrected Corrected for Hammer Efficiency, W = Grain Size Analysis, C = Consolidation Test		Definitions: S = Rock Core Sample, SA = Split Spoon Sample, U = Unsuccessful Split Spoon Sample Attempt, V = Field Vane Shear Test, W = Unsuccessful Field Vane Shear Test Attempt, X = Unsuccessful Field Vane Shear Test Attempt T = Push-Resistance Force from Undrained Shear Strength Test, U = Lab. Undrained Shear Strength Test, W = Water Content, percent, LL = Liquid Limit, P = Plasticity Index, N = Number of Blows, R = Blow Count, M = Moisture, % H = Hammer Efficiency Factor = Rig Specific Amount Calibration Value * Fracture Index, N = SPT Uncorrected Corrected for Hammer Efficiency, W = Grain Size Analysis, C = Consolidation Test		Definitions: S = Rock Core Sample, SA = Split Spoon Sample, U = Unsuccessful Split Spoon Sample Attempt, V = Field Vane Shear Test, W = Unsuccessful Field Vane Shear Test Attempt, X = Unsuccessful Field Vane Shear Test Attempt T = Push-Resistance Force from Undrained Shear Strength Test, U = Lab. Undrained Shear Strength Test, W = Water Content, percent, LL = Liquid Limit, P = Plasticity Index, N = Number of Blows, R = Blow Count, M = Moisture, % H = Hammer Efficiency Factor = Rig Specific Amount Calibration Value * Fracture Index, N = SPT Uncorrected Corrected for Hammer Efficiency, W = Grain Size Analysis, C = Consolidation Test	
Sample Information		Visual Description and Remarks		Laboratory Testing Results/ASTM and Unified Class.	
Depth (ft.)	Sample No.	Prep. (ft.)	Sample Depth (ft.)	Blow (1/8 in. in. Strength) (ft.)	Blow (1/8 in. in. Strength) (ft.)
0					
Advanced hollow-stem auger to 10 ft bgs with no sampling. See BB-BWCS-102B for stratigraphy.					
5					
Advanced casing to 15 ft bgs with no sampling. See BB-BWCS-102B for stratigraphy.					
10					
Wood encountered at 11.5 ft bgs.					
15					
No recovery					
20					
Light grey, wet, medium dense, fine to coarse SAND, trace gravel, trace silt, well-graded (GLACIOMARINE FAN DEPOSIT).					
25					
Grey, wet, very dense, coarse SAND, some gravel, trace silt (GLACIOMARINE FAN DEPOSIT). Cobble in tip of spoon.					
30					
Casing bent at 25 ft bgs and drive shoe broke off in hole.					
Bottom of exploration at 25.0 feet below ground surface. Boring terminated due to casing damage. Backfilled with bentonite chips and capped with cold patch to ground surface. Offset 5 feet southeast to BB-BWCS-102.					
1. Hammer efficiency factor provided by S.W. Cole and taken from "Standard Penetration Test Energy Measurement Calibration Tracked Rig - Mobile Drill B-48 with Automatic Hammer (SN 2021021)" by Geotechnics Testing and Research, Inc., dated 11/4/2022. 2. As- drilled boring locations and ground surface elevations were provided by MaineDOT in electronic file "CORRECTED BORINGS 17 AUG 23.csv". 3. Boring Station 103-30-30, Offset 4.0 feet.					
* Water level readings have been made at times and under conditions stated. Groundwater fluctuations may occur due to conditions other than those present at the time measurements were made.					

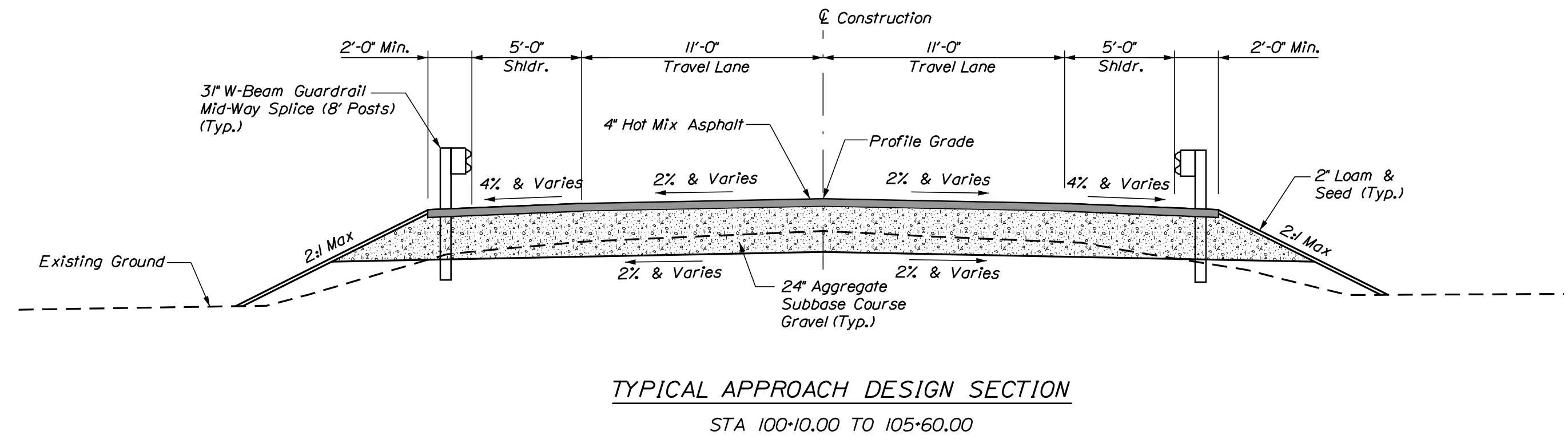
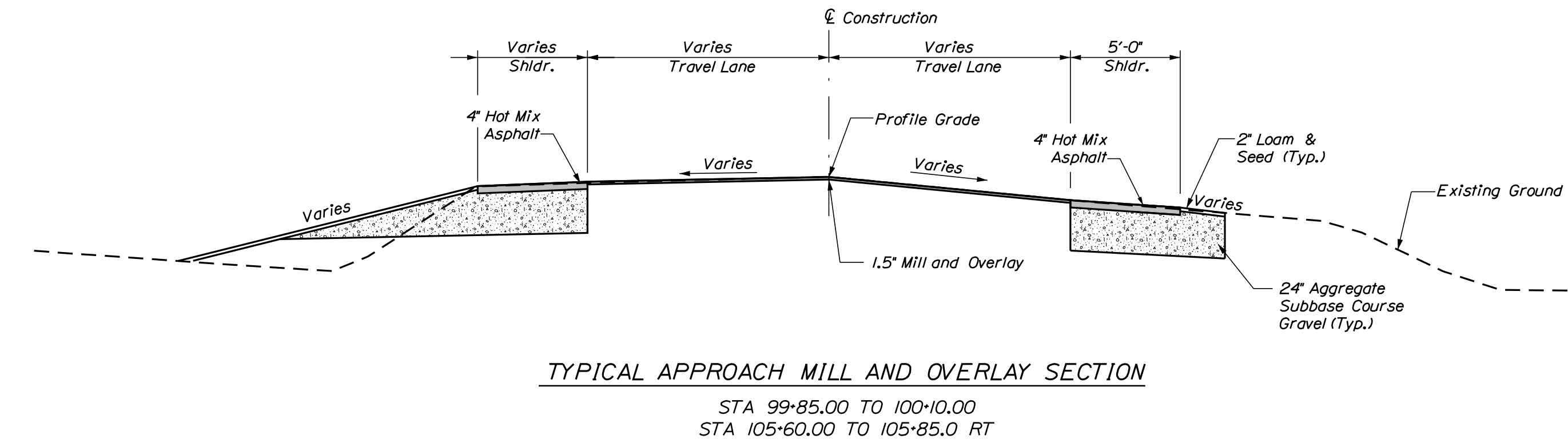
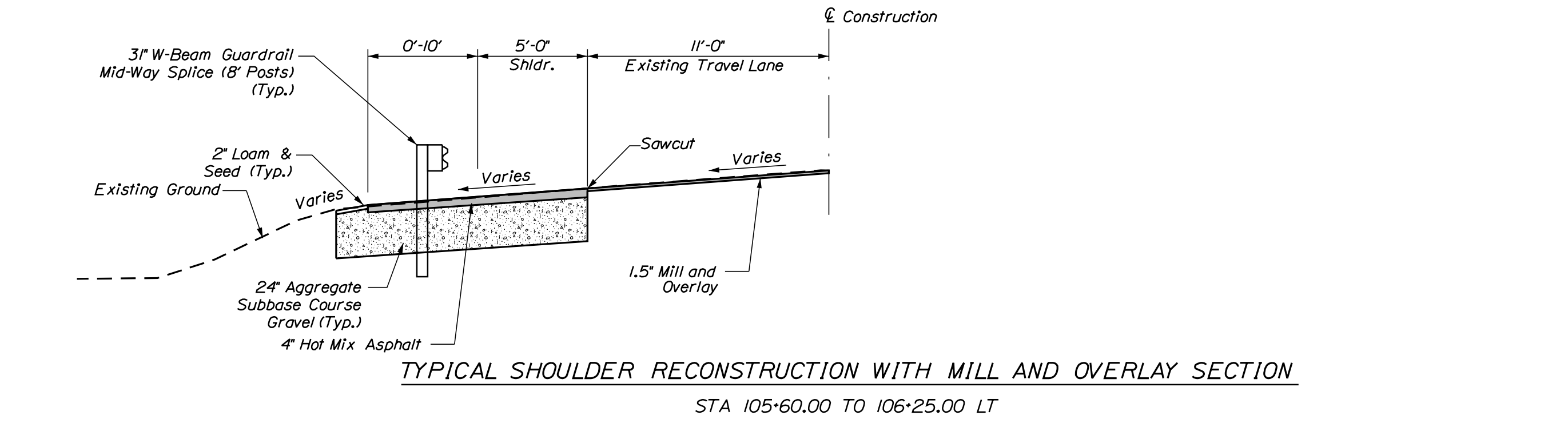
**STATE OF MAINE**  
**DEPARTMENT OF TRANSPORTATION**

**LEWIS BRIDGE**  
**WEST CATHANCE STREAM**  
**SAGADAHOC COUNTY**  
**BOWDIN**

**261600**  
**WIN**  
**26160.00**

**BRIDGE NO.**





DESIGN-DETAILED	J. KHERA	11/2025	SIGNATURE
CHECKED-REVIEWED	T. HIGGINSON	11/2025	P.E. NUMBER
DESIGN-DETAILED	-	-	DATE
REVISIONS 1	-	-	-
REVISIONS 2	-	-	-
REVISIONS 3	-	-	-
REVISIONS 4	-	-	-
FIELD CHANGES	-	-	-

PROJ. MANAGER	B. NICHOLS	BY	J. KHERA	DATE	11/2025
DESIGN-DETAILED	J. KHERA	CHECKED-REVIEWED	T. HIGGINSON	DATE	11/2025
DESIGN-DETAILED	-	DESIGN-DETAILED	-	DATE	-
REVISIONS 1	-	REVISIONS 1	-	DATE	-
REVISIONS 2	-	REVISIONS 2	-	DATE	-
REVISIONS 3	-	REVISIONS 3	-	DATE	-
REVISIONS 4	-	REVISIONS 4	-	DATE	-
FIELD CHANGES	-	FIELD CHANGES	-	DATE	-

LEWIS BRIDGE  
WEST CATHANCE STREAM  
SAGadahoc COUNTY  
BOWDOIN  
TYPICAL SECTIONS

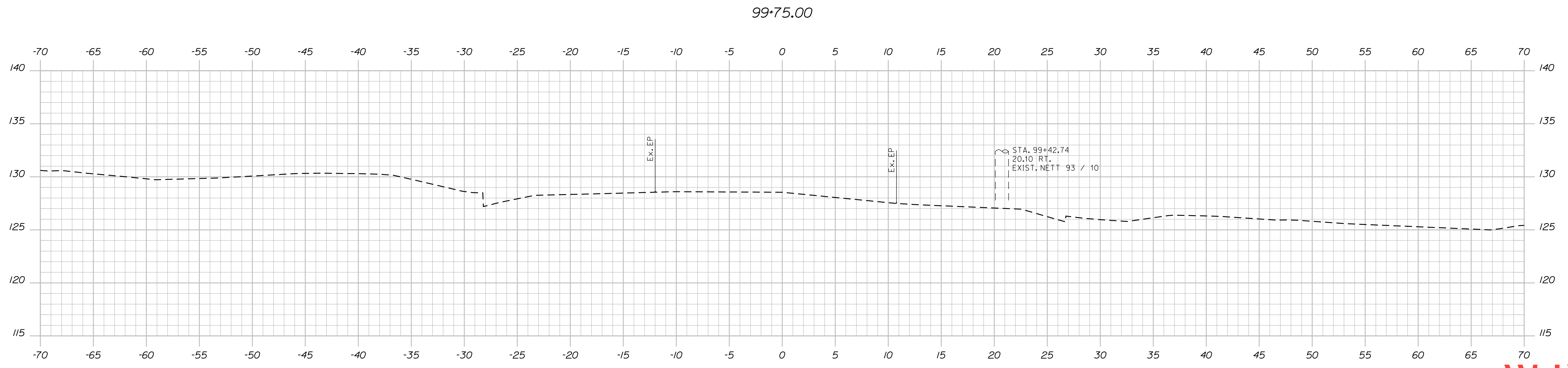
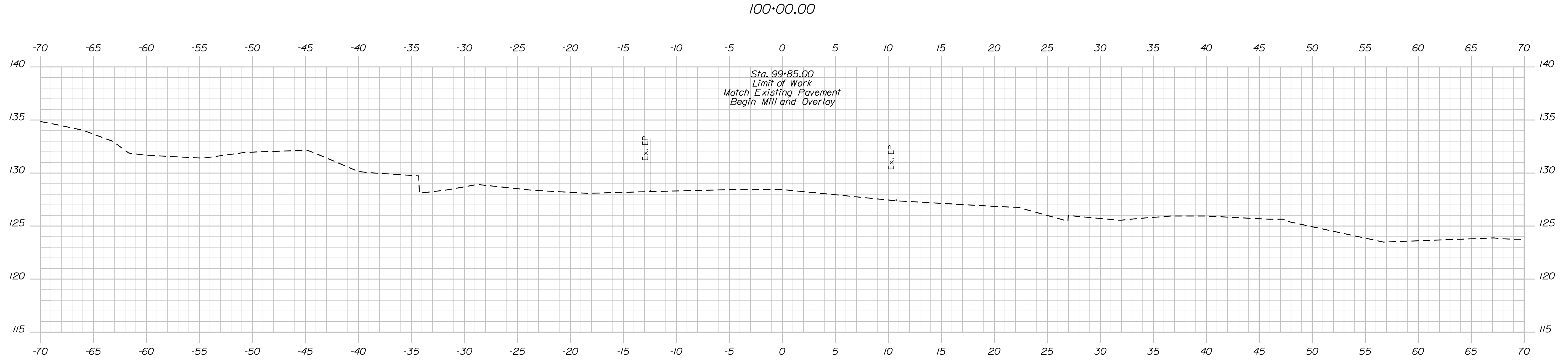
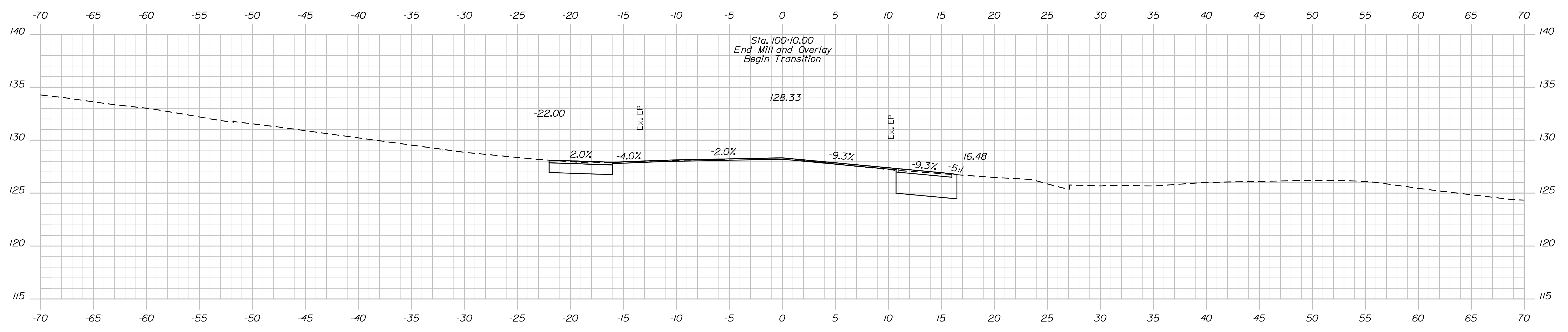


Date: 11/5/2025

Username:

Division: BRIDGE

Filename: ... \MSTA\010\_CrossSections\_01.dgn



STATE OF MAINE		DEPARTMENT OF TRANSPORTATION		2616000	
				WIN	
				26160.00	
				BRIDGE NO. 6396	
				BRIDGE PLANS	
LEWIS BRIDGE		WEST CATHANCE STREAM		SAGADAHOC COUNTY	
BOWDOIN		SAGADAHOC COUNTY		CROSS SECTIONS	
SHEET NUMBER		10		OF 25	
PROJ. MANAGER		B. NICHOLS		DATE	
DESIGN DETAILED		J. KHERA		11/2025	
CHECKED/REVIEWED		T. HIGGINS		11/2025	
DESIGN DETAILED		T. HIGGINS		SIGNATURE	
REVISIONS 1				P.E. NUMBER	
REVISIONS 2				DATE	
REVISIONS 3					
REVISIONS 4					
FIELD CHANGES					

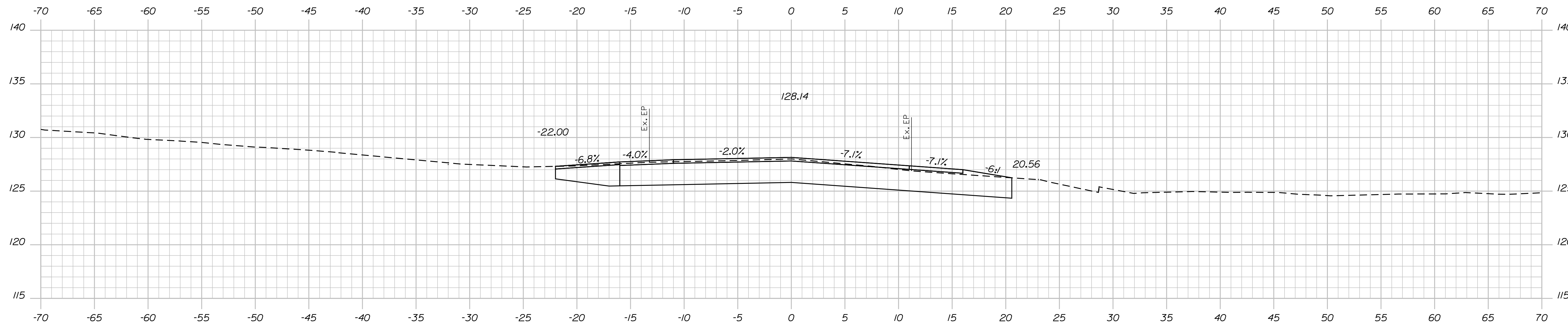


Date: 11/5/2025

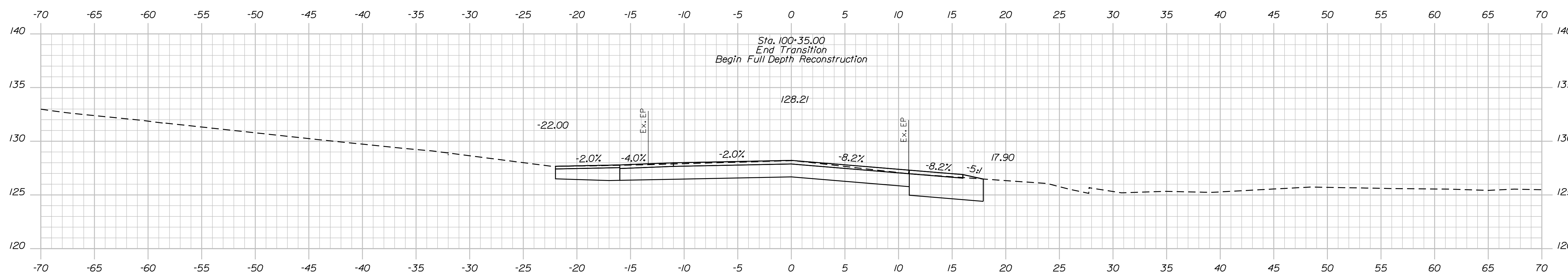
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Division: BRIDGE

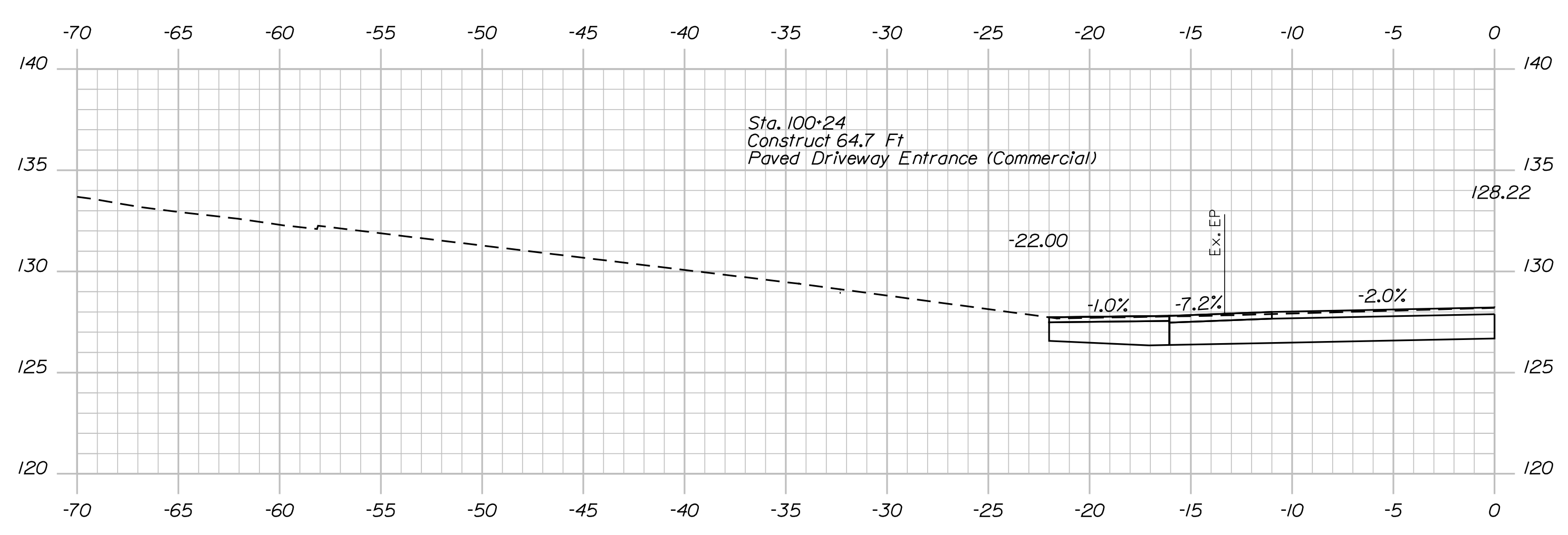
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100+50.00



100+25.00



100+24.00

STATE OF MAINE DEPARTMENT OF TRANSPORTATION		2616000
BOWDOIN WEST CATHANCE STREAM SAGadahoc COUNTY		BRIDGE NO. 6396 WIN 26160.00
LEWIS BRIDGE CROSS SECTIONS		BRIDGE PLANS
PROJ. MANAGER B. NICHOLS	BY J. KHERA	DATE 11/2025
DESIGN DETAILED J. KHERA	CHECKED/REVIEWED T. HIGGINS	SIGNATURE
DESIGNS DETAILED	REVISIONS 1	P.E. NUMBER
REVISIONS 2	REVISIONS 3	DATE
REVISIONS 4	FIELD CHANGES	
SHEET NUMBER		11
OF 25		OF 25

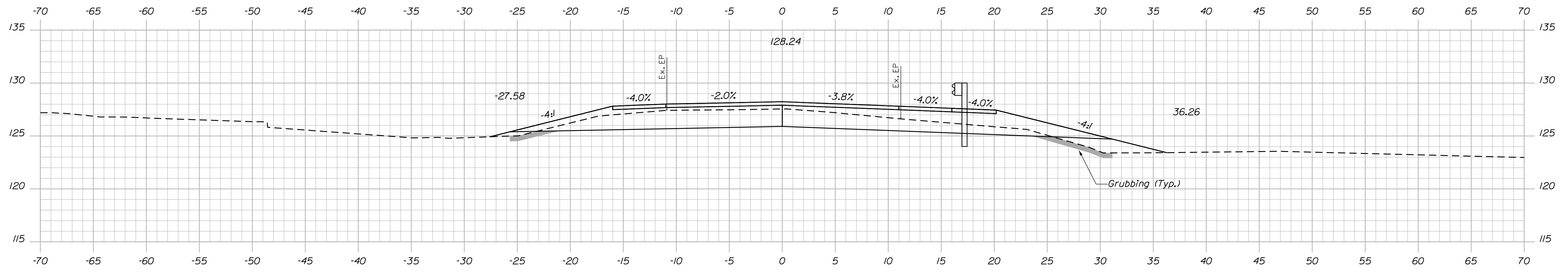


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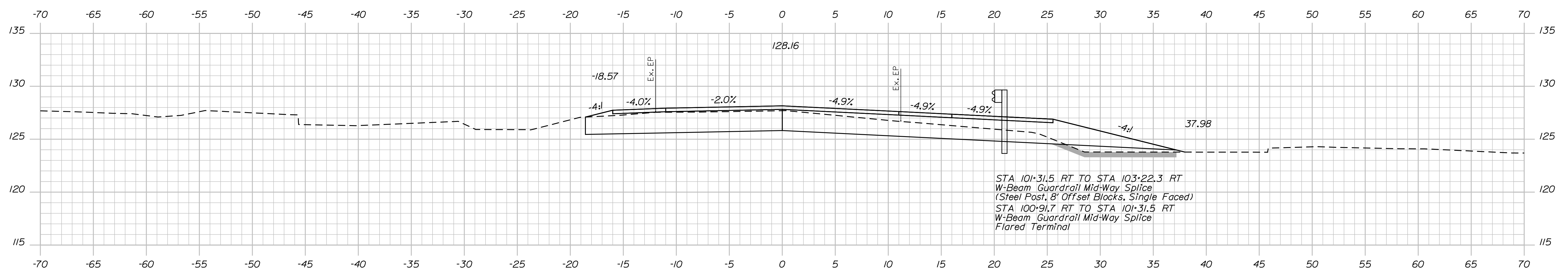
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Division: BRIDGE

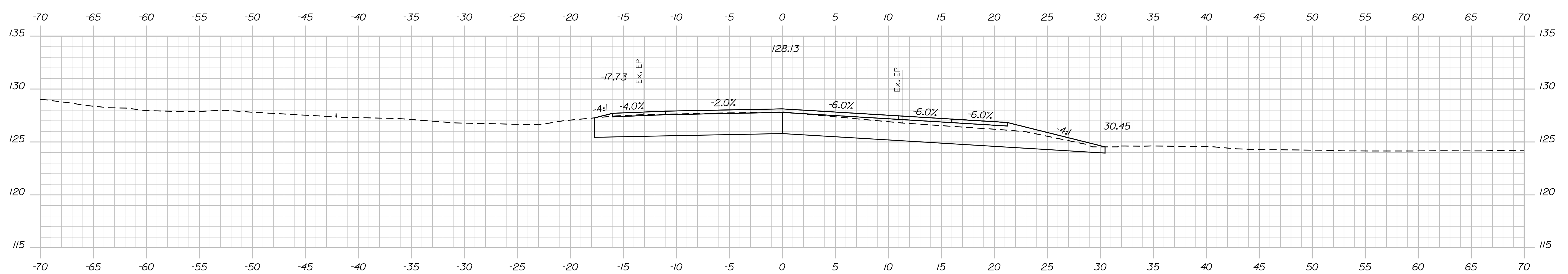
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101+25.00



101+00.00



100+75.00

STA 101+31.5 RT TO STA 103+22.3 RT  
 W-Beam Guardrail Mid-Way Splice  
 (Steel Post, 8' Offset Blocks, Single Faced)  
 STA 100+91.7 RT TO STA 101+31.5 RT  
 W-Beam Guardrail Mid-Way Splice  
 Flared Terminal

STATE OF MAINE  
 DEPARTMENT OF TRANSPORTATION  
 2616000  
 WIN  
 26160.00  
 BRIDGE NO. 6396  
 BRIDGE PLANS

DESIGN DETAILED	J. KHERA	11/2025	SIGNATURE
CHECKED/REVIEWED	T. HIGGINS	11/2025	P.E. NUMBER
DESIGN DETAILED			DATE
REVISIONS 1			
REVISIONS 2			
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

PROJ. MANAGER: B. NICHOLS  
 BY: J. KHERA  
 DATE: 11/2025

LEWIS BRIDGE  
 WEST CATHANCE STREAM  
 SAGadahoc COUNTY  
 BOWDOIN  
 CROSS SECTIONS

SHEET NUMBER  
 12  
 OF 25



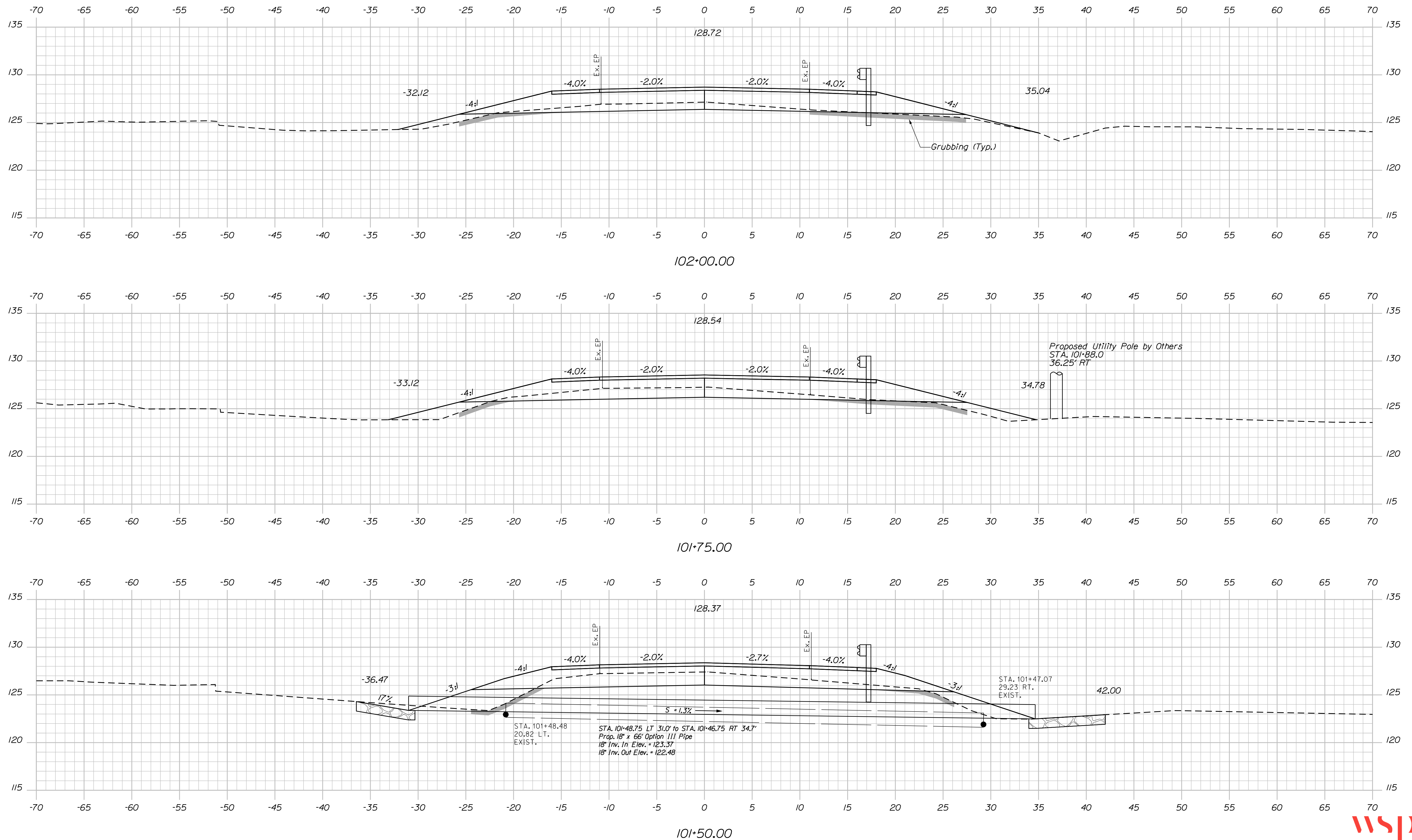
Sta. 100+75.00 to Sta. 101+25.00

Date: 11/5/2025

Username:

Division: BRIDGE

Filename: ... \MSTA013\_CrossSections\_04.dgn



STATE OF MAINE		DEPARTMENT OF TRANSPORTATION		2616000		WIN		26160.00		BRIDGE NO. 6396		BRIDGE PLANS	
LEWIS BRIDGE		WEST CATHANCE STREAM		SAGADAHOC COUNTY		BOWDOIN		CROSS SECTIONS		SHEET NUMBER		13	
PROJ. MANAGER		B. NICHOLS		BY		DATE		SIGNATURE		P.E. NUMBER		DATE	
DESIGN DETAILED		J. KHERA		J. KHERA		11/2025		SIGNATURE		P.E. NUMBER		DATE	
CHECKED/REVIEWED		T. HIGGINS		T. HIGGINS		11/2025		SIGNATURE		P.E. NUMBER		DATE	
DESIGN DETAILED		T. HIGGINS		T. HIGGINS		11/2025		SIGNATURE		P.E. NUMBER		DATE	
REVISIONS 1								SIGNATURE		P.E. NUMBER		DATE	
REVISIONS 2								SIGNATURE		P.E. NUMBER		DATE	
REVISIONS 3								SIGNATURE		P.E. NUMBER		DATE	
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FIELD CHANGES								SIGNATURE		P.E. NUMBER		DATE	

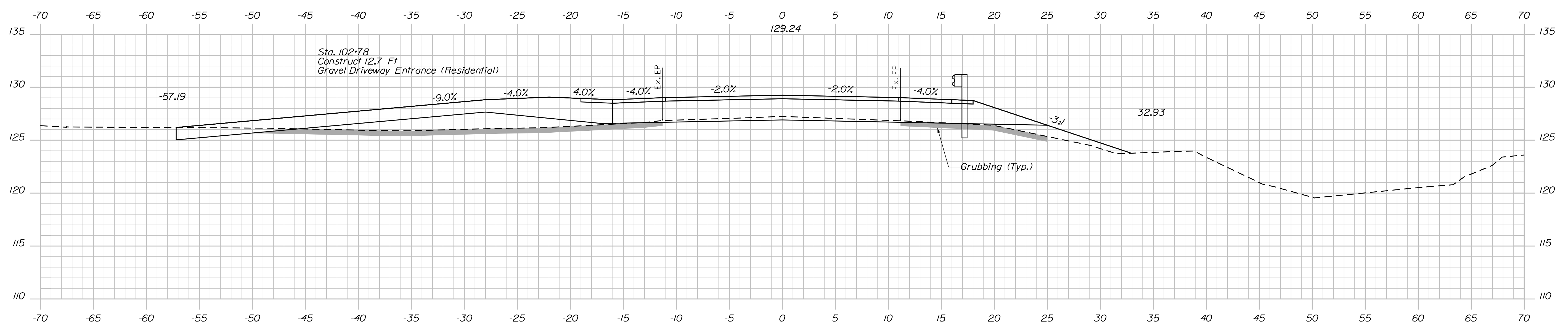


Date: 11/5/2025

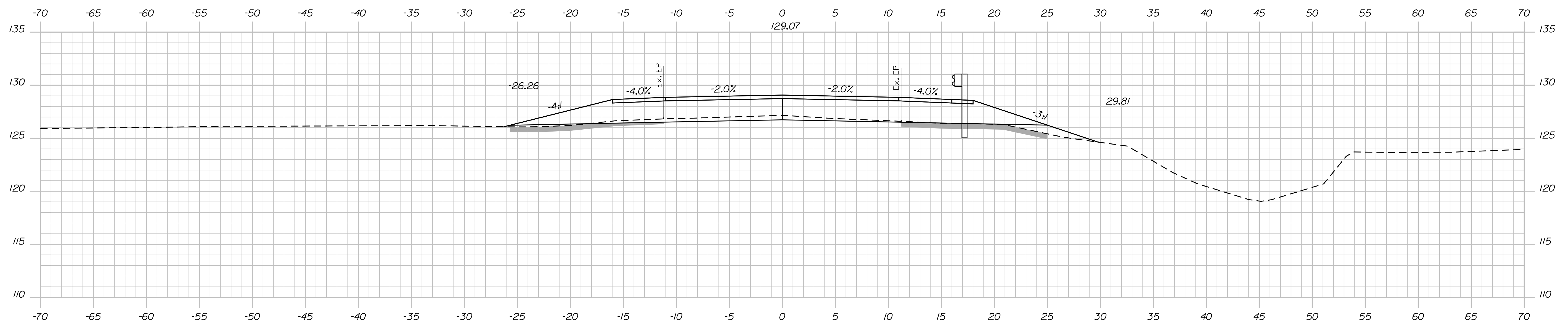
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Division: BRIDGE

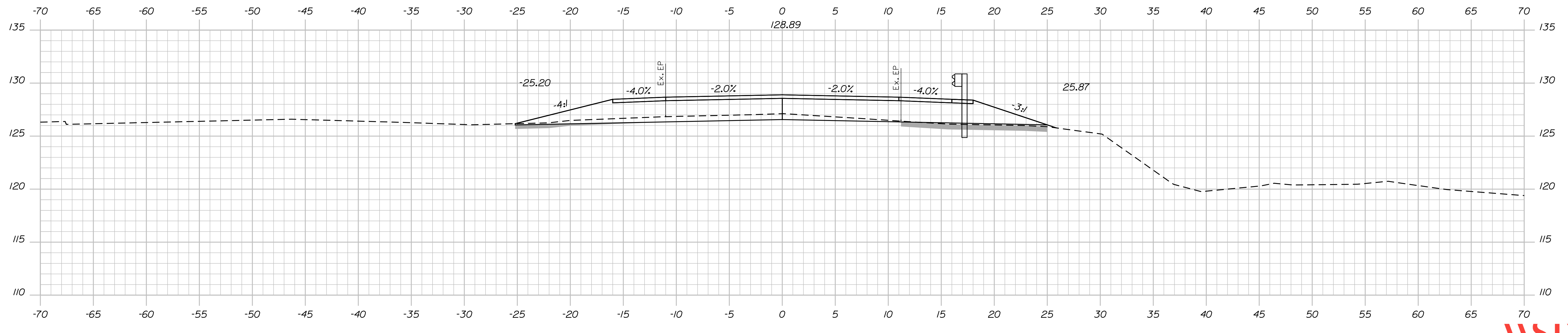
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102+75.00



102+50.00



102+25.00

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
2616000  
WIN  
26160.00  
BRIDGE NO. 6396  
BRIDGE PLANS

DESIGN DETAILED  
CHECKED/REVIEWED  
DESIGN DETAILED  
REVISIONS 1  
REVISIONS 2  
REVISIONS 3  
REVISIONS 4  
FIELD CHANGES

PROJ. MANAGER	BY	DATE
B. NICHOLS	J. KHERA	11/2025
J. KHERA	T. HIGGINSON	11/2025
T. HIGGINSON		

LEWIS BRIDGE  
WEST CATHANCE STREAM  
SAGadahoc COUNTY  
BOWDOIN  
CROSS SECTIONS

SHEET NUMBER  
14  
OF 25



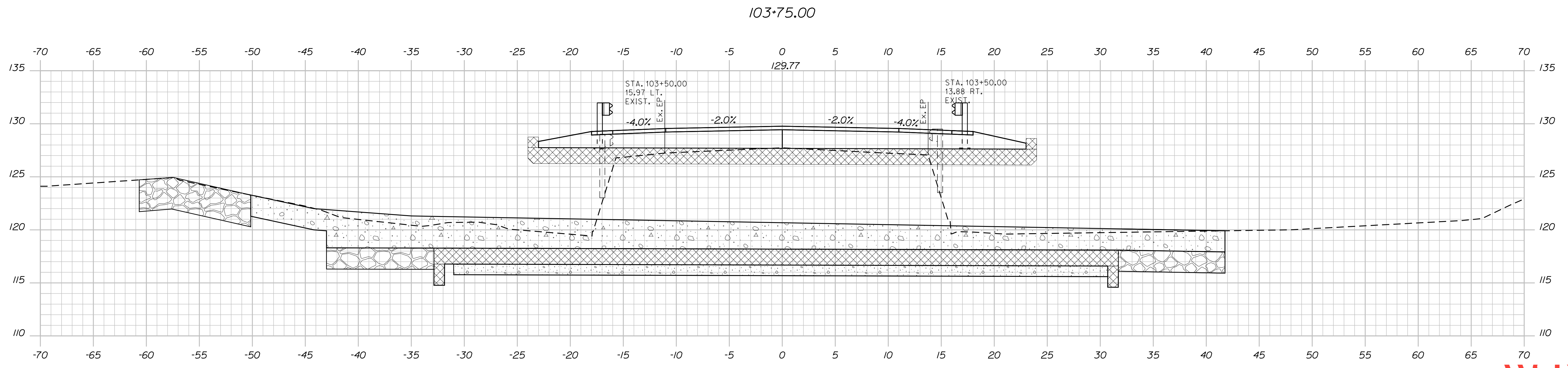
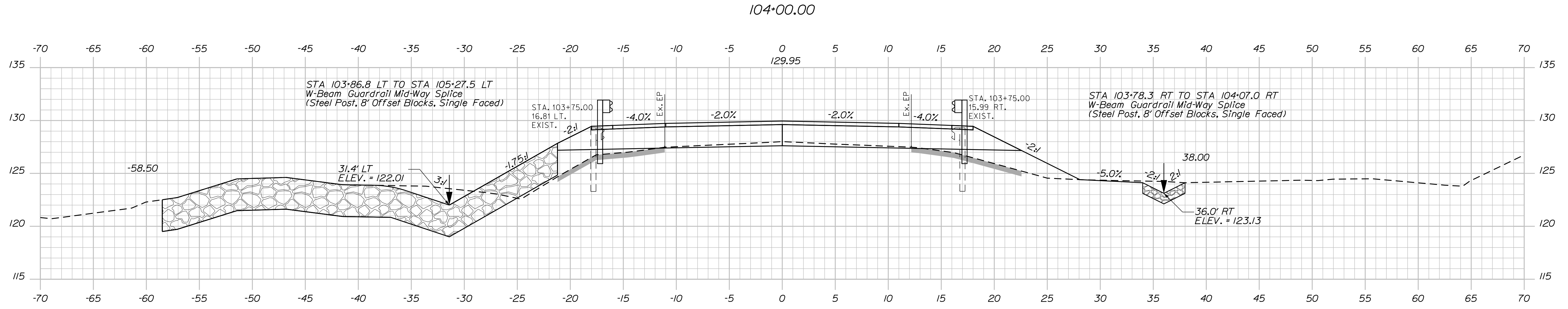
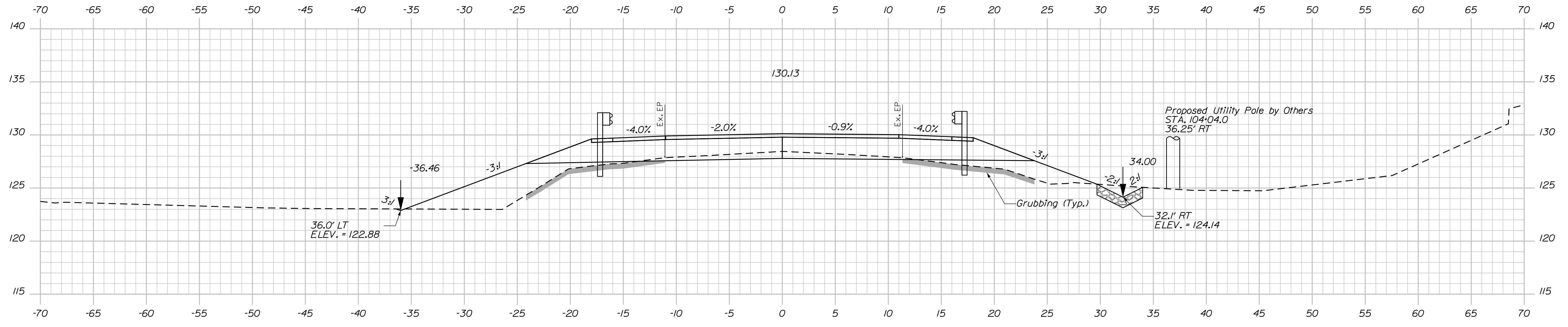


Date: 11/5/2025

Username:

Division: BRIDGE

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STATE OF MAINE DEPARTMENT OF TRANSPORTATION		2616000		BRIDGE NO. 6396		WIN		26160.00		BRIDGE PLANS	
LEWIS BRIDGE		WEST CATHANCE STREAM		SAGADAHOC COUNTY		BOWDOIN		CROSS SECTIONS		SHEET NUMBER	
PROJ. MANAGER		BY		DATE		DESIGN DETAILED		SIGNATURE		P.E. NUMBER	
B. NICHOLS		J. KHERA		11/2025		J. KHERA		T. HIGGINS		11/2025	
CHECKED/REVIEWED		DESIGN DETAILED		REVISIONS 1		REVISIONS 2		REVISIONS 3		REVISIONS 4	
T. HIGGINS		T. HIGGINS		T. HIGGINS		T. HIGGINS		T. HIGGINS		T. HIGGINS	
FIELD CHANGES		FIELD CHANGES		FIELD CHANGES		FIELD CHANGES		FIELD CHANGES		FIELD CHANGES	
16		OF 25		Sta. 103+50.00 to Sta. 104+00.00		WSP					

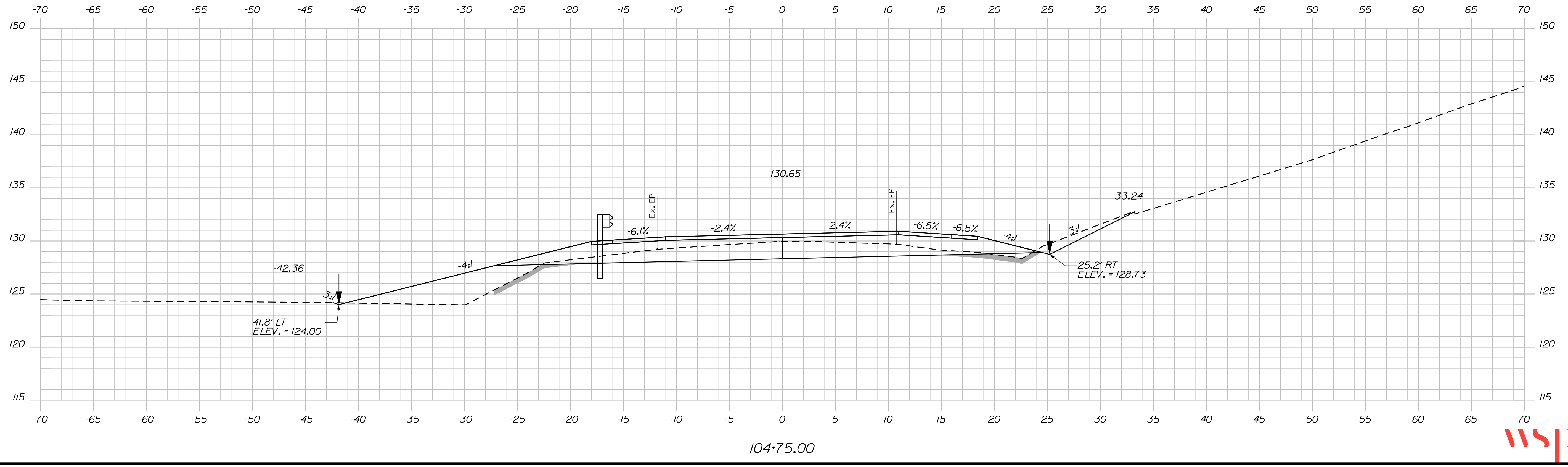
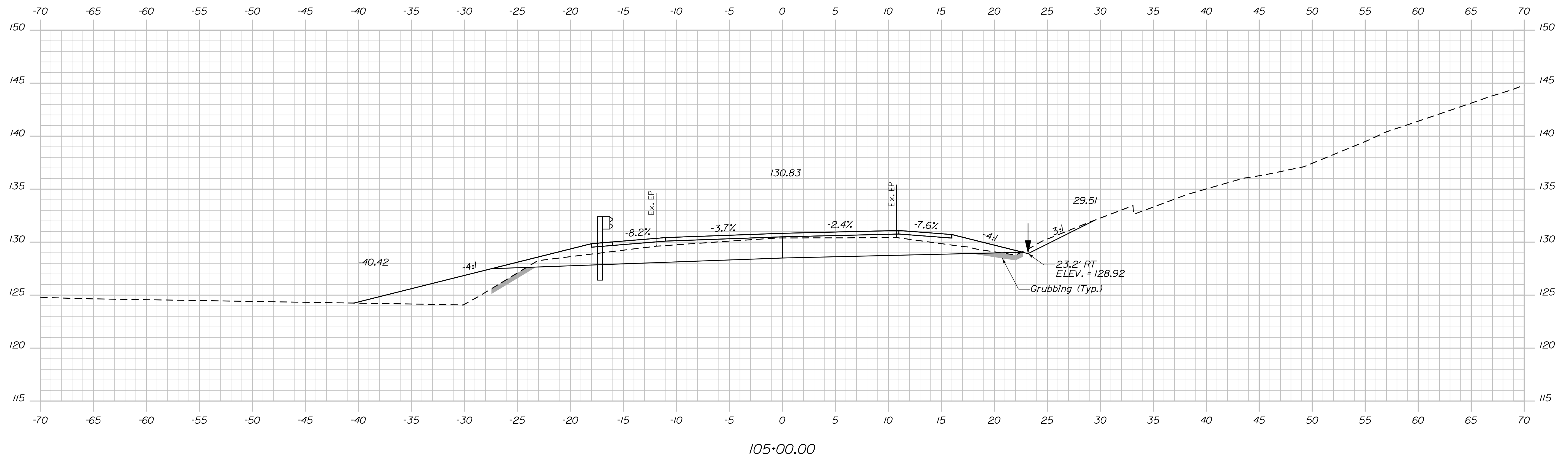


Date: 11/5/2025

Username:

Division: BRIDGE

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STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
2616000  
WIN  
26160.00  
BRIDGE NO. 6396  
BRIDGE PLANS

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

DATE  
11/7/2025

BY  
J. KHERA  
T. HIGGINS

SIGNATURE  
P.E. NUMBER  
DATE

LEWIS BRIDGE  
WEST CATHANCE STREAM  
SAGadahoc COUNTY  
BOWDOIN

CROSS SECTIONS

SHEET NUMBER  
18  
OF 25



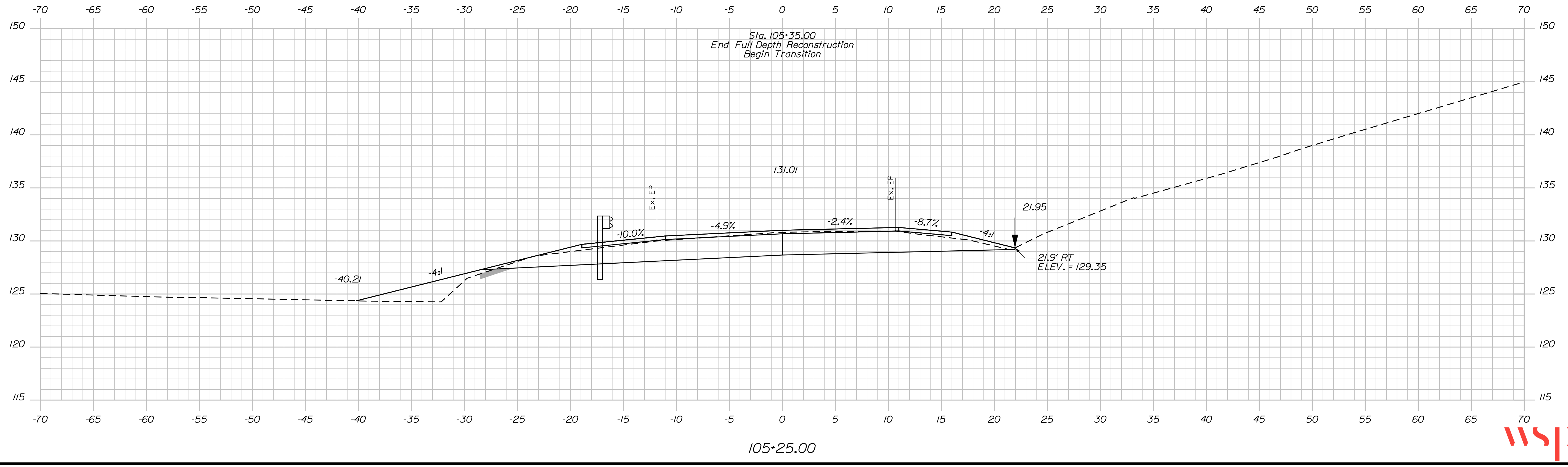
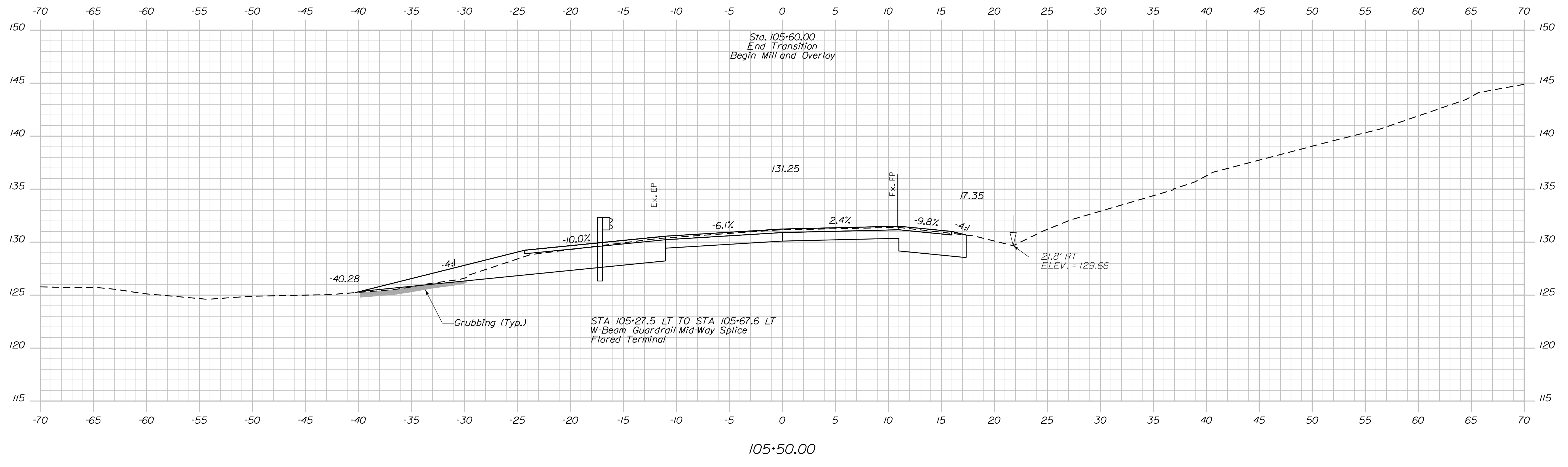
Sta. 104+75.00 to Sta. 105+00.00

Date: 11/5/2025

Username:

Division: BRIDGE

Filename: ... \MSTA\019\_CrossSections\_10.dgn



STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
2616000  
WIN  
26160.00  
BRIDGE NO. 6396  
BRIDGE PLANS

PROJ. MANAGER: B. NICHOLS  
DESIGN DETAILED: J. KHERA  
CHECKED/REVIEWED: T. HIGGINS  
DESIGN DETAILED: T. HIGGINS  
SIGNATURE: \_\_\_\_\_  
P.E. NUMBER: \_\_\_\_\_  
DATE: \_\_\_\_\_

PROJ. MANAGER	BY	DATE
B. NICHOLS	J. KHERA	11/2025
DESIGN DETAILED	T. HIGGINS	11/2025
REVISIONS 1		
REVISIONS 2		
REVISIONS 3		
REVISIONS 4		
FIELD CHANGES		

LEWIS BRIDGE  
WEST CATHANCE STREAM  
SAGadahoc COUNTY  
BOWDOIN  
CROSS SECTIONS

SHEET NUMBER  
**19**  
OF 25



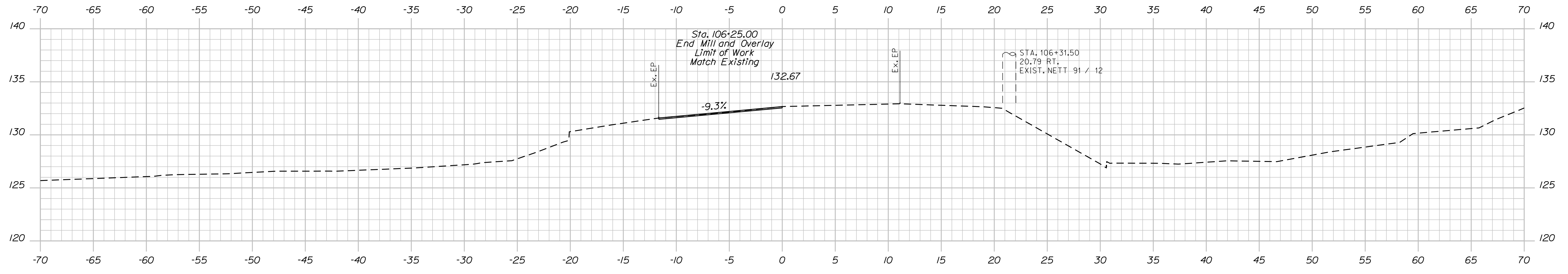
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Date: 11/5/2025

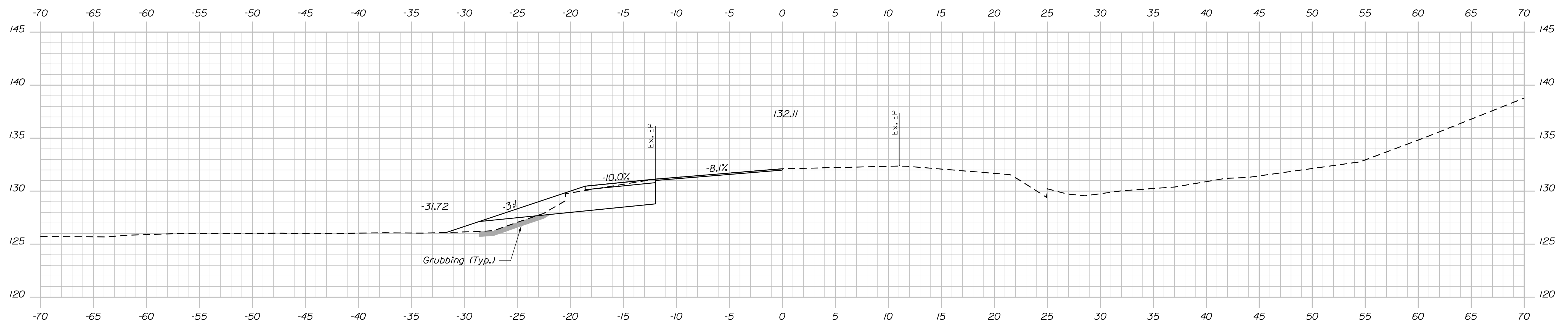
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Division: BRIDGE

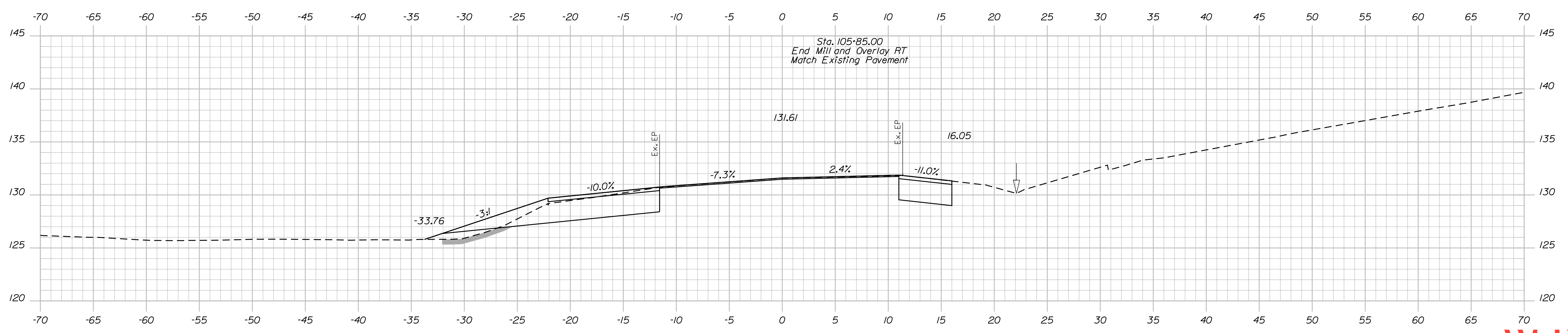
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106+25.00



106+00.00



105+75.00

STATE OF MAINE  
DEPARTMENT OF TRANSPORTATION  
2616000  
WIN  
26160.00  
BRIDGE NO. 6396  
BRIDGE PLANS

DESIGNED BY	J. KHERA	DATE	11/2025
CHECKED BY	T. HIGGINS	DATE	11/2025
DESIGNED		SIGNATURE	
REVISIONS 1		P.E. NUMBER	
REVISIONS 2		DATE	
REVISIONS 3			
REVISIONS 4			
FIELD CHANGES			

PROJ. MANAGER	B. NICHOLS
DESIGNED	J. KHERA
CHECKED	T. HIGGINS
DESIGNED	
REVISIONS 1	
REVISIONS 2	
REVISIONS 3	
REVISIONS 4	
FIELD CHANGES	

LEWIS BRIDGE  
WEST CATHANCE STREAM  
SAGadahoc COUNTY  
BOWDOIN  
CROSS SECTIONS

SHEET NUMBER  
**20**  
OF 25





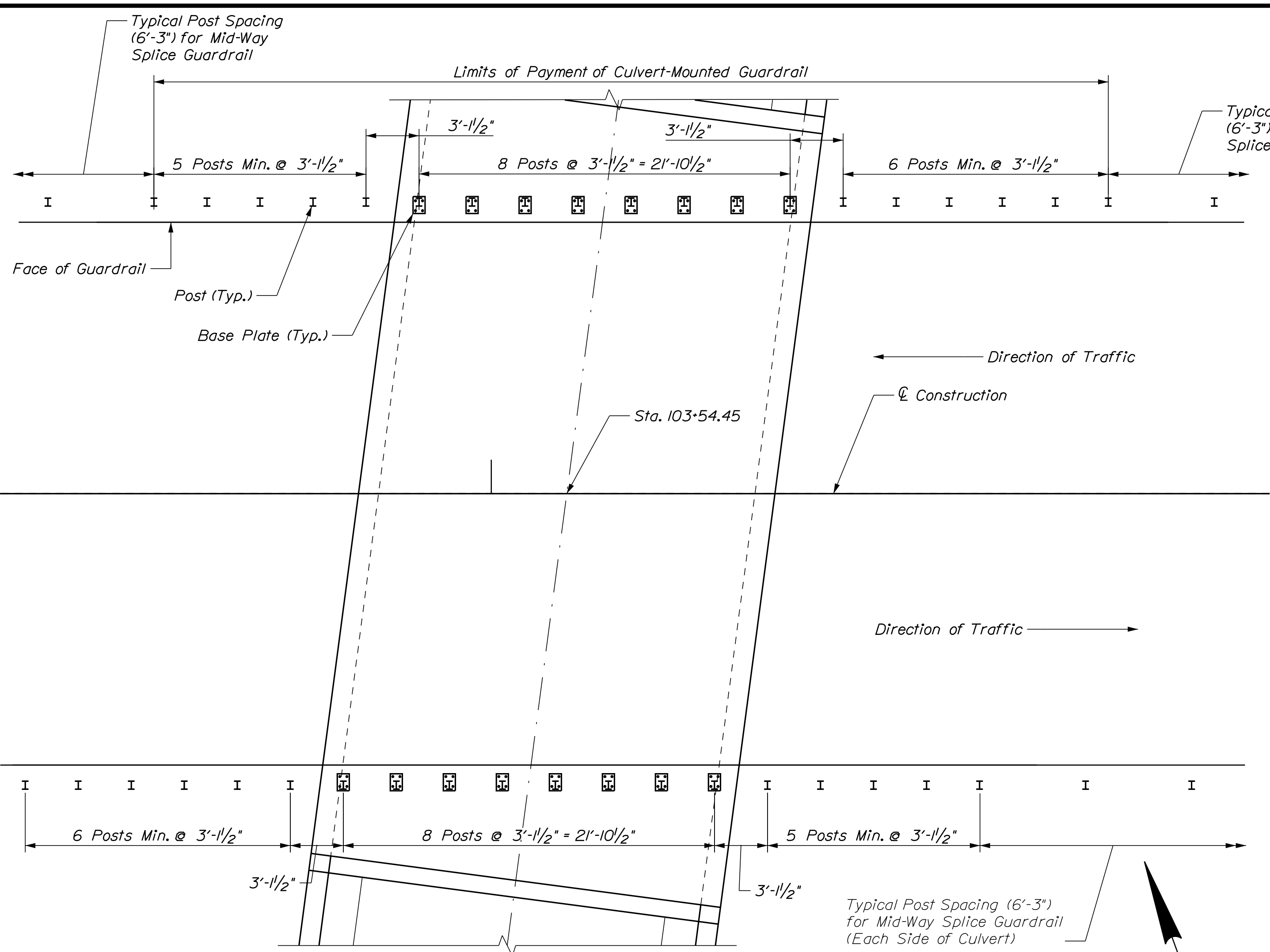


Date: 11/5/2025

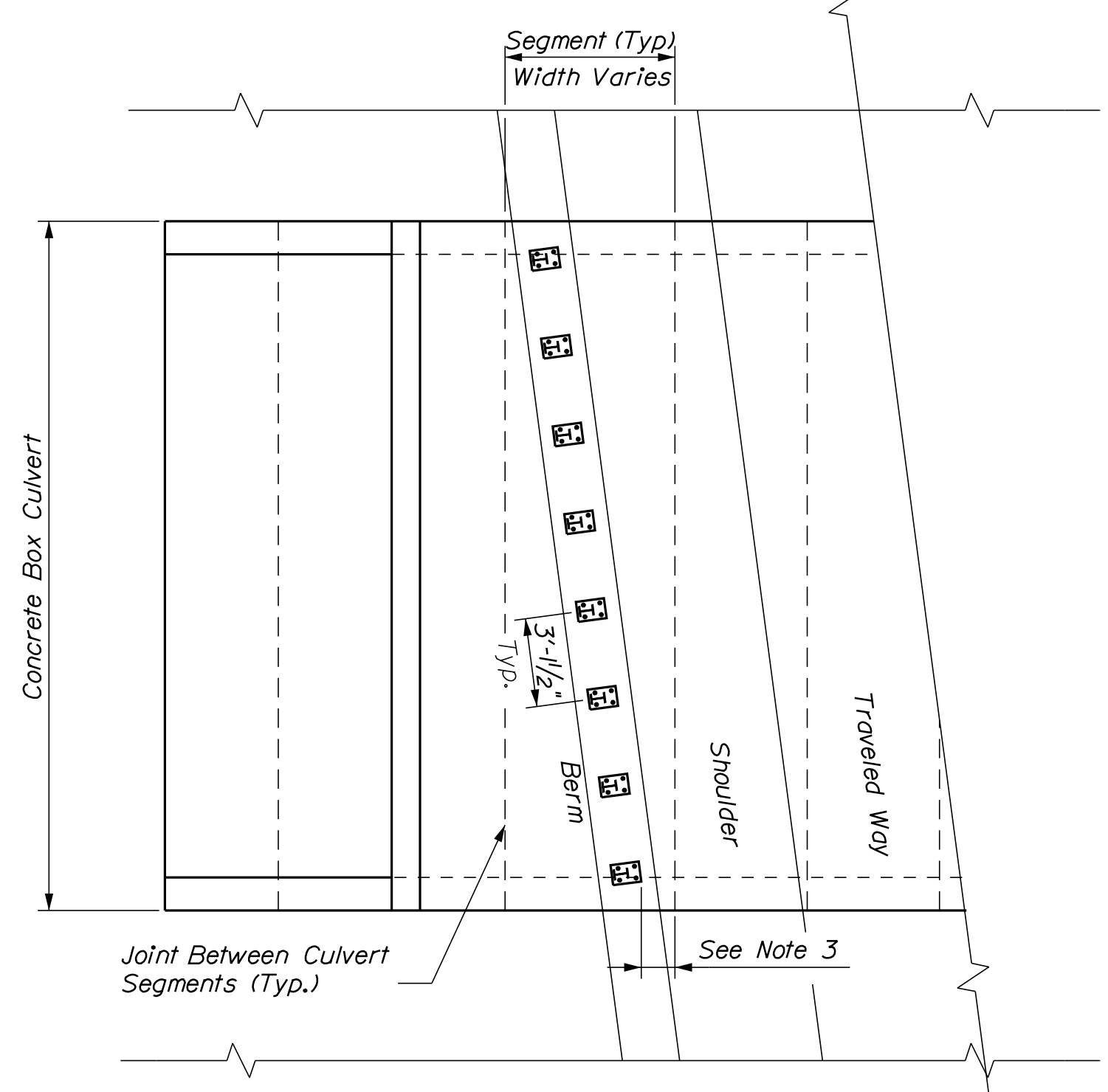
Username:

Division: BRIDGE

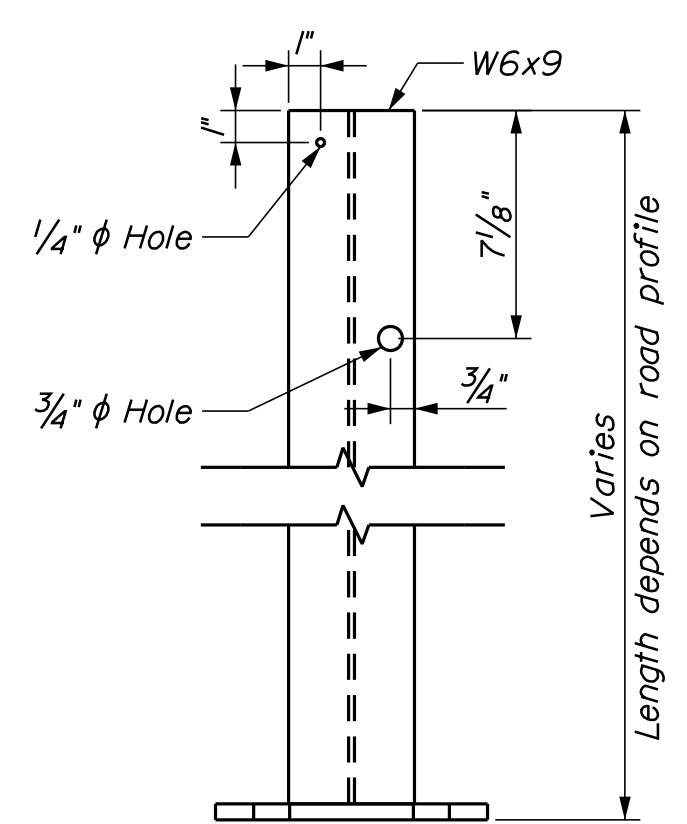
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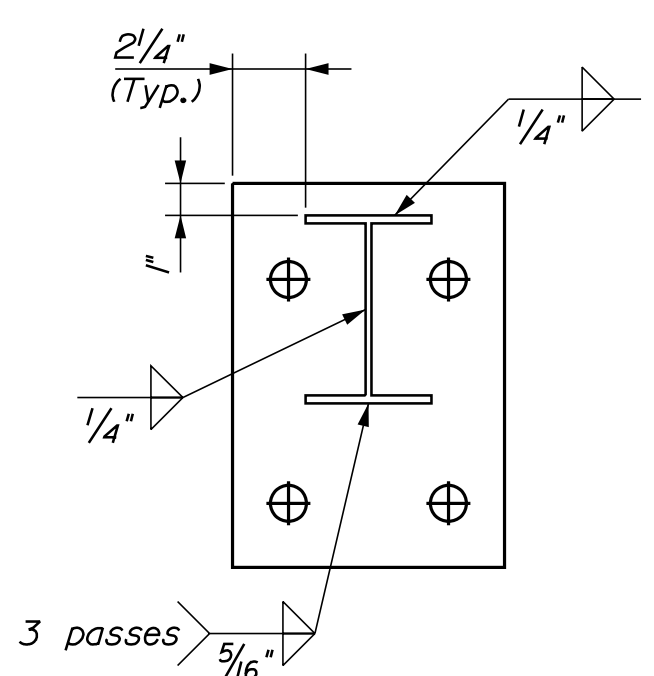
**POST SPACING FOR CULVERT MOUNTED GUARDRAIL**  
Guardrail Offset Blocks Not Shown for Clarity



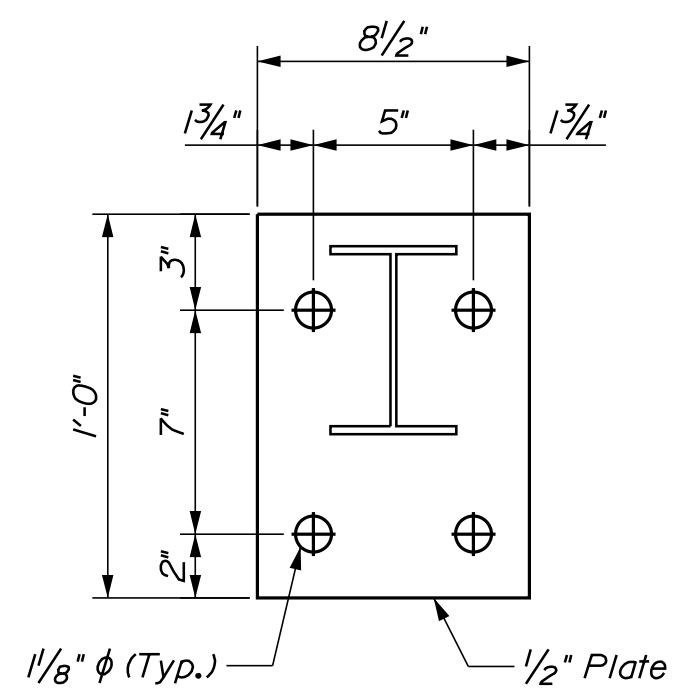
**SKEWED BOX POST LAYOUT**  
Guardrail Offset Blocks and Rail Not Shown for Clarity



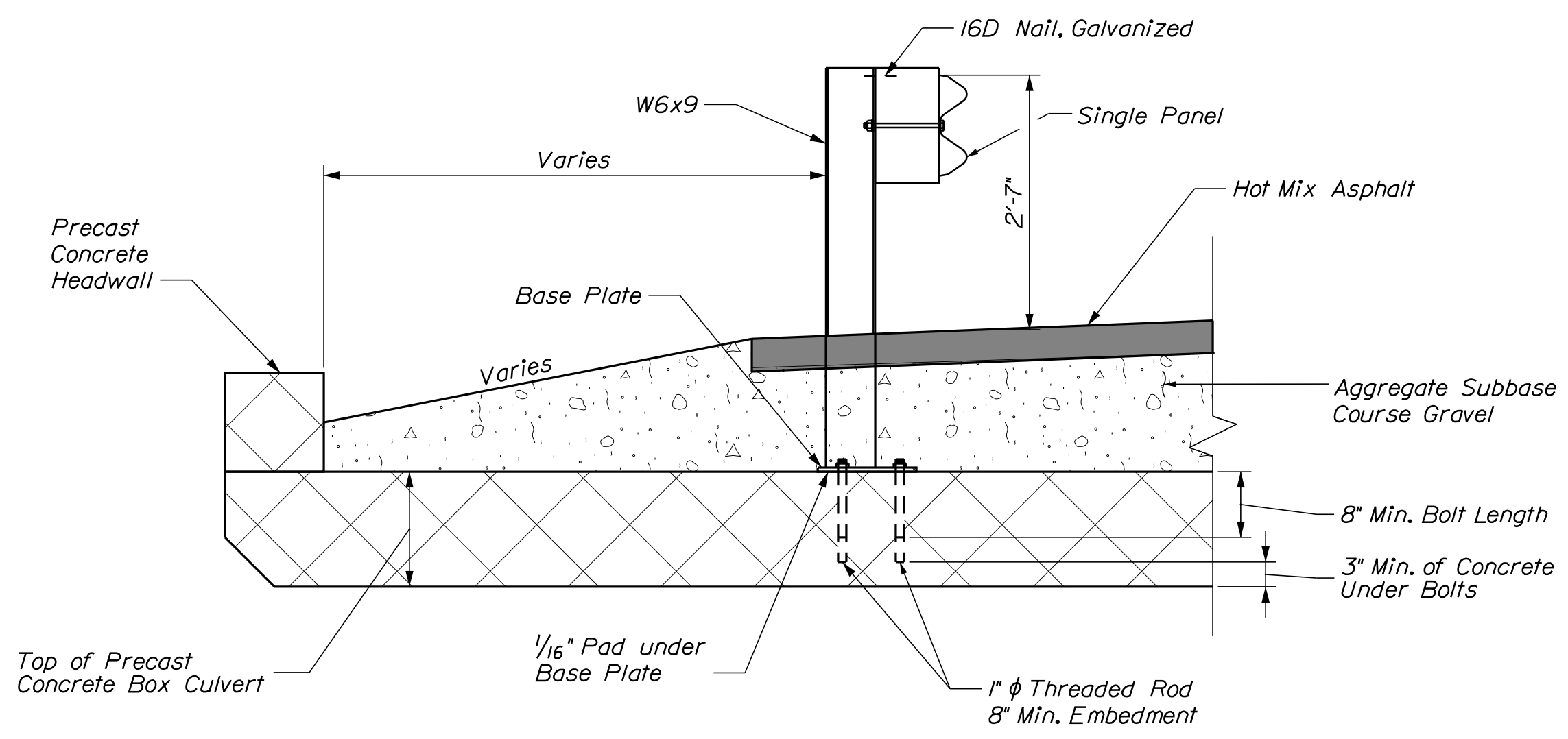
**ELEVATION**



**POST ASSEMBLY**



**BASE PLATE**



**CULVERT-MOUNTED GUARDRAIL SYSTEM**

**CULVERT MOUNTED GUARDRAIL NOTES**

1. Threaded rod shall be ASTM A307 with a minimum strength of 60 ksi.
2. Additional guardrail posts at 3'-1 1/2" spacing may be added beyond what is shown if required for the guardrail splice locations.
3. Culvert joints shall be located a minimum of 6' from the nearest edge of guardrail post base plates.
4. Guardrail posts located off the structure shall be 8 feet in length with an embedment of 5.25 feet.

STATE OF MAINE		DEPARTMENT OF TRANSPORTATION		BRIDGE NO. 6396		BRIDGE PLANS	
261600		WIN		26160.00			
PROJ. MANAGER	PROJ. MANAGER	BY	DATE	CHECKED	DATE	SIGNATURE	P.E. NUMBER
E. CARON	E. CARON	E. CARON	11/2025	T. POLSON	11/2025		
DESIGN DETAILED	DESIGN DETAILED	DESIGN DETAILED	DESIGN DETAILED	DESIGN DETAILED	DESIGN DETAILED	DESIGN DETAILED	DESIGN DETAILED
REVISIONS 1	REVISIONS 1	REVISIONS 1	REVISIONS 1	REVISIONS 1	REVISIONS 1	REVISIONS 1	REVISIONS 1
REVISIONS 2	REVISIONS 2	REVISIONS 2	REVISIONS 2	REVISIONS 2	REVISIONS 2	REVISIONS 2	REVISIONS 2
REVISIONS 3	REVISIONS 3	REVISIONS 3	REVISIONS 3	REVISIONS 3	REVISIONS 3	REVISIONS 3	REVISIONS 3
REVISIONS 4	REVISIONS 4	REVISIONS 4	REVISIONS 4	REVISIONS 4	REVISIONS 4	REVISIONS 4	REVISIONS 4
FIELD CHANGES	FIELD CHANGES	FIELD CHANGES	FIELD CHANGES	FIELD CHANGES	FIELD CHANGES	FIELD CHANGES	FIELD CHANGES
LEWIS BRIDGE				SAGADAHOC COUNTY			
WEST CATHANCE STREAM				BOWDOIN			
CULVERT MOUNTED GUARDRAIL DETAILS				SHEET NUMBER			
23				OF 25			



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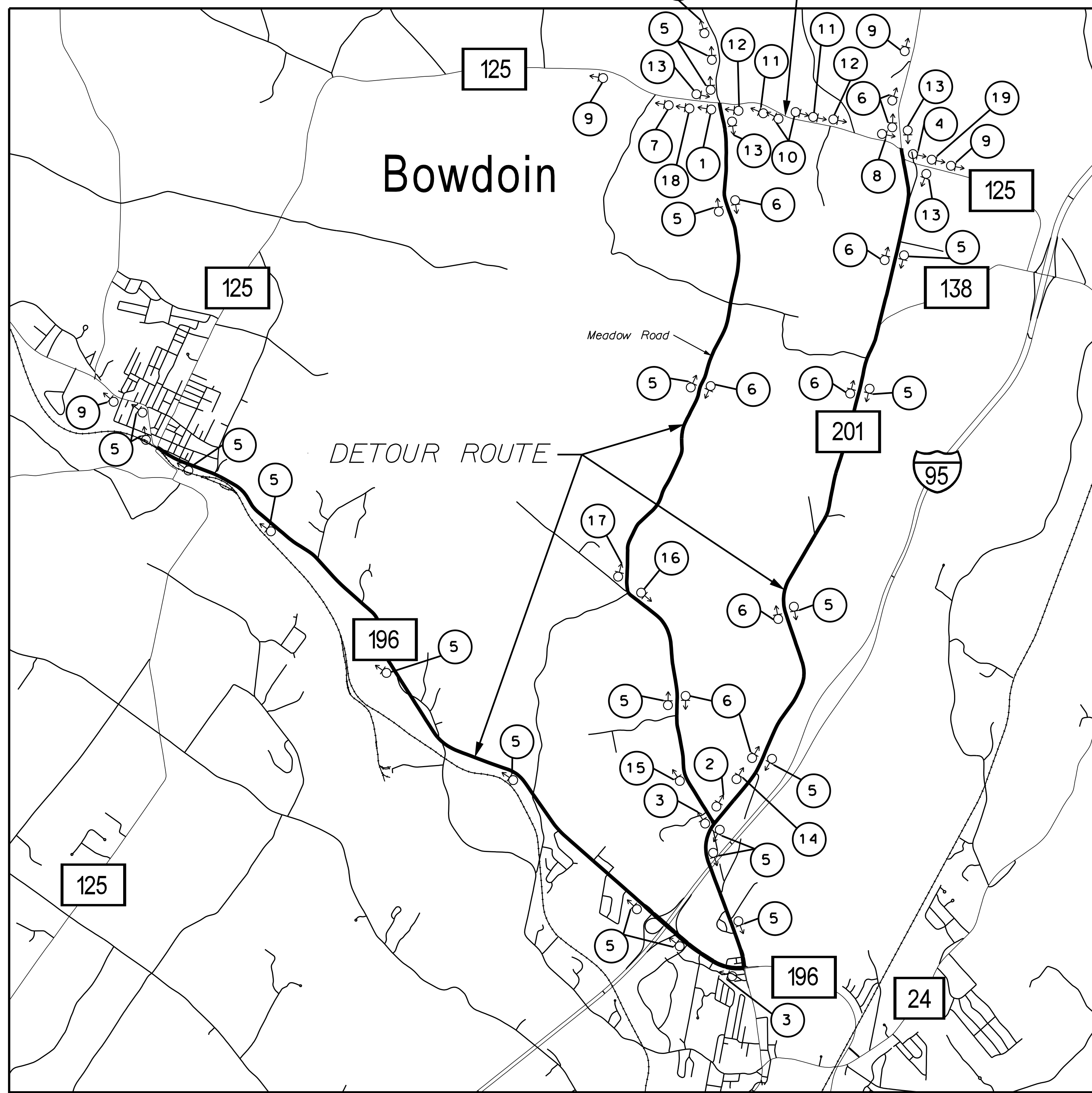
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NOT TO SCALE

**DETOUR NOTES:**

1. FOR ROUTE 125 NORTH: MEADOW ROAD WEST OF THE PROJECT SITE SOUTH, TO ROUTE 201/AUGUSTA ROAD NORTH TO ROUTE 125/MAIN STREET EAST OF THE PROJECT SITE.
2. FOR ROUTE 125 SOUTH: ROUTE 201/AUGUSTA ROAD EAST OF THE PROJECT SITE SOUTH TO MEADOW ROAD NORTH TO ROUTE 125/MAIN STREET WEST OF THE PROJECT SITE.
3. SPACING OF TEMPORARY TRAFFIC CONTROL SIGNS SHALL BE IN ACCORDANCE WITH MUTCD.
4. COVER OR REMOVE CONFLICTING ROUTE SIGNS.



STATE OF MAINE		DEPARTMENT OF TRANSPORTATION		2616000		WIN		26160.00		BRIDGE NO. 6396		BRIDGE PLANS	
LEWIS BRIDGE		WEST CATHANCE STREAM		SAGADAHOC COUNTY		BOWDOIN		DETOUR PLAN		SHEET NUMBER		24	
PROJ. MANAGER	B. NICHOLS	BY	J. J. J. J.	DATE	11/2025	CHECKED	T. HIGGINS	DATE	11/2025	SIGNATURE	P.E. NUMBER	DATE	
DESIGN DETAILED	J. J. J. J.	DESIGN REVIEWED	T. HIGGINS	DESIGN DETAILED		DESIGN DETAILED		REVISIONS 1		REVISIONS 2		REVISIONS 3	
								REVISIONS 4		FIELD CHANGES			

